Final Report
Phase I RCRA Facility Investigation for Appendix I Sites

VOLUME V-A

AOC, Fuel Truck Maintenance Area

Department of the Air Force
Oklahoma City Air Logistics Center
Tinker Air Force Base, Oklahoma

September 1994

INDEX TO VOLUMES
RFI REPORT

Volume I	SWMU-8, Fire Training Area 2
Volume II-A/B	SWMU-14, Sludge Drying Beds
Volume III-A/B/C/D/E/F	SWMU-24/32, Industrial Wastewater Treatment Plant/Sanitary Wastewater Treatment Plant
Volume IV	SWMU-26, Ordnance Disposal Area
	SWMU-40, AFFF Fire Control Pond
Volume V-A/B	AOC, Fuel Truck Maintenance Area
Volume VI	AOC, Spill Pond (Drainage Spillway Behind Building 1030)
	AOC, Old Pesticide Storage Area
Volume VII	SWMU-1, Landfill No. 6
	SWMU-2, Landfill No. 5
	SWMU-3, Landfill No. 1
	SWMU-4, Landfill No. 2
	SWMU-5, Landfill No. 3
	SWMU-6, Landfill No. 4
Volume VIII	SWMU-7, Fire Training Area 1
	SWMU-11, Supernatant Pond
	SWMU-12, Industrial Waste Pit No. 1
	SWMU-13, Industrial Waste Pit No. 2
	SWMU-23, Industrial Waste Treatment Plant, Abandoned Waste Tanks
	SWMU-54, Stained Drainage Ditch and Drums (near Building 17)
Volume IX	SWMU-19, Radioactive Waste Disposal Site 1030W
	SWMU-20, Radioactive Waste Disposal Site 201S
	SWMU-21, Radioactive Waste Disposal Site 62598
	SWMU-22, Radioactive Waste Disposal Site 1022E

Table of Contents

List of Tables iii
List of Figures iv
List of Acronyms v
Executive Summary ES-1
1.0 Introduction 1-1
1.1 Purpose 1-4
1.2 Scope of Investigation 1-4
2.0 Background 2-1
2.1 Tinker AFB Facility Description and History 2-1
2.2 Site Description and History 2-1
2.3 Regulatory History and Status 2-2
2.4 Summary of Previous Investigations 2-4
3.0 Environmental Setting 3-1
3.1 Topography and Drainage 3-1
3.1.1 Topography 3-1
3.1.2 Surface Drainage 3-1
3.2 Geology 3-3
3.2.1 Regional/Tinker AFB Geology 3-3
3.2.2 Site Geology 3-11
3.3 Hydrology 3-12
3.3.1 Regional/Tinker AFB Hydrology 3-12
3.3.2 Site Hydrology 3-20
3.4 Soils 3-20
4.0 Description of Investigative Methods 4-1
4.1 Soil Borings 4-1
4.2 Monitoring Well Installation 4-5
4.3 Surface Completion 4-9
4.4 Well Development 4-9
4.5 Groundwater Sampling 4-9
4.6 Soil Gas Survey 4-10
4.7 Elevation and Location Survey 4-10

Table of Contents *(Continued)*

5.0 Investigation Results 5-1
5.1 Hydrology of the FTMA 5-1
5.2 Data Quality Evaluation 5-5
5.2.1 Field Quality Control 5-5
5.2.2 Laboratory Quality Control 5-7
5.2.3 Evaluation of Precision and Accuracy 5-7
5.2.4 Data Verification 5-8
5.2.5 Data Useability 5-9
5.3 Source Characterization Results 5-9
5.4 Contaminant Characterization Results 5-10
5.4.1 Establishment of Surficial Soil Background Concentrations 5-10
5.4.2 Soil Characterization 5-11
5.4.3 Groundwater Characterization 5-28
6.0 Potential Receptors 6-1
6.1 Human Receptors 6-1
6.2 Ecological Receptors 6-2
7.0 Action Levels 7-1
8.0 Summary and Conclusions 8-1
8.1 Summary 8-1
8.2 Conclusions 8-5
9.0 Recommendations 9-1
10.0 References 10-1
Appendix A - Boring Logs/Well Construction Diagrams
Appendix B - Geophysical Logs
Appendix C - Soil Gas Report
Appendix D - Data Tables, Certificates of Analysis, Chain-of-Custody
Appendix E - Site Survey Report
Appendix F - Geotechnical, Certificates of Analysis, Chain of Custody

List of Tables

Table	Title	Page
3-1	Major Geological Units in the Vicinity of Tinker AFB (Modified from Wood and Burton, 1968)	3-5
3-2	Tinker AFB Soil Associations (Source: USDA, 1969)	3-22
4-1	Summary of RFI Field Activities	4-2
4-2	RFI Soil Borings Summary, AOC, FTMA, Tinker AFB	4-4
4-3	Monitoring Well Construction Details, AOC, FTMA, Tinker AFB	4-6
5-1	Analytical Results for Fuel Truck Maintenance Area for Soil	5-12
5-2	Soil Metals Background Comparison, AOC, FTMA, Tinker AFB	5-27
5-3	Analytical Results for Fuel Truck Maintenance Area for Groundwater	5-29
7-1	Action Levels, AOC, FTMA, Tinker AFB	7-2

List of Figures

Figure	Title	Page
1-1	Tinker Air Force Base Oklahoma State Index Map	1-2
1-2	Fuel Truck Maintenance Area Site Location Map	1-3
3-1	Topographic Map of Fuel Truck Maintenance Area with Locations of Soil Borings, Monitoring Wells, and Soil Vapor Survey Points	3-2
3-2	Tinker AFB Geologic Cross Section Location Map	3-8
3-3	Tinker AFB Geologic Cross Section A-A'	3-9
3-4	Tinker AFB Geologic Cross Section B-B'	3-10
3-5	Conceptual Model Potentiometric Surface of Upper Saturated Zone	3-15
3-6	Conceptual Model Potentiometric Surface of Lower Saturated Zone	3-16
4-1	Fuel Truck Maintenance Area Site Map with Locations of Soil Borings, Monitoring Wells, and Soil Vapor Survey Points	4-3
5-1	Location Map for Cross-Section C-C' for Fuel Truck Maintenance Area with Locations of Soil Borings, Monitoring Wells, and Soil Vapor Survey Points	5-2
5-2	Cross-Section C-C', Fuel Truck Maintenance Area	5-3
5-3	Cross-Section D-D', Fuel Truck Maintenance Area	5-4
5-4	Potentiometric Surface Map of the Upper Saturated Zone in the Vicinity of the Fuel Truck Maintenance Area	5-6
5-5	Isopleth Map of Tetrachloroethene Concentration at the Fuel Truck Maintenance Area	5-32
5-6	Isopleth Map of Trichloroethene Concentration at the Fuel Truck Maintenance Area	5-33

List of Acronyms

AFB	Air Force Base
AOC	areas of concern
°C	degrees centigrade
CAL	Corrective Action Levels
CDM	CDM Federal Programs Corporation
CEC	cation exchange capacity
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm/s	centimeters per second
COD	chemical oxygen demand
CMS	Corrective Measures Study
DCQAP	Data Collection Quality Assurance Plan
DERP	Defense Environmental Response Program
DOD	U.S. Department of Defense
DQO	Data Quality Objective
DWS	drinking water standards
EC	electric conductivity
ECD	ethylene chloride
EID	Engineering Installation Division
EPA	U.S. Environmental Protection Agency
ES	Engineering Science
FID	flame ionization detectors
ft/ft	foot per foot
FTMA	Fuel Truck Maintenance Area
GC/MS	gas chromatograph/mass spectrometry
HCl	hydrochloric acid
HRS	Hazardous Ranking System
HSWA	Hazardous and Solid Waste Amendments
I.D.	inside diameter
IRP	Installation Restoration Program
IWP-1	Industrial Waste Pit No. 1
IWTP	industrial wastewater treatment plant
JP-4	jet propulsion fuel grade 4
LSZ	lower saturated zone

List of Acronyms *(Continued)*

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O.D.	outside diameter
PA/SI	preliminary assessment/site investigation
PCE	tetrachloroethene
PID	photoionization detectors
PVC	polyvinyl chloride
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
RPD	relative percent difference
SARA	Superfund Amendments and Reauthorization Act
SP	self potential
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TCA	trichloroethane
TCE	trichloroethene
TPH	total petroleum hydrocarbons
TSD	treatment, storage, and disposal (facility)
TOC	total organic carbon
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
USC	U.S. Code

List of Acronyms *(Continued)*

USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USZ	upper saturated zone
VOA	volatile organic analysis
VOC	volatile organic compounds
WQS	Water Quality Standards

Executive Summary

This report provides a summary of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) conducted at area of concern (AOC), Fuel Truck Maintenance Area (FTMA), Tinker Air Force Base (AFB), Oklahoma. The report has been prepared to determine whether hazardous constituents as defined by federal regulations have been released into the environment from the AOC. The RFI for this unit has been conducted in accordance with the Work Plan prepared by CDM Federal Programs Corporation (CDM) (1992). This RFI Report presents the following information:

- Site characterization (Environmental Setting)
- Source term definition (Source Characterization), if any
- Degree of contamination (Contamination Characterization)
- Identification of actual or potential receptors
- Analytical results and analysis (Data Analysis)
- Identification of groundwater protection standards and all action levels for the protection of human health and the environment (Protection Standards)
- Conclusions and recommendations for future work.

Tinker AFB is located in central Oklahoma, in the southeast portion of the Oklahoma City metropolitan area, in Oklahoma County. The Base is bounded by Sooner Road to the west, Douglas Boulevard to the east, Interstate 40 to the north, and Southeast 74th Street to the south. The Base encompasses approximately 5,000 acres.

Background. Tinker AFB began operations in 1942 and serves as a worldwide repair depot for a variety of aircraft, weapons, and engines. These activities require the use of hazardous materials and result in the generation of hazardous wastes. These wastes have included spent organic solvents, waste oils, waste paint strippers and sludges, electroplating wastewaters and sludges, alkaline cleaners, acids, Freon^{TM}, jet fuels, and radium paints.

In 1984, Congress amended the RCRA with the Hazardous and Solid Waste Amendments (HSWA), which allow U.S. Environmental Protection Agency (EPA) to require, as a permit condition, a facility to undertake corrective action for any release of hazardous waste or

constituents from any solid waste management unit (SWMU) at a treatment, storage, and disposal (TSD) facility. On January 12, 1989, Tinker AFB submitted its Part B permit application for renewal of its operating RCRA Hazardous Waste Storage facility permit. The final RCRA HSWA permit issued on July 1, 1991, requires Tinker AFB to investigate all SWMUs and AOCs and to perform corrective action at those identified as posing a threat to human health or the environment. The permit specifies that an RFI be conducted for 43 identified SWMUs and two AOCs on the Base. This document has been prepared to determine whether sufficient investigations have been conducted to meet the permit requirements for this AOC.

Source Description. This AOC is located at Building 2110 in the southeastern part of the Base. Building 2110 is located east of SWMU-12, Industrial Waste Pit No. 1 (IWP1), about 980 feet west of Douglas Boulevard. Building 2110 houses the fuel truck maintenance and repair facility. It is a metal building, about 40 by 80 feet in area, with separate bays for mechanical repairs. The floor of the building is concrete and slopes inward to a drainage trench extending the length of the building. The trench leads to a lift station from where liquids are pumped to a sewer line that leads to the industrial wastewater treatment plant (IWTP).

This facility has been operational since approximately 1957. The floor of Building 2110 consists of several separately poured concrete slabs with grout in the gaps between the slabs. Visual examination has indicated that the grout is absent in several places. There are also cracks in the concrete slabs. Releases to soil have occurred as seepage through the cracks and gaps in the floor.

Site Investigations. No previous investigations have been performed at the FTMA. During construction operations in Building 2110 in November 1990, soil and water contamination were discovered under the concrete floor. As trenches were being dug to install new drains, water mixed with diesel oil and jet propulsion fuel grade 4 (JP-4) aircraft fuel began to flow into the trenches from the soil under the floor. Apparently, wash water containing oil and fuel has been seeping into and accumulating in the soil beneath the building. Operations at the building were terminated upon discovery of the release and remained so until recovery was completed. Oil and fuel were skimmed from the water surface in the trenches and pumped to the holding tank for disposal. Fifteen gallons of oil/fuel was recovered. The water in the trenches was pumped to a sewer line leading to the IWTP. Before seepage into the trenches ceased, 700 gallons of water was removed.

The vertical and horizontal extent of contamination associated with operations at the FTMA has been determined by this investigation. Soil samples were collected and analyzed from eight soil borings drilled within and immediately adjacent to the FTMA to determine if the unsaturated soils have been impacted by operations at Building 2110. Soil samples were also collected from two borings, located adjacent to Building 2110, and one boring located approximately 140 east of the facility that were drilled for monitoring well completion. Soil samples were analyses for volatile and semivolatile organics, Total Petroleum Hydrocarbons, and metals (aluminum, arsenic, barium, beryllium, cadmium, total chromium, chromium VI, copper, iron, lead, mercury, nickel, silver, and zinc). In addition, a soil gas survey of the shallow soils was performed to evaluate the presence of volatile hydrocarbon contamination through quantitative analysis of the vadose zone soil gas. Figure 3-1 shows the locations of the soil borings, monitoring wells and soil gas survey.

The FTMA is located on approximately 30 to 35 feet of reddish silty clay and clayey silt of the Hennessey Group. The uppermost portion of the Hennessey Group soils beneath the FTMA consists of hard but uncemented sediments. The base of the Hennessey Group at the FTMA generally consists of a massive, hard, well cemented siltstone/mudstone starting at a depth of about 15 to 20 below ground surface and extending to the base. Underlying the Hennessey Group are interbedded fine sandstone, siltstone and shales of the Garber Sandstone. The sandstones range in hardness from loose (lightly cemented) to moderately well cemented. A hard silt layer occurring at about 60 feet below ground surface occurs beneath the facility.

The water levels in the USZ are about 46 to 51 feet below grade (1,247.20 to 1,249.64 feet above mean sea level) within the fine silty sand and sands of the Garber. Groundwater flow is to the northeast with a gradient of about 0.013 feet/foot. Because this flow direction is opposite of that originally anticipated for the area, only one well is located downgradient of the building. However, the three wells have allowed characterization of the groundwater conditions in the vicinity of the FTMA.

Organic contaminants were detected in the soils beneath the FTMA. The detected constituents are typical of components of fuels that are either drained from the fuel trucks or are typical of degreasers commonly used in truck and engine maintenance and repair. The detected constituents are acetone, benzene, chlorobenzene, ethyl benzene, 4-chloroaniline, 2-methylnaphthalene, methylene chloride, naphthalene, petroleum hydrocarbons, tetrachloroethene (PCE), toluene, and xylenes (total). Of these constituents, 4-Chloroaniline, 2-methyl-

naphthalene, and naphthalene were detected only in the shallowest soils collected from soil borings drilled through the concrete floor of the FTMA facility. Further, PCE was only detected in two soil samples from one boring at depths of 9.5 and 13 feet below ground level. The PCE concentrations are below the proposed 40 CFR 264 Subpart S Corrective Action Level (CAL) concentrations for soil.

The presence of ethyl benzene, toluene, and xylene in the shallow soils beneath the facility is indicative of contamination resulting from the FTMA operations. However, the detected concentrations of ethyl benzene, toluene, and xylene are well below the CAL concentrations for soils.

The presence of acetone and chlorobenzene, along with PCE, in the soils beneath the floor of Building 2110 suggest that degreasers used within the building have been released from the floor drain. The detected concentrations, however, are below the CAL concentrations of 8,000 mg/kg for acetone in soils and 2,000 mg/kg for chlorobenzene in soils. Benzene, a typical component of fuel, was detected in soil samples collected from depths up to 5 feet below grade.

The depth of contamination, as evidenced by field screening results and nondetect values in soils, is limited to the upper 15 feet of unsaturated soils and corresponds to the top of the well cemented portion of the shallow subsurface sediments. Total Petroleum Hydrocarbons (TPH) concentrations also correspond to these depths. These cemented sediments apparently provide an adequate aquiclude to the vertical movement of contaminants.

The lateral extent of contamination within the vadose zone can be inferred from the results of the soil gas survey. While contaminants were found in soils beneath and immediately adjacent to the FTMA facility, GC/FID and GC/ECD analysis of the soil gas collected about 20 feet away from Building 2110 did not indicate the presence of petroleum or chlorinated constituents. The samples were collected from depths of 9 to 10 feet which is within the depth interval of contaminated soils beneath the building.

Methylene chloride and 1,1,1-TCA were detected in soil samples collected from monitoring wells borings for 2-59 and 2-60, respectively, but do not appear to be a result of releases from the FTMA. Methylene chloride was only detected in one soil sample from a soil boring drilled near the location of an old sump on the north side of the building at a depth of 4.5 feet and in three soil samples from monitoring well boring 2-59 at depths of 38 to 48.5 feet

below ground surface. The methylene chloride in soils from monitoring well boring 2-59 is only present below the aquiclude. The fact that methylene chloride was detected below the aquiclude in the monitoring well boring and detected above the aquiclude in only one sample at a depth of less than 5 feet, indicates the source of the contaminant at 38 to 48.5 feet is other than the FTMA.

1,1,1-TCA was only detected in concentrations just above the quantitation limit of 5.0 µg/kg in the six of seven soil samples collected from 4 feet to 32 feet in depth at monitoring well boring 2-61. No other 1,1,1-TCA was detected in any soils collected beneath or immediately adjacent to the FTMA. Further, no 1,1,1-TCA was detected in the soil gas survey samples. The source of this contaminant appears to be related to something other than the FTMA.

Although these organics are present, the detected concentrations of all organics are below the proposed 40 CFR 264 Subpart S Corrective Action Levels with the exception of benzene which does not have a proposed CAL concentration. However, benzene was detected at a maximum concentration of 53 µg/kg that is well below the most stringent cleanup levels of 500 µg/kg under the Oklahoma Corporation Commission regulations for Underground Storage Tanks.

The horizontal extent of organic contamination within the vadose zone can be inferred from the results of the soil gas survey. The soil gas survey analysis of the samples revealed that none of the individual petroleum or chlorinated analytes were present in the vadose zone at a depth of 10 feet. Since the soil gas survey points were located further away from the building (20 feet) than the soil borings and the soil gas samples collected from a depth interval consistent with organic contamination detected in the soils analyses, the horizontal extent of soils contamination within the unsaturated zone is limited to the immediate vicinity and beneath Building 2110.

Analytical results indicate all the metals were detected at least once in the soil samples collected at the FTMA. The concentrations of metals are generally within the range of background levels measured in the study of surficial soils in the four-county area around Tinker AFB that was conducted by the U.S. Geological Survey (USGS) (1991). While lead was detected at a concentration that falls outside the range of the USGS background concentration in a single near surface sample, the duplicate soil sample for that interval indicates the concentration for lead is within the USGS background range.

Mercury was detected in only one near surface sample at a concentration of 0.13 mg/kg (about an order of magnitude above the quantitation limits) but was determined to be an artifact since the duplicate sample collected from the same interval and all other soil samples were below the quantitation limits. Chromium VI was only detected in one soil sample at a concentration of 0.13 mg/kg from a depth of 43.5 feet below grade in the unsaturated soil background location (monitoring well boring 2-59).

Three monitoring wells were installed in the Upper Saturated Zone (USZ) at the FTMA. Depth to groundwater was measured to assess the gradient and flow direction of the USZ. Groundwater samples were collected on December 14 and 17, 1993 from the wells to determine if the quality of the groundwater beneath the FTMA has been impacted. The samples were analyzed for volatile organic compounds, semivolatile organic compounds, metals, and standard inorganic groundwater parameters.

Review of the analytical data indicates the USZ groundwater beneath the FTMA has been impacted by two organic constituents, PCE and TCE, but does not appear to be attributable to the FTMA. This is supported by the fact that contamination beneath the FTMA is limited to the upper 15 feet of soils and does not extend down to the water table. Further, the only organic contaminants detected in the groundwater are PCE, which was only detected in two soil samples at depths above 13 feet, and TCE, which was not detected in any of the soils. Also, with a groundwater flow direction to the northeast, the contamination present within the groundwater at monitoring well 2-59 appears to have come from a source upgradient of the FTMA.

PCE was detected in the groundwater in monitoring wells 2-59 and 2-60. TCE was detected only in monitoring well 2-60. Analysis of the data indicates the source of the plume could be to the southwest (upgradient from the site) or that higher concentrations of PCE and TCE plumes may be present to the west and northwest such that even monitoring well 2-59 is located on the edge of the plumes. The concentrations of PCE and TCE in monitoring wells 2-59 and 2-60 exceed the Maximum Contaminant Levels (MCL) of 5 µg/L for groundwater for each of these constituents.

Concentrations of metals, with the exception of chromium, in groundwater samples from the wells at the FTMA are below their respective MCLs. Chromium appears to exceed the MCL in monitoring well 2-59 only. However, it appears that the elevated metals concentrations in

this sample are probably due to acid digestion of aquifer sediments containing natural metals and may not be representative of groundwater impact with chromium.

Conclusions. The horizontal and vertical extent of soils contamination attributed to the FTMA has been defined by this investigation. Analytical results of soil samples collected from the soil borings indicate the shallow soils have been impacted by organic and possibly metals contaminants. Contaminants within the soils consists of petroleum hydrocarbons (benzene, ethyl benzene, toluene, and xylene) and chlorinated compounds typical of degreasers (acetone, chlorobenzene, and tetrachloroethene). These contaminants have been released to the soils from the floor drain of Building 2110 of the FTMA.

The vertical extent of contamination associated with operations at the FTMA is generally limited to the upper 15 feet of unsaturated soils immediately beneath the facility. This conclusion is based on the depth of soil samples in which no organic contaminants were detected. In general, the depth of contamination, as evidenced by field screening results and nondetect values in soils, corresponds to the top of the well cemented portion of the shallow subsurface sediments. The well cemented sediments consist of the sandy silt and silty mudstone occurring at an elevation of about 1,278 to 1,280 feet msl and the cemented silty clayey sand at an elevation of about 1,290 feet msl in the southern part of the FTMA. Total Petroleum Hydrocarbons (TPH) also correspond to these depths. These cemented sediments appear to provide an adequate aquiclude to the vertical movement of contaminants.

The horizontal extent of soils contamination attributed to the FTMA operations is limited to within 20 feet of the facility. The analysis of soil gas survey samples collected 20 feet from the facility revealed that none of the individual petroleum or chlorinated analytes were present in the vadose zone at a depth of 10 feet.

Lead is the only metal that may have impacted the soils beneath the FTMA. The concentration of lead in one soil sample exceeds the range of background levels measured by the USGS (1991). The lead concentration in a duplicate soil sample of the same depth interval, is within the range of background levels for soil. The concentrations of all other metals detected in the soil samples collected at the FTMA are within the background range. The single detections of mercury and chromium VI in only one soil sample each were determined to be artifacts that warrant no further consideration.

The concentrations of the detected soils constituents, with the exception of benzene, are all below the Corrective Action Levels proposed in 40 CFR 264 Subpart S or within or below the range of measured background concentrations (USGS, 1991) for soils. Additional soil samples will be collected if needed. Based on the above discussions, it is concluded that no further assessment or actions are required for the soil contamination at the FTMA.

The PCE and TCE contamination detected in the groundwater beneath the FTMA does not appear to be attributable to the FTMA. The contamination attributed to the FTMA is limited to the upper 15 feet of soils and does not extend down to the water table. The contamination present within the groundwater beneath the FTMA appears to have come from a source upgradient of the FTMA based on the direction of groundwater flow and the lateral distribution of contaminant concentrations in the wells.

Recommendations. To confirm the Phase I Investigation findings, it is recommended that the following actions be taken:

- Collect and analyze additional soil samples to confirm findings of Phase I RFI.
- Collect site-specific soil samples to use with the USGS soils data to distinguish site-related from background concentrations in a statistically significant manner.
- Develop a Phase II RFI work plan and submit it to EPA for approval before starting work.
- Install additional monitoring wells in the USZ and LSZ in the vicinity of FTMA during a basewide groundwater investigation effort. The work plan for the basewide groundwater investigation should be approved by EPA before beginning field work.

1.0 Introduction

The U.S. Department of the Air Force is conducting an Installation Restoration Program (IRP) at Tinker Air Force Base (AFB), Oklahoma (Figure 1-1). This program intends to characterize each solid waste management unit (SWMU) or area of concern (AOC), study and select cleanup methods, if required, and implement a cleanup. In support of this effort, a Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was conducted at AOC, Fuel Truck Maintenance Area (FTMA) at Tinker AFB, Oklahoma (Figure 1-2). This Phase I investigation focuses its efforts on determining if there have been any releases of contamination to the soil and groundwater resulting from temporarily storing hazardous materials within the confines of the FTMA.

Adequate information must be gathered in a Phase I RFI to support a Phase II investigation, a Corrective Measures Study (CMS), or interim measures, if necessary. A phased approach has been taken by Tinker AFB for this AOC site investigation. This phasing of the RFI is in accordance with the U.S. Environmental Protection Agency (EPA) RFI guidance documents and is also the most practical approach for this site where little or no information is available on past practices.

Outlined below are the minimum tasks generally required by the EPA for a RCRA investigation of a SWMU or AOC:

- Task I - Description of Current Conditions
- Task II - Work Plan
- Task III - Facility Investigation
- Task IV - Investigative Analysis
- Task V - Report.

The Task I requirements for the AOC have been addressed in the *Description of Current Conditions* (Tinker, 1992), which outlines the geology, hydrogeology, and current conditions of the site. Task II requirements have been addressed in the *Final RFI Work Plan* (CDM, 1992) and the Final RFI Work Plan - Amendments (IT Corporation [IT], 1993). The *Final RFI Work Plan* and the Final RFI Work Plan - Amendments include a Data Management Plan, Project Management Plan, Data Collection Quality Assurance Plan, Health and Safety Plan, and amendments as necessary to perform a Phase I RFI. Tasks III and IV requirements, which characterize the site, determine the presence of contamination, and identify actual and

STARTING DATE: 03/17/94	DATE LAST REV.:	DRAFT. CHCK. BY:G. PACHECO	INITIATOR: C. WALLACE	DWG. NO.:
DRAWN BY:P.O. TERRY	DRAWN BY:	ENGR. CHCK. BY: C. WALLACE	PROJ. MGR.J. TAYLOR	PROJ. NO.:

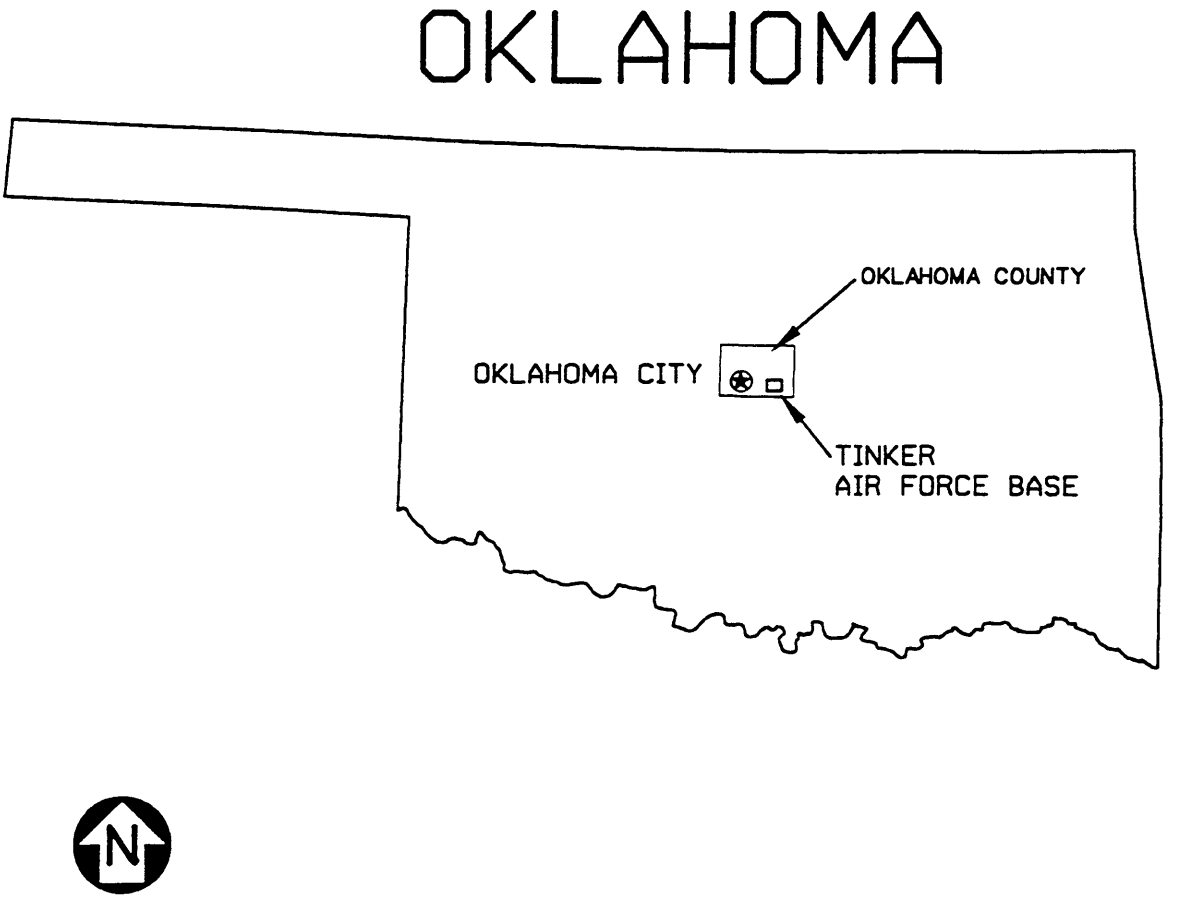


FIGURE 1-1
TINKER AIR FORCE BASE
OKLAHOMA
STATE INDEX MAP

PREPARED FOR
TINKER AFB
OKLAHOMA

3/23/94 POT
FILENAME: G:\TINKER\40983202.075

DRAWN BY: L. STOUT	DRAWN BY:	ENGR. CHCK. BY:	PROJ. MGR.: J. TAYLOR	PROJ. NO.:
STARTING DATE: 3/30/94	DATE LAST REV.:	DRAFT. CHCK. BY: G. PACHECO	INITIATOR: C. WALLACE	DWG. NO.:

FILENAME: G:\TINKER\4098320.117

potential receptors have been addressed in this report. This report satisfies the requirements of Task V.

1.1 Purpose

This report has been prepared in response to the U.S. Department of the Air Force, Tinker AFB, Oklahoma request for a Phase I RFI and report for this FTMA.

The purpose of this report is to document and present the findings of the RFI conducted at this AOC. The primary objective of the RFI was to determine if contaminant releases to the environment have occurred at the site and to determine if a more comprehensive Phase II RFI or a CMS is required. This RFI Report presents the following information:

- Site characterization (Environmental Setting)
- Source term definition (Source Characterization), if any
- Degree of contamination (Contamination Characterization)
- Identification of actual or potential receptors
- Analytical results and analysis (Data Analysis)
- Identification of groundwater protection standards and action levels for the protection of human health and the environment (Protection Standards)
- Conclusions and recommendations for future work.

This document will also describe the procedures and methods of field sampling and cite any previous investigations conducted at the site.

1.2 Scope of Investigation

The soils and the groundwater below and around this AOC were investigated. Soil samples were taken at various depths below this AOC to determine the presence of subsurface soil contamination. Groundwater samples were taken from monitoring wells both up- and downgradient from this AOC to determine if contamination was present in the upper saturated zone (USZ) aquifer. Soil gas surveys were also performed around this AOC to determine the presence of volatile organic compounds (VOC) in the surrounding subsurface soils.

2.0 Background

2.1 Tinker AFB Facility Description and History

Tinker AFB is located in central Oklahoma, in the southeast portion of the Oklahoma City metropolitan area, in Oklahoma County (Figure 1-1) with its approximate geographic center located at 35° 25' latitude and 97° 24' longitude (U.S. Geological Survey [USGS], 1978). The Base is bounded by Sooner Road to the west, Douglas Boulevard to the east, Interstate 40 to the north, and Southeast 74th Street to the south. An additional area, east of the main Base is used by the Engineering Installation Division (EID) and is known as Area D. The Base encompasses 5,000 acres.

Tinker AFB was originally known as the Midwest Air Depot and began operations in July 1941. The site was activated March 1942 and during World War II the depot was responsible for reconditioning, modifying, and modernizing aircraft, vehicles, and equipment. Tinker AFB now serves as a worldwide repair depot for a variety of aircraft, weapons, and engines. These activities require the use of hazardous materials and result in the generation of hazardous wastes. These wastes have included spent organic solvents, waste oils, waste paint strippers and sludges, electroplating wastewaters and sludges, alkaline cleaners, acids, Freon™, jet fuels, and radium paints. Wastes that are currently generated are managed at two permitted hazardous waste storage facilities. Prior to enactment of RCRA, however, industrial wastes were discharged into unlined landfills and waste pits, streams, sewers, and ponds. Releases from these areas as well as from underground tanks have occurred. As a result, there are numerous sites of soil, groundwater, and surface water contamination on Base.

2.2 Site Description and History

The FTMA is located at Building 2110 in the southeastern part of the Base (Figure 1-2). Building 2110 is located east of SWMU-12, Industrial Waste Pit No. 1 (IWP1), about 980 feet west of Douglas Boulevard. Building 2110 houses the fuel truck maintenance and repair facility. It is a metal building, approximately 40 by 80 feet in area. The floor of the building is concrete and slopes inward to a drainage trench extending the length of the building. The trench leads to a lift station that pumps liquids to a sewer line, which leads to the industrial wastewater treatment plant (IWTP).

This facility has been operational since approximately 1957. When a truck is brought into the facility, the contents of its tanks are dumped and channeled through the trench to the lift

station. The tank, hose, truck body, and engine parts are then washed clean. Rinse water flows over the floor to the trench and drains to an oil-water separator. The separated oil and fuel are periodically pumped from a holding tank, and the remaining water is released to the IWTP.

The floor of Building 2110 consists of several separately poured concrete slabs with grout in the gaps between the slabs. Visual examination has indicated that the grout is absent in several places. There are also cracks in the concrete slabs. Releases to soil have occurred as seepage through the cracks and gaps in the floor.

During construction operations in Building 2110 in November 1990, soil and water contamination was discovered under the concrete floor. As trenches were being dug to install new drains, water mixed with diesel oil and jet propulsion fuel grade 4 (JP-4) aircraft fuel began to flow into the trenches from the soil under the floor. Apparently, wash water containing oil and fuel has been seeping into and accumulating in the soil beneath the building. Operations at the building were terminated upon discovery of the release and remained so until recovery was completed. Oil and fuel were skimmed from the water surface in the trenches and pumped to the holding tank for disposal. Fifteen gallons of oil/fuel was recovered. The water in the trenches was pumped to a sewer line leading to the IWTP. Seven hundred gallons of water was removed before seepage into the trenches ceased.

2.3 Regulatory History and Status

In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to address the cleanup of hazardous waste disposal sites across the country. CERCLA gave the president authority to require responsible parties to remediate the sites or to undertake response actions through use of a fund (the Superfund). The president through Executive Order 12580, delegated the EPA with the responsibility to investigate and remediate private party hazardous waste disposal sites that created a threat to human health and the environment. The president delegated responsibility for investigation and cleanup of federal facility disposal sites to the various federal agency heads. The Defense Environmental Restoration Program (DERP) was formally established by Congress in Title 10 U.S. Code (USC) 2701-2707 and 2810. DERP provides centralized management for the cleanup of U.S. Department of Defense (DOD) hazardous waste sites consistent with the provisions of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] 300), and Executive Order 12580. To support the goals

of the DERP, the IRP was developed to identify, investigate, and clean up contamination at installations.

Under the Air Force IRP, Tinker AFB began a Phase I study similar to a preliminary assessment/site investigation (PA/SI) in 1981 (Engineering Science [ES], 1982). This study helped locate 14 sites that needed further investigation. Phase II studies were performed in 1983 (Radian Corporation [Radian], 1985a,b).

In 1986, Congress amended CERCLA through the SARA, which waived sovereign immunity for federal facilities. SARA gave EPA authority to oversee the cleanup of federal facilities and to have the final authority for selecting the remedial action at federal facilities placed on the National Priorities List (NPL) if the EPA and the relevant federal agency cannot concur in the selection. Congress also codified the DERP (SARA Section 211), setting up a fund for the DOD to remediate its sites because the Superfund is not available for the cleanup of federal facilities. DERP specifies the type of cleanup responses that the fund can be used to address.

In response to SARA, the DOD realigned its IRP to follow the investigation and cleanup stages of the EPA:

- PA/SI
- Remedial investigation/feasibility study (RI/FS)
- Record of decision (ROD) for selection of a remedial action
- Remedial design/remedial action.

In 1984, Congress amended the RCRA with the Hazardous and Solid Waste Amendments (HSWA), which allow the EPA to require, as a permit condition, a facility to undertake corrective action for any release of hazardous waste or constituents from any SWMU at a treatment, storage, and disposal (TSD) facility. On January 12, 1989, Tinker AFB submitted its Part B permit application for renewal of its operating RCRA hazardous waste storage facility permit.

EPA, in the Hazardous Waste Management Permit for Tinker AFB dated July 1, 1991, identified 43 SWMUs and two AOCs on Tinker AFB that need to be addressed. This permit requires Tinker AFB to investigate all SWMUs and AOCs and to perform corrective action at those identified as posing a threat to human health or the environment. This RFI Report has

been prepared to determine whether sufficient investigations have been conducted to meet the permit requirements for the FTMA and to document all findings.

2.4 Summary of Previous Investigations

No previous investigations have been performed at the FTMA.

3.0 Environmental Setting

3.1 Topgraphy and Drainage

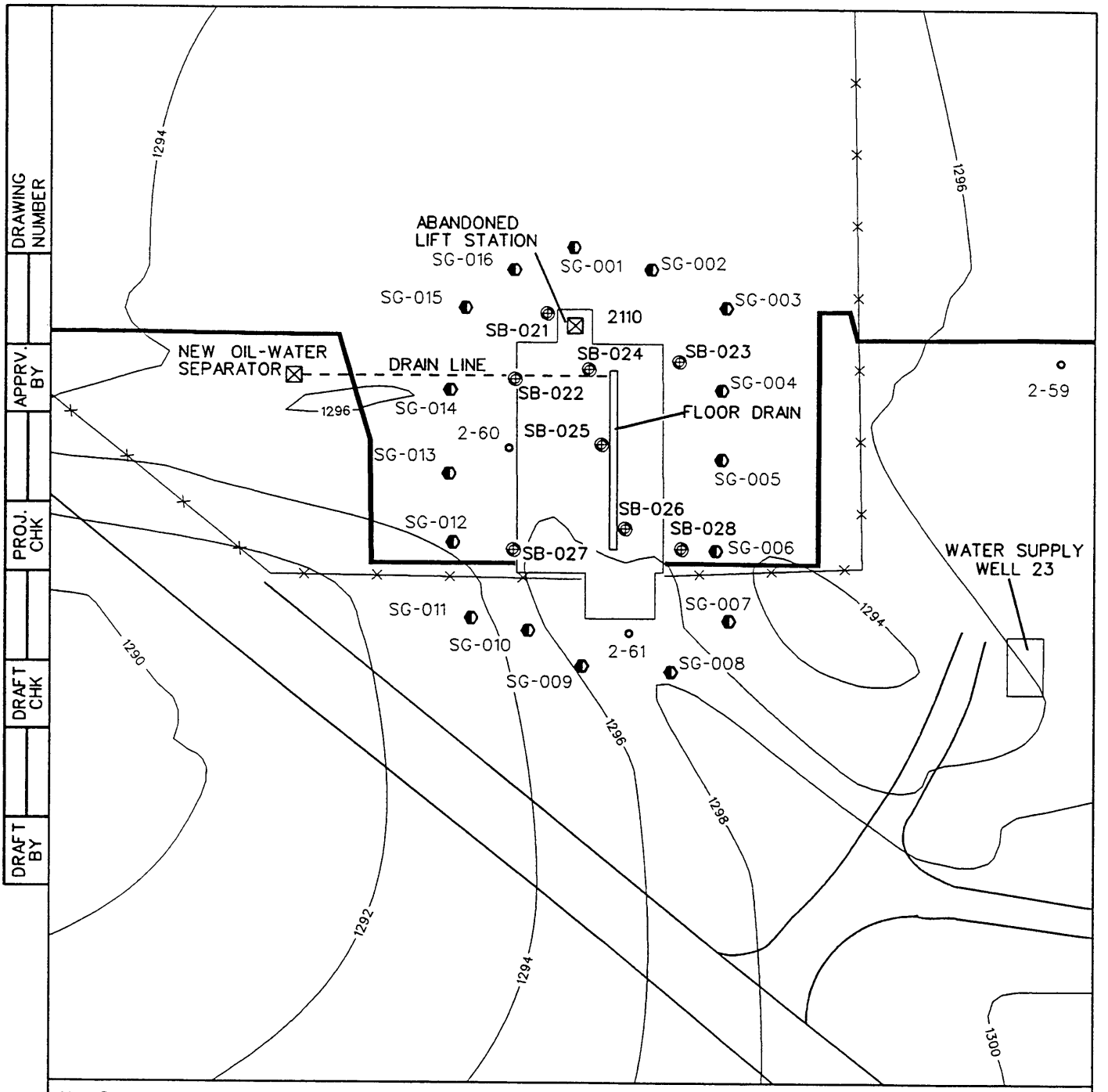
3.1.1 Topography

Regional/Tinker AFB. The topography of Oklahoma City and surrounding area varies from generally level to gently rolling in appearance. Local relief is primarily the result of dissection by erosional activity or stream channel development. At Oklahoma City, surface elevations are typically in the range of 1,070 to 1,400 feet mean sea level (msl). At Tinker AFB ground surface elevations vary from 1,190 feet msl near the northwest corner where Crutcho Creek intersects the Base boundary to approximately 1,320 feet msl at Area D (EID), located on 59th Street, east of the main installation.

Site. In the vicinity of the FTMA, the topography generally slopes to the southwest, away from Building 2110 and the paved area to the north of the FTMA (Figure 3-1). A gentle topographic ridge occurs to the southeast of the facility. Surface elevations of the paved area are between 1,296 and 1,294 feet above msl. Elevations to the south of the FTMA fall from about 1,300 feet msl on the topographic rise to the southeast to 1,290 feet msl to the southwest. The topography of the grassy area immediately to the east of the paved portion of the facility is relatively flat with elevations ranging from 1,296 to 1,294 feet above msl.

3.1.2 Surface Drainage

Regional/Tinker AFB. Drainage of Tinker AFB land areas is accomplished by overland flow of runoff to diversion structures and thence to area surface streams, which flow intermittently. The northeast portion of the Base is drained primarily by tributaries of Soldier Creek. The north and west sections of the Base including the main instrument runway, drain to Crutcho Creek, a tributary of the North Canadian River. Two small unnamed intermittent streams crossing installation boundaries south of the main instrument runway generally do not receive significant quantities of Base runoff due to site grading designed to preclude such drainage. These streams, when flowing, extend to Stanley Draper Lake, approximately one-half mile south of the Base.



Map Source: TINKER AFB

LEGEND

SB-027 ⊕	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
2-61 o	MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
SG-009 ◐	SOIL VAPOR SURVEY POINT AND IDENTIFICATION NUMBER
×——×	FENCE
—— 1294 ——	LINE OF EQUAL ELEVATION

0 50
FEET

G:\TINKER\40983202.141
Do Not Scale This Drawing

FIGURE 3-1
TOPOGRAPHIC MAP OF
FUEL TRUCK MAINTENANCE AREA
WITH LOCATIONS OF SOIL BORINGS,
MONITORING WELLS AND
SOIL VAPOR SURVEY POINTS

PREPARED FOR

TINKER AFB
OKLAHOMA

Site. Surface runoff waters in the area of the FTMA drain by overland flow to the southwest. A shallow depression located to the southeast of the facility may cause localized ponding of small amounts of water. A small drainage pattern exists along the south side of Building 2110, which directs surface drainage to the topographic low located to the southeast of the FTMA.

3.2 Geology

3.2.1 Regional/Tinker AFB Geology

Tinker AFB is located within the Central Redbed Plain Section of the Central Lowland Physiographic Province, which is tectonically stable. No major fault or fracture zones have been mapped near Tinker AFB. The major lithologic units in the area of the Base are relatively flat-lying and have a regional westward dip of about 0.0076 foot per foot (ft/ft) (Bingham and Moore, 1975).

Geologic formations that underlie Tinker AFB include, from oldest to youngest, the Wellington Formation, Garber Sandstone, and the Hennessey Group; all are Permian in age.

All geologic units immediately underlying Tinker AFB are sedimentary in origin. The Garber Sandstone and Wellington Formation are commonly referred to as the Garber-Wellington Formation due to strong lithologic similarities. These formations are characterized by fine-grained, calcareously-cemented sandstones interbedded with shale. The Hennessey Group consists of the Fairmont Shale and the Kingman Siltstone. It overlies the Garber-Wellington Formation along the eastern portion of Cleveland and Oklahoma counties. Quaternary alluvium is found in many undisturbed streambeds and channels located within the area.

Stratigraphy. Tinker AFB lies atop a sedimentary rock column composed of strata that ranges in age from Cambrian to Permian above a Precambrian igneous basement. Quaternary alluvium and terrace deposits can be found overlying bedrock in and near present-day stream valleys. At Tinker AFB, Quaternary deposits consist of unconsolidated weathered bedrock, fill material, windblown sand, and interfingering lenses of sand, silt, clay, and gravel of fluvial origin. The terrace deposits are exposed where stream valleys have downcut through older strata and have left them topographically above present-day deposits. Alluvial sediments range in thickness from less than a foot to nearly 20 feet.

Subsurface (bedrock) geologic units that outcrop at Tinker AFB and are important to understanding groundwater and contaminant concerns at the Base consist of, in descending order: the Hennessey Group, the Garber Sandstone, and the Wellington Formation (Table 3-1). These bedrock units were deposited during the Permian Age (230 to 280 million years ago) and are typical of redbed deposits formed during that period. The units are composed of a conformable sequence of sandstones, siltstones, and shales. Individual beds are lenticular and vary in thickness over short horizontal distances. Because lithologies are similar and because of a lack of fossils or key beds, the Garber Sandstone and the Wellington Formation are difficult to distinguish and are often informally lumped together as the Garber-Wellington Formation. Together, these units are about 900 feet thick at Tinker AFB. The interconnected, lenticular nature of sandstones within the sequence forms complex pathways for groundwater movement.

The surficial geology of the north section of the Base is dominated by the Garber Sandstone, which outcrops across a broad area of Oklahoma County. Generally, the Garber outcrop is covered by a thin veneer of soil and/or alluvium up to 20 feet thick. To the south, the Garber Sandstone is overlain by outcropping strata of the Hennessey Group including the Kingman Siltstone and the Fairmont Shale (Bingham and Moore, 1975). Drilling information obtained as a result of geotechnical investigations and monitoring well installation confirms the presence of these units.

Depositional Environment. The Permian-age strata presently exposed at the surface in central Oklahoma were deposited along a low-lying north-south oriented coastline. Land features included meandering to braided sediment-loaded streams that flowed generally westward from highlands to the east (ancestral Ozarks). Sand dunes were common as were cut-off stream segments that rapidly evaporated. The climate was arid and vegetation sparse. Offshore the sea was shallow and deepened very gradually to the west. The shoreline position varied over a wide range. Isolated evaporitic basins frequently formed as the shoreline shifted.

Across Oklahoma, this depositional environment resulted in an interfingering collage of fluviatile and windblown sands, clays, shallow marine shales, and evaporite deposits. The overloaded streams and evaporitic basins acted as sumps for heavy metals such as barium, chromium, iron, and lead. Oxidation of iron in the arid climate resulted in the reddish color

Table 3-1

Major Geologic Units in the Vicinity of Tinker AFB
(Modified from Wood and Burton, 1968)
Tinker AFB

(Page 1 of 2)

System	Series	Stratigraphic Unit	Thickness (feet)	Description and Distribution	Water-Bearing Properties
QUATERNARY	PLEISTOCENE AND RECENT	Alluvium	0-70	Unconsolidated and interfingering lenses of sand, silt, clay, and gravel in the flood plains and channels of stream	Moderately permeable. Yields small to moderate quantities of water in valleys of larger streams. Water is very hard, but suitable for most uses, unless contaminated by industrial wastes or oil field brines.
		Terrace deposits	0-100	Unconsolidated and interfingering lenses of sand, silt, gravel, and clay that occur at one or more levels above the flood plains of the principal streams.	Moderately permeable. Locally above the water table and not saturated. Where deposits have sufficient saturated thickness, they are capable of yielding moderate quantities of water to wells. Water is moderately hard to very hard, but less mineralized than water in other aquifers. Suitable for most uses unless contaminated by oil field brines.

Table 3-1

System	Series	Stratigraphic Unit	Thickness (feet)	Description and Distribution	Water-Bearing Properties
PERMIAN	LOWER PERMIAN	Hennessey Group (includes Kingman Siltstone and Fairmont Shale)	700	Deep-red clay shale containing thin beds of red sandstone and white or greenish bands of sandy or limey shale. Forms relatively flat to gently rolling grass-covered prairie.	Poorly permeable. Yields meager quantities or very hard, moderately to highly mineralized water to shallow domestic and stock wells. In places water contains large amounts of sulfate.
		Garber Sandstone	500±	Deep-red clay to reddish-orange, massive and cross-bedded fine-grained sandstone interbedded and interfingered with red shale and siltstone	Poorly to moderately permeable. Important source of groundwater in Cleveland and Oklahoma counties. Yields small to moderate quantities of water to deep wells; heavily pumped for industrial and municipal uses in the Norman and Midwest City areas. Water from shallow wells hard to very hard; water from deep wells moderately hard to soft. Lower part contains water too salty for domestic and most industrial uses.
		Wellington Formation	500±	Deep-red to reddish-orange massive and cross-bedded fine-grained sandstone interbedded with red, purple, maroon, and gray shale. Base of formation not exposed in the area.	

of many of the sediments. Erosion and chemical breakdown of granitic rocks from the highlands results in extensive clay deposits. Evaporite minerals such as anhydrite ($CaSO_4$), barite ($BaSO_4$), and gypsum ($CaSO_4 \cdot 2H_2O$) are common.

Around Tinker AFB, the Hennessey Group represents deposition in a tidal flat environment cut by shallow, narrow channels. The Hennessey Group comprises predominantly red shales, which contain thin beds of sandstone (less than 10 feet thick) and siltstone. In outcrops, "mudball" conglomerates, burrow surfaces, and desiccation cracks are recognized. These units outcrop over roughly the southern half of the Base, thickening to approximately 70 feet in the southwest from their erosional edge (zero thickness) across the central part of Tinker AFB.

In contrast, the Garber Sandstone and Wellington Formation around Tinker AFB consist of an irregularly interbedded system of lenticular sandstones, siltstones, and shales deposited either in meandering streams in the upper reaches of a delta or in a braided stream environment. Outcrop units north of Tinker AFB exhibit many small to medium channels with cut and fill geometries consistent with a stream setting. Sandstones are typically cross-bedded. Individual beds range in thickness from a few inches to about 50 feet and appear massive, but thicker units are often formed from a series of "stacked" thinner beds. Geophysical and lithologic well logs indicate that from 65 to 75 percent of the Garber Sandstone and the Wellington Formation are composed of sandstone at Tinker AFB. The percentage of sandstone in the section decreases to the north, south, and west of the Base. These sandstones are typically fine to very fine grained, friable, and poorly cemented. However, where sandstone is cemented by red muds or by secondary carbonate or iron cements, local thin "hard" intervals exist along disconformities at the base of sandstone beds; Shales are described as ranging from clayey to sandy, are generally discontinuous, and range in thickness from a few inches to about 40 feet.

Stratigraphic Correlation. Correlation of geologic units is difficult due to the discontinuous nature of the sandstone and shale beds. However, cross sections (Figure 3-2) demonstrate that two stratigraphic intervals can be correlated over most of the Base in the conceptual model. These intervals are represented on geologic cross-sections A-A' and B-B' and in Figures 3-3 and 3-4. Section A-A' is roughly a dip section and B-B' is approximately a strike section. The first correlatable interval is marked by the base of the Hennessey Group and the first sandstone at the top of the Garber Sandstone. This interval is mappable over the southern half of Tinker AFB. The second interval consists of a shale zone within the Garber

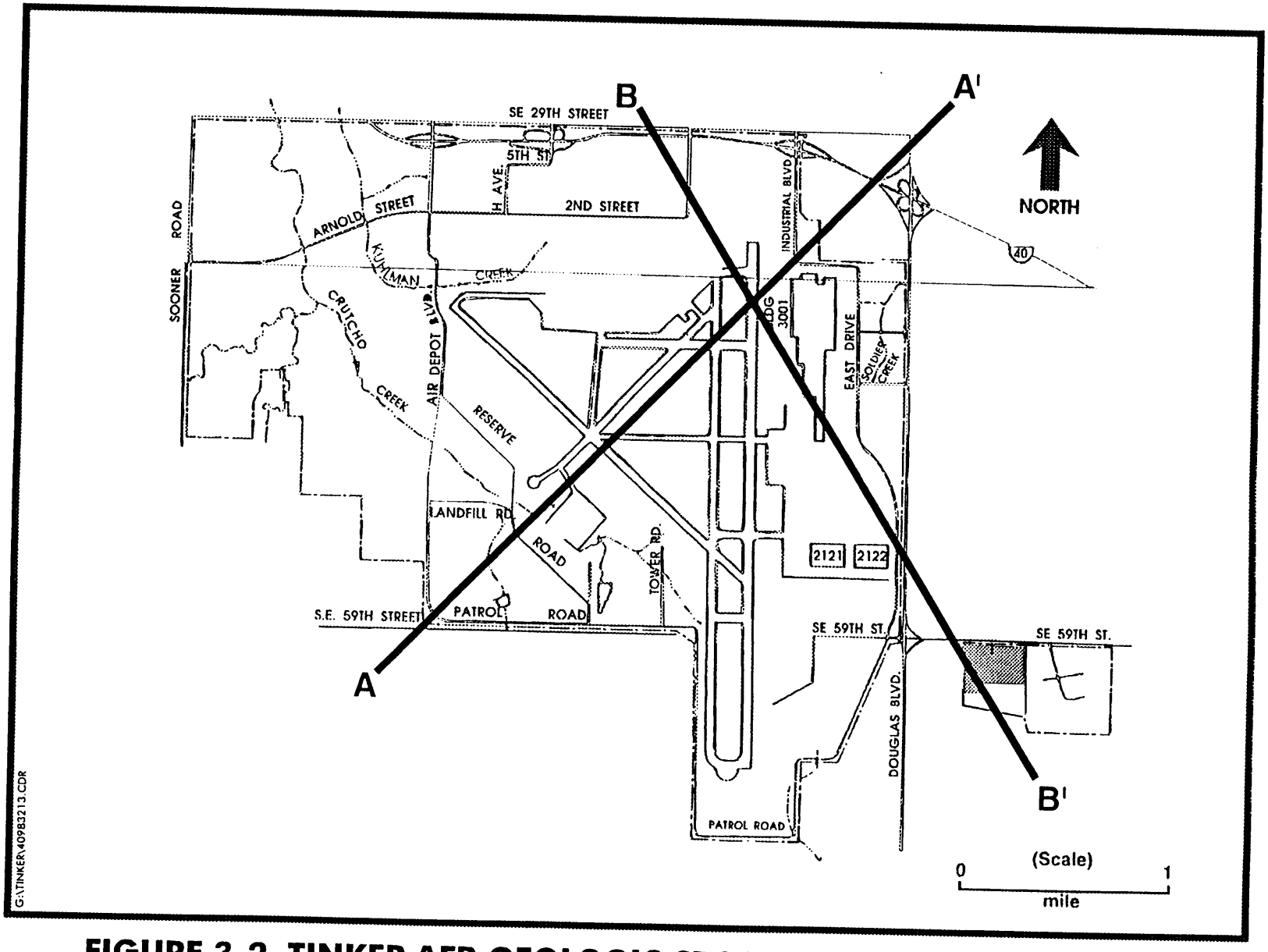


FIGURE 3-2 TINKER AFB GEOLOGIC CROSS SECTION LOCATION MAP

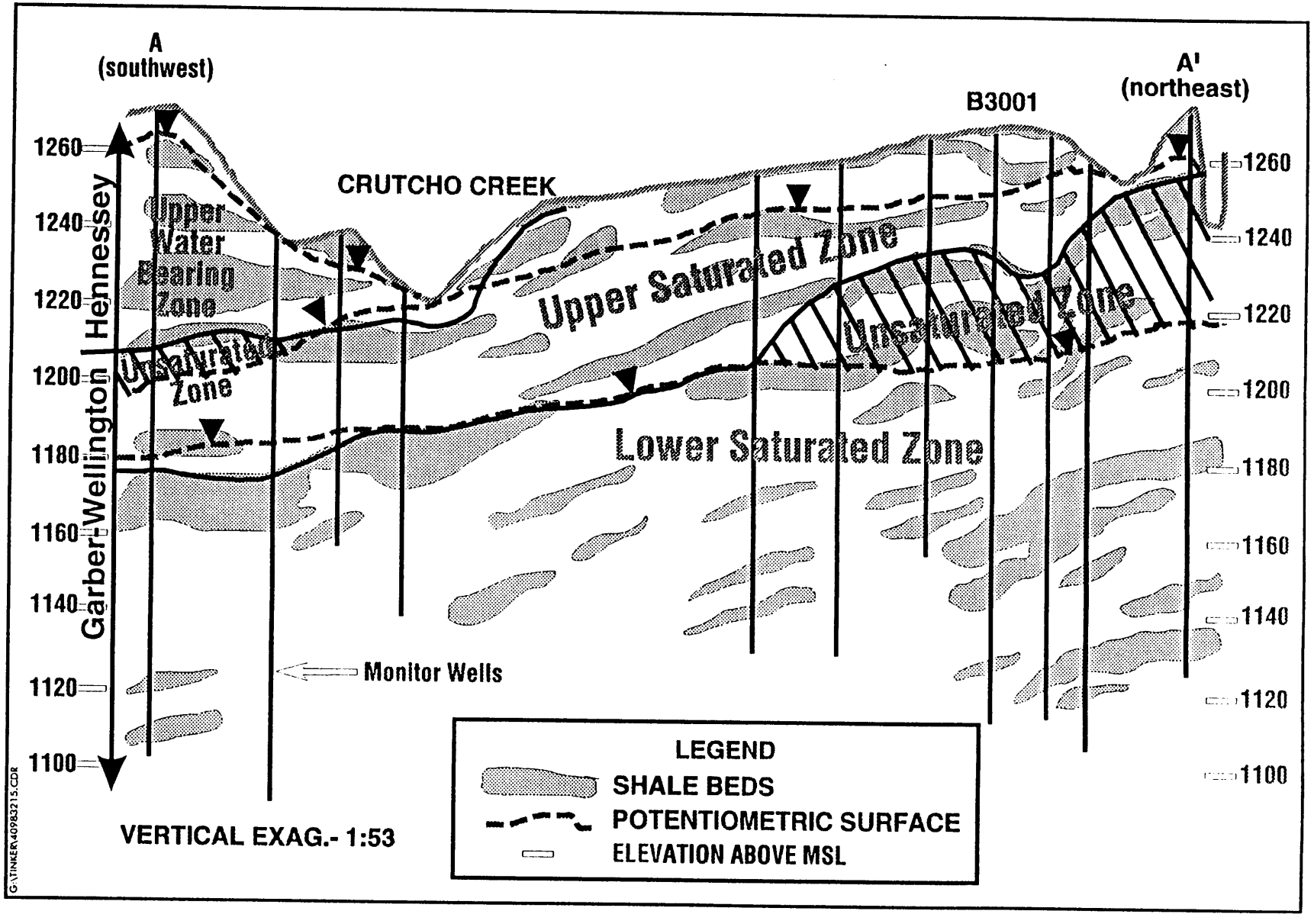


FIGURE 3-3 TINKER AFB GEOLOGIC CROSS SECTION A-A'

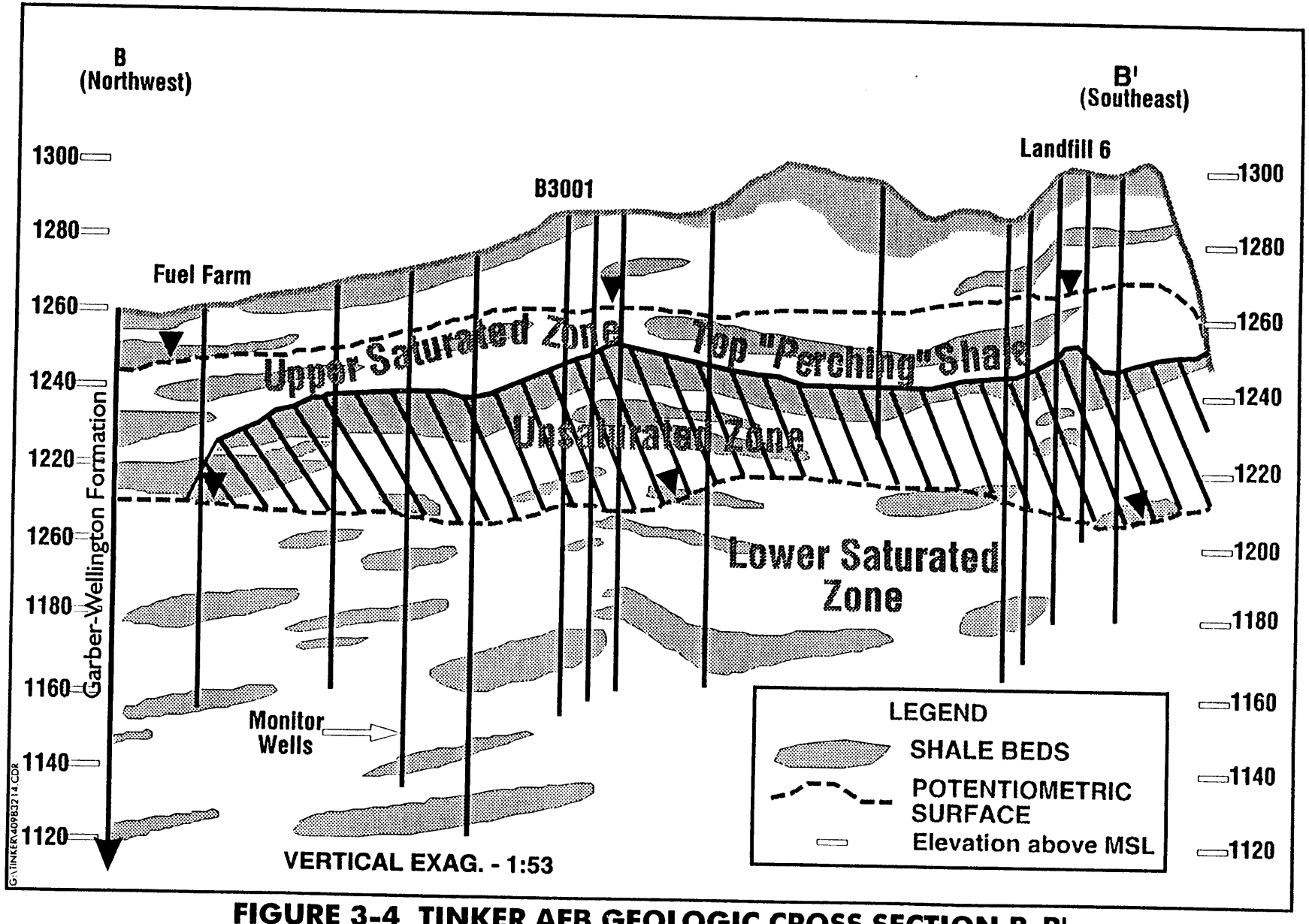


FIGURE 3-4 TINKER AFB GEOLOGIC CROSS SECTION B-B'

Sandstone, which, in places, comprises a single shale layer and in other places multiple shale layers. This interval is more continuous than other shale intervals and in cross sections appears mappable over a large part of the Base. It is extrapolated under the central portion of Tinker AFB where little well control exists.

Structure. Tinker AFB lies within a tectonically stable area; no major near-surface faults or fracture zones have been mapped near the Base. Most of the consolidated rock units of the Oklahoma City area dip westward at a low angle. A regional dip of 0.0057 to 0.0076 ft/ft in a generally westward direction is supported by stratigraphic correlation on geologic cross sections at Tinker AFB. Bedrock units strike slightly west of north.

Although Tinker AFB lies in a tectonically stable area, regional dips are interrupted by buried structural features located west of the Base. A published east to west generalized geologic cross section, which includes Tinker AFB supports the existence of a northwest trending structural trough or syncline located near the western margin of the Base. The syncline is mapped adjacent to and just east of a faulted anticlinal structure located beneath the Oklahoma City Oil Field. The fault does not appear to offset Permian-age strata. There are indications that the syncline may act as a "sink" for some regional groundwater (southwest flow) at Tinker AFB before it continues to more distant discharge points.

3.2.2 Site Geology

Soil borings were completed at 11 locations at FTMA. Eight of the borings were completed to depths between 17 and 28.5 feet for purposes of collecting soil samples for chemical analysis and for stratigraphic data. Three of the soil borings were completed to depths between 60 and 100 feet. Geophysical logs, natural gamma, self potential (SP), resistivity, and caliper, were run on the deeper borings. Monitoring wells were installed at the deeper soil boring locations. Figure 4-1 shows the soil boring locations. Figures 5-2 and 5-3 are geologic cross sections illustrating the subsurface stratigraphy at the FTMA. The FTMA is located within the outcrop area of the Hennessey Formation. In this area, the Hennessey Formation is represented by about 30 feet of a silty clay strata containing occasional lense of silty fine sand, 2 to 5 feet thick. Thin layers, about 2 inches thick, of anhydrite/gypsum material was reported in boring 2-60. The Hennessey Formation is underlain by the Garber-Wellington Formation. Soil boring 2-59 was completed to a depth of 100 feet and penetrates approximately 70 feet of the Garber-Wellington Formation. The contact between the Hennessey and Garber-Wellington Formations is conformable and is gradationally marked by change from a massive textured silty clay or siltstone and a harder fissile siltstone or

mudstone of the Hennessey Formation to the poorly to moderately silty cemented sands of the Garber-Wellington. In this area, the Garber-Wellington Formation is represented by two upward fining sequences of sandstones, siltstones, and shales each sequence is approximately 40 feet thick. These sequences are best illustrated in the geophysical log for boring 2-59. The base of the first sequence occurs between 55 and 65 feet in depth. The basal sands of the first sequence are 20 to 30 feet thick with discontinuous lense of hard siltstones and silty/sandy clays. A 10-foot-thick siltstone/claystones interval marks the top of the second sequence. Core samples were not collected from below 60 feet at boring 2-59 and the second upward fining sequence is defined from the geophysical log. The second sequence appears to have coarser sand with fewer silt and clay breaks than in the first sequence.

3.3 Hydrology

3.3.1 Regional/Tinker AFB Hydrology

The most important source of potable groundwater in the Oklahoma City metropolitan area is the Central Oklahoma aquifer system. This aquifer extends under much of central Oklahoma and includes water in the Garber Sandstone and Wellington Formation, the overlying alluvium and terrace deposits, and the underlying Chase, Council Grove, and Admire Groups. The Garber Sandstone and the Wellington Formation portion of the Central Oklahoma aquifer system is commonly referred to as the "Garber-Wellington aquifer" and is considered to be a single aquifer because these units were deposited under similar conditions and because many of the best producing wells are completed in this zone. On a regional scale, the aquifer is confined above by the less permeable Hennessey Group and below by the Late Pennsylvanian Vanoss Group.

Tinker AFB lies within the limits of the Garber-Wellington groundwater basin. Presently, Tinker AFB derives most of its water supply from this aquifer and supplements the supply by purchasing from the Oklahoma City Water Department. The nearby communities of Midwest City and Del City, derive water supplies from both surface sources and wells tapping the aquifer. Industrial operations, individual homes, farm irrigation, and small communities not served by a municipal distribution system also depend on the Garber-Wellington aquifer. Communities presently depending upon surface supplies such as Oklahoma City also maintain a well system drilled into the Garber-Wellington aquifer as a standby source of water in the event of drought.

Recharge of the Garber-Wellington aquifer is accomplished principally by percolation of surface waters crossing the area of outcrop and by rainfall infiltration in this same area. Because most of Tinker AFB is located in an aquifer outcrop area, the Base is considered to be situated in a recharge zone.

According to Wood and Burton (1968) and Wickersham (1979), the quality of groundwater derived from the Garber-Wellington aquifer is generally good, although wide variations in the concentrations of some constituents are known to occur. Wells drilled to excessive depths may encounter a saline zone, generally greater than 900 feet below ground surface. Wells drilled to such depths or those accidentally encountering the saline zone are either grouted over the lowest screens or may be abandoned.

Tinker AFB presently obtains its water supplies from a distribution system that comprises 29 water wells constructed along the east and west base boundaries and by purchase from the Oklahoma City Water Department. All Base wells are finished into the Garber-Wellington aquifer. Base wells range from 700 to 900 feet in finished depth, with yields ranging from 205 to 250 gallons per minute. The wells incorporate multiple screens, deriving water supplies from sand zones and with a combined thickness from 103 to 184 feet (Wickersham, 1979).

Conceptual Hydrologic Model. The hydrologic conceptual model of Tinker AFB involves a comprehensive review of available data, including those from direct measurement sources (borings, water level measurements, pump/slug tests, stream studies) as well as indirect sources (aerial photographs, topographic maps, published reports). The hydrologic system at Tinker AFB is complex, but the model provides both an approximation of depth to water and an estimated direction of groundwater movement and is therefore useful as a basis for designing field investigations. As information is derived from investigations the model is continually updated and refined.

Groundwater. As a result of ongoing environmental investigations and the approximately 450 groundwater monitoring wells installed on the Base during various investigations, a better understanding of the specific hydrological framework has emerged. The current conceptual model developed by Tinker AFB (Tinker, 1993), based on the increased understanding of the hydrological framework, has been revised from a previous model adopted by the U.S. Army Corps of Engineers (USACE). Previous studies reported that groundwater was divided into four water bearing zones: the perched aquifer, the top of regional aquifer, the regional

aquifer, and the producing zone. In the current model, two principal water table aquifer zones and a third less extensive zone have been identified. The third is limited to the southwest quadrant. The third aquifer zone consisted of saturated siltstone and thin sandstone beds in the Hennessey Shale and equates to the upper water bearing zone (UWBZ) described by the USACE at Landfills 1 through 4 (SWMUs-3 through -6). In addition, numerous shallow, thin saturated beds of siltstone and sandstone exist throughout the Base. These beds are of limited areal extent and are often perched.

In the current conceptual hydrologic model by Tinker AFB, an upper saturated zone (USZ) and a lower saturated zone (LSZ) are recognized in the interval from ground surface to approximately 200 feet. Below this depth is found the producing zone from which the Base draws much of its water supply. Figure 3-5 shows the potentiometric surface for the USZ and Figure 3-6 shows the potentiometric surface for the LSZ. The USZ exists under water table (unconfined) conditions, but may be partially confined locally. Conditions in the LSZ are difficult to determine due to screen placement and overlie long sand packs below the screen interval.

The USZ is found at a depth of 5 to 70 feet below ground surface and has a saturated thickness ranging from less than 1 foot at its eastern boundary to more than 20 feet in places west of Building 3001. The USZ is erosionally truncated by Soldier Creek along the northeastern margin of Tinker AFB (Figure 3-5). This aquifer zone is considered to be a perched aquifer over the eastern one-third of Tinker AFB, where it is separated from the LSZ by an underlying confining shale layer and a vadose zone. The confining interval extends across the entire Base, but the vadose zone exists over the eastern one-third of this area. The available hydrologic data indicate that the vadose zone does not exist west of a north-south line located approximately 500 to 1,000 feet west of the main runway; consequently, the USZ is not perched west of this line. However, based on potentiometric head data from wells screened above and below the confining shale layer, the USZ remains a discrete aquifer zone distinct from the LSZ even over the western part of the Base. In areas where several shales interfinger to form the lower confining interval rather than a single shale bed, "gaps" may occur. In general, these gaps are not holes in the shale but are places where multiple shales exist that are separated by slightly more permeable strata. Hydrologic data from monitoring wells indicate that these zones allow increased downward flow of groundwater above what normally leaks through the confining layer.

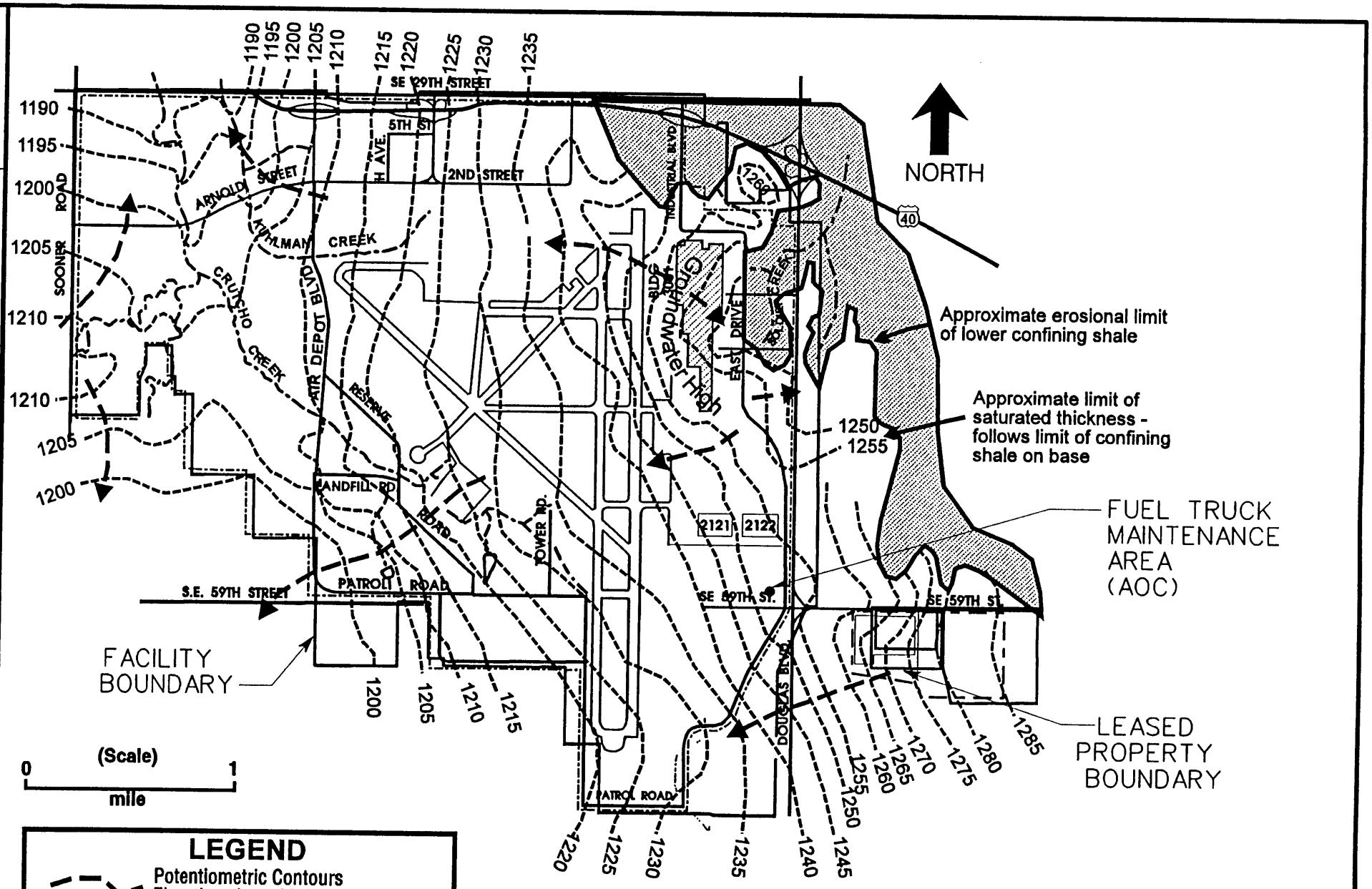


FIGURE 3-5
TINKER AIR FORCE BASE
UPPER SATURATED ZONE
POTENTIOMETRIC SURFACE

STARTING DATE: 01APRIL94	DATE LAST REV.:8/30/94	DRAFT. CHCK. BY:	INITIATOR:C.WALLACE
DRAWN BY:L. STOUT	DRAWN BY:P. TERRY	ENGR. CHCK. BY:	PROJ. MGR.:J.TAYLOR
G:\TINKER\40983202.537			DWG. NO.:40983209C.
			PROJ. NO.:409832

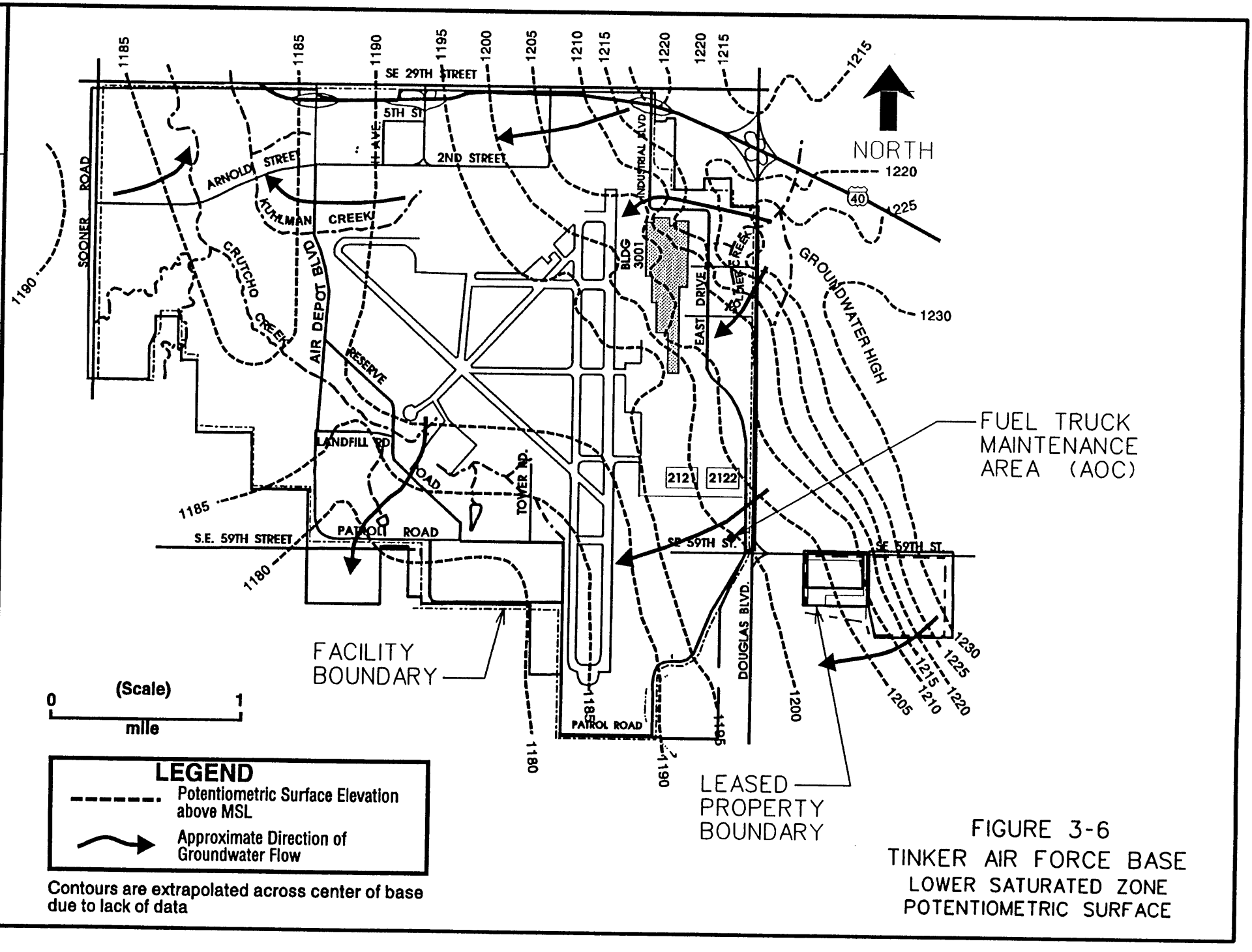


FIGURE 3-6
TINKER AIR FORCE BASE
LOWER SATURATED ZONE
POTENTIOMETRIC SURFACE

STARTING DATE: 23MAR94	DATE LAST REV.:8/29/94	DRAFT. CHCK. BY:	INITIATOR: C.WALLACE
DRAWN BY: C.E.TUMLIN	DRAWN BY:P.TERRY	ENGR. CHCK. BY:	PROJ. MGR.: J.TAYLOR
G:\TINKER\40983202C.545			DWG. NO.:40983209C
			PROJ. NO.:409832

The LSZ is hydraulically interconnected and can be considered one aquifer zone down to approximately 200 feet. This area includes what was referred to by the USACE as the top of regional and regional zones. Hydrologic data from wells screened at different depths at the same location within this zone, however, provide evidence that locally a significant vertical (downward) component of groundwater flow exists in conjunction with lateral flow. The magnitude of the vertical component is highly variable over the Base. Preliminary evidence suggests that the LSZ is hydraulically discrete from the producing zone. Due to variations in topography the top of the lower zone is found at depths ranging from 50 to 100 feet below ground surface under the eastern parts of the Base and as shallow as 30 feet to the west. Differences in potentiometric head values found at successive depths are due to a vertical (downward) component of groundwater flow in addition to lateral flow and the presence or absence of shale layers that locally confine the aquifer system. The LSZ extends east of the Base (east of Soldier Creek) beyond the limits of the USZ where it becomes the first groundwater zone encountered in off-Base wells. Because of the regional dip of bedding, groundwater gradient, and topography, the LSZ just east of the Base is generally encountered at depths of less than 20 feet.

Across the central portion of Tinker AFB, the unsaturated zone separating the USZ and LSZ disappears where the intervening shale layer dips below the surface of the LSZ (Figure 3-6). The disappearance of the unsaturated zone is supported by data from recently completed wells just west of the north-south runway and near Base Operations and by data from wells in the southwest portion of the Base. Measured water levels in two of the new wells show that the LSZ is confined at these locations by the shale separating the USZ and LSZ. No unsaturated interval is present.

To the southwest, measured water levels from wells screened in the Garber Sandstone at Landfills 2 and 4, SWMUs-4 and -6, which correspond in the conceptual model to the USZ under the east part of the Base, show that the USZ remains unconfined or is partially confined. This zone is essentially the first water level encountered in the Garber Sandstone on the Base. Potentiometric data from wells in the southwest screened in deeper intervals, that correspond roughly to the LSZ to the east indicate that the LSZ is confined in this area. Data from wells screened at various intervals to a depth of about 90 feet in this area also show that no vadose (unsaturated) zone separates the USZ from the rest of the aquifer. The upper and lower zones cannot be distinguished in this area except by correlating geologic units across Base.

Farther to the southwest of the landfills, near the edge of the Base, another unsaturated zone is found separating groundwater in the Hennessey Group from the Garber-Wellington aquifer. This unsaturated zone is not continuous with that encountered on the east side of the Base. The groundwater in the overlying Hennessey water bearing zone represents the third groundwater zone of more limited areal extent mentioned previously. This shallow unconfined aquifer system is located on a topographic high (groundwater divide) in the strata of the Hennessey Group. Radial flow of groundwater off the divide toward nearby tributaries of Crutcho Creek is suggested from limited water level measurements. Additional shallow perched saturated zones of limited areal extent are thought to exist in other sandstone and siltstone beds within the Hennessey water bearing zone. Along the western margin of Tinker AFB west of Crutcho Creek, the shallow groundwater in the Hennessey water bearing zone and probably groundwater in the most shallow saturated zones in the Garber-Wellington aquifer appears to flow toward stream tributaries, and therefore, does not follow regional flow patterns to the west/southwest.

The aquifer zones in the conceptual model are hydraulically connected, although sometimes only to a very local extent, either directly as in the west part of the Base or indirectly through leakage and/or recharge patterns related to local streams. Because Tinker AFB is located in a recharge zone for the Central Oklahoma aquifer both horizontal and vertical (downward) components of groundwater flow exist. Measured potentiometric levels from well clusters with screens and filter packs placed at varying depths within the LSZ show that hydraulic heads decrease with depth and that the magnitude of the vertical component of flow varies with location. This finding is particularly important to recognize where data from these wells are being used to generate potentiometric contour maps.

Although the variability in the geology and the recharge system at Tinker AFB makes it difficult to predict local flow paths, Central Oklahoma aquifer system water table data taken from the 1992 USGS Hydrologic Atlas show that regional groundwater flow under Tinker AFB varies from west/northwest to southwest depending on location. This finding is supported by contoured potentiometric data from Base monitoring wells, which show groundwater movement in the upper aquifer zones to generally follow regional dip. Measured normal to potentiometric contours, groundwater flow gradients range from 0.0019 to 0.0057 ft/ft. However, because flow in the near surface portions of the aquifer at Tinker AFB is strongly influenced by topography, local stream-based levels, complex subsurface geology and location in a recharge area, both direction and magnitude of groundwater movement is highly

variable. The interaction of these factors not only influences regional flow, but also gives rise to complicated local, often transient, flow patterns at individual sites.

Several examples demonstrate this variability. Historical water level data around Crutcho Creek indicate that groundwater flow in that area is predominantly to the southwest. However, during high flow conditions bank recharge occurs and shallow local flow patterns near the creek may be reversed. This pattern is probably in effect at other streams as well. In the northeast quadrant of the Base, several factors contribute to groundwater "mounding" in the USZ and to formation of a groundwater high in the LSZ. This mounding leads to radial or semiradial groundwater flow at shallow depths. Finally, in the northeast part of the Base where sufficient data exist, comparison of potentiometric contours from successively deeper levels in the LSZ suggests that groundwater flow directions change with depth, gradually turning from west/southwest to northwest. This change in regional flow is attributed either to effects of pumping from deep water supply wells in the area and/or to the presence of the Deep Fork River located to the north. This river, along with the Canadian River south of Tinker AFB, has been demonstrated by the USGS to act as a major discharge point for regional groundwater in Central Oklahoma.

Surface Water. The interaction of surface water with groundwater is an important factor in predicting local groundwater flow patterns at Tinker AFB. Although no technical stream study data are presently available to determine what degree of interaction occurs between streams and groundwater, some qualitative observations provide clues to the importance of this system. The direction of stream flow on Tinker AFB appears to be controlled largely by a topographic divide that extends from southwest to northeast across the south part of the Base. Streams that originate on the north side of the divide flow to the north, including Soldier Creek, Crutcho Creek, and Kuhlman Creek. Elm Creek, which has its origin on the southeast side, flows to the south. Streams that flow northward become perennial before leaving the Base and with no other constant source of water available are considered to be recharged by the aquifer (gaining streams). Some data indicate, however, that these streams become dry north of the Base during periods of lower precipitation and lose water to the aquifer (losing streams). Information from wells and piezometers near the ponded section of Soldier Creek at the industrial wastewater treatment plan also suggests that the pond contributes to the groundwater (a losing stream) in the LSZ at that location. Portions of Soldier Creek tributaries (near their headwaters, off-Base) flow only intermittently and probably recharge the aquifer through infiltration during periods of higher precipitation. Finally, where groundwater and stream elevations are the same, the observed direction of groundwater flow

may be affected by transient factors such as bank storage from periods of increased precipitation.

Man-Made Structures. In the conceptual model of Tinker AFB, it is recognized that man-made features such as buried utilities (storm drains, waste lines) may further complicate the shallow groundwater situation. An additional problem encountered in generating the model involves improper monitoring well construction practices, which not only may contribute preferred pathways for groundwater (and contaminant) movement where wells have multiple screens or overlie long filter packs, but also often provide nonrepresentative, biased groundwater, and sample data.

The complex groundwater system at Tinker AFB makes correct placement and construction of monitoring and extraction wells critical. A good understanding of the conceptual hydrologic framework is essential to obtain representative data and to minimize errors. An integrated hydrologic conceptual model provides an overview of the groundwater system and leads in turn to more effective site project management.

3.3.2 Site Hydrology

Three wells were installed in the USZ at FTMA. Because of the relatively high relief of the topography, the depth to the USZ ranges from 45.95 feet below ground at monitoring well 2-60 to 50.58 feet below ground at 2-59. However, a thin saturated layer was encountered in boring SB-023R at 11 feet below ground and moisture along fractures was noted to 23 feet below ground. The potentiometric surface ranges from 1,247.2 feet above msl at 2-59 to 1,249.64 feet above msl at 2-60 and 2-61. The potentiometric surface for the USZ is illustrated in Figure 5-4. Therefore, the hydraulic gradient is approximately 0.0134 ft/ft. However, the groundwater flow direction at the site is to the northeast, which is in the opposite direction of the regional groundwater flow in the area. The regional groundwater flow across Tinker AFB is generally to the southwest. Groundwater flow velocity and hydraulic conductivity at the site were not determined because no aquifer testing was performed.

3.4 Soils

The surface soils of Tinker AFB have been studied by the U.S. Department of Agriculture (USDA), Soil Conservation Service (1969) and by several soil boring projects conducted for geotechnical (foundation construction) investigations. Surface soils of the installation area are

predominantly of two basic types: residual and alluvial. The three major soil associations (Table 3-2) mapped within installation limits are Darrell-Stephenville, Renfrow-Vernon-Bethany, and Dale-Canadian-Port. The residual soils associations, Darrell-Stephenville and Renfrow-Vernon-Bethany are the products of the weathering of underlying bedrock. The alluvial materials of the Dale-Canadian-Port association are stream-deposited silts and sands, typically restricted to floodplains of area streams.

Table 3-2

Tinker AFB Soil Associations
(Source: USDA, 1969)

Association	Description	Thickness (in.)	Unified Classification[a]	Permeability (in./hr)
Darrell-Stephenville: loamy soils of wooded uplands	Sandy loam Sandy clay loam Soft sandstone (Garber Sandstone)	12-54	SM,ML,SC	2.0-6.30
Renfrow-Vernon-Bethany: loamy and clayey soils on prairie uplands	Silt loam - clay Clay loam Shale (Fairmont Shale)	12-60	ML,CL,MH,CH	<0.60-0.20
Dale-Canadian-Port: loamy soil on low benches near large streams	Fine sandy loam Silty clay loam Loam Clay loam	12-60	SM,ML,CL	0.05-6.30

[a]Unified classifications defined in U.S. Bureau of Reclamation, 5005-86.

4.0 Description of Investigative Methods

The Phase I field investigation of the subsurface conditions at the FTMA was conducted from October through December 1993. All activities conducted during the field investigation program were performed in accordance with the Work Plan, the Data Management Plan, the Data Collection Quality Assurance Plan, the Health and Safety Plan, and their Amendments (IT, 1993a). As a Phase I investigation, field activities were designed to provide information on subsurface lithologies and the nature and extent of contamination, if any, in the soils and/or groundwater beneath the FTMA. Field investigation activities described in the following sections include, but are not limited to, subsurface soil sampling of soil borings, monitoring well installation and groundwater sampling (Table 4-1). A total of eight soil borings were sampled, and three monitoring wells were installed at this AOC (Figure 4-1). Sixteen soil gas samples were collected at a depth of 10 feet below ground surface along a perimeter 20 feet from Building 2110.

4.1 Soil Borings

Eight soil borings, SB-021 through SB-028, were drilled in the subsurface beneath Building 2110 in the FTMA. Three of the borings, SB-024R, SB-025R, and SB-026, were drilled inside Building 2110 near a drainage trench that runs the length of the building. Four borings, SB-022R, SB-023R, SB-027, and SB-028, were drilled just outside the building at the four corners. The borings were originally to be drilled inside the building, but were moved outside the building because of accessibility restraints of the drilling rig. In addition, the abandoned lift station, which is an oil-water separation/lift station combination was investigated with SB-021 (10 feet to the west), SB-024 (15 feet to the southeast, and soil gas points SG-002, SG-001, and SG-016 located approximately 20 feet to the northeast, north, and northwest, respectively. Borings could not be taken inside the facility next to the abandoned lift station due to space restrictions, and could not be completed to the east of the abandoned lift station because of the high density of underground utility feeds to the building. Soil boring details are summarized in Table 4-2. Boring logs are included in Appendix A.

The borings were drilled using 8-inch hollow-stem augers to total depths ranging from 17 to 28.5 feet. A 5-foot tube sampler was used to continuously sample the borings for lithologic logging purposes. In addition, based on odor, field screening with a photoionization detector/flame ionization detector (PID/FID), and visual inspection, one sample for analytical purposes was collected from each 5-foot interval of the boring. The samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total

Table 4-1

Summary of RFI Field Activities
AOC, FTMA, Tinker AFB

Type of Activity	Number of Locations	Cumulative Footage of Borings/Wells	Average Footage per Boring/Well	No. of Samples Collected for Chemical Analysis					Analyses Performed	Groundwater[a] Samples
				Normal Samples	Duplicates	Rinsates	Field Blanks	Totals		
Soil Borings	12	283.0	23.6	59	3	2	0	64	VOCs, SVOCs, TPH, Metals	0
Deep Monitoring Well Installation	3	184.5	61.5	29	1	1	0	31	VOCs, SVOCs, TPH, Metals	2
Stratigraphic Pilot Boring[b]	1	100.0	100.0	0	0	0	0	0	n/a	0
TOTALS	**16**	**567.5**		**88**	**4**	**3**	**0**	**95**		**2**
Deep Well Groundwater Sampling	3	n/a	n/a	3	0	0	0	3	VOCs, SVOCs, TOC, TPH, Metals, Inorganic Parameters, COD, Phenols	n/a
Soil Gas Survey	16	158	9.9	16	n/a	n/a	n/a	16	Halogenated Volatile Organics, BTEX	n/a

Notes:
[a]Geotechnical analysis included grain-size distribution, moisture content, cation exchange capactiy, and vertical permeability.
[b]Boring for geophysical logging purposes only.
VOCs - Volatile Organic Compounds - EPA Method 8240
SVOCs - Semivolatile Organic Compounds - EPA Method 8270
Metals - EPA Method 6010: Al, Ag, As (EPA Method 7060); Ba, Be, Cd, Cr, hexavalent Cr (EPA Method 7196); Cu, Fe, Pb (EPA Method 7421); Ni, Zn, and Hg (EPA Method 7471)
TPH - Total Petroleum Hydrocarbon - EPA Method 418.1/9071
TOCs - Total Organic Carbon - EPA Method 415.1
Inorganic Parameters - PO_4, SO_4, Cl, Si, Alkalinity, Total Dissolved Solids, Total Suspended Solids, Nitrate/Nitrite, Total Kjeldahl Nitrogen (TKN), Ca, Mg, Mn, Na, K
COD - Chemical Oxygen Demand - EPA Method 410.1
Phenols - EPA Method 9066
BTEX - EPA Method 8020 (modified); Halogenated Volatile Organics - Method 8010 (modified)

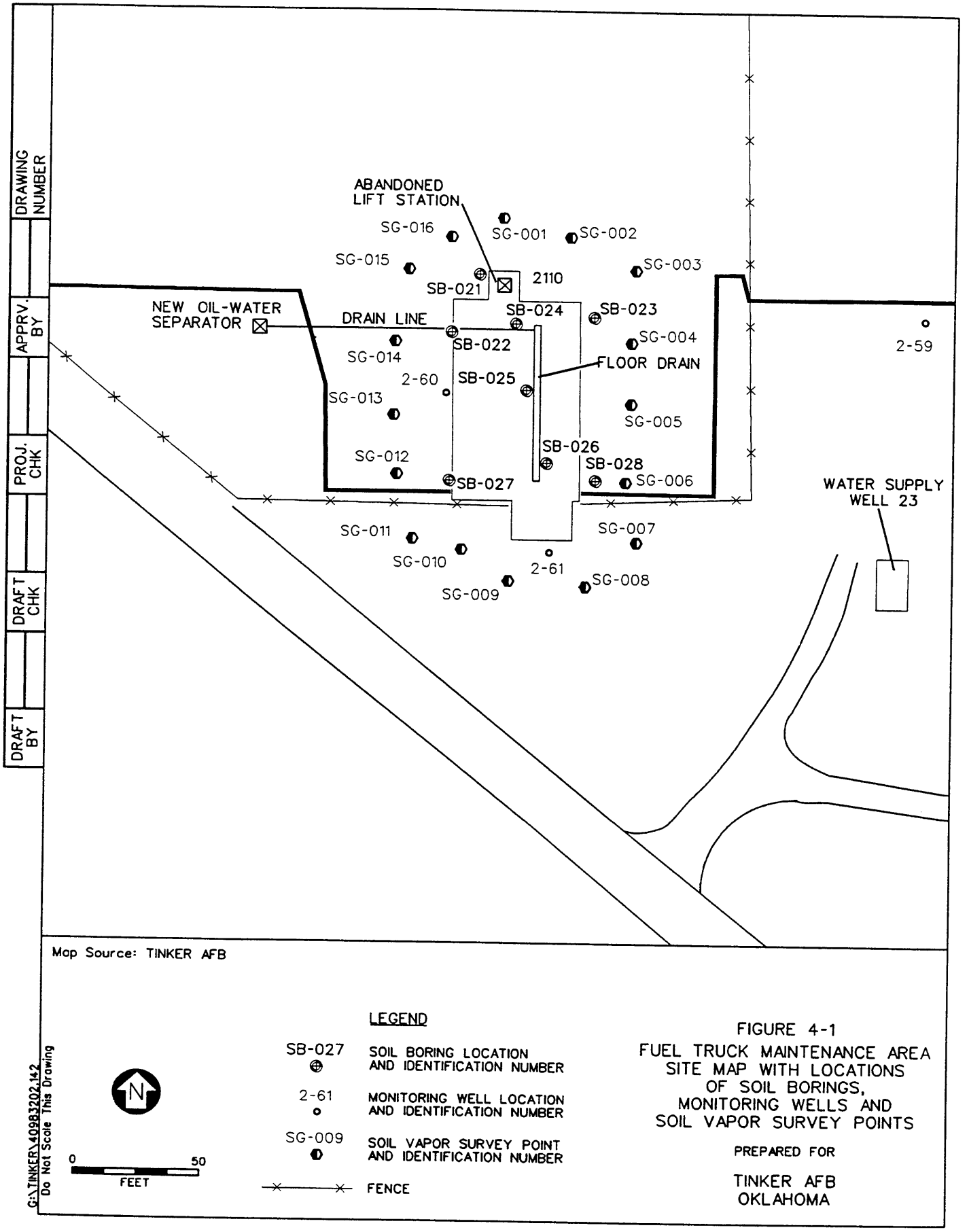


FIGURE 4-1
FUEL TRUCK MAINTENANCE AREA
SITE MAP WITH LOCATIONS
OF SOIL BORINGS,
MONITORING WELLS AND
SOIL VAPOR SURVEY POINTS

PREPARED FOR

TINKER AFB
OKLAHOMA

Table 4-2

RFI Soil Borings Summary
AOC, FTMA, Tinker AFB

Boring ID	Date Completed	Boring Coordinates		Surface Elevation (msl)	Total Depth Drilled (fbgs)	Soil Samples[a] Collected for Analysis
		Northing	Easting			
SB-021	10/28/93	148763.832	2186704.005	1295.427	28.5	5
SB-022	11/12/93	NA	NA	NA	23.0	6*
SB-022R	12/2/93	148740.941	2186693.033	1295.804	24.5	5
SB-023	11/12/93	NA	NA	NA	24.0	5*
SB-023R	12/2/93	148747.128	2186749.887	1295.640	24.8	5
SB-024	11/12/93	NA	NA	NA	24.0	5*
SB-024R	12/1/93	148744.402	2186718.650	1295.452	24.4	5
SB-025	11/12/93	NA	NA	NA	23.5	5*
SB-025R	12/1/93	148718.136	2186723.049	1295.337	24.8	6
SB-026	11/11/93	148688.959	2186731.291	1295.280	17.0	4
SB-027	11/10/93	148681.693	2186692.623	1295.822	23.5	5
SB-028	11/11/93	148682.056	2186750.834	1295.649	21.0	6
				Totals	283.0	62

[a]Number of soil samples collected includes field duplicates.
*Samples arrived warm (greater than 4°C) at lab and were not analyzed; therefore, four borings were redrilled and resampled.
msl - mean seal level.
fbgs - feet below ground surface.
R - redrill.

petroleum hydrocarbons, and priority pollutant metals. Upon reaching total depth, each boring was filled to the surface with grout consisting of Portland Type I cement mixed with no more than 10 gallons of water per 94-pound bag and 5 percent bentonite gel per volume. Four of the borings (SB-022, SB-023, SB-024, and SB-025) had to be re-drilled. The borings were originally drilled and sampled on Friday, November 12, 1993, and the samples were shipped to the IT Analytical Services Laboratory in Austin, Texas on the same day for Saturday delivery. However, the samples did not arrive until the morning of Monday, November 15, and the temperature of the samples was above the minimum temperature of 4 degrees Centigrade (^{o}C). Therefore, new boring locations were chosen within 4 feet of the original borings. The new borings were labelled SB-022R, SB-023R, SB-024R, and SB-025R and were drilled and sampled on December 1 and December 2.

In addition to the eight soil borings, one 100-foot deep stratigraphic pilot hole, 2-59P, was drilled solely for geophysical logging purposes. This stratigraphic boring, placed approximately 4 feet west of monitoring well 2-59, was advanced via mud rotary drilling with a 3-7/8-inch tricone rock bit without collecting any soil samples. Once completed and logged, the stratigraphic boring was filled to the surface via tremmie pipe with grout consisting of Portland Type I cement mixed with no more than 10 gallons of water and 5 percent bentonite per volume. The primary purpose of this pilot hole was to provide a tie point for Base-wide and regional stratigraphic correlations. Geophysical logs for stratigraphic pilot hole 2-59 are included in Appendix B.

4.2 Monitoring Well Installation

Three wells (2-59, 2-60, and 2-61), were installed in the USZ to determine the existence and degree, if any, of groundwater contamination. Soil samples collected from the monitoring well borings were chemically analyzed to determine the degree, if any, of subsurface soil contamination at the FTMA facility. Although the wells were installed in the USZ, surface casing was set across the contaminated portions of the unsaturated zone in wells 2-60 and 2-61 to prevent any contamination between these shallow soils and the USZ during drilling activities. The surface casing was set into a lithologic layer decided upon by Tinker AFB project management. Surface casing was not set in monitoring well 2-59 because it is located at a sufficient distance from the facility and the associated near surface soils contamination. Construction details of the monitoring wells are presented in Table 4-3.

Borings for the wells were initially advanced down to the confining layer with 8-inch outside diameter (O.D.) hollow-stem augers. A 5-foot tube sampler was used to continuously sample

Table 4-3

Monitoring Well Construction Details
AOC, FTMA, Tinker AFB

Well ID	Date Completed	Well Coordinates		Well Elevations (msl)			Total Depth Drilled (fbgs)	Soil[a] Samples Collected for Analysis	Filter[b] Sand Interval (fbgs)	Bentonite Seal Interval (fbgs)	Screen[c] Interval (fbgs)	Riser Pipe[d] Interval (fbgs)	Surface[e] Casing Interval (fbgs)
		Northing	Easting	TOC	TOPC	Ground Surface							
Deep Wells (Lower Saturated Zone)													
2-59	11/16/93	148747.160	2186881.244	1297.980	1298.011	1295.444	60.0	10	48.0-60.0	43.0-48.0	49.5-59.5	+2.5-49.5	NA
2-60	12/1/93	148716.863	2186691.012	1295.587	1295.890*	1295.791	62.0	12	49.4-58.4	44.2-49.4	51.7-56.7	0-51.7	0-27.8
2-61	12/3/93	148652.962	2186732.714	1297.669	1297.910	1295.503	62.5	10	48.2-60.8	42.7-48.2	49.8-59.8	+2.5-49.8	0-29.8
						Totals	184.5	32					

[a]Soil samples collected for analysis include field duplicates and geotechnical samples.
[b]#20 silica sand used for filter pack.
[c]2-inch ID stainless steel, wire wound, 0.010 slot screen.
[d]2-inch ID flush threaded, stainless steel riser pipe.
[e]8-inch ID welded carbon steel surface casing.

msl - meal sea level.
fbgs - feet below ground surface.
NA - not applicable.
TOC - top of casing.
TOPC - top of protective casing.
* - measured from concrete pad.

the borings for lithologic logging purposes. Additionally, based upon odor, field screening with a PID/FID, and visual inspection, one sample was collected from each 5-foot section for chemical analysis until the top of the water table was encountered, where the final analytical sample was collected. No samples for laboratory analysis were collected below the groundwater level, but monitoring well 2-59, which does not have surface casing, was sampled for lithologic purposes to total depth. At the FTMA, the sampling scheme resulted in the collection of 29 total soil samples, which were each analyzed for VOCs, SVOCs, TPH, and priority pollutant metals. A total of two additional samples were collected from the boring for well 2-60 for geotechnical analysis that included the following parameters: grain-size distribution, moisture content, cation exchange capacity (CEC), and vertical permeability. Well completion diagrams are included in Appendix A.

Once the confining layer was reached, the borings were geophysically logged for natural gamma, spontaneous potential, resistivity, and borehole diameter. The set depth for the surface casing was then decided upon by Tinker AFB project management based upon review of the geophysical and lithologic logs. The depths of the bottom of the surface casings in the wells at the FTMA range from 28 to 30 feet.

After the depth of the surface casing was decided upon, the boring was then backfilled with bentonite pellets or chips from the bottom of the boring to the depth of the bottom of the surface casing. The boring was then reamed with 12-inch O.D. augers to the depth of the bottom of the surface casing. The surface casing, consisting of 8-inch inside diameter (I.D.) carbon steel with welded joints, was then inserted into the borehole with a stainless steel centralizer set approximately 10 feet from the surface. The bottom of the surface casing was plugged with a cement shoe to prevent the cement grout from filling the inside of the surface casing. The annular space between the surface casing and the borehole wall was then filled to the surface with grout consisting of Portland Type I cement mixed with no more than 10 gallons of water per 94-pound bag and 5 percent bentonite gel per volume. The grout was pumped into the annulus via tremmie pipe until returns were received at the surface.

After allowing the grout to set for at least 24 hours, drilling continued on the lower section of the boring using mud rotary techniques with a 5-5/8-inch tricone rock bit. No bentonite gel was added to the water during mud rotary drilling because the geologic formations contained enough clay to produce a drilling mud. After the second stage of the boring was advanced to a depth predetermined by Tinker AFB project management, the hole was again geophysically logged for natural gamma ray, spontaneous potential, resistivity, and borehole diameter.

Tinker AFB project management then decided on the screened interval and well construction details based on review of the geophysical and lithologic logs. The total depth of the wells in the FTMA range from 57 to 60 feet.

Unlike monitoring wells 2-60 and 2-61, monitoring well 2-59 was single-cased, and was advanced to total depth using hollow-stem augers without the use of mud rotary techniques. A geophysical log was also run in this borehole, and Tinker AFB project management used this log, along with the continuous lithologic log developed during auguring, to determine the screened interval and construction parameters for the well.

After the depth of the screened interval was decided, the boring was backfilled with bentonite pellets or chips from total depth to the bottom of the screened interval. The well screen and riser were then inserted into the borehole. The screen and riser were not set on the bottom of the borehole, but were suspended from the surface such that the bottom of the screen hung approximately 1 foot above the bottom of the borehole. Stainless steel centralizers were installed as shown in the well construction diagrams in Appendix A, but were not used on monitoring well 2-59 because the well casing was installed through the inside of hollow-stem augers.

Ten-foot screen lengths were used in monitoring wells 2-59 and 2-61, and a 5-foot screen was used for well 2-60. The screens consist of 2-inch-diameter stainless steel with 0.010-inch slots. The filter pack consists of No. 20 silica sand, and was placed in the borehole annulus by pouring from the surface in wells 2-59 and 2-61, and by tremmie pipe in well 2-60. The borehole was filled from 1 foot below the screen to 2 feet above the screen with the filter sand.

After adding the sand, the well was surged with a surge block for approximately 5 minutes to ensure that the sand was properly compacted. Then, if needed, more sand was added to raise the level of sand to 2 feet above the top of the screen. Immediately after adding the filter pack, the annular seal was added to the annulus. The annular seal consists of a minimum of 5 feet of bentonite pellets or chips and was either poured in from the surface, as in wells 2-59 and 2-61, or entered via tremmie pipe, as in 2-60. During well construction, bentonite pellets were bridging in the annulus of well 2-60. Therefore, after adding 5 feet of pellets, approximately 10 feet of bentonite slurry was pumped into the annulus via tremmie pipe to ensure that an adequate seal was obtained. The bentonite was then left to sit for at least one-half hour before adding the grout to allow the bentonite to fully hydrate and swell. After allowing

the bentonite to swell, the remaining annular space was filled to the surface with grout consisting of Portland Type I cement mixed with no more than 10 gallons of water per 94-pound bag and 5 percent bentonite per volume. The grout was pumped into the annulus via tremmie pipe until returns were received on the surface.

4.3 Surface Completion

As specified by the Tinker AFB project manager, wells 2-59 and 2-61 received aboveground surface completions, and, due to the proximity of well 2-60 to fuel truck traffic around Building 2110, 2-60 received a flush-mount completion. The aboveground completions consisted of a 12-inch-diameter iron manhole cover set into a 4-foot by 4-foot by 6-inch concrete pad centered on the well casing stick-up. The flush-mount completion on well 2-60 consists of a 12-inch-diameter manhole cover set into a 2-foot by 2-foot by 6-inch concrete pad set into the concrete of the lot around Building 2110. To facilitate runoff away from the wells, the concrete pads were sloped away from the manhole covers (set no more than 4 inches aboveground) to the outer edges of the pads, which were flush with the ground surface. To ensure the security of the wells, each well was fitted with a watertight and airtight locking well cap. As requested, all the padlocks were keyed identically, and all bolts for the manhole covers were the same size.

4.4 Well Development

Once the surface completions had been given sufficient time to cure, wells were developed through a combination of surging, bailing, and pumping. A minimum of five well volumes (volume of water in well casing plus filter pack) of water was purged from each well during development. Pumping was accomplished by the use of a 2-inch submersible pump. Bailing was accomplished through the use of 1-1/2 inch by 5-foot polyvinyl chloride (PVC) bailers. Bailing and/or surging continued until the pH of the well had dropped and stabilized, indicating that any drilling mud, dissolved grout, or other foreign material introduced during well installation had been sufficiently flushed out of the well. Well development was considered complete when the pH and conductivity had stabilized and the well was producing water that was clear to the unaided eye.

4.5 Groundwater Sampling

To provide the wells with adequate time to recover and stabilize after development, the newly installed wells at the FTMA were allowed to sit for 3 days prior to the first groundwater sampling event. Static groundwater levels and total depth measurements were recorded prior to purging for sampling. The water level data were later used to contour potentiometric

surface maps of the USZ. The wells were then purged to ensure that fresh water samples representative of aquifer conditions would be obtained during sampling. Dedicated 1-1/2-inch by 5-foot PVC bailers were used to purge the wells. Wells were considered sufficiently purged once three well volumes of water had been removed from a well or the well had been purged to dryness. While purging, pH, temperature, and conductivity readings were collected and monitored for unusual variations, which would indicate that additional well volumes should be evacuated before sampling.

A total of three groundwater samples and one field duplicate were collected from the wells at the FTMA. To prevent cross contamination between the wells and to eliminate decontamination time, each well was sampled with a disposable polyethylene bailer and rope, which were discarded with project waste after use. A final round of field pH, temperature, and conductivity readings was recorded as the samples were being collected. Groundwater samples were each analyzed for the following parameters: VOCs, SVOCs, total organic carbon (TOC), chemical oxygen demand (COD), total petroleum hydrocarbons (TPH), phenols, priority pollutant metals, and standard inorganic groundwater parameters.

4.6 Soil Gas Survey

A soil gas survey was performed at FTMA and consisted of 16 vapor gas survey points configured in a rough circle 20 feet away from the FTMA (Figure 4-1). One-inch rods were hydraulically driven to 10 feet, with the exception of samples 2 and 7, which were collected at a depth of 9 feet due to rod refusal. Soil gas samples were then collected through the rods and analyzed for VOCs.

4.7 Elevation and Location Survey

After their completion, the elevations and locations of the monitoring wells and the stratigraphic pilot hole at this AOC were determined by a State of Oklahoma licensed surveyor. For each well, the ground surface, the top of the well casing, and the top of the concrete pad were surveyed relative to Base data provided by Tinker AFB. For the stratigraphic boring, only the ground surface directly adjacent to the grouted hole was surveyed. Elevations and locations of any pre-existing monitoring wells and piezometers at the FTMA were also determined. All locations are provided in the Base coordinate system and all elevations were measured from msl. The Site Survey Report is contained in Appendix E.

5.0 Investigation Results

The following sections present the results of an evaluation of the data collected as part of the investigation of the FTMA. These results include a characterization of the hydrologic conditions at the FTMA, an evaluation of the data quality, a description of the potential sources of contamination, a characterization of the vertical and horizontal extent of soil contamination associated with the FTMA area, and a characterization of the groundwater contamination found beneath the facility.

5.1 Hydrology of the FTMA

Hydrologic conditions in the vicinity of the FTMA have been interpreted based on logs of the soil borings and three monitoring wells drilled for this investigation (Figure 5-1). The soil borings were drilled to depths ranging from 17 to 28.5 feet below ground surface. The monitoring wells have been completed in the USZ at total depths ranging from 57 to 60 feet below ground surface. Drilling of the soil borings and installation of the monitoring wells are described in Sections 4.1 and 4.2, respectively. Boring logs and monitoring well completion diagrams are included in Appendix A.

The geology of the FTMA is illustrated by cross-sections C-C' and D-D'. These cross sections are located in Figure 5-1 and illustrated in Figures 5-2 and 5-3, respectively. The FTMA is located on approximately 30 to 35 feet of reddish silty clay and clayey silt of the Hennessey Group. The Hennessey Group is distinguished by the occurrence of light colored, mottled sands and sandy clays interbedded with the deep red clays and silts. Thin layers of anhydrite/gypsum were also found in this stratigraphic unit. The uppermost portion of the Hennessey Group soils beneath the FTMA consists of hard but uncemented sediments. The base of the Hennessey Group at the FTMA generally consists of a massive, hard siltstone/mudstone starting at a depth of about 15 to 20 below ground surface and extending to the base.

Underlying the Hennessey Group are interbedded fine sandstone, siltstone and shales of the Garber Sandstone. The sandstones range in hardness from loose (lightly cemented) to moderately well cemented. A hard silt layer occurring at about 60 feet below ground surface occurs beneath the facility. Other hard layers of fine grained sediments were occasionally encountered. The maximum depth of exploration was 100 feet below grade in the stratigraphic boring 2-59P.

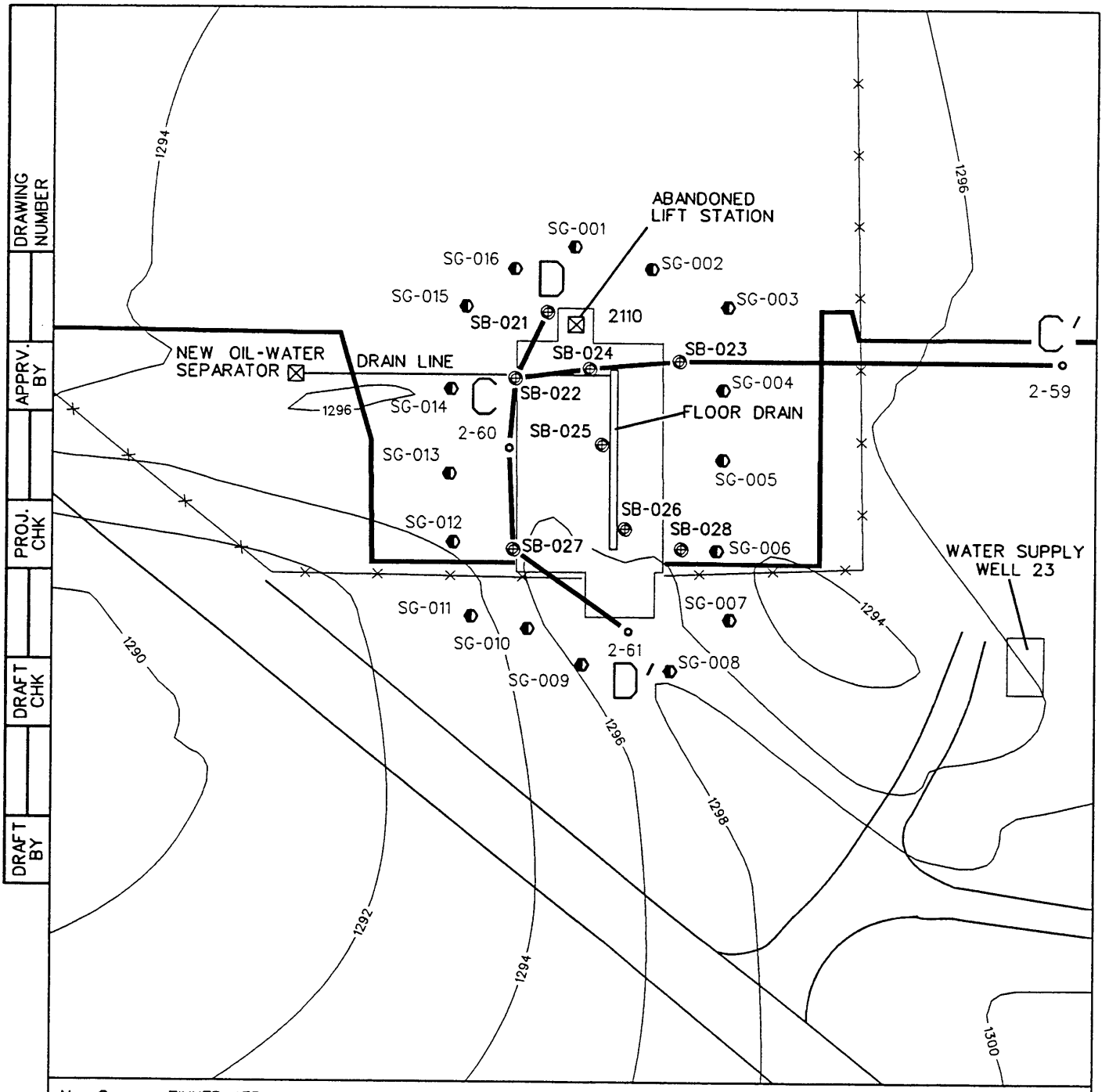


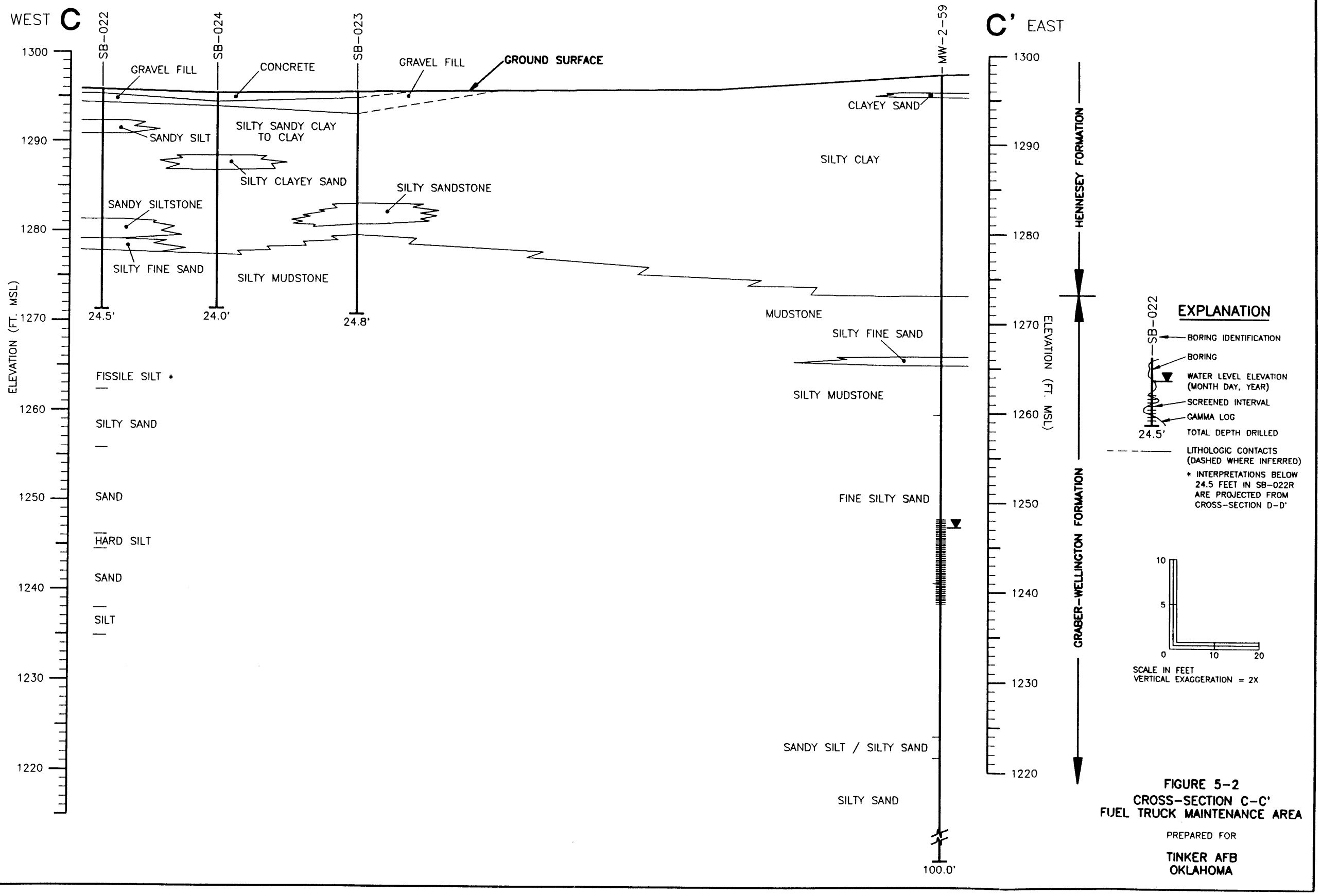
FIGURE 5-1
LOCATION MAP FOR CROSS-SECTION C-C' AND D-D' FOR FUEL TRUCK MAINTENANCE AREA WITH LOCATIONS OF SOIL BORINGS, MONITORING WELLS AND SOIL VAPOR SURVEY POINTS

PREPARED FOR

TINKER AFB
OKLAHOMA

DRAWING NUMBER 409832-B6

DRAFT BY	DRAFT CHK	PROJ. CHK	APPRV. BY
JEA 1/31/94			



Do Not Scale This Drawing

FIGURE 5-2
CROSS-SECTION C-C'
FUEL TRUCK MAINTENANCE AREA

PREPARED FOR

TINKER AFB
OKLAHOMA

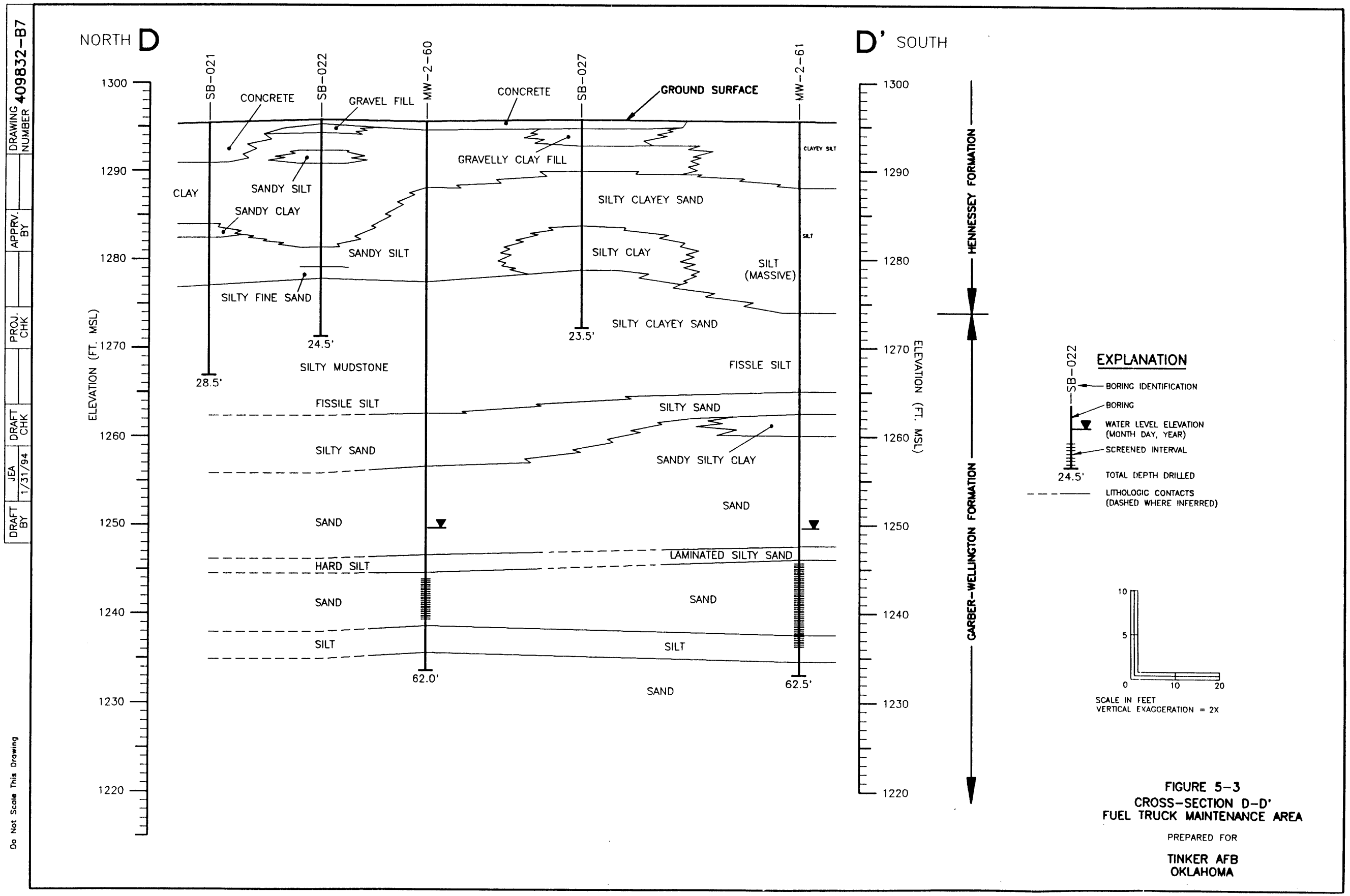


FIGURE 5-3
CROSS-SECTION D-D'
FUEL TRUCK MAINTENANCE AREA

PREPARED FOR

TINKER AFB
OKLAHOMA

DRAWING NUMBER 409832-B7
APPRV. BY
PROJ. CHK
DRAFT CHK
DRAFT BY JEA 1/31/94

Do Not Scale This Drawing

The water levels in the USZ are about 46 to 51 feet below grade (approximately 1,250 feet msl) within the fine silty sand and sands of the Garber Sandstone. The USZ appears to rest on the hard silt layer identified in the geophysical logs (Appendix B) at about 60 feet in depth. An unsaturated zone exists between the water table and the base of the silty massive mudstone of the Hennessey Group.

A potentiometric surface map of the USZ is shown in Figure 5-4. The map indicates groundwater elevations ranging from 1,247.20 feet above msl at monitoring well 2-59 to 1,249.64 feet above msl at wells 2-60 and 2-61. Groundwater flow is to the northeast with a gradient of about 0.013 ft/ft. Groundwater flow velocities were not determined because no aquifer testing was conducted on the FTMA wells.

5.2 Data Quality Evaluation

The quality of the analytical data used for the RFI must be sufficient to support the associated risk management decisions. Data quality is ensured through adherence to Data Quality Objectives (DQO) and the sampling and analysis program outlined in the Data Collection Quality Assurance Plan (DCQAP) (IT, 1993b). The DCQAP identifies sampling locations, sampling methods, DQOs, field and laboratory quality control (QC) testing, analytical methods and reporting, and data evaluation and verification. The QC of field and laboratory activities; the assessment of precision, accuracy, and comparability of the data; and the verification of the data are the most significant activities designed to ensure compliance with the DQOs.

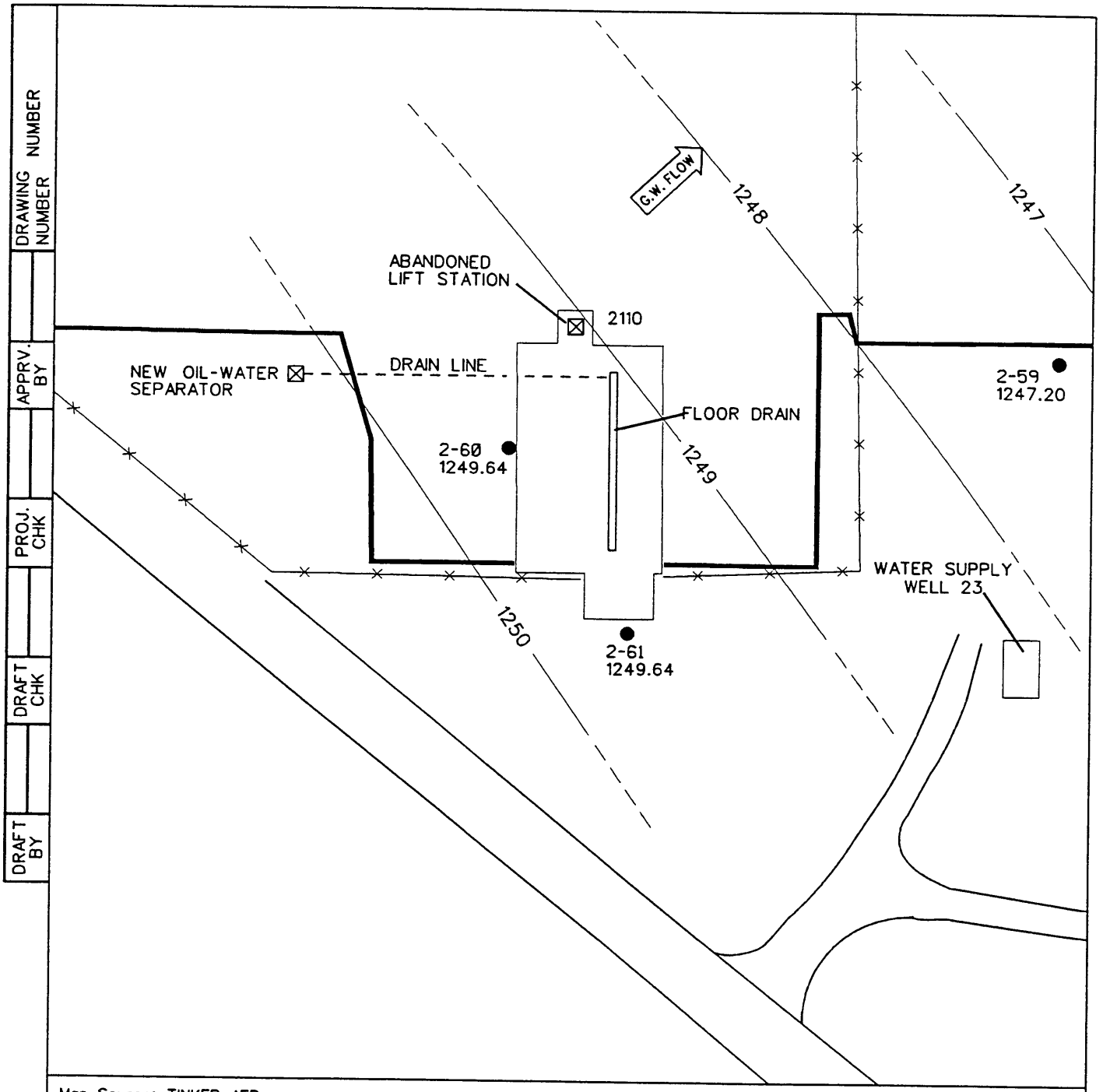
5.2.1 Field Quality Control

Field QC testing involved the collection of control samples to aid in evaluating inaccuracies which may be induced by field activities. These control samples include:

- ***Field Blanks.*** A field blank is an amount of water, gas, or solid that is provided to demonstrate the absence of contamination during sampling. Field blanks were only collected for groundwater and waste samples.

- ***Trip Blanks.*** Volatile organics samples are susceptible to contamination by diffusion of organic contaminants into the sample container. Therefore, trip blanks were analyzed to monitor for sample contamination during shipment and storage. No trip blanks were obtained for soil samples, due to the dissimilarity in matrix between the blanks and the actual samples.

- ***Rinsate Blanks.*** A rinsate blank is a volume of rinse solution (e.g., deionized distilled laboratory water or organic solvent) used to rinse a sampling tool which



Map Source: TINKER AFB

LEGEND

- 2-61 / 1249.64 — MONITORING WELL LOCATION, IDENTIFICATION NUMBER, AND ELEVATION OF POTENTIOMETRIC SURFACE
- FENCE
- 1250 — LINE OF EQUAL POTENTIOMETRIC SURFACE ELEVATION (DASHED WHERE INFERRED)

N

0 50
FEET

NOTE: CONTOUR INTERVAL = 1 FOOT

G:\TINKER\40983202.144
Do Not Scale This Drawing

FIGURE 5-4
POTENTIOMETRIC SURFACE MAP OF THE UPPER SATURATED ZONE IN THE VICINITY OF THE FUEL TRUCK MAINTENANCE AREA

PREPARED FOR

TINKER AFB
OKLAHOMA

contacts more than one sample. The rinse solution was collected after the sampling tool was used and cleaned, to demonstrate that no residual contamination remained on the tool to carry over to the next sample.

- ***Field Duplicates.*** Duplicate analyses were performed to evaluate the precision of analysis. Both field and laboratory duplicates were taken and analyzed. Results of these analyses were used to determine the relative percent difference (RPD) between replicate samples.

5.2.2 Laboratory Quality Control

Laboratory QC testing involved the use of control samples to aid in evaluating QC errors that may be induced by laboratory activities. The control samples include:

- ***Method Blanks.*** A method blank is a volume of deionized and distilled laboratory water for liquid samples, or a purified solid matrix for soil/sediment samples, carried through the entire analytical procedure to identify contaminants introduced during the procedure.

- ***Bottle Blanks.*** At a frequency of 1 percent or greater, laboratory-prepared sample containers were tested to verify that the container cleaning procedure is performed acceptable. Parameters of concern for the particular container were tested (e.g., metals for plastic containers).

- ***Laboratory Blanks.*** Distilled water-filled volatile organic analysis (VOA) vials were stored in the laboratory using the same method of storage used for field samples. If the field and trip blanks contained high concentrations of contaminants, the laboratory blank was analyzed to identify the source of contamination.

- ***Matrix Spikes.*** To evaluate the effect of sample matrix on analytical methodology accuracy, a separate sample aliquot was spiked with the analyte of interest and analyzed with approximately ten samples or, if a smaller number of samples are associated with a test series, for each group of samples.

- ***Surrogate Standards.*** Surrogate standards are compounds added to gas chromatography/mass spectrometry (GC/MS) standards, blanks, and samples prior to extraction or purging to monitor the recovery efficiencies of the sample preparation and analytical procedures on a sample-by-sample basis.

5.2.3 Evaluation of Precision and Accuracy

As part of the analytical QC testing program, QC sample results were used to apply precision and accuracy criteria for each parameter that was analyzed. When the analysis of a sample set was completed, the quality control data generated were evaluated based on the following criteria:

- ***Method Blank Evaluation.*** The method blank results were evaluated for high readings characteristic of background contamination. If high blank values were observed, laboratory glassware and reagents were checked for contamination and the analysis of future samples halted until the system could be evaluated.

- ***Trip, Field, Laboratory, and Rinsate Blank Evaluation.*** Trip, field, laboratory, and rinsate blank results were evaluated for high readings similar to the method blanks described above. If high blank readings were encountered, the procedure for sample collection, shipment, and laboratory analysis would be reviewed.

- ***Duplicate Sample Evaluation.*** Duplicate sample analysis was used to determine the precision of the analytical method for the sample matrix. The duplicate results will be used to calculate the precision as defined by the RPD.

- ***Matrix Spike Evaluation.*** The observed recovery of the spike versus the theoretical spike recovery was used to calculate accuracy as defined by the percent recovery (%R).

- ***Surrogate Standard Evaluation.*** The results of surrogate standard determinations were compared with the true values spiked into the sample matrix prior to purging or extraction and analysis, and the percent recoveries of the surrogate standards were determined.

- ***Comparability Between Data Sets.*** Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Comparability for sampling and analysis was achieved by specifying and using only well-recognized techniques and accepted standard EPA methods and procedures for sampling and analysis reporting of representative samples.

5.2.4 Data Verification

Data packages and parameters were evaluated against the following criteria to ensure data validity prior to use:

- Sampling documentation (e.g., sample collection log, Chain-of-Custody Form, and Request for Analysis Form) matches samples submitted to samples analyzed.

- Chain-of-Custody Forms are complete.

- Sample identification summary for each sample is present.

- Analytical results for each sample include correct units, detection limits, method used, date sampled, date extracted, date analyzed, dilutions noted.

- Holding times were met.

- Data on field and laboratory duplicate samples for RPDs were within QC limits.
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries were within QC limits.
- Method blanks were within control limits.

5.2.5 Data Useability

The data verification did not identify any reoccurring problems with analytical procedures or analytical reporting. Precision and accuracy for each analytical method as demonstrated by the evaluation or surrogate recoveries, laboratory control samples, MS, and MSD recoveries were satisfactory. The sample identification summaries for all samples and methods were present and complete. No data were found to be invalid. All deficiencies encountered were minor and did not affect the overall quality of the data, since other DQOs were met. Deficiencies were generally the result of matrix interference.

The analytical data generated from the RFI are of sufficient quality to make evaluations and support recommendations.

5.3 Source Characterization Results

The FTMA is used for repair and maintenance activities. As described in Section 2.2, the residual contents of the truck tanks are dumped and channeled through the floor trench. Further, the engine and truck body are washed with the rinse water going into the floor trench. Based on the history of the site, the contaminants most likely to be found at the FTMA were those associated with diesel fuel, oils, and JP-4 fuel. Also, constituents common to degreasers also had the potential to be found. Therefore, the soil and groundwater analyses of samples collected from the FTMA investigation include VOCs and SVOCs, total petroleum hydrocarbons (TPH), and metals (aluminum, arsenic, barium, beryllium, cadmium, total chromium, chromium VI, copper, iron, lead, mercury, nickel, silver, and zinc).

Since no constant or consistent waste stream is generated at the FTMA, no specific source characterization samples were collected. However, analytical results of soil samples collected from soil borings drilled through the facility floor at locations immediately adjacent to the floor trench provide an indication of the potential source contaminants. Evaluation of the analytical results from these soil samples provided the following list of potential source constituents:

- Acetone
- Benzene

- Chlorobenzene
- Ethyl benzene
- 4-Chloroaniline
- 2-Methylnaphthalene
- Naphthalene
- Petroleum hydrocarbons
- Tetrachloroethene (PCE)
- Toluene
- Xylenes (total).

5.4 Contamination Characterization Results

Analytical results of soil samples collected from the soil borings indicate that the shallow soils have been impacted by organic and possibly metals contaminants. The vertical extent of contamination associated with operations at the FTMA is generally limited to the upper 15 feet of unsaturated soils immediately beneath the facility. Analytical results for TPH also correspond to these depths.

The horizontal extent of soils contamination is limited to within 20 feet of the facility. The analysis of soil gas survey samples collected 20 feet from the facility revealed that none of the individual petroleum or chlorinated analytes were present in the vadose zone at a depth of 10 feet.

The following subsections present the characterization of the extent and type of contamination present within the soils and groundwater beneath the FTMA.

5.4.1 Establishment of Surficial Soil Background Concentrations

Background soil concentrations for trace metals were determined based on a study performed by the USGS (1991). The study area was confined to approximately four counties in central Oklahoma. Tinker AFB lies at the approximate center of this area. A total of 293 B-horizon soil samples were collected throughout this area. Soil samples were collected at the top of the B-horizon, which was usually 20 to 30 centimeters below the surface but ranged from 3 to 50 centimeters below the surface. For site-specific analytes for which the USGS offered no background value (chromium VI and mercury), a site-specific background value was selected for comparison. This site-specific background sampling location was boring 2-59.

The use of B-horizon soil as selected by the USGS for metals background concentrations in soil is conservative in that the soil sampled does not reflect all possible anthropogenic influences. Most of the samples were obtained from hill crests and well drained areas in

pasture and forested land, well away from roadways to minimize contamination from vehicular emissions (i.e., nearly "pristine" areas). Trace metal inputs to the study site soils on Base, however, will come from anthropogenic sources outside of the study area, in addition to those sources related to disposal activities or operations within the confines of the study site. Responsibility may therefore be taken for more trace metal impacts than are actually attributable to a given site.

An additional level of conservatism was added in the manner in which the site-specific metals concentrations were compared to the background levels. Typically, the environmental concentrations of trace metals at study sites are represented by the arithmetic upper 95th confidence interval on the mean of a normal distribution. This upper 95th confidence interval value is then compared to the background values. The intent of this typical approach is to estimate a Reasonable Maximum Exposure case (i.e., well above the average case) that is still within the range of possible exposures.

To expedite this comparison and establish greater conservatism, the maximum concentration found at the site of concern, rather than the upper 95th confidence interval value, was compared to the USGS background values. If the environmental concentration of a particular analyte was below or within the minimum-maximum range of the USGS background concentrations, that analyte was considered to be naturally occurring and of no further concern to this investigation. Given the conservative approach of the comparisons, site-specific metals concentrations would have to significantly exceed the USGS background levels and be attributable to operations at the site before they would be considered a contaminant of concern.

The numerical comparison of site-specific metals concentrations to the USGS background concentrations is presented in the following section.

5.4.2 Soil Characterization

Soils samples collected as part of this investigation were analyzed for VOCs and SVOCs and priority pollutant metals to determine if a release has occurred from the FTMA. Table 5-1 shows the results of the analytes detected in the FTMA soil samples. A complete listing of analytical results is in Appendix D. The following discussion first describes the nature and extent of organic contaminants that were found at or above the quantitation limits in the soils immediately beneath and adjacent to the facility that are attributable to a release from the FTMA, followed by a discussion of organic contamination that may not be attributable to the

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Parameters	Well/Boring: 2-59 Sample ID: A1103 Depth in Feet: 2 - 2.5		2-59 A1104 7.5 - 8		2-59 A1105 12 - 12.5		2-59 A1106 17.5 - 18		2-59 A1107 22 - 22.5		2-59 A1108 27 - 27.5		2-59 A1109 29.5 - 30		2-59 A1110 38 - 38.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	8200	N	8900	N	11000	N	6800	N	8000	N	11000	N	5600	N	920	N
Arsenic - Graphite Furnace			2.9		2.2		2.1						1.5			
Barium	480	N	34	N	30	N	340	N	780	N	61	N	31	N		
Beryllium	0.72		1.4		1.3		0.83				1.2		0.94			
Cadmium			1		0.57											
Chromium	12		18		14		9.3		11		17		12		5.6	
Chromium VI																
Copper	5.9		10		12		8.4		11		18		10			
Iron	9100	N	19000	N	14000	N	9000	N	9600	N	13000	N	10000	N	3300	N
Lead - Graphite Furnace	11	N	6.5	N	7.9	N	5.4	N	1.9	N	3.6	N	12	N	0.86	N
Mercury																
Nickel	9.3		22		23		16				23		14			
Silver																
Zinc	15		27		24		21		27		26		13		3.6	
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH	15															
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone			5.5	JB	9.7	JB	9.6	JB	7.8	JB			10	JB	9.4	JB
Benzene																
Chlorobenzene																
Ethylbenzene																
Methylene Chloride	1.7	JB			5.9	JB	5.5	JB	1.4	JB	2.1	JB	1.2	JB	20	B
Tetrachloroethene																
Toluene																
Xylenes (total)																

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Parameters	Well/Boring:	2-59		2-59		2-60		2-60		2-60		2-60		2-60		2-60	
	Sample ID:	A1111		A1112		A1574		A1575		A1576		A1577		A1578		A1579	
	Depth in Feet:	43.5 - 44		48.5 - 49		3 - 4		11 - 12		13 - 14		17 - 18		21 - 22		27 - 28	
		Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																	
Aluminum		1700	N	5500	N	9100	N	11000	N	7500	N	6500	N	7900	N	9100	N
Arsenic - Graphite Furnace		10		10		3.8	N	5	N	1.6	N			2.4	N		
Barium		76	N			170		62				240				36	
Beryllium		0.72		1.3		0.83		1.3		0.84		0.86		0.9		1.1	
Cadmium		0.82		0.74		0.78		0.72				0.66		0.62		0.89	
Chromium		32		32		12		17		11		13		12		11	
Chromium VI		0.13															
Copper		6		10		6.7		12		8.7		7.3		7.4		14	
Iron		13000	N	15000	N	10000	N	16000	N	9000	N	13000	N	11000	N	11000	N
Lead - Graphite Furnace		3.8	N	3.2	N	7.4	N	4.8	N	5.3	N	4.1	N	6.1	N	4.7	N
Mercury																	
Nickel		8.4		18		7.6		26		18		17		19		20	
Silver																	
Zinc		7.8		16		15		28		18		19		22		20	
Semivolatiles (mg/kg)																	
2-Methylnaphthalene																	
4-Chloroaniline																	
Naphthalene																	
TPH (mg/kg)																	
9071/418.1 for TPH																	
Volatiles (ug/kg)																	
1,1,1-Trichloroethane						2.2	J	3.1	J			2.9	J			3.4	J
Acetone		18	JB	14	JB	120	B	26	JB	18	JB	13	JB	20	JB	30	JB
Benzene																	
Chlorobenzene																	
Ethylbenzene																	
Methylene Chloride		18	B	19	B			1.8	J	1.7	J	1.4	J	1.4	J	1.1	J
Tetrachloroethene																	
Toluene																	
Xylenes (total)																	

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	2-60		2-60		2-60		2-60		2-61		2-61		2-61		2-61	
Sample ID:	A1580		A1581		A1585		A1586		A1567		A1568		A1569		A1570	
Depth in Feet:	32 - 33		35 - 36		40 - 41		45 - 46		4 - 5		11 - 12		11 - 12		17 - 18	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	9400	N	1300	N	830	N	1300	N	11000	N	12000	N	10000	N	10000	N
Arsenic - Graphite Furnace	4.8	N							1.4		4.7		3.7		2.8	
Barium							41	N	410	N	190	N				
Beryllium	0.97								1.1		1.2		1		1.2	
Cadmium	1.2								0.78		0.88		0.59		1	
Chromium	31		6.5		5.7		6.1		15		17		13		21	
Chromium VI																
Copper	11								7.2		11		11		10	
Iron	14000	N	3500	N	3000	N	2800	N	14000	N	15000	N	12000	N	20000	N
Lead - Graphite Furnace	4.5	N	0.8	N	1.4	N	0.67	N	6	N	6.2	N	5.8	N	3.8	N
Mercury																
Nickel	25		4.9				5.5		15		26		23		24	
Silver													0.45			
Zinc	26		5.7		4.1		5.9		18		27		24		30	
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH																
Volatiles (ug/kg)																
1,1,1-Trichloroethane			2.9	J					5.4		2.7	J	5.8		5.1	
Acetone	12	JB	19	JB	9.3	JB	7.2	JB	8.3	J	7	J	9.4	J	7.3	J
Benzene																
Chlorobenzene																
Ethylbenzene																
Methylene Chloride	2	J			5.2	J	6.8	J	2.1	J	2.1	J	2.1	J	2.1	J
Tetrachloroethene																
Toluene																
Xylenes (total)																

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	2-61		2-61		2-61		2-61		2-61		2-61		SB-021		SB-021	
Sample ID:	A1571		A1572		A1573		A1588		A1589		A1590		A1066		A1067	
Depth in Feet:	21 - 22		27 - 28		32 - 33		37 - 38		41 - 42		48 - 49		4.5 - 5		8 - 8.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	15000	N	9700	N	1500	N	1800	N	1700	N	2500	N	12000	N	9700	N
Arsenic - Graphite Furnace	5.5		2.6				1.1	N					3	N	2.2	N
Barium	18	N	25	N					80	N			160		150	
Beryllium	1.5		1.2				0.77				0.69		1.1		1	
Cadmium	0.95				0.58								1.2		0.81	
Chromium	17		14		7.3		12		8.7		9.5		14		15	
Chromium VI																
Copper	16		16								2.9		7		7.8	
Iron	13000	N	14000	N	6100	N	8700	N	4600	N	6000	N	15000	N	14000	N
Lead - Graphite Furnace	9.9	N	5	N	1.9	N	1.1		0.67	N	1.6	N	8.7	N	6.1	N
Mercury																
Nickel	28		21		5.1		6.8		6.2		7.2		11		20	
Silver													0.58		0.41	
Zinc	32		22		5.9		7.7		6.3		7.9		16		25	
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH															31	
Volatiles (ug/kg)																
1,1,1-Trichloroethane	5.2		5.3		5.6											
Acetone	6.2	J	6.1	J	5.7	J	12	JB	11	JB	7.3	JB	110	B	64	JB
Benzene																
Chlorobenzene																
Ethylbenzene																
Methylene Chloride	2.2	J	2.1	J	2	J	1.2	J	1.3	J	1.1	J	15	B	4.7	JB
Tetrachloroethene																
Toluene																
Xylenes (total)													0.9	JB		

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-021		SB-021		SB-021		SB-021		SB-022R		SB-022R		SB-022R		SB-022R	
Sample ID:	A1068		A1069		A1070		A1072		A1170		A1171		A1172		A1173	
Depth in Feet:	11 - 11.5		15.5 - 16		22 - 22.5		27.5 - 28		3.5 - 4		9 - 9.5		14.5 - 15		17.5 - 18	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	15000	N	6600	N	9700	N			8700	N	13000	N	6600	N	10000	N
Arsenic - Graphite Furnace	4	N	2.6	N	2.7	N			3.1	N	3.7	N	1.7	N	2.7	N
Barium	29		100		110				200	N	25	N	37	N	54	N
Beryllium	1.5		0.72		0.95				1.3		2.7		1.4		2.1	
Cadmium	1		0.99		1.5						0.79				0.71	
Chromium	29		27		18				11		24		13		19	
Chromium VI																
Copper	15		6		11				6.7		12		6.7		11	
Iron	28000	N	15000	N	20000	N			11000	N	25000	N	13000	N	19000	N
Lead - Graphite Furnace	5.4	N	4.6	N	5.1	N			7.2	N	5.7	N	3.4	N	3.5	N
Mercury																
Nickel	32		16		24				7.5		26		15		25	
Silver	0.29		0.47		0.53											
Zinc	35		19		28				15		34		20		31	
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH	98										20		38			
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone	20	JB	13	JB	6.3	JB			160	B	38	JB	14	JB	9.1	JB
Benzene																
Chlorobenzene			0.4	J												
Ethylbenzene	0.3	J											1.3	J		
Methylene Chloride	6.2	JB	1.9	JB	1.8	JB										
Tetrachloroethene																
Toluene																
Xylenes (total)									1.7	J						

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-022R		SB-022R		SB-022R		SB-022R		SB-022R		SB-022R		SB-022R		SB-023R	
Sample ID:	A1174		A1528		A1529		A1530		A1531		A1532		A1534		A1165	
Depth in Feet:	23 - 23.5		3 - 3.5		6 - 6.5		10 - 11		10 - 11		14 - 15		21 - 22		2.5 - 3	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	17000	N	9500	N	15000	N	11000	N	11000	N	8700	N	10000	N	10000	N
Arsenic - Graphite Furnace	2.5	N	2.1	N	2.6	N	2.5	N	2.9	N	1.2	N	1.8	N	2.7	N
Barium	17	N	220		180		39		26		25				210	N
Beryllium	2.4		1		1.8		1.4		1.6		1.4		1.3		1.7	
Cadmium	0.69		0.84		1.1		0.73		0.86		0.86		0.55			
Chromium	21		12		18		12		16		17		16		13	
Chromium VI																
Copper	21		7		8.4		12		12		8.6		11		6.9	
Iron	17000	N	11000	N	17000	N	11000	N	15000	N	16000	N	13000	N	12000	N
Lead - Graphite Furnace	3.5	N	7.7	N	11	N	4.7	N	4.8	N	10	N	3.4	N	7.5	N
Mercury																
Nickel	29		8.2		13		25		27		22		23		11	
Silver																
Zinc	35		18		21		25		29		24		28		15	
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH							41									
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone	9.8	JB	500	B	180	B	10	JB	14	JB	10	JB	9.3	JB	150	B
Benzene			2.5	J												
Chlorobenzene															16	
Ethylbenzene			3.9	J												
Methylene Chloride			5.7	J	2.6	J			1.8	J	2	J	1.6	J		
Tetrachloroethene																
Toluene																
Xylenes (total)			4.7	J												

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Parameters	Well/Boring:	SB-023R		SB-023R		SB-023R		SB-023R		SB-023R		SB-023R		SB-023R		SB-023R	
	Sample ID:	A1166		A1167		A1168		A1169		A1535		A1536		A1537		A1538	
	Depth in Feet:	7.5 - 8		12.5 - 13		17.5 - 18		23 - 23.5		5 - 5.5		10 - 11		15 - 16		19 - 20	
		Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																	
Aluminum		12000	N	6800	N	10000	N	18000	N	13000	N	11000	N	6200	N	10000	N
Arsenic - Graphite Furnace		4.7	N	2.2	N	3.5	N			2.1	N	4.6	N	1.7	N	2.2	N
Barium		110	N	10	N	110	N	19	N	250		22		100		64	
Beryllium		2.5		1.4		2.2		2.4		1.6		1.7		0.94		1.5	
Cadmium		0.62								0.96		1.1				1.1	
Chromium		21		12		19		21		16		19		33		17	
Chromium VI																	
Copper		13		8.1		11		20		8.2		12		4.1		11	
Iron		24000	N	11000	N	21000	N	18000	N	15000	N	20000	N	10000	N	15000	N
Lead - Graphite Furnace		6	N	5.5	N	6.1	N	2.9	N	6.7	N	7.5	N	3.6	N	4.9	N
Mercury																	
Nickel		24		15		25		29		19		25		15		24	
Silver																	
Zinc		31		18		31		37		22		28		20		30	
Semivolatiles (mg/kg)																	
2-Methylnaphthalene																	
4-Chloroaniline																	
Naphthalene																	
TPH (mg/kg)																	
9071/418.1 for TPH																	
Volatiles (ug/kg)																	
1,1,1-Trichloroethane																	
Acetone		6.1	JB			11	JB	10	JB	58	B	22	JB	6.6	JB	11	JB
Benzene																	
Chlorobenzene																	
Ethylbenzene																	
Methylene Chloride										6.4	JB	6.8	JB	3.8	JB	4.5	JB
Tetrachloroethene																	
Toluene																	
Xylenes (total)																	

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-023R		SB-024R		SB-024R		SB-024R		SB-024R		SB-024R		SB-025R		SB-025R	
Sample ID:	A1539		A1155		A1156		A1157		A1158		A1159		A1149		A1150	
Depth in Feet:	23 - 24		2.5 - 3		9.5 - 10		13 - 13.5		18.5 - 19		23 - 23.5		.5 - 1		.5 - 1	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	16000	N	9100	N	8200	N	6300	N	11000	N	19000	N	1100	N	6800	N
Arsenic - Graphite Furnace	1.7	N	3	N			2	N	2.9	N	1.6	N			1	N
Barium			230	N	110	N	15	N	33	N	29	N			170	N
Beryllium	2		1.4		1.7		1.5		2		2.8				0.89	
Cadmium	0.66		0.69													
Chromium	19	N	12		12		15		15		21				12	
Chromium VI																
Copper	20		6.5		7.7		8.5		11		22				5.8	
Iron	17000	N	9500	N	13000		11000	N	13000	N	18000	N	2100	N	6800	N
Lead - Graphite Furnace	4.6	N	11	N	2.4	N	6.9	N	4.4	N	3.4	N	30	N	16	N
Mercury															0.13	
Nickel	28		8.1		18		16		26		28				8.5	
Silver															1.2	
Zinc	35		16		21		17		31		37				15	
Semivolatiles (mg/kg)																
2-Methylnaphthalene					0.17	J							5.1		8.8	
4-Chloroaniline															1.7	
Naphthalene					0.11	J							2.5			
TPH (mg/kg)																
9071/418.1 for TPH					100		42						1500		1500	
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone	6.1	JB	110	B	16	JB	8.4	JB	7.3	JB	6.4	JB	140	JB	120	B
Benzene			1.2	J											53	
Chlorobenzene			4.8	J	130		6									
Ethylbenzene			2.2	J	91								120		160	
Methylene Chloride	4.9	JB											8.5	J		
Tetrachloroethene					32		66									
Toluene					14											
Xylenes (total)			4.2	J	200		6.2						420		6600	D

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-025R		SB-025R		SB-025R		SB-025R		SB-026		SB-026		SB-026		SB-026	
Sample ID:	A1151		A1152		A1153		A1154		A1073		A1074		A1089		A1090	
Depth in Feet:	6.5 - 7		12.5 - 13		18 - 18.5		23 - 23.5		1 - 1.5		5 - 8		12 - 12.5		16 - 16.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	6700	N	9300	N	11000	N	16000	N	10000	N	8000	N	11000	N	8800	N
Arsenic - Graphite Furnace	1.2	N	3.2	N	1.9	N	2.6	N	3	N	2.7	N	3.2		2.1	
Barium	51	N			120	N			210	N	180	N	80	N	15	N
Beryllium	1.1		1.8		1.6		2		0.93		0.81		1.4	N	1.2	N
Cadmium			0.82		0.72				0.64		0.59		1.1		0.67	
Chromium	10		15		17		16		14		16		14	N	14	N
Chromium VI																
Copper	6.1		10		11		19		7.8		8.6		11		7.5	
Iron	10000	N	14000	N	14000	N	11000	N	14000	N	16000	N	13000	N	13000	N
Lead - Graphite Furnace	4.7	N	7.9	N	2.8	N	4.9	N	8.8	N	4.8	N	6.1		4.2	
Mercury																
Nickel	14		21		25		27		12		19		25		21	
Silver							1.2									
Zinc	19		23		30		33		15		24		27	N	24	N
Semivolatiles (mg/kg)																
2-Methylnaphthalene					0.11	J			0.065	J						
4-Chloroaniline																
Naphthalene					0.06	J										
TPH (mg/kg)																
9071/418.1 for TPH									19							
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone	17	JB	7.3	JB	5.7	JB	6.9	JB	53	JB	27	JB	7.9	JB	6.4	JB
Benzene									8.6							
Chlorobenzene									3.7	J						
Ethylbenzene									21							
Methylene Chloride	1.5	J	1.9	J							5.1	JB	2.2	J	1.4	J
Tetrachloroethene																
Toluene									3.1	J						
Xylenes (total)									20							

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-027		SB-027		SB-027		SB-027		SB-027		SB-028		SB-028		SB-028	
Sample ID:	A1075		A1076		A1077		A1078		A1079		A1083		A1084		A1085	
Depth in Feet:	3 - 3.5		5 - 5.5		12 - 12.5		17 - 17.5		22.5 - 23		2 - 2.5		4.5 - 5.5		4.5 - 5.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)																
Aluminum	11000	N	12000	N	11000	N	4900	N	12000	N	9300	N	9600	N	16000	N
Arsenic - Graphite Furnace	3.4	N	2.2	N			1.4	N	2.6	N	3.8		3.1		2.3	
Barium	200	N	170	N			750	N	38	N	160	N	200	N	690	N
Beryllium	0.76		0.94		1.2		0.59		1.1		0.92	N	0.98	N	1.3	N
Cadmium			0.65		0.98		0.59		0.85		0.99		0.87			
Chromium	14		14		24		17		23		12	N	12	N	17	N
Chromium VI																
Copper	6.9		5.7		12		4		10		6.6		6.8		9	
Iron	13000	N	14000	N	26000	N	8100	N	22000	N	11000	N	11000	N	14000	N
Lead - Graphite Furnace	7.6	N	7.5	N	1.5	N	4.2	N	6.4	N	10		11		4.7	
Mercury																
Nickel	12		13		27		12		26		11		9.5		18	
Silver																
Zinc	18		15		31		15		32		28	N	22	N	23	N
Semivolatiles (mg/kg)																
2-Methylnaphthalene																
4-Chloroaniline																
Naphthalene																
TPH (mg/kg)																
9071/418.1 for TPH	11										110		52			
Volatiles (ug/kg)																
1,1,1-Trichloroethane																
Acetone	130	B	190	B	5.6	JB	6.9	JB	5.9	JB	65	JB	63	JB	62	JB
Benzene	16		11													
Chlorobenzene											1.3	J	2.1	J	1.9	J
Ethylbenzene																
Methylene Chloride			2.8	JB	1.5	JB			4.7	JB	1.4	J	1.4	J	1.7	J
Tetrachloroethene																
Toluene																
Xylenes (total)																

Analytical Results for Fuel Truck Maintenance Area
for Soil
Tinker Air Force Base, Oklahoma
Table 5-1

Well/Boring:	SB-028		SB-028		SB-028	
Sample ID:	A1086		A1087		A1088	
Depth in Feet:	12 - 12.5		15.5 - 16		20 - 20.5	
Parameters	Result	QFR	Result	QFR	Result	QFR
Metals (mg/kg)						
Aluminum	9200	N	6800	N	13000	N
Arsenic - Graphite Furnace	2.8		0.94		1.5	
Barium	41	N	270	N	25	N
Beryllium	1.1	N	0.81	N	1.5	N
Cadmium	0.53				0.84	
Chromium	12	N	18	N	19	N
Chromium VI						
Copper	8.4		5.7		12	
Iron	11000	N	12000	N	17000	N
Lead - Graphite Furnace	4		3		2.8	
Mercury						
Nickel	22		17		26	
Silver						
Zinc	22	N	22	N	33	N
Semivolatiles (mg/kg)						
2-Methylnaphthalene						
4-Chloroaniline						
Naphthalene						
TPH (mg/kg)						
9071/418.1 for TPH						
Volatiles (ug/kg)						
1,1,1-Trichloroethane						
Acetone	5.7	JB	8	JB	6.6	JB
Benzene			1	J		
Chlorobenzene			0.3	J	0.5	J
Ethylbenzene						
Methylene Chloride			1.7	J	2.1	J
Tetrachloroethene						
Toluene						
Xylenes (total)						

B = Analyte was also found in sample blank
D = Compound identified at a secondary dilution factor.
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC Limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated

facility and an assessment of the potential for metals contamination. An assessment of the detected concentrations in soils relative to the corrective action levels (CAL) (presented in Section 7.0) is also presented.

Organic constituents detected at or above the quantitation limits in soil samples from beneath the FTMA are:

- Acetone
- Benzene
- Chlorobenzene
- Ethyl benzene
- 4-Chloroaniline
- 2-Methylnaphthalene
- Methylene chloride
- Naphthalene
- Petroleum hydrocarbons
- Tetrachloroethene (PCE)
- Toluene
- Xylenes (total).

Of these constituents, 4-chloroaniline, 2-methylnaphthalene, naphthalene, and PCE were detected only in soils collected from soil borings SB-024, SB-025, and SB-026 which were drilled through the concrete floor of the FTMA facility. 4-Chloroaniline, 2-methylnaphthalene, and naphthalene were only detected in the 0.5-foot deep soil sample collected from SB-025 at concentrations of 1.7 micrograms per kilogram (µg/kg), 8.8 µg/kg, and 2.5 µg/kg, respectively. Given the singular occurrence and low concentrations detected in the soils, these three contaminants are not of further concern for this area. PCE was only detected in soil boring SB-024 at depths of 9.5 and 13 feet below ground surface at concentrations of 32 and 66 µg/kg, respectively. Both of these concentrations are below the CAL concentration (Section 7.0) of 10 mg/kg for PCE in soils.

Ethyl benzene, toluene, and xylene were also only detected in soils from borings SB-024, SB-025, and SB-026. Ethyl benzene was detected at concentrations ranging from 21 µg/kg in SB-026 to 160 µg/kg in SB-025 in samples collected from less than 1.5 feet in depth. Ethyl benzene was also detected at 91 µg/kg in the soil collected at 9.5 feet in depth from SB-024. Toluene was only detected in soil boring SB-024 at a depth of 9.5 feet at a concentration of 14 µg/kg. Xylenes were detected in concentrations ranging from 6.2 µg/kg (SB-024 at 13 feet in depth) to 420 µg/kg (SB-025 at 0.5 feet in depth).

Ethyl benzene, toluene, and xylene are typical components of fuels that are drained from the fuel trucks prior to maintenance. Their presence in the shallow soils beneath the facility is indicative of contamination resulting from the FTMA operations. However, the detected concentrations of ethyl benzene, toluene, and xylene are well below the CAL concentrations for soils of 8,000 mg/kg, 20,000 mg/kg, and 200,000 mg/kg for ethyl benzene, toluene, and xylene, respectively.

Acetone and chlorobenzene were detected in the soils collected from soil borings drilled immediately adjacent to the FTMA floor trench as well as from soil borings drilled in the corners of the building's interior and from borings drilled outside the building. Acetone, although a common laboratory contaminant, was detected in soils from depths of up to 6 feet at seven boring locations and at concentrations of 110 to 190 µg/kg. Chlorobenzene was detected in a total of three soil samples from two soil borings (SB-023 and SB-024) located in the northeast part of Building 2110. Chlorobenzene was present at concentrations of 16 µg/kg in SB-023 (at 2.5 feet in depth) and at 130 µg/kg and 6.0 µg/kg in soil boring SB-024 (at depths of 9.5 and 13 feet, respectively). The presence of acetone and chlorobenzene, along with PCE, in the soils beneath the floor of Building 2110 suggest that degreasers used within the building have been released from the floor drain. The detected concentrations, however, are below the CAL concentrations of 8,000 mg/kg for acetone in soils and 2,000 mg/kg for chlorobenzene in soils. Therefore, no further action is required for these constituents.

Benzene, a typical component of fuel, was detected in soil from borings SB-025, SB-026, and SB-027. Benzene concentrations ranged from 8.6 µg/kg to 53 µg/kg in soils collected in the upper 1.5 feet beneath the FTMA floor. Benzene was detected in concentrations of 16 µg/kg and 11 µg/kg at respective depths of 3 feet and 5 feet below grade in SB-027.

The vertical extent of contamination associated with operations at the FTMA is generally limited to the upper 15 feet of unsaturated soils immediately beneath the facility. This conclusion is based on the depth of soil samples in which no organic contaminants were detected. In general, the depth of contamination, as evidenced by field screening results and nondetect values in soils, corresponds to the top of the well cemented portion of the shallow subsurface sediments (Figures 5-2 and 5-3). The well cemented sediments consist of the silty mudstone shown at an elevation of about 1,278 to 1,280 feet msl in Figure 5-2 and consist of the sandy silt at an elevation of about 1,280 feet msl at SB-022 and the silty clayey sand at an elevation of about 1,290 feet msl at SB-027 in Figure 5-3. TPHs also correspond to these

depths. These cemented sediments apparently provide an adequate aquiclude to the vertical movement of contaminants.

The lateral extent of contamination within the vadose zone can be inferred from the results of the soil gas survey. While contaminants were found in soils beneath and immediately adjacent to the FTMA facility, GC/FID and GC/ethylene chloride (ECD) analysis of the soil gas collected about 20 feet away from Building 2110 did not indicate the presence of petroleum or chlorinated constituents. The samples were collected from depths of 9 to 10 feet which is within the depth interval of contaminated soils beneath the building.

Methylene chloride and 1,1,1-trichloroethane (TCA), detected in soil samples collected from the borings for monitoring wells 2-59 and 2-60, respectively, do not appear to be a result of releases from the FTMA. Methylene chloride, which was also detected in some of the laboratory blanks, was only detected above the quantitation limit of 10 µg/kg in one soil sample from soil boring SB-021 (drilled near the location of an old sump on the north side of the building) at a depth of 4.5 feet and in three soil samples from monitoring well boring 2-59 at depths of 38 to 48.5 feet below ground surface. Although detected in the one soil from boring SB-021, methylene chloride is only present in the silty sands below the massive silt/mudstone aquiclude, which has a base at a depth of about 37 feet below ground surface at monitoring well boring 2-59. The fact that methylene chloride was detected below the aquiclude in the monitoring well boring and detected above the aquiclude in only one sample at a depth of less than 5 feet, indicates the source of the contaminant at a depth of 38 to 48.5 feet below grade is other than the FTMA.

Likewise, 1,1,1-TCA was only detected in concentrations ranging from 5.1 µg/kg to 5.8 µg/kg (just above the quantitation limit of 5.0 µg/kg) in the six of seven soil samples collected from 4 feet to 32 feet in depth at monitoring well boring 2-61. No other 1,1,1-TCA was detected above the quantitation limits in any soils collected beneath or immediately adjacent to the FTMA. Further, no 1,1,1-TCA was detected in the soil gas survey samples. The source of this contaminant appears to be related to something other than the FTMA. Whatever the source, the detected concentrations of 1,1,1-TCA are well below the CAL of 7,000 mg/kg (Chapter 7.0).

Analytical results indicate that all the metals were detected at least once in the soil samples collected at the FTMA. With the exception of chromium VI and mercury, this is expected since they are all naturally occurring. The metals and their detected concentration ranges

included aluminum (830 to 19,000 mg/kg), arsenic (1.0 to 10 mg/kg), barium (10 to 780 mg/kg), beryllium (0.59 to 2.8 mg/kg), cadmium (0.53 to 1.5 mg/kg), total chromium (5.6 to 33 mg/kg), hexavalent chromium (0.13 mg/kg in one sample), copper (4.0 to 22 mg/kg), iron (2,100 to 28,000 mg/kg), lead (0.67 to 30 mg/kg), mercury (0.13 mg/kg in one sample), nickel (4.9 to 32 mg/kg), silver (0.29 to 1.2 mg/kg), and zinc (3.6 to 37 mg/kg).

The concentrations of metals are generally within the range of background levels measured in the study of surficial soils in the four-county area around Tinker AFB that was conducted by the USGS (1991). This study is described in Section 5.4.1. The comparisons are shown in Table 5-2. Except for lead, none of the metals concentrations for which background data were available from the USGS study exceeded the background concentrations given in the study. Neither cadmium nor silver were detected in the background study, but were detected in soil samples at concentrations ranging from 0.53 to 1.5 mg/kg for cadmium and from 0.29 mg/kg to 1.2 mg/kg for silver, which are below the detection limit of 2 mg/kg used for both metals in the USGS study.

Mercury and chromium VI were detected in the FTMA soils but were not included in the USGS study. For these two metals, the range of concentrations presented in Table 5-2 represents the range detected in the unsaturated soil samples from monitoring well boring 2-59, which is considered to be the background location for metals at this site. Further, concentrations in the soils of the FTMA are compared to the CAL concentrations presented in Chapter 7.0.

Lead was detected at a concentration that falls outside the range of the USGS background concentration in only one near surface sample (0.5 to 1 foot in depth) in SB-025. However, metals analysis of the duplicate soil sample for this interval indicate the concentration for lead is within the USGS background range. Lead was detected at a concentration of 30 mg/kg in the soil sample and at 16 mg/kg in the duplicate. Since lead may be present above the USGS background concentration range of <4 to 27 mg/kg in the near surface soils at SB-025, the soils immediately beneath Building 2110 may be impacted with lead. However, potential impact of the soils is very localized and limited to a maximum of 6 feet in depth since the sample collected at a depth of 6.5 to 7 feet in SB-025 was well within the background concentration range for lead with a concentration of 4.7 mg/kg.

Mercury was detected in only one near surface sample (0.5 to 1 foot in depth) in SB-025 at a concentration of 0.13 mg/kg, while the mercury concentration in the duplicate was not

Table 5-2

Soil Metals Background Comparison
AOC, FTMA, Tinker AFB

Analyte	Site	USGS Background Concentration	
	Maximum Value (ppm)	Detection Limit (ppm)	Range (ppm)
Aluminum	19,000	50	3,800-89,000
Arsenic	10	0.1	0.6-21
Barium	780	1	47-6,400
Beryllium	2.8	1	<1-3
Cadmium	1.5	2	<2
Chromium	33	1	5-110
Chromium-VI	0.13	0.097-0.50[a]	0.13[a]
Copper	22	1	<1-59
Iron	28,000	50	1,800-58,000
Lead	30	4	<4-27
Mercury	0.13	<0.020-<0.032[a]	<0.020-<0.032[a]
Nickel	32	2	<2-61
Silver	1.2	2	<2
Zinc	37	2	3-79

[a]Site-specific background value. USGS value not available.

detected at a concentration of 0.022 mg/kg. The large difference in mercury concentrations suggests that the detection of this metal may be an artifact and does not indicate potential impact to the soils. This theory is further supported by the fact that mercury was not detected above the quantification limits any other soils at the FTMA.

Chromium VI was only detected above the quantitation limits of 0.020 to 0.032 mg/kg in one soil sample. This sample was collected from a depth of 43.5 feet below grade in monitoring well boring 2-59 and had a concentration of 0.13 mg/kg. Since chromium VI was not detected in any other samples collected beneath or near the FTMA and since the detected concentration is below the CAL of 400 mg/kg for chromium VI, no further consideration is given to chromium VI.

During the installation of monitoring well 2-60, two soil samples were collected for geotechnical analysis to determine vadose zone properties. A Shelby tube was used to collect the soil cores from the borings. The samples were submitted for geotechnical analysis of the following parameters: grain-size distribution, moisture content, CEC, and vertical permeability. Certificates of analysis are provided as Appendix F. The analytical results are summarized as follows:

Sample Description/Type	J5431/soil	J5430/soil
Sample Location	2-60	2-60
Sample Depth (feet)	-8 to -9.5	-18 to -19
Vertical Permeability (cm/sec)	2.9×10^{-9}	2.6×10^{-9}
Moisture Content (percent)	12.9	12.2
CEC (MEQ/100 grams)	19.29	24.18
Particle Size Distribution	See Appendix F graph	

5.4.3 Groundwater Characterization

Three monitoring wells were installed in the USZ at the FTMA. Depth to groundwater was measured to assess the gradient and flow direction of the USZ. Groundwater samples were collected on December 14 and 17, 1993 from the wells to determine if the quality of the groundwater beneath the FTMA has been impacted. The positions of the well screens are shown on the cross sections in Figures 5-2 and 5-3. The samples were analyzed for VOCs, SVOCs, metals, and standard inorganic groundwater parameters. The analytical results are presented in Table 5-3.

Groundwater flow is in a general northeast direction (Figure 5-4). Because this flow direction is opposite of that originally anticipated for the area, only one well is located downgradient of

Analytical Results for Fuel Truck Maintenance Area
For Groundwater
Tinker Air Force Base, Oklahoma
Table 5-3

Well/Boring:	2-59		2-60		2-61	
Sample ID:	A1611		A1647		A1610	
Depth in Feet:	0 - 0		0 - 0		0 - 0	
Parameters	Result	QFR	Result	QFR	Result	QFR
Metals (mg/L)						
Aluminum	18	N	2.2		1.6	N
Arsenic - Graphite Furnace	0.021					
Barium	0.87	N				
Calcium	130	N	95		48	N
Chromium	0.17	N	0.052		0.019	N
Copper	0.036	N				
Iron	28	N	1.9		1.9	N
Lead - Graphite Furnace	0.0071					
Magnesium	110	N	78		42	N
Manganese	0.51	N	0.04		0.056	N
Nickel	0.086	N				
Potassium	10					
Sodium	130	N	160		89	N
Zinc	0.08	N				
Volatile (ug/L)						
Tetrachloroethene	9		46		1.9	J
Trichloroethene	2.1	J	50			
Miscellaneous (mg/L)						
Alkalinity, Titrimetric	360		260		300	
Chloride by Ion Chrom.	410		280		110	
Nitrate and Nitrite	17		10		10	
Silica	4.2		8		8.5	
Sulfate by Ion Chrom.	220	N	150		63	N
Total Phosphorus	0.4					
Total Dissolved Solids	1500		1000		630	
Total Kjeldahl Nitrogen	1.1	N			0.35	N
Total Organic Carbon	1.9		1.7			
Total Suspended Solids	570		56		62	

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC Limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated

the building. The two wells installed adjacent to the west and south of the building, although on the upgradient side, are too close to the site to provide a reliable measurement of true upgradient groundwater quality. However, these wells will aid in assessing the groundwater conditions in the immediate vicinity of the building to determine if further groundwater investigations will be necessary.

Two organic constituents, PCE and trichloroethene (TCE), were detected in the USZ groundwater. PCE was detected in the groundwater at concentrations of 9.0 µg/L and 46 µg/L in monitoring wells 2-59 and 2-60, respectively. PCE was not detected above the quantitation limit of 5 µg/L in monitoring well 2-61. TCE was detected only in monitoring well 2-60 at a concentration of 50 µg/L. The Maximum Contaminant Levels (MCL) for each of these constituents is 5 µg/L for groundwater (Chapter 7.0). The concentrations of PCE and TCE in monitoring wells 2-59 and 2-60 exceed the MCLs.

Concentrations of metals, with the exception of chromium, in groundwater samples from the wells at the FTMA are generally below their respective MCLs. Chromium appears to exceed the MCL of 0.1 mg/L in monitoring well 2-59 only. However, this sample also contained total suspended solids at 570 mg/L, an order of magnitude higher than the other two wells. It appears that the elevated metals concentrations in this sample are probably due to acid digestion of aquifer sediments containing natural metals and not representative of groundwater impact with chromium.

Review of the well sampling data indicates that the groundwater beneath the FTMA has been impacted by organic contamination but does not appear to be attributable to the FTMA. This is supported by the fact that contamination beneath the FTMA is limited to the upper 15 feet of soils and does not extend down to the water table. Further, the only organic contaminants detected in the groundwater are PCE and TCE. TCE was not detected in any of the soils collected as part of the FTMA investigation. PCE was detected in only one soil boring (SB-024) at depths of 9.5 and 13 feet below ground surface. PCE was not detected in samples collected at depths of 18.5 and 23 feet below grade in soil boring SB-024 and was not detected in any other soil samples collected from the monitoring well borings. Further, with a groundwater flow direction to the northeast as shown in Figure 5-4, the contamination present within the groundwater at monitoring well 2-59 appears to have originated upgradient of the FTMA.

Contamination within the USZ groundwater beneath the FTMA is visually depicted in Figures 5-5 and 5-6. Figure 5-5 presents an isopleth map of PCE concentrations in the groundwater beneath the FTMA. Figure 5-6 shows the TCE isopleth map. The maps take into consideration the fact that the groundwater flow is to the northeast. Analysis of the data indicates the source of the plume could be to the southwest (upgradient from the site) such that the portion of the plume with the highest concentrations are detected in monitoring well 2-60 and the concentrations decrease to the northwest. On the other hand, higher concentrations of PCE and TCE plumes may be present to the west and northwest such that even monitoring well 2-59 is located on the edge of the plumes. Either way, the isopleth maps show that monitoring wells 2-61 and 2-59 are on or outside the edge of the PCE and TCE plumes.

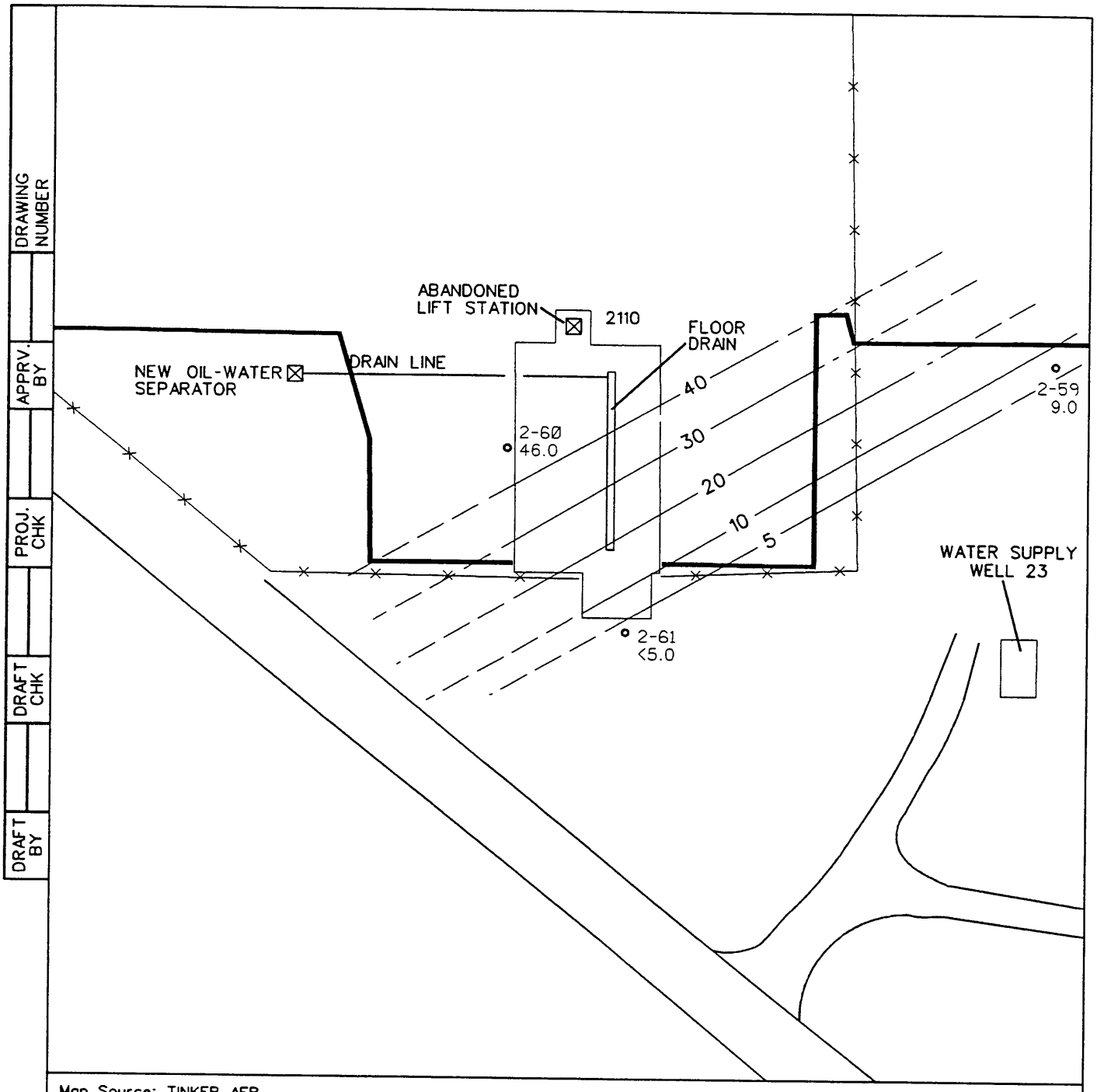


FIGURE 5-5
ISOPLETH MAP OF
TETRACHLOROETHENE CONCENTRATION
AT THE
FUEL TRUCK MAINTENANCE AREA

PREPARED FOR

TINKER AFB
OKLAHOMA

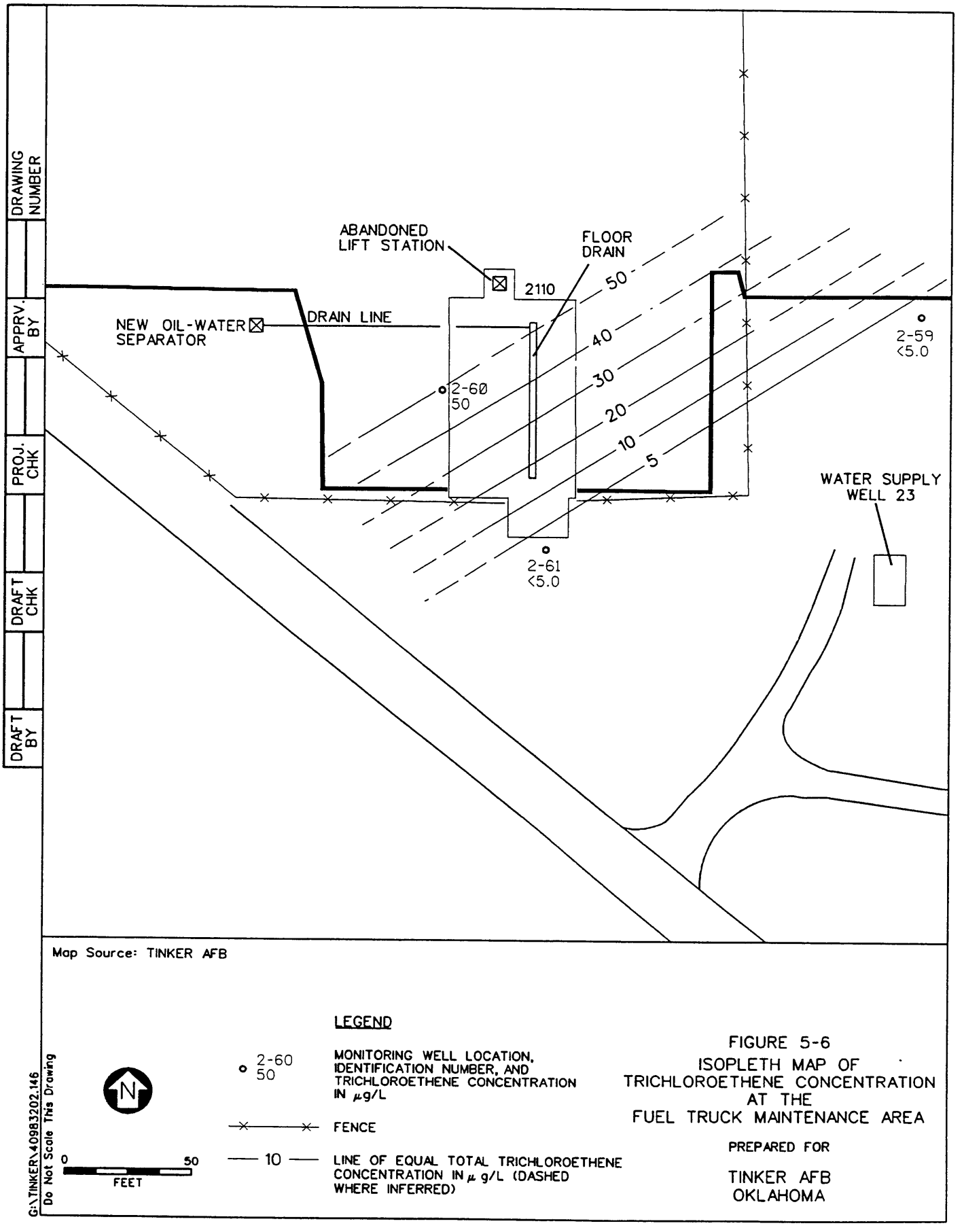


FIGURE 5-6
ISOPLETH MAP OF TRICHLOROETHENE CONCENTRATION AT THE FUEL TRUCK MAINTENANCE AREA

PREPARED FOR

TINKER AFB
OKLAHOMA

6.0 Potential Receptors

A specific potential human and ecological receptor search has not been performed for the FTMA. Data are available in the form of chemical analysis of soils and groundwater; current and future uses of these media; and ecologic and demographic information necessary to initiate a potential receptors search. The following sections describe the data available to begin identification of potential receptors.

6.1 Human Receptors

Tinker AFB is situated on a relatively flat expanse of grassland. Prior to the development of the Base, the area was characterized by large tracts of agricultural land. The Base currently occupies approximately 5,000 acres of semi-improved and unimproved grounds that are used for the airfield, golf course, housing area, offices, shops, and other uses characteristic of military installations.

The Garber-Wellington aquifer, which underlies Tinker AFB, is the single most important source of potable groundwater in the Oklahoma City area. The recharge area for the Garber-Wellington aquifer covers the eastern half of Oklahoma County, including Tinker AFB. Approximately 75 percent of the Base's water supply is obtained from production wells pumping from this aquifer. Industrial operations, individual homes, farm irrigation, and small communities not served by municipal distribution systems also depend on the Garber-Wellington aquifer. Communities, such as Oklahoma City, presently depending upon surface water supplies also maintain a well system drilled into this aquifer as a standby source of water in the event of drought. Lake Stanley Draper, a local surface water supply reservoir with a small portion of its drainage basin within the boundaries of Tinker AFB, serves a significant recreational function as well.

In 1989, approximately 26,000 military and civilian personnel worked at Tinker AFB. Of these, approximately 2,722 personnel occupied on-Base housing, which consisted of 530 family housing units and seven dormitories. At that time, 1,262 of these residents were children. Military personnel and their families who reside on Base represent the nearest receptors to releases from Tinker AFB.

The current land use at and near the Base is not expected to change because the facilities have decades of useful life remaining and the Base has an important and continuing mission.

However, other future land use scenarios and any human receptors associated with those scenarios may need to be considered.

6.2 Ecological Receptors

Tinker AFB lies within a grassland ecosystem, which is typically composed of grasses, forbes, and riparian (i.e., trees, shrubs, and vines associated with water courses) vegetation. This ecosystem has generally experienced fragmentation and disturbances as result of urbanization and industrialization at and near the Base. While no threatened or endangered plant species occur on the Base, the Oklahoma penstemon (*Penstemon oklahomensis*), identified as a rare plant under the Oklahoma Natural Heritage Inventory Program, thrives in several locations on Base. Tinker AFB policy considers rare species as if they were threatened or endangered and provides the same level of protection for these species.

In general, wildlife on the Base is typically tolerant of human activities and urban environments. No federal threatened or endangered species have been reported at the Base. However, one specie found on the Base, the Texas horned lizard (*Phrynosoma cornutum*), is a Federal Category 2 candidate specie and under review for consideration to be listed as threatened or endangered. Air Force policy (AFR 126-1) considers candidate species as threatened or endangered and provides the same level of protection.

The Oklahoma Department of Wildlife Conservation also lists several species within the state as Species of Special Concern. Information on these species suggests declining populations but information is inadequate to support listing, and additional monitoring of populations is needed to determine the species status. These species also receive protection by Tinker AFB as threatened or endangered species. Of these species, the Swainson's hawk (*Buteo swainsoni*) and the burrowing owl (*Athene cunicularia*) have been sighted on Tinker AFB. The Swainson hawk, a summer visitor and prairie/meadow inhabitant, has been encountered Basewide. The burrowing owl has been known to inhabit the Air Field at the Base.

7.0 Action Levels

An "action level" is defined by EPA in proposed rule 40 CFR 264.521 (55 FR 30798; 7/27/90), "Corrective Action for Solid Waste Management Units (SWMU) at Hazardous Waste Management Facilities," as a health- and environment-based level, determined by EPA to be an indicator for protection of human health and the environment. In the preamble to this proposed rule, the focus of the RFI phase is defined as "characterizing the actual environmental problems at the facilities." As part of this characterization, a comparison of the contaminant concentrations to certain action levels should be made to determine if a significant release of hazardous constituents has occurred. This comparison is then used to determine if further action or corrective measures are required for a SWMU or an AOC. The preamble to the proposed rule states that the concept of action levels was introduced because of the need for "a trigger that will indicate the need for a Corrective Measures Study (CMS) and below which a CMS would not ordinarily be required" (55 FR 30798; 7/27/90). If constituent concentrations exceed certain action levels at a SWMU or an AOC, further action or a CMS may be warranted; if constituent concentrations are below action levels, a finding of no further action may be warranted. This chapter of the report presents the initial analytical data as compared to certain potential action levels.

Action levels are concentrations of contaminants at or below which exposure to humans or the environment should not produce acute or chronic effects.

The action level information is presented in this chapter so that a constituent concentration at a sample location can be compared with its potential action level. Only constituents identified in the analysis are listed in the AOC, FTMA table. Table 7-1 shows the action levels for soil, water, and air as published in federal or state regulations, policies, guidance documents, or proposed rules.

The action levels listed in Table 7-1 are:

- ***SWMU CAL*** - The first set of action levels provided in the table are those taken from the proposed rule (40 CFR 264.521) and provided as Appendix A to the rule as "Examples of Concentrations Meeting Criteria for Action Levels." These

Table 7-1

Action Levels
AOC, FTMA, Tinker AFB

(Page 1 of 6)

Parameters	SWMU CAL[a]			MCL[b]	USGS[c] Background	Site Background[d]	NAAQS[e]	2-59 2 ft - 49 ft	2-60 3 ft - 46 ft	2-61 4 ft - 49 ft	SB-021 4.5 ft - 28.5 ft	SB-022 3.5 ft - 22 ft
	Soil (mg/kg)	Water (mg/L)	Air ($\mu g/m^3$)	Water (mg/L)	Soil (mg/kg)	Soil (mg/kg)	Air ($\mu g/m^3$)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)
Organics												
1,1,1-Trichloroethane	7,000	3.0	1,000	0.2						0.0027-0.0058		
Acetone	8,000	4.0							0.0072-0.120		0.0063-0.110	0.0091-0.500
Bis(2-Ethylhexyl) Phthalate	50	0.003		0.006								
Methylene Chloride	90	0.005	0.3	0.005				0.0012-0.020			0.0018-0.015	
Inorganics												
Aluminum					89,000			920-11,000	830-11,000	1,500-15,000	6,600-15,000	6,600-17,000
Arsenic	80		7E-05	0.05	21			1.5-10	1.6-5.0	1.1-5.5	2.2-4.0	1.2-3.7
Barium	4,000		0.4	2	6,400			30-780	36-240	25-410	29-160	17-220
Beryllium	0.2	8E-06	0.0004	0.004	3			0.72-1.4	0.83-1.3	0.69-1.5	0.72-1.5	1.0-2.7
Cadmium	40		0.0006	0.005	<2			0.57-1.0	0.62-1.2	0.58-1.0	0.81-1.5	0.55-1.1
Chromium VI	400		9E-05			0.26		0.13				
Chromium				0.1	110			5.6-32	5.7-31	7.3-21	14-29	11-24
Copper				1.3[f]	59			5.9-18	6.7-14	2.9-16	6-15	6.7-21
Iron					58,000			3,300-19,000	2,800-16,000	4,600-20,000	14,000-28,000	11,000-25,000
Lead				0.015[f]	27		1.5[g]	0.86-12	0.67-7.4	0.67-9.9	4.6-8.7	3.4-11
Nickel	2,000	0.7		0.1	61			8.4-23	4.9-26	5.1-28	11-32	7.5-29

Table 7-1

(Page 2 of 6)

Parameters	SWMU CAL[a]			MCL[b]	USGS[c] Background	Site Background[d]	NAAQS[e]	2-59 2 ft - 49 ft	2-60 3 ft - 46 ft	2-61 4 ft - 49 ft	SB-021 4.5 ft - 28.5 ft	SB-022 3.5 ft - 22 ft
	Soil (mg/kg)	Water (mg/L)	Air ($\mu g/m^3$)	Water (mg/L)	Soil (mg/kg)	Soil (mg/kg)	Air ($\mu g/m^3$)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)
Inorganics (Continued)												
Silver	200				<2					0.45	0.29-0.58	
Zinc					79			3.6-27	4.1-28	5.9-32	16-35	15-35

Table 7-1

(Page 3 of 6)

Parameters	SWMU CAL[a]			MCL[b]	USGS[c] Background	Site Background[d]	NAAQS[e]	SB-023 2.5 ft - 24 ft	SB-024 2.5 ft - 24 ft	SB-025 0.5 ft - 23.5 ft	SB-026 1 ft - 16.5 ft	SB-027 3 ft - 23 ft
	Soil (mg/kg)	Water (mg/L)	Air ($\mu g/m^3$)	Water (mg/L)	Soil (mg/kg)	Soil (mg/kg)	Air ($\mu g/m^3$)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)
Organics												
2-Methylnapthalene										0.11-8.8		
4-Chloroaniline										1.7		
Acetone	8,000	4.0						0.0061-0.150	0.0061-0.110	0.0057-0.140		0.0056-0.190
Benzene				0.005						0.053	0.0086	0.011-0.016
Bis(2-Ethylhexyl) Phthalate	50	0.003		0.006						0.21-0.36		
Chlorobenzene	2,000	0.7	20	0.1				0.016	0.0048-0.130			
Ethyl Benzene	8,000	4.0		0.7					0.0022-0.091	0.120-0.160	0.021	
Napthalene										0.06-2.5		
Tetrachloroethene	10	0.0007	1.0	0.005					0.032-0.066			
Toluene	20,000	10	7,000	1.0					0.014			
Xylenes Total	2E+05	70	1,000	10					0.0042-0.200	0.420	0.020	
Inorganics												
Aluminum					89,000			6,200-18,000	6,300-19,000	1,100-16,000	8,000-1,1000	4,900-12,000
Arsenic	80		7E-05	0.05	21			1.7-4.7	1.6-3.0	1.0-3.2	2.1-3.2	1.4-3.4
Barium	4,000		0.4	2	6,400			10-250	15-230	51-170	15-210	170-750
Beryllium	0.2	8E-06	0.0004	0.004	3			0.94-2.5	1.4-2.8	0.89-2.0	0.81-1.4	0.59-1.2
Cadmium	40		0.0006	0.005	<2			0.62-1.1	0.69	0.72-0.82	0.59-1.1	0.59-0.98
Chromium				0.1	110			12-33	12-21	10-17	14-16	14-24
Copper				1.3[f]	59			4.1-20	6.5-22	5.8-19	7.5-11	4.0-12

Table 7-1

(Page 4 of 6)

Parameters	SWMU CAL[a]			MCL[b]	USGS[c] Background	Site Background[d]	NAAQS[e]	SB-023 2.5 ft - 24 ft	SB-024 2.5 ft - 24 ft	SB-025 0.5 ft - 23.5 ft	SB-026 1 ft - 16.5 ft	SB-027 3 ft - 23 ft
	Soil (mg/kg)	Water (mg/L)	Air ($\mu g/m^3$)	Water (mg/L)	Soil (mg/kg)	Soil (mg/kg)	Air ($\mu g/m^3$)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)	Range (mg/kg)
Inorganics (Continued)												
Iron					58,000			10,000-24,000	11-13,000	2,100-14,000	13,000-16,000	8,100-26,000
Lead				0.015[f]	27		1.5[g]	2.9-7.5	2.4-11	2.8-30	4.2-6.1	1.5-7.5
Mercury	20			0.002		<0.025				0.13		
Nickel	2,000	0.7		0.1	61			11-29	8.1-28	8.5-27	12-25	12-27
Silver	200				<2					1.2		
Zinc					79			15-37	16-37	15-33	15-27	15-31

Table 7-1

(Page 5 of 6)

Parameters	SWMU CAL[a]			MCL[b]	USGS[c] Background	Site Background[d]	NAAQS[e]	SB-028 2 ft - 20.5 ft	2-59	2-60	2-61
	Soil (mg/kg)	Water (mg/L)	Air ($\mu g/m^3$)	Water (mg/L)	Soil (mg/kg)	Soil (mg/kg)	Air ($\mu g/m^3$)	Range (mg/kg)	Result (mg/L)	Result (mg/L)	Result (mg/L)
Organics											
Bis(2-Ethylhexyl) Phthalate	50	0.003		0.006							
Tetrachloroethene	10	0.0007	1.0	0.005					0.009	0.046	
Trichloroethene	60			0.005						0.050	
Inorganic											
Aluminum					89,000			6,800-16,000	18	2.2	1.6
Arsenic	80		7E-05	0.05	21			0.94-3.8	0.021		
Barium	4,000		0.4	2	6,400			25-690	0.87		
Beryllium	0.2	8E-06	0.0004	0.001	3			0.81-1.5			
Cadmium	40		0.0006	0.005	<2			0.53-0.99			
Chromium				0.1	110			12-19	0.17	0.052	0.019
Copper				1.3[f]	59			5.7-12	0.036		
Iron					58,000			11,000-17,000	28	1.9	1.9
Lead				0.015[f]			1.5[g]	2.8-11	0.0071		
Nickel	2,000	0.7		0.1	61			9.5-26	0.086		
Nitrate/Nitrite				10					17	10	10
Zinc					79			22-33	0.08		

Table 7-1

(Page 6 of 6)

[a]CAL - Corrective Action Levels.
[b]MCL - Maximum Contaminant Levels.
[c]USGS - United States Geological Survey.
[d]Site Background - Where available site background concentrations are listed.
[e]NAAQS - National Ambient Air Quality Standards
[f]Action Level at the Tap
[g]Three month average.

levels are health-risk based and are provided as specific examples of levels below which corrective action would not be required.

- ***Maximum Contaminant Levels (MCL)*** - These values are provided from 40 CFR Subpart G, Sections 141.60 through 0.63 as promulgated under the Safe Drinking Water Act. These levels are designated for water media only.

- ***USGS Background*** - These values are provided from the USGS report titled "Elemental Composition of Surficial Materials from Central Oklahoma" (USGS, 1991). These values represent the levels of metals which naturally occur in Central Oklahoma soils.

- ***Background*** - These levels are provided where background could be determined. Where available, background concentrations are listed for metals in soil samples taken on site, which were thought to be unaffected by releases from a unit.

- ***National Ambient Air Quality Standards (NAAQS)*** - These standards are published in 40 CFR Part 50 under the Clean Air Act and apply to point sources that emit a limited number of constituents to the air. The constituents regulated are nitrogen dioxide, sulphur dioxide, carbon monoxide, lead, ozone, and particulate matter. Currently, it is assumed that none of the SWMUs or AOCs emit these compounds in regulated quantities and no air samples have been taken which would allow for a valid comparison.

- ***Water Quality Standards (WQS)*** - The WQS are the standards for surface water quality as established by the State of Oklahoma. These standards apply to point source discharges to surface waters and have been listed for those units adjacent to surface water.

Table 7-1 also gives a brief comparative evaluation of the data collected and the related action levels. The data for each detected compound are compared with the appropriate action level in order to identify those constituents (compounds) with concentrations exceeding the action levels. This identification of the compounds above the action levels provides an indication of a potential environmental problem at a specific site. In addition, this information indicates whether there is a need for conducting a CMS so that a corrective action can be implemented/undertaken at the site.

For constituents that have a SWMU CAL and an MCL for water, the MCL will be used for the comparison. Also, constituents that do not have a USGS background value will be compared to the site background value if available.

The data included in Table 7-1 are representative of the data presented in Chapter 5.0. For each soil boring, a range was identified and used in the comparison to the action levels. For the groundwater samples, the results for the most recent sampling event were included in Table 7-1.

None of the constituents detected in the soil exceed the action levels or the existing background concentrations. Tetrachloroethene and trichloroethene, both organics, were detected in the groundwater above MCLs. Inorganic parameters, chromium, and nitrate/nitrite, were also detected above MCLs.

8.0 Summary and Conclusions

8.1 Summary

The FTMA is located at Building 2110 in the southeastern part of the Base. The FTMA is used for repair and maintenance activities. The floor of the building is concrete and slopes to a drainage trench extending the length of the building. The residual contents of the truck tanks are dumped and channeled through the floor trench. Further, the engine and truck body are washed with the rinse water going into the floor trench. Based on the history of the site, the contaminants most likely to be found at the FTMA are those associated with diesel fuel, oils, and JP-4 fuel and those constituents common to degreasers.

Soil samples were collected from eight soil borings completed to depths between 17 and 28.5 feet and from three monitoring well borings completed to depths of about 60 feet below grade. A 100-foot deep stratigraphic boring was also drilled and geophysically logged adjacent to monitoring well boring 2-59. Three monitoring wells were installed in the USZ at the FTMA. Groundwater samples were collected from the monitoring wells to assess the groundwater quality at the FTMA. Soil samples were analyzed for VOCs and SVOCs, TPHs, and metals (aluminum, arsenic, barium, beryllium, cadmium, total chromium, chromium VI, copper, iron, lead, mercury, nickel, silver, and zinc). Additionally, groundwater samples were also analyzed for standard inorganic groundwater parameters.

The FTMA is located on approximately 30 to 35 feet of reddish silty clay and clayey silt of the Hennessey Group. The uppermost portion of the Hennessey Group soils beneath the FTMA consists of hard but uncemented sediments. The base of the Hennessey Group at the FTMA generally consists of a massive, hard siltstone/mudstone starting at a depth of about 15 to 20 feet below ground surface and extending to the base. Underlying the Hennessey Group are interbedded fine sandstone, siltstone and shales of the Garber Sandstone. The sandstones range in hardness from loose (lightly cemented) to moderately well cemented. A hard silt layer occurring at about 60 feet below ground surface occurs beneath the facility.

The water levels in the USZ are about 46 to 51 feet below grade (1,247.20 to 1,249.64 feet above msl) within the fine silty sand and sands of the Garber Sandstone. The USZ appears to rest on the hard silt layer identified in the geophysical logs (Appendix B) at about 60 feet in depth. Groundwater flow is to the northeast with a gradient of about 0.013 ft/ft. Because this flow direction is opposite of that originally anticipated for the area, only one well is located

downgradient of the building. However, the three wells have allowed adequate characterization of the groundwater conditions in the vicinity of the FTMA.

Organic contaminants were detected in the soils beneath the FTMA. The detected constituents are typical of components of fuels that are either drained from the fuel trucks or are typical of degreasers commonly used in truck and engine maintenance and repair. The detected constituents are acetone, benzene, chlorobenzene, ethyl benzene, 4-chloroaniline, 2-methylnaphthalene, methylene chloride, naphthalene, petroleum hydrocarbons, PCE, toluene, and xylenes (total).

Of these constituents, 4-chloroaniline, 2-methylnaphthalene, and naphthalene were detected only in the shallowest soils collected from soil borings drilled through the concrete floor of the FTMA facility. Given the singular occurrence and low concentrations detected in the soils, these three contaminants are not of further concern for this area. Further, PCE was only detected in two soil samples from one boring at depths of 9.5 and 13 feet below ground level. The PCE concentrations are below the proposed 40 CFR 264 Subpart S CAL concentrations for soil.

The presence of ethyl benzene, toluene, and xylene in the shallow soils beneath the facility is indicative of contamination resulting from the FTMA operations. However, the detected concentrations of ethyl benzene, toluene, and xylene are well below the CAL concentrations for soils.

The presence of acetone and chlorobenzene, along with PCE, in the soils beneath the floor of Building 2110 suggest that degreasers used within the building have been released from the floor drain. The detected concentrations, however, are below the CAL concentrations of 8,000 mg/kg for acetone in soils and 2,000 mg/kg for chlorobenzene in soils. Benzene, a typical component of fuel, was detected in soil samples collected from depths up to 5 feet below grade.

The depth of contamination, as evidenced by field screening results and nondetect values in soils, is limited to the upper 15 feet of unsaturated soils and corresponds to the top of the well cemented portion of the shallow subsurface sediments. TPH concentrations also correspond to these depths. These cemented sediments apparently provide an adequate aquiclude to the vertical movement of contaminants.

The lateral extent of contamination within the vadose zone can be inferred from the results of the soil gas survey. While contaminants were found in soils beneath and immediately adjacent to the FTMA facility, GC/FID and GC/ECD analysis of the soil gas collected about 20 feet away from Building 2110 did not indicate the presence of petroleum or chlorinated constituents. The samples were collected from depths of 9 to 10 feet which is within the depth interval of contaminated soils beneath the building.

Methylene chloride and 1,1,1-TCA were detected in soil samples collected from monitoring wells borings for 2-59 and 2-60, respectively, but do not appear to be a result of releases from the FTMA. Methylene chloride was only detected in one soil sample from a soil boring drilled near the location of an old sump on the north side of the building at a depth of 4.5 feet and in three soil samples from monitoring well boring 2-59 at depths of 38 to 48.5 feet below ground surface. The methylene chloride in soils from monitoring well boring 2-59 is only present below the aquiclude. The fact that methylene chloride was detected below the aquiclude in the monitoring well boring and detected above the aquiclude in only one sample at a depth of less than 5 feet, indicates the source of the contaminant at 38 to 48.5 feet is other than the FTMA.

1,1,1-TCA was only detected in concentrations just above the quantitation limit of 5.0 µg/kg in the six of seven soil samples collected from 4 feet to 32 feet in depth at monitoring well boring 2-61. No other 1,1,1-TCA was detected in any soils collected beneath or immediately adjacent to the FTMA. Further, no 1,1,1-TCA was detected in the soil gas survey samples. The source of this contaminant appears to be related to something other than the FTMA.

Although these organics are present, the detected concentrations of all organics are below the proposed 40 CFR 264 Subpart S Corrective Action Levels with the exception of benzene which does not have a proposed CAL concentration. However, benzene was detected at a maximum concentration of 53 µg/kg that is well below the most stringent cleanup levels of 500 µg/kg under the Oklahoma Corporation Commission regulations for Underground Storage Tanks.

The horizontal extent of organic contamination within the vadose zone can be inferred from the results of the soil gas survey. The soil gas survey analysis of the samples revealed that none of the individual petroleum or chlorinated analytes were present in the vadose zone at a depth of 10 feet. Since the soil gas survey points were located further away from the building (20 feet) than the soil borings and the soil gas samples collected from a depth

interval consistent with organic contamination detected in the soils analyses, the horizontal extent of soils contamination within the unsaturated zone is limited to the immediate vicinity and beneath Building 2110.

Analytical results indicate that all the metals were detected at least once in the soil samples collected at the FTMA. The concentrations of metals are generally within the range of background levels measured in the study of surficial soils in the four-county area around Tinker AFB that was conducted by the USGS (1991). While lead was detected at a concentration that falls outside the range of the USGS background concentration in a single near surface sample, the duplicate soil sample for that interval indicates the concentration for lead is within the USGS background range.

Mercury was detected in only one near surface sample at a concentration about an order of magnitude above the quantitation limits but was determined to be an artifact since the duplicate sample collected from the same interval and all other soil samples were below the quantitation limits. Chromium VI was only detected in one soil sample from a depth of 43.5 feet below grade in the unsaturated soil background location (monitoring well boring 2-59).

Review of the analytical data indicates the USZ groundwater beneath the FTMA has been impacted by two organic constituents, PCE and TCE, but does not appear to be attributable to the FTMA. This theory is supported by the fact that contamination beneath the FTMA is limited to the upper 15 feet of soils and does not extend down to the water table. Further, the only organic contaminants detected in the groundwater are PCE, which was only detected in two soil samples at depths above 13 feet, and TCE, which was not detected in any of the soils. Also, with a groundwater flow direction to the northeast, the contamination present within the groundwater at monitoring well 2-59 appears to have come from a source upgradient of the FTMA.

PCE was detected in the groundwater in monitoring wells 2-59 and 2-60. TCE was detected only in monitoring well 2-60. Analysis of the data indicates the source of the plume could be to the southwest (upgradient from the site) or that higher concentrations of PCE and TCE plumes may be present to the west and northwest such that even monitoring well 2-59 is located on the edge of the plumes. The concentrations of PCE and TCE in monitoring wells 2-59 and 2-60 exceed the MCLs of 5 μg/L for groundwater for each of these constituents.

Concentrations of metals, with the exception of chromium, in groundwater samples from the wells at the FTMA are below their respective MCLs. Chromium appears to exceed the MCL in monitoring well 2-59 only. However, it appears that the elevated metals concentrations in this sample are probably due to acid digestion of aquifer sediments containing natural metals and may not be representative of groundwater impact with chromium.

8.2 Conclusions

The horizontal and vertical extent of soils contamination attributed to the FTMA has been defined by this investigation. Analytical results of soil samples collected from the soil borings indicate that shallow soils have been impacted by organic and possibly metals contaminants. Contaminants within the soils consists of petroleum hydrocarbons (benzene, ethylbenzene, toluene, and xylene) and chlorinated compounds typical of degreasers (acetone, chlorobenzene, and tetrachloroethene). These contaminants have been released to the soils from the floor drain of Building 2110 of the FTMA.

The vertical extent of contamination associated with operations at the FTMA is generally limited to the upper 15 feet of unsaturated soils immediately beneath the facility. This conclusion is based on the depth of soil samples in which no organic contaminants were detected. In general, the depth of contamination, as evidenced by field screening results and nondetect values in soils, corresponds to the top of the well cemented portion of the shallow subsurface sediments. The well cemented sediments consist of the sandy silt and silty mudstone occurring at an elevation of about 1,278 to 1,280 feet msl and the cemented silty clayey sand at an elevation of about 1,290 feet msl in the southern part of the FTMA. TPHs also correspond to these depths. These cemented sediments appear to provide an adequate aquiclude to the vertical movement of contaminants.

The horizontal extent of soils contamination attributed to the FTMA operations is limited to within 20 feet of the facility. The analysis of soil gas survey samples collected 20 feet from the facility revealed that none of the individual petroleum or chlorinated analytes were present in the vadose zone at a depth of 10 feet.

Lead is the only metal that may have impacted the soils beneath the FTMA. The concentration of lead in one soil sample exceeds the range of background levels measured by the USGS (1991). The lead concentration in a duplicate soil sample of the same depth interval, is within the range of background levels for soil. The concentrations of all other metals detected in the soil samples collected at the FTMA are within the background range. The

single detections of mercury and chromium VI in only one soil sample each were determined to be artifacts that warrant no further consideration.

The concentrations of the detected soils constituents are all below the CALs proposed in 40 CFR 264 Subpart S or within or below the range of measured background concentrations (USGS, 1991) for soils. Based on the above discussions, it is concluded that no further assessment or actions are required for the soil contamination at the FTMA.

The PCE and TCE contamination detected in the groundwater beneath the FTMA does not appear to be attributable to the FTMA. The contamination attributed to the FTMA is limited to the upper 15 feet of soils and does not extend down to the water table. The contamination present within the groundwater beneath the FTMA appears to have come from a source upgradient of the FTMA based on the direction of groundwater flow and the horizontal distribution of contaminant concentrations in the wells.

9.0 Recommendations

Based on the results of the Phase I Investigation, it is likely that the soils surrounding the site are indeed clean as demonstrated by the soil gas survey. To confirm this, additional soil samples should be taken and additional groundwater monitoring wells should be completed in the USZ and LSZ in the vicinity of this AOC during a Phase II RFI and during a base-wide groundwater investigation, respectively.

The number, location, and analysis to be performed on soil samples should be determined during the development of a Phase II RFI work plan for the site. Additional soil samples will be collected if needed.

Site-specific soil background samples were not collected, nor were the soil background values available for inclusion in this Phase I RFI report. Therefore, it is recommended that site-specific soil samples from uncontaminated areas be collected for analysis during the Phase II RFI field work. This additional information along with the USGS background values should be used in the Phase II report to distinguish site-related from background concentrations in a statistically significant manner.

The Phase II RFI work plan should be submitted to EPA for approval before beginning any field work. A basewide groundwater investigation work plan should be developed to include the FTMA site. This work plan should also be submitted to EPA for approval before beginning work.

10.0 References

Bingham, R. H. and R. L. Moore, 1975, ***Reconnaissance of the Water Resources of the Oklahoma City Quadrangle, Central Oklahoma,*** Oklahoma Geological Survey, Hydrologic Atlas 4.

CDM Federal Programs Corporation (CDM), 1992, ***RCRA Facility Investigation Work Plan, Tinker AFB, Oklahoma,*** December 1992.

Engineering Science (ES), 1982, Records Search, ***Installation Restoration Program (IRP), Phase I, Final Report, Tinker AFB, Oklahoma.***

FR, Vol. 55, No. 128, Tuesday, July 3, 1991. **(SWMU-19 & 22)**

IT Corporation, 1993a, Final RFI Work Plan - Amendments

IT Corporation, 1993b, ***Data Collection Quality Assurance Plan Amendment, RCRA Facility Investigation Work Plan,*** prepared for Tinker AFB, Oklahoma, October 1993.

Radian Corporation, 1985a, ***Installation Restoration Program, Phase II, Stage 1, Confirmation/Quantification Report, Tinker AFB, Oklahoma,*** Final Report, September 1985.

Radian Corporation, 1985b, ***Installation Restoration Program, Phase II, Stage 2, Confirmation/Quantification Report, Tinker AFB, Oklahoma,*** Final Report, October 1985.

Tinker AFB, 1992, ***Description of Current Conditions, Tinker AFB, Oklahoma,*** December 1992.

U.S. Department of Agriculture (USDA), 1969, ***Soil Survey of Oklahoma City, Oklahoma,*** U.S. Department of Agriculture Soil Conservation Survey.

U.S. Geological Survey (USGS), 1992.

U.S. Geological Survey (USGS), 1991, ***Elemental Composition of Surficial Materials from Central Oklahoma***, Denver, Colorado

U.S. Geological Survey (USGS), 1978.

Wickersham, G., 1979, ***Groundwater Resources of the Southern Part of the Garber-Wellington Groundwater Basin in Cleveland and Southern Oklahoma Counties and Parts of Pottawatomie County, Oklahoma,*** Oklahoma Water Resources Board, Hydrologic Investigations Publication 86.

APPENDIX A
BORING LOGS/WELL CONSTRUCTION DIAGRAMS

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-021

DRILLING AND SAMPLING INFORMATION

Boring Location: FUEL TRUCK MAINTENANCE NEAR BUILDING 2110
Logged By: A. GORDON
Drilled By: P. GUERREIN GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

SURFACE ELEV.(FT): 1295.427
TOTAL DEPTH(FT.): 28.5
Date Started: 10/28/93
Date Completed: 10/28/93

Sampling Method: 3"x5' CONTINUOUS CORE BARREL

Notes: N 148763.832, E 2186704.005

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE		60	0			0
no recovery (1-4.5')						
CLAY - slightly plastic; firm; moist; dark brown (10YR-3/3) to dark red (2.5YR-4/6); hydrocarbon odor	A 1066	12	0	cl		5
- nonplastic; hard; dry; dark red (2.5YR-4/6)	A 1067	60				
	A 1068	60	8			10
SANDY CLAY - nonplastic; 20% silt, 25% sand; hard; crumbly; dry; dark red (2.5YR-4/6); sharper contact				cl		
SILTSTONE - clayey; hard; poorly cemented; crumbly; dry; red (2.5YR-5/8); sharp contact				ml		15
- nonplastic; 10% sand; slightly moist; red (10R-4/6)	A 1069	60	3			
- 10% fine grained sand; compact; slightly fissile		60				20
- (10R-4/8)	A 1070	60				
- dark red (2.5YR-3/6)		42				25
	A 1071	42	1			
TOTAL DEPTH = 28.5 FEET						30
						35
						40

DRAFT BY	RPS	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A12 Sheet 1 of 1
	11/19/93								

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-022

DRILLING AND SAMPLING INFORMATION

Boring Location: NEXT TO NORTHWEST CORNER OF FUEL TRUCK MAINTENANCE BLD.
SURFACE ELEV.(FT): 1295.804
TOTAL DEPTH(FT.): 24.5
Logged By: A. GORDON
Date Started: 12/2/93
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Date Completed: 12/2/93
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

Sampling Method: 3"x 5' CONTINUOUS TUBE SAMPLER

Notes: N 148740.941, E 2186693.033

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
GRAVEL – fill						
CLAYEY GRAVEL – 10% sand, 30% clay, 60% gravel; fill; compact; well graded; moist; dusky red (2.5YR-3/4); brown mottling; sharp contact; petro odor		60		gc		
SILTY SANDY CLAY – moderately plastic; 10% fine grained sand; stiff; slightly moist; dusky red (2.5YR-4/4) and dark brown (7.5YR-3/2); mottling; sharp contact	A 1170	60	1800	cl / ml		
SANDY SILT – slightly plastic; 30% fine grained sand; trace of moisture; dark brown (7.5YR-3/2); gradational contacts; strong petro odor		60		cl		5
SILTY CLAY – moderately plastic; 25% silt; stiff; slightly moist; reddish brown (5YR-4/3); gradational contacts		60		ch		
CLAY – moderate to highly plastic; <5% silt; firm; slightly moist; dusky red (2.5YR-4/4); gradational contacts; weak odor	A 1171	60	900	cl		10
SILTY SANDY CLAY – nonplastic; 15% fine grained sand, 20% silt; hard; trace of moisture; red (10R-4/6); crumbly; friable; petro odor – sandier; harder; more massive		60				
SANDY SILTSTONE – 40% fine grained sand; firm to very hard; well cemented; blocky; dry; red (10R-4/6); massive and blocky; strong petroleum odor	A 1172	60	1000	ml		15
SILTY SAND – 20% silt; fine grained sand; loose; compact; poorly cemented; dry; dark red (2.5YR-4/8); crumbles easily; sharp contact; slight odor – harder; gradational contact	A 1173	60	15	sm / cl		
SILTY MUDSTONE – nonplastic; 5% fine grained sand; very hard; blocky; well cemented; dry; dark red (2.5YR-4/6) – denser; drier		60				20
	A 1174	42 / 42	15			
TOTAL DEPTH = 24.5 FEET						25
						30
						35
						40

DRAFT BY	RPS 12/23/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A49 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-023

DRILLING AND SAMPLING INFORMATION

Boring Location: NEXT TO NORTHEAST CORNER OF FUEL TRUCK MAINTENANCE BLD.
SURFACE ELEV.(FT): 1295.640
TOTAL DEPTH(FT.): 24.8
Logged By: A. GORDON
Date Started: 12/2/93
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Date Completed: 12/2/93
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

Sampling Method: 3"x 5' CONTINUOUS TUBE SAMPLER

Notes: N 148747.128, E 2186749.887

DESCRIPTION	SAMPLE TYPE SAMPLE NO.	IN. DRIVEN IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
GRAVEL – fill						
CLAYEY GRAVEL – 10% sand, 30% clay, 60% gravel; loose; well graded; very moist; dusky red (2.5YR-3/4); sharp contact; weak odor	A 1165	60	800	gc		
SILTY CLAY – moderately plastic; stiff; slightly moist; dark reddish brown (5YR-3/2); gradational contact		60		cl		
SILTY SANDY CLAY – slightly plastic; <5% sand; hard; slightly moist; dark red (2.5YR-4/6)				cl		5
– drier; more brittle		60				
SANDY CLAY – nonplastic; 15% fine grained sand; hard; crumbly; dark red (2.5YR-4/8); becoming moist along fractures	A 1166		2	cl		
– 25% sand; blocky; no odor; wet along fractures						10
– wet cuttings		60				
SILTY SANDSTONE – 70% fine grained sand; firm; hard; well cemented; blocky; trace of moisture; dark red (2.5YR-4/8); some fissile layers	A 1167	60	1	sm		
SILTY SANDY CLAY – slightly plastic; 35% fine grained sand; firm; hard; blocky; trace of moisture; dark red (2.5YR-4/8); fine grained sand, pale yellow (5Y-7/3) and mottling		60		cl sp		15
SILTY CLAY – nonplastic; <5% fine grained sand; hard; blocky; massive; dry; dark red (2.5YR-4/8); little to no mottling; moist along fractures	A 1168	60	1	cl		
– very hard; well cemented; fissile; slightly moist along fractures		60				20
		46				
	A 1169		1			
		46				25
TOTAL DEPTH = 24.8 FEET						
						30
						35
						40

DRAFT BY	RPS	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A50 Sheet 1 of 1
	12/23/93								

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-024

DRILLING AND SAMPLING INFORMATION

Boring Location: NEXT TO DRAIN LINE, NORTH END OF FUEL TRUCK MAINTENANCE BLD.
Logged By: A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

SURFACE ELEV.(FT): 1295.452
TOTAL DEPTH(FT.): 24.4
Date Started: 12/1/93
Date Completed: 12/1/93

Sampling Method: 3"x 5' CONTINUOUS TUBE SAMPLER

Notes: N 148744.402, E 2186718.650

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
GRAVEL – coarse; fill; strong petroleum odor						
SILTY CLAY – slightly plastic; stiff; slightly moist; dusky red (2.5YR-3/4); strong petroleum odor – trace of moisture; dark brown (7.5YR-3/2); organic discoloration; gradational contact uneven	A 1155	60	2000	cl		
CLAY – slightly plastic; stiff; slight to moderately moist; dusky red (2.5YR-4/8); gradational contact; strong petroleum odor		54		cl		5
SILTY SANDY CLAY – slightly plastic; 15% fine grained sand; hard; very crumbly; dry; dark red (2.5YR-4/6); strong petroleum odor; trace of fine grained sand, light gray (10YR-7/2) and mottling	A 1156	60	3500	cl		
– harder; less mottling		60				10
– nonplastic; <2% sand; mudstone; very hard; brittle; massive; crumbly; moderately cemented; little to no mottling; some odor	A 1157	60	800			
– more massive; no odor		60				15
	A 1158	60	40			
SILTY CLAY – nonplastic; <2% fine grained sand; mudstone; very hard; moderately well cemented; massive; blocky; dry; dark red (2.5YR-4/6); no odor – poorly cemented; more crumbly; slight odor	A 1159	41	15	cl		20
		41	25			
TOTAL DEPTH = 24.4 FEET						25
						30
						35
						40

DRAFT BY	RPS 12/29/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A51 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-025

DRILLING AND SAMPLING INFORMATION

Boring Location: NEXT TO DRAIN LINE
MIDDLE OF FUEL TRUCK MAINTENANCE BLD.
Logged By: A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

SURFACE ELEV.(FT): 1295.337
TOTAL DEPTH(FT.): 24.8
Date Started: 12/1/93
Date Completed: 12/1/93

Sampling Method: 3"x 5' CONTINUOUS TUBE SAMPLER

Notes: N 148718.136, E 2186723.049

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
GRAVEL – coarse; fill; strong petroleum odor	A 1149	12 / 12	2500	cl		
SILTY CLAY – slightly plastic; stiff; moist; dusky red (2.5YR-3/4); root structure; strong petroleum odor – trace of moisure; dark brown (7.5YR-3/2); organic discoloration; sharp contact; petroleum odor	A 1150	60				
CLAY – moderately plastic; firm; moderately moist; dusky red (2.5YR-4/4); gradational contact; some petroleum odor				cl		5
SILTY SANDY CLAY – nonplastic; 15% sand; hard; friable; dry; dark red (2.5YR-4/8); weak odor; mottling – thin section of fine grained silty sand; 15% silt; chalky; light gray (10YR-7/2); accounts for 5% of section – <5% sand; very hard; brittle; crumbly; trace of moisture; red (10R-4/6); moderately cemented; weak laminations; less mottling	A 1151	60	250	cl sm cl		
– harder		60				10
SILTY CLAY – nonplastic; 2% sand; very hard; brittle; blocky; well cemented; trace of moisture; red (10R-4/6); massive; little to no laminations; non-fractured; <1% light gray sand mottling; no odor	A 1152	60	60	cl		
– more brittle; slightly more friable	A 1153	60	7			15
– less cemented; more friable	A 1154	48 / 40	10			20
TOTAL DEPTH = 24.8 FEET		40				25
						30
						35
						40

DRAFT BY	RPS 12/30/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A52 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-026

DRILLING AND SAMPLING INFORMATION

Boring Location: NEXT TO DRAIN LINE, SOUTH END OF FUEL TRUCK MAINTENANCE BLD.
SURFACE ELEV.(FT): 1295.280
TOTAL DEPTH(FT.): 17.0
Logged By: A. GORDON
Date Started: 11/10/93
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Date Completed: 11/11/93
Drill Rig Type: CME-75 AND MOBILE B-24
Drilling Method: 4-1/2" AND 8" HOLLOW STEM AUGERS

Sampling Method: 1" I.D. x 2' SPLIT SPOON,
2" x 2' CONTINUOUS SPLIT SPOON SAMPLER AND 3" x 5' CORE BARREL SAMPLER
Notes: N 148688.959, E 2186731.291

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
CLAY - moderately plastic; soft; moist; dark brown (10YR-3/3); petroleum odor - slightly plastic; firm; slightly moist; dark reddish brown (5YR-3/3)	A 1073	5/12 6/12	350	cl		
SILTY CLAY - slightly plastic; firm; slightly moist; very dusky red (2.5YR-2.5/4)		6/12 6/6		cl		
- nonplastic; hard; dry; dark red (2.5YR-3/6)	A 1074	5/12 5/12	0			5
		18/18				
SILTY SANDY CLAY - nonplastic; hard; dense; dry; friable; red (10YR-4/8); no distinctive bedding; no odor		60/60		cl		10
	A 1089		7			
SILTY MUDSTONE - nonplastic; rock hard; dense; dry; friable; no bedding; massive; no odor; fine grained sandstone mottling		42/42		cl		15
SANDSTONE - nonplastic; fine grained; dense; dry; friable; light olive gray	A 1090		2	sp		
TOTAL DEPTH = 17.0 FEET						20 25 30 35 40

DRAFT BY	RPS 12/30/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A53 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-027

DRILLING AND SAMPLING INFORMATION

Boring Location: SOUTHWEST CORNER OF BUILDING 2110, FUEL TRUCK MAINTENANCE AREA
Logged By: A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

SURFACE ELEV.(FT): 1295.822
TOTAL DEPTH(FT.): 23.5
Date Started: 11/10/93
Date Completed: 11/10/93

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 2"x2' SPLIT SPOON
Notes: SB-027 WAS MOVED JUST OUTSIDE BUILDING, SO THAT CME-75 COULD DRILL HOLE N 148681.693, E 2186692.623

DESCRIPTION	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						
SANDY GRAVELLY CLAY – nonplastic; firm; slightly moist; dark red (2.5YR-3/6); gradational contact		30		cl		
SILTY SANDY CLAY – slightly plastic; firm; slightly moist; dark red (2.5YR-3/6); petroleum odor; fining downward	A 1075	30 / 60	1000	cl		
– nonplastic; stiff; crumbly; dry; dark reddish brown (5YR-2.5/2)	A 1076	60	10			5
SILTY CLAYEY SAND – nonplastic; stiff; crumbly; dry; dark red (2.5YR-4/8); no major odor		60		sm		
– fine grained sand; hard; pale yellow (2.5Y-7/3); sharp contact; marker bed in Hennessy (3" thick)		60				10
SILTY CLAY – slightly plastic; hard; crumbly; dry; dark red (2.5YR-3/6)	A 1077	60	0	cl		
		60				15
SILTY CLAYEY SAND – nonplastic; hard; crumbly; weak bedding; dry; dark red (2.5YR-3/6); no odor	A 1078	60	1	sm		
		60				20
	A 1079	60	0			
TOTAL DEPTH = 23.5 FEET						25
						30
						35
						40

DRAFT BY	RPS 11/24/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A31 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING SB-028

DRILLING AND SAMPLING INFORMATION

Boring Location: SOUTHEAST CORNER OF BUILDING 2110, FUEL TRUCK MAINTENANCE AREA
Logged By: A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

SURFACE ELEV.(FT): 1295.649
TOTAL DEPTH(FT.): 21.0
Date Started: 11/11/93
Date Completed: 11/11/93

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 2"x2' SPLIT SPOON
Notes: SB-028 WAS MOVED JUST OUTSIDE BUILDING, SO THAT CME-75 COULD DRILL HOLE N 148682.056, E 2186750.834

DESCRIPTION	SAMPLE TYPE SAMPLE NO.	IN. DRIVEN IN. RECOVERED	FID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
CONCRETE						0
SILTY CLAY – slightly plastic; firm; dense; slightly moist; dusky red (2.5YR-3/2); petroleum odor	A 1083	30 / 30	1000	cl		
– hard; dark red (2.5YR-4/6); slight odor; (becomes denser, harder coarser grained with depth)	A 1084 A 1085 Dup.	60 / 60	220			5
– nonplastic; denser; dry; red (10YR-4/8); no odor	A 1086	60 / 60	20			10
– fine grained sand; dense; crumbly with <1% mottled sand	A 1087	36 / 36	5			15
SAND – nonplastic; fine grained; hard; dense; crumbly (friable); dry; light olive gray (5Y-6/2)		24 / 24		sm cl		
SILTY CLAYSTONE – nonplastic; hard; dense; friable; no laminations; red (10R-4/8) – laminated	A 1088	30 / 30	2			20
TOTAL DEPTH = 21.0 FEET						25 30 35 40

DRAFT BY	RPS 11/29/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A32 Sheet 1 of 1

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING 2-59P

DRILLING AND SAMPLING INFORMATION

Boring Location: FUEL TRUCK MAINTENANCE AREA, EAST OF BUILDING 2110
Logged By: K. KIRSCHENMANN, A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER AND MUD ROTARY WITH 3-7/8" BIT
Sampling Method:

SURFACE ELEV.(FT):
TOTAL DEPTH(FT.): 100.0
Date Started: 11/3/93
Date Completed: 11/4/93

Notes: STRATIGRAPHIC TEST USED FOR GEOPHYSICAL LOGGING

DESCRIPTION	GEOPHYSICAL LOG (GAMMA) 10 20 30 40	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
SILTY CLAY - moist				0	cl		5
				0			10
							15
- crumbly; dry				0			20
							25
- switched to mud rotary at 30'				0			30
							35
				0			40

DRAFT BY	RPS 11/23/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A26 Sheet 1 of 3

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING 2-59P

DRILLING AND SAMPLING INFORMATION

Boring Location: FUEL TRUCK MAINTENANCE AREA, EAST OF BUILDING 2110
Logged By: K. KIRSCHENMANN, A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER AND MUD ROTARY WITH 3-7/8" BIT
Sampling Method:

SURFACE ELEV.(FT):
TOTAL DEPTH(FT.): 100.0
Date Started: 11/3/93
Date Completed: 11/4/93

Notes: STRATIGRAPHIC TEST USED FOR GEOPHYSICAL LOGGING

DESCRIPTION	GEOPHYSICAL LOG (GAMMA) 10 20 30 40	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
– increasing sand							45
– sand				0			50
							55
				0			60
SANDY CLAY					cl		
– hard zone							65
							70
							75
				0			80

DRAFT BY	RPS 11/23/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A26 Sheet 2 of 3

Client: TINKER AFB
Project Name: TINKER 5001

Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

SOIL BORING 2-59P

DRILLING AND SAMPLING INFORMATION

Boring Location: FUEL TRUCK MAINTENANCE AREA, EAST OF BUILDING 2110
Logged By: K. KIRSCHENMANN, A. GORDON
Drilled By: P. GUERREIN
GEOTECHNOLOGY, INC.
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER AND MUD ROTARY WITH 3-7/8" BIT
Sampling Method:

SURFACE ELEV.(FT):
TOTAL DEPTH(FT.): 100.0
Date Started: 11/3/93
Date Completed: 11/4/93

Notes: STRATIGRAPHIC TEST USED FOR GEOPHYSICAL LOGGING

DESCRIPTION	GEOPHYSICAL LOG (GAMMA) 10 20 30 40	SAMPLE TYPE / SAMPLE NO.	IN. DRIVEN / IN. RECOVERED	PID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
				0			85, 90, 95, 100, 105, 110, 115, 120
TOTAL DEPTH = 100.0 FEET							

DRAFT BY	RPS 11/23/93	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A26 Sheet 3 of 3

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

MONITORING WELL 2-59

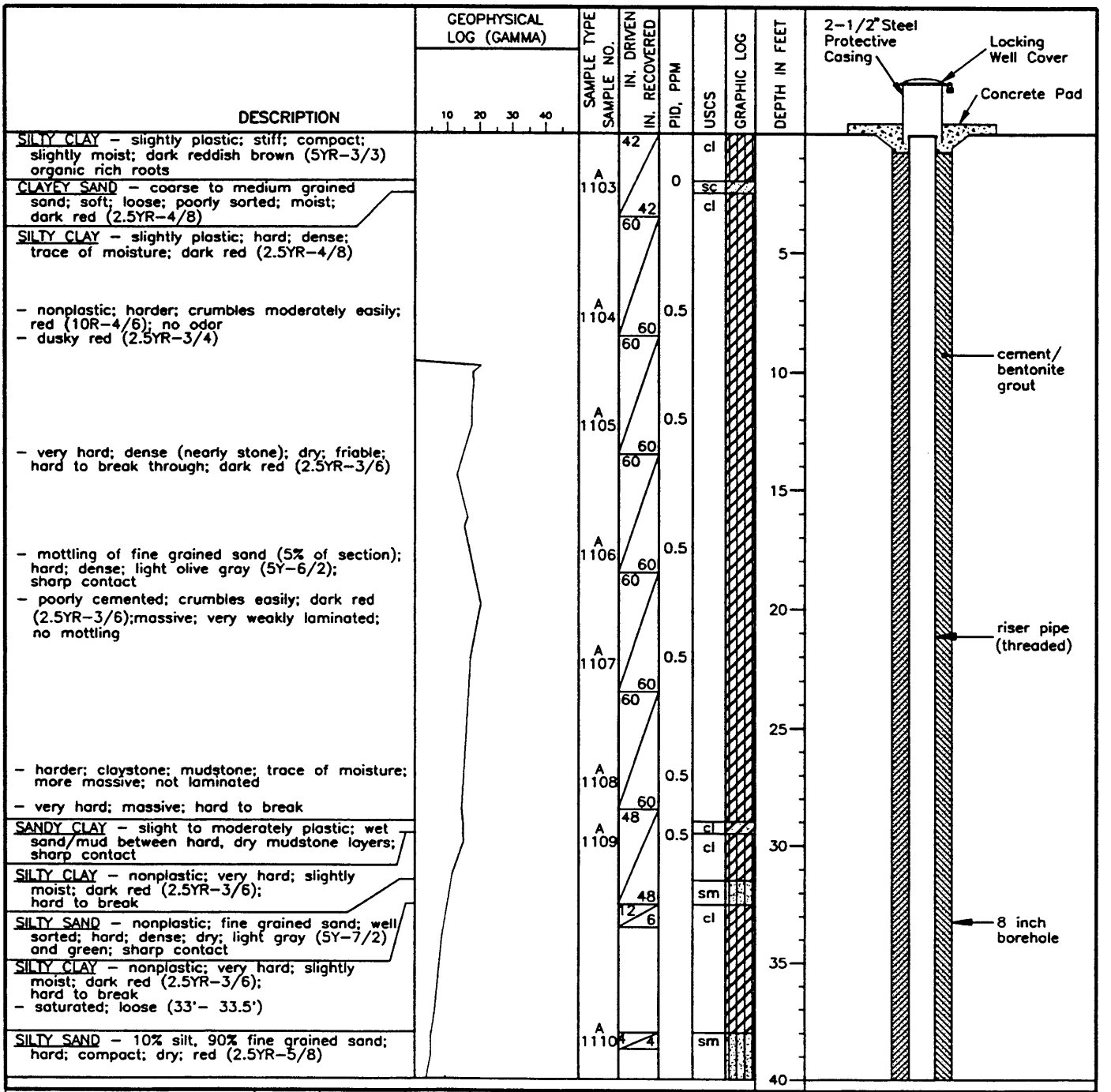
DRILLING AND SAMPLING INFORMATION

Boring Location: EAST OF FUEL TRUCK MAINTENANCE BLDG
SURFACE ELEV.(FT): 1297.780
TOTAL DEPTH(FT.): 60
Logged By: A. GORDON
Date Started: 11/15/93
Drilled By: P. GUERREIN, GEOTECHNOLOGY, INC.
Date Completed: 11/16/93
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND SPLIT SPOON
Notes: N 148747.160, E 2186881.244

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL
1. Riser Pipe-I.D.(in.): 2
Depth(ft.): 49.5 Type:S.Steel
Centralizers-Type:
Depths(ft.):
2. Screen Dia.(in.): 2
Type: S.Steel Wirewound
Depth Interval(ft.): 59.5-59.2
Slot Size(in.): .010
Centralizers-Type:
Depths(ft.):
3. Filter Pack Type: Silica Sand
Depth Interval(ft.): 48.0-60.0
Conc. Pad Size: 4'x4'x6"



	DRAFT BY	RPS 1/3/94	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A54 Sheet 1 of 2

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

MONITORING WELL 2-59

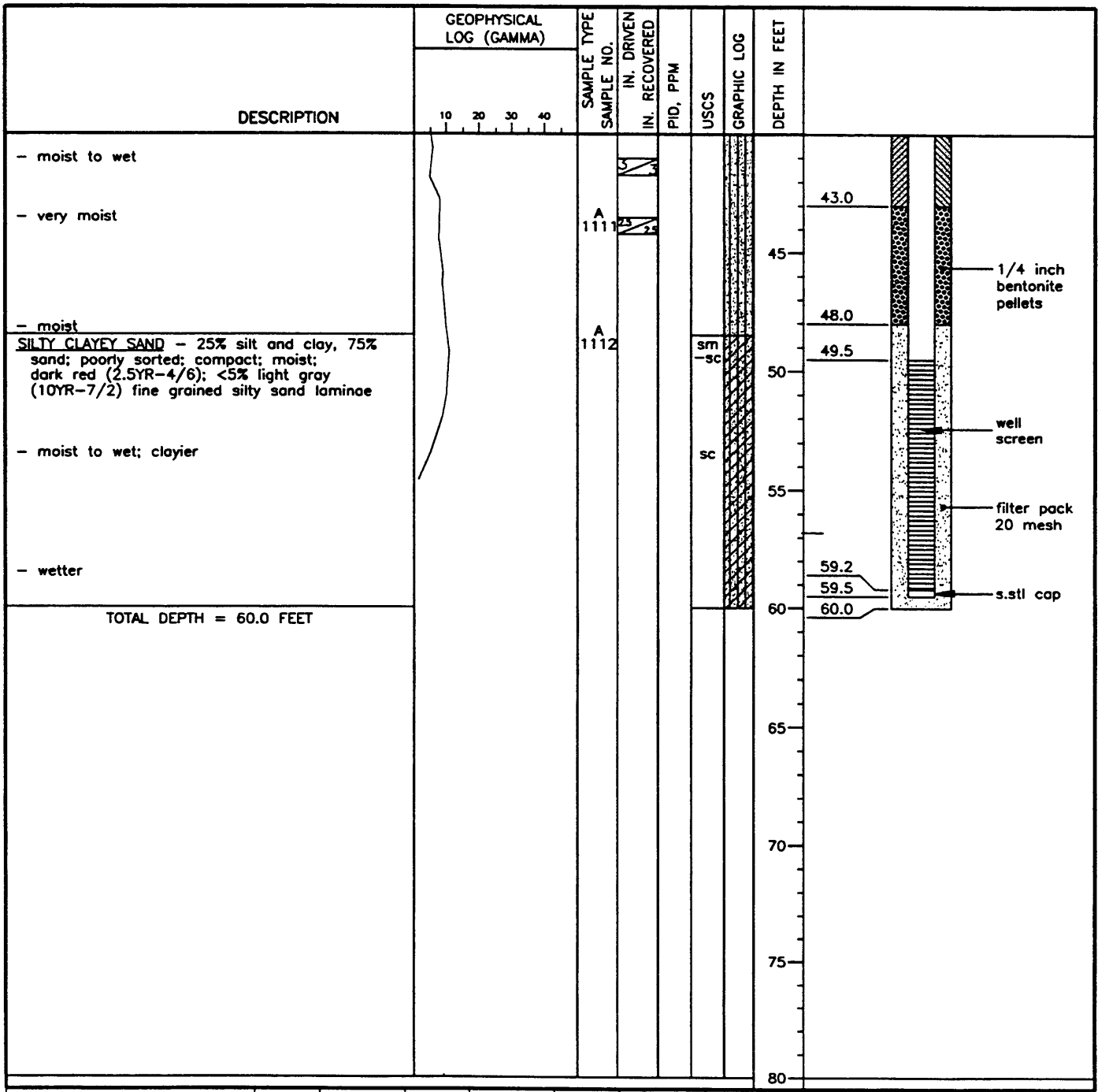
DRILLING AND SAMPLING INFORMATION

Boring Location: EAST OF FUEL TRUCK MAINTENANCE BLDG
SURFACE ELEV.(FT): 1297.780
TOTAL DEPTH(FT.): 60
Logged By: A. GORDON
Date Started: 11/15/93
Drilled By: P. GUERREIN GEOTECHNOLOGY. INC.
Date Completed: 11/16/93
Drill Rig Type: CME-75
Drilling Method: 8" HOLLOW STEM AUGER

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND SPLIT SPOON
Notes: N 148747.160, E 2186881.244

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL
1. Riser Pipe-I.D.(in.): 2
Depth(ft.): 49.5 Type:S.Steel
Centralizers-Type:
Depths(ft.):
2. Screen Dia.(in.): 2
Type: S.Steel Wirewound
Depth Interval(ft.): 59.5-59.2
Slot Size(in.): .010
Centralizers-Type:
Depths(ft.):
3. Filter Pack Type: Silica Sand
Depth Interval(ft.): 48.0-60.0
Conc. Pad Size: 4'x4'x6"



	DRAFT BY	RPS 1/3/94	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A54 Sheet 2 of 2

Client: TINKER AFB
Project Location: TINKER AFB, OKLAHOMA
Project Name: TINKER 5001
Project Number: 409832

MONITORING WELL 2-60

DRILLING AND SAMPLING INFORMATION

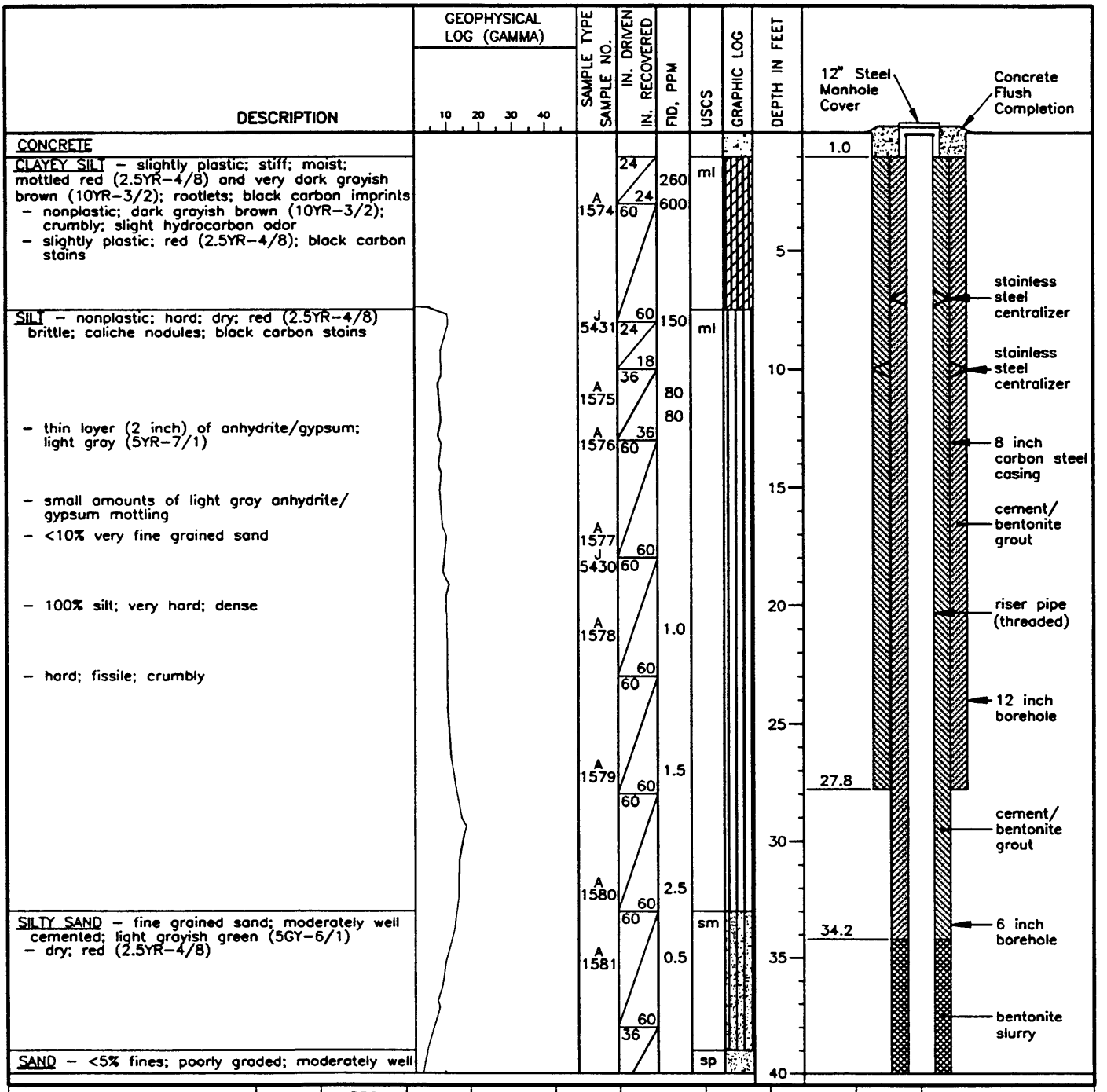
Boring Location: WEST SIDE OF FUEL TRUCK MAINTENANCE BUILDING
SURFACE ELEV.(FT): 1295.587
TOTAL DEPTH(FT.): 62
Logged By: M. WILSON
Date Started: 11/23/93
Drilled By: D. MEYER
Date Completed: 12/1/93
GEOTECHNOLOGY. INC.
Drill Rig Type: CME-75
Drilling Method: 8" AND 12" HOLLOW STEM AUGERS

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 1-1/2"x2' SPLIT SPOON
Notes: N 148716.863, E 2186691.012

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL

1. Surf Casing-I.D.(in.): 8
   Depth(ft.): 27.8 Type: Carbon Steel
   Centralizers-Type: S.Steel
   Depths(ft.): 10
2. Riser Pipe-I.D.(in.): 2
   Depth(ft.): 51.7 Type: S.Steel
   Centralizers-Type: S.Steel
   Depths(ft.): 7
3. Screen Dia.(in.): 2
   Type: S.Steel Wirewound
   Depth Interval(ft.): 51.7-56.4
   Slot Size(in.): .010
   Centralizers-Type: S.Steel
   Depths(ft.): 49
4. Filter Pack Type: Silica Sand
   Depth Interval(ft.): 49.4-58.4
   Conc. Pad Size: 2'x2'x6"



DRAFT BY	RPS	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A55 Sheet 1 of 2
	1/4/94								

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

MONITORING WELL 2-60

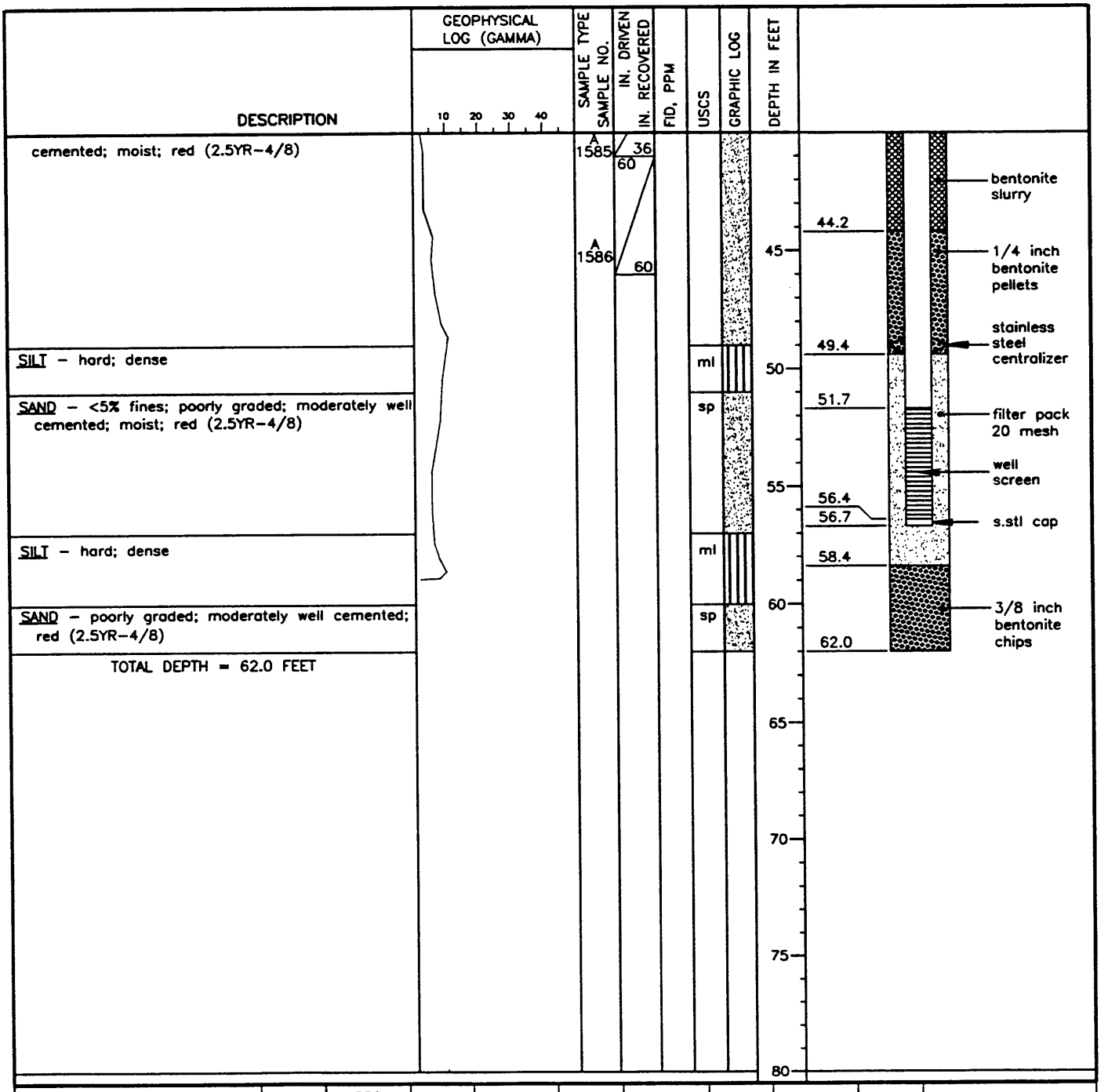
DRILLING AND SAMPLING INFORMATION

Boring Location: WEST SIDE OF FUEL TRUCK MAINTENANCE BUILDING
SURFACE ELEV.(FT): 1295.587
TOTAL DEPTH(FT.): 62
Logged By: M. WILSON
Date Started: 11/23/93
Drilled By: D. MEYER GEOTECHNOLOGY. INC.
Date Completed: 12/1/93
Drill Rig Type: CME-75
Drilling Method: 8" AND 12" HOLLOW STEM AUGERS

Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 1-1/2"x2' SPLIT SPOON
Notes: N 148716.863, E 2186691.012

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL
1. Surf Casing-I.D.(in.): 8 Depth(ft.): 27.8 Type: Carbon Steel
   Centralizers-Type: S.Steel Depths(ft.): 10
2. Riser Pipe-I.D.(in.): 2 Depth(ft.): 51.7 Type: S.Steel
   Centralizers-Type: S.Steel Depths(ft.): 7
3. Screen Dia.(in.): 2 Type: S.Steel Wirewound
   Depth Interval(ft.): 51.7-56.4 Slot Size(in.): .010
   Centralizers-Type: S.Steel Depths(ft.): 49
4. Filter Pack Type: Silica Sand Depth Interval(ft.): 49.4-58.4
   Conc. Pad Size: 2'x2'x6"



	DRAFT BY	RPS 1/4/94	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A55 Sheet 2 of 2

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

MONITORING WELL 2-61

DRILLING AND SAMPLING INFORMATION

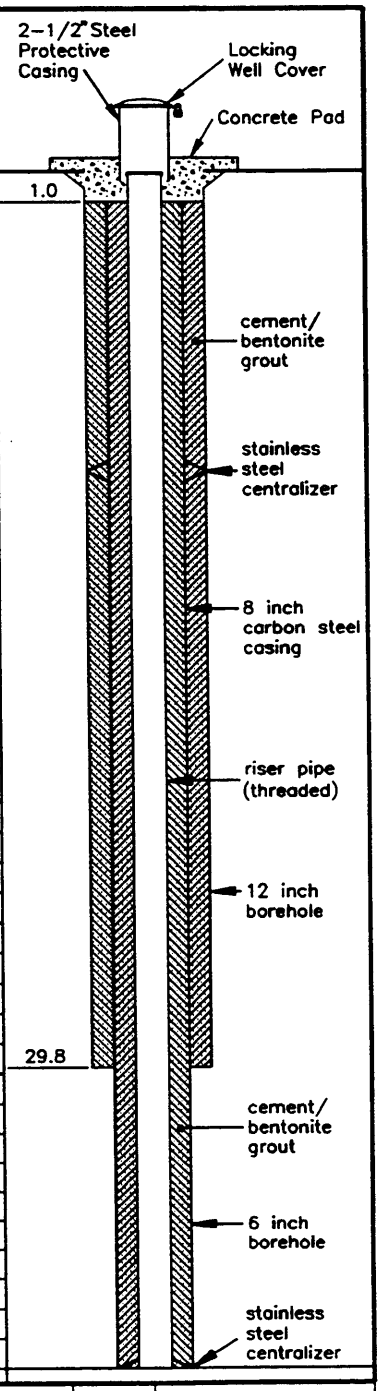
Boring Location: SOUTH SIDE OF FUEL TRUCK MAINTENANCE BUILDING
SURFACE ELEV.(FT): 1297.669
TOTAL DEPTH(FT.): 62.5
Logged By: M. WILSON
Drilled By: D. MEYER
GEOTECHNOLOGY. INC.
Date Started: 11/22/93
Date Completed: 12/3/93
Drill Rig Type: CME-75
Drilling Method: 8" AND 12" HOLLOW STEM AUGERS AND MUD ROTARY WITH A 5-5/8" TRICONE ROCK BIT
Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 3"x5' NX CORE BARREL
Notes: N 148652.962, E 2186732.714

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL
1. Surf Casing-I.D.(in.): 8 — Depth(ft.): 29.8 — Type: Carbon Steel
   Centralizers-Type: S.Steel — Depths(ft.): 10
2. Riser Pipe-I.D.(in.): 2 — Depth(ft.): 49.8 — Type: S.Steel
   Centralizers-Type: S.Steel — Depths(ft.): 40
3. Screen Dia.(in.): 2 — Type: S.Steel Wirewound
   Depth Interval(ft.): 49.8-59.5 — Slot Size(in.): .010
   Centralizers-Type: — Depths(ft.):
4. Filter Pack Type: Silica Sand — Depth Interval(ft.): 48.2-60.8
   Conc. Pad Size: 4'x4'x6"

DESCRIPTION
CLAYEY SILT - moderately plastic; soft; moist; very dark grayish brown (10YR-3/2)
- red
- very dark grayish brown; many rootlets
- stiff; red (2.5YR-4/8); sharp contact
- 2, 2-inch layers of light gray (5YR-7/1); anhydrite/gypsum
SILT - slightly plastic; hard; dry; red (2.5YR-4/8); sharp contact
- 1/2-inch layer of light gray (5YR-7/1); anhydrite/gypsum
- many discrete blebs of light gray
- very hard; massively bedded; no layers
- fissile; brittle; dry
- extremely hard; lithified (25'-26')
SILTY SAND - light grayish green (5GY-6/1) - 30% silt, 70% fine to very fine grained sand; partially cemented; some loose layers; moist; red (2.5YR-4/8); sharp contact
SANDY SILTY CLAY - moderately plastic; 20% very fine grained sand; moist; red (2.5YR-4/8)
SAND - very fine to fine grained; <10% fines; hard; poorly graded; poorly cemented; some very hard lithified layers

GEOPHYSICAL LOG (GAMMA)	SAMPLE TYPE	SAMPLE NO.	IN. DRIVEN	IN. RECOVERED	FID, PPM	USCS	GRAPHIC LOG	DEPTH IN FEET
10 20 30 40	A	1567	36	24	0.0	ml		5
			60	60				
	A	1568			0.0	ml		10
	A	1569 dup.	60	60				
	A	1570	60	60	0.0			15
	A	1571	60	60	0.0			20
	A	1572	60	60	0.0			25
	A	1573	60		0.0	sm		30
				60		cl		35
	A	1588	60		0.0	sp		40



DRAFT BY	RPS 1/12/94	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A56 Sheet 1 of 2

Client: TINKER AFB
Project Name: TINKER 5001
Project Location: TINKER AFB, OKLAHOMA
Project Number: 409832

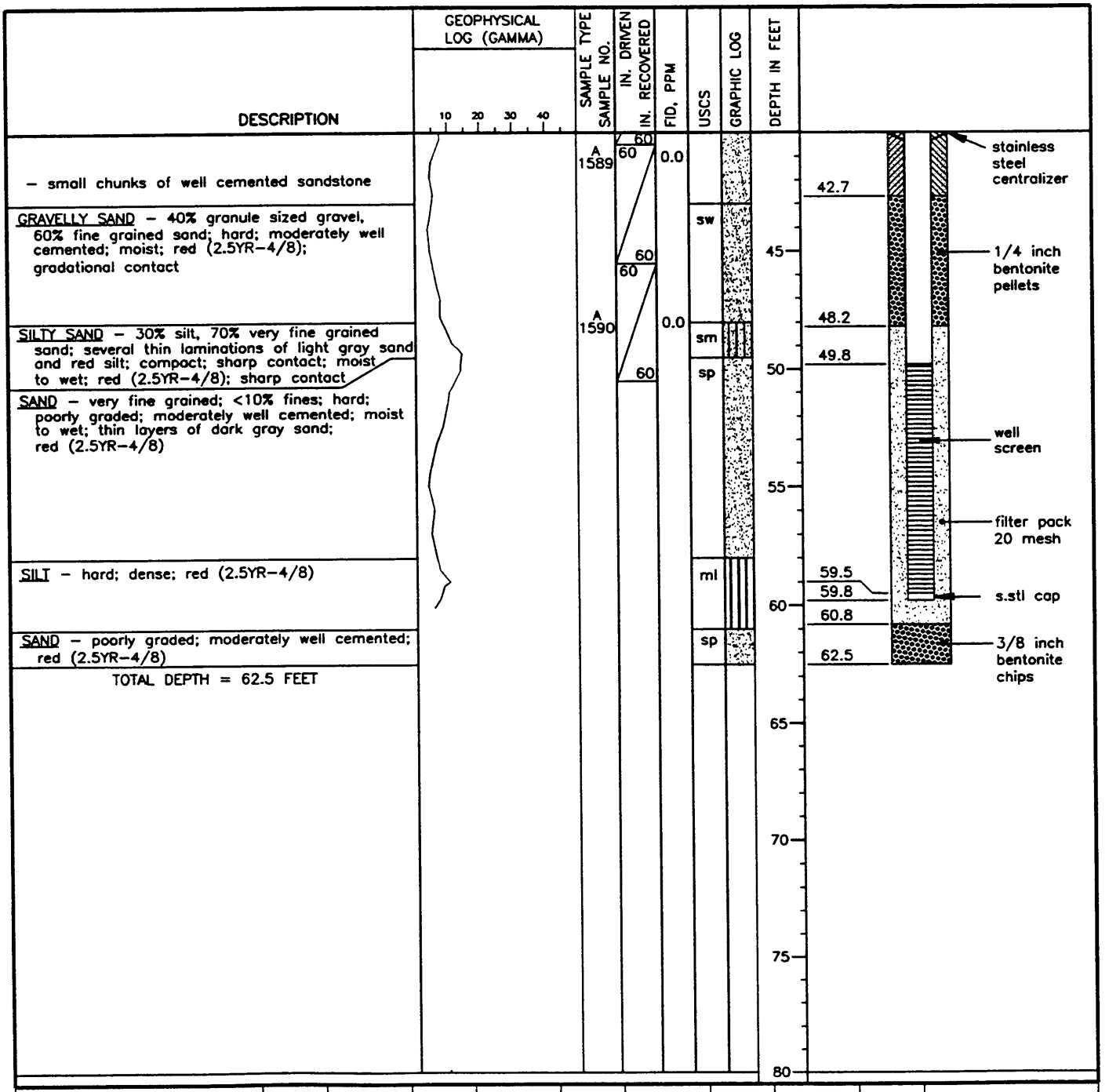
MONITORING WELL 2-61

DRILLING AND SAMPLING INFORMATION

Boring Location: SOUTH SIDE OF FUEL TRUCK MAINTENANCE BUILDING
SURFACE ELEV.(FT): 1297.669
TOTAL DEPTH(FT.): 62.5
Logged By: M. WILSON
Date Started: 11/22/93
Drilled By: D. MEYER
GEOTECHNOLOGY. INC.
Date Completed: 12/3/93
Drill Rig Type: CME-75
Drilling Method: 8" AND 12" HOLLOW STEM AUGERS AND MUD ROTARY WITH A 5-5/8" TRICONE ROCK BIT
Sampling Method: 3"x5' CONTINUOUS SAMPLER AND 3"x5' NX CORE BARREL
Notes: N 148652.962, E 2186732.714

WELL COMPLETION DATA

Elev-Top of Casing(ft.):
Ref. Datum: MSL
1. Surf Casing-I.D.(in.): 8
   Depth(ft.): 29.8 Type: Carbon Steel
   Centralizers-Type: S.Steel
   Depths(ft.): 10
2. Riser Pipe-I.D.(in.): 2
   Depth(ft.): 49.8 Type: S.Steel
   Centralizers-Type: S.Steel
   Depths(ft.): 40
3. Screen Dia.(in.): 2
   Type: S.Steel Wirewound
   Depth Interval(ft.): 49.8-59.5
   Slot Size(in.): .010
   Centralizers-Type:
   Depths(ft.):
4. Filter Pack Type: Silica Sand
   Depth Interval(ft.): 48.2-60.8
   Conc. Pad Size: 4'x4'x6"



DRAFT BY	RPS 1/12/94	DRAFT CHK		PROJ. CHK		APPRV. BY		DWG. NO.	409832-A56 Sheet 2 of 2

APPENDIX B
GEOPHYSICAL LOGS

APPENDIX C
SOIL GAS REPORT

SOIL GAS SURVEY

TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA

PREPARED FOR

IT CORPORATION
312 DIRECTORS DRIVE
KNOXVILLE, TENNESSEE 37923

PREPARED BY

TARGET ENVIRONMENTAL SERVICES, INC.
9180 RUMSEY ROAD
COLUMBIA, MARYLAND 21045
(410) 992-6622

DECEMBER 1993

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	iii
Introduction	1
Sample Collection and Analysis	1
Quality Assurance/Quality Control (QA/QC) Evaluation	3
Results and Interpretation	3
Fuel Truck Maintenance Area	4
Sludge Drying Beds	4
Old Pesticide Storage Area	5
Conclusions	5

FIGURES

Figure 1A. Sample Locations Fuel Truck Maintenance Area

Figure 1B. Sample Locations Sludge Drying Beds

Figure 1C. Sample Locations Old Pesticide Storage Area

Figure 2. Tetrachloroethene (PCE) Sludge Drying Beds

Figure 3. Total FID Volatiles Sludge Drying Beds

Figure 4. 1,1-Dichloroethene (1,1-DCE) Old Pesticide Storage Area

TABLES

Table 1. Analyte Concentrations via GC/FID

Table 2. Analyte Concentrations via GC/ECD

TABLE OF CONTENTS (CONT.)

APPENDICES

APPENDIX A - Field Procedures

APPENDIX B - Laboratory Procedures

APPENDIX C - Detectability & Terminology

EXECUTIVE SUMMARY

On November 9-11, 1993, **TARGET Environmental Services, Inc. (TARGET)** conducted soil gas surveys in three areas at **Tinker Air Force Base** in Oklahoma City, Oklahoma. The areas included the Fuel Truck Maintenance Area, Sludge Drying Beds and Old Pesticide Storage Area. A total of 45 soil gas samples were collected from depths of 9 to 10 feet. The samples were analyzed on a gas chromatograph equipped with a flame ionization detector (GC/FID) for petroleum hydrocarbons and an electron capture detector for chlorinated hydrocarbons. The objective of the surveys was to identify potential areas of volatile hydrocarbon contamination at each of the sites through quantitative analysis of the vadose zone soil gas.

GC/FID and GC/ECD analysis of the samples from Fuel Truck Maintenance area revealed that none of the individual petroleum or chlorinated analytes were present in any of the samples.

Low levels of tetrachloroethene (PCE) were present in two samples from the southwestern corner of the Sludge Drying Beds area. None of the remaining chlorinated analytes were present above the 1 µg/l reporting limit in any of the samples. GC/FID analysis revealed only a very low level of Total FID Volatiles in a sample from the northern survey boundary. None of the individual petroleum analytes were present above the 1 µg/l reporting limit in this or any other sample from this site. Soil gas data does not suggest the presence of a significant petroleum hydrocarbon contamination problem in the Sludge Drying Beds area.

GC/ECD analysis revealed only a low level of 1,1-dichloroethene (1,1-DCE) in one sample from the Old Pesticide Storage Area. GC/FID analysis revealed that none of the individual petroleum analytes were present above the 1 µg/l reporting limit in any of the samples from this area.

Introduction

IT Corporation (IT) contracted **Target Environmental Services, Inc. (TARGET)** to perform soil gas surveys in three areas of **Tinker Air Force Base** in Oklahoma City, Oklahoma. The areas included the Fuel Truck Maintenance Area, Sludge Drying Beds and Old Pesticide Storage Area. The objective of the surveys was to identify potential areas of volatile hydrocarbon contamination at each of the sites through quantitative analysis of the vadose zone soil gas.

The surveys were designed by **IT** to cover the areas of concern with a total of 45 samples. Sixteen (16) samples were allocated to the Fuel Truck Maintenance Area, 26 to the Sludge Drying Beds and 3 to the Old Pesticide Storage Area. Additional information was not provided. A 10-foot sampling depth was planned. The field phase of the soil gas surveys was conducted on November 9-11, 1993.

Sample Collection and Analysis

Soil gas samples were collected at a total of 45 locations at the site, as shown in Figures 1A through 1C. Sixteen (16) samples were collected from the Fuel Truck Maintenance Area (Figure 1A), 26 from the Sludge Drying Beds (Figure 1B) and 3 from the Old Pesticide Storage Area (Figure 1C). Samples 2 and 7 from the Fuel Truck Maintenance Area were collected from a depth of 9 feet due to probe refusal. All remaining samples were collected from a depth of 10 feet. A detailed explanation of the sampling procedure is provided in Appendix A.

All of the samples collected during the field phase of the survey were subjected to dual analyses. One analysis was conducted according to EPA Method 8010 (modified) on a gas chromatograph equipped with an electron capture detector (ECD), and using direct injection.

Specific analytes standardized for this analysis were:

1,1-dichloroethene (11DCE)
methylene chloride (CH_2Cl_2)
trans-1,2-dichloroethene (t12DCE)
1,1-dichloroethane (11DCA)
cis-1,2-dichloroethene (c12DCE)
chloroform ($CHCl_3$)
1,1,1-trichloroethane (111TCA)
carbon tetrachloride (CCl_4)
trichloroethene (TCE)
1,1,2-trichloroethane (112TCA)
tetrachloroethene (PCE)

The chlorinated hydrocarbons in this suite were chosen because of their common usage in industrial solvents, and/or their degradational relationship to commonly used compounds.

The second analysis was conducted according to EPA Method 8020 (modified) on a gas chromatograph equipped with a flame ionization detector (FID), and using direct injection. The analytes selected for standardization in this analysis were:

benzene
toluene
ethylbenzene
meta- and para- xylene
ortho- xylene

These compounds were chosen because of their utility in evaluating the presence of fuel products, or petroleum based solvents. An explanation of the laboratory procedures is provided in Appendix B.

The tabulated results of the laboratory analyses of the soil gas samples are reported in micrograms per liter (µg/l) in Tables 1 and 2. Although "micrograms per liter" is equivalent to "parts per billion (v/v)" in water analyses, they are not equivalent in gas analyses, due to the difference in the mass of equal volumes of water and gas matrices. The xylenes concentrations

reported in Table 1 are the sum of the m- and p-xylene and the o-xylene concentrations for each sample.

Quality Assurance/Quality Control (QA/QC) Evaluation

Field QA/QC Samples

Field control samples were collected at the beginning and end of each day's field activities. These QA/QC samples were obtained by filtering ambient air through a dust and organic vapor filter cartridge and encapsulating as described in the "Field Procedures" in Appendix A. The laboratory results are reported in Tables 1 and 2. Concentrations of all analytes were below the reporting limit in all field control samples, indicating that the QA/QC measures employed were sufficient to prevent cross-contamination of the samples during collection.

Laboratory QA/QC Samples

To document analytical repeatability, a duplicate analysis was performed on every tenth field sample. Laboratory blanks of nitrogen gas were also analyzed after every tenth field sample. The results of these analyses are reported in Tables 1 and 2. The duplicate analyses were within acceptable limits. Concentrations of all analytes were below the reporting limit in all laboratory blanks.

Results and Interpretation

In order to provide graphic presentation of the results, selected individual data sets in Tables 1 and 2 have been mapped and contoured to produce Figures 2 through 4. Dashed contours are used where patterns are extrapolated into areas of less complete data, or as auxiliary contours. Map sample points with no data shown indicate that the analyte concentrations in the sample

were below the reporting limit. An explanation of the terminology used in this report is provided in Appendix C. Each of the three sites is discussed separately below.

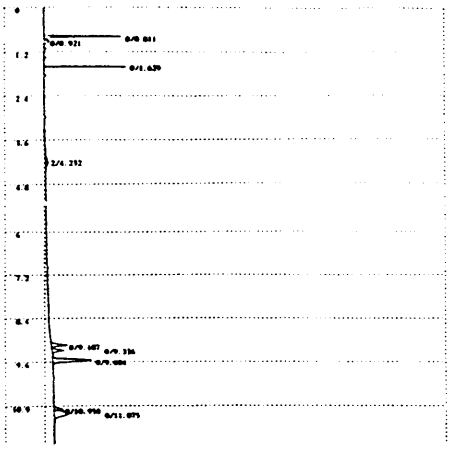
Fuel Truck Maintenance Area

GC/FID and GC/ECD analysis of the samples from this area revealed that none of the individual petroleum or chlorinated analytes were present in any of the samples.

Sludge Drying Beds

GC/ECD analysis revealed low levels of tetrachloroethene (PCE, Figure 2) in Samples 20 and 22, from the southwestern corner of the survey area. None of the remaining chlorinated analytes were present above the 1 µg/l reporting limit in any of the samples.

GC/FID analysis revealed only a very low level of Total FID Volatiles (Figure 3) in Sample 32, from the northern survey boundary. None of the individual petroleum analytes were present above the 1 µg/l reporting limit in this or any other sample from this site. The FID chromatogram signature of Sample 32 (left) reveals a few small late-eluting peaks which represent unidentified hydrocarbons of relatively low volatility. The very low concentration of hydrocarbons represented by these peaks does not suggest the presence of a significant petroleum hydrocarbon contamination problem in this area.



GC/FID Chromatogram Signature of Sample 32

Old Pesticide Storage Area

GC/ECD analysis revealed a low level of 1,1-dichloroethene (1,1-DCE, Figure 4) in Sample 45. None of the remaining chlorinated analytes were present above the 1 µg/l reporting limit in any of the samples.

GC/FID analysis revealed that none of the individual petroleum analytes were present above the 1 µg/l reporting limit in any of the samples.

Conclusions

- Petroleum and chlorinated hydrocarbon contamination was not present in the Fuel Truck Maintenance Area.

- Tetrachloroethene (PCE) was present near the southwestern corner of the Sludge Drying Beds Area. The very low level of petroleum hydrocarbons observed at the northern boundary of this area does not suggest the presence of significant petroleum-related contamination.

- 1,1-Dichloroethene (1,1-DCE) was present in the Old Pesticide Storage Area.

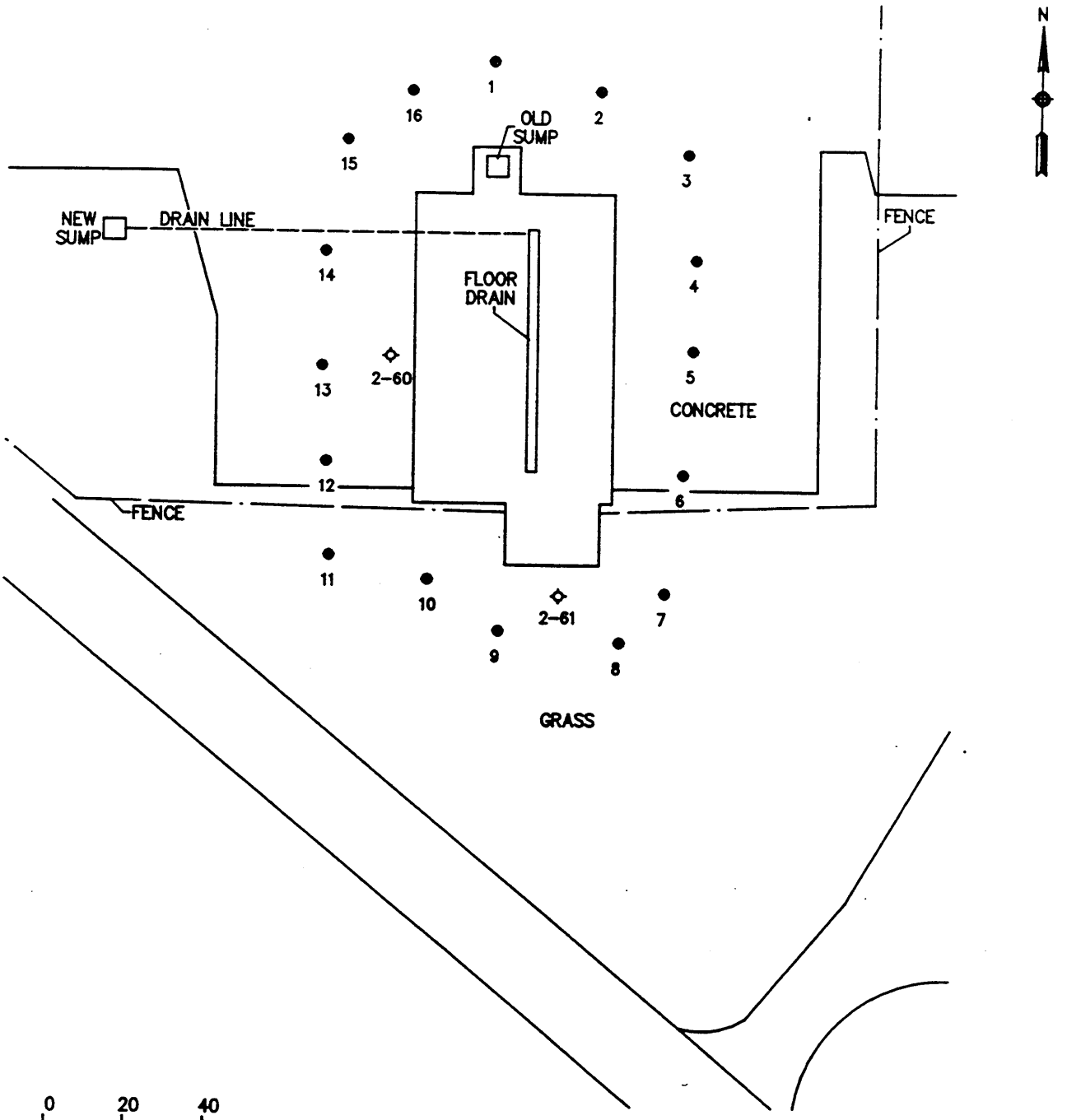


FIGURE 1A. Sample Locations

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report and should be viewed in that context.

TINKER AIR FORCE BASE
FUEL TRUCK MAINTENANCE AREA
OKLAHOMA CITY, OKLAHOMA

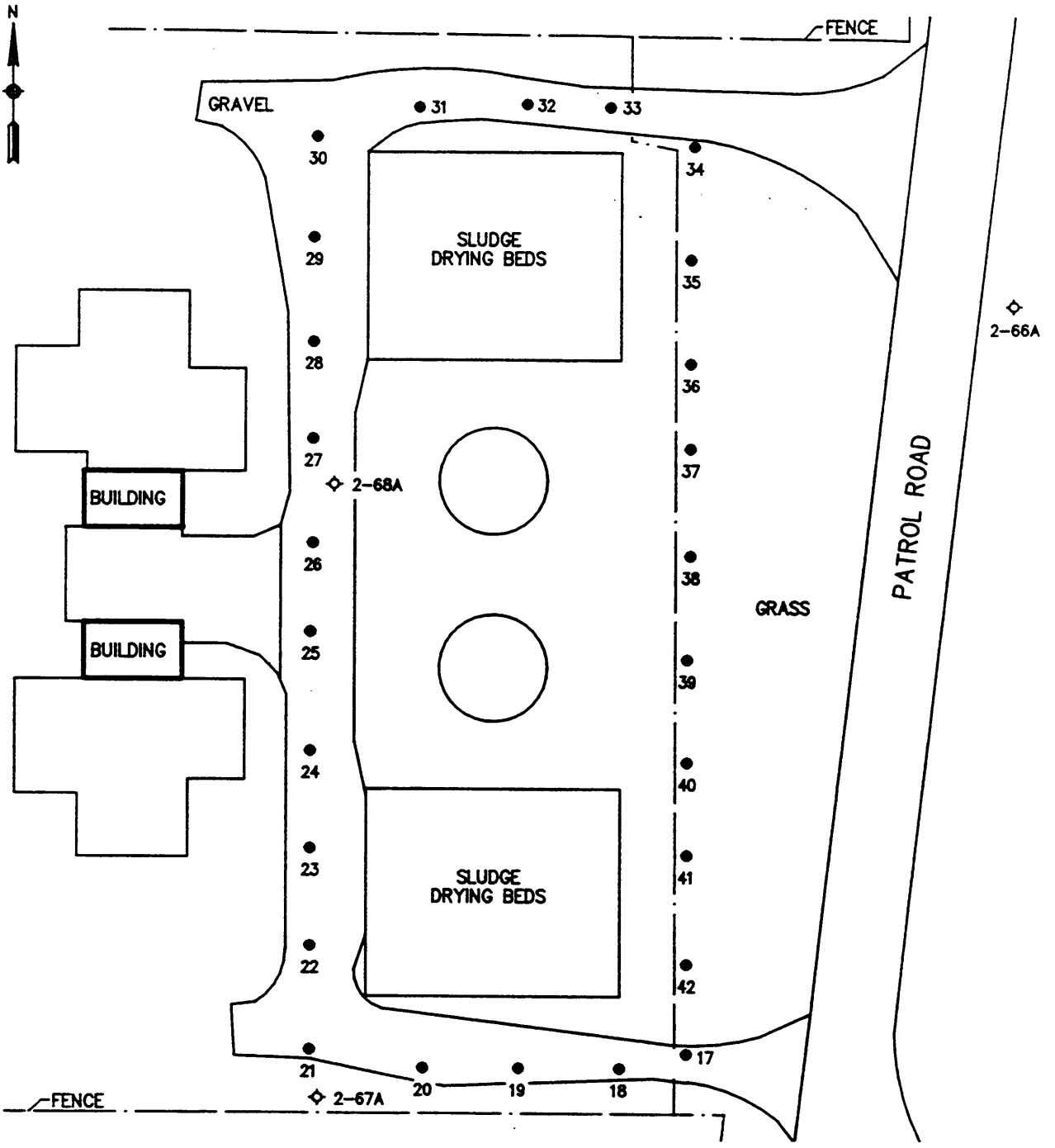


FIGURE 1B. Sample Locations

TARGET ENVIRONMENTAL SERVICES, INC.

TINKER AIR FORCE BASE
SLUDGE DRYING BEDS
OKLAHOMA CITY, OKLAHOMA

This map is integral to a written report and should be viewed in that context.

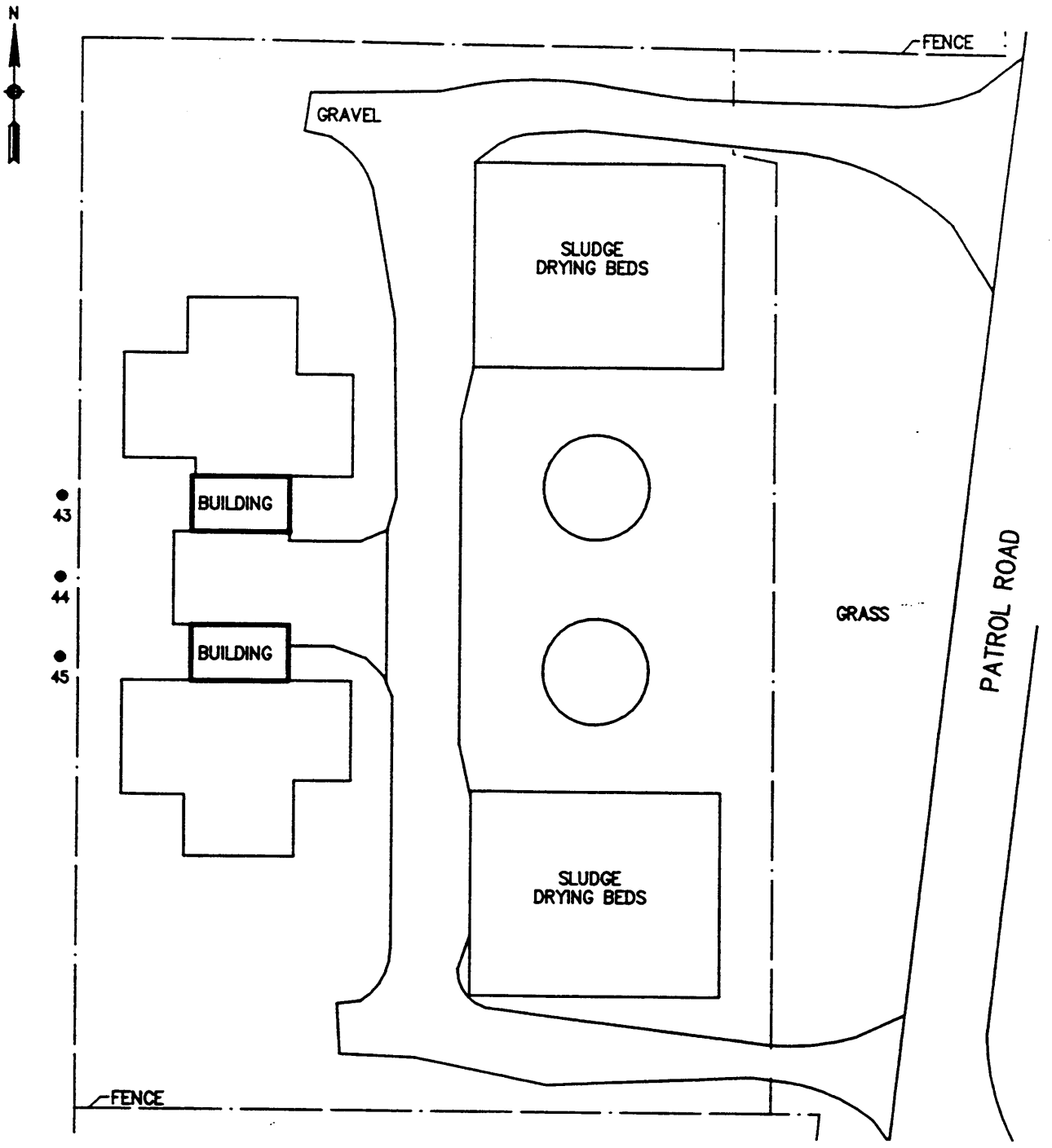


FIGURE 1C. Sample Locations

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report and should be viewed in that context.

TINKER AIR FORCE BASE
OLD PESTICIDE STORAGE AREA
OKLAHOMA CITY, OKLAHOMA

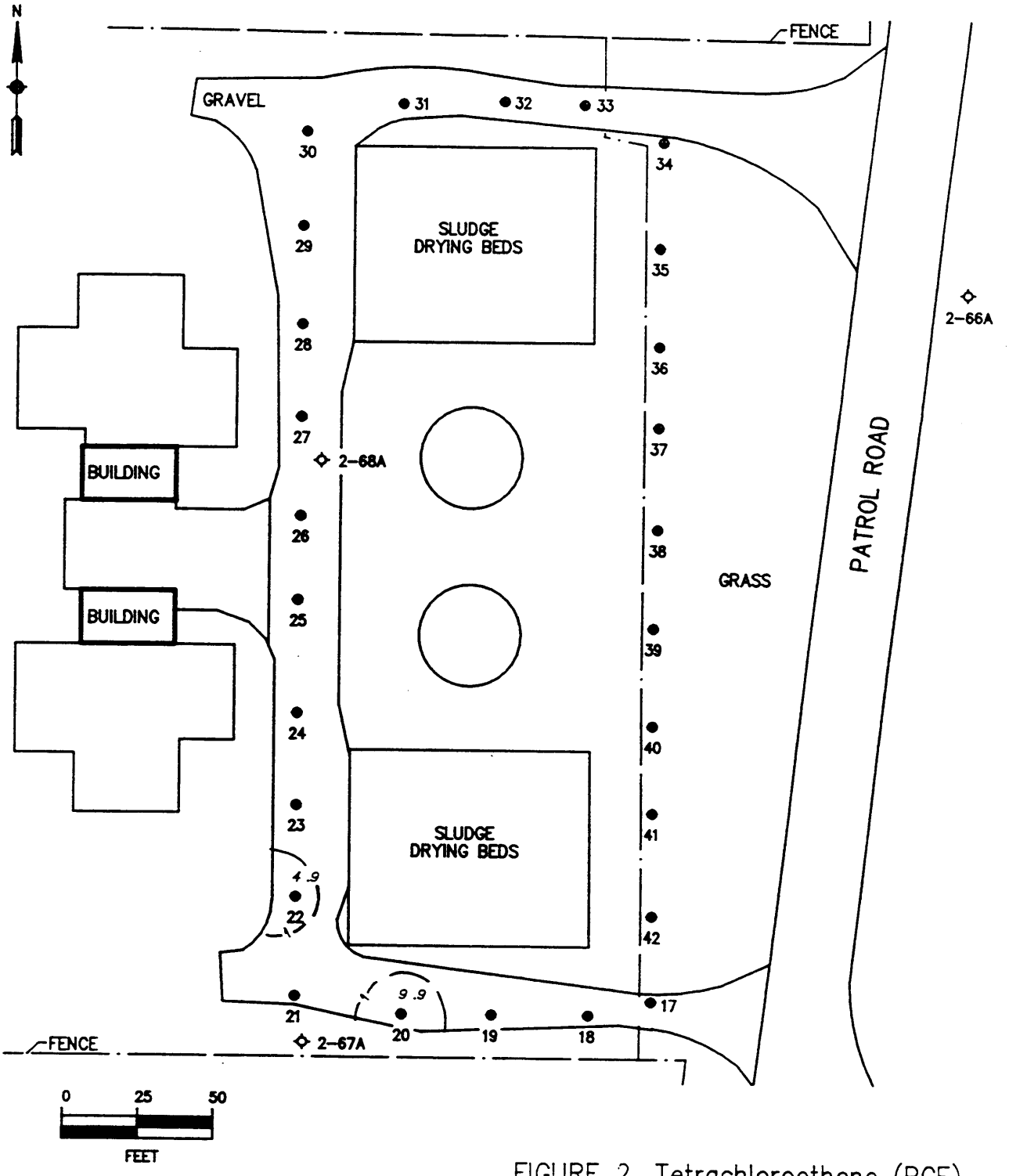


FIGURE 2. Tetrachloroethene (PCE) (μg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

TINKER AIR FORCE BASE
SLUDGE DRYING BEDS
OKLAHOMA CITY, OKLAHOMA

This map is integral to a written report and should be viewed in that context.

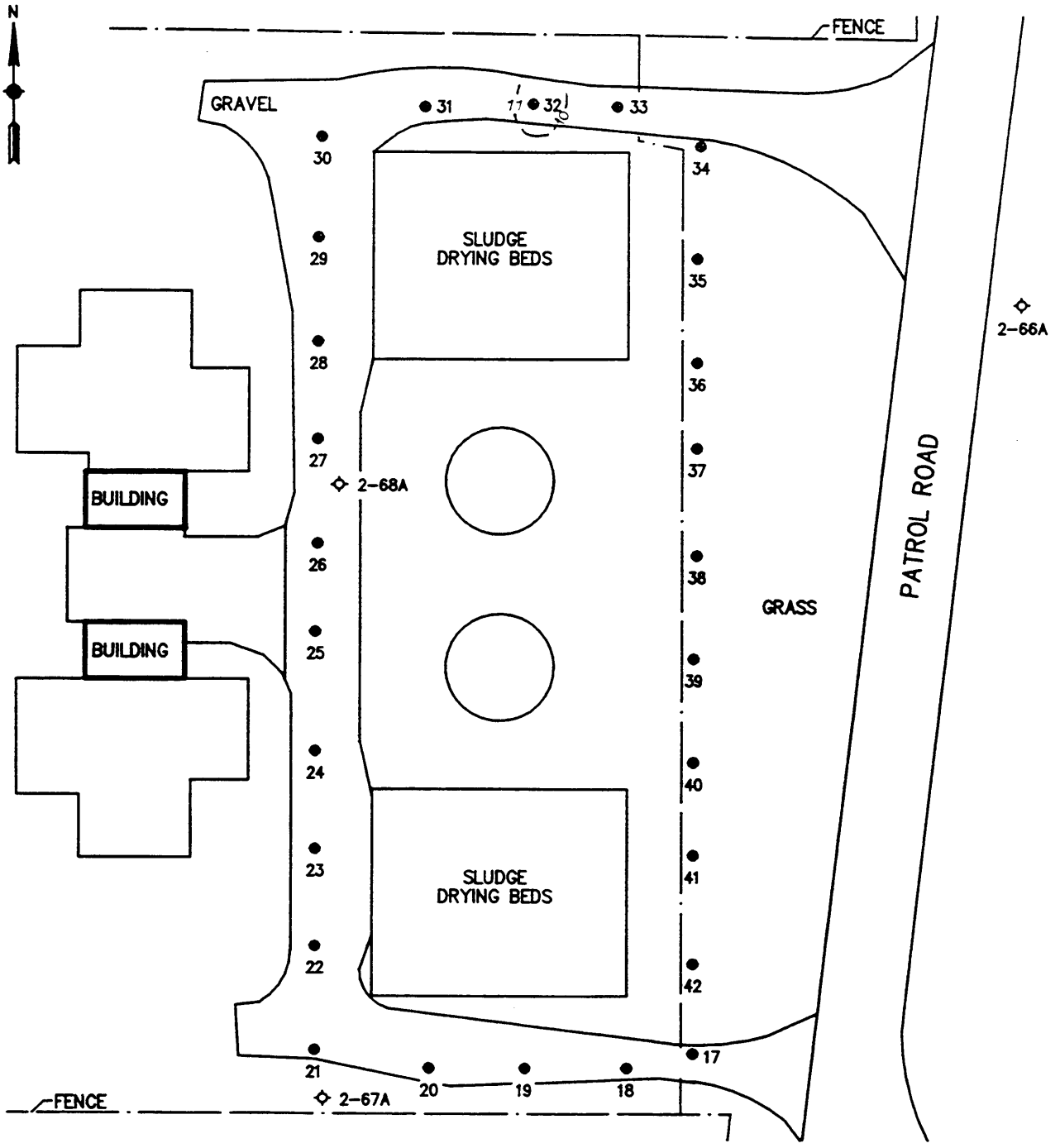


FIGURE 3. Total FID Volatiles (calc'd µg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

TINKER AIR FORCE BASE
SLUDGE DRYING BEDS
OKLAHOMA CITY, OKLAHOMA

This map is integral to a written report and should be viewed in that context.

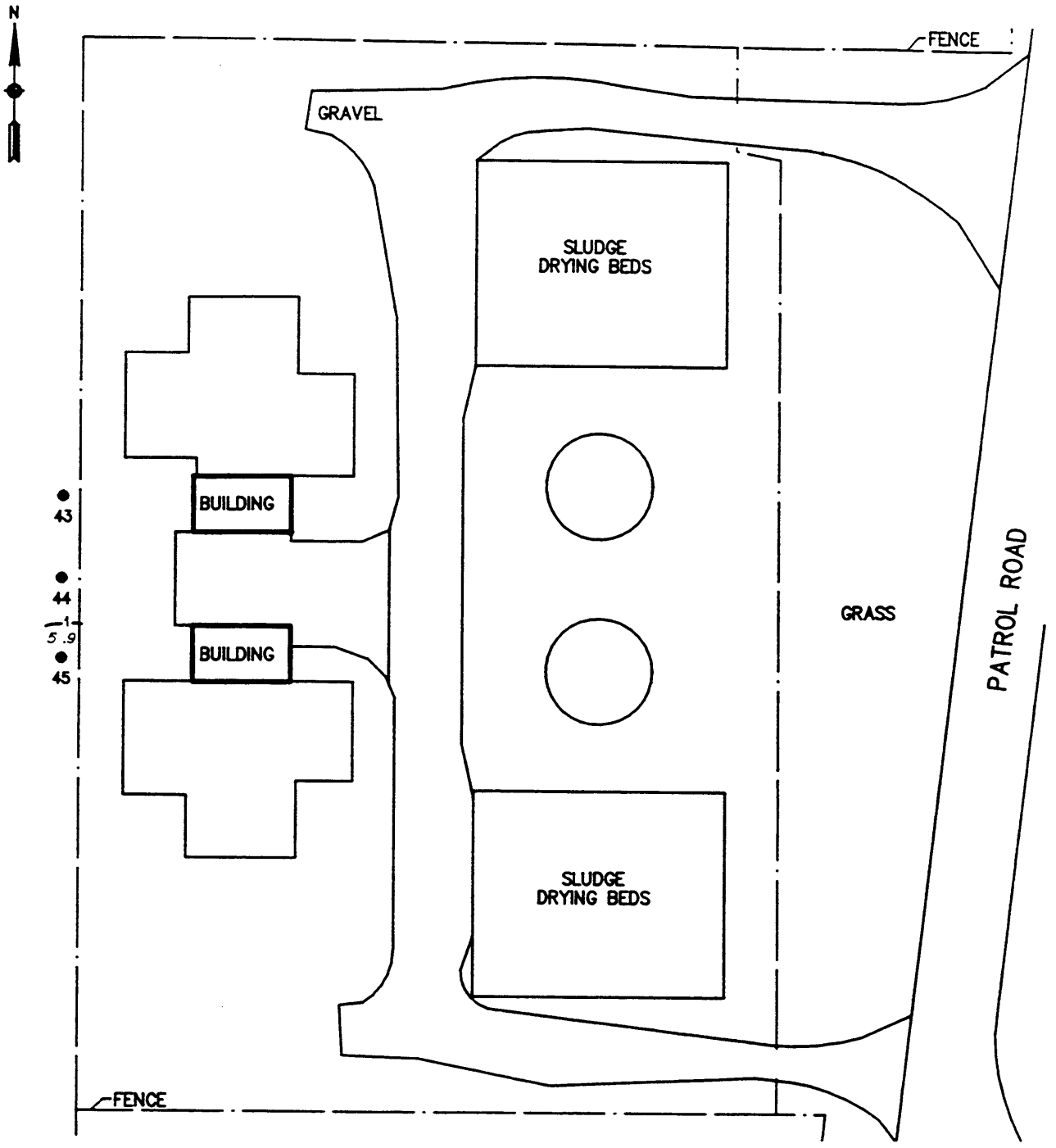


FIGURE 4. 1,1-dichloroethene (1,1-DCE) ($\mu g/l$)

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report and should be viewed in that context.

TINKER AIR FORCE BASE
OLD PESTICIDE STORAGE AREA
OKLAHOMA CITY, OKLAHOMA

TABLE 1

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
1	<1.0	<1.0	<1.0	<1.0	<10
2	<1.0	<1.0	<1.0	<1.0	<10
3	<1.0	<1.0	<1.0	<1.0	<10
4	<1.0	<1.0	<1.0	<1.0	<10
5	<1.0	<1.0	<1.0	<1.0	<10
6	<1.0	<1.0	<1.0	<1.0	<10
7	<1.0	<1.0	<1.0	<1.0	<10
8	<1.0	<1.0	<1.0	<1.0	<10
9	<1.0	<1.0	<1.0	<1.0	<10
10	<1.0	<1.0	<1.0	<1.0	<10
11	<1.0	<1.0	<1.0	<1.0	<10
12	<1.0	<1.0	<1.0	<1.0	<10
13	<1.0	<1.0	<1.0	<1.0	<10
14	<1.0	<1.0	<1.0	<1.0	<10
15	<1.0	<1.0	<1.0	<1.0	<10
16	<1.0	<1.0	<1.0	<1.0	<10
17	<1.0	<1.0	<1.0	<1.0	<10
18	<1.0	<1.0	<1.0	<1.0	<10
19	<1.0	<1.0	<1.0	<1.0	<10
20	<1.0	<1.0	<1.0	<1.0	<10
21	<1.0	<1.0	<1.0	<1.0	<10
22	<1.0	<1.0	<1.0	<1.0	<10
23	<1.0	<1.0	<1.0	<1.0	<10
24	<1.0	<1.0	<1.0	<1.0	<10
25	<1.0	<1.0	<1.0	<1.0	<10
26	<1.0	<1.0	<1.0	<1.0	<10
27	<1.0	<1.0	<1.0	<1.0	<10
28	<1.0	<1.0	<1.0	<1.0	<10
29	<1.0	<1.0	<1.0	<1.0	<10
30	<1.0	<1.0	<1.0	<1.0	<10
31	<1.0	<1.0	<1.0	<1.0	<10
32	<1.0	<1.0	<1.0	<1.0	11
33	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
34	<1.0	<1.0	<1.0	<1.0	<10
35	<1.0	<1.0	<1.0	<1.0	<10
36	<1.0	<1.0	<1.0	<1.0	<10
37	<1.0	<1.0	<1.0	<1.0	<10
38	<1.0	<1.0	<1.0	<1.0	<10
39	<1.0	<1.0	<1.0	<1.0	<10
40	<1.0	<1.0	<1.0	<1.0	<10
41	<1.0	<1.0	<1.0	<1.0	<10
42	<1.0	<1.0	<1.0	<1.0	<10
43	<1.0	<1.0	<1.0	<1.0	<10
44	<1.0	<1.0	<1.0	<1.0	<10
45	<1.0	<1.0	<1.0	<1.0	<10
FIELD CONTROL SAMPLES					
101	<1.0	<1.0	<1.0	<1.0	<10
102	<1.0	<1.0	<1.0	<1.0	<10
103	<1.0	<1.0	<1.0	<1.0	<10
104	<1.0	<1.0	<1.0	<1.0	<10
105	<1.0	<1.0	<1.0	<1.0	<10
106	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY DUPLICATE ANALYSIS					
10	<1.0	<1.0	<1.0	<1.0	<10
10R	<1.0	<1.0	<1.0	<1.0	<10
33	<1.0	<1.0	<1.0	<1.0	<10
33R	<1.0	<1.0	<1.0	<1.0	<10
45	<1.0	<1.0	<1.0	<1.0	<10
45R	<1.0	<1.0	<1.0	<1.0	<10
106	<1.0	<1.0	<1.0	<1.0	<10
106R	<1.0	<1.0	<1.0	<1.0	<10
101	<1.0	<1.0	<1.0	<1.0	<10
101R	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
LABORATORY BLANKS					
10B	<1.0	<1.0	<1.0	<1.0	<10
33B	<1.0	<1.0	<1.0	<1.0	<10
45B	<1.0	<1.0	<1.0	<1.0	<10
106B	<1.0	<1.0	<1.0	<1.0	<10
101B	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 2

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
19	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9.9
21	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
22	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.9
23	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
24	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
26	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
27	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
28	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
29	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
31	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
32	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
33	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
34	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
35	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
36	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
37	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
38	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
39	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
41	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
42	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
43	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
44	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
45	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FIELD CONTROL SAMPLES											
101	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
102	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
103	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
104	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
105	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
106	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY DUPLICATE ANALYSIS											
10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
33	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
33R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
45	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
45R	5.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
LABORATORY DUPLICATE ANALYSIS (cont.)											
101	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
101R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
106	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
106R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY BLANKS											
10B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
33B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
45B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
101B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
106B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

FIELD PROCEDURES

Prior to the collection of each sample, the entire sampling system (including down-hole probe, tubing, syringe, and all associated plumbing) was purged with ambient air drawn through an organic vapor filter cartridge. To collect the samples, a van-mounted hydraulic probe was used to advance connected 3-foot sections of 1-inch diameter threaded steel casing down to the sampling depth. Once at depth, the casing was hydraulically raised several inches in order to release a disposable drive point and open the bottom of the casing. A teflon line with a perforated hollow stainless steel probe end was inserted into the casing to the bottom of the hole, and the bottom-hole line perforations were isolated from the up-hole annulus by an inflatable packer. A sample of in-situ soil gas was then withdrawn through the probe and used to purge atmospheric air from the sampling system. A second sample of soil gas was withdrawn through the probe and encapsulated in a pre-evacuated glass vial at two atmospheres of pressure (15 psig). The self-sealing vial was detached from the sampling system, packaged, labeled, and stored for laboratory analysis. All sampling holes were backfilled with bentonite and the surface repaired with like material upon completion of the sampling.

Prior to the day's field activities all sampling equipment and probes were decontaminated by washing with soapy water and rinsing thoroughly. Internal surfaces were flushed dry using pre-purified nitrogen or filtered ambient air, and external surfaces were wiped clean using clean paper towels.

LABORATORY PROCEDURES

The analyses were performed using a research grade gas chromatograph (Shimadzu Model 14A), equipped with capillary columns, thermal oven, Shimadzu CR4A data processor and associated hardware. The GC was equipped with an electron capture detector (ECD) for chlorinated hydrocarbons and a flame ionization detector (FID) for petroleum and non-halogenated compounds. 800 microliters (µl) of sample was directly injected into the GC using a Shimadzu gas-tight syringe.

The ECD and FID stock standards were purchased from Scott Specialty Gases (Plumsteadville, PA). The concentration of the standard is certified by Scott and is traceable to weights certified by the State of Pennsylvania. The analytical equipment was calibrated using a 3-point instrument-response curve and injection of known concentrations of the target compounds. Retention times of the standards were used to identify the peaks in the chromatograms of the field samples, and their response factors were used to calculate the analyte concentrations.

The standards were prepared by filling a Tedlar bag from a tank containing the stock standards. Vials were evacuated, pressurized with nitrogen and then equilibrated to atmospheric pressure. Aliquots of known quantity were removed from the vials and replaced with the same size aliquot of the standard from the Tedlar bag. The lowest standard concentration was near, but above, the instrument detection limit, the second concentration was within the expected range of concentrations in the field samples, and the third concentration was below the upper linear range of the instrument. Three-point least-squares linear regression calibration curves were generated for each analyte. The correlation coefficients were calculated for each standardized

analyte to ensure that they equalled or exceeded 0.99. The retention time windows were determined by examining the retention times of the three standards. The mid range retention time was selected with a window of ± 0.05 minutes. A check standard was run to confirm the retention times and instrument response no less often than after every 40 samples. Check standards were also run at the beginning of each day and new calibration curves were generated as described above whenever a retention time shift or change in instrument response occurred which caused the concentrations of analytes in the check standards to vary by more than 20% from the original concentrations.

The ECD analysis was conducted at instrument Range 0. The FID analysis was conducted at instrument Range 1. The syringe was cleaned using a purge cycle with UPC nitrogen. The syringe was purged for 10 seconds prior to removal of an aliquot from the sample vial and for 10 seconds after injection of the sample into the GC.

Total FID Volatiles values were generated by summing the areas of all integrated chromatogram peaks and calculated using the instrument response factor for toluene. Injection peaks, which also contain the light hydrocarbon methane, were excluded to avoid the skewing of Total FID Volatiles values due to injection disturbances and biogenic methane. For samples with low hydrocarbon concentrations, the calculated Total FID Volatiles concentration is occasionally lower than the sum of the individual analytes. This is because the response factor used for the Total FID Volatiles calculation is a constant, whereas the individual analyte response factors are compound specific. It is important to understand that the Total FID Volatiles levels reported are relative, not absolute, values.

DETECTABILITY & TERMINOLOGY

Detectability

The soil gas survey data presented in this report are the result of precise sampling and measurement of contaminant concentrations in the vadose zone. Analyte detection at a particular location is representative of vapor, dissolved, and/or liquid phase contamination at that location. The presence of detectable levels of target analytes in the vadose zone is dependent upon several factors, including the presence of vapor-phase hydrocarbons or dissolved or liquid concentrations adequate to facilitate volatilization into the unsaturated zone.

Terminology

In order to prevent misunderstanding of certain terms used in **TARGET**'s reports, the following clarifications are offered:

Analyte refers to any of the hydrocarbons standardized for quantification in the chromatographic analysis.

Anomaly refers to an area where hydrocarbons were measured in excess of what would normally be considered "natural" or "background" levels.

Elevated and **significant** are used to describe concentrations of analytes which indicate the existence of a potential problem in the soil or ground water.

Feature is used in reference to a discernible pattern in the contoured data. It denotes a contour form rather than a definite or separate chemical occurrence.

Indicates is used when evidence dictates a unique conclusion. **Suggests** is used when several explanations of certain evidence are possible, but one in particular seems more likely. As a result, "indicates" carries a higher degree of confidence in a conclusion than does "suggests."

Occurrence is used to indicate an area where chemical compounds are present in sufficient concentrations to be detected by the analysis of soil vapors. The term is not indicative of any specific mode of occurrence (vapor, dissolved, etc.), and does not necessarily indicate or suggest the presence of "free product" or "phase-separated hydrocarbons."

Reporting Limit refers to the minimum concentration reported for each analyte.

Vadose zone represents the unsaturated zone between the ground water table and the ground surface.

APPENDIX D
DATA TABLES, CERTIFICATES OF ANALYSIS, CHAIN-OF CUSTODY

ANALYTICAL RESULTS

SOIL

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	2-59		2-59		2-59		2-59		2-59	
Sample ID:	A1103		A1104		A1105		A1106		A1107	
Depth:	2 - 2.5		7.5 - 8		12 - 12.5		17.5 - 18		22 - 22.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	8200	N	8900	N	11000	N	6800	N	8000	N
Arsenic - Graphite Furnace	<1.1	U	2.9		2.2		2.1		<10	U
Barium	480	N	34	N	30	N	340	N	780	N
Beryllium	0.72		1.4		1.3		0.83		<4.3	U
Cadmium	<0.55	U	1.0		0.57		<0.57	U	<4.3	U
Chromium	12		18		14		9.3		11	
Chromium VI	<0.10	U	<0.099	U	<0.49	U	<0.098	U	<0.51	U
Copper	5.9		10		12		8.4		11	
Iron	9100	N	19000	N	14000	N	9000	N	9600	N
Lead - Graphite Furnace	11	N	6.5	N	7.9	N	5.4	N	1.9	N
Mercury	<0.025	U	<0.024	U	<0.020	U	<0.024	U	<0.021	U
Nickel	9.3		22		23		16		<34	U
Silver	<1.1	U	<1.1	U	<1.0	U	<1.1	U	<8.6	U
Zinc	15		27		24		21		27	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1108 Depth: 27 - 27.5		2-59 A1109 29.5 - 30		2-59 A1110 38 - 38.5		2-59 A1111 43.5 - 44		2-59 A1112 48.5 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	11000	N	5600	N	920	N	1700	N	5500	N
Arsenic - Graphite Furnace	<1.1	U	1.5		<0.98	U	10.0		10	
Barium	61	N	31	N	<20	UN	76	N	<20	UN
Beryllium	1.2		0.94		<0.51	U	0.72		1.3	
Cadmium	<0.59	U	<0.57	U	<0.51	U	0.82		0.74	
Chromium	17		12		5.6		32		32	
Chromium VI	<0.097	U	<0.50	U	<0.49	U	0.13		<0.099	U
Copper	18		10		<2.5	U	6.0		10	
Iron	13000	N	10000	N	3300	N	13000	N	15000	N
Lead - Graphite Furnace	3.6	N	12	N	0.86	N	3.8	N	3.2	N
Mercury	<0.025	U	<0.024	U	<0.021	U	<0.024	U	<0.021	U
Nickel	23		14		<4.0	U	8.4		18	
Silver	<1.2	U	<1.1	U	<1.0	U	<0.88	U	<0.98	U
Zinc	26		13		3.6		7.8		16	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1574 Depth: 3 - 4		2-60 A1575 11 - 12		2-60 A1576 13 - 14		2-60 A1577 17 - 18		2-60 A1578 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	9100	N	11000	N	7500	N	6500	N	7900	N
Arsenic - Graphite Furnace	3.8	N	5.0	N	1.6	N	<1.1	UN	2.4	N
Barium	170		62		<23	U	240		<22	U
Beryllium	0.83		1.3		0.84		0.86		0.90	
Cadmium	0.78		0.72		<0.58	U	0.66		0.62	
Chromium	12		17		11		13		12	
Chromium VI	<0.50	U	<0.50	U	<0.10	U	<0.50	U	<0.10	U
Copper	6.7		12		8.7		7.3		7.4	
Iron	10000	N	16000	N	9000	N	13000	N	11000	N
Lead - Graphite Furnace	7.4	N	4.8	N	5.3	N	4.1	N	6.1	N
Mercury	<0.026	U	<0.032	U	<0.030	U	<0.030	U	<0.031	U
Nickel	7.6		26		18		17		19	
Silver	<1.1	U	<0.99	U	<1.2	U	<0.86	U	<1.1	U
Zinc	15		28		18		19		22	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1579 Depth: 27 - 28		2-60 A1580 32 - 33		2-60 A1581 35 - 36		2-60 A1585 40 - 41		2-60 A1586 45 - 46	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	9100	N	9400	N	1300	N	830	N	1300	N
Arsenic - Graphite Furnace	<1.1	UN	4.8	N	<1.1	UN	<1.1	UN	<1.0	UN
Barium	36		<22	U	<23	U	<23	UN	41	N
Beryllium	1.1		0.97		<0.57	U	<0.57	U	<0.46	U
Cadmium	0.89		1.2		<0.57	U	<0.57	U	<0.46	U
Chromium	11		31		6.5		5.7		6.1	
Chromium VI	<0.50	U	<0.50	U	<0.50	U	<0.10	U	<0.10	U
Copper	14		11		<2.8	U	<2.9	U	<2.3	U
Iron	11000	N	14000	N	3500	N	3000	N	2800	N
Lead - Graphite Furnace	4.7	N	4.5	N	0.80	N	1.4	N	0.67	N
Mercury	<0.031	U	<0.031	U	<0.029	U	<0.021	U	<0.022	U
Nickel	20		25		4.9		<4.6	U	5.5	
Silver	<1.1	U	<1.1	U	<1.1	U	<1.1	U	<0.92	U
Zinc	20		26		5.7		4.1		5.9	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1567 Depth: 4 - 5		2-61 A1568 11 - 12		2-61 A1569 11 - 12		2-61 A1570 17 - 18		2-61 A1571 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	11000	N	12000	N	10000	N	10000	N	15000	N
Arsenic - Graphite Furnace	1.4		4.7		3.7		2.8		5.5	
Barium	410	N	190	N	<22	UN	<17	UN	18	N
Beryllium	1.1		1.2		1.0		1.2		1.5	
Cadmium	0.78		0.88		0.59		1.0		0.95	
Chromium	15		17		13		21		17	
Chromium VI	<0.50	U	<0.50	U	<0.50	U	<0.50	U	<0.50	U
Copper	7.2		11		11		10		16	
Iron	14000	N	15000	N	12000	N	20000	N	13000	N
Lead - Graphite Furnace	6.0	N	6.2	N	5.8	N	3.8	N	9.9	N
Mercury	<0.023	U	<0.023	U	<0.024	U	<0.022	U	<0.026	U
Nickel	15		26		23		24		28	
Silver	<1.1	U	<0.56	U	0.45		<0.85	U	<1.0	U
Zinc	18		27		24		30		32	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1572 Depth: 27 - 28 Result	QFR	2-61 A1573 32 - 33 Result	QFR	2-61 A1588 37 - 38 Result	QFR	2-61 A1589 41 - 42 Result	QFR	2-61 A1590 48 - 49 Result	QFR
Aluminum	9700	N	1500	N	1800	N	1700	N	2500	N
Arsenic - Graphite Furnace	2.6		<1.1	U	1.1	N	<1.2	UN	<1.0	UN
Barium	25	N	<17	UN	<22	UN	80	N	<22	UN
Beryllium	1.2		<0.43	U	0.77		<0.50	U	0.69	
Cadmium	<0.51	U	0.58		<0.56	U	<0.50	U	<0.54	U
Chromium	14		7.3		12		8.7		9.5	
Chromium VI	<0.50	U	<0.50	U	<0.10	U	<0.10	U	<0.10	U
Copper	16		<2.1	U	<2.8	U	<2.5	U	2.9	
Iron	14000	N	6100	N	8700	N	4600	N	6000	N
Lead - Graphite Furnace	5.0	N	1.9	N	1.1		0.67	N	1.6	N
Mercury	<0.023	U	<0.024	U	<0.022	U	<0.020	U	<0.023	U
Nickel	21		5.1		6.8		6.2		7.2	
Silver	<1.0	U	<0.85	U	<1.1	U	<1.0	U	<1.1	U
Zinc	22		5.9		7.7		6.3		7.9	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1066 Depth: 4.5 - 5		SB-021 A1067 8 - 8.5		SB-021 A1068 11 - 11.5		SB-021 A1069 15.5 - 16		SB-021 A1070 22 - 22.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	12000	N	9700	N	15000	N	6600	N	9700	N
Arsenic - Graphite Furnace	3.0	N	2.2	N	4.0	N	2.6	N	2.7	N
Barium	160		150		29		100		110	
Beryllium	1.1		1.00		1.5		0.72		0.95	
Cadmium	1.2		0.81		1.0		0.99		1.5	
Chromium	14		15		29		27		18	
Chromium VI	<0.10	U	<0.50	U	<0.50	U	<0.10	U	<0.10	U
Copper	7.0		7.8		15		6.0		11	
Iron	15000	N	14000	N	28000	N	15000	N	20000	N
Lead - Graphite Furnace	8.7	N	6.1	N	5.4	N	4.6	N	5.1	N
Mercury	<0.024	U	<0.021	U	<0.022	U	<0.023	U	<0.022	U
Nickel	11		20		32		16		24	
Silver	0.58		0.41		0.29		0.47		0.53	
Zinc	16		25		35		19		28	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1072 Depth: 27.5 - 28		SB-022 A1170 3.5 - 4		SB-022 A1171 9 - 9.5		SB-022 A1172 14.5 - 15		SB-022 A1173 17.5 - 18	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum			8700	N	13000	N	6600	N	10000	N
Arsenic - Graphite Furnace			3.1	N	3.7	N	1.7	N	2.7	N
Barium			200	N	25	N	37	N	54	N
Beryllium			1.3		2.7		1.4		2.1	
Cadmium			<0.44	U	0.79		<0.52	U	0.71	
Chromium			11		24		13		19	
Chromium VI			<0.50	U	<0.50	U	<0.50	U	<0.50	U
Copper			6.7		12		6.7		11	
Iron			11000	N	25000	N	13000	N	19000	N
Lead - Graphite Furnace			7.2	N	5.7	N	3.4	N	3.5	N
Mercury			<0.025	U	<0.023	U	<0.022	U	<0.024	U
Nickel			7.5		26		15		25	
Silver			<0.88	U	<1.0	U	<1.0	U	<1.0	U
Zinc			15		34		20		31	
1,2,4-Trichlorobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol			<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol			<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline			<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-022 Sample ID: A1174 Depth: 23 - 23.5		SB-022 A1528 3 - 3.5		SB-022 A1529 6 - 6.5		SB-022 A1530 10 - 11		SB-022 A1531 10 - 11	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	17000	N	9500	N	15000	N	11000	N	11000	N
Arsenic - Graphite Furnace	2.5	N	2.1	N	2.6	N	2.5	N	2.9	N
Barium	17	N	220		180		39		26	
Beryllium	2.4		1.0		1.8		1.4		1.6	
Cadmium	0.69		0.84		1.1		0.73		0.86	
Chromium	21		12		18		12		16	
Chromium VI	<0.10	U	<0.51	U	<0.50	U	<0.50	U	<0.51	U
Copper	21		7.0		8.4		12		12	
Iron	17000	N	11000	N	17000	N	11000	N	15000	N
Lead - Graphite Furnace	3.5	N	7.7	N	11	N	4.7	N	4.8	N
Mercury	<0.023	U	<0.031	U	<0.027	U	<0.026	U	<0.030	U
Nickel	29		8.2		13		25		27	
Silver	<0.94	U	<0.99	U	<1.0	U	<1.2	U	<1.1	U
Zinc	35		18		21		25		29	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-022		SB-022		SB-023		SB-023		SB-023	
Sample ID:	A1532		A1534		A1165		A1166		A1167	
Depth:	14 - 15		21 - 22		2.5 - 3		7.5 - 8		12.5 - 13	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	8700	N	10000	N	10000	N	12000	N	6800	N
Arsenic - Graphite Furnace	1.2	N	1.8	N	2.7	N	4.7	N	2.2	N
Barium	25		<17	U	210	N	110	N	10	N
Beryllium	1.4		1.3		1.7		2.5		1.4	
Cadmium	0.86		0.55		<0.47	U	0.62		<0.54	U
Chromium	17		16		13		21		12	
Chromium VI	<0.50	U	<0.50	U	<0.10	U	<0.50	U	<0.10	U
Copper	8.6		11		6.9		13		8.1	
Iron	16000	N	13000	N	12000	N	24000	N	11000	N
Lead - Graphite Furnace	10.0	N	3.4	N	7.5	N	6.0	N	5.5	N
Mercury	<0.032	U	<0.024	U	<0.022	U	<0.024	U	<0.024	U
Nickel	22		23		11		24		15	
Silver	<1.1	U	<0.85	U	<0.94	U	<1.2	U	<1.1	U
Zinc	24		28		15		31		18	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-023 Sample ID: A1168 Depth: 17.5 - 18		SB-023 A1169 23 - 23.5		SB-023 A1535 5 - 5.5		SB-023 A1536 10 - 11		SB-023 A1537 15 - 16	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	10000	N	18000	N	13000	N	11000	N	6200	N
Arsenic - Graphite Furnace	3.5	N	<0.96	UN	2.1	N	4.6	N	1.7	N
Barium	110	N	19	N	250		22		100	
Beryllium	2.2		2.4		1.6		1.7		0.94	
Cadmium	<0.57	U	<0.54	U	0.96		1.1		<0.49	U
Chromium	19		21		16		19		33	
Chromium VI	<0.10	U	<0.10	U	<0.51	U	<0.50	U	<0.10	U
Copper	11		20		8.2		12		4.1	
Iron	21000	N	18000	N	15000	N	20000	N	10000	N
Lead - Graphite Furnace	6.1	N	2.9	N	6.7	N	7.5	N	3.6	N
Mercury	<0.022	U	<0.023	U	<0.029	U	<0.028	U	<0.027	U
Nickel	25		29		19		25		15	
Silver	<1.1	U	<1.1	U	<0.95	U	<1.0	U	<0.97	U
Zinc	31		37		22		28		20	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-023 Sample ID: A1538 Depth: 19 - 20		SB-023 A1539 23 - 24		SB-024 A1155 2.5 - 3		SB-024 A1156 9.5 - 10		SB-024 A1157 13 - 13.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	10000	N	16000	N	9100	N	8200	N	6300	N
Arsenic - Graphite Furnace	2.2	N	1.7	N	3.0	N	<0.95	UN	2.0	N
Barium	64		<21	U	230	N	110	N	15	N
Beryllium	1.5		2.0		1.4		1.7		1.5	
Cadmium	1.1		0.66		0.69		<0.46	U	<0.56	U
Chromium	17		19	N	12		12		15	
Chromium VI	<0.51	U	<0.51	U	<0.50	U	<0.50	U	<0.10	U
Copper	11		20		6.5		7.7		8.5	
Iron	15000	N	17000	N	9500	N	13000		11000	N
Lead - Graphite Furnace	4.9	N	4.6	N	11	N	2.4	N	6.9	N
Mercury	<0.027	U	<0.024	U	<0.023	U	<0.020	U	<0.022	U
Nickel	24		28		8.1		18		16	
Silver	<1.1	U	<1.1	U	<1.1	U	<0.92	U	<1.1	U
Zinc	30		35		16		21		17	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	0.17	J	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-024 Sample ID: A1158 Depth: 18.5 - 19		SB-024 A1159 23 - 23.5		SB-025 A1149 .5 - 1		SB-025 A1150 .5 - 1		SB-025 A1151 6.5 - 7	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	11000	N	19000	N	1100	N	6800	N	6700	N
Arsenic - Graphite Furnace	2.9	N	1.6	N	<8.9	UN	1.0	N	1.2	N
Barium	33	N	29	N	<110	UN	170	N	51	N
Beryllium	2.0		2.8		<2.7	U	0.89		1.1	
Cadmium	<0.50	U	<0.52	U	<2.7	U	<0.42	U	<0.59	U
Chromium	15		21		<5.4	U	12		10	
Chromium VI	<0.50	U	<0.50	U	<0.10	U	<0.10	U	<0.10	U
Copper	11		22		<13	U	5.8		6.1	
Iron	13000	N	18000	N	2100	N	6800	N	10000	N
Lead - Graphite Furnace	4.4	N	3.4	N	30	N	16	N	4.7	N
Mercury	<0.024	U	<0.023	U	<0.022	U	0.13		<0.023	U
Nickel	26		28		<22	U	8.5		14	
Silver	<1.0	U	<1.0	U	<5.4	U	1.2		<1.2	U
Zinc	31		37		<11	U	15		19	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	5.1		8.8		<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-025		SB-025		SB-025		SB-026		SB-026	
Sample ID:	A1152		A1153		A1154		A1073		A1074	
Depth:	12.5 - 13		18 - 18.5		23 - 23.5		1 - 1.5		5 - 8	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	9300	N	11000	N	16000	N	10000	N	8000	N
Arsenic - Graphite Furnace	3.2	N	1.9	N	2.6	N	3.0	N	2.7	N
Barium	<20	UN	120	N	<23	UN	210	N	180	N
Beryllium	1.8		1.6		2.0		0.93		0.81	
Cadmium	0.82		0.72		<0.58	U	0.64		0.59	
Chromium	15		17		16		14		16	
Chromium VI	<0.10	U	<0.10	U	<0.10	U	<0.51	U	<0.50	U
Copper	10		11		19		7.8		8.6	
Iron	14000	N	14000	N	11000	N	14000	N	16000	N
Lead - Graphite Furnace	7.9	N	2.8	N	4.9	N	8.8	N	4.8	N
Mercury	<0.021	U	<0.021	U	<0.024	U	<0.023	U	<0.026	U
Nickel	21		25		27		12		19	
Silver	<0.98	U	<1.0	U	1.2		<1.1	U	<1.0	U
Zinc	23		30		33		15		24	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	0.11	J	<0.330	U	0.065	J	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-026		SB-026		SB-027		SB-027		SB-027	
Sample ID:	A1089		A1090		A1075		A1076		A1077	
Depth:	12 - 12.5		16 - 16.5		3 - 3.5		5 - 5.5		12 - 12.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	11000	N	8800	N	11000	N	12000	N	11000	N
Arsenic - Graphite Furnace	3.2		2.1		3.4	N	2.2	N	<1.0	UN
Barium	80	N	15	N	200	N	170	N	<24	UN
Beryllium	1.4	N	1.2	N	0.76		0.94		1.2	
Cadmium	1.1		0.67		<0.55	U	0.65		0.98	
Chromium	14	N	14	N	14		14		24	
Chromium VI	<0.50	U	<0.50	U	<0.49	U	<0.10	U	<0.50	U
Copper	11		7.5		6.9		5.7		12	
Iron	13000	N	13000	N	13000	N	14000	N	26000	N
Lead - Graphite Furnace	6.1		4.2		7.6	N	7.5	N	1.5	N
Mercury	<0.025	U	<0.023	U	<0.027	U	<0.026	U	<0.025	U
Nickel	25		21		12		13		27	
Silver	<1.0	U	<1.1	U	<1.1	U	<0.88	U	<1.2	U
Zinc	27	N	24	N	18		15		31	
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-027		SB-027		SB-028		SB-028		SB-028	
Sample ID:	A1078		A1079		A1083		A1084		A1085	
Depth:	17 - 17.5		22.5 - 23		2 - 2.5		4.5 - 5.5		4.5 - 5.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Aluminum	4900	N	12000	N	9300	N	9600	N	16000	N
Arsenic - Graphite Furnace	1.4	N	2.6	N	3.8		3.1		2.3	
Barium	750	N	38	N	160	N	200	N	690	N
Beryllium	0.59		1.1		0.92	N	0.98	N	1.3	N
Cadmium	0.59		0.85		0.99		0.87		<0.49	U
Chromium	17		23		12	N	12	N	17	N
Chromium VI	<0.10	U	<0.49	U	<0.10	U	<0.10	U	<0.50	U
Copper	4.0		10		6.6		6.8		9.0	
Iron	8100	N	22000	N	11000	N	11000	N	14000	N
Lead - Graphite Furnace	4.2	N	6.4	N	10		11		4.7	
Mercury	<0.024	U	<0.025	U	<0.025	U	<0.026	U	<0.025	U
Nickel	12		26		11		9.5		18	
Silver	<1.2	U	<1.1	U	<0.93	U	<0.95	U	<0.98	U
Zinc	15		32		28	N	22	N	23	N
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-028		SB-028		SB-028	
Sample ID:	A1086		A1087		A1088	
Depth:	12 - 12.5		15.5 - 16		20 - 20.5	
Parameters	Result	QFR	Result	QFR	Result	QFR
Aluminum	9200	N	6800	N	13000	N
Arsenic - Graphite Furnace	2.8		0.94		1.5	
Barium	41	N	270	N	25	N
Beryllium	1.1	N	0.81	N	1.5	N
Cadmium	0.53		<0.53	U	0.84	
Chromium	12	N	18	N	19	N
Chromium VI	<0.10	U	<0.10	U	<0.10	U
Copper	8.4		5.7		12	
Iron	11000	N	12000	N	17000	N
Lead - Graphite Furnace	4.0		3.0		2.8	
Mercury	<0.023	U	<0.024	U	<0.021	U
Nickel	22		17		26	
Silver	<0.89	U	<1.1	U	<1.2	U
Zinc	22	N	22	N	33	N
1,2,4-Trichlorobenzene	<0.330	U	<0.330	U	<0.330	U
1,2-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U
1,3-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U
1,4-Dichlorobenzene	<0.330	U	<0.330	U	<0.330	U
2,4,5-Trichlorophenol	<0.825	U	<0.825	U	<0.825	U
2,4,6-Trichlorophenol	<0.330	U	<0.330	U	<0.330	U
2,4-Dichlorophenol	<0.330	U	<0.330	U	<0.330	U
2,4-Dimethylphenol	<0.330	U	<0.330	U	<0.330	U
2,4-Dinitrophenol	<0.825	U	<0.825	U	<0.825	U
2,4-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U
2,6-Dinitrotoluene	<0.330	U	<0.330	U	<0.330	U
2-Chloronaphthalene	<0.330	U	<0.330	U	<0.330	U
2-Chlorophenol	<0.330	U	<0.330	U	<0.330	U
2-Methylnaphthalene	<0.330	U	<0.330	U	<0.330	U
2-Methylphenol	<0.330	U	<0.330	U	<0.330	U
2-Nitroaniline	<0.825	U	<0.825	U	<0.825	U
2-Nitrophenol	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	2-59		2-59		2-59		2-59		2-59	
Sample ID:	A1103		A1104		A1105		A1106		A1107	
Depth:	2 - 2.5		7.5 - 8		12 - 12.5		17.5 - 18		22 - 22.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1108 Depth: 27 - 27.5		2-59 A1109 29.5 - 30		2-59 A1110 38 - 38.5		2-59 A1111 43.5 - 44		2-59 A1112 48.5 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	2-60		2-60		2-60		2-60		2-60	
Sample ID:	A1574		A1575		A1576		A1577		A1578	
Depth:	3 - 4		11 - 12		13 - 14		17 - 18		21 - 22	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1579 Depth: 27 - 28		2-60 A1580 32 - 33		2-60 A1581 35 - 36		2-60 A1585 40 - 41		2-60 A1586 45 - 46	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1567 Depth: 4 - 5		2-61 A1568 11 - 12		2-61 A1569 11 - 12		2-61 A1570 17 - 18		2-61 A1571 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1572 Depth: 27 - 28		2-61 A1573 32 - 33		2-61 A1588 37 - 38		2-61 A1589 41 - 42		2-61 A1590 48 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1066 Depth: 4.5 - 5		SB-021 A1067 8 - 8.5		SB-021 A1068 11 - 11.5		SB-021 A1069 15.5 - 16		SB-021 A1070 22 - 22.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1072 Depth: 27.5 - 28 Result	QFR	SB-022 A1170 3.5 - 4 Result	QFR	SB-022 A1171 9 - 9.5 Result	QFR	SB-022 A1172 14.5 - 15 Result	QFR	SB-022 A1173 17.5 - 18 Result	QFR
3,3'-Dichlorobenzidine			<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline			<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol			<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether			<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline			<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether			<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline			<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol			<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-022 Sample ID: A1174 Depth: 23 - 23.5		SB-022 A1528 3 - 3.5		SB-022 A1529 6 - 6.5		SB-022 A1530 10 - 11		SB-022 A1531 10 - 11	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-022 Sample ID: A1532 Depth: 14 - 15		SB-022 A1534 21 - 22		SB-023 A1165 2.5 - 3		SB-023 A1166 7.5 - 8		SB-023 A1167 12.5 - 13	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-023		SB-023		SB-023		SB-023		SB-023	
Sample ID:	A1168		A1169		A1535		A1536		A1537	
Depth:	17.5 - 18		23 - 23.5		5 - 5.5		10 - 11		15 - 16	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-023		SB-023		SB-024		SB-024		SB-024	
Sample ID:	A1538		A1539		A1155		A1156		A1157	
Depth:	19 - 20		23 - 24		2.5 - 3		9.5 - 10		13 - 13.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-024 Sample ID: A1158 Depth: 18.5 - 19		SB-024 A1159 23 - 23.5		SB-025 A1149 .5 - 1		SB-025 A1150 .5 - 1		SB-025 A1151 6.5 - 7	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<1.70	U	1.70		<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<1.70	U	0.20	J	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-025 Sample ID: A1152 Depth: 12.5 - 13		SB-025 A1153 18 - 18.5		SB-025 A1154 23 - 23.5		SB-026 A1073 1 - 1.5		SB-026 A1074 5 - 8	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-026		SB-026		SB-027		SB-027		SB-027	
Sample ID:	A1089		A1090		A1075		A1076		A1077	
Depth:	12 - 12.5		16 - 16.5		3 - 3.5		5 - 5.5		12 - 12.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-027 Sample ID: A1078 Depth: 17 - 17.5		SB-027 A1079 22.5 - 23		SB-028 A1083 2 - 2.5		SB-028 A1084 4.5 - 5.5		SB-028 A1085 4.5 - 5.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	<0.330	U	0.21	J	0.30	J
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-028 Sample ID: A1086 Depth: 12 - 12.5		SB-028 A1087 15.5 - 16		SB-028 A1088 20 - 20.5	
	Result	QFR	Result	QFR	Result	QFR
3,3'-Dichlorobenzidine	<0.330	U	<0.330	U	<0.330	U
3-Nitroaniline	<0.825	U	<0.825	U	<0.825	U
4,6-Dinitro-2-methylphenol	<0.825	U	<0.825	U	<0.825	U
4-Bromophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U
4-Chloro-3-methylphenol	<0.330	U	<0.330	U	<0.330	U
4-Chloroaniline	<0.330	U	<0.330	U	<0.330	U
4-Chlorophenyl-phenylether	<0.330	U	<0.330	U	<0.330	U
4-Methylphenol	<0.330	U	<0.330	U	<0.330	U
4-Nitroaniline	<0.825	U	<0.825	U	<0.825	U
4-Nitrophenol	<0.825	U	<0.825	U	<0.825	U
Acenaphthene	<0.330	U	<0.330	U	<0.330	U
Acenaphthylene	<0.330	U	<0.330	U	<0.330	U
Anthracene	<0.330	U	<0.330	U	<0.330	U
Benzo(a)anthracene	<0.330	U	<0.330	U	<0.330	U
Benzo(a)pyrene	<0.330	U	<0.330	U	<0.330	U
Benzo(b)fluoranthene	<0.330	U	<0.330	U	<0.330	U
Benzo(g,h,i)perylene	<0.330	U	<0.330	U	<0.330	U
Benzo(k)fluoranthene	<0.330	U	<0.330	U	<0.330	U
Benzoic Acid	<0.330	U	<0.330	U	<0.330	U
Benzyl alcohol	<0.330	U	<0.330	U	<0.330	U
Butylbenzylphthalate	<0.330	U	<0.330	U	<0.330	U
Chrysene	<0.330	U	<0.330	U	<0.330	U
Di-n-butylphthalate	<0.330	U	<0.330	U	<0.330	U
Di-n-octylphthalate	<0.330	U	<0.330	U	0.46	J
Dibenzo(a,h)anthracene	<0.330	U	<0.330	U	<0.330	U
Dibenzofuran	<0.330	U	<0.330	U	<0.330	U
Diethylphthalate	<0.330	U	<0.330	U	<0.330	U
Dimethylphthalate	<0.330	U	<0.330	U	<0.330	U
Fluoranthene	<0.330	U	<0.330	U	<0.330	U
Fluorene	<0.330	U	<0.330	U	<0.330	U
Hexachlorobenzene	<0.330	U	<0.330	U	<0.330	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	2-59		2-59		2-59		2-59		2-59	
Sample ID:	A1103		A1104		A1105		A1106		A1107	
Depth:	2 - 2.5		7.5 - 8		12 - 12.5		17.5 - 18		22 - 22.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	15		<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	3.6	J	<100	U	<100	U	3.4	JB	2.4	J
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	4.4	KB	5.5	JB	9.7	JB	9.6	JB	7.8	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1108 Depth: 27 - 27.5		2-59 A1109 29.5 - 30		2-59 A1110 38 - 38.5		2-59 A1111 43.5 - 44		2-59 A1112 48.5 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	<0.09	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	2.7	J	<100	U	4.3	JB	8.1	JB	20	JB
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	<100	U	10	JB	9.4	JB	18	JB	14	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1574 Depth: 3 - 4		2-60 A1575 11 - 12		2-60 A1576 13 - 14		2-60 A1577 17 - 18		2-60 A1578 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	0.09	J	<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	2.2	J	3.1	J	<5	U	2.9	J	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	23	JB	4.9	J	<100	U	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	120	B	26	JB	18	JB	13	JB	20	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1579 Depth: 27 - 28		2-60 A1580 32 - 33		2-60 A1581 35 - 36		2-60 A1585 40 - 41		2-60 A1586 45 - 46	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	0.04	J	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	3.4	J	<5	U	2.9	J	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	3.0	J	3.5	J	2.8	J	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	30	JB	12	JB	19	JB	9.3	JB	7.2	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1567 Depth: 4 - 5		2-61 A1568 11 - 12		2-61 A1569 11 - 12		2-61 A1570 17 - 18		2-61 A1571 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	5.4		2.7	J	5.8		5.1		5.2	
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	<100	U	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	8.3	J	7.0	J	9.4	J	7.3	J	6.2	J
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	2-61		2-61		2-61		2-61		2-61	
Sample ID:	A1572		A1573		A1588		A1589		A1590	
Depth:	27 - 28		32 - 33		37 - 38		41 - 42		48 - 49	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	5.3		5.6		<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	<100	U	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	6.1	J	5.7	J	12	JB	11	JB	7.3	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1066 Depth: 4.5 - 5		SB-021 A1067 8 - 8.5		SB-021 A1068 11 - 11.5		SB-021 A1069 15.5 - 16		SB-021 A1070 22 - 22.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	0.04	J	0.11	J	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	31		98		<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	2.9	J	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	19	J	13	J	6.7	J	7.0	J	6.4	J
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	4.7	J	<50	U	<50	U	<50	U
Acetone	110	B	64	JB	20	JB	13	JB	6.3	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-021		SB-022		SB-022		SB-022		SB-022	
Sample ID:	A1072		A1170		A1171		A1172		A1173	
Depth:	27.5 - 28		3.5 - 4		9 - 9.5		14.5 - 15		17.5 - 18	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone			<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine			<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol			<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol			<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene			<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane			<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether			<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe			<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate			<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH			<10	U	20		38		<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	5.3	J	25	J	<100	U	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	<100	U	160	B	38	JB	14	JB	9.1	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-022		SB-022		SB-022		SB-022		SB-022	
Sample ID:	A1174		A1528		A1529		A1530		A1531	
Depth:	23 - 23.5		3 - 3.5		6 - 6.5		10 - 11		10 - 11	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	0.056	J	0.059	J
9071/418.1 for TPH	<10	U	<10	U	<10	U	41		<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	<100	U	4.6	JB	4.3	JB
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	9.8	JB	500	B	180	B	10	JB	14	JB
Benzene	<5	U	2.5	J	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-022 Sample ID: A1532 Depth: 14 - 15		SB-022 A1534 21 - 22		SB-023 A1165 2.5 - 3		SB-023 A1166 7.5 - 8		SB-023 A1167 12.5 - 13	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	0.076	J	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	4.8	JB	22	J	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	10	JB	9.3	JB	150	B	6.1	JB	<100	U
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-023		SB-023		SB-023		SB-023		SB-023	
Sample ID:	A1168		A1169		A1535		A1536		A1537	
Depth:	17.5 - 18		23 - 23.5		5 - 5.5		10 - 11		15 - 16	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	0.17	J	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	10	JB	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	11	JB	10	JB	58	B	22	JB	6.6	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-023 Sample ID: A1538 Depth: 19 - 20		SB-023 A1539 23 - 24		SB-024 A1155 2.5 - 3		SB-024 A1156 9.5 - 10		SB-024 A1157 13 - 13.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	0.11	J	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U	100		42	
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	3.2	JB	4.7	JB	19	J	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	11	JB	6.1	JB	110	B	16	JB	8.4	JB
Benzene	<5	U	<5	U	1.2	J	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-024		SB-024		SB-025		SB-025		SB-025	
Sample ID:	A1158		A1159		A1149		A1150		A1151	
Depth:	18.5 - 19		23 - 23.5		.5 - 1		.5 - 1		6.5 - 7	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	2.5		<4.4	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<4.25	U	<4.25	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<1.70	U	<1.70	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	0.21	J	0.36	J	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	1500		1500		<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<25	U	<25	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<25	U	<25	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<25	U	<25	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<25	U	<25	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<25	U	<25	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<25	U	<25	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<25	U	<25	U	<5	U
2-Butanone	<100	U	<100	U	<500	U	<500	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<50	U	<50	U	<10	U
2-Hexanone	<50	U	<50	U	<250	U	<250	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<250	U	<250	U	<50	U
Acetone	7.3	JB	6.4	JB	140	JB	120	B	17	JB
Benzene	<5	U	<5	U	<25	U	53		<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-025 Sample ID: A1152 Depth: 12.5 - 13		SB-025 A1153 18 - 18.5		SB-025 A1154 23 - 23.5		SB-026 A1073 1 - 1.5		SB-026 A1074 5 - 8	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	0.06	J	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U	0.045	JB	0.053	JB
9071/418.1 for TPH	<10	U	<10	U	<10	U	19		<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	1.6	J	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	<100	U	12	JB	6.2	JB
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	7.3	JB	5.7	JB	6.9	JB	53	JB	27	JB
Benzene	<5	U	<5	U	<5	U	8.6		<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-026 Sample ID: A1089 Depth: 12 - 12.5		SB-026 A1090 16 - 16.5		SB-027 A1075 3 - 3.5		SB-027 A1076 5 - 5.5		SB-027 A1077 12 - 12.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.330	U	<0.330	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.825	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	0.091	JB	0.048	JB	0.061	JB
9071/418.1 for TPH	<10	U	<10	U	11		<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	<100	U	4.5	JB	24	JB	28	JB	3.0	J
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	7.9	JB	6.4	JB	130	B	190	B	5.6	JB
Benzene	<5	U	<5	U	16		11		<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-027		SB-027		SB-028		SB-028		SB-028	
Sample ID:	A1078		A1079		A1083		A1084		A1085	
Depth:	17 - 17.5		22.5 - 23		2 - 2.5		4.5 - 5.5		4.5 - 5.5	
Parameters	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	0.12	J	0.045	J	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	110		52		<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U	<5	U	<5	U
2-Butanone	4.7	J	4.6	J	12	JB	13	JB	12	JB
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U	<50	U	<50	U
Acetone	6.9	JB	5.9	JB	65	JB	63	JB	62	JB
Benzene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Well/Boring:	SB-028		SB-028		SB-028	
Sample ID:	A1086		A1087		A1088	
Depth:	12 - 12.5		15.5 - 16		20 - 20.5	
Parameters	Result	QFR	Result	QFR	Result	QFR
Hexachlorobutadiene	<0.330	U	<0.330	U	<0.330	U
Hexachlorocyclopentadiene	<0.330	U	<0.330	U	<0.330	U
Hexachloroethane	<0.330	U	<0.330	U	<0.330	U
Indeno(1,2,3-cd)pyrene	<0.330	U	<0.330	U	<0.330	U
Isophorone	<0.330	U	<0.330	U	<0.330	U
N-Nitroso-di-n-propylamine	<0.330	U	<0.330	U	<0.330	U
N-Nitrosodiphenylamine	<0.330	U	<0.330	U	<0.330	U
Naphthalene	<0.330	U	<0.330	U	<0.330	U
Nitrobenzene	<0.330	U	<0.330	U	<0.330	U
Pentachlorophenol	<0.825	U	<0.825	U	<0.825	U
Phenanthrene	<0.330	U	<0.330	U	<0.330	U
Phenol	<0.330	U	<0.330	U	<0.330	U
Pyrene	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethoxy)methane	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroethyl)ether	<0.330	U	<0.330	U	<0.330	U
bis(2-Chloroisopropyl)ethe	<0.330	U	<0.330	U	<0.330	U
bis(2-Ethylhexyl)phthalate	<0.330	U	<0.330	U	<0.330	U
9071/418.1 for TPH	<10	U	<10	U	<10	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U
2-Butanone	<100	U	6.6	JB	4.5	JB
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U
Acetone	5.7	JB	8.0	JB	6.6	JB
Benzene	<5	U	1.0	J	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1103 Depth: 2 - 2.5		2-59 A1104 7.5 - 8		2-59 A1105 12 - 12.5		2-59 A1106 17.5 - 18		2-59 A1107 22 - 22.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	1.7	JB	<10	U	5.9	JB	5.5	JB	1.4	JB
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-59 A1108 Sample ID: Depth: 27 - 27.5		2-59 A1109 29.5 - 30		2-59 A1110 38 - 38.5		2-59 A1111 43.5 - 44		2-59 A1112 48.5 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	2.1	JB	1.2	JB	20	B	18	B	19	B
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1574 Depth: 3 - 4		2-60 A1575 11 - 12		2-60 A1576 13 - 14		2-60 A1577 17 - 18		2-60 A1578 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	1.8	J	1.7	J	1.4	J	1.4	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-60 Sample ID: A1579 Depth: 27 - 28		2-60 A1580 32 - 33		2-60 A1581 35 - 36		2-60 A1585 40 - 41		2-60 A1586 45 - 46	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	1.1	J	2.0	J	<10	U	5.2	J	6.8	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1567 Depth: 4 - 5		2-61 A1568 11 - 12		2-61 A1569 11 - 12		2-61 A1570 17 - 18		2-61 A1571 21 - 22	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	2.1	J	2.1	J	2.1	J	2.1	J	2.2	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: 2-61 Sample ID: A1572 Depth: 27 - 28		2-61 A1573 32 - 33		2-61 A1588 37 - 38		2-61 A1589 41 - 42		2-61 A1590 48 - 49	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	2.1	J	2.0	J	1.2	J	1.3	J	1.1	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 A1066 Sample ID: A1066 Depth: 4.5 - 5		SB-021 A1067 8 - 8.5		SB-021 A1068 11 - 11.5		SB-021 A1069 15.5 - 16		SB-021 A1070 22 - 22.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	0.4	J	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	0.3	J	<5	U	<5	U
Methylene Chloride	15	B	4.7	JB	6.2	JB	1.9	JB	1.8	JB
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	0.9	JB	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-021 Sample ID: A1072 Depth: 27.5 - 28		SB-022 A1170 3.5 - 4		SB-022 A1171 9 - 9.5		SB-022 A1172 14.5 - 15		SB-022 A1173 17.5 - 18	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	1.3	J	<5	U
Methylene Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	1.7	J	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-022 Sample ID: A1174 Depth: 23 - 23.5		SB-022 A1528 3 - 3.5		SB-022 A1529 6 - 6.5		SB-022 A1530 10 - 11		SB-022 A1531 10 - 11	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	3.9	J	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	5.7	J	2.6	J	<10	U	1.8	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	4.7	J	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring:	SB-022		SB-022		SB-023		SB-023		SB-023	
	Sample ID:	A1532		A1534		A1165		A1166		A1167	
	Depth:	14 - 15		21 - 22		2.5 - 3		7.5 - 8		12.5 - 13	
		Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform		<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane		<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide		<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride		<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene		<5	U	<5	U	16		<5	U	<5	U
Chlorodibromomethane		<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane		<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform		<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane		<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane		<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene		<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride		2.0	J	1.6	J	<10	U	<10	U	<10	U
Styrene		<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene		<5	U	<5	U	<5	U	<5	U	<5	U
Toluene		<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene		<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate		<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride		<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)		<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene		<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene		<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene		<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene		<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-023 Sample ID: A1168 Depth: 17.5 - 18		SB-023 A1169 23 - 23.5		SB-023 A1535 5 - 5.5		SB-023 A1536 10 - 11		SB-023 A1537 15 - 16	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	<10	U	6.4	JB	6.8	JB	3.8	JB
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-023 Sample ID: A1538 Depth: 19 - 20		SB-023 A1539 23 - 24		SB-024 A1155 2.5 - 3		SB-024 A1156 9.5 - 10		SB-024 A1157 13 - 13.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	4.8	J	130		6.0	
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	2.2	J	91		<5	U
Methylene Chloride	4.5	JB	4.9	JB	<10	U	<10	U	<10	U
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	32		66	
Toluene	<5	U	<5	U	<5	U	14		<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	4.2	J	200		6.2	
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	4.9	J
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-024 Sample ID: A1158 Depth: 18.5 - 19		SB-024 A1159 23 - 23.5		SB-025 A1149 .5 - 1		SB-025 A1150 .5 - 1		SB-025 A1151 6.5 - 7	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<25	U	<25	U	<5	U
Bromomethane	<10	U	<10	U	<50	U	<50	U	<10	U
Carbon Disulfide	<5	U	<5	U	<25	U	<25	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<25	U	<25	U	<5	U
Chlorobenzene	<5	U	<5	U	<25	U	<25	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<25	U	<25	U	<5	U
Chloroethane	<10	U	<10	U	<50	U	<50	U	<10	U
Chloroform	<5	U	<5	U	<25	U	<25	U	<5	U
Chloromethane	<10	U	<10	U	<50	U	<50	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<25	U	<25	U	<5	U
Ethylbenzene	<5	U	<5	U	120		160		<5	U
Methylene Chloride	<10	U	<10	U	8.5	J	<50	U	1.5	J
Styrene	<5	U	<5	U	<25	U	<25	U	<5	U
Tetrachloroethene	<5	U	<5	U	<25	U	<25	U	<5	U
Toluene	<5	U	<5	U	<25	U	<25	U	<5	U
Trichloroethene	<5	U	<5	U	<25	U	<25	U	<5	U
Vinyl Acetate	<10	U	<10	U	<50	U	<50	U	<10	U
Vinyl Chloride	<10	U	<10	U	<50	U	<50	U	<10	U
Xylenes (total)	<5	U	<5	U	420		6600	D	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<25	U	<25	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<25	U	<25	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<25	U	<25	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<25	U	<25	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-025 Sample ID: A1152 Depth: 12.5 - 13		SB-025 A1153 18 - 18.5		SB-025 A1154 23 - 23.5		SB-026 A1073 1 - 1.5		SB-026 A1074 5 - 8	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	3.7	J	<5	U
Chloroethane	<10	U	<10	U	<10	U	<5	U	<5	U
Chloroform	<5	U	<5	U	<5	U	<10	U	<10	U
Chloromethane	<10	U	<10	U	<10	U	<5	U	<5	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<10	U	<10	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	1.9	J	<10	U	<10	U	21		<5	U
Styrene	<5	U	<5	U	<5	U	<10	U	5.1	JB
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	3.1	J	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<5	U	<5	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<10	U	<10	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	20		<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-026 Sample ID: A1089 Depth: 12 - 12.5		SB-026 A1090 16 - 16.5		SB-027 A1075 3 - 3.5		SB-027 A1076 5 - 5.5		SB-027 A1077 12 - 12.5	
	Result	QFR	Result	QFR	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	2.2	J	1.4	J	<10	U	2.8	JB	1.5	JB
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-027 Sample ID: A1078 Depth: 17 - 17.5 Result	QFR	SB-027 A1079 22.5 - 23 Result	QFR	SB-028 A1083 2 - 2.5 Result	QFR	SB-028 A1084 4.5 - 5.5 Result	QFR	SB-028 A1085 4.5 - 5.5 Result	QFR
Bromoform	<5	U	<5	U	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	1.3	J	2.1	J	1.9	J
Chlorodibromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	4.7	JB	1.4	J	1.4	J	1.7	J
Styrene	<5	U	<5	U	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for SO
Tinker Air Force Base

Parameters	Well/Boring: SB-028 Sample ID: A1086 Depth: 12 - 12.5		SB-028 A1087 15.5 - 16		SB-028 A1088 20 - 20.5	
	Result	QFR	Result	QFR	Result	QFR
Bromoform	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	0.3	J	0.5	J
Chlorodibromomethane	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	1.7	J	2.1	J
Styrene	<5	U	<5	U	<5	U
Tetrachloroethene	<5	U	<5	U	<5	U
Toluene	<5	U	<5	U	<5	U
Trichloroethene	<5	U	<5	U	<5	U
Vinyl Acetate	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	<5	U	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

ANALYTICAL RESULTS

GROUNDWATER

Analytical Results at the FTM
for WG
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611 Depth: 0 - 0		Well/Boring: 2-60 Sample ID: A1647 Depth: 0 - 0		Well/Boring: 2-61 Sample ID: A1610 Depth: 0 - 0	
	Result	QFR	Result	QFR	Result	QFR
Alkalinity, Titrimetric	360		260		300	
Chemical Oxygen Demand	<25	U	<25	U	<25	U
Chloride by Ion Chrom.	410		280		110	
Nitrate and Nitrite	17		10		10	
Phenolics	<0.010	U	<0.010	U	<0.010	U
Silica	4.2		8.0		8.5	
Sulfate by Ion Chrom.	220	N	150		63	N
Total Phosphorus	0.40		<0.10	U	<0.10	U
Aluminum	18	N	2.2		1.6	N
Arsenic - Graphite Furnace	0.021		<0.010	U	<0.010	U
Barium	0.87	N	<0.20	U	<0.20	UN
Cadmium	<0.0050	UN	<0.0050	U	<0.0050	UN
Calcium	130	N	95		48	N
Chromium	0.17	N	0.052		0.019	N
Chromium VI	<0.010	U	<0.010	U	<0.010	U
Copper	0.036	N	<0.025	U	<0.025	UN
Iron	28	N	1.9		1.9	N
Lead - Graphite Furnace	0.0071		<0.0030	U	<0.0030	U
Magnesium	110	N	78		42	N
Manganese	0.51	N	0.040		0.056	N
Mercury	<0.00020	U	<0.00020	U	<0.00020	U
Nickel	0.086	N	<0.040	U	<0.040	UN
Potassium	10.0		<5.0	U	<5.0	U
Selenium	<0.10	UN	<0.010	U	<0.10	UN
Silver	<0.010	UN	<0.010	U	<0.010	UN
Sodium	130	N	160		89	N
Zinc	0.080	N	<0.020	U	<0.020	UN
1,2,4-Trichlorobenzene	<10	U	<10	U	<10	U
1,2-Dichlorobenzene	<10	U	<10	U	<10	U
1,3-Dichlorobenzene	<10	U	<10	U	<10	U
1,4-Dichlorobenzene	<10	U	<10	U	<10	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for WG
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611 Depth: 0 - 0		2-60 A1647 0 - 0		2-61 A1610 0 - 0	
	Result	QFR	Result	QFR	Result	QFR
Total Kjeldahl Nitrogen	1.1	N	<0.25	U	0.35	N
Total Organic Carbon	1.9		1.7		<1.0	U
Total Suspended Solids	570		56		62	
TPH - IR	<0.96	U	<1.0	U	<0.96	U
1,1,1-Trichloroethane	<5	U	<5	U	<5	U
1,1,2,2-Tetrachloroethane	<5	U	<5	U	<5	U
1,1,2-Trichloroethane	<5	U	<5	U	<5	U
1,1-Dichloroethane	<5	U	<5	U	<5	U
1,1-Dichloroethene	<5	U	<5	U	<5	U
1,2-Dichloroethane	<5	U	<5	U	<5	U
1,2-Dichloropropane	<5	U	<5	U	<5	U
2-Butanone	<100	U	<100	U	<100	U
2-Chloroethylvinyl ether	<10	U	<10	U	<10	U
2-Hexanone	<50	U	<50	U	<50	U
4-Methyl-2-Pentanone	<50	U	<50	U	<50	U
Acetone	<100	U	<100	U	<100	U
Benzene	<5	U	<5	U	<5	U
Bromoform	<5	U	<5	U	<5	U
Bromomethane	<10	U	<10	U	<10	U
Carbon Disulfide	<5	U	<5	U	<5	U
Carbon Tetrachloride	<5	U	<5	U	<5	U
Chlorobenzene	<5	U	<5	U	<5	U
Chlorodibromomethane	<5	U	<5	U	<5	U
Chloroethane	<10	U	<10	U	<10	U
Chloroform	<5	U	<5	U	<5	U
Chloromethane	<10	U	<10	U	<10	U
Dichlorobromomethane	<5	U	<5	U	<5	U
Ethylbenzene	<5	U	<5	U	<5	U
Methylene Chloride	<10	U	<10	U	<10	U
Styrene	<5	U	<5	U	<5	U
Tetrachloroethene	9.0		46		1.9	J

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for WG
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611 Depth: 0 - 0 Result	QFR	2-60 A1647 0 - 0 Result	QFR	2-61 A1610 0 - 0 Result	QFR
Benzoic Acid	<10	U	<10	U	<10	U
Benzyl alcohol	<10	U	<10	U	<10	U
Butylbenzylphthalate	<10	U	<10	U	<10	U
Chrysene	<10	U	<10	U	<10	U
Di-n-butylphthalate	<10	U	<10	U	<10	U
Di-n-octylphthalate	<10	U	<10	U	<10	U
Dibenzo(a,h)anthracene	<10	U	<10	U	<10	U
Dibenzofuran	<10	U	<10	U	<10	U
Diethylphthalate	<10	U	<10	U	<10	U
Dimethylphthalate	<10	U	<10	U	<10	U
Fluoranthene	<10	U	<10	U	<10	U
Fluorene	<10	U	<10	U	<10	U
Hexachlorobenzene	<10	U	<10	U	<10	U
Hexachlorobutadiene	<10	U	<10	U	<10	U
Hexachlorocyclopentadiene	<10	U	<10	U	<10	U
Hexachloroethane	<10	U	<10	U	<10	U
Indeno(1,2,3-cd)pyrene	<10	U	<10	U	<10	U
Isophorone	<10	U	<10	U	<10	U
N-Nitroso-di-n-propylamine	<10	U	<10	U	<10	U
N-Nitrosodiphenylamine	<10	U	<10	U	<10	U
Naphthalene	<10	U	<10	U	<10	U
Nitrobenzene	<10	U	<10	U	<10	U
Pentachlorophenol	<25	U	<25	U	<25	U
Phenanthrene	<10	U	<10	U	<10	U
Phenol	<10	U	<10	U	<10	U
Pyrene	<10	U	<10	U	<10	U
bis(2-Chloroethoxy)methane	<10	U	<10	U	<10	U
bis(2-Chloroethyl)ether	<10	U	<10	U	<10	U
bis(2-Chloroisopropyl)ethe	<10	U	<10	U	<10	U
bis(2-Ethylhexyl)phthalate	<10	U	1.1	J	2.2	J
Total Dissolved Solids	1500		1000		630	

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for WG
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611 Depth: 0 - 0		Well/Boring: 2-60 Sample ID: A1647 Depth: 0 - 0		Well/Boring: 2-61 Sample ID: A1610 Depth: 0 - 0	
	Result	QFR	Result	QFR	Result	QFR
2,4,5-Trichlorophenol	<10	U	<10	U	<10	U
2,4,6-Trichlorophenol	<10	U	<10	U	<10	U
2,4-Dichlorophenol	<10	U	<10	U	<10	U
2,4-Dimethylphenol	<10	U	<10	U	<10	U
2,4-Dinitrophenol	<25	U	<25	U	<25	U
2,4-Dinitrotoluene	<10	U	<10	U	<10	U
2,6-Dinitrotoluene	<10	U	<10	U	<10	U
2-Chloronaphthalene	<10	U	<10	U	<10	U
2-Chlorophenol	<10	U	<10	U	<10	U
2-Methylnaphthalene	<10	U	<10	U	<10	U
2-Methylphenol	<10	U	<10	U	<10	U
2-Nitroaniline	<25	U	<25	U	<25	U
2-Nitrophenol	<10	U	<10	U	<10	U
3,3'-Dichlorobenzidine	<10	U	<10	U	<10	U
3-Nitroaniline	<25	U	<25	U	<25	U
4,6-Dinitro-2-methylphenol	<25	U	<25	U	<25	U
4-Bromophenyl-phenylether	<10	U	<10	U	<10	U
4-Chloro-3-methylphenol	<10	U	<10	U	<10	U
4-Chloroaniline	<10	U	<10	U	<10	U
4-Chlorophenyl-phenylether	<10	U	<10	U	<10	U
4-Methylphenol	<10	U	<10	U	<10	U
4-Nitroaniline	<10	U	<10	U	<10	U
4-Nitrophenol	<25	U	<25	U	<25	U
Acenaphthene	<10	U	<10	U	<10	U
Acenaphthylene	<10	U	<10	U	<10	U
Anthracene	<10	U	<10	U	<10	U
Benzo(a)anthracene	<10	U	<10	U	<10	U
Benzo(a)pyrene	<10	U	<10	U	<10	U
Benzo(b)fluoranthene	<10	U	<10	U	<10	U
Benzo(g,h,i)perylene	<10	U	<10	U	<10	U
Benzo(k)fluoranthene	<10	U	<10	U	<10	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Results at the FTM
for WG
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611 Depth: 0 - 0		Well/Boring: 2-60 Sample ID: A1647 Depth: 0 - 0		Well/Boring: 2-61 Sample ID: A1610 Depth: 0 - 0	
	Result	QFR	Result	QFR	Result	QFR
Toluene	<5	U	<5	U	<5	U
Trichloroethene	2.1	J	50		<5	U
Vinyl Acetate	<10	U	<10	U	<10	U
Vinyl Chloride	<10	U	<10	U	<10	U
Xylenes (total)	<5	U	<5	U	<5	U
cis 1,3 Dichloropropene	<5	U	<5	U	<5	U
cis-1,2-Dichloroethene	<5	U	1.0	J	<5	U
trans 1,3-Dichloropropene	<5	U	<5	U	<5	U
trans-1,2-Dichloroethene	<5	U	<5	U	<5	U

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

ANALYTICAL RESULTS

QUALITY CONTROL - SOIL

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1108-MS Depth: 27 - 27.5			Well/Boring: 2-59 Sample ID: A1108-MSD Depth: 27 - 27.5			Well/Boring: 2-60 Sample ID: A1574-MS Depth: 3 - 4			Well/Boring: 2-60 Sample ID: A1574-MSD Depth: 3 - 4			Well/Boring: 2-60 Sample ID: A1585-MS Depth: 40 - 41		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Aluminum	763		%rec	749		%rec	1268		mg/kg	970		%rec			
Arsenic - Graphite Furnace	118		%rec	190		%rec	54		%rec	65		%rec			
Barium	183		%rec	61		%rec	101		mg/kg	97		%rec			
Beryllium	88		%rec	89		%rec	89		mg/kg	87		%rec			
Cadmium	82		%rec	84		%rec	87		mg/kg	85		%rec			
Chromium	88		%rec	86		%rec	95		mg/kg	91		%rec			
Chromium VI	107		%rec	98		%rec	90		%rec	94		%rec			
Copper	89		%rec	89		%rec	88		mg/kg	87		%rec			
Iron	319		%rec	113		%rec	439		mg/kg	319		%rec			
Lead - Graphite Furnace	106		%rec	186		%rec	56		%rec	160		%rec			
Mercury	120		%rec	100		%rec	100		%rec	100		%rec			
Nickel	82		%rec	84		%rec	88		mg/kg	87		%rec			
Silver	82		%rec	83		%rec	83		mg/kg	82		%rec			
Zinc	86		%rec	87		%rec	89		mg/kg	85		%rec			
1,2,4-Trichlorobenzene	55		%rec	31		%rec	48		%rec	19		%rec			
1,4-Dichlorobenzene	56		%rec	32		%rec	47		%rec	19		%rec			
2,4,6-Tribromophenol	69		%rec	54		%rec	49		%rec	41		%rec			
2,4-Dinitrotoluene	58		%rec	49		%rec	36		%rec	29		%rec			
2-Chlorophenol	66		%rec	52		%rec	51		%rec	21		%rec			
2-Fluorobiphenyl	62		%rec	36		%rec	46		%rec	20		%rec			
2-Fluorophenol	56		%rec	49		%rec	52		%rec	22		%rec			
4-Chloro-3-methylphenol	66		%rec	55		%rec	48		%rec	35		%rec			
4-Nitrophenol	48		%rec	65		%rec	42		%rec	37		%rec			
Acenaphthene	69		%rec	42		%rec	47		%rec	25		%rec			
N-Nitroso-di-n-propylamine	65		%rec	51		%rec	50		%rec	22		%rec			
Nitrobenzene-D5	62		%rec	43		%rec	50		%rec	21		%rec			
Pentachlorophenol	68		%rec	56		%rec	35		%rec	35		%rec			
Phenol	56		%rec	50		%rec	49		%rec	23		%rec			
Phenol-D5	59		%rec	53		%rec	52		%rec	25		%rec			
Pyrene	76		%rec	65		%rec	50		%rec	42		%rec			
Terphenyl-D14	80		%rec	66		%rec	51		%rec	44		%rec			

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1108-MS Depth: 27 - 27.5			Well/Boring: 2-59 Sample ID: A1108-MSD Depth: 27 - 27.5			Well/Boring: 2-60 Sample ID: A1574-MS Depth: 3 - 4			Well/Boring: 2-60 Sample ID: A1574-MSD Depth: 3 - 4			Well/Boring: 2-60 Sample ID: A1585-MS Depth: 40 - 41		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
9071/418.1 for TPH	92		%rec	96		%rec	99		%rec	92		%rec			
1,1-Dichloroethene	95		%rec	99		%rec	114		%rec	106		%rec	95		%rec
1,2-Dichloroethane-D4	108		%rec	106		%rec	104		%rec	103		%rec	103		%rec
Benzene	109		%rec	114		%rec	111		%rec	99		%rec	95		%rec
Bromofluorobenzene	92		%rec	100		%rec	94		%rec	95		%rec	100		%rec
Chlorobenzene	110		%rec	119		%rec	113		%rec	103		%rec	95		%rec
Toluene	112		%rec	113		%rec	112		%rec	100		%rec	95		%rec
Toluene-D8	106		%rec	103		%rec	107		%rec	105		%rec	103		%rec
Trichloroethene	98		%rec	99		%rec	99		%rec	90		%rec	81		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Well/Boring:	2-60			SB-021			SB-021			SB-022R			SB-022R		
Sample ID:	A1585-MSD			A1068-MS			A1068-MSD			A1534-MS			A1534-MSD		
Depth:	40 - 41			11 - 11.5			11 - 11.5			21 - 22			21 - 22		
Parameters	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Aluminum				1333		%rec	1073		%rec	2028		%rec	1509		%rec
Arsenic - Graphite Furnace				48		%rec	62		%rec	91		%rec	69		%rec
Barium				97		%rec	107		%rec	110		%rec	104		%rec
Beryllium				85		%rec	87		%rec	90		%rec	89		%rec
Cadmium				87		%rec	90		%rec	85		%rec	84		%rec
Chromium				92		%rec	88		%rec	105		%rec	100		%rec
Chromium VI				100		%rec	100		%rec	107		%rec	104		%rec
Copper				92		%rec	94		%rec	98		%rec	93		%rec
Iron				422		%rec	124		%rec	1651		%rec	996		%rec
Lead - Graphite Furnace				133		%rec	140		%rec	210		%rec	150		%rec
Mercury				107		%rec	105		%rec	110		%rec	110		%rec
Nickel				86		%rec	89		%rec	90		%rec	88		%rec
Silver				85		%rec	87		%rec	83		%rec	82		%rec
Zinc				89		%rec	90		%rec	103		%rec	96		%rec
1,2,4-Trichlorobenzene				95		%rec	87		%rec	85		%rec	90		%rec
1,4-Dichlorobenzene				93		%rec	86		%rec	72		%rec	76		%rec
2,4,6-Tribromophenol				79		%rec	79		%rec	66		%rec	66		%rec
2,4-Dinitrotoluene				72		%rec	71		%rec	72		%rec	77		%rec
2-Chlorophenol				87		%rec	82		%rec	80		%rec	78		%rec
2-Fluorobiphenyl				74		%rec	78		%rec	87		%rec	87		%rec
2-Fluorophenol				69		%rec	69		%rec	67		%rec	64		%rec
4-Chloro-3-methylphenol				84		%rec	79		%rec	90		%rec	87		%rec
4-Nitrophenol				69		%rec	67		%rec	76		%rec	139		%rec
Acenaphthene				89		%rec	87		%rec	111		%rec	108		%rec
N-Nitroso-di-n-propylamine				84		%rec	80		%rec	83		%rec	94		%rec
Nitrobenzene-D5				72		%rec	85		%rec	81		%rec	84		%rec
Pentachlorophenol				90		%rec	77		%rec	70		%rec	102		%rec
Phenol				81		%rec	79		%rec	72		%rec	70		%rec
Phenol-D5				72		%rec	72		%rec	76		%rec	68		%rec
Pyrene				97		%rec	90		%rec	88		%rec	80		%rec
Terphenyl-D14				88		%rec	89		%rec	79		%rec	72		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Well/Boring:	2-60			SB-021			SB-021			SB-022R			SB-022R		
Sample ID:	A1585-MSD			A1068-MS			A1068-MSD			A1534-MS			A1534-MSD		
Depth:	40 - 41			11 - 11.5			11 - 11.5			21 - 22			21 - 22		
Parameters	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
9071/418.1 for TPH				100		%rec	82		%rec	99		%rec	100		%rec
1,1-Dichloroethene	106		%rec	118		%rec	127		%rec	92		%rec	88		%rec
1,2-Dichloroethane-D4	100		%rec	107		%rec	102		%rec	107		%rec	105		%rec
Benzene	101		%rec	108		%rec	119		%rec	97		%rec	96		%rec
Bromofluorobenzene	99		%rec	97		%rec	99		%rec	94		%rec	96		%rec
Chlorobenzene	106		%rec	115		%rec	119		%rec	96		%rec	97		%rec
Toluene	109		%rec	116		%rec	114		%rec	98		%rec	97		%rec
Toluene-D8	105		%rec	106		%rec	102		%rec	102		%rec	102		%rec
Trichloroethene	88		%rec	81		%rec	88		%rec	85		%rec	86		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Well/Boring:	SB-023R			SB-023R			SB-023R			SB-023R			SB-025R		
Sample ID:	A1168-MS			A1168-MSD			A1539-MS			A1539-MSD			A1153-MS		
Depth:	17.5 - 18			17.5 - 18			23 - 24			23 - 24			18 - 18.5		
Parameters	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Aluminum	885		%rec	860		%rec							800		%rec
Arsenic - Graphite Furnace	55		%rec	55		%rec							65		%rec
Barium	87		%rec	204		%rec							8		%rec
Beryllium	86		%rec	86		%rec							86		%rec
Cadmium	84		%rec	86		%rec							86		%rec
Chromium	89		%rec	88		%rec							94		%rec
Chromium VI	102		%rec	104		%rec							104		%rec
Copper	90		%rec	90		%rec							91		%rec
Iron	0		%rec	0		%rec							525		%rec
Lead - Graphite Furnace	0		%rec	23		%rec							95		%rec
Mercury	116		%rec	115		%rec							116		%rec
Nickel	83		%rec	82		%rec							87		%rec
Silver	82		%rec	83		%rec							85		%rec
Zinc	85		%rec	87		%rec							87		%rec
1,2,4-Trichlorobenzene	58		%rec	52		%rec							67		%rec
1,4-Dichlorobenzene	58		%rec	53		%rec							63		%rec
2,4,6-Tribromophenol	19		%rec	50		%rec							66		%rec
2,4-Dinitrotoluene	50		%rec	46		%rec							51		%rec
2-Chlorophenol	41		%rec	60		%rec							58		%rec
2-Fluorobiphenyl	54		%rec	51		%rec							64		%rec
2-Fluorophenol	32		%rec	54		%rec							57		%rec
4-Chloro-3-methylphenol	33		%rec	56		%rec							62		%rec
4-Nitrophenol	51		%rec	46		%rec							57		%rec
Acenaphthene	59		%rec	60		%rec							64		%rec
N-Nitroso-di-n-propylamine	52		%rec	57		%rec							59		%rec
Nitrobenzene-D5	54		%rec	55		%rec							64		%rec
Pentachlorophenol	45		%rec	34		%rec							50		%rec
Phenol	44		%rec	58		%rec							53		%rec
Phenol-D5	45		%rec	58		%rec							55		%rec
Pyrene	60		%rec	60		%rec							65		%rec
Terphenyl-D14	60		%rec	59		%rec							75		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Parameters	Well/Boring: SB-023R Sample ID: A1168-MS Depth: 17.5 - 18			Well/Boring: SB-023R Sample ID: A1168-MSD Depth: 17.5 - 18			Well/Boring: SB-023R Sample ID: A1539-MS Depth: 23 - 24			Well/Boring: SB-023R Sample ID: A1539-MSD Depth: 23 - 24			Well/Boring: SB-025R Sample ID: A1153-MS Depth: 18 - 18.5		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
9071/418.1 for TPH	96		%rec	99		%rec	96		%rec	96		%rec	99		%rec
1,1-Dichloroethene	91		%rec	90		%rec							88		%rec
1,2-Dichloroethane-D4	105		%rec	106		%rec							105		%rec
Benzene	98		%rec	99		%rec							88		%rec
Bromofluorobenzene	99		%rec	98		%rec							102		%rec
Chlorobenzene	103		%rec	110		%rec							96		%rec
Toluene	104		%rec	105		%rec							93		%rec
Toluene-D8	106		%rec	104		%rec							103		%rec
Trichloroethene	86		%rec	88		%rec							79		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Well/Boring:	SB-025R			SB-026			SB-026			SB-028			SB-028		
Sample ID:	A1153-MSD			A1074-MS			A1074-MSD			A1087-MS			A1087-MSD		
Depth:	18 - 18.5			5 - 8			5 - 8			15.5 - 16			15.5 - 16		
Parameters	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Aluminum	678		%rec	1054		%rec	1211		%rec	791		%rec	743		%rec
Arsenic - Graphite Furnace	64		%rec	44		%rec	72		%rec	96		%rec	92		%rec
Barium	0		%rec	0		%rec	0		%rec	0		%rec	0		%rec
Beryllium	85		%rec	87		%rec	88		%rec	132		%rec	87		%rec
Cadmium	84		%rec	87		%rec	88		%rec	84		%rec	81		%rec
Chromium	88		%rec	93		%rec	98		%rec	142		%rec	97		%rec
Chromium VI	98		%rec	106		%rec	107		%rec	102		%rec	98		%rec
Copper	88		%rec	90		%rec	92		%rec	87		%rec	85		%rec
Iron	339		%rec	642		%rec	823		%rec	0		%rec	220		%rec
Lead - Graphite Furnace	127		%rec	260		%rec	79		%rec	85		%rec	100		%rec
Mercury	115		%rec	100		%rec	100		%rec	106		%rec	116		%rec
Nickel	82		%rec	91		%rec	91		%rec	84		%rec	73		%rec
Silver	85		%rec	86		%rec	87		%rec	83		%rec	82		%rec
Zinc	83		%rec	92		%rec	93		%rec	127		%rec	80		%rec
1,2,4-Trichlorobenzene	44		%rec	76		%rec	75		%rec	92		%rec	91		%rec
1,4-Dichlorobenzene	41		%rec	72		%rec	70		%rec	74		%rec	75		%rec
2,4,6-Tribromophenol	39		%rec	68		%rec	63		%rec	71		%rec	69		%rec
2,4-Dinitrotoluene	31		%rec	77		%rec	81		%rec	83		%rec	80		%rec
2-Chlorophenol	37		%rec	75		%rec	73		%rec	85		%rec	85		%rec
2-Fluorobiphenyl	42		%rec	70		%rec	72		%rec	91		%rec	88		%rec
2-Fluorophenol	37		%rec	59		%rec	59		%rec	62		%rec	65		%rec
4-Chloro-3-methylphenol	29		%rec	75		%rec	78		%rec	96		%rec	90		%rec
4-Nitrophenol	31		%rec	66		%rec	68		%rec	117		%rec	104		%rec
Acenaphthene	42		%rec	81		%rec	87		%rec	115		%rec	111		%rec
N-Nitroso-di-n-propylamine	38		%rec	71		%rec	72		%rec	95		%rec	91		%rec
Nitrobenzene-D5	42		%rec	65		%rec	66		%rec	87		%rec	85		%rec
Pentachlorophenol	29		%rec	42		%rec	53		%rec	88		%rec	83		%rec
Phenol	34		%rec	66		%rec	67		%rec	67		%rec	68		%rec
Phenol-D5	36		%rec	65		%rec	65		%rec	65		%rec	70		%rec
Pyrene	42		%rec	81		%rec	81		%rec	86		%rec	87		%rec
Terphenyl-D14	53		%rec	69		%rec	68		%rec	75		%rec	75		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for SQ
Tinker Air Force Base

Parameters	Well/Boring: SB-025R Sample ID: A1153-MSD Depth: 18 - 18.5			SB-026 A1074-MS 5 - 8			SB-026 A1074-MSD 5 - 8			SB-028 A1087-MS 15.5 - 16			SB-028 A1087-MSD 15.5 - 16		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
9071/418.1 for TPH	99		%rec	96		%rec	100		%rec	99		%rec	99		%rec
1,1-Dichloroethene	92		%rec	124		%rec	120		%rec	110		%rec	106		%rec
1,2-Dichloroethane-D4	108		%rec	100		%rec	103		%rec	104		%rec	102		%rec
Benzene	95		%rec	114		%rec	110		%rec	104		%rec	102		%rec
Bromofluorobenzene	101		%rec	93		%rec	94		%rec	94		%rec	95		%rec
Chlorobenzene	96		%rec	106		%rec	105		%rec	109		%rec	108		%rec
Toluene	93		%rec	108		%rec	111		%rec	105		%rec	103		%rec
Toluene-D8	103		%rec	102		%rec	106		%rec	97		%rec	99		%rec
Trichloroethene	83		%rec	92		%rec	88		%rec	93		%rec	89		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

ANALYTICAL RESULTS

QUALITY CONTROL - WATER

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611-MS Depth: 0 - 0			Well/Boring: 2-59 Sample ID: A1611-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1080 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1081 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1082 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Alkalinity, Titrimetric	370		mg/l as	370		mg/l as									
Chemical Oxygen Demand	124		%rec	116		%rec									
Chloride by Ion Chrom.	98		%rec	119		%rec									
Nitrate and Nitrite	84		%rec	84		%rec									
Phenolics	93		%rec	86		%rec									
Silica	92		%rec	104		%rec									
Sulfate by Ion Chrom.	105		%rec	80		%rec									
Total Phosphorus	100		%rec	89		%rec									
Aluminum	229		%rec	277		%rec							<0.20	U	mg/l
Arsenic - Graphite Furnace	98		%rec	85		%rec							<0.010	U	mg/l
Barium	77		%rec	83		%rec							<0.20	U	mg/l
Beryllium													<0.0050	U	mg/l
Cadmium	77		%rec	79		%rec							<0.0050	U	mg/l
Calcium	103		%rec	147		%rec									
Chromium	79		%rec	82		%rec							<0.010	U	mg/l
Chromium VI	110		%rec	106		%rec							<0.010	U	mg/l
Copper	76		%rec	79		%rec							<0.025	U	mg/l
Iron	115		%rec	145		%rec							<0.10	U	mg/l
Lead - Graphite Furnace	140		%rec	124		%rec							<0.0030	U	mg/l
Magnesium	99		%rec	141		%rec									
Manganese	76		%rec	82		%rec									
Mercury	79		%rec	83		%rec							<0.00040	U	mg/l
Nickel	75		%rec	76		%rec							<0.040	U	mg/l
Potassium	100		%rec	117		%rec									
Selenium	64		%rec	71		%rec									
Silver	77		%rec	80		%rec							<0.010	U	mg/l
Sodium	93		%rec	144		%rec									
Zinc	77		%rec	80		%rec							<0.020	U	mg/l
1,2,4-Trichlorobenzene	81		%rec	81		%rec							<10	U	ug/l
1,2-Dichlorobenzene													<10	U	ug/l
1,3-Dichlorobenzene													<10	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611-MS Depth: 0 - 0			Well/Boring: 2-59 Sample ID: A1611-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1080 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1081 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1082 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
1,4-Dichlorobenzene	65		%rec	68		%rec							<10	U	ug/l
2,4,5-Trichlorophenol													<10	U	ug/l
2,4,6-TRIBROMOPHENOL	106		%rec	94		%rec									
2,4,6-Tribromophenol													58		%rec
2,4,6-Trichlorophenol													<10	U	ug/l
2,4-Dichlorophenol													<10	U	ug/l
2,4-Dimethylphenol													<10	U	ug/l
2,4-Dinitrophenol													<25	U	ug/l
2,4-Dinitrotoluene	82		%rec	90		%rec							<10	U	ug/l
2,6-Dinitrotoluene													<10	U	ug/l
2-Chloronaphthalene													<10	U	ug/l
2-Chlorophenol	80		%rec	84		%rec							<10	U	ug/l
2-FLUOROBIPHENYL	79		%rec	86		%rec									
2-FLUOROPHENOL	72		%rec	65		%rec									
2-Fluorobiphenyl													28		%rec
2-Fluorophenol													8.8		%rec
2-Methylnaphthalene													<10	U	ug/l
2-Methylphenol													<10	U	ug/l
2-Nitroaniline													<25	U	ug/l
2-Nitrophenol													<10	U	ug/l
3,3'-Dichlorobenzidine													<10	U	ug/l
3-Nitroaniline													<25	U	ug/l
4,6-Dinitro-2-methylphenol													<25	U	ug/l
4-Bromophenyl-phenylether													<10	U	ug/l
4-Chloro-3-methylphenol	76		%rec	56		%rec							<10	U	ug/l
4-Chloroaniline													<10	U	ug/l
4-Chlorophenyl-phenylether													<10	U	ug/l
4-Methylphenol													<10	U	ug/l
4-Nitroaniline													<10	U	ug/l
4-Nitrophenol	93		%rec	103		%rec							<25	U	ug/l
Acenaphthene	75		%rec	5		%rec							<10	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611-MS Depth: 0 - 0			Well/Boring: 2-59 Sample ID: A1611-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1080 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1081 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1082 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Acenaphthylene													<10	U	ug/l
Anthracene													<10	U	ug/l
Benzo(a)anthracene													<10	U	ug/l
Benzo(a)pyrene													<10	U	ug/l
Benzo(b)fluoranthene													<10	U	ug/l
Benzo(g,h,i)perylene													<10	U	ug/l
Benzo(k)fluoranthene													<10	U	ug/l
Benzoic Acid													<10	U	ug/l
Benzyl alcohol													<10	U	ug/l
Butylbenzylphthalate													<10	U	ug/l
Chrysene													<10	U	ug/l
Di-n-butylphthalate													<10	U	ug/l
Di-n-octylphthalate													<10	U	ug/l
Dibenzo(a,h)anthracene													<10	U	ug/l
Dibenzofuran													<10	U	ug/l
Diethylphthalate													<10	U	ug/l
Dimethylphthalate													<10	U	ug/l
Fluoranthene													<10	U	ug/l
Fluorene													<10	U	ug/l
Hexachlorobenzene													<10	U	ug/l
Hexachlorobutadiene													<10	U	ug/l
Hexachlorocyclopentadiene													<10	U	ug/l
Hexachloroethane													<10	U	ug/l
Indeno(1,2,3-cd)pyrene													<10	U	ug/l
Isophorone													<10	U	ug/l
N-Nitroso-di-n-propylamine	63		%rec	61		%rec							<10	U	ug/l
N-Nitrosodiphenylamine													<10	U	ug/l
NITROBENZENE-D5	82		%rec	85		%rec									
Naphthalene													<10	U	ug/l
Nitrobenzene													<10	U	ug/l
Nitrobenzene-D5													14		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611-MS Depth: 0 - 0			Well/Boring: 2-59 Sample ID: A1611-MSD Depth: 0 - 0			FIELDQC A1080 0 - 0			FIELDQC A1081 0 - 0			FIELDQC A1082 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
PHENOL-D5	72		%rec	56		%rec									
Pentachlorophenol	121		%rec	117		%rec							<25	U	ug/l
Phenanthrene													<10	U	ug/l
Phenol	63		%rec	56		%rec							<10	U	ug/l
Phenol-D5													5.9		%rec
Pyrene	86		%rec	21		%rec							<10	U	ug/l
TERPHENYL-D14	87		%rec	103		%rec									
Terphenyl-D14													71		%rec
bis(2-Chloroethoxy)methane													<10	U	ug/l
bis(2-Chloroethyl)ether													<10	U	ug/l
bis(2-Chloroisopropyl)ethe													<10	U	ug/l
bis(2-Ethylhexyl)phthalate													5.7	JB	ug/l
Total Dissolved Solids	1500		mg/l	1500		mg/l									
Total Kjeldahl Nitrogen	53		%rec	59		%rec									
Total Organic Carbon	93		%rec	100		%rec									
Total Suspended Solids	550		mg/l	490		mg/l									
TPH - IR	88		%rec	97		%rec							<1.0	U	mg/l
1,1,1-Trichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2,2-Tetrachloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2-Trichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethene	106		%rec	104		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane-D4	92		%rec	91		%rec	100		%rec	102		%rec	105		%rec
1,2-Dichloropropane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
2-Butanone							<100	U	ug/l	3.6	J	ug/l	1.5	J	ug/l
2-Chloroethylvinyl ether							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
2-Hexanone							<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
4-Methyl-2-Pentanone							<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
Acetone							<100	U	ug/l	<100	U	ug/l	<100	U	ug/l
Benzene	103		%rec	101		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: 2-59 Sample ID: A1611-MS Depth: 0 - 0			Well/Boring: 2-59 Sample ID: A1611-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1080 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1081 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1082 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Bromofluorobenzene	98		%rec	101		%rec	96		%rec	98		%rec	96		%rec
Bromoform							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Bromomethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Carbon Disulfide							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Carbon Tetrachloride							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorobenzene	101		%rec	102		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorodibromomethane							<5	U	ug/l	2.4	J	ug/l	<5	U	ug/l
Chloroethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Chloroform							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chloromethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Dichlorobromomethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Ethylbenzene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Methylene Chloride							4.1	J	ug/l	5.7	JB	ug/l	4.9	JB	ug/l
Styrene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Tetrachloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene	99		%rec	100		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene-D8	101		%rec	104		%rec	95		%rec	97		%rec	96		%rec
Trichloroethene	97		%rec	95		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Vinyl Acetate							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Vinyl Chloride							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Xylenes (total)							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis 1,3 Dichloropropene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis-1,2-Dichloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans 1,3-Dichloropropene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans-1,2-Dichloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1102 Depth: 0 - 0			FIELDQC A1148 0 - 0			FIELDQC A1164 0 - 0			FIELDQC A1527 0 - 0			FIELDQC A1533 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Alkalinity, Titrimetric															
Chemical Oxygen Demand															
Chloride by Ion Chrom.															
Nitrate and Nitrite															
Phenolics															
Silica															
Sulfate by Ion Chrom.															
Total Phosphorus															
Aluminum													<0.20	U	mg/l
Arsenic - Graphite Furnace													<0.010	U	mg/l
Barium													<0.20	U	mg/l
Beryllium													<0.0050	U	mg/l
Cadmium													<0.0050	U	mg/l
Calcium															
Chromium													<0.010	U	mg/l
Chromium VI													<0.010	U	mg/l
Copper													<0.025	U	mg/l
Iron													<0.10	U	mg/l
Lead - Graphite Furnace													<0.0030	U	mg/l
Magnesium															
Manganese															
Mercury													<0.00020	U	mg/l
Nickel													<0.040	U	mg/l
Potassium															
Selenium															
Silver													<0.010	U	mg/l
Sodium															
Zinc													<0.020	U	mg/l
1,2,4-Trichlorobenzene													<10	U	mg/l
1,2-Dichlorobenzene													<10	U	mg/l
1,3-Dichlorobenzene													<10	U	mg/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC			FIELDQC		
Sample ID:	A1102			A1148			A1164			A1527			A1533		
Depth:	0 - 0			0 - 0			0 - 0			0 - 0			0 - 0		
Parameters	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
1,4-Dichlorobenzene													<10	U	mg/l
2,4,5-Trichlorophenol													<10	U	mg/l
2,4,6-TRIBROMOPHENOL															
2,4,6-Tribromophenol													78		%rec
2,4,6-Trichlorophenol													<10	U	mg/l
2,4-Dichlorophenol													<10	U	mg/l
2,4-Dimethylphenol													<10	U	mg/l
2,4-Dinitrophenol													<25	U	mg/l
2,4-Dinitrotoluene													<10	U	mg/l
2,6-Dinitrotoluene													<10	U	mg/l
2-Chloronaphthalene													<10	U	mg/l
2-Chlorophenol													<10	U	mg/l
2-FLUOROBIPHENYL															
2-FLUOROPHENOL															
2-Fluorobiphenyl													77		%rec
2-Fluorophenol													64		%rec
2-Methylnaphthalene													<10	U	mg/l
2-Methylphenol													<10	U	mg/l
2-Nitroaniline													<25	U	mg/l
2-Nitrophenol													<10	U	mg/l
3,3'-Dichlorobenzidine													<10	U	mg/l
3-Nitroaniline													<25	U	mg/l
4,6-Dinitro-2-methylphenol													<25	U	mg/l
4-Bromophenyl-phenylether													<10	U	mg/l
4-Chloro-3-methylphenol													<10	U	mg/l
4-Chloroaniline													<10	U	mg/l
4-Chlorophenyl-phenylether													<10	U	mg/l
4-Methylphenol													<10	U	mg/l
4-Nitroaniline													<10	U	mg/l
4-Nitrophenol													<25	U	mg/l
Acenaphthene													<10	U	mg/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID:	A1102			A1148			A1164			A1527			A1533		
	Depth:	0 - 0			0 - 0			0 - 0			0 - 0			0 - 0		
		Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Acenaphthylene														<10	U	mg/l
Anthracene														<10	U	mg/l
Benzo(a)anthracene														<10	U	mg/l
Benzo(a)pyrene														<10	U	mg/l
Benzo(b)fluoranthene														<10	U	mg/l
Benzo(g,h,i)perylene														<10	U	mg/l
Benzo(k)fluoranthene														<10	U	mg/l
Benzoic Acid														<10	U	mg/l
Benzyl alcohol														<10	U	mg/l
Butylbenzylphthalate														<10	U	mg/l
Chrysene														<10	U	mg/l
Di-n-butylphthalate														<10	U	mg/l
Di-n-octylphthalate														<10	U	mg/l
Dibenzo(a,h)anthracene														<10	U	mg/l
Dibenzofuran														<10	U	mg/l
Diethylphthalate														<10	U	mg/l
Dimethylphthalate														<10	U	mg/l
Fluoranthene														<10	U	mg/l
Fluorene														<10	U	mg/l
Hexachlorobenzene														<10	U	mg/l
Hexachlorobutadiene														<10	U	mg/l
Hexachlorocyclopentadiene														<10	U	mg/l
Hexachloroethane														<10	U	mg/l
Indeno(1,2,3-cd)pyrene														<10	U	mg/l
Isophorone														<10	U	mg/l
N-Nitroso-di-n-propylamine														<10	U	mg/l
N-Nitrosodiphenylamine														<10	U	mg/l
NITROBENZENE-D5																
Naphthalene														<10	U	mg/l
Nitrobenzene														<10	U	mg/l
Nitrobenzene-D5														74		%rec

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC			FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID: A1102			A1148			A1164			A1527			A1533		
	Depth: 0 - 0			0 - 0			0 - 0			0 - 0			0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
PHENOL-D5															
Pentachlorophenol													<25	U	mg/l
Phenanthrene													<10	U	mg/l
Phenol													<10	U	mg/l
Phenol-D5													72		%rec
Pyrene													<10	U	mg/l
TERPHENYL-D14															
Terphenyl-D14													77		%rec
bis(2-Chloroethoxy)methane													<10	U	mg/l
bis(2-Chloroethyl)ether													<10	U	mg/l
bis(2-Chloroisopropyl)ethe													<10	U	mg/l
bis(2-Ethylhexyl)phthalate													<10	U	mg/l
Total Dissolved Solids															
Total Kjeldahl Nitrogen															
Total Organic Carbon															
Total Suspended Solids															
TPH - IR													<1.0	U	mg/l
1,1,1-Trichloroethane	<5	U	ug/l	3.2	JB	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2,2-Tetrachloroethane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2-Trichloroethane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane-D4	102		%rec	104		%rec	101		%rec	100		%rec	99		%rec
1,2-Dichloropropane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
2-Butanone	<100	U	ug/l	<100	U	ug/l	<100	U	ug/l	<100	U	ug/l	<100	U	ug/l
2-Chloroethylvinyl ether	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
2-Hexanone	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
4-Methyl-2-Pentanone	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
Acetone	<100	U	ug/l	8.9	J	ug/l	<100	U	ug/l	<100	U	ug/l	<100	U	ug/l
Benzene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1102 Depth: 0 - 0			FIELDQC A1148 0 - 0			FIELDQC A1164 0 - 0			FIELDQC A1527 0 - 0			FIELDQC A1533 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Bromofluorobenzene	94		%rec	102		%rec	101		%rec	93		%rec	96		%rec
Bromoform	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Bromomethane	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Carbon Disulfide	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Carbon Tetrachloride	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorobenzene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorodibromomethane	2.4	J	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chloroethane	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Chloroform	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chloromethane	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Dichlorobromomethane	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Ethylbenzene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Methylene Chloride	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Styrene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Tetrachloroethene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene-D8	96		%rec	95		%rec	102		%rec	96		%rec	96		%rec
Trichloroethene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Vinyl Acetate	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Vinyl Chloride	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Xylenes (total)	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis 1,3 Dichloropropene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis-1,2-Dichloroethene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans 1,3-Dichloropropene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans-1,2-Dichloroethene	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1533-MS Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1533-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1582 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1583 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1584 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Alkalinity, Titrimetric															
Chemical Oxygen Demand															
Chloride by Ion Chrom.															
Nitrate and Nitrite															
Phenolics															
Silica															
Sulfate by Ion Chrom.															
Total Phosphorus															
Aluminum										<0.20	U	mg/l			
Arsenic - Graphite Furnace										<0.010	U	mg/l			
Barium										<0.20	U	mg/l			
Beryllium										<0.0050	U	mg/l			
Cadmium										<0.0050	U	mg/l			
Calcium															
Chromium										<0.010	U	mg/l			
Chromium VI										<0.010	U	mg/l			
Copper										<0.025	U	mg/l			
Iron										<0.10	U	mg/l			
Lead - Graphite Furnace										<0.0030	U	mg/l			
Magnesium															
Manganese															
Mercury										<0.00020	U	mg/l			
Nickel										<0.040	U	mg/l			
Potassium															
Selenium															
Silver										<0.010	U	mg/l			
Sodium															
Zinc										<0.020	U	mg/l			
1,2,4-Trichlorobenzene										<10	U	ug/l			
1,2-Dichlorobenzene										<10	U	ug/l			
1,3-Dichlorobenzene										<10	U	ug/l			

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical Qc results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1533-MS Depth: 0 - 0			FIELDQC A1533-MSD 0 - 0			FIELDQC A1582 0 - 0			FIELDQC A1583 0 - 0			FIELDQC A1584 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
1,4-Dichlorobenzene										<10	U	ug/l			
2,4,5-Trichlorophenol										<10	U	ug/l			
2,4,6-TRIBROMOPHENOL															
2,4,6-Tribromophenol										93		%rec			
2,4,6-Trichlorophenol										<10	U	ug/l			
2,4-Dichlorophenol										<10	U	ug/l			
2,4-Dimethylphenol										<10	U	ug/l			
2,4-Dinitrophenol										<25	U	ug/l			
2,4-Dinitrotoluene										<10	U	ug/l			
2,6-Dinitrotoluene										<10	U	ug/l			
2-Chloronaphthalene										<10	U	ug/l			
2-Chlorophenol										<10	U	ug/l			
2-FLUOROBIPHENYL															
2-FLUOROPHENOL															
2-Fluorobiphenyl										77		%rec			
2-Fluorophenol										81		%rec			
2-Methylnaphthalene										<10	U	ug/l			
2-Methylphenol										<10	U	ug/l			
2-Nitroaniline										<25	U	ug/l			
2-Nitrophenol										<10	U	ug/l			
3,3'-Dichlorobenzidine										<10	U	ug/l			
3-Nitroaniline										<25	U	ug/l			
4,6-Dinitro-2-methylphenol										<25	U	ug/l			
4-Bromophenyl-phenylether										<10	U	ug/l			
4-Chloro-3-methylphenol										<10	U	ug/l			
4-Chloroaniline										<10	U	ug/l			
4-Chlorophenyl-phenylether										<10	U	ug/l			
4-Methylphenol										<10	U	ug/l			
4-Nitroaniline										<10	U	ug/l			
4-Nitrophenol										<25	U	ug/l			
Acenaphthene										<10	U	ug/l			

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1533-MS Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1533-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1582 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1583 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1584 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Acenaphthylene										<10	U	ug/l			
Anthracene										<10	U	ug/l			
Benzo(a)anthracene										<10	U	ug/l			
Benzo(a)pyrene										<10	U	ug/l			
Benzo(b)fluoranthene										<10	U	ug/l			
Benzo(g,h,i)perylene										<10	U	ug/l			
Benzo(k)fluoranthene										<10	U	ug/l			
Benzoic Acid										<10	U	ug/l			
Benzyl alcohol										<10	U	ug/l			
Butylbenzylphthalate										<10	U	ug/l			
Chrysene										<10	U	ug/l			
Di-n-butylphthalate										<10	U	ug/l			
Di-n-octylphthalate										<10	U	ug/l			
Dibenzo(a,h)anthracene										<10	U	ug/l			
Dibenzofuran										<10	U	ug/l			
Diethylphthalate										<10	U	ug/l			
Dimethylphthalate										<10	U	ug/l			
Fluoranthene										<10	U	ug/l			
Fluorene										<10	U	ug/l			
Hexachlorobenzene										<10	U	ug/l			
Hexachlorobutadiene										<10	U	ug/l			
Hexachlorocyclopentadiene										<10	U	ug/l			
Hexachloroethane										<10	U	ug/l			
Indeno(1,2,3-cd)pyrene										<10	U	ug/l			
Isophorone										<10	U	ug/l			
N-Nitroso-di-n-propylamine										<10	U	ug/l			
N-Nitrosodiphenylamine										<10	U	ug/l			
NITROBENZENE-D5															
Naphthalene										<10	U	ug/l			
Nitrobenzene										<10	U	ug/l			
Nitrobenzene-D5										83		%rec			

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1533-MS Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1533-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1582 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1583 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1584 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
PHENOL-D5															
Pentachlorophenol										<25	U	ug/l			
Phenanthrene										<10	U	ug/l			
Phenol										<10	U	ug/l			
Phenol-D5										81		%rec			
Pyrene										<10	U	ug/l			
TERPHENYL-D14															
Terphenyl-D14										99		%rec			
bis(2-Chloroethoxy)methane										<10	U	ug/l			
bis(2-Chloroethyl)ether										<10	U	ug/l			
bis(2-Chloroisopropyl)ethe										<10	U	ug/l			
bis(2-Ethylhexyl)phthalate										<10	U	ug/l			
Total Dissolved Solids															
Total Kjeldahl Nitrogen															
Total Organic Carbon															
Total Suspended Solids															
TPH - IR										<1.0	U	mg/l			
1,1,1-Trichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2,2-Tetrachloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1,2-Trichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,1-Dichloroethene	89		%rec	89		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
1,2-Dichloroethane-D4	99		%rec	102		%rec	97		%rec	96		%rec	106		%rec
1,2-Dichloropropane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
2-Butanone							<100	U	ug/l	<100	U	ug/l	<100	U	ug/l
2-Chloroethylvinyl ether							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
2-Hexanone							<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
4-Methyl-2-Pentanone							<50	U	ug/l	<50	U	ug/l	<50	U	ug/l
Acetone							<100	U	ug/l	<100	U	ug/l	<100	U	ug/l
Benzene	99		%rec	100		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1533-MS Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1533-MSD Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1582 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1583 Depth: 0 - 0			Well/Boring: FIELDQC Sample ID: A1584 Depth: 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Bromofluorobenzene	94		%rec	96		%rec	99		%rec	95		%rec	100		%rec
Bromoform							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Bromomethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Carbon Disulfide							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Carbon Tetrachloride							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorobenzene	101		%rec	101		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chlorodibromomethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chloroethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Chloroform							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Chloromethane							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Dichlorobromomethane							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Ethylbenzene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Methylene Chloride							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Styrene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Tetrachloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene	97		%rec	98		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Toluene-D8	97		%rec	98		%rec	100		%rec	99		%rec	96		%rec
Trichloroethene	91		%rec	95		%rec	<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
Vinyl Acetate							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Vinyl Chloride							<10	U	ug/l	<10	U	ug/l	<10	U	ug/l
Xylenes (total)							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis 1,3 Dichloropropene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
cis-1,2-Dichloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans 1,3-Dichloropropene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l
trans-1,2-Dichloroethene							<5	U	ug/l	<5	U	ug/l	<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID:	A1587			A1612			A1613			A1646		
	Depth:	0 - 0			0 - 0			0 - 0			0 - 0		
		Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Alkalinity, Titrimetric													
Chemical Oxygen Demand													
Chloride by Ion Chrom.													
Nitrate and Nitrite													
Phenolics													
Silica													
Sulfate by Ion Chrom.													
Total Phosphorus													
Aluminum													
Arsenic - Graphite Furnace													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Chromium VI													
Copper													
Iron													
Lead - Graphite Furnace													
Magnesium													
Manganese													
Mercury													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Zinc													
1,2,4-Trichlorobenzene													
1,2-Dichlorobenzene													
1,3-Dichlorobenzene													

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID:	A1587			A1612			A1613			A1646		
	Depth:	0 - 0			0 - 0			0 - 0			0 - 0		
		Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
1,4-Dichlorobenzene													
2,4,5-Trichlorophenol													
2,4,6-TRIBROMOPHENOL													
2,4,6-Tribromophenol													
2,4,6-Trichlorophenol													
2,4-Dichlorophenol													
2,4-Dimethylphenol													
2,4-Dinitrophenol													
2,4-Dinitrotoluene													
2,6-Dinitrotoluene													
2-Chloronaphthalene													
2-Chlorophenol													
2-FLUOROBIPHENYL													
2-FLUOROPHENOL													
2-Fluorobiphenyl													
2-Fluorophenol													
2-Methylnaphthalene													
2-Methylphenol													
2-Nitroaniline													
2-Nitrophenol													
3,3'-Dichlorobenzidine													
3-Nitroaniline													
4,6-Dinitro-2-methylphenol													
4-Bromophenyl-phenylether													
4-Chloro-3-methylphenol													
4-Chloroaniline													
4-Chlorophenyl-phenylether													
4-Methylphenol													
4-Nitroaniline													
4-Nitrophenol													
Acenaphthene													

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID:	A1587			A1612			A1613			A1646		
	Depth:	0 - 0			0 - 0			0 - 0			0 - 0		
		Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Acenaphthylene													
Anthracene													
Benzo(a)anthracene													
Benzo(a)pyrene													
Benzo(b)fluoranthene													
Benzo(g,h,i)perylene													
Benzo(k)fluoranthene													
Benzoic Acid													
Benzyl alcohol													
Butylbenzylphthalate													
Chrysene													
Di-n-butylphthalate													
Di-n-octylphthalate													
Dibenzo(a,h)anthracene													
Dibenzofuran													
Diethylphthalate													
Dimethylphthalate													
Fluoranthene													
Fluorene													
Hexachlorobenzene													
Hexachlorobutadiene													
Hexachlorocyclopentadiene													
Hexachloroethane													
Indeno(1,2,3-cd)pyrene													
Isophorone													
N-Nitroso-di-n-propylamine													
N-Nitrosodiphenylamine													
NITROBENZENE-D5													
Naphthalene													
Nitrobenzene													
Nitrobenzene-D5													

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring:	FIELDQC			FIELDQC			FIELDQC			FIELDQC		
	Sample ID:	A1587			A1612			A1613			A1646		
	Depth:	0 - 0			0 - 0			0 - 0			0 - 0		
		Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
PHENOL-D5													
Pentachlorophenol													
Phenanthrene													
Phenol													
Phenol-D5													
Pyrene													
TERPHENYL-D14													
Terphenyl-D14													
bis(2-Chloroethoxy)methane													
bis(2-Chloroethyl)ether													
bis(2-Chloroisopropyl)ethe													
bis(2-Ethylhexyl)phthalate													
Total Dissolved Solids													
Total Kjeldahl Nitrogen													
Total Organic Carbon													
Total Suspended Solids													
TPH - IR													
1,1,1-Trichloroethane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,1,2,2-Tetrachloroethane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,1,2-Trichloroethane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,1-Dichloroethane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,1-Dichloroethene		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,2-Dichloroethane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
1,2-Dichloroethane-D4		102		%rec	94		%rec				106		%rec
1,2-Dichloropropane		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
2-Butanone		<100	U	ug/l	<100	U	ug/l				<100	U	ug/l
2-Chloroethylvinyl ether		<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
2-Hexanone		<50	U	ug/l	<50	U	ug/l				<50	U	ug/l
4-Methyl-2-Pentanone		<50	U	ug/l	<50	U	ug/l				<50	U	ug/l
Acetone		<100	U	ug/l	<100	U	ug/l				<100	U	ug/l
Benzene		<5	U	ug/l	<5	U	ug/l				<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

Analytical QC results at the FTM
for WQ
Tinker Air Force Base

Parameters	Well/Boring: FIELDQC Sample ID: A1587 Depth: 0 - 0			FIELDQC A1612 0 - 0			FIELDQC A1613 0 - 0			FIELDQC A1646 0 - 0		
	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units	Result	QFR	Units
Bromofluorobenzene	98		%rec	100		%rec				96		%rec
Bromoform	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Bromomethane	<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
Carbon Disulfide	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Carbon Tetrachloride	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Chlorobenzene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Chlorodibromomethane	<5	U	ug/l	<5	U	ug/l				1.6	J	ug/l
Chloroethane	<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
Chloroform	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Chloromethane	<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
Dichlorobromomethane	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Ethylbenzene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Methylene Chloride	<10	U	ug/l	<10	U	ug/l				1.6	JB	ug/l
Styrene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Tetrachloroethene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Toluene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Toluene-D8	99		%rec	101		%rec				98		%rec
Trichloroethene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
Vinyl Acetate	<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
Vinyl Chloride	<10	U	ug/l	<10	U	ug/l				<10	U	ug/l
Xylenes (total)	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
cis 1,3 Dichloropropene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
cis-1,2-Dichloroethene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
trans 1,3-Dichloropropene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l
trans-1,2-Dichloroethene	<5	U	ug/l	<5	U	ug/l				<5	U	ug/l

B = Analyte was also found in sample blank
E = Concentration exceeds instrument calibration range for that specific analysis
J = Concentration is an estimated value
N = Sample is outside of Matrix Spike QC limit
< = Not detected
QFR = Qualifier
Analytical data has not been validated.

CERTIFICATES OF ANALYSIS

ITJ

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

Printed to KH.CF.TL
12/10/93

RECEIVED
DEC 0 1993

CERTIFICATE OF ANALYSIS

IT CORPORATION
1250 CAPITAL OF TX HWY
BLDG. 3, SUITE 200
AUSTIN, TX 78746-6443
TIM JENNINGS

Date: 12/07/93

Work Order: B3-11-014

This is the Certificate of Analysis for the following samples:

Client Work ID: D.O.5001 409832-003-01
Date Received: 10/29/93
Number of Samples: 11
Sample Type: SOIL

I. Introduction

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
A1066	B3-11-014-01
A1067	B3-11-014-02
A1068	B3-11-014-03
A1068-MS	B3-11-014-04
A1068-MSD	B3-11-014-05
A1069	B3-11-014-06
A1070	B3-11-014-07
A1072	B3-11-014-08
LAB BLANK #1	B3-11-014-09
LAB BLANK #2	B3-11-014-10
LAB BLANK #1	B3-11-014-11

Reviewed and Approved:

Jon Bartell
Laboratory Director

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

II. QA/QC

The results presented in this report meet the statement of work requirements in accordance with Quality Control and Quality Assurance protocol except as noted in Section IV or in an optional sample narrative at the end of Section III.

In the presented analytical data, 'ND' or '<' indicates that the compound is not detected at the specified limit.

III. Analytical Data

The following page(s) supply results for requested analyses performed on the samples listed above.

The test results relate to tested items only. ITAS-Austin reserves the right to control report production except in whole.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

SAMPLE ID: **A1066**
SAMPLE DATE: **10/28/93 09:35:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1066**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/09/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	15	B	10	1,1,2-Trichloroethane	5	U	5
Acetone	110	B	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	19	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	0.9	JB	5

Surrogates	% Recovery	Limits
TOLUENE-D8	112	81 - 117
BROMOFLUOROBENZENE	91	74 - 121
1,2-DICHLOROETHANE-D4	90	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for 1,1,2,2-Tetrachloroethane.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1066**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/06/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330
ethylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.330	U	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1066**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	75	23 - 120
2-Fluorobiphenyl	72	30 - 115
Terphenyl-D14	82	18 - 137
Phenol-D5	80	24 - 113
2-Fluorophenol	68	25 - 121
2,4,6-Tribromophenol	76	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1066**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **86.2068**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.0	N	1.1	7060	11/15/93
Aluminum	12000	N*	17	6010	11/13/93
Barium	160		17	6010	11/13/93
Beryllium	1.1		0.43	6010	11/13/93
Cadmium	1.2		0.43	6010	11/13/93
Chromium	14	*	0.86	6010	11/13/93
Copper	7.0	*	2.2	6010	11/13/93
Iron	15000	N*	8.6	6010	11/13/93
Nickel	11	*	3.4	6010	11/13/93
Lead	8.7	N	0.32	7421	11/15/93
Mercury	0.024	U	0.024	7471	11/15/93
Silver	0.58		0.86	6010	11/13/93
Zinc	16	*	1.7	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

SAMPLE ID: A1067
SAMPLE DATE: 10/28/93 09:40:00
SAMPLE MATRIX: SOIL

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		31	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1067**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.7	JB	10	1,1,2-Trichloroethane	2.9	J	5
Acetone	64	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	4.7	J	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	13	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	107	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	111	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1067**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.04	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1067**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	79	23 - 120
2-Fluorobiphenyl	73	30 - 115
Terphenyl-D14	96	18 - 137
Phenol-D5	79	24 - 113
2-Fluorophenol	77	25 - 121
2,4,6-Tribromophenol	74	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1067**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **86.2068**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.2	N	1.2	7060	11/15/93
Aluminum	9700	N*	17	6010	11/13/93
Barium	150		17	6010	11/13/93
Beryllium	1.00		0.43	6010	11/13/93
Cadmium	0.81		0.43	6010	11/13/93
Chromium	15	*	0.86	6010	11/13/93
Copper	7.8	*	2.2	6010	11/13/93
Iron	14000	N*	8.6	6010	11/13/93
Nickel	20	*	3.4	6010	11/13/93
Lead	6.1	N	0.35	7421	11/15/93
Mercury	0.021	U	0.021	7471	11/15/93
Silver	0.41		0.86	6010	11/13/93
Zinc	25	*	1.7	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

SAMPLE ID: **A1068**
SAMPLE DATE: **10/28/93 09:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		98	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1068**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	6.2	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	20	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	6.7	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	0.3	J	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	108	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1068**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330
ethylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.11	J	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1068**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	75	23 - 120
2-Fluorobiphenyl	70	30 - 115
Terphenyl-D14	90	18 - 137
Phenol-D5	77	24 - 113
2-Fluorophenol	75	25 - 121
2,4,6-Tribromophenol	79	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1068**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **117.647**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	4.0	N	1.1	7060	11/15/93
Aluminum	15000	N*	24	6010	11/13/93
Barium	29		24	6010	11/13/93
Beryllium	1.5		0.59	6010	11/13/93
Cadmium	1.0		0.59	6010	11/13/93
Chromium	29	*	1.2	6010	11/13/93
Copper	15	*	2.9	6010	11/13/93
Iron	28000	N*	12	6010	11/13/93
Nickel	32	*	4.7	6010	11/13/93
Lead	5.4	N	0.33	7421	11/15/93
Mercury	0.022	U	0.022	7471	11/15/93
Silver	0.29		1.2	6010	11/13/93
Zinc	35	*	2.4	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Duplicate analysis outside control limits due to matrix interference on aluminum, chromium, copper, iron, nickel and zinc analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

SAMPLE ID: **A1068-MS**
SAMPLE DATE: **10/28/93 09:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		100		% REC	11/15/93	EPA9071
Chromium VI		100		% REC	11/05/93	EPA7196

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1068-MS**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	118	Trichloroethene	81
		Benzene	108
		Toluene	116
		Chlorobenzene	115

Surrogates	% Recovery	Limits
TOLUENE-D8	106	81 - 117
BROMOFLUOROBENZENE	97	74 - 121
1,2-DICHLOROETHANE-D4	107	70 - 120

Data Qualifier Key:
U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1068-MS**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	81	Acenaphthene	89
2-Chlorophenol	87	4-Nitrophenol	69
1,4-Dichlorobenzene	93	2,4-Dinitrotoluene	72
N-Nitroso-di-n-propylamine	84	Pentachlorophenol	90
1,2,4-Trichlorobenzene	95	Pyrene	97
4-Chloro-3-methylphenol	84		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	72	23 - 120
2-Fluorobiphenyl	74	30 - 115
Terphenyl-D14	88	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	69	25 - 121
2,4,6-Tribromophenol	79	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1068-MS**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **88.4955**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	48.2	7060	11/16/93
Aluminum	1333	6010	11/13/93
Barium	97	6010	11/13/93
Beryllium	85	6010	11/13/93
Cadmium	87	6010	11/13/93
Chromium	92	6010	11/13/93
Copper	92	6010	11/13/93
Iron	422	6010	11/13/93
Nickel	86	6010	11/13/93
Lead	133	7421	11/15/93
Mercury	107	7471	11/15/93
Silver	85	6010	11/13/93
Zinc	89	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike and % RPD for matrix spikes outside control limits due to matrix interference on aluminum and iron analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

SAMPLE ID: **A1068-MSD**
SAMPLE DATE: **10/28/93 09:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		82		% REC	11/15/93	EPA9071
Chromium VI		100		% REC	11/05/93	EPA7196

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1068-MSD**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/09/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	127	Trichloroethene	88
		Benzene	119
		Toluene	114
		Chlorobenzene	119

Surrogates	% Recovery	Limits
TOLUENE-D8	102	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1068-MSD**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	79	Acenaphthene	87
2-Chlorophenol	82	4-Nitrophenol	67
1,4-Dichlorobenzene	86	2,4-Dinitrotoluene	71
N-Nitroso-di-n-propylamine	80	Pentachlorophenol	77
1,2,4-Trichlorobenzene	87	Pyrene	90
4-Chloro-3-methylphenol	79		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	78	30 - 115
Terphenyl-D14	89	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	69	25 - 121
2,4,6-Tribromophenol	79	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:
U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1068-MSD**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **97.0873**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	61.6	7060	11/16/93
Aluminum	1073	6010	11/13/93
Barium	107	6010	11/13/93
Beryllium	87	6010	11/13/93
Cadmium	90	6010	11/13/93
Chromium	88	6010	11/13/93
Copper	94	6010	11/13/93
Iron	124	6010	11/13/93
Nickel	89	6010	11/13/93
Lead	140	7421	11/15/93
Mercury	105	7471	11/15/93
Silver	87	6010	11/13/93
Zinc	90	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
\+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike and % RPD for matrix spikes outside control limits due to matrix interference on aluminum and iron analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01

Work Order: B3-11-014

SAMPLE ID: **A1069**
SAMPLE DATE: **10/28/93 10:05:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1069**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/09/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.9	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	13	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
[illegible]-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	7.0	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	0.4	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	106	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	106	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1069**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01

Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1069**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	77	30 - 115
Terphenyl-D14	100	18 - 137
Phenol-D5	81	24 - 113
2-Fluorophenol	75	25 - 121
2,4,6-Tribromophenol	75	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1069**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **109.890**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.6	N	0.99	7060	11/15/93
Aluminum	6600	N*	22	6010	11/13/93
Barium	100		22	6010	11/13/93
Beryllium	0.72		0.55	6010	11/13/93
Cadmium	0.99		0.55	6010	11/13/93
Chromium	27	*	1.1	6010	11/13/93
Copper	6.0	*	2.7	6010	11/13/93
Iron	15000	N*	11	6010	11/13/93
Nickel	16	*	4.4	6010	11/13/93
Lead	4.6	N	0.30	7421	11/15/93
Mercury	0.023	U	0.023	7471	11/15/93
Silver	0.47		1.1	6010	11/13/93
Zinc	19	*	2.2	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

SAMPLE ID: **A1070**
SAMPLE DATE: **10/28/93 10:20:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1070**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/09/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.8	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.3	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	6.4	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	113	81 - 117
BROMOFLUOROBENZENE	102	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1070**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1070**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	76	23 - 120
2-Fluorobiphenyl	76	30 - 115
Terphenyl-D14	92	18 - 137
Phenol-D5	75	24 - 113
2-Fluorophenol	74	25 - 121
2,4,6-Tribromophenol	73	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1070**
SAMPLE DATE: **10/28/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **113.636**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.7	N	1.2	7060	11/15/93
Aluminum	9700	N*	23	6010	11/13/93
Barium	110		23	6010	11/13/93
Beryllium	0.95		0.57	6010	11/13/93
Cadmium	1.5		0.57	6010	11/13/93
Chromium	18	*	1.1	6010	11/13/93
Copper	11	*	2.8	6010	11/13/93
Iron	20000	N*	11	6010	11/13/93
Nickel	24	*	4.5	6010	11/13/93
Lead	5.1	N	0.35	7421	11/15/93
Mercury	0.022	U	0.022	7471	11/15/93
Silver	0.53		1.1	6010	11/13/93
Zinc	28	*	2.3	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1072**
SAMPLE DATE: **10/19/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/02/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	5.3	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	94	88 - 110
BROMOFLUOROBENZENE	90	86 - 115
1,2-DICHLOROETHANE-D4	99	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01

Work Order: B3-11-014

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/15/93	EPA9071
Chromium VI		0.10U	0.010	MG/KG	11/05/93	EPA7196

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/08/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.3	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	5.3	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	100	81 - 117
BROMOFLUOROBENZENE	101	74 - 121
1,2-DICHLOROETHANE-D4	107	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

See note at back of report for vinyl chloride.

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/03/93**
ANALYSIS DATE: **11/06/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	65	23 - 120
2-Fluorobiphenyl	71	30 - 115
Terphenyl-D14	69	18 - 137
Phenol-D5	69	24 - 113
2-Fluorophenol	59	25 - 121
2,4,6-Tribromophenol	68	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	11/15/93
Aluminum	ND		0.20	6010	11/13/93
Barium	ND		0.20	6010	11/13/93
Beryllium	ND		0.0050	6010	11/13/93
Cadmium	ND		0.0050	6010	11/13/93
Chromium	ND		0.010	6010	11/13/93
Copper	ND		0.025	6010	11/13/93
Iron	ND		0.10	6010	11/13/93
Nickel	ND		0.040	6010	11/13/93
Lead	0.0030	U	0.0030	7421	11/15/93
Mercury	0.00020	U	0.00020	7471	11/15/93
Silver	ND		0.010	6010	11/13/93
Zinc	ND		0.020	6010	11/13/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001 409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/09/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	5.7	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	4.4	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	0.7	J	5

Surrogates	% Recovery	Limits
TOLUENE-D8	100	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

1,1,2,2-Tetrachloroethane response factor below 0.3000

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/02/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	93	88 - 110
BROMOFLUOROBENZENE	92	86 - 115
1,2-DICHLOROETHANE-D4	95	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

Referenced notes for this work order:

B311014

The response factor for 1,1,2,2-tetrachloroethane in the calibration check standard was below Method 8240 acceptance criteria for the first analysis on 11/8/93. The samples were reanalyzed 11/9/93, and the % difference for vinyl chloride in the calibration check standard was 1.5% grester thatn the 25% recommended by Method 8240. In both analyses, the samples had no detectable target compounds. Because of expiration of hold time, a third analysis was not done.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

IV. Methodology

Requested analyses were performed according to the following methods.

TEST NAME **ICP Metals** TEST CODE **6010**

Metals by ICP	Inductively coupled emission spectroscopy according to Method 6010, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", SW-846, Third Edition.

TEST NAME **Hazardous Substance Vols.** TEST CODE **8240TK**

Hazardous Substance List Volatiles	Method 8240, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. GC/MS Purge and Trap analysis.

TEST NAME **ABN HSL GC/MS Extractables** TEST CODE **8270TK**

Hazardous Substance List Extractables	Method 8270, SW-846, Test Methods for Evaluating Solid Waste, Third Edition. Acid/Base-Neutral extraction followed by GC/MS analysis.

TEST NAME **9071/418.1 for TPH** TEST CODE **9071IR**

9071 Prep and IR Analysis	Method 9071, SW846, Test Methods for Evaluating Solid Waste, Third Edition. Soxhlet extraction from Method 9071 using freon and infrared analysis of the extract using Method 418.1.

TEST NAME **Arsenic - Graphite Furnace** TEST CODE **AS_GF**

Arsenic Graphite Furnace	Method 7060, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 206.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes, EPA-600/4-82-055, December 1982.

TEST NAME **Chromium VI** TEST CODE **CR_VI**

Chromium VI	Method 7196, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Colorimetric analysis. Equivalent to Standard Methods 3500-Cr D.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/07/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-014

TEST NAME **Mercury** TEST CODE **HG_AA**

Mercury	Method 7471, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Cold vapor atomic absorption. Method 7470 is used for water. Method 245.5-"Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **Metals** TEST CODE **ICPTK2**

Method not available.

TEST NAME **Lead - Graphite Furnace** TEST CODE **PB_GF**

Lead Graphite Furnace	EPA 7421, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 239.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **GFAA Digestion - Soil** TEST CODE **Z3050F**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace/Flame AA analysis.

TEST NAME **ICPES Digestion - Soil** TEST CODE **Z3050P**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for ICPES analysis. Equivalent to Method 3050A, SW-846 Update I, July 1992.

B 311014

Reference Document No. 313512
Page 1 of 2

IT INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Project Name/No. 1 Tinker 5001/409832.03.01
Sample Team Members 2 Kyle Kirschenmann/Andrew Gordon
Profit Center No. 3 3527
Project Manager 4 Jimmy Taylor
Purchase Order No. 6 409832.03
Required Report Date 11 15 days

Samples Shipment Date 7 10/28/93
Lab Destination 8 IT Austin - Analytical
Lab Contact 9 Karmen Deare
Project Contact/Phone 12 Dan McGregor/(405) 736-2260
Carrier/Waybill No. 13 Fed Ex. 8460756356

Bill to: 5 409832.03.01
D.O. 5001
Report to: 10 Tim Jennings
IT-Austin-EES

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
A1066	Soil	10/28/93 0935	Clear glass jar	125ml.	Cool	8240	Good 4°C	
A1066		10/28/93 (AS) ~~0940~~ 0935		500ml.		8270; 6010/7000; 418.1	See RUR	
A1067		10/28/93 0940		125ml.		8240	10/29/93	
A1067		10/28/93 0940		500ml.		8270; 6010/7000; 418.1		
A1068 "MS/MSD"		10/28/93 0950		125ml.		8240		
A1068 "MS/MSD"		10/28/93 0950		(AS) 1000ml.		8270; 6010/7000; 418.1		
A1069		10/28/93 1005		125ml.		8240		
A1069		10/28/93 1005		500ml.		8270; 6010/7000; 418.1		

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☑ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☑

Sample Disposal: 25
Return to Client ☐ Disposal by Lab ☑ Archive (mos.)

Turnaround Time Required: 26
Normal ☑ Rush ☐

QC Level: 27
I. ☑ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) Adrian Gordon	Date: 10/28/93 Time: 1700	1. Received by 28 (Signature/Affiliation) 5 Samples [signature] IT	Date: 10/29/93 Time: 0917
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

B3110/4

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No. 31351Z

Page 2 of 2

Project Name Tinker 5001

Project No. (AF) 409832.03.01

Samples Shipment Date 10/28/93

ONE CONTAINER PER LINE

Sample 14 Number	Sample 15 Description/Type	Date/Time 16 Collected	Container 17 Type	Sample 18 Volume	Pre-19 servative	Requested Testing 20 Program	Condition on 21 Receipt	Disposal 22 Record No.
A1070	Soil	10/28/93 1020	clear glass jars	125ml.	Cool	8240	Good 4°C	
A1070	"	10/28/93 1020	"	500ml.	"	8270; 6010/7000; 418.1	See COC	
~~A1071~~	"	10/28/93 1040	"	125ml	"	8240	not shipped (AB)	10/28/93
~~A1071~~	"	10/28/93 1040	"	500ml	"	8270; 6010/7000; 418.1	not shipped (AB)	10/28/93
A1072	Water	10/19/93 1700	clear glass VOA vial	40ml.	HCl+cool	8240	TH 10/29/93	

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1066

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
01B						
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	106
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	10.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	122
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	106

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1067

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
02B						
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	118
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	50.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	103
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	118

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1068

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
03B	- -					
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	111
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	50.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	110
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	111

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1068-MS

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
04B	- -					
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	114
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	50.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	114
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	114

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1068-MSD

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
05B	- -					
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	114
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	50.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	111
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	114

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1069

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
06B	- -					
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	99
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	10.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	114
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	99

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : A1070

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
07B	- -					
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	115
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	10.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	111
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	115

Auxiliary Data Summary 12/09/93

Work order : B311014 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
09B						
	9071IR	B311014-09B	1108TPHIR1	11/08/93	11/15/93	1.0
	Arsenic	B311014-09B	11123050F2	11/12/93	11/15/93	1.0
	Chromium VI	B311014-09B	1105CR_VI2	11/05/93	11/05/93	1.0
	Mercury	B311014-09B	1115HGAA2	11/15/93	11/15/93	1.0
	Lead	B311014-09B	11123050F2	11/12/93	11/15/93	1.0

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

Routed to C.F.T.L. 12/20/93

CERTIFICATE OF ANALYSIS

IT CORPORATION
1250 CAPITAL OF TX HWY
BLDG. 3, SUITE 200
AUSTIN, TX 78746-6443
TIM JENNINGS

Date: 12/15/93

Work Order: B3-11-130

This is the Certificate of Analysis for the following samples:

Client Work ID: D.O.5001 409832-003-01
Date Received: 11/11/93
Number of Samples: 13
Sample Type: SOIL

I. Introduction

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
A1073	B3-11-130-01
A1074	B3-11-130-02
A1074-MS	B3-11-130-03
A1074-MSD	B3-11-130-04
A1075	B3-11-130-05
A1076	B3-11-130-06
A1077	B3-11-130-07
A1078	B3-11-130-08
A1079	B3-11-130-09
A1080	B3-11-130-10
LAB BLANK #1	B3-11-130-11
LAB BLANK #2	B3-11-130-12
LAB BLANK #2	B3-11-130-13

Reviewed and Approved:

Jon Bartell
Laboratory Director

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

II. QA/QC

The results presented in this report meet the statement of work requirements in accordance with Quality Control and Quality Assurance protocol except as noted in Section IV or in an optional sample narrative at the end of Section III.

In the presented analytical data, 'ND' or '<' indicates that the compound is not detected at the specified limit.

III. Analytical Data

The following page(s) supply results for requested analyses performed on the samples listed above.

The test results relate to tested items only. ITAS-Austin reserves the right to control report production except in whole.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1073**
SAMPLE DATE: **11/10/93 11:00:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		19	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1073**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/13/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	53	JB	100	Benzene	8.6		5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	1.6	J	5	2-Chloroethylvinyl ether	10	U	10
' '-Dichloroethane	5	U	5	Bromoform	5	U	5
.ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	12	JB	100	Toluene	3.1	J	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	3.7	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	21		5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	20		5

Surrogates	% Recovery	Limits
TOLUENE-D8	111	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	115	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1073**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.065	J	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.045	JB	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1073**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	63	23 - 120
2-Fluorobiphenyl	70	30 - 115
Terphenyl-D14	68	18 - 137
Phenol-D5	62	24 - 113
2-Fluorophenol	54	25 - 121
2,4,6-Tribromophenol	66	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001 409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1073**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **113.636**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.0	N	1.1	7060	11/23/93
Aluminum	10000	N	23	6010	11/22/93
Barium	210	N*	23	6010	11/22/93
Beryllium	0.93		0.57	6010	11/22/93
Cadmium	0.64		0.57	6010	11/22/93
Chromium	14		1.1	6010	11/22/93
Copper	7.8		2.8	6010	11/22/93
Iron	14000	N	11	6010	11/22/93
Nickel	12		4.5	6010	11/22/93
Lead	8.8	N	0.33	7421	11/23/93
Mercury	0.023	U	0.023	7471	11/29/93
Silver	1.1	U	1.1	6010	11/22/93
Zinc	15		2.3	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1074**
SAMPLE DATE: **11/10/93 11:40:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1074**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	5.1	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	27	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
' '-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	6.2	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	81 - 117
BROMOFLUOROBENZENE	96	74 - 121
1,2-DICHLOROETHANE-D4	101	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1074**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.053	JB	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1074**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	63	23 - 120
2-Fluorobiphenyl	68	30 - 115
Terphenyl-D14	70	18 - 137
Phenol-D5	65	24 - 113
2-Fluorophenol	57	25 - 121
2,4,6-Tribromophenol	65	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1074**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **104.166**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.7	N	1.0	7060	11/23/93
Aluminum	8000	N	21	6010	11/22/93
Barium	180	N*	21	6010	11/22/93
Beryllium	0.81		0.52	6010	11/22/93
Cadmium	0.59		0.52	6010	11/22/93
Chromium	16		1.0	6010	11/22/93
Copper	8.6		2.6	6010	11/22/93
Iron	16000	N	10	6010	11/22/93
Nickel	19		4.2	6010	11/22/93
Lead	4.8	N	0.30	7421	11/23/93
Mercury	0.026	U	0.026	7471	11/29/93
Silver	1.0	U	1.0	6010	11/22/93
Zinc	24		2.1	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Duplicate analysis outside control limits due to matrix interference on barium analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1074-MS**
SAMPLE DATE: **11/10/93 11:40:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		96		% REC	11/19/93	EPA9071
Chromium VI		106		% REC	11/17/93	EPA7196

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1074-MS**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/13/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	124	Trichloroethene	92
		Benzene	114
		Toluene	108
		Chlorobenzene	106

Surrogates	% Recovery	Limits
TOLUENE-D8	102	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	100	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1074-MS**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	66	Acenaphthene	81
2-Chlorophenol	75	4-Nitrophenol	66
1,4-Dichlorobenzene	72	2,4-Dinitrotoluene	77
N-Nitroso-di-n-propylamine	71	Pentachlorophenol	42
1,2,4-Trichlorobenzene	76	Pyrene	81
4-Chloro-3-methylphenol	75		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	65	23 - 120
2-Fluorobiphenyl	70	30 - 115
Terphenyl-D14	69	18 - 137
Phenol-D5	65	24 - 113
2-Fluorophenol	59	25 - 121
2,4,6-Tribromophenol	68	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1074-MS**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **90.0900**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	44	7060	11/23/93
Aluminum	1054	6010	11/22/93
Barium	0	6010	11/22/93
Beryllium	87	6010	11/22/93
Cadmium	87	6010	11/22/93
Chromium	93	6010	11/22/93
Copper	90	6010	11/22/93
Iron	642	6010	11/22/93
Nickel	91	6010	11/22/93
Lead	260	7421	11/23/93
Mercury	100	7471	11/29/93
Silver	86	6010	11/22/93
Zinc	92	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike outside control limits due to matrix interference on aluminum, barium and iron analysis by ICPES. % RPD for matrix spikes also outside control limits due to matrix interference on iron analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1074-MSD**
SAMPLE DATE: **11/10/93 11:40:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		100		% REC	11/19/93	EPA9071
Chromium VI		107		% REC	11/17/93	EPA7196

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1074-MSD**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/13/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	120	Trichloroethene	88
		Benzene	110
		Toluene	111
		Chlorobenzene	105

Surrogates	% Recovery	Limits
TOLUENE-D8	106	81 - 117
BROMOFLUOROBENZENE	94	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1074-MSD**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	67	Acenaphthene	87
2-Chlorophenol	73	4-Nitrophenol	68
1,4-Dichlorobenzene	70	2,4-Dinitrotoluene	81
N-Nitroso-di-n-propylamine	72	Pentachlorophenol	53
1,2,4-Trichlorobenzene	75	Pyrene	81
4-Chloro-3-methylphenol	78		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	66	23 - 120
2-Fluorobiphenyl	72	30 - 115
Terphenyl-D14	68	18 - 137
Phenol-D5	65	24 - 113
2-Fluorophenol	59	25 - 121
2,4,6-Tribromophenol	63	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit;
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1074-MSD**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **113.636**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	72	7060	11/23/93
Aluminum	1211	6010	11/22/93
Barium	0	6010	11/22/93
Beryllium	88	6010	11/22/93
Cadmium	88	6010	11/22/93
Chromium	98	6010	11/22/93
Copper	92	6010	11/22/93
Iron	823	6010	11/22/93
Nickel	91	6010	11/22/93
Lead	79	7421	11/23/93
Mercury	100	7471	11/29/93
Silver	87	6010	11/22/93
Zinc	93	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike duplicate outside control limits due to matrix interference on aluminum, barium and iron analysis by ICPES. % RPD for matrix spikes also outside control limits due to matrix interference on iron analysis by ICPES. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1075**
SAMPLE DATE: **11/10/93 16:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		11	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.49U	0.49	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1075**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/13/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	130	B	100	Benzene	16		5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	24	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	109	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	109	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1075**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.091	JB	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1075**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	62	23 - 120
2-Fluorobiphenyl	70	30 - 115
Terphenyl-D14	68	18 - 137
Phenol-D5	63	24 - 113
2-Fluorophenol	56	25 - 121
2,4,6-Tribromophenol	63	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1075**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **109.890**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.4	N	1.0	7060	11/23/93
Aluminum	11000	N	22	6010	11/22/93
Barium	200	N*	22	6010	11/22/93
Beryllium	0.76		0.55	6010	11/22/93
Cadmium	0.55	U	0.55	6010	11/22/93
Chromium	14		1.1	6010	11/22/93
Copper	6.9		2.7	6010	11/22/93
Iron	13000	N	11	6010	11/22/93
Nickel	12		4.4	6010	11/22/93
Lead	7.6	N	0.31	7421	11/23/93
Mercury	0.027	U	0.027	7471	11/29/93
Silver	1.1	U	1.1	6010	11/22/93
Zinc	18		2.2	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1076**
SAMPLE DATE: **11/10/93 17:00:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1076**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/13/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.8	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	190	B	100	Benzene	11		5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
¹-Dichloroethane	5	U	5	Bromoform	5	U	5
₄ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	28	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	112	81 - 117
BROMOFLUOROBENZENE	91	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1076**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reportin Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.048	JB	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1076**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	58	23 - 120
2-Fluorobiphenyl	66	30 - 115
Terphenyl-D14	70	18 - 137
Phenol-D5	62	24 - 113
2-Fluorophenol	55	25 - 121
2,4,6-Tribromophenol	65	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1076**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **87.7192**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.2	N	1.1	7060	11/23/93
Aluminum	12000	N	18	6010	11/22/93
Barium	170	N*	18	6010	11/22/93
Beryllium	0.94		0.44	6010	11/22/93
Cadmium	0.65		0.44	6010	11/22/93
Chromium	14		0.88	6010	11/22/93
Copper	5.7		2.2	6010	11/22/93
Iron	14000	N	8.8	6010	11/22/93
Nickel	13		3.5	6010	11/22/93
Lead	7.5	N	0.34	7421	11/23/93
Mercury	0.026	U	0.026	7471	11/29/93
Silver	0.88	U	0.88	6010	11/22/93
Zinc	15		1.8	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1077**
SAMPLE DATE: **11/10/93 17:20:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1077**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.5	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	5.6	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
`-Dichloroethane	5	U	5	Bromoform	5	U	5
.ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.0	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	99	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	99	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1077**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
'2-Chloroisopropyl)ether	0.330	U	0.330
ethylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.061	JB	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1077**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	60	23 - 120
2-Fluorobiphenyl	64	30 - 115
Terphenyl-D14	64	18 - 137
Phenol-D5	58	24 - 113
2-Fluorophenol	51	25 - 121
2,4,6-Tribromophenol	64	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1077**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **117.647**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.0	UN	1.0	7060	11/23/93
Aluminum	11000	N	24	6010	11/22/93
Barium	24	UN*	24	6010	11/22/93
Beryllium	1.2		0.59	6010	11/22/93
Cadmium	0.98		0.59	6010	11/22/93
Chromium	24		1.2	6010	11/22/93
Copper	12		2.9	6010	11/22/93
Iron	26000	N	12	6010	11/22/93
Nickel	27		4.7	6010	11/22/93
Lead	1.5	N	0.31	7421	11/23/93
Mercury	0.025	U	0.025	7471	11/29/93
Silver	1.2	U	1.2	6010	11/22/93
Zinc	31		2.4	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1078**
SAMPLE DATE: **11/10/93 17:45:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1078**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.9	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
ıs-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.7	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	95	81 - 117
BROMOFLUOROBENZENE	97	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1078**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1078**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	56	23 - 120
2-Fluorobiphenyl	64	30 - 115
Terphenyl-D14	67	18 - 137
Phenol-D5	59	24 - 113
2-Fluorophenol	50	25 - 121
2,4,6-Tribromophenol	57	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1078**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **117.647**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.4	N	0.97	7060	11/23/93
Aluminum	4900	N	24	6010	11/22/93
Barium	750	N*	24	6010	11/22/93
Beryllium	0.59		0.59	6010	11/22/93
Cadmium	0.59		0.59	6010	11/22/93
Chromium	17		1.2	6010	11/22/93
Copper	4.0		2.9	6010	11/22/93
Iron	8100	N	12	6010	11/22/93
Nickel	12		4.7	6010	11/22/93
Lead	4.2	N	0.29	7421	11/23/93
Mercury	0.024	U	0.024	7471	11/29/93
Silver	1.2	U	1.2	6010	11/22/93
Zinc	15		2.4	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **A1079**
SAMPLE DATE: **11/10/93 18:00:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.49U	0.49	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1079**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.7	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	5.9	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
is-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.6	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	99	81 - 117
BROMOFLUOROBENZENE	101	74 - 121
1,2-DICHLOROETHANE-D4	95	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1079**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
‘(2-Chloroisopropyl)ether	0.330	U	0.330
‚ethylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330

	Result	Qual	Reporting Limit
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.330	U	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1079**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	53	23 - 120
2-Fluorobiphenyl	61	30 - 115
Terphenyl-D14	60	18 - 137
Phenol-D5	54	24 - 113
2-Fluorophenol	47	25 - 121
2,4,6-Tribromophenol	53	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1079**
SAMPLE DATE: **11/10/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **113.636**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.6	N	1.0	7060	11/23/93
Aluminum	12000	N	23	6010	11/22/93
Barium	38	N*	23	6010	11/22/93
Beryllium	1.1		0.57	6010	11/22/93
Cadmium	0.85		0.57	6010	11/22/93
Chromium	23		1.1	6010	11/22/93
Copper	10		2.8	6010	11/22/93
Iron	22000	N	11	6010	11/22/93
Nickel	26		4.5	6010	11/22/93
Lead	6.4	N	0.30	7421	11/23/93
Mercury	0.025	U	0.025	7471	11/29/93
Silver	1.1	U	1.1	6010	11/22/93
Zinc	32		2.3	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1080**
SAMPLE DATE: **10/19/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/12/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.1	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	95	88 - 110
BROMOFLUOROBENZENE	96	86 - 115
1,2-DICHLOROETHANE-D4	100	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	11/19/93	EPA9071
Chromium VI		0.010U	0.010	MG/KG	11/17/93	EPA7196

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/12/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	3.8	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	4.7	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	2.5	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	100	81 - 117
BROMOFLUOROBENZENE	97	74 - 121
1,2-DICHLOROETHANE-D4	100	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/13/93**
ANALYSIS DATE: **11/18/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
[illegible](2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
[illegible]ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.041	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	67	23 - 120
2-Fluorobiphenyl	71	30 - 115
Terphenyl-D14	74	18 - 137
Phenol-D5	67	24 - 113
2-Fluorophenol	58	25 - 121
2,4,6-Tribromophenol	68	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	11/23/93
Aluminum	0.20	U	0.20	6010	11/22/93
Barium	0.20	U	0.20	6010	11/22/93
Beryllium	0.0050	U	0.0050	6010	11/22/93
Cadmium	0.0050	U	0.0050	6010	11/22/93
Chromium	0.010	U	0.010	6010	11/22/93
Copper	0.025	U	0.025	6010	11/22/93
Iron	0.10	U	0.10	6010	11/22/93
Nickel	0.040	U	0.040	6010	11/22/93
Lead	0.0030	U	0.0030	7421	11/23/93
Mercury	0.00020	U	0.00020	7471	11/29/93
Silver	0.010	U	0.010	6010	11/22/93
Zinc	0.020	U	0.020	6010	11/22/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.1	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	4.5	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	94	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/12/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	107	86 - 115
1,2-DICHLOROETHANE-D4	100	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

IV. Methodology

Requested analyses were performed according to the following methods.

TEST NAME **ICP Metals** TEST CODE **6010**

Metals by ICP	Inductively coupled emission spectroscopy according to Method 6010, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", SW-846, Third Edition.

TEST NAME **Hazardous Substance Vols.** TEST CODE **8240TK**

Hazardous Substance List Volatiles	Method 8240, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. GC/MS Purge and Trap analysis.

TEST NAME **ABN HSL GC/MS Extractables** TEST CODE **8270TK**

Hazardous Substance List Extractables	Method 8270, SW-846, Test Methods for Evaluating Solid Waste, Third Edition. Acid/Base-Neutral extraction followed by GC/MS analysis.

TEST NAME **9071/418.1 for TPH** TEST CODE **9071IR**

9071 Prep and IR Analysis	Method 9071, SW846, Test Methods for Evaluating Solid Waste, Third Edition. Soxhlet extraction from Method 9071 using freon and infrared analysis of the extract using Method 418.1.

TEST NAME **Arsenic - Graphite Furnace** TEST CODE **AS_GF**

Arsenic Graphite Furnace	Method 7060, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 206.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes, EPA-600/4-82-055, December 1982.

TEST NAME **Chromium VI** TEST CODE **CR_VI**

Chromium VI	Method 7196, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Colorimetric analysis. Equivalent to Standard Methods 3500-Cr D.

Company: IT CORPORATION
Date: 12/15/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-130

TEST NAME **Mercury** TEST CODE **HG_AA**

Mercury	Method 7471, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Cold vapor atomic absorption. Method 7470 is used for water. Method 245.5-"Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **Metals** TEST CODE **ICPTK2**

Method not available.

TEST NAME **Lead - Graphite Furnace** TEST CODE **PB_GF**

Lead Graphite Furnace	EPA 7421, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 239.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **GFAA Digestion - Soil** TEST CODE **Z3050F**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace/Flame AA analysis.

TEST NAME **ICPES Digestion - Soil** TEST CODE **Z3050P**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for ICPES analysis. Equivalent to Method 3050A, SW-846 Update I, July 1992.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 314084
Page 1 of 2

Project Name/No. 1 TAFB 5001/409832.03.01
Sample Team Members 2 A Gordon / K Kirschenmann
Profit Center No. 3 3527
Project Manager 4 Jimmy Taylor
Purchase Order No. 6 409832.03
Required Report Date 11 15 days

Samples Shipment Date 7 11/10/93
Lab Destination 8 ITAS Austin
Lab Contact 9 Karmen Deane
Project Contact/Phone 12 Dan McGregor/(405) 736-2260
Carrier/Waybill No. 13 Fed Ex/8460756194

Bill to: 5 409832.03.01 P.O. 5001
Report to: 10 IT Austin ES Tim Jenninggs

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
A1073	Soil	11/10/93 1100	~~125~~ clear glass	125ml	cool	8240 VOAs	Good, 4°C 11/11-93 9c RUN	
A1073	↓	↓	↓	500ml	cool	8270, 6010/7000, 418.1	↓	
A1076 MS/MSD	↓	11/10/93 1140	↓	125ml	cool	8240 VOAs	↓	
A1076 MS/MSD	↓	↓	↓	2×500ml	cool	8270, 6010/7000, 418.1	↓	
A1076	↓	11/10/93 1650	↓	125ml	↓	8240 VOAs	↓	
A1076	↓	↓	↓	500ml	↓	8270, 6010/7000, 418.1	↓	
A1076	↓	11/10/93 1700	↓	125ml	↓	8240 VOAs	↓	
A1076	Soil	↓	Clear glass	500ml	↓	8270, 6010/7000, 418.1	↓	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☑

Sample Disposal: 25
Return to Client ☐ Disposal by Lab ☑ Archive (mos.)

Turnaround Time Required: 26
Normal ☑ Rush ☐

QC Level: 27
I. ☑ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) [signature]	Date: 11/10/93 Time: 1930	1. Received by 28 (Signature/Affiliation) [signature] IT	Date: 11-11-93 Time: 1142
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

INTERNATIONAL TECHNOLOGY CORPORATION

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

IT Analytical Services • 5007 Industrial Oaks Boulevard, Suite 100, Austin, TX 78735 • (512) 892-6684

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 314084

Page 2 of 2

Project Name Tinker 5001

Project No. 409832.03.01

Samples Shipment Date 11/10/93

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Pre-servative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
A1077	Soil	11/10/93 1720	Clear glass	125ml.	cool	8240 VOA's	Good 4 RUB 11-11-93 D.	
↓	↓	11/10/93 1720	↓	500ml.	↓	8270, 6010/7000, 418.1	↓	
A1078	↓	11/10/93 1745	↓	125ml.	↓	8240 VOA's	↓	
↓	↓	11/10/93 1745	↓	500ml.	↓	8270, 6010/7000, 418.1	↓	
A1079	↓	11/10/93 1800	↓	125ml.	↓	8240 VOA's	↓	
↓	↓	11/10/93 1800	↓	500ml.	↓	8270, 6010/7000, 418.1	↓	
A1080	Water	10/19/93 1700	Clear glass	40ml.	cool + HCl	8240 VOA's	↓	B3244100 A

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

MCA 3 15 91

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1073

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
01B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	110
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	50.5
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	115
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	110

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1074

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
02B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	101
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	50.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	128
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	101

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1074-MS

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
03B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	84.7
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	10.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	116
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	339

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1074-MSD

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
04B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	110
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	48.5
	Mercury	B311130-11B	1120HGAA2	11/29/93	11/29/93	123
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	110

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1075

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
05B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	102
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	49.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	137
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	102

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1076

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
06B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	112
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	10.1
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	128
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	112

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1077

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
07B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	103
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	50.0
	Mercury	B311130-11B	1129HGAA1	11/29/93	11/29/93	125
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	103

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1078

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
08B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	97.1
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	10.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	119
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	97.1

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : A1079

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
09B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	100
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	49.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	123
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	100

Auxiliary Data Summary 12/16/93

Work order : B311130 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
11B						
	9071IR	B311130-11B	1117TPHIR2	11/17/93	11/19/93	1.0
	Arsenic	B311130-11B	11203050F1	11/20/93	11/23/93	1.0
	Chromium VI	B311130-11B	1117CR_VI1	11/17/93	11/17/93	1.0
	Mercury	B311130-11B	1129HGAA2	11/29/93	11/29/93	1.0
	Lead	B311130-11B	11203050F1	11/20/93	11/23/93	1.0

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

Routed to CF, KH, T
12/20/93

CERTIFICATE OF ANALYSIS

IT CORPORATION
1250 CAPITAL OF TX HWY
BLDG. 3, SUITE 200
AUSTIN, TX 78746-6443
TIM JENNINGS

Date: 12/17/93

Work Order: B3-11-140

This is the Certificate of Analysis for the following samples:

Client Work ID: D.O.5001 409832-003-01
Date Received: 11/12/93
Number of Samples: 15
Sample Type: WATER

I. Introduction

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
A1081	B3-11-140-01
A1082	B3-11-140-02
A1083	B3-11-140-03
A1084	B3-11-140-04
A1085	B3-11-140-05
A1086	B3-11-140-06
A1087	B3-11-140-07
A1087-MS	B3-11-140-08
A1087-MSD	B3-11-140-09
A1088	B3-11-140-10
A1089	B3-11-140-11
A1090	B3-11-140-12
LAB BLANK #1	B3-11-140-13

Reviewed and Approved:

Jon Bartell
Laboratory Director

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

Samples, continued from above:

SAMPLE IDENTIFICATION	LABORATORY #
LAB BLANK #1	B3-11-140-14
LAB BLANK #2	B3-11-140-15

II. QA/QC

The results presented in this report meet the statement of work requirements in accordance with Quality Control and Quality Assurance protocol except as noted in Section IV or in an optional sample narrative at the end of Section III.

In the presented analytical data, 'ND' or '<' indicates that the compound is not detected at the specified limit.

III. Analytical Data

The following page(s) supply results for requested analyses performed on the samples listed above.

The test results relate to tested items only. ITAS-Austin reserves the right to control report production except in whole.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1081**
SAMPLE DATE: **10/21/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	2.4	J	5
Methylene chloride	5.7	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.6	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	97	88 - 110
BROMOFLUOROBENZENE	98	86 - 115
1,2-DICHLOROETHANE-D4	102	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1082**
SAMPLE DATE: **11/11/93 14:30:00**
SAMPLE MATRIX: **WATER**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
TPH - IR		1.0U	1.0	MG/L	11/17/93	EPA418_1
Chromium VI		0.010U	0.010	MG/L	11/12/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1082**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.9	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1.1-Dichloroethane	5	U	5	Bromoform	5	U	5
.ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
..s-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	1.5	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	96	86 - 115
1,2-DICHLOROETHANE-D4	105	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1082**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **WATER**
EXTRACTION DATE: **11/15/93**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	10	U	10	2,6-Dinitrotoluene	10	U	10
bis(2-Chloroethyl)ether	10	U	10	3-Nitroaniline	25	U	25
2-Chlorophenol	10	U	10	Acenaphthene	10	U	10
1,3-Dichlorobenzene	10	U	10	2,4-Dinitrophenol	25	U	25
1,4-Dichlorobenzene	10	U	10	4-Nitrophenol	25	U	25
Benzyl alcohol	10	U	10	Dibenzofuran	10	U	10
1,2-Dichlorobenzene	10	U	10	2,4-Dinitrotoluene	10	U	10
2-Methylphenol	10	U	10	Diethylphthalate	10	U	10
bis(2-Chloroisopropyl)ether	10	U	10	4-Chlorophenyl-phenylether	10	U	10
Methylphenol	10	U	10	Fluorene	10	U	10
N-Nitroso-di-n-propylamine	10	U	10	4-Nitroaniline	10	U	10
Hexachloroethane	10	U	10	4,6-Dinitro-2-methylphenol	25	U	25
Nitrobenzene	10	U	10	N-Nitrosodiphenylamine (1)	10	U	10
Isophorone	10	U	10	4-Bromophenyl-phenylether	10	U	10
2-Nitrophenol	10	U	10	Hexachlorobenzene	10	U	10
2,4-Dimethylphenol	10	U	10	Pentachlorophenol	25	U	25
Benzoic Acid	10	U	10	Phenanthrene	10	U	10
bis(2-Chloroethoxy)methane	10	U	10	Anthracene	10	U	10
2,4-Dichlorophenol	10	U	10	Di-n-butylphthalate	10	U	10
1,2,4-Trichlorobenzene	10	U	10	Fluoranthene	10	U	10
Naphthalene	10	U	10	Pyrene	10	U	10
4-Chloroaniline	10	U	10	Butylbenzylphthalate	10	U	10
Hexachlorobutadiene	10	U	10	3,3'-Dichlorobenzidine	10	U	10
4-Chloro-3-methylphenol	10	U	10	Benzo(a)anthracene	10	U	10
2-Methylnaphthalene	10	U	10	Chrysene	10	U	10
Hexachlorocyclopentadiene	10	U	10	bis(2-Ethylhexyl)phthalate	5.7	JB	10
2,4,6-Trichlorophenol	10	U	10	Di-n-octylphthalate	10	U	10
2,4,5-Trichlorophenol	10	U	10	Benzo(b)fluoranthene	10	U	10
2-Chloronaphthalene	10	U	10	Benzo(k)fluoranthene	10	U	10
2-Nitroaniline	25	U	25	Benzo(a)pyrene	10	U	10
Dimethylphthalate	10	U	10	Indeno(1,2,3-cd)pyrene	10	U	10
Acenaphthylene	10	U	10	Dibenzo(a,h)anthracene	10	U	10
				Benzo(g,h,i)perylene	10	U	10

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1082**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **WATER**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	14*	35 - 114
2-Fluorobiphenyl	28*	43 - 116
Terphenyl-D14	71	33 - 141
Phenol-D5	5.9*	10 - 94
2-Fluorophenol	8.8*	21 - 100
2,4,6-Tribromophenol	58	10 - 123

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:
U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Referenced notes for these results:

The LCS failed for the batch extracted 11/15/93 and analyzed 11/19/93. The sample was re-extracted 11/22/93 and reanalyzed 11/29/93. The results of both analyses are in agreement.

*Surrogates are outside QC limits in original prep of 11/15/93. Sample was reprepped 11/22/93 and reanalyzed 11/29/93. The surrogates were within QC limits.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1082**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **WATER**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/L**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	12/02/93
Aluminum	0.20	U	0.20	6010	12/08/93
Barium	0.20	U	0.20	6010	12/08/93
Beryllium	0.0050	U	0.0050	6010	12/08/93
Cadmium	0.0050	U	0.0050	6010	12/08/93
Chromium	0.010	U	0.010	6010	12/08/93
Copper	0.025	U	0.025	6010	12/08/93
Iron	0.10	U	0.10	6010	12/08/93
Nickel	0.040	U	0.040	6010	12/08/93
Lead	0.0030	U	0.0030	7421	12/02/93
Mercury	0.00040	U	0.00040	7471	12/08/93
Silver	0.010	U	0.010	6010	12/08/93
Zinc	0.020	U	0.020	6010	12/08/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1083**
SAMPLE DATE: **11/11/93 11:00:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		110	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1083**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit
Chloromethane	10	U	10
Bromomethane	10	U	10
Vinyl chloride	10	U	10
Chloroethane	10	U	10
Methylene chloride	1.4	J	10
Acetone	65	JB	100
Carbon disulfide	5	U	5
1,1-Dichloroethene	5	U	5
' 1-Dichloroethane	5	U	5
ıns-1,2-Dichloroethene	5	U	5
cıs-1,2-Dichloroethene	5	U	5
Chloroform	5	U	5
1,2-Dichloroethane	5	U	5
2-Butanone	12	JB	100
1,1,1-Trichloroethane	5	U	5
Carbon tetrachloride	5	U	5
Vinyl acetate	10	U	10
Dichlorobromomethane	5	U	5
1,2-Dichloropropane	5	U	5
trans-1,3-Dichloropropene	5	U	5
Trichloroethene	5	U	5
Chlorodibromomethane	5	U	5
1,1,2-Trichloroethane	5	U	5
Benzene	5	U	5
cis-1,3-Dichloropropene	5	U	5
2-Chloroethylvinyl ether	10	U	10
Bromoform	5	U	5
2-Hexanone	50	U	50
4-Methyl-2-pentanone	50	U	50
Tetrachloroethene	5	U	5
1,1,2,2-Tetrachloroethane	5	U	5
Toluene	5	U	5
Chlorobenzene	1.3	J	5
Ethylbenzene	5	U	5
Styrene	5	U	5
Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1083**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.12	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1083**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	81	23 - 120
2-Fluorobiphenyl	89	30 - 115
Terphenyl-D14	74	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	64	25 - 121
2,4,6-Tribromophenol	100	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1083**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **92.5925**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.8		0.92	7060	11/24/93
Aluminum	9300	N	19	6010	12/04/93
Barium	160	*N	19	6010	12/04/93
Beryllium	0.92	N	0.46	6010	12/04/93
Cadmium	0.99		0.46	6010	12/04/93
Chromium	12	N	0.93	6010	12/04/93
Copper	6.6		2.3	6010	12/04/93
Iron	11000	*N	9.3	6010	12/04/93
Nickel	11		3.7	6010	12/04/93
Lead	10		1.1	7421	11/23/93
Mercury	0.025	U	0.025	7471	12/02/93
Silver	0.93	U	0.93	6010	12/04/93
Zinc	28	N	1.9	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1084**
SAMPLE DATE: **11/11/93 11:05:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		52	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1084**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.4	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	63	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	13	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	2.1	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	90	74 - 121
1,2-DICHLOROETHANE-D4	101	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1084**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.045	J	0.330
Di-n-octylphthalate	0.21	J	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1084**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	81	23 - 120
2-Fluorobiphenyl	89	30 - 115
Terphenyl-D14	76	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	66	25 - 121
2,4,6-Tribromophenol	89	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1084**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **95.2380**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.1		1.1	7060	11/24/93
Aluminum	9600	N	19	6010	12/04/93
Barium	200	*N	19	6010	12/04/93
Beryllium	0.98	N	0.48	6010	12/04/93
Cadmium	0.87		0.48	6010	12/04/93
Chromium	12	N	0.95	6010	12/04/93
Copper	6.8		2.4	6010	12/04/93
Iron	11000	*N	9.5	6010	12/04/93
Nickel	9.5		3.8	6010	12/04/93
Lead	11		1.3	7421	11/23/93
Mercury	0.026	U	0.026	7471	12/02/93
Silver	0.95	U	0.95	6010	12/04/93
Zinc	22	N	1.9	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1085**
SAMPLE DATE: **11/11/93 11:05:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1085**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.7	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	62	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	12	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	1.9	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	98	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1085**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.30	J	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1085**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	80	23 - 120
2-Fluorobiphenyl	91	30 - 115
Terphenyl-D14	76	18 - 137
Phenol-D5	71	24 - 113
2-Fluorophenol	64	25 - 121
2,4,6-Tribromophenol	80	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1085**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **98.0392**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.3		1.2	7060	11/24/93
Aluminum	16000	N	20	6010	12/04/93
Barium	690	*N	20	6010	12/04/93
Beryllium	1.3	N	0.49	6010	12/04/93
Cadmium	0.49	U	0.49	6010	12/04/93
Chromium	17	N	0.98	6010	12/04/93
Copper	9.0		2.5	6010	12/04/93
Iron	14000	*N	9.8	6010	12/04/93
Nickel	18		3.9	6010	12/04/93
Lead	4.7		0.35	7421	11/23/93
Mercury	0.025	U	0.025	7471	12/02/93
Silver	0.98	U	0.98	6010	12/04/93
Zinc	23	N	2.0	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1086**
SAMPLE DATE: **11/11/93 11:10:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1086**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	5.7	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	98	81 - 117
BROMOFLUOROBENZENE	95	74 - 121
1,2-DICHLOROETHANE-D4	107	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1086**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
s(2-Chloroisopropyl)ether	0.330	U	0.330
ethylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330

	Result	Qual	Reporting Limit
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.330	U	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1086**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	81	23 - 120
2-Fluorobiphenyl	93	30 - 115
Terphenyl-D14	82	18 - 137
Phenol-D5	82	24 - 113
2-Fluorophenol	71	25 - 121
2,4,6-Tribromophenol	72	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1086**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **89.2857**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.8		0.91	7060	11/24/93
Aluminum	9200	N	18	6010	12/04/93
Barium	41	*N	18	6010	12/04/93
Beryllium	1.1	N	0.45	6010	12/04/93
Cadmium	0.53		0.45	6010	12/04/93
Chromium	12	N	0.89	6010	12/04/93
Copper	8.4		2.2	6010	12/04/93
Iron	11000	*N	8.9	6010	12/04/93
Nickel	22		3.6	6010	12/04/93
Lead	4.0		0.27	7421	11/23/93
Mercury	0.023	U	0.023	7471	12/02/93
Silver	0.89	U	0.89	6010	12/04/93
Zinc	22	N	1.8	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1087**
SAMPLE DATE: **11/11/93 11:30:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1087**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.7	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	8.0	JB	100	Benzene	1.0	J	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	6.6	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	0.3	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	100	81 - 117
BROMOFLUOROBENZENE	93	74 - 121
1,2-DICHLOROETHANE-D4	104	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1087**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01

Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1087**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	90	30 - 115
Terphenyl-D14	80	18 - 137
Phenol-D5	71	24 - 113
2-Fluorophenol	63	25 - 121
2,4,6-Tribromophenol	80	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1087**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **106.382**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.94		0.86	7060	11/24/93
Aluminum	6800	N	21	6010	12/04/93
Barium	270	*N	21	6010	12/04/93
Beryllium	0.81	N	0.53	6010	12/04/93
Cadmium	0.53	U	0.53	6010	12/04/93
Chromium	18	N	1.1	6010	12/04/93
Copper	5.7		2.7	6010	12/04/93
Iron	12000	*N	11	6010	12/04/93
Nickel	17		4.3	6010	12/04/93
Lead	3.0		0.26	7421	11/23/93
Mercury	0.024	U	0.024	7471	12/02/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	22	N	2.1	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Duplicate analysis outside control limits due to matrix interference on barium and iron analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1087-MS**
SAMPLE DATE: **11/11/93 11:30:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		99		% REC	12/02/93	EPA9071
Chromium VI		102		% REC	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1087-MS**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	110	Trichloroethene	93
		Benzene	104
		Toluene	105
		Chlorobenzene	109

Surrogates	% Recovery	Limits
TOLUENE-D8	97	81 - 117
BROMOFLUOROBENZENE	94	74 - 121
1,2-DICHLOROETHANE-D4	104	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1087-MS**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	67	Acenaphthene	115
2-Chlorophenol	85	4-Nitrophenol	117
1,4-Dichlorobenzene	74	2,4-Dinitrotoluene	83
N-Nitroso-di-n-propylamine	95	Pentachlorophenol	88
1,2,4-Trichlorobenzene	92	Pyrene	86
4-Chloro-3-methylphenol	96		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	87	23 - 120
2-Fluorobiphenyl	91	30 - 115
Terphenyl-D14	75	18 - 137
Phenol-D5	65	24 - 113
2-Fluorophenol	62	25 - 121
2,4,6-Tribromophenol	71	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1087-MS**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **99.0099**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	96	7060	11/24/93
Aluminum	791	6010	12/04/93
Barium	0	6010	12/04/93
Beryllium	132	6010	12/04/93
Cadmium	84	6010	12/04/93
Chromium	142	6010	12/04/93
Copper	87	6010	12/04/93
Iron	0	6010	12/04/93
Nickel	84	6010	12/04/93
Lead	85	7421	11/23/93
Mercury	106	7471	12/02/93
Silver	83	6010	12/04/93
Zinc	127	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
\+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike outside control limits due to matrix interference on aluminum, barium, beryllium, chromium and zinc analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

% RPD for matrix spikes outside control limits due to matrix interference on beryllium, chromium, iron and zinc analysis

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1087-MSD**
SAMPLE DATE: **11/11/93 11:30:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		99		% REC	12/02/93	EPA9071
Chromium VI		98		% REC	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1087-MSD**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	106	Trichloroethene	89
		Benzene	102
		Toluene	103
		Chlorobenzene	108

Surrogates	% Recovery	Limits
TOLUENE-D8	99	81 - 117
BROMOFLUOROBENZENE	95	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1087-MSD**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	68	Acenaphthene	111
2-Chlorophenol	85	4-Nitrophenol	104
1,4-Dichlorobenzene	75	2,4-Dinitrotoluene	80
N-Nitroso-di-n-propylamine	91	Pentachlorophenol	83
1,2,4-Trichlorobenzene	91	Pyrene	87
4-Chloro-3-methylphenol	90		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	88	30 - 115
Terphenyl-D14	75	18 - 137
Phenol-D5	70	24 - 113
2-Fluorophenol	65	25 - 121
2,4,6-Tribromophenol	69	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001 409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1087-MSD**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **88.4955**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	92	7060	11/24/93
Aluminum	743	6010	12/04/93
Barium	0	6010	12/04/93
Beryllium	87	6010	12/04/93
Cadmium	81	6010	12/04/93
Chromium	97	6010	12/04/93
Copper	85	6010	12/04/93
Iron	220	6010	12/04/93
Nickel	73	6010	12/04/93
Lead	100	7421	11/23/93
Mercury	116	7471	12/02/93
Silver	82	6010	12/04/93
Zinc	80	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike duplicate outside control limits due to matrix interference on aluminum, barium, iron and nickel analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

% RPD for matrix spikes outside control limits due to matrix interference on beryllium, chromium, iron and zinc analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1088**
SAMPLE DATE: **11/11/93 11:55:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1088**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.1	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.6	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.5	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	0.5	J	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	99	81 - 117
BROMOFLUOROBENZENE	96	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1088**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
`(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.46	J	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1088**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	96	30 - 115
Terphenyl-D14	81	18 - 137
Phenol-D5	79	24 - 113
2-Fluorophenol	65	25 - 121
2,4,6-Tribromophenol	56	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1088**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **117.647**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.5		1.1	7060	11/24/93
Aluminum	13000	N	24	6010	12/04/93
Barium	25	*N	24	6010	12/04/93
Beryllium	1.5	N	0.59	6010	12/04/93
Cadmium	0.84		0.59	6010	12/04/93
Chromium	19	N	1.2	6010	12/04/93
Copper	12		2.9	6010	12/04/93
Iron	17000	*N	12	6010	12/04/93
Nickel	26		4.7	6010	12/04/93
Lead	2.8		0.34	7421	11/23/93
Mercury	0.021	U	0.021	7471	12/02/93
Silver	1.2	U	1.2	6010	12/04/93
Zinc	33	N	2.4	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1089**
SAMPLE DATE: **11/11/93 15:30:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	12/08/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1089**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.2	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	7.9	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
`-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	100	81 - 117
BROMOFLUOROBENZENE	96	74 - 121
1,2-DICHLOROETHANE-D4	106	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1089**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
›(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
‹ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1089**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	76	23 - 120
2-Fluorobiphenyl	90	30 - 115
Terphenyl-D14	77	18 - 137
Phenol-D5	73	24 - 113
2-Fluorophenol	66	25 - 121
2,4,6-Tribromophenol	72	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1089**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **103.092**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	3.2		0.94	7060	11/24/93
Aluminum	11000	N	21	6010	12/04/93
Barium	80	*N	21	6010	12/04/93
Beryllium	1.4	N	0.52	6010	12/04/93
Cadmium	1.1		0.52	6010	12/04/93
Chromium	14	N	1.0	6010	12/04/93
Copper	11		2.6	6010	12/04/93
Iron	13000	*N	10	6010	12/04/93
Nickel	25		4.1	6010	12/04/93
Lead	6.1		0.28	7421	11/23/93
Mercury	0.025	U	0.025	7471	12/02/93
Silver	1.0	U	1.0	6010	12/04/93
Zinc	27	N	2.1	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **A1090**
SAMPLE DATE: **11/11/93 16:07:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	12/08/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1090**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.4	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.4	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.5	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	98	81 - 117
BROMOFLUOROBENZENE	95	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1090**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
›(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
‹ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1090**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	85	23 - 120
2-Fluorobiphenyl	93	30 - 115
Terphenyl-D14	80	18 - 137
Phenol-D5	76	24 - 113
2-Fluorophenol	68	25 - 121
2,4,6-Tribromophenol	72	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1090**
SAMPLE DATE: **11/11/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **106.382**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.1		1.2	7060	11/24/93
Aluminum	8800	N	21	6010	12/04/93
Barium	15	*N	21	6010	12/04/93
Beryllium	1.2	N	0.53	6010	12/04/93
Cadmium	0.67		0.53	6010	12/04/93
Chromium	14	N	1.1	6010	12/04/93
Copper	7.5		2.7	6010	12/04/93
Iron	13000	*N	11	6010	12/04/93
Nickel	21		4.3	6010	12/04/93
Lead	4.2		0.35	7421	11/23/93
Mercury	0.023	U	0.023	7471	12/02/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	24	N	2.1	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/02/93	EPA9071
Chromium VI		0.010U	0.010	MG/KG	12/08/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/15/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.9	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
' l-Dichloroethane	5	U	5	Bromoform	5	U	5
.ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	100	86 - 115
1,2-DICHLOROETHANE-D4	104	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	96	23 - 120
2-Fluorobiphenyl	86	30 - 115
Terphenyl-D14	90	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	67	25 - 121
2,4,6-Tribromophenol	85	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	11/24/93
Aluminum	0.20	U	0.20	6010	12/04/93
Barium	0.20	U	0.20	6010	12/04/93
Beryllium	0.0050	U	0.0050	6010	12/04/93
Cadmium	0.0050	U	0.0050	6010	12/04/93
Chromium	0.010	U	0.010	6010	12/04/93
Copper	0.025	U	0.025	6010	12/04/93
Iron	0.10	U	0.10	6010	12/04/93
Nickel	0.040	U	0.040	6010	12/04/93
Lead	0.0030	U	0.0030	7421	11/23/93
Mercury	0.00020	U	0.00020	7471	12/02/93
Silver	0.010	U	0.010	6010	12/04/93
Zinc	0.020	U	0.020	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **WATER**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
TPH - IR		1.0U	1.0	MG/L	11/17/93	EPA418_1
Chromium VI		0.010U	0.010	MG/L	11/12/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	4.0	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.8	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	0.5	J	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	101	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
EXTRACTION DATE: **11/15/93**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reportin Limit
Phenol	10	U	10	2,6-Dinitrotoluene	10	U	10
bis(2-Chloroethyl)ether	10	U	10	3-Nitroaniline	25	U	25
2-Chlorophenol	10	U	10	Acenaphthene	10	U	10
1,3-Dichlorobenzene	10	U	10	2,4-Dinitrophenol	25	U	25
1,4-Dichlorobenzene	10	U	10	4-Nitrophenol	25	U	25
Benzyl alcohol	10	U	10	Dibenzofuran	10	U	10
1,2-Dichlorobenzene	10	U	10	2,4-Dinitrotoluene	10	U	10
2-Methylphenol	10	U	10	Diethylphthalate	10	U	10
`(2-Chloroisopropyl)ether	10	U	10	4-Chlorophenyl-phenylether	10	U	10
ethylphenol	10	U	10	Fluorene	10	U	10
N-Nitroso-di-n-propylamine	10	U	10	4-Nitroaniline	10	U	10
Hexachloroethane	10	U	10	4,6-Dinitro-2-methylphenol	25	U	25
Nitrobenzene	10	U	10	N-Nitrosodiphenylamine (1)	10	U	10
Isophorone	10	U	10	4-Bromophenyl-phenylether	10	U	10
2-Nitrophenol	10	U	10	Hexachlorobenzene	10	U	10
2,4-Dimethylphenol	10	U	10	Pentachlorophenol	25	U	25
Benzoic Acid	10	U	10	Phenanthrene	10	U	10
bis(2-Chloroethoxy)methane	10	U	10	Anthracene	10	U	10
2,4-Dichlorophenol	10	U	10	Di-n-butylphthalate	10	U	10
1,2,4-Trichlorobenzene	10	U	10	Fluoranthene	10	U	10
Naphthalene	10	U	10	Pyrene	10	U	10
4-Chloroaniline	10	U	10	Butylbenzylphthalate	10	U	10
Hexachlorobutadiene	10	U	10	3,3'-Dichlorobenzidine	10	U	10
4-Chloro-3-methylphenol	10	U	10	Benzo(a)anthracene	10	U	10
2-Methylnaphthalene	10	U	10	Chrysene	10	U	10
Hexachlorocyclopentadiene	10	U	10	bis(2-Ethylhexyl)phthalate	8.8	J	10
2,4,6-Trichlorophenol	10	U	10	Di-n-octylphthalate	10	U	10
2,4,5-Trichlorophenol	10	U	10	Benzo(b)fluoranthene	10	U	10
2-Chloronaphthalene	10	U	10	Benzo(k)fluoranthene	10	U	10
2-Nitroaniline	25	U	25	Benzo(a)pyrene	10	U	10
Dimethylphthalate	10	U	10	Indeno(1,2,3-cd)pyrene	10	U	10
Acenaphthylene	10	U	10	Dibenzo(a,h)anthracene	10	U	10
				Benzo(g,h,i)perylene	10	U	10

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	62	35 - 114
2-Fluorobiphenyl	66	43 - 116
Terphenyl-D14	73	33 - 141
Phenol-D5	64	10 - 94
2-Fluorophenol	50	21 - 100
2,4,6-Tribromophenol	65	10 - 123

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/L**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	12/02/93
Aluminum	0.20	U	0.20	6010	12/08/93
Barium	0.20	U	0.20	6010	12/08/93
Beryllium	0.0050	U	0.0050	6010	12/08/93
Cadmium	0.0050	U	0.0050	6010	12/08/93
Chromium	0.010	U	0.010	6010	12/08/93
Copper	0.025	U	0.025	6010	12/08/93
Iron	0.10	U	0.10	6010	12/08/93
Nickel	0.040	U	0.040	6010	12/08/93
Lead	0.0030	U	0.0030	7421	12/02/93
Mercury	0.00020	U	0.00020	7471	12/08/93
Silver	0.010	U	0.010	6010	12/08/93
Zinc	0.020	U	0.020	6010	12/08/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
Chromium VI		0.010U	0.010	MG/KG	12/09/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

IV. Methodology

Requested analyses were performed according to the following methods.

TEST NAME **TPH - IR** TEST CODE **418_1**

418_1	Method 418.1: Total Recoverable Petroleum Hydorcarbons, infrared spectrophotmetric method. Methods for the chemical analysis of water and wastes. USEPA.

TEST NAME **ICP Metals** TEST CODE **6010**

Metals by ICP	Inductively coupled emission spectroscopy according to Method 6010, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", SW-846, Third Edition.

TEST NAME **Hazardous Substance Vols.** TEST CODE **8240TK**

Hazardous Substance List Volatiles	Method 8240, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. GC/MS Purge and Trap analysis.

TEST NAME **ABN HSL GC/MS Extractables** TEST CODE **8270TK**

Hazardous Substance List Extractables	Method 8270, SW-846, Test Methods for Evaluating Solid Waste, Third Edition. Acid/Base-Neutral extraction followed by GC/MS analysis.

TEST NAME **9071/418.1 for TPH** TEST CODE **9071IR**

9071 Prep and IR Analysis	Method 9071, SW846, Test Methods for Evaluating Solid Waste, Third Edition. Soxhlet extraction from Method 9071 using freon and infrared analysis of the extract using Method 418.1.

TEST NAME **Arsenic - Graphite Furnace** TEST CODE **AS_GF**

Arsenic Graphite Furnace	Method 7060, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 206.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes, EPA-600/4-82-055, December 1982.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME **Chromium VI** TEST CODE **CR_VI**

Chromium VI	Method 7196, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Colorimetric analysis. Equivalent to Standard Methods 3500-Cr D.

TEST NAME **Mercury** TEST CODE **HG_AA**

Mercury	Method 7471, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Cold vapor atomic absorption. Method 7470 is used for water. Method 245.5-"Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **Metals** TEST CODE **ICPTK2**

`od not available.

TEST NAME **Lead - Graphite Furnace** TEST CODE **PB_GF**

Lead Graphite Furnace	EPA 7421, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 239.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **ICPES Digestion - Water** TEST CODE **Z3005**

Water Digestion	Method 3005A, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Digestion procedure for the preparation of surface and ground water samples for analysis by flame atomic absorption spectroscopy and inductively coupled plasma spectroscopy. The procedure determines total recoverable or dissolved metals.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-140

TEST NAME **GFAA Digestion - Water** TEST CODE **Z3020**

Water Digestion	Method 3020, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace.

TEST NAME **GFAA Digestion - Soil** TEST CODE **Z3050F**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace/Flame AA analysis.

TEST NAME **ICPES Digestion - Soil** TEST CODE **Z3050P**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for ICPES analysis. Equivalent to Method 3050A, SW-846 Update I, July 1992.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 314073
Page 1 of 2

Project Name/No.[1] T.A.F.B. 409832 SCS — Samples Shipment Date[7] 11/11/93

Sample Team Members[2] ANDREW GORDON / SCS — Lab Destination[8] ITAS - AUSTIN

Profit Center No.[3] 3527 — Lab Contact[9] KAREN LEGNE (405) 732-2760

Project Manager[4] ~~Tim Cahoon~~ Jimmy Taylor (A&R) 832.493.2161 — Project Contact/Phone[12] DAN MCGREGOR

Purchase Order No.[6] 409832.04 SCS — Carrier/Waybill No.[13] F.Ex. 846075623 1

Required Report Date[11] H/T SCS NORMAL

Bill to:[5] 409832.04 SCS 409832.05 D.O. 5000 5021 JCS

Report to:[10] TIM JENNINGS IT AUSTIN

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Preservative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
A1081	SB-28 WATER	10/21/93 1700	CLEAR GLASS	40mL	COOL + HCl	8240	Good 1°C SeeRun #2C 11-12-93	B3244100 A #2C
A1082	SB 28 WATER	11/11/93 1430	↓	40mL	HCl + H_2SO_4 COOL	8240		B3244100 A
A1083	↓ ↓	11/11/93 1430	SCS HDPE	250mL	COOL + HNO_3	6010/7000		
A1084		↓	SCS AMBER GLASS	1000mL	COOL + H_2SO_4	418.1 TPH		
A1085	↓ ↓	↓	SCS AMBER GLASS	1000mL	COOL	SVOCs (8270)		
A1086	↓ SOIL	11/11/93 1100	CLEAR GLASS	530mL	COOL	8270, 418.1 TPH, 6010/7000		
A1087	↓ ↓	↓ ↓	↓	125mL	↓	8240		
A1088	↓ SOIL	↓ 1105	↓	50mL	↓	8270, 418.1 TPH, 6010/7000	↓	

Special Instructions:[23]

Possible Hazard Identification:[24] Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☑

Sample Disposal:[25] Return to Client ☐ Disposal by Lab ☑ Archive (mos.)

Turnaround Time Required:[26] Normal ☑ Rush ☐

QC Level:[27] I. ☑ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by[28] (Signature/Affiliation) Adam Sydow	Date: 11/11/93 Time: 1800	1. Received by[28] (Signature/Affiliation) Karen Cranch IT	Date: 11-12-93 Time: 0857
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29]

MCA 3/15/91

White: To accompany samples Yellow: Field copy *See back of form for special instructions.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 314073

Page 2 of 2

Project Name TAFB 5001

Project No. 409832.03.01

Samples Shipment Date 11/11/93

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
A1084	SB-28 / Soil	11/11/93 1105	Clear Glass	125 ml.	Cool	8240	Good 1°C See RVR KRC 11-12-93	
A1085 (A8)				500 ml.		8270, 6010/7000, 418.1		
A1085				125 ml.		8240		
A1086		11/11/93 1110		500 ml.		8270, 6010/7000, 418.1		
A1086		1110		125 ml.		8240		
A1087 (MS/MSD)		11/11/93 1130		500 ml.		8270, 6010/7000 418.1	rec'd 2x500 ml [illegible] 11/12/93	
A1087 (MS/MSD		1130		125 ml.		8240		
A1088		1155		500 ml.		8270, 6010/7000, 418.1		
A1088		1155		125 ml.		8240		
A1089	SB-26	1530		500 ml.		8270, 6010/7000, 418.1		
A1089		1530		125 ml.		8240		
A1090		1607		500 ml.		8270, 6010/7000, 418.1		
A1090		1607		125 ml.		8240		
A1082	SB-28 Equip. Rinse Water	11/11/93 1430	HDPE	250 ml.	Cool (A8)	Hexavalent Chrome.		

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1082

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
02B						
	418_1	B311140-14B	1117TPHIR3	11/17/93	11/17/93	1.0
	Arsenic	B311140-14B	113030201	11/20/93	12/02/93	1.0
	Chromium VI	B311140-14B	1112CR_VI2	11/12/93	11/12/93	1.0
	Mercury	B311140-14B	1208HGAA1	12/08/93	12/08/93	1.0
	Lead	B311140-14B	113030201	11/20/93	12/02/93	1.0

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1083

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
03B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11303050F1	11/20/93	11/24/93	91.7
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	123
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	367

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1084

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
04B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	112
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	128
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	449

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1085

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
05B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	116
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	50.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	123
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	116

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1086

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
06B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	90.9
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	116
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	90.9

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1087

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
07B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	86.2
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	118
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	86.2

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1087-MS

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
08B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	103
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	115
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	103

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1087-MSD

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
09B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	87.7
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	123
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	87.7

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1088

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
10B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	112
	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	10.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	106
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	112

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1089

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
11B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	94.3
	Chromium VI	B311140-13B	1208CR_VI1	12/07/93	12/08/93	50.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	123
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	94.3

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : A1090

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
12B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	118
	Chromium VI	B311140-13B	1208CR_VI1	12/07/93	12/08/93	50.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	116
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	118

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
13B						
	9071IR	B311140-13B	1129TPHIR3	11/29/93	12/02/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	11/24/93	1.0
	Chromium VI	B311140-13B	1208CR_VI1	12/08/93	12/08/93	1.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/02/93	1.0
	Lead	B311140-13B	11223050F1	11/22/93	11/23/93	1.0

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
14B						
	418_1	B311140-14B	1117TPHIR3	11/17/93	11/17/93	1.0
	Arsenic	B311140-13B	11223050F1	11/22/93	12/02/93	1.0
	Chromium VI	B311140-14B	1112CR_VI2	11/12/93	11/12/93	1.0
	Mercury	B311140-13B	1202HGAA1	12/02/93	12/08/93	1.0
	Lead	B311140-13B	11223050F1	11/22/93	12/02/93	1.0

Auxiliary Data Summary 12/16/93

Work order : B311140 Sample ID : LAB BLANK #2

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
15A	Chromium VI	B311140-15A	1209CR_VI1	12/09/93	12/09/93	1.0

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

Routed to CF, KH, TL 12/20/93

CERTIFICATE OF ANALYSIS

IT CORPORATION
1250 CAPITAL OF TX HWY
BLDG. 3, SUITE 200
AUSTIN, TX 78746-6443
TIM JENNINGS

Date: 12/17/93

Work Order: B3-11-156

This is the Certificate of Analysis for the following samples:

Client Work ID: D.O.5001 409832-003-01
Date Received: 11/13/93
Number of Samples: 23
Sample Type: SOIL/WATER

I. Introduction

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY #
A1527	B3-11-156-01
A1528	B3-11-156-02
A1529	B3-11-156-03
A1530	B3-11-156-04
A1531	B3-11-156-05
A1532	B3-11-156-06
A1533	B3-11-156-07
A1534	B3-11-156-08
A1534-MS	B3-11-156-09
A1534-MSD	B3-11-156-10
A1535	B3-11-156-11
A1536	B3-11-156-12
A1537	B3-11-156-13

Reviewed and Approved:

Jon Bartell
Laboratory Director

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684
409832-003-01 Work Order: B3-11-156

Samples, continued from above:

SAMPLE IDENTIFICATION	LABORATORY #
A1538	B3-11-156-14
A1539	B3-11-156-15
LAB BLANK #1	B3-11-156-16
LAB BLANK #1	B3-11-156-17
LAB BLANK #2	B3-11-156-18
A1533-MS	B3-11-156-19
A1533-MSD	B3-11-156-20
LAB BLANK #3	B3-11-156-21
A1539-MS	B3-11-156-22
A1539-MSD	B3-11-156-23

II. QA/QC

The results presented in this report meet the statement of work requirements in accordance with Quality Control and Quality Assurance protocol except as noted in Section IV or in an optional sample narrative at the end of Section III.

In the presented analytical data, 'ND' or '<' indicates that the compound is not detected at the specified limit.

III. Analytical Data

The following page(s) supply results for requested analyses performed on the samples listed above.

The test results relate to tested items only. ITAS-Austin reserves the right to control report production except in whole.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1527**
SAMPLE DATE: **10/19/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	93	86 - 115
1,2-DICHLOROETHANE-D4	100	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1528**
SAMPLE DATE: **11/12/93 11:08:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1528**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	5.7	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	500	B	100	Benzene	2.5	J	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
-is-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	3.9	J	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	4.7	J	5

Surrogates	% Recovery	Limits
TOLUENE-D8	108	81 - 117
BROMOFLUOROBENZENE	86	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1528**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1528**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	87	23 - 120
2-Fluorobiphenyl	98	30 - 115
Terphenyl-D14	86	18 - 137
Phenol-D5	81	24 - 113
2-Fluorophenol	64	25 - 121
2,4,6-Tribromophenol	86	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1528**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **99.0099**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.1	N	1.1	7060	12/02/93
Aluminum	9500	N	20	6010	12/04/93
Barium	220		20	6010	12/04/93
Beryllium	1.0		0.50	6010	12/04/93
Cadmium	0.84		0.50	6010	12/04/93
Chromium	12	*	0.99	6010	12/04/93
Copper	7.0		2.5	6010	12/04/93
Iron	11000	*N	9.9	6010	12/04/93
Nickel	8.2	*	4.0	6010	12/04/93
Lead	7.7	N	0.32	7421	12/02/93
Mercury	0.031	U	0.031	7471	12/03/93
Silver	0.99	U	0.99	6010	12/04/93
Zinc	18	*	2.0	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: A1529
SAMPLE DATE: 11/12/93 11:17:00
SAMPLE MATRIX: SOIL

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1529**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.6	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	180	B	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	105	81 - 117
BROMOFLUOROBENZENE	90	74 - 121
1,2-DICHLOROETHANE-D4	103	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1529**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reportir Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
‍ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
..-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1529**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	86	23 - 120
2-Fluorobiphenyl	98	30 - 115
Terphenyl-D14	83	18 - 137
Phenol-D5	73	24 - 113
2-Fluorophenol	66	25 - 121
2,4,6-Tribromophenol	80	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1529**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **100.000**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.6	N	0.85	7060	12/02/93
Aluminum	15000	N	20	6010	12/04/93
Barium	180		20	6010	12/04/93
Beryllium	1.8		0.50	6010	12/04/93
Cadmium	1.1		0.50	6010	12/04/93
Chromium	18	*	1.0	6010	12/04/93
Copper	8.4		2.5	6010	12/04/93
Iron	17000	*N	10	6010	12/04/93
Nickel	13	*	4.0	6010	12/04/93
Lead	11	N	1.0	7421	12/02/93
Mercury	0.027	U	0.027	7471	12/03/93
Silver	1.0	U	1.0	6010	12/04/93
Zinc	21	*	2.0	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: A1530
SAMPLE DATE: 11/12/93 11:28:00
SAMPLE MATRIX: SOIL

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		41	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1530**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	10	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.6	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	98	81 - 117
BROMOFLUOROBENZENE	94	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.0.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1530**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.056	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1530**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	101	23 - 120
2-Fluorobiphenyl	99	30 - 115
Terphenyl-D14	91	18 - 137
Phenol-D5	80	24 - 113
2-Fluorophenol	66	25 - 121
2,4,6-Tribromophenol	81	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1530**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **117.647**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.5	N	0.84	7060	12/02/93
Aluminum	11000	N	24	6010	12/04/93
Barium	39		24	6010	12/04/93
Beryllium	1.4		0.59	6010	12/04/93
Cadmium	0.73		0.59	6010	12/04/93
Chromium	12	*	1.2	6010	12/04/93
Copper	12		2.9	6010	12/04/93
Iron	11000	*N	12	6010	12/04/93
Nickel	25	*	4.7	6010	12/04/93
Lead	4.7	N	0.25	7421	12/02/93
Mercury	0.026	U	0.026	7471	12/03/93
Silver	1.2	U	1.2	6010	12/04/93
Zinc	25	*	2.4	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1531**
SAMPLE DATE: **11/12/93 11:28:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1531**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.8	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	14	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1,1-Dichloroethane	5	U	5	Bromoform	5	U	5
trans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.3	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	97	74 - 121
1,2-DICHLOROETHANE-D4	104	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1531**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
4-Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.059	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1531**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	96	23 - 120
2-Fluorobiphenyl	101	30 - 115
Terphenyl-D14	81	18 - 137
Phenol-D5	76	24 - 113
2-Fluorophenol	73	25 - 121
2,4,6-Tribromophenol	96	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1531**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **113.636**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.9	N	1.1	7060	12/02/93
Aluminum	11000	N	23	6010	12/04/93
Barium	26		23	6010	12/04/93
Beryllium	1.6		0.57	6010	12/04/93
Cadmium	0.86		0.57	6010	12/04/93
Chromium	16	*	1.1	6010	12/04/93
Copper	12		2.8	6010	12/04/93
Iron	15000	*N	11	6010	12/04/93
Nickel	27	*	4.5	6010	12/04/93
Lead	4.8	N	0.33	7421	12/02/93
Mercury	0.030	U	0.030	7471	12/03/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	29	*	2.3	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1532**
SAMPLE DATE: **11/12/93 11:39:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1532**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	2.0	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	10	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	101	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	109	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1532**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit
Phenol	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330
2-Chlorophenol	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330
1,4-Dichlorobenzene	0.330	U	0.330
Benzyl alcohol	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330
bis(2-Chloroisopropyl)ether	0.330	U	0.330
Methylphenol	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330
Hexachloroethane	0.330	U	0.330
Nitrobenzene	0.330	U	0.330
Isophorone	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330
Benzoic Acid	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330
Naphthalene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825
2-Chloronaphthalene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825
Dimethylphthalate	0.330	U	0.330
Acenaphthylene	0.330	U	0.330
2,6-Dinitrotoluene	0.330	U	0.330
3-Nitroaniline	0.825	U	0.825
Acenaphthene	0.330	U	0.330
2,4-Dinitrophenol	0.825	U	0.825
4-Nitrophenol	0.825	U	0.825
Dibenzofuran	0.330	U	0.330
2,4-Dinitrotoluene	0.330	U	0.330
Diethylphthalate	0.330	U	0.330
4-Chlorophenyl-phenylether	0.330	U	0.330
Fluorene	0.330	U	0.330
4-Nitroaniline	0.825	U	0.825
4,6-Dinitro-2-methylphenol	0.825	U	0.825
N-Nitrosodiphenylamine (1)	0.330	U	0.330
4-Bromophenyl-phenylether	0.330	U	0.330
Hexachlorobenzene	0.330	U	0.330
Pentachlorophenol	0.825	U	0.825
Phenanthrene	0.330	U	0.330
Anthracene	0.330	U	0.330
Di-n-butylphthalate	0.330	U	0.330
Fluoranthene	0.330	U	0.330
Pyrene	0.330	U	0.330
Butylbenzylphthalate	0.330	U	0.330
3,3'-Dichlorobenzidine	0.330	U	0.330
Benzo(a)anthracene	0.330	U	0.330
Chrysene	0.330	U	0.330
bis(2-Ethylhexyl)phthalate	0.330	U	0.330
Di-n-octylphthalate	0.330	U	0.330
Benzo(b)fluoranthene	0.330	U	0.330
Benzo(k)fluoranthene	0.330	U	0.330
Benzo(a)pyrene	0.330	U	0.330
Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Dibenzo(a,h)anthracene	0.330	U	0.330
Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1532**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	86	23 - 120
2-Fluorobiphenyl	88	30 - 115
Terphenyl-D14	77	18 - 137
Phenol-D5	69	24 - 113
2-Fluorophenol	60	25 - 121
2,4,6-Tribromophenol	91	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1532**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **111.111**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.2	N	0.94	7060	12/02/93
Aluminum	8700	N	22	6010	12/04/93
Barium	25		22	6010	12/04/93
Beryllium	1.4		0.56	6010	12/04/93
Cadmium	0.86		0.56	6010	12/04/93
Chromium	17	*	1.1	6010	12/04/93
Copper	8.6		2.8	6010	12/04/93
Iron	16000	*N	11	6010	12/04/93
Nickel	22	*	4.4	6010	12/04/93
Lead	10.0	N	1.1	7421	12/02/93
Mercury	0.032	U	0.032	7471	12/03/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	24	*	2.2	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: A1533
SAMPLE DATE: 11/12/93 12:10:00
SAMPLE MATRIX: WATER

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
TPH - IR		1.0U	1.0	MG/L	11/17/93	EPA418_1
Chromium VI		0.010U	0.010	MG/L	11/13/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1533**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	96	86 - 115
1,2-DICHLOROETHANE-D4	99	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1533**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**
EXTRACTION DATE: **11/18/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **MG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	10	U	10	2,6-Dinitrotoluene	10	U	10
bis(2-Chloroethyl)ether	10	U	10	3-Nitroaniline	25	U	25
2-Chlorophenol	10	U	10	Acenaphthene	10	U	10
1,3-Dichlorobenzene	10	U	10	2,4-Dinitrophenol	25	U	25
1,4-Dichlorobenzene	10	U	10	4-Nitrophenol	25	U	25
Benzyl alcohol	10	U	10	Dibenzofuran	10	U	10
1,2-Dichlorobenzene	10	U	10	2,4-Dinitrotoluene	10	U	10
2-Methylphenol	10	U	10	Diethylphthalate	10	U	10
`` s(2-Chloroisopropyl)ether	10	U	10	4-Chlorophenyl-phenylether	10	U	10
fethylphenol	10	U	10	Fluorene	10	U	10
N-Nitroso-di-n-propylamine	10	U	10	4-Nitroaniline	10	U	10
Hexachloroethane	10	U	10	4,6-Dinitro-2-methylphenol	25	U	25
Nitrobenzene	10	U	10	N-Nitrosodiphenylamine (1)	10	U	10
Isophorone	10	U	10	4-Bromophenyl-phenylether	10	U	10
2-Nitrophenol	10	U	10	Hexachlorobenzene	10	U	10
2,4-Dimethylphenol	10	U	10	Pentachlorophenol	25	U	25
Benzoic Acid	10	U	10	Phenanthrene	10	U	10
bis(2-Chloroethoxy)methane	10	U	10	Anthracene	10	U	10
2,4-Dichlorophenol	10	U	10	Di-n-butylphthalate	10	U	10
1,2,4-Trichlorobenzene	10	U	10	Fluoranthene	10	U	10
Naphthalene	10	U	10	Pyrene	10	U	10
4-Chloroaniline	10	U	10	Butylbenzylphthalate	10	U	10
Hexachlorobutadiene	10	U	10	3,3'-Dichlorobenzidine	10	U	10
4-Chloro-3-methylphenol	10	U	10	Benzo(a)anthracene	10	U	10
2-Methylnaphthalene	10	U	10	Chrysene	10	U	10
Hexachlorocyclopentadiene	10	U	10	bis(2-Ethylhexyl)phthalate	10	U	10
2,4,6-Trichlorophenol	10	U	10	Di-n-octylphthalate	10	U	10
2,4,5-Trichlorophenol	10	U	10	Benzo(b)fluoranthene	10	U	10
2-Chloronaphthalene	10	U	10	Benzo(k)fluoranthene	10	U	10
2-Nitroaniline	25	U	25	Benzo(a)pyrene	10	U	10
Dimethylphthalate	10	U	10	Indeno(1,2,3-cd)pyrene	10	U	10
Acenaphthylene	10	U	10	Dibenzo(a,h)anthracene	10	U	10
				Benzo(g,h,i)perylene	10	U	10

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1533**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	74	35 - 114
2-Fluorobiphenyl	77	43 - 116
Terphenyl-D14	77	33 - 141
Phenol-D5	72	10 - 94
2-Fluorophenol	64	21 - 100
2,4,6-Tribromophenol	78	10 - 123

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1533**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/L**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	12/02/93
Aluminum	0.20	U	0.20	6010	12/08/93
Barium	0.20	U	0.20	6010	12/08/93
Beryllium	0.0050	U	0.0050	6010	12/08/93
Cadmium	0.0050	U	0.0050	6010	12/08/93
Chromium	0.010	U	0.010	6010	12/08/93
Copper	0.025	U	0.025	6010	12/08/93
Iron	0.10	U	0.10	6010	12/08/93
Nickel	0.040	U	0.040	6010	12/08/93
Lead	0.0030	U	0.0030	7421	12/02/93
Mercury	0.00020	U	0.00020	7471	11/16/93
Silver	0.010	U	0.010	6010	12/08/93
Zinc	0.020	U	0.020	6010	12/08/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1534**
SAMPLE DATE: **11/12/93 11:52:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH	1	10U	10	MG/KG	11/22/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/19/93	EPA7196

Referenced notes for these results:

1 This sample was extracted by Method 3550, sonication.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1534**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/20/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	1.6	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	9.3	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.8	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	98	81 - 117
BROMOFLUOROBENZENE	95	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1534**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
s(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.076	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1534**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	92	23 - 120
2-Fluorobiphenyl	81	30 - 115
Terphenyl-D14	84	18 - 137
Phenol-D5	66	24 - 113
2-Fluorophenol	65	25 - 121
2,4,6-Tribromophenol	80	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1534**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **85.4700**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.8	N	0.89	7060	12/02/93
Aluminum	10000	N	17	6010	12/04/93
Barium	17	U	17	6010	12/04/93
Beryllium	1.3		0.43	6010	12/04/93
Cadmium	0.55		0.43	6010	12/04/93
Chromium	16	*	0.85	6010	12/04/93
Copper	11		2.1	6010	12/04/93
Iron	13000	*N	8.5	6010	12/04/93
Nickel	23	*	3.4	6010	12/04/93
Lead	3.4	N	0.27	7421	12/02/93
Mercury	0.024	U	0.024	7471	12/03/93
Silver	0.85	U	0.85	6010	12/04/93
Zinc	28	*	1.7	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Duplicate analysis outside control limits due to matrix interference on chromium, iron, nickel and zinc analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1534-MS**
SAMPLE DATE: **11/12/93 11:52:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH	1	99		% REC	11/22/93	EPA9071
Chromium VI		107		% REC	11/19/93	EPA7196

Referenced notes for these results:

1 This sample was extracted by Method 3550, sonication.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1534-MS**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	92	Trichloroethene	85
		Benzene	97
		Toluene	98
		Chlorobenzene	96

Surrogates	% Recovery	Limits
TOLUENE-D8	102	81 - 117
BROMOFLUOROBENZENE	94	74 - 121
1,2-DICHLOROETHANE-D4	107	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.0.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1534-MS**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	72	Acenaphthene	111
2-Chlorophenol	80	4-Nitrophenol	76
1,4-Dichlorobenzene	72	2,4-Dinitrotoluene	72
N-Nitroso-di-n-propylamine	83	Pentachlorophenol	70
1,2,4-Trichlorobenzene	85	Pyrene	88
4-Chloro-3-methylphenol	90		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	81	23 - 120
2-Fluorobiphenyl	87	30 - 115
Terphenyl-D14	79	18 - 137
Phenol-D5	76	24 - 113
2-Fluorophenol	67	25 - 121
2,4,6-Tribromophenol	66	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1534-MS**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **84.7457**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	91	7060	12/02/93
Aluminum	2028	6010	12/04/93
Barium	110	6010	12/04/93
Beryllium	90	6010	12/04/93
Cadmium	85	6010	12/04/93
Chromium	105	6010	12/04/93
Copper	98	6010	12/04/93
Iron	1651	6010	12/04/93
Nickel	90	6010	12/04/93
Lead	210	7421	12/02/93
Mercury	110	7471	12/03/93
Silver	83	6010	12/04/93
Zinc	103	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike outside control limits due to matrix interference on aluminum and iron analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1534-MSD**
SAMPLE DATE: **11/12/93 11:52:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH	1	100		% REC	11/22/93	EPA9071
Chromium VI		104		% REC	11/19/93	EPA7196

Referenced notes for these results:

1 This sample was extracted by Method 3550, sonication.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.0.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1534-MSD**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	88	Trichloroethene	86
		Benzene	96
		Toluene	97
		Chlorobenzene	97

Surrogates	% Recovery	Limits
TOLUENE-D8	102	81 - 117
BROMOFLUOROBENZENE	96	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1534-MSD**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **0.033**
UNITS: **% REC**

	Result		Result
Phenol	70	Acenaphthene	108
2-Chlorophenol	78	4-Nitrophenol	139
1,4-Dichlorobenzene	76	2,4-Dinitrotoluene	77
N-Nitroso-di-n-propylamine	94	Pentachlorophenol	102
1,2,4-Trichlorobenzene	90	Pyrene	80
4-Chloro-3-methylphenol	87		

Surrogates	% Recovery	Limits
Nitrobenzene-D5	84	23 - 120
2-Fluorobiphenyl	87	30 - 115
Terphenyl-D14	72	18 - 137
Phenol-D5	68	24 - 113
2-Fluorophenol	64	25 - 121
2,4,6-Tribromophenol	66	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1534-MSD**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **112.359**
UNITS: **% REC**

	Result	Method Reference	Analysis Date
Arsenic	69	7060	12/02/93
Aluminum	1509	6010	12/04/93
Barium	104	6010	12/04/93
Beryllium	89	6010	12/04/93
Cadmium	84	6010	12/04/93
Chromium	100	6010	12/04/93
Copper	93	6010	12/04/93
Iron	996	6010	12/04/93
Nickel	88	6010	12/04/93
Lead	150	7421	12/02/93
Mercury	110	7471	12/03/93
Silver	82	6010	12/04/93
Zinc	96	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Referenced notes for these results:

Matrix spike duplicate outside control limits due to matrix interference on aluminum and iron analysis by ICPES, affecting all soil samples in batch. LCS / LCSD results and method Quality Control were acceptable.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1535**
SAMPLE DATE: **11/12/93 14:20:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1535**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	6.4	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	58	B	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	10	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	105	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1535**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
s(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1535**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	83	23 - 120
2-Fluorobiphenyl	88	30 - 115
Terphenyl-D14	76	18 - 137
Phenol-D5	71	24 - 113
2-Fluorophenol	62	25 - 121
2,4,6-Tribromophenol	84	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1535**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **95.2380**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.1	N	1.1	7060	12/02/93
Aluminum	13000	N	19	6010	12/04/93
Barium	250		19	6010	12/04/93
Beryllium	1.6		0.48	6010	12/04/93
Cadmium	0.96		0.48	6010	12/04/93
Chromium	16	*	0.95	6010	12/04/93
Copper	8.2		2.4	6010	12/04/93
Iron	15000	*N	9.5	6010	12/04/93
Nickel	19	*	3.8	6010	12/04/93
Lead	6.7	N	0.34	7421	12/02/93
Mercury	0.029	U	0.029	7471	12/03/93
Silver	0.95	U	0.95	6010	12/04/93
Zinc	22	*	1.9	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1536**
SAMPLE DATE: **11/12/93 14:25:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.50U	0.50	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1536**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	6.8	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	22	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	102	81 - 117
BROMOFLUOROBENZENE	94	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1536**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
s(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.17	J	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1536**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	82	23 - 120
2-Fluorobiphenyl	86	30 - 115
Terphenyl-D14	77	18 - 137
Phenol-D5	68	24 - 113
2-Fluorophenol	57	25 - 121
2,4,6-Tribromophenol	72	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1536**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **102.040**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	4.6	N	0.93	7060	12/02/93
Aluminum	11000	N	20	6010	12/04/93
Barium	22		20	6010	12/04/93
Beryllium	1.7		0.51	6010	12/04/93
Cadmium	1.1		0.51	6010	12/04/93
Chromium	19	*	1.0	6010	12/04/93
Copper	12		2.6	6010	12/04/93
Iron	20000	*N	10	6010	12/04/93
Nickel	25	*	4.1	6010	12/04/93
Lead	7.5	N	0.28	7421	12/02/93
Mercury	0.028	U	0.028	7471	12/03/93
Silver	1.0	U	1.0	6010	12/04/93
Zinc	28	*	2.0	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1537**
SAMPLE DATE: **11/12/93 14:40:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.10U	0.10	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1537**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	3.8	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.6	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ıns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	100	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1537**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
₃(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
₄ethylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1537**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	88	23 - 120
2-Fluorobiphenyl	92	30 - 115
Terphenyl-D14	80	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	66	25 - 121
2,4,6-Tribromophenol	75	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1537**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **97.0873**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.7	N	1.2	7060	12/02/93
Aluminum	6200	N	19	6010	12/04/93
Barium	100		19	6010	12/04/93
Beryllium	0.94		0.49	6010	12/04/93
Cadmium	0.49	U	0.49	6010	12/04/93
Chromium	33	*	0.97	6010	12/04/93
Copper	4.1		2.4	6010	12/04/93
Iron	10000	*N	9.7	6010	12/04/93
Nickel	15	*	3.9	6010	12/04/93
Lead	3.6	N	0.35	7421	12/02/93
Mercury	0.027	U	0.027	7471	12/03/93
Silver	0.97	U	0.97	6010	12/04/93
Zinc	20	*	1.9	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1538**
SAMPLE DATE: **11/12/93 14:57:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1538**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.5	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	11	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.2	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	104	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1538**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
s(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1538**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	91	23 - 120
2-Fluorobiphenyl	94	30 - 115
Terphenyl-D14	84	18 - 137
Phenol-D5	76	24 - 113
2-Fluorophenol	67	25 - 121
2,4,6-Tribromophenol	87	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1538**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **114.942**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	2.2	N	1.1	7060	12/02/93
Aluminum	10000	N	23	6010	12/04/93
Barium	64		23	6010	12/04/93
Beryllium	1.5		0.57	6010	12/04/93
Cadmium	1.1		0.57	6010	12/04/93
Chromium	17	*	1.1	6010	12/04/93
Copper	11		2.9	6010	12/04/93
Iron	15000	*N	11	6010	12/04/93
Nickel	24	*	4.6	6010	12/04/93
Lead	4.9	N	0.34	7421	12/02/93
Mercury	0.027	U	0.027	7471	12/03/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	30	*	2.3	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1539**
SAMPLE DATE: **11/12/93 14:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071
Chromium VI		0.51U	0.51	MG/KG	11/19/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1539**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	4.9	JB	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.1	JB	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
.ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	4.7	JB	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	105	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1539**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/24/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
›(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **A1539**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	82	23 - 120
2-Fluorobiphenyl	89	30 - 115
Terphenyl-D14	75	18 - 137
Phenol-D5	70	24 - 113
2-Fluorophenol	59	25 - 121
2,4,6-Tribromophenol	65	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **A1539**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **106.382**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	1.7	N	1.1	7060	12/02/93
Aluminum	16000	N	21	6010	12/04/93
Barium	21	U	21	6010	12/04/93
Beryllium	2.0		0.53	6010	12/04/93
Cadmium	0.66		0.53	6010	12/04/93
Chromium	19	N	1.1	6010	12/04/93
Copper	20		2.7	6010	12/04/93
Iron	17000	*N	11	6010	12/04/93
Nickel	28	*	4.3	6010	12/04/93
Lead	4.6	N	0.34	7421	12/02/93
Mercury	0.024	U	0.024	7471	12/03/93
Silver	1.1	U	1.1	6010	12/04/93
Zinc	35	*	2.1	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH	1	10U	10	MG/KG	11/22/93	EPA9071
Chromium VI		0.010U	0.010	MG/KG	11/19/93	EPA7196

Referenced notes for these results:

1 This sample was extracted by Method 3550, sonication.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/L**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	100	U	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
1-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	100	U	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	96	88 - 110
BROMOFLUOROBENZENE	103	86 - 115
1,2-DICHLOROETHANE-D4	100	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
EXTRACTION DATE: **11/16/93**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **0.033**
UNITS: **MG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Phenol	0.330	U	0.330	2,6-Dinitrotoluene	0.330	U	0.330
bis(2-Chloroethyl)ether	0.330	U	0.330	3-Nitroaniline	0.825	U	0.825
2-Chlorophenol	0.330	U	0.330	Acenaphthene	0.330	U	0.330
1,3-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrophenol	0.825	U	0.825
1,4-Dichlorobenzene	0.330	U	0.330	4-Nitrophenol	0.825	U	0.825
Benzyl alcohol	0.330	U	0.330	Dibenzofuran	0.330	U	0.330
1,2-Dichlorobenzene	0.330	U	0.330	2,4-Dinitrotoluene	0.330	U	0.330
2-Methylphenol	0.330	U	0.330	Diethylphthalate	0.330	U	0.330
(2-Chloroisopropyl)ether	0.330	U	0.330	4-Chlorophenyl-phenylether	0.330	U	0.330
Methylphenol	0.330	U	0.330	Fluorene	0.330	U	0.330
N-Nitroso-di-n-propylamine	0.330	U	0.330	4-Nitroaniline	0.825	U	0.825
Hexachloroethane	0.330	U	0.330	4,6-Dinitro-2-methylphenol	0.825	U	0.825
Nitrobenzene	0.330	U	0.330	N-Nitrosodiphenylamine (1)	0.330	U	0.330
Isophorone	0.330	U	0.330	4-Bromophenyl-phenylether	0.330	U	0.330
2-Nitrophenol	0.330	U	0.330	Hexachlorobenzene	0.330	U	0.330
2,4-Dimethylphenol	0.330	U	0.330	Pentachlorophenol	0.825	U	0.825
Benzoic Acid	0.330	U	0.330	Phenanthrene	0.330	U	0.330
bis(2-Chloroethoxy)methane	0.330	U	0.330	Anthracene	0.330	U	0.330
2,4-Dichlorophenol	0.330	U	0.330	Di-n-butylphthalate	0.330	U	0.330
1,2,4-Trichlorobenzene	0.330	U	0.330	Fluoranthene	0.330	U	0.330
Naphthalene	0.330	U	0.330	Pyrene	0.330	U	0.330
4-Chloroaniline	0.330	U	0.330	Butylbenzylphthalate	0.330	U	0.330
Hexachlorobutadiene	0.330	U	0.330	3,3'-Dichlorobenzidine	0.330	U	0.330
4-Chloro-3-methylphenol	0.330	U	0.330	Benzo(a)anthracene	0.330	U	0.330
2-Methylnaphthalene	0.330	U	0.330	Chrysene	0.330	U	0.330
Hexachlorocyclopentadiene	0.330	U	0.330	bis(2-Ethylhexyl)phthalate	0.330	U	0.330
2,4,6-Trichlorophenol	0.330	U	0.330	Di-n-octylphthalate	0.330	U	0.330
2,4,5-Trichlorophenol	0.825	U	0.825	Benzo(b)fluoranthene	0.330	U	0.330
2-Chloronaphthalene	0.330	U	0.330	Benzo(k)fluoranthene	0.330	U	0.330
2-Nitroaniline	0.825	U	0.825	Benzo(a)pyrene	0.330	U	0.330
Dimethylphthalate	0.330	U	0.330	Indeno(1,2,3-cd)pyrene	0.330	U	0.330
Acenaphthylene	0.330	U	0.330	Dibenzo(a,h)anthracene	0.330	U	0.330
				Benzo(g,h,i)perylene	0.330	U	0.330

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	96	23 - 120
2-Fluorobiphenyl	86	30 - 115
Terphenyl-D14	90	18 - 137
Phenol-D5	72	24 - 113
2-Fluorophenol	67	25 - 121
2,4,6-Tribromophenol	85	19 - 122

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **SOIL**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/KG**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	12/02/93
Aluminum	0.20	U	0.20	6010	12/04/93
Barium	0.20	U	0.20	6010	12/04/93
Beryllium	0.0050	U	0.0050	6010	12/04/93
Cadmium	0.0050	U	0.0050	6010	12/04/93
Chromium	0.010	U	0.010	6010	12/04/93
Copper	0.025	U	0.025	6010	12/04/93
Iron	0.10	U	0.10	6010	12/04/93
Nickel	0.040	U	0.040	6010	12/04/93
Lead	0.0030	U	0.0030	7421	12/02/93
Mercury	0.00020	U	0.00020	7471	12/03/93
Silver	0.010	U	0.010	6010	12/04/93
Zinc	0.020	U	0.020	6010	12/04/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE:
SAMPLE MATRIX: **WATER**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
TPH - IR		1.0U	1.0	MG/L	11/17/93	EPA418_1
Chromium VI		0.010U	0.010	MG/L	11/13/93	EPA7196

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/19/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	4.0	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
[illegible]-Dichloroethane	5	U	5	Bromoform	5	U	5
[illegible]ns-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.8	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	101	81 - 117
BROMOFLUOROBENZENE	98	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684
409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
EXTRACTION DATE: 11/16/93
ANALYSIS DATE: 11/23/93
DILUTION FACTOR: 1.0
UNITS: **MG/L**

	Result	Qual	Reporting Limit
Phenol	10	U	10
bis(2-Chloroethyl)ether	10	U	10
2-Chlorophenol	10	U	10
1,3-Dichlorobenzene	10	U	10
1,4-Dichlorobenzene	10	U	10
Benzyl alcohol	10	U	10
1,2-Dichlorobenzene	10	U	10
2-Methylphenol	10	U	10
[illegible](2-Chloroisopropyl)ether	10	U	10
[illegible]ethylphenol	10	U	10
N-Nitroso-di-n-propylamine	10	U	10
Hexachloroethane	10	U	10
Nitrobenzene	10	U	10
Isophorone	10	U	10
2-Nitrophenol	10	U	10
2,4-Dimethylphenol	10	U	10
Benzoic Acid	10	U	10
bis(2-Chloroethoxy)methane	10	U	10
2,4-Dichlorophenol	10	U	10
1,2,4-Trichlorobenzene	10	U	10
Naphthalene	10	U	10
4-Chloroaniline	10	U	10
Hexachlorobutadiene	10	U	10
4-Chloro-3-methylphenol	10	U	10
2-Methylnaphthalene	10	U	10
Hexachlorocyclopentadiene	10	U	10
2,4,6-Trichlorophenol	10	U	10
2,4,5-Trichlorophenol	10	U	10
2-Chloronaphthalene	10	U	10
2-Nitroaniline	25	U	25
Dimethylphthalate	10	U	10
Acenaphthylene	10	U	10

	Result	Qual	Reportin Limit
2,6-Dinitrotoluene	10	U	10
3-Nitroaniline	25	U	25
Acenaphthene	10	U	10
2,4-Dinitrophenol	25	U	25
4-Nitrophenol	25	U	25
Dibenzofuran	10	U	10
2,4-Dinitrotoluene	10	U	10
Diethylphthalate	10	U	10
4-Chlorophenyl-phenylether	10	U	10
Fluorene	10	U	10
4-Nitroaniline	10	U	10
4,6-Dinitro-2-methylphenol	25	U	25
N-Nitrosodiphenylamine (1)	10	U	10
4-Bromophenyl-phenylether	10	U	10
Hexachlorobenzene	10	U	10
Pentachlorophenol	25	U	25
Phenanthrene	10	U	10
Anthracene	10	U	10
Di-n-butylphthalate	10	U	10
Fluoranthene	10	U	10
Pyrene	10	U	10
Butylbenzylphthalate	10	U	10
3,3'-Dichlorobenzidine	10	U	10
Benzo(a)anthracene	10	U	10
Chrysene	10	U	10
bis(2-Ethylhexyl)phthalate	10	U	10
Di-n-octylphthalate	10	U	10
Benzo(b)fluoranthene	10	U	10
Benzo(k)fluoranthene	10	U	10
Benzo(a)pyrene	10	U	10
Indeno(1,2,3-cd)pyrene	10	U	10
Dibenzo(a,h)anthracene	10	U	10
Benzo(g,h,i)perylene	10	U	10

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **ABN HSL GC/MS Extractables**
METHOD REFERENCE: **EPA8270**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**

Surrogates	% Recovery	Limits
Nitrobenzene-D5	75	35 - 114
2-Fluorobiphenyl	75	43 - 116
Terphenyl-D14	78	33 - 141
Phenol-D5	67	10 - 94
2-Fluorophenol	56	21 - 100
2,4,6-Tribromophenol	71	10 - 123

(1) N-Nitrosodiphenylamine cannot be separated from diphenylamine.

Data Qualifier Key:
U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Metals**
METHOD REFERENCE: **EPA6010**

SAMPLE ID: **LAB BLANK #1**
SAMPLE DATE: **not spec**
SAMPLE MATRIX: **WATER**
DILUTION FACTOR (6010): **1.0**
UNITS: **MG/L**

	Result	Result Qual	Reporting Limit	Method Reference	Analysis Date
Arsenic	0.010	U	0.010	7060	12/02/93
Aluminum	0.20	U	0.20	6010	12/08/93
Barium	0.20	U	0.20	6010	12/08/93
Beryllium	0.0050	U	0.0050	6010	12/08/93
Cadmium	0.0050	U	0.0050	6010	12/08/93
Chromium	0.010	U	0.010	6010	12/08/93
Copper	0.025	U	0.025	6010	12/08/93
Iron	0.10	U	0.10	6010	12/08/93
Nickel	0.040	U	0.040	6010	12/08/93
Lead	0.0030	U	0.0030	7421	12/02/93
Mercury	0.00020	U	0.00020	7471	11/16/93
Silver	0.010	U	0.010	6010	12/08/93
Zinc	0.020	U	0.020	6010	12/08/93

Data qualifier key:
E - estimated value
M - duplicate injection precision not met
N - spike recovery not within control limits
S - determined by MSA
W - post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is <50% of spike absorbance
* - duplicate analysis outside control limits
+ - Correlation coefficient for the MSA <0.995
B - < CRDL but >= IDL
U - none detected
'blank' - positive result

NOTE: Dilution Factor applies to Method 6010 only.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		10U	10	MG/KG	12/06/93	EPA9071

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #2**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	10	U	10	1,1,2-Trichloroethane	5	U	5
Acetone	6.0	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	1.9	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	103	81 - 117
BROMOFLUOROBENZENE	99	74 - 121
1,2-DICHLOROETHANE-D4	100	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1533-MS**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	89	Trichloroethene	91
		Benzene	99
		Toluene	97
		Chlorobenzene	101

Surrogates	% Recovery	Limits
TOLUENE-D8	97	88 - 110
BROMOFLUOROBENZENE	94	86 - 115
1,2-DICHLOROETHANE-D4	99	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **A1533-MSD**
SAMPLE DATE: **11/12/93**
SAMPLE MATRIX: **WATER**
ANALYSIS DATE: **11/22/93**
DILUTION FACTOR: **1.0**
UNITS: **% REC**

	Result		Result
1,1-Dichloroethene	89	Trichloroethene	95
		Benzene	100
		Toluene	98
		Chlorobenzene	101

Surrogates	% Recovery	Limits
TOLUENE-D8	98	88 - 110
BROMOFLUOROBENZENE	96	86 - 115
1,2-DICHLOROETHANE-D4	102	76 - 114

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME: **Hazardous Substance Vols.**
METHOD REFERENCE: **EPA8240**

SAMPLE ID: **LAB BLANK #3**
SAMPLE DATE:
SAMPLE MATRIX: **SOIL**
ANALYSIS DATE: **11/23/93**
DILUTION FACTOR: **1.0**
UNITS: **UG/KG**

	Result	Qual	Reporting Limit		Result	Qual	Reporting Limit
Chloromethane	10	U	10	1,2-Dichloropropane	5	U	5
Bromomethane	10	U	10	trans-1,3-Dichloropropene	5	U	5
Vinyl chloride	10	U	10	Trichloroethene	5	U	5
Chloroethane	10	U	10	Chlorodibromomethane	5	U	5
Methylene chloride	5.1	J	10	1,1,2-Trichloroethane	5	U	5
Acetone	1.6	J	100	Benzene	5	U	5
Carbon disulfide	5	U	5	cis-1,3-Dichloropropene	5	U	5
1,1-Dichloroethene	5	U	5	2-Chloroethylvinyl ether	10	U	10
-Dichloroethane	5	U	5	Bromoform	5	U	5
ans-1,2-Dichloroethene	5	U	5	2-Hexanone	50	U	50
cis-1,2-Dichloroethene	5	U	5	4-Methyl-2-pentanone	50	U	50
Chloroform	5	U	5	Tetrachloroethene	5	U	5
1,2-Dichloroethane	5	U	5	1,1,2,2-Tetrachloroethane	5	U	5
2-Butanone	3.2	J	100	Toluene	5	U	5
1,1,1-Trichloroethane	5	U	5	Chlorobenzene	5	U	5
Carbon tetrachloride	5	U	5	Ethylbenzene	5	U	5
Vinyl acetate	10	U	10	Styrene	5	U	5
Dichlorobromomethane	5	U	5	Xylenes, total	5	U	5

Surrogates	% Recovery	Limits
TOLUENE-D8	101	81 - 117
BROMOFLUOROBENZENE	97	74 - 121
1,2-DICHLOROETHANE-D4	102	70 - 120

Data Qualifier Key:

U - none detected
J - estimated value (less than the sample quantitation limit)
B - analyte is found in the associated blank as well as in the sample 'blank' - positive result
* - Surrogate recovery is outside QC limit
D - compound identified at a secondary dilution factor
E - concentration exceeds calibration range

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1539-MS**
SAMPLE DATE: **11/12/93 14:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		96		% REC	12/06/93	EPA9071

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

SAMPLE ID: **A1539-MSD**
SAMPLE DATE: **11/12/93 14:50:00**
SAMPLE MATRIX: **SOIL**

Test Name	Note Ref	Result	Reporting Limit	Units	Date Analyzed	Method Reference
9071/418.1 for TPH		96		% REC	12/06/93	EPA9071

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

IV. Methodology

Requested analyses were performed according to the following methods.

TEST NAME **TPH - IR** TEST CODE **418_1**

418_1	Method 418.1: Total Recoverable Petroleum Hydorcarbons, infrared spectrophotmetric method. Methods for the chemical analysis of water and wastes. USEPA.

TEST NAME **ICP Metals** TEST CODE **6010**

Metals by ICP	Inductively coupled emission spectroscopy according to Method 6010, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", SW-846, Third Edition.

TEST NAME **Hazardous Substance Vols.** TEST CODE **8240TK**

Hazardous Substance List Volatiles	Method 8240, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. GC/MS Purge and Trap analysis.

TEST NAME **ABN HSL GC/MS Extractables** TEST CODE **8270TK**

Hazardous Substance List Extractables	Method 8270, SW-846, Test Methods for Evaluating Solid Waste, Third Edition. Acid/Base-Neutral extraction followed by GC/MS analysis.

TEST NAME **9071/418.1 for TPH** TEST CODE **9071IR**

9071 Prep and IR Analysis	Method 9071, SW846, Test Methods for Evaluating Solid Waste, Third Edition. Soxhlet extraction from Method 9071 using freon and infrared analysis of the extract using Method 418.1.

TEST NAME **Arsenic - Graphite Furnace** TEST CODE **AS_GF**

Arsenic Graphite Furnace	Method 7060, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 206.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes, EPA-600/4-82-055, December 1982.

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

409832-003-01 Work Order: B3-11-156

TEST NAME **Chromium VI** TEST CODE **CR_VI**

Chromium VI	Method 7196, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Colorimetric analysis. Equivalent to Standard Methods 3500-Cr D.

TEST NAME **Mercury** TEST CODE **HG_AA**

Mercury	Method 7471, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Cold vapor atomic absorption. Method 7470 is used for water. Method 245.5-"Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **Metals** TEST CODE **ICPTK2**

hod not available.

TEST NAME **Lead - Graphite Furnace** TEST CODE **PB_GF**

Lead Graphite Furnace	EPA 7421, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. EPA 239.2-Technical Additions to Methods for Chemical Analysis of Water and Wastes," EPA-600/4-82-055, December 1982.

TEST NAME **ICPES Digestion - Water** TEST CODE **Z3005**

Water Digestion	Method 3005A, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Digestion procedure for the preparation of surface and ground water samples for analysis by flame atomic absorption spectroscopy and inductively coupled plasma spectroscopy. The procedure determines total recoverable or dissolved metals.

IT ANALYTICAL SERVICES
AUSTIN, TX
(512) 892-6684

Company: IT CORPORATION
Date: 12/17/93
Client Work ID: D.O.5001

409832-003-01 Work Order: B3-11-156

TEST NAME **GFAA Digestion - Water** TEST CODE **Z3020**

Water Digestion	Method 3020, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace.

TEST NAME **GFAA Digestion - Soil** TEST CODE **Z3050F**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for Graphite Furnace/Flame AA analysis.

TEST NAME **ICPES Digestion - Soil** TEST CODE **Z3050P**

Soil Digestion	Method 3050, SW-846, Test Methods for Evaluating Solid Wastes, Third Edition. Acid digestion technique for ICPES analysis. Equivalent to Method 3050A, SW-846 Update I, July 1992.

B311156

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 314094
Page 1 of 2

Project Name/No. [1] T.A.F.B. 409832
Samples Shipment Date [7] 11/12/93
Bill to: [5] 409832.03.01 P.O. 5001
Sample Team Members [2] JCS/MW
Lab Destination [8] ITAS - AUSTIN
Profit Center No. [3] 3527
Lab Contact [9] KARMEN DEANE
Project Manager [4] ~~Tom Capone~~ Jimmy Taylor MW 11/12/93
Project Contact/Phone [12] (405) 736-2260 DAN McGREGOR
Report to: [10] TIM JENNINGS IT AUSTIN
Purchase Order No. [6] 409832.03.01
Carrier/Waybill No. [13] F.EX. 8460756205
Required Report Date [11] NORMAL

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
A1527 JCS ~~A1527~~	SB-22 WATER	10/14/93 1700	VOA VILE	40ml	COOL + HCL	8240	Good 1°C XXC 11-13-93	B3244100A XXC
A1528	SOIL	11/12/93 1109	CLEAR GLASS	500ml	COOL	8270, 6010/7000, TPH 418.1		
A1528	SOIL	11/12/93		125ml	COOL	8240		
A1529		1117		500ml		8270, 6010/7000, 418.1 TPH		
A1529				125ml		8240		
A1530		1128		500ml		8270, 6010/7000, 418.1 TPH		
A1530				125ml		8240		
A1531				500ml		8270, 6010/7000, 418.1 TPH		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☑

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☑ Archive (mos.)

Turnaround Time Required: [26]
Normal ☑ Rush ☐

QC Level: [27]
I. ☑ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Matthew J Wilson ITES Austin	Date: 11/12/93 Time: 1715	1. Received by [28] (Signature/Affiliation) Lori Church IT	Date: 11-13-93 Time: 0937
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions

MCA 3.15/91

B311156

ERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.: 314091

Page 2 of 2

Project Name TINKER 5001 | Project No. 409832.03.01 | Samples Shipment Date 11/12/93

ONE CONTAINER PER LINE

Sample 14 Number	Sample 15 Description/Type	Date/Time 16 Collected	Container 17 Type	Sample 18 Volume	Pre-19 servative	Requested Testing 20 Program	Condition on 21 Receipt	Disposal 22 Record No.
A1531	SB-22 SOIL	11/12/93 1128	CLEAR GLASS	125mL	COOL	8240	Good 1°C RAC 11.13.93	
A1532		11/12/93 1137		500mL		8270, TPH 418.1, 6010/7000 METALS		
A1532				125mL		8240		
A1533	WATER	11/12/93 1210	VOA VIAL	40mL	COOL + HCL	8240		B3244100A
A1533			PLASTIC	100mL	COOL	Cr VI		
A1533			AMBER GLASS	1L	H_2SO_4 + COOL	TPH		
A1533			AMBER GLASS	2L	COOL	8270		
A1533			HDPE	1000mL	COOL + HNO_3	METALS		
A1534	SB-23 SOIL	11/12/93 1152	CLEAR GLASS	500mL	COOL	TPH, SVOC, METALS		See COC Read 2x500
A1534				125mL		8240		
A1535	SB-23	1420		500mL		TPH, SVOC, METALS		
A1535				125mL		8240		
A1536		1425		500mL		TPH, SVOC, METALS		
A1536				125mL		8240		
A1537		1440		500mL		TPH, SVOC, METALS		
A1537				125mL		8240		
A1538		11/12/93 1457		500mL		418.1 TPH/ECKY1000 8270 SVOC/ Metals		
A1538				125mL		8240 VOC		
A1539		11/12/93 1450		500mL		418.1 TPH/6010/7000 8270 SVOC/ Metals		
A1539				125mL		8240 VOC		

White: To accompany samples Yellow: Field copy

*See back of form for special instructions

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1528

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
02B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	105
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	51.0
	Mercury	B311156-16B	1206HGAA2	12/03/93	12/03/93	156
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	105

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1529

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
03B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	84.7
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	49.5
	Mercury	B311156-16B	1206HGAA2	12/03/93	12/03/93	135
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	339

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1530

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
04B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	84.0
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.0
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	132
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	84

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1531

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
05B						
	9071IR	B311156-18B	1204TPHIR3	12/04/94	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	111
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	149
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	111

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1532

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
06B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	94.3
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.0
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	161
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	377

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1533

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
07C						
	Arsenic	B311156-16B	113030201	11/30/93	12/02/93	1.0
	Mercury	B311156-16B	1116HGAA1	11/16/93	11/16/93	1.0
	Lead	B311156-16B	113030201	11/30/93	12/02/93	1.0
07D	418_1	B311156-17B	1117TPHIR2	11/17/93	11/17/93	1.0
07E	Chromium VI	B311156-17B	1113CR_VI1	11/13/93	11/13/93	1.0

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1534

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
08B						
	9071IR	B311156-16B	1122TPHIR1	11/22/93	11/22/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	89.3
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	49.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	120
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	89.3

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1534-MS

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
09B						
	9071IR	B311156-16B	1122TPHIR1	11/22/93	11/22/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	105
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	122
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	105

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1534-MSD

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
10B						
	9071IR	B311156-16B	1122TPHIR1	11/22/93	11/22/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	95.2
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	48.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	125
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	95.2

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1535

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
11B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	112
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	143
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	112

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1536

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
12B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	92.6
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	49.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	139
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	92.6

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1537

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
13B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	115
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	10.0
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	135
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	115

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1538

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
14B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	114
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	137
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	114

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : A1539

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
15B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	12/06/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	114
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	50.5
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	122
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	114

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
16B						
	9071IR	B311156-18B	1204TPHIR3	12/04/93	11/22/93	1.0
	Arsenic	B311156-16B	11293050F1	11/29/93	12/02/93	1.0
	Chromium VI	B311156-16B	1119CR_VI2	11/19/93	11/19/93	1.0
	Mercury	B311156-16B	1203HGAA2	12/03/93	12/03/93	1.0
	Lead	B311156-16B	11293050F1	11/29/93	12/02/93	1.0

Auxiliary Data Summary 12/16/93

Work order : B311156 Sample ID : LAB BLANK #1

FRAC	Tests	Blank Reference	Batch ID	Prep Date	Analysis Date	Dil. Factor
17B						
	418_1	B311156-17B	1117TPHIR2	11/17/93	11/17/93	1.0
	Arsenic	B311156-16B	113030201	11/30/93	12/02/93	1.0
	Chromium VI	B311156-17B	1113CR_VI1	11/13/93	11/13/93	1.0
	Mercury	B311156-16B	1116HGAA1	11/16/93	11/16/93	1.0
	Lead	B311156-16B	113030201	11/30/93	12/02/93	1.0