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DRAFT SITE SCREENING REPORT SITE 48 NSWC WHITE OAK MD

9/1/2002

TETRA TECH

Site Screening Report
for
Site 48

Former
Naval Surface Warfare Center
White Oak
Silver Spring, Maryland

Engineering Field Activity Chesapeake
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888

Contract Task Order 0839

September 2002

TETRA TECH NUS, INC.

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SITE SCREENING REPORT
for
SITE 48

former
NAVAL SURFACE WARFARE CENTER
WHITE OAK
SILVER SPRING, MARYLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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TABLE OF CONTENTS

SECTION			PAGE NO.
ACRONYMS			v
1.0	INTRODUCTION		1-1
	1.1	PROJECT SCOPE	1-1
	1.2	FACILITY BACKGROUND	1-1
	1.3	WASTE MANAGEMENT SITES	1-1
	1.4	ENVIRONMENTAL SETTING	1-2
	1.4.1	Physiography	1-2
	1.4.2	Climate	1-2
	1.4.3	Surface Drainage	1-2
	1.4.4	Soils	1-3
	1.4.5	Geology and Hydrogeology	1-3
	1.5	FIELD OPERATIONS	1-4
	1.6	DATA EVALUATION METHODOLOGIES	1-4
	1.6.1	Data Validation	1-4
	1.6.2	Human Health Risk-Based Screening Evaluation	1-6
	1.6.3	Groundwater Protection Screening	1-7
2.0	SITE 48 – 500 AREA WASTE SITE		2-1
	2.1	BACKGROUND	2-1
	2.2	ENVIRONMENTAL SETTING	2-1
	2.2.1	Topography	2-1
	2.2.2	Surface Water	2-1
	2.2.3	Geology/Soils	2-1
	2.2.4	Hydrogeology	2-1
	2.3	FIELD INVESTIGATION ACTIVITIES	2-1
	2.3.1	Geophysical Survey	2-2
	2.3.2	Test Pit Investigation	2-2
	2.4	DATA AND RISK-BASED SCREENING EVALUATION	2-3
	2.4.1	Data and Risk-Based Screening Evaluation of Soil Contamination	2-3
	2.4.2	Groundwater Protection Screening for Soil	2-4
	2.4.3	Waste Samples	2-5
	2.5	CONCLUSIONS AND RECOMMENDATIONS	2-5
	2.5.1	Conclusions	2-5
	2.5.2	Recommendations	2-5
REFERENCES			R-1

APPENDICES

A	ANALYTICAL DATA
B	DATA VALIDATION MEMORANDA
C	GEOPHYSICAL SURVEY
D	TEST PIT LOGS
E	SOIL SAMPLE LOGS

TABLES

NUMBER

1-1 Screening Values for Soil
1-2 Screening Values for Sol Migration to Groundwater
2-1 Summary of Positive Analytical Results for Soil
2-2 Occurrence, Distribution, and Selection of COPCs for Chemicals Detected in Soil
2-3 Screening Risk Analysis - Soil
2-4 Migration to Groundwater - Soil

FIGURES

NUMBER

1-1 Site Vicinity Map
1-2 Site Location Map
2-1 Geophysical Survey and Test Pit Location Map
2-2 Summary of Exceedances of Human Health Criteria

ACRONYMS

ALC	Adelphi Laboratory Center
AOC	Area of Concern
BCT	BRAC Clean-up Team
bgs	Below ground surface
BRAC	Base Realignment and Closure
CBC	Chillum-Beltsville-Croom
CLEAN	Comprehensive Long-Term Environmental Action Navy
CLP	Contract Laboratory Program
COPC	Constituent of potential concern
CTO	Contract Task Order
DAF	Dilution Attenuation Factor
EFACHES	Engineering Field Activity – Chesapeake
EPA	United States Environmental Protection Agency
FID	Flame ionization detector
GMC	Glenelg-Manor-Chester
GSA	General Services Administration
HI	Hazard Index
HQ	Hazard Quotient
IRP	Installation Restoration Program
mg/kg	milligram/kilogram
msl	Mean sea level
NAVFAC	Naval Facilities Engineering Command
NSWC	Naval Surface Warfare Center
OU	Operable Unit
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PID	Photoionization detector
QA/QC	Quality assurance/quality control
RBC	Risk-Based Concentration
SU	Standard unit
SVOC	Semivolatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristics Leachate Procedure

TtNUS	Tetra Tech NUS, Inc.
USGS	United States Geological Survey
VOC	Volatile organic compound

1.0 INTRODUCTION

1.1 PROJECT SCOPE

This Site Screening Report identifies the rationale behind the investigation of Site 48, the 500 Area Waste Site at the former Naval Surface Warfare Center (NSWC) - White Oak, located in Silver Spring, Maryland. The report was completed by Tetra Tech NUS, Inc. (TtNUS) under Contract Task Order (CTO) 0839 as part of the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract N62467-94-D-0888. The CLEAN Contract is part of the Navy's Installation Restoration Program (IRP), which is designed to identify contamination at Navy and Marine Corps facilities resulting from past operations and to institute corrective measures as needed. CTO 0839 is being administered by the Naval Facilities Engineering Command, Northern Division (NAVFAC), through Engineering Field Activity - Chesapeake (EFACHES).

The further characterization of IRP sites, solid waste management units (SWMUs), Areas of Concern (AOCs), and other miscellaneous waste management sites is necessitated by the closure of the Base, transfer of the property, and the potential future reuse of the property.

1.2 FACILITY BACKGROUND

NSWC-White Oak was a Navy-owned and -operated laboratory for naval surface warfare research located north of Washington, D.C. off New Hampshire Avenue in Silver Spring, Maryland (see Figure 1-1). The former facility property is located in both Prince George's and Montgomery Counties. NSWC-White Oak is bordered by the U.S. Army Adelphi Laboratory Center (ALC) and the United States Naval Reserve Training Center, along with a mixture of residential, park, and commercial properties. The Navy conducted research activities at this Facility between 1944 and 1997.

NSWC-White Oak was listed on the Base Realignment and Closure (BRAC) list in the fall of 1995. The Facility has now closed, and the research activities have been transferred to other naval facilities. The NSWC-White Oak property was transferred to the General Services Administration (GSA) and the U.S. Army ALC.

1.3 WASTE MANAGEMENT SITES

Site 48 is included in this Site Screening Report because it was used to manage and/or dispose wastes or waste-containing materials. Due to the potential reuse and development of this site, it was investigated to characterize the potential risks, if any, to future tenants. The location of Site 48 is identified on Figure 1-2.

1.4 ENVIRONMENTAL SETTING

This section discusses the physiography, climate, surface drainage, soils, geology, and hydrogeology at the former NSWC-White Oak.

1.4.1 Physiography

NSWC-White Oak is located northeast of Washington, D.C. near the boundary between the Piedmont and Coastal Plain Physiographic Provinces. The Facility lies in gently rolling terrain. The topographic expression of the area is typical of a deeply incised, dendritic stream channel pattern. Local drainage patterns are dominated by Paint Branch and its tributaries.

The highest elevation at the Base is approximately 398 feet above mean sea level (msl). The lowest elevation is roughly 145 feet above msl. The terrain of the western portion of the Base slopes generally eastward toward Paint Branch at an approximately 3.5 percent grade. Similar grades are encountered in the eastern portion of the Facility, but slopes are generally more southward or are locally influenced by proximity to Paint Branch and its tributary drainages. Ground slopes increase to as much as 65 percent near stream channels.

1.4.2 Climate

Summers at NSWC-White Oak are warm and humid, and winters are mild. Seasonal temperature variation is about 43°F. The warmest weather occurs in July, with daily temperatures typically ranging from 69°F to 88°F. The coldest weather occurs in late January and early February with daily temperatures typically ranging from 28° to 44°F.

The average annual precipitation is approximately 44 inches. Seasonal variation in precipitation is not pronounced, gradually fluctuating between a typical minimum of 3 inches in February to a typical maximum of 5 inches in August. Snowfall accumulations of more than 10 inches are rare, with the greatest snowfalls occurring in January and February.

The mean annual wind speed varies between 8 miles per hour in August and 11 miles per hour in March. The prevailing direction is from the south most of the year, except for northwesterly winds that occur during December, January, and March.

1.4.3 Surface Drainage

NSWC-White Oak lies entirely within the drainage basin of Paint Branch, a 12-mile-long tributary to the Northeast Branch of the Anacostia River. Like other streams in the region, Paint Branch is a gaining

stream, perennially supported by groundwater discharge from small springs and seeps along its length. One other perennial stream, Westfarm Branch, flows through the Facility east of Paint Branch. It originates approximately 1 mile to the north and joins Paint Branch just south of the property line.

In addition to perennial streams, the facility is traversed by eight intermittent streams, all of which discharge to Paint Branch either on the property or nearby. Several of these streams are very small and are not mapped by the United States Geological Survey (USGS).

1.4.4 Soils

The facility soils, with the exception of streambed soils, tend to be moderately to excessively well drained and moderately to severely eroded. The soils generally fall within one of two major associations present in the vicinity: the Glenelg-Manor-Chester (GMC) association and the Chillum-Beltsville-Croom (CBC) association. The GMC association is developed in materials weathered from Piedmont metamorphic rocks, and the CBC association is derived from Coastal Plain materials. Soils at the facility tend to be moderately acidic, with a pH range ranging from 4 to 6 Standard Units (SUs). This may be due to the presence of hydroxyl, humic, and fulvic acids derived from the decay of organic matter.

1.4.5 Geology and Hydrogeology

NSWC-White Oak lies near the boundary between the Piedmont and Coastal Plain Physiographic Provinces. The boundary, known as the Fall Line, runs generally southwest to northeast and is roughly parallel to the Montgomery-Prince George's County line in the While Oak area. The Fall Line represents the contact where older Piedmont rocks, exposed to the northwest, dip beneath Coastal Plain sediments that increase in thickness to the southeast..

At the Facility, Coastal Plain sediments, primarily unconsolidated sand and gravel deposits, are only a few tens of feet thick and in many places have been entirely eroded away. The underlying or exposed Piedmont bedrock is the Wissahickon Formation, a metamorphic gneiss of late Precambrian age. The upper 50 to 70 feet of the Wissahickon gneiss has been highly weathered to a clayey saprolite material that retains the character of the parent material but is unconsolidated. This saprolite is considered a separate lithologic unit. The Wissahickon gneiss and saprolite together account for at least 50 percent of the exposed formations at NSWC-White Oak. The gneiss tends to crop out only in or near the Paint Branch channel where overlying sediments have been removed by erosion.

1.5 FIELD OPERATIONS

Investigation of the site was conducted in accordance with the work plan for site screening at Site 48 (TtNUS, January 2002). This plan was developed by the White Oak BRAC Clean-up Team (BCT) to identify the presence or absence of contaminants at each site. The Site Screening Investigation was conducted in May 2002.

1.6 DATA EVALUATION METHODOLOGIES

1.6.1 Data Validation

Validation of data generated for all samples collected during this Site Screening Investigation was completed via the U.S. Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) methods. The validation process considered data completeness, holding time compliance, mass calibrations, field quality control (QC) and laboratory-generated blanks, internal standards, surrogate spikes, blank spikes, field duplicate precision, chemical interferences, quantitation, detection limits, and system performance.

Evaluation of laboratory and field QC blank analyses aided in the elimination of false positive results, which were identified as laboratory artifacts. The overall determination of data utility or reliability was based on laboratory compliance with specified methods and adherence to QC requirements. Noncompliances observed during the validation process resulted in qualification of analytical data. The qualifiers alert the data user to imprecise or estimated results and, in the worst case, unreliable and unusable data.

The net results of the validation process were summarized in sample-delivery-group-specific technical reports consisting of a memorandum, a section of qualified analytical results, results as reported by the laboratory, and a supporting documentation section that provided the rationale for changes and/or qualification of the data. These memoranda provided a detailed explanation of the results of the data validation review. Complete analytical results including applicable data qualifiers are presented in Appendix A. Data validation memoranda are provided in Appendix B.

As mentioned previously, the qualification of analytical data during the validation process was conducted as required by the EPA Functional Guidelines. The attachment of the data qualifiers to analytical results signifies the occurrence of QC noncompliance that has been noted during the course of data validation. The various data qualifiers are defined as follows:

- B – Indicates that the detected concentration is determined to be attributable to contamination introduced during field sampling or laboratory analysis (reported by the laboratory without qualification or with a "B").

- J – Indicates that the chemical was detected but is considered to be estimated based on problems encountered during laboratory analysis. Generally, this qualifier applies to reported concentrations that are below the Contract-Required Quantitation Limit or Contract-Required Detection Limit. The associated numerical detection limit is regarded as inaccurate or imprecise, and no bias can be determined.

- K – Indicates that the chemical was detected but is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise and is biased high.

- L – Indicates that the chemical was detected but is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise and is biased low.

- UJ – Indicates that the chemical was not detected. However, the detection limit (quantitation limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise, and no bias can be determined.

- UL – Indicates that the chemical was not detected. However, the detection limit (quantitation limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate or imprecise and biased low.

- UR – Indicates that the chemical may or may not be present. The nondetected analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies (i.e., holding times missed by a factor of two times the specified time limit, severe calibration noncompliance, and extremely low QC recoveries). Results qualified UR are considered to be biased low.

- R – Indicates that the chemical may or may not be present. The positive analytical result reported by the laboratory is considered to be unreliable and unusable. This qualifier is applied in cases of gross technical deficiencies.

The preceding data qualifiers may be categorized as indicative of major problems and minor problems. Major problems are defined as issues that result in the rejection of data qualified with UR and R data validation qualifiers. These data are considered invalid and are not used for risk screening and decision making. Minor problems are defined as issues resulting in the estimation of data qualified with the B, J, K, L, UL, and UJ data validation qualifiers. Estimated analytical results are considered to be suitable for risk screening and decision-making purposes.

1.6.2 Human Health Risk-Based Screening Evaluation

Human health screening levels for soil were selected from EPA Region 3 risk-based concentrations (RBCs) for residential and industrial soil ingestion (EPA, 2002). For carcinogenic constituents, the screening level was the Region 3 value, as published. For noncarcinogens, the screening value was the Region 3 residential RBC for soil ingestion divided by 10, as per EPA screening guidance. A summary of the soil screening levels is presented in Table 1-1.

For detected constituents, the maximum detected concentration is compared to its appropriate screening criterion. If the maximum detected concentration is greater than its appropriate screening criterion, it is retained as a constituent of potential concern (COPC).

Inorganic constituents, pesticides, and polycyclic aromatic hydrocarbons (PAHs) were compared to site background data to determine if they were present at concentrations significantly greater than background. The Wilcoxon-Rank Sum Test was used to make this comparison. If the site constituent was present at concentrations significantly greater than background, it was retained as a COPC.

A risk ratio was then developed for the site. For noncarcinogens, the site-specific exposure concentration was divided by the appropriate screening criterion. The ratios for all COPCs at the site were then summed. If the sum of the ratios was greater than 0.5, ratios that correspond to target organs were derived. If the sum of the ratios was greater than 0.5 for a target organ, the value indicated that noncarcinogenic health effects may occur. Typically, the basis for comparison is a hazard index of 1.0; however, the Region 3 RBCs do not account for dermal exposure. If the hazard index exceeded 0.5, but was less than 1.0, risk management was used to determine if there was a significant noncarcinogenic risk at the site. For carcinogens, the site-specific exposure concentration was divided by the appropriate screening criterion. The ratio was then multiplied by 10^{-6} and the ratios summed. If the sum of the ratios was greater than 5×10^{-5}, the value indicated that remediation may be necessary to achieve EPA's target risk range. Typically, the basis for comparison is a risk level of 10^{-4}. However, as stated for the noncarcinogens, the Region 3 RBCs do not account for dermal exposure. If risk levels exceeded 5×10^{-5} but were less than 10^{-4}, risk management was used to determine if there was a significant carcinogenic risk at the site.

1.6.3 Groundwater Protection Screening

Soil concentrations were compared to groundwater protection values. For those constituents identified as constituents of concern in Operable Unit 1 (OU1), the groundwater beneath the site, the maximum site soil concentrations were compared to the values for groundwater protections identified in Table A-1 9f Appendix A in EPA's Soil Screening Guidance: Technical Background Document (May 1996). The values corresponding to a Dilution Attenuation Factor (DAF) of 20 were used and the values are shown on Table 1-2. If the maximum detected concentration did not exceed the groundwater protection value, the site posed no significant impact to groundwater. If the maximum detected concentration exceeded the groundwater protection value, a more detailed review of the site was warranted. Specifically, the quantity of soil containing the contaminants at the maximum detected concentrations was evaluated. A review of the distribution and results of the sampling was also evaluated to determine whether the data collectively suggests an unacceptable risk. Comparing the average concentration to the groundwater protection value was one approach. If the average concentration exceeded the groundwater protection value, a more detailed assessment was considered.

TABLE 1-1

SCREENING VALUES FOR SOIL
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	REGION 3 RBC FOR RESIDENTIAL SOIL (1)		REGION 3 RBC FOR INDUSTRIAL SOIL (1)	
Volatiles				
2-BUTANONE	47000	N	1200000	N
ACETONE	7800	N	200000	N
METHYLENE CHLORIDE	85	C	760	C
Semivolatiles				
ACENAPHTHENE	4700	N	120000	N
ACETOPHENONE	7800	N	200000	N
BENZALDEHYDE	7800	N	200000	N
BENZO(A)ANTHRACENE	0.87	C	7.8	C
BENZO(A)PYRENE	0.087	C	0.78	C
BENZO(B)FLUORANTHENE	0.87	C	7.8	C
BENZO(G,H,I)PERYLENE	2300	N	61000	N
BENZO(K)FLUORANTHENE	8.7	C	78	C
BIS(2-ETHYLHEXYL)PHTHALATE	46	C	410	C
CARBAZOLE	32	C	290	C
CHRYSENE	87	C	780	C
DI-N-BUTYL PHTHALATE	7800	N	200000	N
DIBENZO(A,H)ANTHRACENE	0.087	C	0.78	C
FLUORANTHENE	3100	N	82000	N
FLUORENE	3100	N	82000	N
INDENO(1,2,3-CD)PYRENE	0.87	C	7.8	C
PHENANTHRENE	2300	N	61000	N
PHENOL	47000	N	1200000	N
PYRENE	2300	N	61000	N
Pesticides/PCBs				
4,4'-DDD	2.7	C	24	C
4,4'-DDE	1.9	C	17	C
4,4'-DDT	1.9	C	17	C
ALPHA-CHLORDANE	1.8	C	16	C
AROCLOR-1260	0.32	C	2.9	C
DELTA-BHC	0.1	C	0.91	C
DIELDRIN	0.04	C	0.36	C
ENDOSULFAN II	470	N	12000	N
ENDRIN	23	N	610	N
ENDRIN ALDEHYDE	23	N	610	N
GAMMA-CHLORDANE	1.8	C	16	C
HEPTACHLOR EPOXIDE	0.07	C	0.63	C
METHOXYCHLOR	390	N	10000	N
Inorganics				
ALUMINUM	78000	N	2000000	N
ARSENIC	0.43	C	3.8	C
BARIUM	5500	N	140000	N
BERYLLIUM	160	N	4100	N

TABLE 1-1

SCREENING VALUES FOR SOIL
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	REGION 3 RBC FOR RESIDENTIAL SOIL (1)		REGION 3 RBC FOR INDUSTRIAL SOIL (1)	
Inorganics (con't)				
CADMIUM	78	N	2000	N
CALCIUM	N/A		N/A	
CHROMIUM	230	N	6100	N
COBALT	1600	N	41000	N
COPPER	3100	N	82000	N
IRON	23000	N	610000	N
LEAD	400		750	
MAGNESIUM	N/A		N/A	
MANGANESE	1600	N	41000	N
MERCURY	23	N	610	N
NICKEL	1600	N	41000	N
POTASSIUM	N/A		N/A	
SELENIUM	390	N	10000	N
SILVER	390	N	10000	N
SODIUM	N/A		N/A	
THALLIUM	5.5	N	140	N
VANADIUM	550	N	14000	N
ZINC	23000	N	610000	N

All values are in mg/kg
N/A - Not available

1 - EPA Region 3 Risked-Based Concentration Table, April 2, 2002
- For noncarcinogens, value is one-tenth the RBC.

N - Noncarcinogen
C - Carcinogen

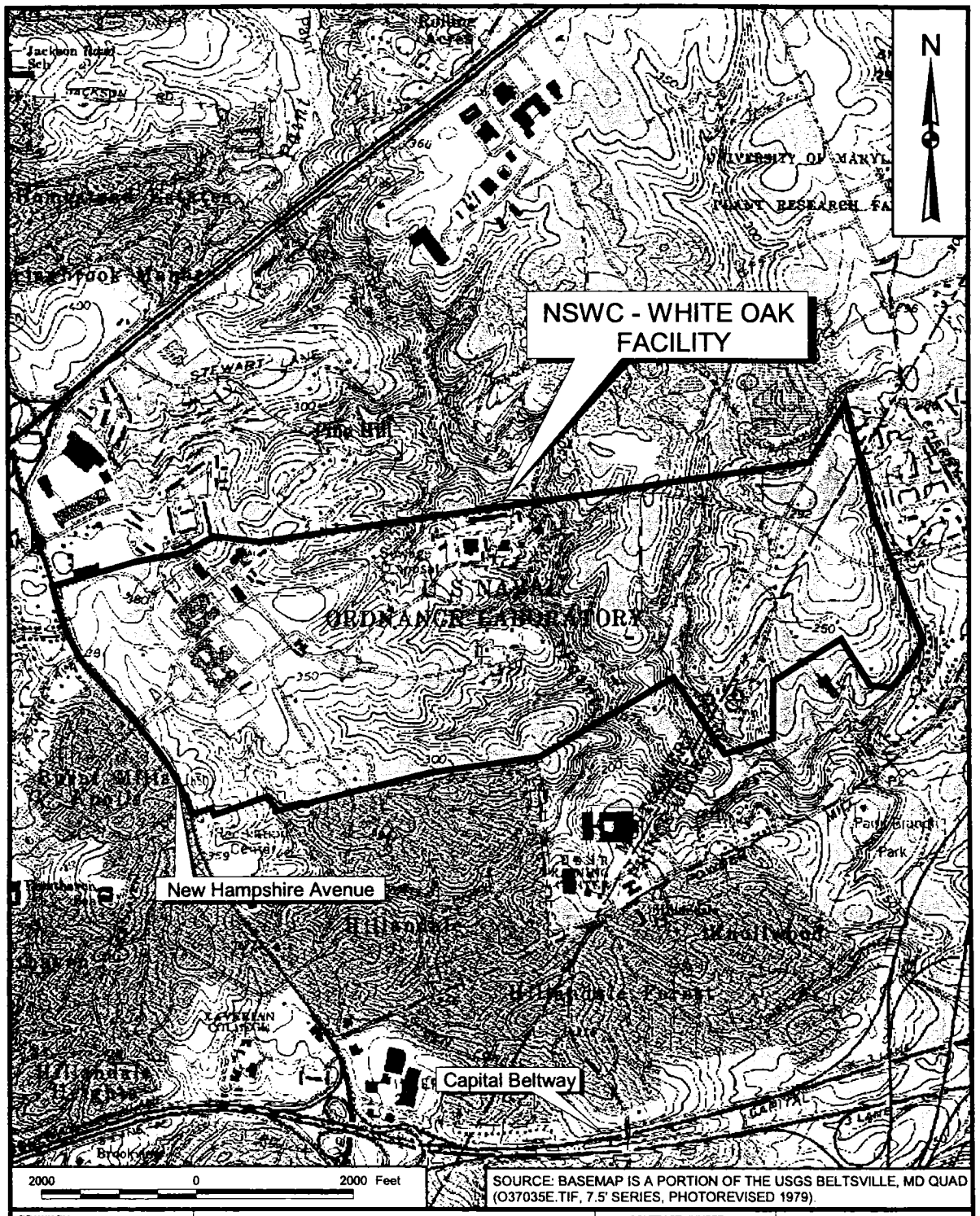
TABLE 1-2

SCREENING VALUES FOR SOIL MIGRATION TO GROUNDWATER
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	REGION 3 SOIL TO GROUNDWATER (1)
Inorganics	
ARSENIC	0.026
BARIUM	2100
CADMIUM	27
CHROMIUM	42
IRON	N/A
MANGANESE	950
NICKEL	130

All values are in mg/kg
N/A - Not available

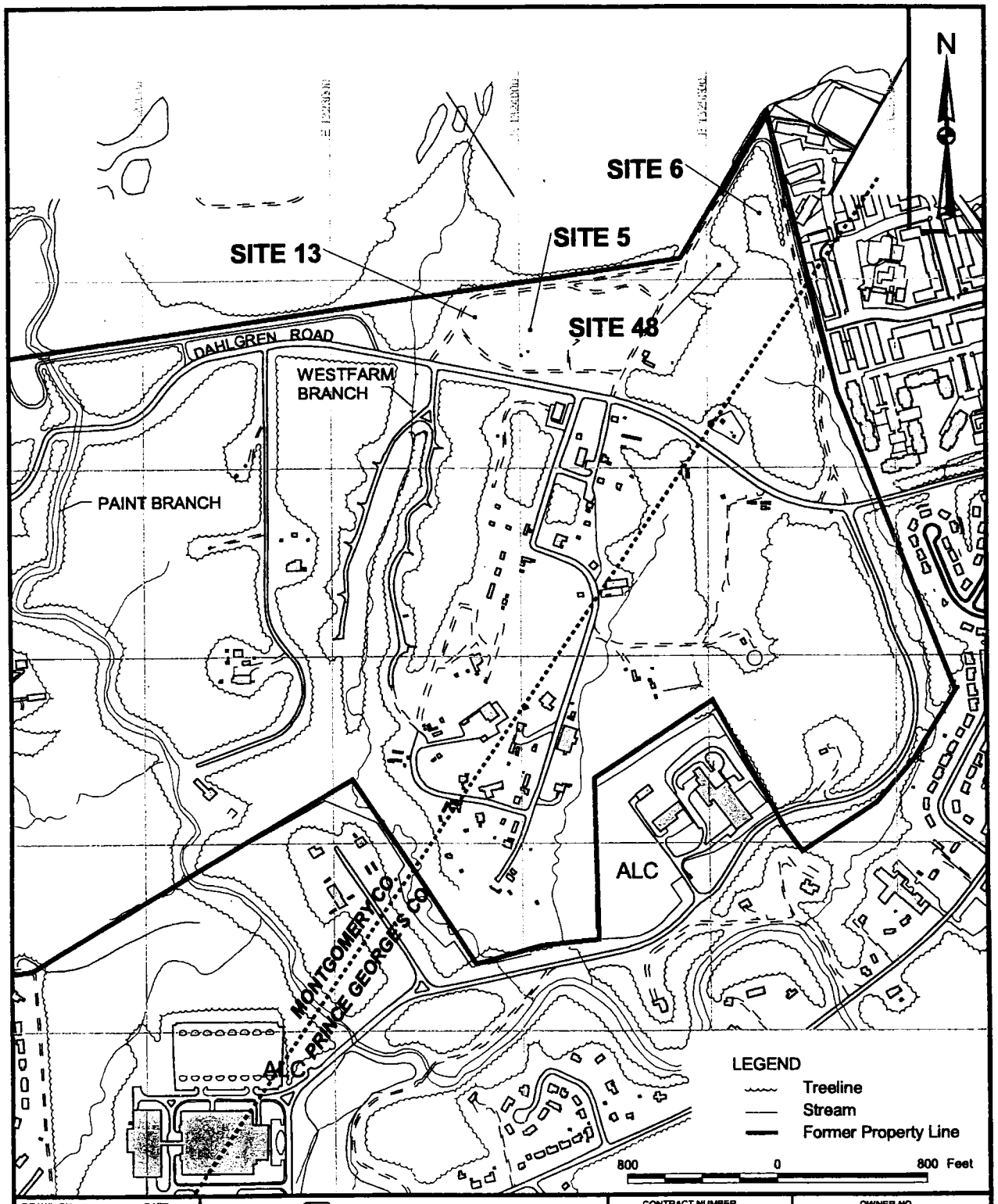
1 - USEPA Region 3 Risk-Based Concentration Table, April 2, 2002 (DAF = 20)



SOURCE: BASEMAP IS A PORTION OF THE USGS BELTSVILLE, MD QUAD (O37035E.TIF, 7.5' SERIES, PHOTOREVISED 1979).

DRAWN BY J. BELLONE — DATE 7/22/99	Tetra Tech NUS, Inc.	CONTRACT NUMBER 4246	OWNER No. 0839
CHECKED BY R. KOTUN — DATE 8/30/02	SITE VICINITY MAP FORMER NSWC WHITE OAK SILVER SPRING, MARYLAND	APPROVED BY	DATE
COST/SCHEDULE-AREA		APPROVED BY —	DATE —
SCALE AS NOTED		DRAWING No. FIGURE 1 - 1	REV 0

P:\GIS\WHITEOAK\74271000.APR LOCATION MAP LAYOUT 2 8/30/02 AJ



DRAWN BY J. LAMEY	DATE 9/7/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7855	OWNER NO. 0501
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COST/SCHEDULE-AREA			APPROVED BY —	DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 1-2	REV 0

P:\GIS\WHITEOAK\7855_0501.APR SITE LOCATION MAP 9/7/00 JAL

2.0 SITE 48 – 500 AREA WASTE SITE

2.1 BACKGROUND

Site 48 is located in a clearing east of Site 4 (see Figure 1-2). Garbage and debris were discovered in this area while the Site 4 (Chemical Burial Area) removal action was being performed.

2.2 ENVIRONMENTAL SETTING

2.2.1 Topography

Site 48 consists of an open clearing that gently slopes from the northwest to the southeast. The clearing is vegetated with weeds, grass, and underbrush and is surrounded by forested areas. The maximum elevation relief across the site is 15 feet, with a range in elevation from 285 feet to 300 feet above msl.

2.2.2 Surface Water

The nearest surface water body is a small, southeasterly flowing tributary of Paint Branch located southeast of Site 48. The tributary drains directly into Paint Branch. During a rain event, surface water infiltrates into the surface soil or produces minor site runoff towards the tributary.

2.2.3 Geology/Soils

Test pit sampling conducted during this investigation indicated that the subsurface soils consist of brown, yellow, or orange clay and sandy silt of the CBC association.

2.2.4 Hydrogeology

No groundwater monitoring wells were installed at Site 48 during the site investigation. Depth to groundwater at Site 4, which is located near Site 48, ranges from approximately 27 to 61 feet below ground surface (bgs). Groundwater flow at Site 4 is generally to the southeast.

2.3 FIELD INVESTIGATION ACTIVITIES

Information was collected to determine the lateral and vertical extent of contamination, identify the types and levels of contamination in the subsurface, and determine the subsurface soil conditions to evaluate viable alternatives for a time-critical removal action. The following is a summary of the field efforts that was performed to obtain this information:

- A geophysical survey was conducted using electromagnetic conductivity to locate anomalies that may be associated with historic activities.

- Test trenches were excavated to determine the nature of the anomalies and the extent of waste present onsite based on visual observations.

- Ten subsurface soil samples were collected from within the test pit beneath the waste material to delineate the lateral and vertical extent of subsurface soil contamination.

- Four subsurface waste samples were collected within the test pits to characterize materials for risk analysis and disposal.

2.3.1 Geophysical Survey

A geophysical survey was conducted at Site 48 using a Geonics EM31 Terrain Conductivity Meter. A reference grid was installed in the area hatched on Figure 2-1 using a transit, tape measure, and flags. Grid coordinates were assigned northing and easting locations in feet. Geophysical survey lines were spaced and marked to a maximum of 12.5 feet apart, which is the effective radius of survey based on the fixed coil spacing of the EM-31. Lines were spaced closer in small grid areas where better resolution was desired. Flagging was placed at regular intervals along the geophysical lines in the direction of the survey at a frequency that maintained a line of sight and provided adequate distance references along the lines, depending on the terrain and line length. Terrain conductivity and in-phase responses were measured simultaneously at 1-second intervals (approximately every 3 feet) along these geophysical lines and automatically stored in a digital data logger. All data were collected with the instrument held at waist height (approximately 3 feet), in the vertical dipole mode, and oriented parallel to the direction of travel. The depth of investigation using this configuration was approximately 16 feet. The measurements were observed by the instrument operator as the survey was conducted to allow for immediate marking of anomalies in the field if they were discernible during the survey. Data stored in the data logger were downloaded to a portable computer on site at the completion of the survey.

Three anomalies were identified during the geophysical survey; however, the majority of the survey area appeared to be representative of background. Areas of surface metal and debris were also identified across the site. The results of the geophysical survey are presented in Appendix C.

2.3.2 Test Pit Investigation

Test pits were excavated to a depth of approximately 2 to 7 feet bgs (i.e., depth of natural soil). The locations of test pits identified on Figure 2-1 were based on visual observations and the results of the

geophysical survey. Waste materials such as plastic bottles and containers, aluminum cans, plastic sheeting, wood, bricks, and other debris were found in the test pits. Test pit logs are presented in Appendix D.

Waste material samples collected from the test pits were collected half-way between the bottom of the excavation and the ground surface or wherever the most significant contamination was observed. The samples were collected to characterize the waste material for risk analysis and potential off-site disposal. Visual observations or field screening using a photoionization detector/flame ionization detector (PID/FID) were used to select the waste material samples. Sample logs are provided in Appendix E.

Soil samples within the test pits were collected from the base of the excavation beneath the waste materials to determine if residual soil contamination exists. The samples were collected from the bucket of the excavator to prevent entry by personnel into the test pits. They were analyzed for Target Analyte List (TAL) metals, Target Compound List (TCL) volatile organic compound (VOC), TCL semivolatile organic compounds (SVOC), TCL pesticides/polychlorinated biphenyls (PCBs), and explosives. Soil sample logs are provided in Appendix E.

2.4 DATA AND RISK-BASED SCREENING EVALUATION

This section provides an evaluation of surface soil data from Site 48, the 500 Area Waste Site. The sources of contamination are garbage and debris on the surface and in the shallow subsurface at the site. Potential site-related contaminants include VOCs, SVOCs, pesticides, PCBs, metals, and explosives. This screening evaluation is based on the following sampling events:

- Ten soil samples collected from test pits
- Four waste samples

Results of the soil samples that exceeded Region 3 RBC for residential soil are discussed in the following sections. All Region 3 RBC values were divided by a factor of 10 for non-carcinogenic compounds. Inorganic data from these investigations were also compared to base-wide background concentrations (TtNUS, 1998).

2.4.1 Data and Risk-Based Screening Evaluation of Soil Contamination

Positive analytical results and summary statistics for soil samples are provided in Tables 2-1 and 2-2, respectively. Soil samples were collected and analyzed for TCL VOCs, SVOCs, pesticides/PCBs, metals, and SW-846 Method 8330 explosives.

Based on the fixed-based laboratory results, concentrations of two SVOCs, one PCB, and two metals in subsurface soil samples exceeded the screening levels for residential soil in the soil samples. The results are shown on Figure 2-2.

Benzo(a)pyrene and dibenzo(a,h)anthracene were the only SVOCs that exceeded the benchmark concentrations. Benzo(a)pyrene was detected in 5 of 10 samples, and the maximum detection was at location 48TP13WS0203. Dibenzo(a,h)anthracene was detected in 2 of 10 samples, and the maximum detection was also at location 48TP13WS0203.

Aroclor-1260 was the only PCB that exceeded the benchmark. Aroclor-1260 was detected in 6 of 11 samples and the maximum detection occurred at locations 48TP09WS0102 and 48TP09WS0203.

Arsenic and iron were the only metals that exceeded benchmark concentrations. The maximum detected concentration of arsenic was less than twice the average background concentration. Iron was detected at a maximum concentration greater than twice the average background concentration in only one sample (48TP03WS0001). Concentrations of iron in the remaining samples were less than background and the EPA Region 3 RBC.

No explosives were detected in the soil at Site 48.

Risk ratios were developed for Site 48 as shown on Table 2-3. The total hazard index (HI) for the residential scenario is 1.2, which exceeds the screening HI of 0.5. Iron was the only noncarcinogenic COPC identified in subsurface soil. The HI based on the average concentration of iron in soil was 0.2 which is less than the screening HI. The total HI for the industrial scenario was 0.2, which is also less than the screening HI of 0.5. Therefore, there is not a significant noncarcinogenic risk associated with soil at Site 48.

The total cancer risk was 2.7×10^{-5} for a residential receptor and 3.1×10^{-6} for an industrial receptor, which are less than the screening level of 5×10^{-5}. Therefore, there is not a significant carcinogenic risk associated with soil at Site 48.

2.4.2 Groundwater Protection Screening for Soil

Soil concentrations were compared to groundwater protection criteria as shown on Table 2-4. The maximum and average concentrations of arsenic and chromium exceed the EPA Region 3 Soil to Groundwater protection criteria. However, the arsenic and chromium concentrations in Site 48 soil were within the background ranges for NSWC-White Oak.

2.4.3 Waste Samples

Four waste samples were collected and analyzed by the Toxicity Characteristic Leachate Procedure (TCLP) (Appendix A). This test is done to characterize hazardous waste and to provide an indication of whether contaminants are leachable. None of the four waste samples had detectable levels of TCLP constituents; therefore, the waste would not be considered hazardous.

2.5 CONCLUSIONS AND RECOMMENDATIONS

2.5.1 Conclusions

Site 48, 500 Area Waste Site, was screened to determine if significant contamination was present in soil at the site. Although PAHs, PCBs, and inorganics were detected in soil in excess of screening criteria, human health risks have been calculated and are within the acceptable range.

2.5.2 Recommendations

Due to the lack of significant contamination identified at Site 48, no further action is recommended.

TABLE 2-1

SUMMARY OF POSITIVE ANALYTICAL RESULTS FOR SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

order	001	002	003	004	005	006	007	008	009
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**
Volatile Organics (ug/kg)									
ACETONE	3.7 U	4.8 U	5.9 U	54 J	4.1 U	5.2 U	4.7 U	5.65 U	6.6 U
2-BUTANONE	9.6 U	9.6 U	9.6 U	4.8 J	11 U	13 U	14 U	14 U	14 U
Semivolatile Organics (ug/kg)									
ACENAPHTHENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U
ACETOPHENONE	110 J	110 J		670	150 J	140 J	300 J	340 J	380 J
ANTHRACENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U
BENZALDEHYDE	370 U	370 U		56 J	360 U	420 U	450 U	450 U	450 U
BENZO(A)ANTHRACENE	370 U	370 U		120 J	64 J	420 U	170 J	150 J	130 J
BENZO(A)PYRENE	370 U	370 U		120 J	72 J	420 U	190 J	170 J	150 J
BENZO(B)FLUORANTHENE	370 U	370 U		110 J	74 J	420 U	190 J	175 J	160 J
BENZO(G,H,I)PERYLENE	370 U	370 U		470 U	43 J	420 U	120 J	115 J	110 J
BENZO(K)FLUORANTHENE	370 U	370 U		110 J	58 J	420 U	160 J	145 J	130 J
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	370 U		470 U	360 U	420 U	210 J	480 J	750
BUTYL BENZYL PHTHALATE	370 U	370 U		470 U	360 U	420 U	450 U	73 J	73 J
CARBAZOLE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U
CHRYSENE	370 U	370 U		150 J	81 J	420 U	210 J	190 J	170 J
DI-N-BUTYL PHTHALATE	370 U	370 U		55 J	360 U	420 U	450 U	61 J	61 J
DIBENZO(A,H)ANTHRACENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U
FLUORANTHENE	370 U	370 U		280 J	160 J	420 U	400 J	360 J	320 J
FLUORENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U
INDENO(1,2,3-CD)PYRENE	370 U	370 U		470 U	64 J	420 U	170 J	160 J	150 J
PHENANTHRENE	370 U	370 U		190 J	110 J	420 U	260 J	220 J	180 J
PHENOL	370 U	370 U		84 J	360 U	420 U	450 U	67 J	67 J
PYRENE	370 U	370 U		220 J	120 J	420 U	340 J	295 J	250 J
Pesticides/PCBs (ug/kg)									
4,4'-DDD	1.9 U	1.9 U		29	1.9 U	0.84 J	7.7 R	11 R	11 R
4,4'-DDE	1.9 U	1.9 U		31	17	1.3 J	16	17	18
4,4'-DDT	1.9 U	1.9 U		3.5 R	5.4 R	2.2 U	9.5 R	9.3 R	9.1 R
ALPHA-CHLORDANE	1.9 U	1.9 U		9.7	12	0.48 J	11 J	11 J	11 J
AROCLOR-1260	37 U	37 U		210	260	21 J	310 J	510 J	710 J
DIELDRIN	1.9 U	1.9 U		4.2 J	2.3 R	2.2 U	4.7	5.2	5.7
ENDOSULFAN II	1.9 U	1.9 U		5.6 J	5.6 J	2.2 U	7.7 J	12.35 J	17 J
ENDRIN ALDEHYDE	1.9 U	1.9 U		4.2 R	4.6 R	2.2 U	8.6 J	11.8 J	15 J
GAMMA-CHLORDANE	1.9 U	1.9 U		6.9 R	8.6 J	0.21 R	5.4 J	5.4 J	6.0 R
METHOXYCHLOR	3.7 U	3.7 U		4.7 U	3.6 U	4.2 U	4.5 U	4.5 U	4.5 U
Inorganics (mg/kg)									
ALUMINUM	8870	8870		10900	7060	7110	8030	7130	6230

TABLE 2-1

SUMMARY OF POSITIVE ANALYTICAL RESULTS FOR SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

order	001	002	003	004	005	006	007	008	009
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**
ANTIMONY	0.24 UL	0.24 UL		0.30 UL	0.23 UL	0.27 UL	1.0 L	1.35 L	1.7 L
BARIUM	28	28		51.9	28.5	18.3	91.2	92.45	93.7
CADMIUM	0.036 U	0.036 U		0.33 L	0.42	0.041 U	24.5 J	19.1 J	13.7 J
CALCIUM	435	435		3000	1000	679	6000	5890	5780
CHROMIUM	12.6 K	12.6 K		25.3 K	22.9 K	15.9 K	141 K	118.05 K	95.1 K
COBALT	2.5	2.5		4.6	2.8	1.1	7.9	7.6	7.3
COPPER	5.5	5.5		20.4	16.5	7.5	187	171.5	156
IRON	11200	11200		14600	8150	11100	102000	110000	118000
LEAD	4.4	4.4		30.1	16.8	3.1	369	462.5	556
MAGNESIUM	486	486		1910	550	213	1590	1790	1990
MANGANESE	69.7	69.7		178	89.1	19.9	667	646.5	626
MERCURY	0.048	0.048		0.22	0.1	0.019 U	1.2	0.965	0.73
NICKEL	5.1 L	5.1 L		15.3 L	8.6 L	2.2 L	51.0 L	54.15 L	57.3 L
POTASSIUM	301	301		688	343	284	325	338	351
SELENIUM	0.67	0.67		2.3	0.62	1.6	3.7 K	4.3 K	4.9 K
SILVER	0.065 U	0.065 U		3.1 K	2.5 K	0.072 U	46.1 J	35.55 J	25.0 J
THALLIUM	0.47 U	0.47 U		1.0 U	0.54 U	0.48 U	3.2	2.8	2.4
VANADIUM	17.9	17.9		28	14.5	28.3	21.4	22.4	23.4
ZINC	10.1	10.1		64.3	28.5	6.5	464	400	336
Miscellaneous Parameters									
PERCENT SOLIDS	88.3 %	88.25 %	88.2 %	70.9 %	91.3 %	79.1 %	73.3 %	73.05 %	72.8 %
TCLP Inorganics (mg/L)									
BARIUM				0.41			0.31	0.335	0.36
CADMIUM				0.0026			0.041	0.066	0.091
CHROMIUM				0.0021 U			0.0099	0.01	0.01
LEAD				0.023			0.023	0.0345	0.046
SILVER				0.0036 U			0.0036 U	0.0036 U	0.0036 U

TABLE 2-1

SUMMARY OF POSITIVE ANALYTICAL RESULTS FOR SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

order	010	011	012	013	014
location	48TP06	48TP09	48TP09	48TP13	48TP13
nsample	48TP06SB0203	48TP09SB0102	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP06SB0203	48TP09SB0102	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
depth_rang	2 - 3	1 - 2	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_010**	**c_011**	**c_012**	**c_013**	**c_014**
Volatile Organics (ug/kg)					
ACETONE	4.3 U	4.4 U	5.1 U	4.5 U	5.8 U
2-BUTANONE	10 U	11 U	12 U	10 U	11 U
Semivolatile Organics (ug/kg)					
ACENAPHTHENE	370 U	380 U	400 U	380 U	41 J
ACETOPHENONE	94 J	98 J	260 J	98 J	330 J
ANTHRACENE	370 U	380 U	65 J	380 U	180 J
BENZALDEHYDE	370 U	380 U	400 U	380 U	370 U
BENZO(A)ANTHRACENE	370 U	380 U	300 J	380 U	590
BENZO(A)PYRENE	370 U	380 U	330 J	380 U	570
BENZO(B)FLUORANTHENE	370 U	380 U	320 J	380 U	580
BENZO(G,H,I)PERYLENE	370 U	380 U	200 J	380 U	230 J
BENZO(K)FLUORANTHENE	370 U	380 U	270 J	380 U	510
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	380 U	51 J	380 U	110 J
BUTYL BENZYL PHTHALATE	370 U	380 U	400 U	380 U	370 U
CARBAZOLE	370 U	380 U	400 U	380 U	52 J
CHRYSENE	370 U	380 U	360 J	380 U	660
DI-N-BUTYL PHTHALATE	370 U	380 U	400 U	380 U	44 J
DIBENZO(A,H)ANTHRACENE	370 U	380 U	96 J	380 U	140 J
FLUORANTHENE	370 U	380 U	650	380 U	1400
FLUORENE	370 U	380 U	400 U	380 U	48 J
INDENO(1,2,3-CD)PYRENE	370 U	380 U	270 J	380 U	370
PHENANTHRENE	370 U	380 U	290 J	380 U	730
PHENOL	370 U	380 U	400 U	380 U	50 J
PYRENE	370 U	380 U	500	380 U	870
Pesticides/PCBs (ug/kg)					
4,4'-DDD	1.9 U	6.6 R	6.6 R	2.0 U	8.8 R
4,4'-DDE	0.17 J	20 U	31 J	2.0 U	26 J
4,4'-DDT	0.20 J	71	10 UR	2.0 U	9.5 U
ALPHA-CHLORDANE	1.9 U	20 U	45	2.0 U	54
AROCLOR-1260	37 U	38 U	1100	38 U	1100
DIELDRIN	1.9 U	20 U	26	2.0 U	11
ENDOSULFAN II	1.9 U	8.7 J	19 J	2.0 U	23 J
ENDRIN ALDEHYDE	1.9 U	20 U	1.9 R	2.0 U	2.3 R
GAMMA-CHLORDANE	1.9 U	20 U	37 J	2.0 U	47 J
METHOXYCHLOR	3.7 U	38 U	13 J	3.8 U	18 U
Inorganics (mg/kg)					
ALUMINUM	11600	4500	4640	11200	3350

TABLE 2-1

SUMMARY OF POSITIVE ANALYTICAL RESULTS FOR SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

order	**010**	**011**	**012**	**013**	**014**
location	48TP06	48TP09	48TP09	48TP13	48TP13
nsample	48TP06SB0203	48TP09SB0102	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP06SB0203	48TP09SB0102	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
depth_rang	2 - 3	1 - 2	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_010**	**c_011**	**c_012**	**c_013**	**c_014**
ANTIMONY	0.24 UL	0.24 UL	0.25 UL	0.24 UL	0.23 UL
BARIUM	45.7	33.3	75	63.9	65.6
CADMIUM	0.036 UL	0.037 U	7.6	0.037 UL	8.1
CALCIUM	1040	553	3050	661	2770
CHROMIUM	17.1	6.5	207	18.4	203
COBALT	5.1	1.7	4.1	4.3	4
COPPER	7.0 K	2.9 K	110 K	6.8 K	93.2 K
IRON	17700	7000	8900	20800	7910
LEAD	8	4	95	9.2	120
MAGNESIUM	1250	345	1190	1330	1400
MANGANESE	125	41.7	258	130	231
MERCURY	0.025	0.017 U	1	0.034	0.78
NICKEL	8	2.5	19.6	7.7	27.3
POTASSIUM	409	243	312	356	301
SELENIUM	0.82 K	0.25	0.79	0.62 K	0.53
SILVER	0.065 U	0.066 U	29.8	0.11	27.2
THALLIUM	1.0 U	0.35 U	0.36 U	0.55 U	0.33 U
VANADIUM	28.5	10.9	16.4	31.5	13.7
ZINC	22.1	7.5	289	23.1	152
Miscellaneous Parameters					
PERCENT SOLIDS	88 %	86.1 %	82.6 %	86.6 %	89.8 %
TCLP Inorganics (mg/L)					
BARIUM			0.34		0.35
CADMIUM			0.049		0.074
CHROMIUM			0.029		0.032
LEAD			0.014		0.028
SILVER			0.0038		0.0036 U

TABLE 2-2

OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR CHEMICALS DETECTED IN SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	FREQUENCY OF DETECTION	MINIMUM DETECTED CONCENTRATION	MINIMUM QUALIFIER	MAXIMUM DETECTED CONCENTRATION	MAXIMUM QUALIFIER	RANGE OF NON-DETECTS	LOCATION OF MAXIMUM CONCENTRATION	REGION III RBC FOR RESIDENTIAL SOIL(1)	REGION III RBC FOR INDUSTRIAL SOIL(1)	AVERAGE BACKGROUND CONCENTRATION	RETAINED AS RESIDENTIAL COPC (2)	RETAINED AS INDUSTRIAL COPC (2)
Volatiles (mg/kg)												
2-BUTANONE	1/10	0.0048	J	0.0048		0.0096 - 0.014	48TP01WS0304	47000 N	1200000 N	N/A	No	No
ACETONE	9/10	0.0037	J	0.0058	J	0.054 - 0.054	48TP13WS0203	7800 N	200000 N	N/A	No	No
METHYLENE CHLORIDE	1/10	0.00097	J	0.00097	J	0.01 - 0.014	48TP01SB0607	85 C	760 C	N/A	No	No
Semivolatiles (mg/kg)												
ACENAPHTHENE	1/10	0.041	J	0.041	J	0.36 - 0.47	48TP13WS0203	4700 N	120000 N	N/A	No	No
ACETOPHENONE	10/10	0.094	J	0.67		0 - 0	48TP01WS0304	7800 N	200000 N	N/A	No	No
BENZALDEHYDE	1/10	0.056	J	0.056	J	0.36 - 0.45	48TP01WS0304	7800 N	200000 N	N/A	No	No
BENZO(A)ANTHRACENE	5/10	0.064	J	0.59		0.37 - 0.42	48TP13WS0203	0.87 C	7.8 C	N/A	No	No
BENZO(A)PYRENE	5/10	0.072	J	0.57		0.37 - 0.42	48TP13WS0203	0.087 C	0.78 C	N/A	Yes	No
BENZO(B)FLUORANTHENE	5/10	0.074	J	0.58		0.37 - 0.42	48TP13WS0203	0.87 C	7.8 C	N/A	No	No
BENZO(G,H,I)PERYLENE	4/10	0.043	J	0.23	J	0.37 - 0.47	48TP13WS0203	2300 (3) N	61000 (3) N	N/A	No	No
BENZO(K)FLUORANTHENE	5/10	0.058	J	0.51		0.37 - 0.42	48TP13WS0203	8.7 C	78 C	N/A	No	No
BIS(2-ETHYLHEXYL)PHTHALATE	3/10	0.051	J	0.21	J	0.36 - 0.47	48TP13WS0203	46 C	410 C	N/A	No	No
CARBAZOLE	1/10	0.052	J	0.052	J	0.36 - 0.47	48TP13WS0203	32 C	290 C	N/A	No	No
CHRYSENE	5/10	0.081	J	0.66		0.37 - 0.42	48TP13WS0203	87 C	780 C	N/A	No	No
DI-N-BUTYL PHTHALATE	2/10	0.044	J	0.055	J	0.36 - 0.45	48TP13WS0203	7800 N	200000 N	N/A	No	No
DIBENZO(A,H)ANTHRACENE	2/10	0.096	J	0.14	J	0.36 - 0.47	48TP13WS0203	0.087 C	0.78 C	N/A	Yes	No
FLUORANTHENE	5/10	0.16	J	1.4		0.37 - 0.42	48TP13WS0203	3100 N	82000 N	N/A	No	No
FLUORENE	1/10	0.048	J	0.048	J	0.36 - 0.47	48TP13WS0203	3100 N	82000 N	N/A	No	No
INDENO(1,2,3-CD)PYRENE	4/10	0.064	J	0.37		0.37 - 0.47	48TP13WS0203	0.87 C	7.8 C	N/A	No	No
PHENANTHRENE	5/10	0.11	J	0.73		0.37 - 0.42	48TP13WS0203	2300 (3) N	61000 (3) N	N/A	No	No
PHENOL	2/10	0.05	J	0.084	J	0.36 - 0.45	48TP01WS0304	47000 N	1200000 N	N/A	No	No
PYRENE	5/10	0.12	J	0.87		0.37 - 0.42	48TP13WS0203	2300 N	61000 N	N/A	No	No
Pesticide/PCBs (mg/kg)												
4,4'-DDD	6/10	0.00084	J	0.029		0.0019 - 0.002	48TP01WS0304	2.7 C	24 C	N/A	No	No
4,4'-DDE	7/10	0.00017	J	0.031		0.0019 - 0.02	48TP01WS0304	1.9 C	17 C	N/A	No	No
4,4'-DDT	5/10	0.0002	J	0.071		0.0019 - 0.01	48TP09SB0102	1.9 C	17 C	N/A	No	No
ALPHA-CHLORDANE	6/10	0.00048	J	0.054		0.0019 - 0.02	48TP13WS0203	1.8 (4) C	16 (4) C	N/A	No	No
AROCLOR-1260	6/10	0.021	J	1.1		0.037 - 0.038	48TP09WS0102	0.32 C	2.9 C	N/A	Yes	No
DELTA-BHC	1/10	0.00051	J	0.00051		0.0019 - 0.02	48TP01WS0304	0.1 (5) C	0.91 (5) C	N/A	No	No
DIELDRIN	5/10	0.0023	PG	0.026		0.0019 - 0.02	48TP09WS0102	0.04 C	0.36 C	N/A	No	No
ENDOSULFAN II	6/10	0.0056	PG	0.023	PG	0.0019 - 0.0022	48TP13WS0203	470 (6) N	12000 (6) N	N/A	No	No
ENDRIN	6/10	0.00025	J	0.014	PG	0.0019 - 0.02	48TP13WS0203	23 N	610 N	N/A	No	No
ENDRIN ALDEHYDE	5/10	0.0019	J	0.0086	PG	0.0019 - 0.02	48TP03WS0001	23 (7) N	610 (7) N	N/A	No	No
GAMMA-CHLORDANE	6/10	0.00021	J	0.047	PG	0.0019 - 0.02	48TP13WS0203	1.8 (4) C	16 (4) C	N/A	No	No
HEPTACHLOR EPOXIDE	1/10	0.0013	J	0.0013	J	0.0019 - 0.02	48TP09WS0102	0.07 C	0.63 C	N/A	No	No
METHOXYCHLOR	1/10	0.013	J	0.013	J	0.0036 - 0.038	48TP09WS0102	390 N	10000 N	N/A	No	No
Inorganics (mg/kg)												
ALUMINUM	10/10	3350		11600		NA	48TP06SB0203	78000 N	2000000 N	17976	No	No
ARSENIC	10/10	1.7		6.7		NA	48TP03WS0001	0.43 C	3.8 C	5.11	Yes	Yes
BARIUM	9/10	28		91.2		18.3 - 18.3	48TP03WS0001	5500 N	140000 N	34.6	No	No
BERYLLIUM	2/10	0.67		0.79		0.32 - 0.55	48TP13SB0405	160 N	4100 N	0.097	No	No
CADMIUM	3/10	7.6		24.5		0.036 - 0.42	48TP03WS0001	39 N	1000 N	N/A	No	No
CALCIUM	8/10	661		6000		435 - 553	48TP03WS0001	NUT	NUT	83	No	No
CHROMIUM	10/10	6.5		207		NA	48TP09WS0102	230 (8) N	6100 (8) N	27.1	No	No
COBALT	1/10	7.9		7.9		1.1 - 5.1	48TP03WS0001	1600 N	41000 N	5.22	No	No
COPPER	10/10	2.9	N	187		NA	48TP03WS0001	3100 N	82000 N	16.33	No	No
IRON	10/10	7000		102000		NA	48TP03WS0001	23000 N	610000 N	26522	Yes	No
LEAD	10/10	3.1		369		NA	48TP03WS0001	400 (9)	750 (10)	14.1	No	No
MAGNESIUM	7/10	550		1910		213 - 486	48TP01WS0304	NUT	NUT	1094	No	No
MANGANESE	10/10	19.9		667		NA	48TP03WS0001	1600 N	41000 N	137	No	No

TABLE 2-2

OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR CHEMICALS DETECTED IN SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	FREQUENCY OF DETECTION	MINIMUM DETECTED CONCENTRATION	MINIMUM QUALIFIER	MAXIMUM DETECTED CONCENTRATION	MAXIMUM QUALIFIER	RANGE OF NON-DETECTS	LOCATION OF MAXIMUM CONCENTRATION	REGION III RBC FOR RESIDENTIAL SOIL(1)	REGION III RBC FOR INDUSTRIAL SOIL(1)	AVERAGE BACKGROUND CONCENTRATION	RETAINED AS RESIDENTIAL COPC (2)	RETAINED AS INDUSTRIAL COPC (2)
MERCURY	6/10	0.048		1.2		0.017 - 0.034	48TP03WS0001	23 (11) N	610 (11) N	0.028	No	No
NICKEL	8/10	5.1	N	51	N	2.2 - 2.5	48TP03WS0001	1600 N	41000 N	8.57	No	No
SELENIUM	8/10	0.62		3.7		0.25 - 0.53	48TP03WS0001	390 N	10000 N	1.037	No	No
SILVER	5/10	2.5	N	46.1	N	0.065 - 0.11	48TP03WS0001	390 N	10000 N	N/A	No	No
THALLIUM	1/10	3.2		3.2		0.33 - 1	48TP03WS0001	5.5 N	140 N	N/A	No	No
VANADIUM	10/10	10.9		31.5		NA	48TP13SB0405	550 N	14000 N	40.7	No	No
ZINC	10/10	6.5		464		NA	48TP03WS0001	23000 N	610000 N	29.0	No	No

Duplicate samples are treated as one result in the frequency count and averages. True minimum and maximum concentrations are shown.

1 - USEPA Region III Risked-Based Concentration Table, April 2, 2002 (Cancer Risk = 1E-6, Hazard Index = 1).
2 - For carcinogens, chemical is retained as a COPC if the maximum detected concentration exceeds its RBC.
For noncarcinogens, chemical is retained as a COPC if the maximum detected concentration exceeds one-tenth of its RBC.
3 - Value is for Pyrene.
4 - Value is for Chlordane.
5 - Value is for alpha-BHC
6 - Value is for Endosulfan
7 - Value is for Endrin
8 - Value is for Hexavalent Chromium.
9 - OSWER screening level. EPA,1994:Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust and Lead-Contaminated Soil.
10 - EPA screening level. EPA, 1999: Frequently Asked Questions (FAQs) on the Adult Lead Model.
11 - Value is for Mercuric Chloride.

TABLE 2-3

SCREENING RISK ANALYSIS - SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

PARAMETER	FREQUENCY OF DETECTION	MAXIMUM DETECTED CONCENTRATION	MAXIMUM QUALIFIER	REGION III RBC FOR RESIDENTIAL SOIL(1)	REGION III RBC FOR INDUSTRIAL SOIL(1)	AVERAGE BACKGROUND CONCENTRATION	RESIDENTIAL		INDUSTRIAL		TARGET ORGAN
							CANCER RISK	HAZARD INDEX	CANCER RISK	HAZARD INDEX	
Semivolatiles (mg/kg)											
BENZO(A)PYRENE	5/10	0.57		0.087 C	0.78 C	N/A	6.6E-06	--	7.3E-07	--	Cancer
DIBENZO(A,H)ANTHRACENE	2/10	0.14	J	0.087 C	0.78 C	N/A	1.6E-06	--	1.8E-07	--	Cancer
Pesticide/PCBs (mg/kg)											
AROCLOR-1260	6/10	1.1		0.32 C	2.9 C	N/A	3.4E-06	--	3.8E-07	--	Cancer
Inorganics (mg/kg)											
ARSENIC	10/10	6.7		0.43 C	3.8 C	5.11	1.6E-05	--	1.8E-06	--	Cancer
IRON	10/10	102000		86000 (2) N	610000 N	26522	--	1.2	--	0.2	Blood, GS

1 - USEPA Region III Risked-Based Concentration Table, April 2, 2002
(Cancer Risk = 1E-6, Hazard Index = 1).
2 - Based on average daily intake of iron by a child.

Cancer Risk = UCL * 1E-6 / RBC
Hazard Index = UCL * 1 / RBC

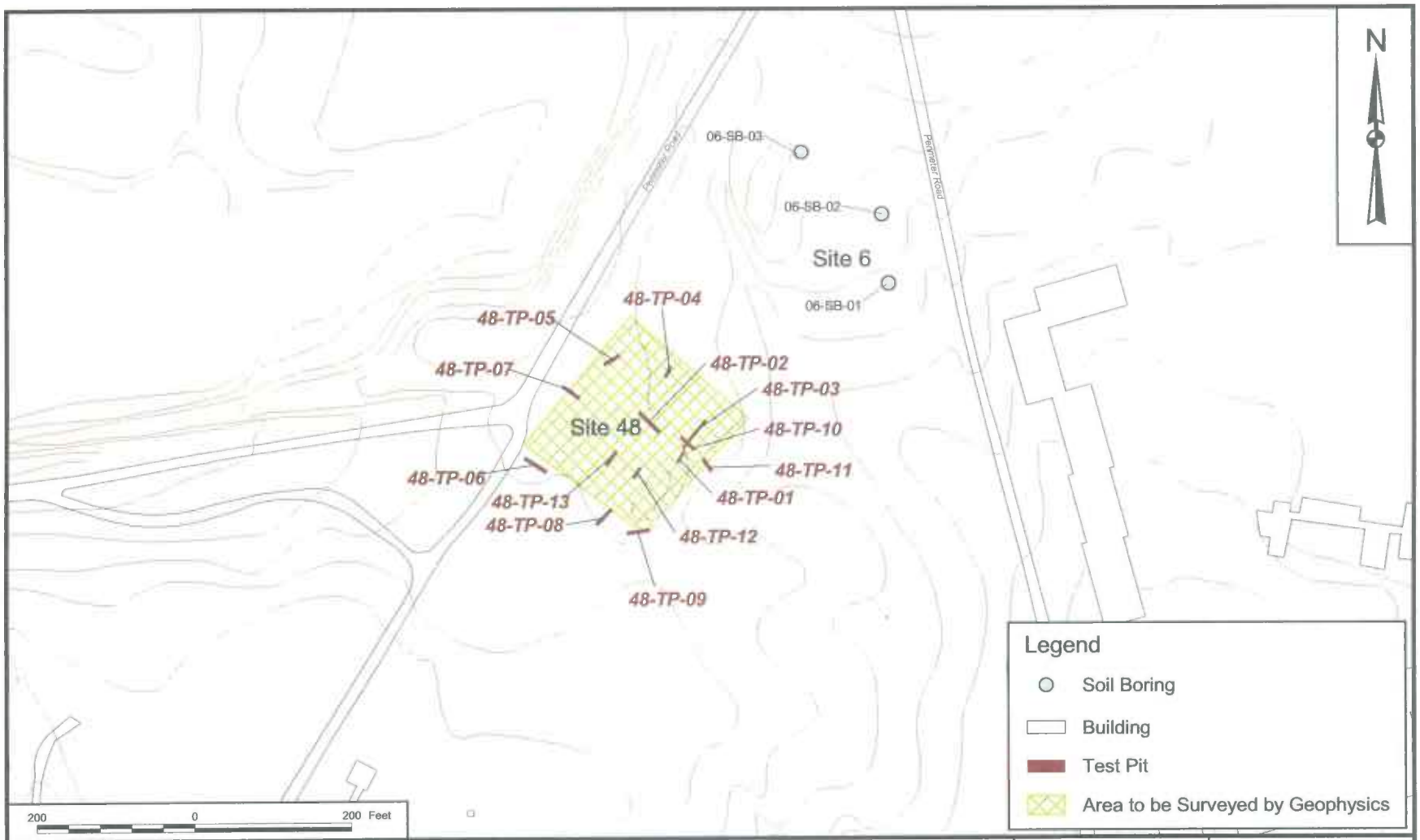
Total Cancer Risk	2.7E-05		3.1E-06	
Total Hazard Index		1.2		0.2
Total Blood		1.2		0.2
Total GS		1.2		0.2

TABLE 2-4

MIGRATION TO GROUNDWATER - SOIL
SITE 48 - 500 AREA WASTE SITE
FORMER NSWC WHITE OAK
SILVER SPRING, MARYLAND

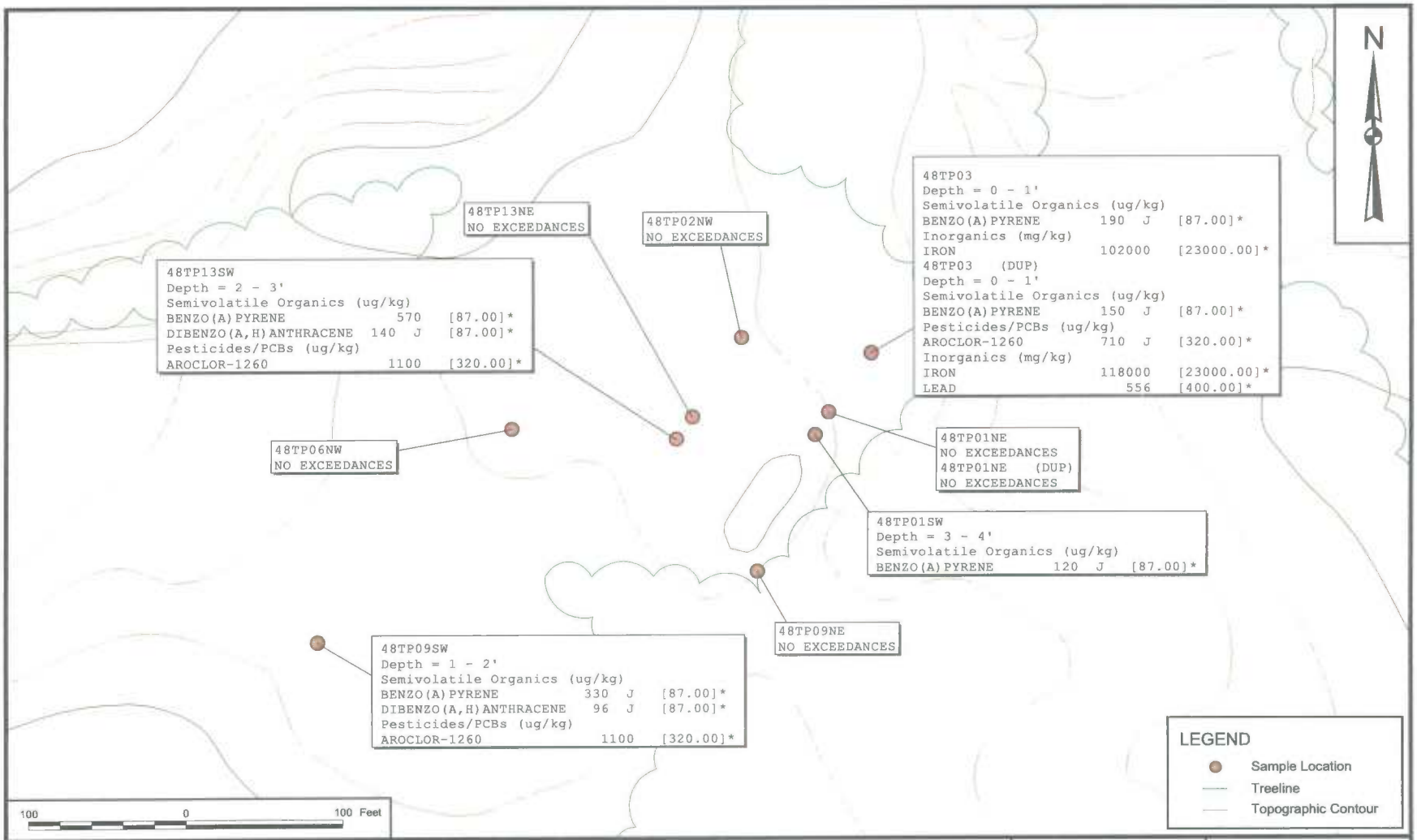
PARAMETER	FREQUENCY OF DETECTION	MINIMUM DETECTED CONCENTRATION	MINIMUM QUALIFIER	MAXIMUM DETECTED CONCENTRATION	MAXIMUM QUALIFIER	AVERAGE OF ALL RESULTS	AVERAGE BACKGROUND CONCENTRATION	EPA REGION III SOIL TO GROUNDWATER (1)	EXCEED MAXIMUM CONC.	EXCEED AVERAGE CONC.
Inorganics (mg/kg)										
ARSENIC	10/10	1.7		6.7		3.72	5.11	0.026	Yes	Yes
BARIUM	9/10	28		91.2		49.2	34.6	2100	No	No
CADMIUM	3/10	7.6		24.5		4.05	N/A	27	No	No
CHROMIUM	10/10	6.5		207		67.0	27.1	42	Yes	Yes
IRON	10/10	7000		102000		20936	26522	N/A	No	No
MANGANESE	10/10	19.9		667		181	137	950	No	No
NICKEL	8/10	5.1	N	51	N	14.5	8.57	130	No	No

1 - USEPA Region III Risked-Based Concentration Table, April 2, 2002 (DAF = 20).



DRAWN BY J. LAMEY — DATE 9/12/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER 4246	OWNER NUMBER 0839
CHECKED BY R. KOTUN — DATE 9/25/02	GEOPHYSICAL SURVEY AND TEST PIT LOCATION MAP SITE 48 - 500 AREA WASTE SITE FORMER NSWC - WHITE OAK SILVER SPRING, MARYLAND	APPROVED BY — DATE	
COST/SCHEDULE-AREA		APPROVED BY — DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 2 - 1	REV 0

P:\GIS\WHITEOAK\7855_0501.APR GEOPHYSICAL SURVEY AND TEST PIT LOCATION MAP - SITE 48 9/25/02 AJ



DRAWN BY	DATE	Tetra Tech NUS, Inc.	CONTRACT NUMBER	OWNER NUMBER
A. JANOCHA	9/23/02		4246	0839
CHECKED BY	DATE	SUMMARY OF EXCEEDANCES OF HUMAN HEALTH CRITERIA SITE 48 - 500 AREA WASTE SITE FORMER NSWC WHITE OAK SILVER SPRING, MARYLAND	APPROVED BY	DATE
R. KOTUN	9/24/02		—	—
COST/SCHEDULE-AREA			APPROVED BY	DATE
			—	—
SCALE AS NOTED			DRAWING NO. FIGURE 2 - 2	REV 0

P:\GIS\WHITEOAK\4246 APR SWMU 48 - SUMMARY OF EXCEEDANCES LAYOUT - TEST PITS 9/23/02 AJ

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APPENDIX A

ANALYTICAL DATA

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**	**c_010**	**c_011**
Volatile Organics (ug/kg)											
1,1,1-TRICHLOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,1,2,2-TETRACHLOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,1,2-TRICHLOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,1,2-TRICHLOROTRIFLUOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,1-DICHLOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,1-DICHLOROETHENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2,4-TRICHLOROBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2-DIBROMO-3-CHLOROPROPANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2-DIBROMOETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2-DICHLOROBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2-DICHLOROETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,2-DICHLOROPROPANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,3-DICHLOROBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
1,4-DICHLOROBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
2-BUTANONE	9.6 U	9.6 U	9.6 U	4.8 J	11 U	13 U	14 U	14 U	14 U	10 U	11 U
2-HEXANONE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
4-METHYL-2-PENTANONE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
ACETONE	3.7 U	4.8 U	5.9 U	54 J	4.1 U	5.2 U	4.7 U	5.65 U	6.6 U	4.3 U	4.4 U
BENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
BROMODICHLOROMETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
BROMOFORM	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
BROMOMETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CARBON DISULFIDE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CARBON TETRACHLORIDE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CHLOROBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CHLORODIBROMOMETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CHLOROETHANE	9.6 UJ	9.6 UJ	9.6 UJ	14 UJ	11 UJ	13 UJ	14 UJ	14 UJ	14 UJ	10 UJ	11 UJ
CHLOROFORM	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CHLOROMETHANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CIS-1,2-DICHLOROETHENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CIS-1,3-DICHLOROPROPENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
CYCLOHEXANE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
DICHLORODIFLUOROMETHANE	9.6 UJ	9.6 UJ	9.6 UJ	14 UJ	11 UJ	13 UJ	14 UJ	14 UJ	14 UJ	10 UJ	11 UJ
ETHYLBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
ISOPROPYLBENZENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
METHYL ACETATE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
METHYL CYCLOHEXANE	9.6 U	9.6 U	9.6 U	14 U	11 U	18 U	14 U	14 U	14 U	10 U	11 U
METHYL TERT-BUTYL ETHER	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
METHYLENE CHLORIDE	0.97 U	1.085 U	1.2 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
STYRENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TETRACHLOROETHENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TOLUENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TOTAL XYLENES	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TRANS-1,2-DICHLOROETHENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U

from ron48_sam.dbf
from ron48_res.dbf
from ron48_res.xls
from q:\sql_server\white_oak\upload\

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**	**c_010**	**c_011**
TRANS-1,3-DICHLOROPROPENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TRICHLOROETHENE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
TRICHLOROFLUOROMETHANE	9.6 UJ	9.6 UJ	9.6 UJ	14 UJ	11 UJ	13 UJ	14 UJ	14 UJ	14 UJ	10 UJ	11 UJ
VINYL CHLORIDE	9.6 U	9.6 U	9.6 U	14 U	11 U	13 U	14 U	14 U	14 U	10 U	11 U
Semivolatile Organics (ug/kg)											
1,1-BIPHENYL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2,2'-OXYBIS(1-CHLOROPROPANE)	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2,4,5-TRICHLOROPHENOL	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
2,4,6-TRICHLOROPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2,4-DICHLOROPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2,4-DIMETHYLPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2,4-DINITROPHENOL	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
2-CHLORONAPHTHALENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2-CHLOROPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2-METHYLNAPHTHALENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2-METHYLPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
2-NITROANILINE	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
2-NITROPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
3,3'-DICHLOROBENZIDINE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
3-NITROANILINE	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
4,6-DINITRO-2-METHYLPHENOL	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
4-BROMOPHENYL PHENYL ETHER	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
4-CHLORO-3-METHYLPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
4-CHLOROANILINE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
4-CHLOROPHENYL PHENYL ETHER	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
4-METHYLPHENOL	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
4-NITROANILINE	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
4-NITROPHENOL	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
ACENAPHTHENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
ACENAPHTHYLENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
ACETOPHENONE	110 J	110 J		670	150 J	140 J	300 J	340 J	380 J	94 J	98 J
ANTHRACENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
ATRAZINE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
BENZALDEHYDE	370 U	370 U		56 J	360 U	420 U	450 U	450 U	450 U	370 U	380 U
BENZO(A)ANTHRACENE	370 U	370 U		120 J	64 J	420 U	170 J	150 J	130 J	370 U	380 U
BENZO(A)PYRENE	370 U	370 U		120 J	72 J	420 U	190 J	170 J	150 J	370 U	380 U
BENZO(B)FLUORANTHENE	370 U	370 U		110 J	74 J	420 U	190 J	175 J	160 J	370 U	380 U
BENZO(G,H,I)PERYLENE	370 U	370 U		470 U	43 J	420 U	120 J	115 J	110 J	370 U	380 U
BENZO(K)FLUORANTHENE	370 U	370 U		110 J	58 J	420 U	160 J	145 J	130 J	370 U	380 U
BIS(2-CHLOROETHOXY)METHANE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
BIS(2-CHLOROETHYL)ETHER	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	370 U		470 U	360 U	420 U	210 J	480 J	750	370 U	380 U
BUTYL BENZYL PHTHALATE	370 U	370 U		470 U	360 U	420 U	450 U	73 J	73 J	370 U	380 U
CAPROLACTAM	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
CARBAZOLE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U

from ron48_sam.dbf
from ron48_res.dbf
from ron48 [illegible] xls
from q:\sc [illegible] r\white_oak\upload\

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**	**c_010**	**c_011**
CHRYSENE	370 U	370 U		150 J	81 J	420 U	210 J	190 J	170 J	370 U	380 U
DI-N-BUTYL PHTHALATE	370 U	370 U		55 J	360 U	420 U	450 U	61 J	61 J	370 U	380 U
DI-N-OCTYL PHTHALATE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
DIBENZO(A,H)ANTHRACENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
DIBENZOFURAN	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
DIETHYL PHTHALATE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
DIMETHYL PHTHALATE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
FLUORANTHENE	370 U	370 U		280 J	160 J	420 U	400 J	360 J	320 J	370 U	380 U
FLUORENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
HEXACHLOROBENZENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
HEXACHLOROBUTADIENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
HEXACHLOROCYCLOPENTADIENE	370 UJ	370 UJ		470 UJ	360 UJ	420 UJ	450 UJ	450 UJ	450 UJ	370 UJ	380 UJ
HEXACHLOROETHANE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
INDENO(1,2,3-CD)PYRENE	370 U	370 U		470 U	64 J	420 U	170 J	160 J	150 J	370 U	380 U
ISOPHORONE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
N-NITROSO-DI-N-PROPYLAMINE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
N-NITROSODIPHENYLAMINE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
NAPHTHALENE	370 U	370 U		470 U	360 U	420 U	450 U	450 U	450 U	370 U	380 U
PENTACHLOROPHENOL	940 U	940 U		1200 U	910 U	1000 U	1100 U	1100 U	1100 U	940 U	960 U
PHENANTHRENE	370 U	370 U		190 J	110 J	420 U	260 J	220 J	180 J	370 U	380 U
PHENOL	370 U	370 U		84 J	360 U	420 U	450 U	67 J	67 J	370 U	380 U
PYRENE	370 U	370 U		220 J	120 J	420 U	340 J	295 J	250 J	370 U	380 U
Pesticides/PCBs (ug/kg)											
4,4'-DDD	1.9 U	1.9 U		29	1.9 U	0.84 J	7.7 R	11 R	11 R	1.9 U	6.6 R
4,4'-DDE	1.9 U	1.9 U		31	17	1.3 J	16	17	18	0.17 J	20 U
4,4'-DDT	1.9 U	1.9 U		3.5 R	5.4 R	2.2 U	9.5 R	9.3 R	9.1 R	0.20 J	71
ALDRIN	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
ALPHA-BHC	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
ALPHA-CHLORDANE	1.9 U	1.9 U		9.7	12	0.48 J	11 J	11 J	11 J	1.9 U	20 U
AROCLOR-1016	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1221	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1232	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1242	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1248	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1254	37 U	37 U		47 U	36 U	42 U	45 U	45 U	45 U	37 U	38 U
AROCLOR-1260	37 U	37 U		210	260	21 J	310 J	510 J	710 J	37 U	38 U
BETA-BHC	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
DELTA-BHC	1.9 U	1.9 U		0.51 R	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
DIELDRIN	1.9 U	1.9 U		4.2 J	2.3 R	2.2 U	4.7	5.2	5.7	1.9 U	20 U
ENDOSULFAN I	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
ENDOSULFAN II	1.9 U	1.9 U		5.6 J	5.6 J	2.2 U	7.7 J	12.35 J	17 J	1.9 U	8.7 J
ENDOSULFAN SULFATE	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
ENDRIN	1.9 U	1.9 U		3.6 R	3.4 R	0.25 R	5.8 R	8.4 R	11 R	1.9 U	20 U
ENDRIN ALDEHYDE	1.9 U	1.9 U		4.2 R	4.6 R	2.2 U	8.6 J	11.8 J	15 J	1.9 U	20 U
ENDRIN KETONE	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U

from ron48_sam.dbf
from ron48_res.dbf
from ron48_res.xls
from q:\sql_server\white_oak\upload\

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**	**c_010**	**c_011**
GAMMA-BHC (LINDANE)	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
GAMMA-CHLORDANE	1.9 U	1.9 U		6.9 R	8.6 J	0.21 R	5.4 J	5.4 J	6.0 R	1.9 U	20 U
HEPTACHLOR	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
HEPTACHLOR EPOXIDE	1.9 U	1.9 U		2.4 U	1.9 U	2.2 U	2.3 U	2.3 U	2.3 U	1.9 U	20 U
METHOXYCHLOR	3.7 U	3.7 U		4.7 U	3.6 U	4.2 U	4.5 U	4.5 U	4.5 U	3.7 U	38 U
TOXAPHENE	76 U	76 U		95 U	73 U	85 U	91 U	91.5 U	92 U	76 U	780 U
Explosives (mg/kg)											
1,3,5-TRINITROBENZENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DINITROBENZENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4,6-TRINITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4-DINITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,6-DINITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-AMINO-4,6-DINITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-NITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
3-NITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-AMINO-2,6-DINITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-NITROTOLUENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
HMX	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
NITROBENZENE	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
RDX	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TETRYL	0.65 U	0.65 U		0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
Inorganics (mg/kg)											
ALUMINUM	8870	8870		10900	7060	7110	8030	7130	6230	11600	4500
ANTIMONY	0.24 UL	0.24 UL		0.30 UL	0.23 UL	0.27 UL	1.0 L	1.35 L	1.7 L	0.24 UL	0.24 UL
ARSENIC	3.1 U	3.1 U		3.7 U	2.4 U	4.4 U	6.7 U	7.6 U	8.5 U	5.3 U	2.5 U
BARIUM	28.0	28.0		51.9	28.5	18.3	91.2	92.45	93.7	45.7	33.3
BERYLLIUM	0.42 U	0.42 U		0.55 U	0.36 U	0.32 U	0.45 U	0.445 U	0.44 U	0.67 U	0.41 U
CADMIUM	0.036 U	0.036 U		0.33 L	0.42	0.041 U	24.5 J	19.1 J	13.7 J	0.036 UL	0.037 U
CALCIUM	435	435		3000	1000	679	6000	5890	5780	1040	553
CHROMIUM	12.6 K	12.6 K		25.3 K	22.9 K	15.9 K	141 K	118.05 K	95.1 K	17.1	6.5
COBALT	2.5	2.5		4.6	2.8	1.1	7.9	7.6	7.3	5.1	1.7
COPPER	5.5	5.5		20.4	16.5	7.5	187	171.5	156	7.0 K	2.9 K
IRON	11200	11200		14600	8150	11100	102000	110000	118000	17700	7000
LEAD	4.4	4.4		30.1	16.8	3.1	369	462.5	556	8.0	4.0
MAGNESIUM	486	486		1910	550	213	1590	1790	1990	1250	345
MANGANESE	69.7	69.7		178	89.1	19.9	667	646.5	626	125	41.7
MERCURY	0.048	0.048		0.22	0.10	0.019 U	1.2	0.965	0.73	0.025	0.017 U
NICKEL	5.1 L	5.1 L		15.3 L	8.6 L	2.2 L	51.0 L	54.15 L	57.3 L	8.0	2.5
POTASSIUM	301	301		688	343	284	325	338	351	409	243
SELENIUM	0.67	0.67		2.3	0.62	1.6	3.7 K	4.3 K	4.9 K	0.82 K	0.25
SILVER	0.065 U	0.065 U		3.1 K	2.5 K	0.072 U	46.1 J	35.55 J	25.0 J	0.065 U	0.066 U
SODIUM	23.7 U	23.7 U		29.6 U	22.0 U	27.9 U	57.4 U	57.3 U	57.2 U	23.4 U	16.8 U
THALLIUM	0.47 U	0.47 U		1.0 U	0.54 U	0.48 U	3.2	2.8	2.4	1.0 U	0.35 U
VANADIUM	17.9	17.9		28.0	14.5	28.3	21.4	22.4	23.4	28.5	10.9
ZINC	10.1	10.1		64.3	28.5	6.5	464	400	336	22.1	7.5

from ron48_sam.dbf
from ron48_res.dbf
from ron48 xls
from q:\sc r\white_oak\upload\

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_001**	**c_002**	**c_003**	**c_004**	**c_005**	**c_006**	**c_007**	**c_008**	**c_009**	**c_010**	**c_011**
Miscellaneous Parameters (%)											
PERCENT SOLIDS	88.3	88.25	88.2	70.9	91.3	79.1	73.3	73.05	72.8	88	86.1
TCLP Volatiles (mg/L)											
1,1-DICHLOROETHENE				0.05 U			0.05 U	0.05 U	0.05 U		
1,2-DICHLOROETHANE				0.05 U			0.05 U	0.05 U	0.05 U		
2-BUTANONE				0.05 U			0.05 U	0.05 U	0.05 U		
BENZENE				0.05 U			0.05 U	0.05 U	0.05 U		
CARBON TETRACHLORIDE				0.05 U			0.05 U	0.05 U	0.05 U		
CHLOROBENZENE				0.05 U			0.05 U	0.05 U	0.05 U		
CHLOROFORM				0.05 U			0.05 U	0.05 U	0.05 U		
TETRACHLOROETHENE				0.05 U			0.05 U	0.05 U	0.05 U		
TRICHLOROETHENE				0.05 U			0.05 U	0.05 U	0.05 U		
VINYL CHLORIDE				0.05 U			0.05 U	0.05 U	0.05 U		
TCLP Semivolatiles (mg/L)											
1,4-DICHLOROBENZENE				0.05 U			0.05 U	0.05 U	0.05 U		
2,4,5-TRICHLOROPHENOL				0.05 U			0.05 U	0.05 U	0.05 U		
2,4,6-TRICHLOROPHENOL				0.05 U			0.05 U	0.05 U	0.05 U		
2,4-DINITROTOLUENE				0.05 U			0.05 U	0.05 U	0.05 U		
HEXACHLOROBENZENE				0.05 U			0.05 U	0.05 U	0.05 U		
HEXACHLOROBUTADIENE				0.05 U			0.05 U	0.05 U	0.05 U		
HEXACHLOROETHANE				0.05 U			0.05 U	0.05 U	0.05 U		
NITROBENZENE				0.05 U			0.05 U	0.05 U	0.05 U		
PENTACHLOROPHENOL				0.25 U			0.25 U	0.25 U	0.25 U		
PYRIDINE				0.1 U			0.1 U	0.1 U	0.1 U		
TOTAL METHYLPHENOL				0.05 U			0.05 U	0.05 U	0.05 U		
TCLP Pesticides (mg/L)											
CHLORDANE				0.005 U			0.005 U	0.005 U	0.005 U		
ENDRIN				0.0005 U			0.0005 U	0.0005 U	0.0005 U		
GAMMA-BHC (LINDANE)				0.0005 U			0.0005 U	0.0005 U	0.0005 U		
HEPTACHLOR				0.0005 U			0.0005 U	0.0005 U	0.0005 U		
HEPTACHLOR EPOXIDE				0.0005 U			0.0005 U	0.0005 U	0.0005 U		
METHOXYCHLOR				0.001 U			0.001 U	0.001 U	0.001 U		
TOXAPHENE				0.02 U			0.02 U	0.02 U	0.02 U		
TCLP Herbicides (mg/L)											
2,4,5-TP (SILVEX)				0.01 U			0.01 U	0.01 U	0.01 U		
2,4-D				0.04 U			0.04 U	0.04 U	0.04 U		
TCLP Inorganics (mg/L)											
ARSENIC				0.18 U			0.18 U	0.18 U	0.18 U		
BARIUM				0.41			0.31	0.335	0.36		
CADMIUM				0.0026			0.041	0.066	0.091		
CHROMIUM				0.0021 U			0.0099	0.0100	0.010		
LEAD				0.023			0.023	0.0345	0.046		
MERCURY				0.00009 U			0.00009 U	0.0001 U	0.00009 U		
SELENIUM				0.021 U			0.021 U	0.021 U	0.021 U		
SILVER				0.0036 U			0.0036 U	0.0036 U	0.0036 U		

from ron48_sam.dbf
from ron48_res.dbf
from ron48_res.xls
from q:\sql_server\white_oak\upload\

order	001	002	003	004	005	006	007	008	009	010	011
location	48TP01	48TP01	48TP01	48TP01	48TP02	48TP03	48TP03	48TP03	48TP03	48TP06	48TP09
nsample	48TP01SB0607	48TP01SB0607-AVG	48TP01SB0607-D	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	48TP03WS0001-D	48TP06SB0203	48TP09SB0102
sample	48TP01SB0607	48TP01SB0607-AVG	FD05200202	48TP01WS0304	48TP02SB0102	48TP03SB0304	48TP03WS0001	48TP03WS0001-AVG	FD05200203	48TP06SB0203	48TP09SB0102
matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
sacode	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL
depth_rang	6 - 7	6 - 7	6 - 7	3 - 4	1 - 2	3 - 4	0 - 1	0 - 1	0 - 1	2 - 3	1 - 2
sample_dat	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/20/02	05/21/02	05/21/02
validated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
cto_proj	839	839	839	839	839	839	839	839	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S	NESBIT,S
sort	c_001	c_002	c_003	c_004	c_005	c_006	c_007	c_008	c_009	c_010	c_011

from ron48_sam.dbf
from ron48_res.dbf
from ron48[illegible].xls
from q:\s[illegible]er\white_oak\upload\

order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**
Volatile Organics (ug/kg)			
1,1,1-TRICHLOROETHANE	12 U	10 U	11 U
1,1,2,2-TETRACHLOROETHANE	12 U	10 U	11 U
1,1,2-TRICHLOROETHANE	12 U	10 U	11 U
1,1,2-TRICHLOROTRIFLUOROETHANE	12 U	10 U	11 U
1,1-DICHLOROETHANE	12 U	10 U	11 U
1,1-DICHLOROETHENE	12 U	10 U	11 U
1,2,4-TRICHLOROBENZENE	12 U	10 U	11 U
1,2-DIBROMO-3-CHLOROPROPANE	12 U	10 U	11 U
1,2-DIBROMOETHANE	12 U	10 U	11 U
1,2-DICHLOROBENZENE	12 U	10 U	11 U
1,2-DICHLOROETHANE	12 U	10 U	11 U
1,2-DICHLOROPROPANE	12 U	10 U	11 U
1,3-DICHLOROBENZENE	12 U	10 U	11 U
1,4-DICHLOROBENZENE	12 U	10 U	11 U
2-BUTANONE	12 U	10 U	11 U
2-HEXANONE	12 U	10 U	11 U
4-METHYL-2-PENTANONE	12 U	10 U	11 U
ACETONE	5.1 U	4.5 U	5.8 U
BENZENE	12 U	10 U	11 U
BROMODICHLOROMETHANE	12 U	10 U	11 U
BROMOFORM	12 U	10 U	11 U
BROMOMETHANE	12 U	10 U	11 U
CARBON DISULFIDE	12 U	10 U	11 U
CARBON TETRACHLORIDE	12 U	10 U	11 U
CHLOROBENZENE	12 U	10 U	11 U
CHLORODIBROMOMETHANE	12 U	10 U	11 U
CHLOROETHANE	12 UJ	10 UJ	11 UJ
CHLOROFORM	12 U	10 U	11 U
CHLOROMETHANE	12 U	10 U	11 U
CIS-1,2-DICHLOROETHENE	12 U	10 U	11 U
CIS-1,3-DICHLOROPROPENE	12 U	10 U	11 U
CYCLOHEXANE	12 U	10 U	11 U
DICHLORODIFLUOROMETHANE	12 UJ	10 UJ	11 UJ
ETHYLBENZENE	12 U	10 U	11 U
ISOPROPYLBENZENE	12 U	10 U	11 U
METHYL ACETATE	12 U	10 U	11 U
METHYL CYCLOHEXANE	12 U	10 U	11 U
METHYL TERT-BUTYL ETHER	12 U	10 U	11 U
METHYLENE CHLORIDE	12 U	10 U	11 U
STYRENE	12 U	10 U	11 U
TETRACHLOROETHENE	12 U	10 U	11 U
TOLUENE	12 U	10 U	11 U
TOTAL XYLENES	12 U	10 U	11 U
TRANS-1,2-DICHLOROETHENE	12 U	10 U	11 U

from ron48_sam.dbf
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order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**
TRANS-1,3-DICHLOROPROPENE	12 U	10 U	11 U
TRICHLOROETHENE	12 U	10 U	11 U
TRICHLOROFLUOROMETHANE	12 UJ	10 UJ	11 UJ
VINYL CHLORIDE	12 U	10 U	11 U
Semivolatile Organics (ug/kg)			
1,1-BIPHENYL	400 U	380 U	370 U
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	380 U	370 U
2,4,5-TRICHLOROPHENOL	1000 U	960 U	920 U
2,4,6-TRICHLOROPHENOL	400 U	380 U	370 U
2,4-DICHLOROPHENOL	400 U	380 U	370 U
2,4-DIMETHYLPHENOL	400 U	380 U	370 U
2,4-DINITROPHENOL	1000 U	960 U	920 U
2-CHLORONAPHTHALENE	400 U	380 U	370 U
2-CHLOROPHENOL	400 U	380 U	370 U
2-METHYLNAPHTHALENE	400 U	380 U	370 U
2-METHYLPHENOL	400 U	380 U	370 U
2-NITROANILINE	1000 U	960 U	920 U
2-NITROPHENOL	400 U	380 U	370 U
3,3'-DICHLOROBENZIDINE	400 U	380 U	370 U
3-NITROANILINE	1000 U	960 U	920 U
4,6-DINITRO-2-METHYLPHENOL	1000 U	960 U	920 U
4-BROMOPHENYL PHENYL ETHER	400 U	380 U	370 U
4-CHLORO-3-METHYLPHENOL	400 U	380 U	370 U
4-CHLOROANILINE	400 U	380 U	370 U
4-CHLOROPHENYL PHENYL ETHER	400 U	380 U	370 U
4-METHYLPHENOL	400 U	380 U	370 U
4-NITROANILINE	1000 U	960 U	920 U
4-NITROPHENOL	1000 U	960 U	920 U
ACENAPHTHENE	400 U	380 U	41 J
ACENAPHTHYLENE	400 U	380 U	370 U
ACETOPHENONE	260 J	98 J	330 J
ANTHRACENE	65 J	380 U	180 J
ATRAZINE	400 U	380 U	370 U
BENZALDEHYDE	400 U	380 U	370 U
BENZO(A)ANTHRACENE	300 J	380 U	590
BENZO(A)PYRENE	330 J	380 U	570
BENZO(B)FLUORANTHENE	320 J	380 U	580
BENZO(G,H,I)PERYLENE	200 J	380 U	230 J
BENZO(K)FLUORANTHENE	270 J	380 U	510
BIS(2-CHLOROETHOXY)METHANE	400 U	380 U	370 U
BIS(2-CHLOROETHYL)ETHER	400 U	380 U	370 U
BIS(2-ETHYLHEXYL)PHTHALATE	51 J	380 U	110 J
BUTYL BENZYL PHTHALATE	400 U	380 U	370 U
CAPROLACTAM	400 U	380 U	370 U
CARBAZOLE	400 U	380 U	52 J

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order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**
CHRYSENE	360 J	380 U	660
DI-N-BUTYL PHTHALATE	400 U	380 U	44 J
DI-N-OCTYL PHTHALATE	400 U	380 U	370 U
DIBENZO(A,H)ANTHRACENE	96 J	380 U	140 J
DIBENZOFURAN	400 U	380 U	370 U
DIETHYL PHTHALATE	400 U	380 U	370 U
DIMETHYL PHTHALATE	400 U	380 U	370 U
FLUORANTHENE	650	380 U	1400
FLUORENE	400 U	380 U	48 J
HEXACHLOROBENZENE	400 U	380 U	370 U
HEXACHLOROBUTADIENE	400 U	380 U	370 U
HEXACHLOROCYCLOPENTADIENE	400 UJ	380 UJ	370 UJ
HEXACHLOROETHANE	400 U	380 U	370 U
INDENO(1,2,3-CD)PYRENE	270 J	380 U	370
ISOPHORONE	400 U	380 U	370 U
N-NITROSO-DI-N-PROPYLAMINE	400 U	380 U	370 U
N-NITROSODIPHENYLAMINE	400 U	380 U	370 U
NAPHTHALENE	400 U	380 U	370 U
PENTACHLOROPHENOL	1000 U	960 U	920 U
PHENANTHRENE	290 J	380 U	730
PHENOL	400 U	380 U	50 J
PYRENE	500	380 U	870
Pesticides/PCBs (ug/kg)			
4,4'-DDD	6.6 R	2.0 U	8.8 R
4,4'-DDE	31 J	2.0 U	26 J
4,4'-DDT	10 UR	2.0 U	9.5 U
ALDRIN	10 U	2.0 U	9.5 U
ALPHA-BHC	10 U	2.0 U	9.5 U
ALPHA-CHLORDANE	45	2.0 U	54
AROCLOR-1016	40 U	38 U	37 U
AROCLOR-1221	40 U	38 U	37 U
AROCLOR-1232	40 U	38 U	37 U
AROCLOR-1242	40 U	38 U	37 U
AROCLOR-1248	40 U	38 U	37 U
AROCLOR-1254	40 U	38 U	37 U
AROCLOR-1260	1100	38 U	1100
BETA-BHC	10 U	2.0 U	9.5 U
DELTA-BHC	10 U	2.0 U	9.5 U
DIELDRIN	26	2.0 U	11
ENDOSULFAN I	10 U	2.0 U	9.5 U
ENDOSULFAN II	19 J	2.0 U	23 J
ENDOSULFAN SULFATE	10 U	2.0 U	9.5 U
ENDRIN	13 R	2.0 U	14 R
ENDRIN ALDEHYDE	1.9 R	2.0 U	2.3 R
ENDRIN KETONE	10 U	2.0 U	9.5 U

from ron48_sam.dbf
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order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**
GAMMA-BHC (LINDANE)	10 U	2.0 U	9.5 U
GAMMA-CHLORDANE	37 J	2.0 U	47 J
HEPTACHLOR	10 U	2.0 U	9.5 U
HEPTACHLOR EPOXIDE	1.3 R	2.0 U	9.5 U
METHOXYCHLOR	13 J	3.8 U	18 U
TOXAPHENE	410 U	77 U	370 U
Explosives (mg/kg)			
1,3,5-TRINITROBENZENE	0.25 U	0.25 U	0.25 U
1,3-DINITROBENZENE	0.25 U	0.25 U	0.25 U
2,4,6-TRINITROTOLUENE	0.25 U	0.25 U	0.25 U
2,4-DINITROTOLUENE	0.25 U	0.25 U	0.25 U
2,6-DINITROTOLUENE	0.25 U	0.25 U	0.25 U
2-AMINO-4,6-DINITROTOLUENE	0.25 U	0.25 U	0.25 U
2-NITROTOLUENE	0.25 U	0.25 U	0.25 U
3-NITROTOLUENE	0.25 U	0.25 U	0.25 U
4-AMINO-2,6-DINITROTOLUENE	0.25 U	0.25 U	0.25 U
4-NITROTOLUENE	0.25 U	0.25 U	0.25 U
HMX	0.5 U	0.5 U	0.5 U
NITROBENZENE	0.25 U	0.25 U	0.25 U
RDX	0.5 U	0.5 U	0.5 U
TETRYL	0.65 U	0.65 U	0.65 U
Inorganics (mg/kg)			
ALUMINUM	4640	11200	3350
ANTIMONY	0.25 UL	0.24 UL	0.23 UL
ARSENIC	2.2 U	5.2 U	1.7 U
BARIUM	75.0	63.9	65.6
BERYLLIUM	0.52 U	0.79 U	0.50 U
CADMIUM	7.6	0.037 UL	8.1
CALCIUM	3050	661	2770
CHROMIUM	207	18.4	203
COBALT	4.1	4.3	4.0
COPPER	110 K	6.8 K	93.2 K
IRON	8900	20800	7910
LEAD	95.0	9.2	120
MAGNESIUM	1190	1330	1400
MANGANESE	258	130	231
MERCURY	1.0	0.034	0.78
NICKEL	19.6	7.7	27.3
POTASSIUM	312	356	301
SELENIUM	0.79	0.62 K	0.53
SILVER	29.8	0.11	27.2
SODIUM	54.5 U	82.4 U	28.4 U
THALLIUM	0.36 U	0.55 U	0.33 U
VANADIUM	16.4	31.5	13.7
ZINC	289	23.1	152

from ron48_sam.dbf
from ron48_res.dbf
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order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**
Miscellaneous Parameters (%)			
PERCENT SOLIDS	82.6	86.6	89.8
TCLP Volatiles (mg/L)			
1,1-DICHLOROETHENE	0.05 U		0.05 U
1,2-DICHLOROETHANE	0.05 U		0.05 U
2-BUTANONE	0.05 U		0.05 U
BENZENE	0.05 U		0.05 U
CARBON TETRACHLORIDE	0.05 U		0.05 U
CHLOROBENZENE	0.05 U		0.05 U
CHLOROFORM	0.05 U		0.05 U
TETRACHLOROETHENE	0.05 U		0.05 U
TRICHLOROETHENE	0.05 U		0.05 U
VINYL CHLORIDE	0.05 U		0.05 U
TCLP Semivolatiles (mg/L)			
1,4-DICHLOROBENZENE	0.05 U		0.05 U
2,4,5-TRICHLOROPHENOL	0.05 U		0.05 U
2,4,6-TRICHLOROPHENOL	0.05 U		0.05 U
2,4-DINITROTOLUENE	0.05 U		0.05 U
HEXACHLOROBENZENE	0.05 U		0.05 U
HEXACHLOROBUTADIENE	0.05 U		0.05 U
HEXACHLOROETHANE	0.05 U		0.05 U
NITROBENZENE	0.05 U		0.05 U
PENTACHLOROPHENOL	0.25 U		0.25 U
PYRIDINE	0.1 U		0.1 U
TOTAL METHYLPHENOL	0.05 U		0.05 U
TCLP Pesticides (mg/L)			
CHLORDANE	0.005 U		0.005 U
ENDRIN	0.0005 U		0.0005 U
GAMMA-BHC (LINDANE)	0.0005 U		0.0005 U
HEPTACHLOR	0.0005 U		0.0005 U
HEPTACHLOR EPOXIDE	0.0005 U		0.0005 U
METHOXYCHLOR	0.001 U		0.001 U
TOXAPHENE	0.02 U		0.02 U
TCLP Herbicides (mg/L)			
2,4,5-TP (SILVEX)	0.01 U		0.01 U
2,4-D	0.04 U		0.04 U
TCLP Inorganics (mg/L)			
ARSENIC	0.16 U		0.18 U
BARIUM	0.34		0.35
CADMIUM	0.049		0.074
CHROMIUM	0.029		0.032
LEAD	0.014		0.028
MERCURY	0.00009 U		0.00009 U
SELENIUM	0.021 U		0.021 U
SILVER	0.0038		0.0036 U

from ron48_sam.dbf
from ron48_res.dbf
from ron48_res.xls
from q:\sql_server\white_oak\upload\

order	012	013	014
location	48TP09	48TP13	48TP13
nsample	48TP09WS0102	48TP13SB0405	48TP13WS0203
sample	48TP09WS0102	48TP13SB0405	48TP13WS0203
matrix	SO	SO	SO
sacode	NORMAL	NORMAL	NORMAL
depth_rang	1 - 2	4 - 5	2 - 3
sample_dat	05/21/02	05/21/02	05/21/02
validated	Y	Y	Y
cto_proj	839	839	839
proj_manag	NESBIT,S	NESBIT,S	NESBIT,S
sort	**c_012**	**c_013**	**c_014**

from ron48_sam.dbf
from ron48_res.dbf
from ron48_[illegible] xls
from q:\sc[illegible]r\white_oak\upload\

APPENDIX B

DATA VALIDATION MEMORANDA

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: [redacted] **DATE:** **JULY 15, 2002**

FROM: **BERNARD F SPADA III** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/SVOA/PEST/PCB/EXP/HERB**
CTO 839, NSWC WHITE OAK
SDG 10126

SAMPLES: 5/Aqueous

04TW04	04WP02*	40WP05*
FD05200201*	TB05200201	

7/Soil

48TP01SB0607	48TP01WS0304	48TP02SB0102
48TP03SB0304	48TP03WS0001	FD05200202[&]
FD05200203		

3/TCLP

48TP01WS0304	48TP03WS0001	FD05200203

Overview

The sample set for CTO 839 NSWC White Oak, SDG 10126 consists of three (3) environmental aqueous samples, five (5) environmental soil samples, one (1) trip blank, and three (3) field duplicates. The soil samples (48TP01WS0304, 48TP03WS0001, and FD05200203) were also analyzed after having TCLP performed on them. All aqueous samples were analyzed for volatile organic compounds (VOC) by CLP Method OLC02.1. The aqueous samples denoted with an asterisk (*) were also analyzed for explosives by SW-846 Method 8330. All soil samples except FD05200202 were analyzed for VOC, semivolatile organic compounds (SVOC), pesticides (PEST), polychlorinated biphenyls (PCB), and explosives (EXP) by CLP Method OLM04.2 (VOC and SVOC), SW-846 Methods 8081A, 8082, and 8330 respectively. Sample FD05200202 was analyzed for VOC only. The TCLP extracts were analyzed for VOC, SVOC, PEST, PCB, and Herbicides (HERB) by SW-846 Methods 8260B, 8270C, 8081A, 8082, and 8151A respectively. The field duplicate pairs included in this SDG are (FD05200201 / 04WP02), (FD05200202 / 48TP01SB0607), and (FD05200203 / 48TP03WS0001).

The samples were collected by Tetra Tech NUS on May 20, 2002 and analyzed by Severn Trent Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using CLP OLC02.1 and OLM04.2 and SW-846 Methods 8260B, 8270C, 8081A, 8082, 8330 and 8151A analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GCMS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike/blank spike duplicate results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation and detection limits. Areas of concern are listed below.

Major

- The aqueous volatile initial calibration was below the 0.05 relative response factor (RRF) quality control criteria for acetone, 2-butanone, and 1,2-dibromo-3-chloropropane. All non-detected results for the aforementioned compounds were rejected (UR). Acetone was not qualified for calibration non-compliance because it was already qualified for method blank contamination.

- The aqueous volatile continuing calibration analyzed on May 23 at 06:27 was below the 0.05 RRF quality control criteria for 1,2-dibromo-3-chloropropane. All non-detected results for 1,2-dibromo-3-chloropropane were rejected (UR).

- The following table defines the pesticide %D between column non-compliances.

Sample	Compound	% Difference	Concentrations	Qualification
48TP01WS0304	delta-BHC	208.6	(1.113, 0.3607)	R
	Endrin	431.3	(13.50, 2.541)	R
	4,4'-DDT	652.9	(18.65, 2.477)	R
	Endrin aldehyde	126.1	(6.726, 2.975)	R
	gamma-Chlordane	108.7	(10.14, 4.858)	R
48TP02SB0102	Dieldrin	127.3	(4.732, 2.082)	R
	4,4'-DDT	446.8	(26.86, 4.912)	R
	Endrin	476.6	(17.96, 3.115)	R
	Endrin aldehyde	138.7	(10.02, 4.197)	R
48TP03SB0304	Endrin	624.2	(1.460, 0.2016)	R
	gamma-Chlordane	111.4	(0.3508, 0.1659)	R
48TP03WS0001	Endrin	309.3	(17.43, 4.258)	R
	4,4'-DDD	331.6	(5.646, 24.37)	R
	4,4'-DDT	266.0	(25.49, 6.964)	R
FD05200203	Endrin	268.0	(30.20, 8.207)	R
	4,4'-DDD	376.1	(8.055, 38.35)	R
	4,4'-DDT	488.0	(38.80, 6.599)	R
	gamma-Chlordane	146.4	(10.71, 4.347)	R

The criteria for pesticides in the above table are >100%D = R.

Minor

- The following compounds were detected in the aqueous method blank:

Compound	Maximum Concentration	Blank Action Level
Acetone	2.1 ug/L	21 ug/L
Methylene chloride	1.2 ug/L	12 ug/L
2,6-Dinitrotoluene (EXP)	0.27 ug/L	1.35 ug/L
2,4-Dinitrotoluene (EXP)	0.61 ug/L	3.05 ug/L
2-Nitrotoluene (EXP)	0.68 ug/L	3.4 ug/L
3-Nitrotoluene (EXP)	0.39 ug/L	1.95 ug/L
4-Nitrotoluene (EXP)	0.50 ug/L	2.5 ug/L

Sample aliquot, and dilution factors were taken into consideration when applying the blank action levels. Positive results for the aforementioned compounds below the blank action level were

qualified as non-detected, (B). Trip blank samples were not qualified for method blank contamination.

- The aqueous volatile continuing calibration analyzed on May 23 at 06:27 exceeded the 25 %D (but was <50%) quality control criteria for acetone and methylene chloride. The positive results for acetone and methylene chloride in the trip blank sample were qualified as estimated (J). The positive results for acetone and methylene chloride in the remaining aqueous samples were not qualified based on this because they were already qualified for method blank contamination.

- The following compound was detected in the soil method blank and the trip blank:

Compound	Maximum Concentration	Blank Action Level
Acetone	1.6 ug/kg	16 ug/kg
Methylene chloride*	0.69 ug/kg	6.9 ug/kg

* - Trip blank sample.

Sample aliquot, percent solids, and dilution factors were taken into consideration when applying the blank action levels. Positive results for the aforementioned compounds below the blank action level were qualified as non-detected, (B). Trip blank samples were not qualified for method blank contamination.

- The soil volatile initial calibration exceeded the 30% (and was >50%) relative standard deviation (RSD) quality control criteria for chloroethane. The results for chloroethane were qualified as estimated (UJ).

- The soil volatile initial calibration exceeded the 30% (but was <50%) RSD quality control criteria for acetone. The result for acetone in sample 48TP01WS0304 was qualified as estimated (J). No other positive results for acetone were qualified on this basis because they were already qualified for method blank contamination.

- The soil volatile continuing calibration analyzed on May 22 at 15:34 exceeded the 25 %D (and was >50%) quality control criteria for chloroethane, dichlorodifluoromethane, and trichlorofluoromethane. All non-detected results for the aforementioned compounds were qualified as estimated (UJ).

- The soil semivolatile initial calibration exceeded the 30 %RSD (but was <50%) quality control criteria for benzaldehyde. The positive result for benzaldehyde in sample 48TP01WS0304 was qualified as estimated (J).

- The soil semivolatile continuing calibration analyzed on May 29 at 11:30 exceeded the 25%D (and was >50%) for hexachlorocyclopentadiene. All results for hexachlorocyclopentadiene were qualified as estimated (UJ).

- The soil semivolatile continuing calibration exceeded the 25 %D (but was <50%) quality control criteria for benzaldehyde. The positive result for benzaldehyde in sample 48TP01WS0304 was qualified as estimated (J).

- The following table defines the pesticide %D between column non-compliances.

Sample	Compound	% Difference	Concentrations	Qualification
48TP01WS0304	Dieldrin	76.0	(5.250, 2.983)	J
	Endosulfan II	47.2	(5.792, 3.936)	J
48TP02SB0102	Endosulfan II	56.4	(8.050, 5.146)	J

	gamma-Chlordane	74.3	(13.71, 7.867)	J
48TP03SB0304	4,4'-DDD	77.8	(0.666, 1.185)	J
	alpha-Chlordane	30.5	(0.4968, 0.3807)	J
48TP03WS0001	Endrin aldehyde	40.4	(8.888, 6.330)	J
	alpha-Chlordane	58.0	(7.985, 12.62)	J
	gamma-Chlordane	96.2	(7.720, 3.935)	J
FD05200203	Endosulfan II	66.0	(12.24, 20.32)	J
	Endrin aldehyde	60.6	(17.12, 10.66)	J
	alpha-Chlordane	42.0	(8.189, 11.63)	J

The criteria for pesticides in the above table are 25-100%D = J.

The field duplicate precision exceeded the 50% quality control criteria for Aroclor 1260, endrin aldehyde, and endosulfan II. All positive and non-detected results for the aforementioned compounds were qualified as estimated (J, UJ).

Notes

The aqueous volatile continuing calibration analyzed on May 23 at 06:27 exceeded the 25 %D (but was <50%) quality control criteria for 2-butanone, 1,3-dichlorobenzene, 1,2-dichlorobenzene, and 1,2,4-trichlorobenzene. No action was taken for non-detected results for the aforementioned compounds because the %D was <50%.

The soil volatile initial calibration exceeded the 30% (but was <50%) RSD quality control criteria for methyl acetate and trichlorofluoromethane. No qualifications were made based on this because all results for methyl acetate and trichlorofluoromethane were non-detected and the %RSD was <50%.

The soil volatile continuing calibration analyzed on May 22 at 15:34 exceeded the 25 %D (but was <50%) quality control criteria for chloromethane, methylene chloride, bromoform, and 1,2,4-trichlorobenzene. No qualifications were made based on this because all results for the aforementioned compounds were non-detected and the %D was <50%.

The soil semivolatile continuing calibration exceeded the 25 %D (but was <50%) quality control criteria for 2,4-dinitrophenol. No qualifications were made on this basis for 2,4-dinitrophenol because all results were non-detected.

The laboratory did not perform a matrix spike on any sample contained in the SDG for any fraction.

The detection of Aroclors in samples 48TP01WS0304, 48TP02SB0102, 48TP03SB0304, 48TP03WS0001, and FD05200203 may contribute to the detection of pesticides.

Executive Summary

Laboratory Performance: Qualifications were made based on calibration non-compliances, method blank contamination, and percent difference between analytical columns non-compliances.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to U.S. EPA National Functional Guidelines for Data Validation as modified by EPA Region III (9/94) and the NFESC guidelines entitled Navy IRCDQM (Sept. 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Bernard F Spada III

Tetra Tech NUS
Bernard F Spada III
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	[redacted]	**DATE:**	**AUGUST 12, 2002**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
NSWC WHITE OAK - CTO-839
SAMPLE DELIVERY GROUP (SDG) – 10126

SAMPLES: 6/SOIL/

48TP01SB0607	48TP01WS0304	48TP02SB0102
48TP03SB0304	48TP03WS0001	FD05200203

Overview

The sample set for CTO 839, NSWC White Oak, SDG 10126, consists of six (6) soil environmental samples. One (1) field duplicate pair (FD05200203 / 48TP03WS0001) is included in this SDG.

The samples were analyzed for TAL metals. Samples 48TP01WS0304, 48TP03WS0001, and FD05200203 were also analyzed for TCLP metals. The samples were collected by Tetra Tech NUS May 20, 2002 and analyzed by Severn Trent Laboratories, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses except mercury were conducted using method SW846 6010B. Mercury soil analyses were conducted using method SW846 7471A. Mercury aqueous analyses were conducted using method SW 846 7470A.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, matrix spike duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, field duplicate results, detection limits, and analyte quantitation.

Metals analyses except mercury were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA) methodologies.

Minor Problems

- The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Arsenic[1]	0.19 mg/L	0.95 mg/L
Arsenic	18.3 ug/L	9.15 mg/kg
Barium[1]	0.0057 mg/L	0.0285 mg/L
Barium[2]	0.21 mg/kg	1.05 mg/kg
Beryllium	1.2 ug/L	0.6 mg/kg
Calcium[2]	9.2 mg/kg	46.0 mg/kg
Chromium	0.6 ug/L	0.3 mg/kg
Chromium	0.6 ug/L	0.003 mg/L
Iron	31.9 ug/L	15.95 mg/kg
Manganese	0.5 ug/L	0.25 mg/kg
Potassium[2]	6.6 mg/kg	33.0 mg/kg
Sodium[2]	20.1 mg/kg	100.5 mg/kg
Thallium[2]	0.31 mg/kg	1.55 mg/kg
Vanadium	0.6 ug/L	0.3 mg/kg
Zinc[2]	0.26 mg/kg	1.3 mg/kg

[1] Maximum concentration present in TCLP preparation blank.
[2] Maximum concentration present in soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, percent solids, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the action level for arsenic, beryllium, sodium, and thallium were qualified (B) as a result of blank contamination for soil. The remaining analytes were not qualified because either the sample values were greater than the action level or they were nondetects.

- The interfering analyte iron was present in soil sample 48TP01WS0304 at a concentration comparable to the concentration in the interference check sample (ICS) solution. Several analytes, namely arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the instrument detection limit (IDL). Interference effects existed for cadmium in the affected sample. The positive result reported for cadmium was qualified as biased low (L).

- The interfering analyte iron was present in soil sample 48TP03WS0001 at a concentration comparable to the concentration in the ICS solution. Several analytes, namely arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the IDL. Interference effects existed for arsenic and selenium in the affected sample. The positive result reported for selenium was qualified as biased high (K). Arsenic was not qualified because it was already qualified for blank contamination.

- The interfering analyte iron was present in soil sample FD05200203 at a concentration comparable to the concentration in the ICS solution. Several analytes, namely arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the IDL. Interference effects existed for arsenic and selenium in the

affected sample. The positive result reported for selenium was qualified as biased high (K). Arsenic was not qualified because it was already qualified for blank contamination.

- The soil matrix spike percent recoveries (%Rs) for antimony and nickel were below the control limit of 75%. Positive results for antimony and nickel were qualified as biased low (L). Nondetects for antimony were qualified as biased low (UL).

- The soil matrix spike %Rs for chromium and silver were above the control limit of 125%. Positive results for chromium and silver were qualified as biased high (K). Positive results for silver in samples 48TP03WS0001 and FD05200203 were qualified as estimated (J) due to unknown directional bias.

- The relative percent differences (RPDs) for cadmium and silver for field duplicate pair (FD05200203 / 48TP03WS0001) were above the control limit of 50% and both sample values were >5X CRDL. Positive results for cadmium and silver in this field duplicate pair were qualified as estimated (J).

Notes

Reporting limits on Form 1s and EDD did not agree. The reviewer amended the database for several analytes and percent solids.

Dilutions were made for antimony, cadmium, iron, lead, selenium, and thallium for samples 48TP03WS0001 and FD05200203.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. Several analytes were qualified due to ICP interference. Several analytes were qualified due to matrix spike noncompliance.

Other Factors Affecting Data Quality: Silver and cadmium were qualified due to field duplicate noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", April 1993 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U	-	Value is a nondetect as reported by the laboratory.
B	-	Positive result is considered to be an artifact of blank contamination and should not be considered present.
UL	-	Nondetected result is considered biased low as a result of technical noncompliance.
L	-	Positive result is considered biased low as a result of technical noncompliance.
K	-	Positive result is considered biased high as a result of technical noncompliance.
J	-	Positive result is considered estimated as a result of technical noncompliance.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: [redacted] **DATE:** **AUGUST 12, 2002**

FROM: **ETHAN G. LEE** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
NSWC WHITE OAK - CTO-839
SAMPLE DELIVERY GROUP (SDG) – 20139

SAMPLES: 5/SOIL/

48TP06SB0203	48TP09SB0102	48TP09WS0102
48TP13SB0405	48TP13WS0203	

Overview

The sample set for CTO 839, NSWC White Oak, SDG 20139, consists of five (5) soil environmental sample.

The samples were analyzed for TAL metals. Samples 48TP09WS0102 and 48TP13WS0203 were also analyzed for TCLP metals. The samples were collected by Tetra Tech NUS May 21, 2002 and analyzed by Severn Trent Laboratories, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses except mercury were conducted using method SW846 6010B. Mercury soil analyses were conducted using method SW846 7471A. Mercury aqueous analyses were conducted using method SW 846 7470A.

Summary

All analytes were successfully analyzed. The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, calibration data, laboratory method/preparation blanks, interference check sample (ICS) results, matrix spike results, matrix spike duplicate results, laboratory control sample (LCS) results, ICP serial dilution results, detection limits, and analyte quantitation.

Metals analyses except mercury were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

Minor Problems

- The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Aluminum	45.3 ug/L	22.65 mg/kg
Arsenic[1]	0.19 mg/L	0.95 mg/L
Arsenic	18.3 ug/L	9.15 mg/kg
Barium[1]	0.0057 mg/L	0.0285 mg/L
Barium[2]	0.22 mg/kg	1.1 mg/kg
Beryllium	1.9 ug/L	0.95 mg/kg
Calcium	107.0 ug/L	53.5 mg/kg
Chromium[2]	0.093 mg/kg	0.465 mg/kg
Chromium	0.6 ug/L	0.003 mg/L
Cobalt	0.4 ug/L	0.20 mg/kg
Iron[2]	4.4 mg/kg	22.0 mg/kg
Manganese[2]	0.12 mg/kg	0.6 mg/kg
Nickel	0.8 ug/L	0.4 mg/kg
Potassium[2]	6.1 mg/kg	30.5 mg/kg
Sodium	167.0 ug/L	83.5 mg/kg
Thallium[2]	0.37 mg/kg	1.85 mg/kg
Zinc	6.5 ug/L	3.25 mg/kg

[1] Maximum concentration present in TCLP preparation blank.
[2] Maximum concentration present in soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, percent solids, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the action level for arsenic, beryllium, sodium, and thallium were qualified (B) as a result of blank contamination for the soil samples. Positive results less than the action level for arsenic were qualified (B) as a result of blank contamination for the TCLP samples. The remaining analytes were not qualified because either the sample values were greater than the action level or they were nondetects.

- The interfering analyte aluminum was present in soil sample 48TP06SB0203 at a concentration comparable to the concentration in the interference check sample (ICS) solution. Several analytes, namely antimony, barium, cadmium, chromium, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the instrument detection limit (IDL). Interference effects existed for cadmium in the affected sample. The nondetected result reported for cadmium was qualified as biased low (UL).

- The interfering analyte iron was present in soil sample 48TP06SB0203 at a concentration comparable to the concentration in the ICS solution. Several analytes, namely antimony, barium, cadmium, chromium, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the IDL. Interference effects existed for cadmium and selenium in the affected sample. The nondetected result reported for cadmium was qualified as biased low (UL). The positive result reported for selenium was qualified as biased high (K).

- The interfering analyte iron was present in soil sample 48TP13SB0405 at a concentration comparable to the concentration in the ICS solution. Several analytes, namely antimony,

barium, cadmium, chromium, copper, lead, manganese, nickel, potassium, selenium, vanadium, and zinc were present in the ICS solution at concentrations that exceeded the absolute value of the IDL. Interference effects existed for cadmium and selenium in the affected sample. The nondetected result reported for cadmium was qualified as biased low (UL). The positive result reported for selenium was qualified as biased high (K).

- The soil matrix spike and matrix spike duplicate percent recoveries (%Rs) for antimony were below the control limit of 75%. Nondetected results were qualified as biased low (UL).

- The soil matrix spike %R for copper was above the control limit of 125%. Positive results were qualified as biased high (K).

Notes

Reporting limits and percent solids on Form 1s and EDD did not agree. The reviewer amended the database for several analytes and percent solids.

The chain of custody (COC) was marked for cyanide analyses. However, the statement of work does not ask for cyanide analyses.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. Several analytes were qualified due to ICP interference. Several analytes were qualified due to matrix spike noncompliance.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", April 1993 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U	-	Value is a nondetect as reported by the laboratory.
B	-	Positive result is considered to be an artifact of blank contamination and should not be considered present.
UL	-	Nondetected result is considered biased low as a result of technical noncompliance.
K	-	Positive result is considered biased high as a result of technical noncompliance.

APPENDIX C

GEOPHYSICAL SURVEY

GEOPHYSICAL SURVEY REPORT
SITES 5 AND 13 RCRA FACILITY INVESTIGATION
SITE 48 SITE SCREENING
FORMER NAVAL SURFACE WARFARE CENTER WHITE OAK
SILVER SPRING, MARYLAND

1.0 INTRODUCTION

Geophysical surveys were performed at three sites at the former Naval Surface Warfare Center (NSWC) White Oak facility, Silver Spring, Maryland. The surveys were performed on April 3 and April 4, 2002 in accordance with the Field Sampling Plan dated January 2002. The three sites have been designated as follows:

- Site 5 – Open Burn Areas
- Site 13 – Oil Sludge Disposal Area
- Site 48 – 500 Area Waste Site

All sites are located in the northeastern portion of the facility. Sites 5 and 13 are contiguous; these sites were therefore surveyed as one area. Site 48 is located nearly 1,000 feet northeast of Sites 5 and 13.

The purpose of the geophysical surveys was to identify anomalous areas that may be associated with historic activities at these Sites. Site 5 consisted of three burn areas that were reportedly used as burn sites, fire training areas, and explosive/pyrotechnic device testing areas. The burn rings and surface soils at Site 5 were excavated and disposed off-site in the fall of 2000. It is reported that at Site 13, immediately adjacent to Site 5 to the west, approximately 6,000 to 10,000 gallons of oily sludge from No. 6 fuel oil storage tanks was spread over the surface from 1970 to 1978. Garbage and rubbish have been observed on the surface and in shallow soils at Site 48.

The geophysical surveys will support the RCRA facility investigation at Sites 5 and 13 and the Site Screening Process for Site 48. The following sections describe geophysical survey field procedures and results.

2.0 GEOPHYSICAL SURVEY METHODS

Reference grids were established at Sites 5/13 and at Site 48 using a transit and tape measures. The grid at Sites 5/13 was referenced to the road that forms the southern boundary of Sites 5 and 13. The grid at

Site 48 was referenced to Perimeter Road, just west of Site 48. The grids consisted of lines spaced 10 feet apart. Grids were marked using pin flags, survey stakes, flagging, and/or marking paint, as appropriate. Grid coordinates were assigned northing and easting coordinates in feet. Pin flags were also placed at regular intervals along the geophysical lines in the direction of the survey at a frequency (typically every 100 to 300 feet) that maintained a line of sight and provided adequate distance references along the lines, depending on the terrain and line length. Data were recorded and observed in real time during the survey; geophysical anomalies detected during the survey, which could not be explained by surface features, were identified and flagged in the field using pin flags.

The geophysical surveys were conducted using a Geonics EM31 Terrain Conductivity meter (EM31). The EM-31 measures and records the quadrature component (ground conductivity) and the inphase component of the electromagnetic field along the survey lines. The EM-31 measures terrain conductivity by imparting a current to the transmitter coil. The current passing through this coil produces a magnetic field, which in turn induces small currents in the underlying strata. Currents produced within the underlying strata are sensed by a receiver coil. The ratio of the magnetic field detected by the receiver coil to that field produced by the transmitter oil is directly proportional to terrain conductivity. Terrain conductivity, or apparent ground conductivity, is therefore read directly from the EM-31 in milliSiemens per meter (mS/m). The inphase response, expressed in parts per thousand, is significantly more sensitive to buried metallic objects. These values will represent the average response of the EM-31 over the effective depth of the survey; the effective depth is a function of the distance between the transmitting and receiving coils. The EM-31 has a fixed coil spacing to twelve feet, yielding an effective depth and radius of survey of approximately twelve to fifteen feet, in the absence of features (fences, buildings, etc.) which may interfere with the detection of survey targets.

Terrain conductivity and inphase responses were measured simultaneously at one-second intervals (approximately every 2.8 feet) along the geophysical lines or traverses and automatically stored in a digital data logger. The measurements were also observed by the instrument operator as the survey was conducted to allow for immediate marking of anomalies in the field, provided they were discernable during the survey and could not be explained by overhead, surface or known subsurface features, such as surface debris or overhead/subsurface utilities. Data stored in the data logger was downloaded to a portable computer at the completion of the survey. A total of 7,452 conductivity and inphase measurements were obtained at Sites 5 and 13; 2,820 conductivity and inphase measurements were obtained at Site 48. Data for Sites 5 and 13 are provided in Attachment A; these data for Site 48 are provided in Attachment B.

Color contour maps using DAT31 Geonics® software and Rockworks® software depicting conductivity and in-phase data for each of the survey areas were prepared from these data and are provided as Figures 1 through 4. The color contour maps allow for an illustration of the locations of anomalies associated with conductive fills, buried metallic material, changes in soil texture, or a change in moisture content.

In general, terrain conductivity anomalies fall into two distinct types. The first type represents a coupling of high and low conductivities. Typically this response is represented by a negative conductivity trough with high conductivity shoulders. This single pulse type response is typical of buried metallic material such as a drum, reinforcement bar, sheet metal, a UST, or other anomalous conductive material. Likewise, buried utilities or pipes provide a similar signature over several adjacent lines. The second type is usually an all high or all low response. Typically this response represents subtle changes in terrain conductivity and covers a large area. These anomalies are typical of sub-surface anomalously conductive soil, fill, and/or changes in moisture content or quality (as in the case of landfill leachate or salt water intrusion). Inphase anomalies are represented by either high or low responses. The character of the inphase response is partially dependent on the orientation of the buried metals relative to the orientation of the EM-31 (i.e. survey direction) during data acquisition. Linear objects which are present parallel to the survey direction generally produce a positive (high) response; linear objects oriented perpendicular to the survey direction generally produce a low (negative) response. Broad areas of buried metals may exhibit high or low inphase responses; the nature of the response is dependent on the surface area and depth of the metallic material.

3.0 GEOPHYSICAL SURVEY RESULTS

3.1 Sites 5 and 13

Figure 1 provides terrain conductivity data; Figure 2 presents the in-phase data. The majority of the surveyed area appears to be representative of background conductivity values within the depth of exploration of the EM-31. These values, indicated by the color green, were generally between 3 and 10 mS/m, typical of sandy soils. Areas exhibiting an inphase response close to zero, represented by the color green, are likely free of buried metals within the depth of investigation of the EM-31.

Six anomalies were marked in the field during the survey. Four of the six anomalies are present in the northern portion of the survey area at Site 13, northeast of the stand of trees trending northwest to southeast that bisects this portion of the survey area. Some surface debris was also observed in this

area. Anomalies were identified at Site 5 in proximity to Berm Area 1; anomalies were not detected in the vicinities of Berm Areas 2 and 3. The six anomalies are described as follows:

Anomaly 1 – Anomaly 1 is a negative conductivity anomaly at W270/N120, and may be representative of a void or anomalously conductive fill. It appears that buried metals are not prevalent at this location, due to the lack of a significant in-phase anomaly. This anomaly is in the approximate area of the northeastern edge of former Berm Area 1 at Site 5.

Anomaly 2 – Anomaly 2 is a significant negative conductivity anomaly along line W280 from N40 to N60. It is similar in signature to Anomaly 1 in that buried metals are not prevalent at this location, due to the lack of a significant in-phase anomaly. This anomaly is near what appears to be a concrete headwall and a standpipe/hydrant. The location of this anomaly corresponds to the southwestern edge of former Berm Area 1 at Site 5.

Anomalies 3/4 – These anomalies represent an area exhibiting a negative conductivity anomaly, at W350/N285 to W370/N307, and may be representative of anomalously conductive fill. Buried metals also appear to be present in the vicinity of W370/N285 and W370/N300 due to a negative in-phase anomaly. re not prevalent at this location, due to the lack of a significant in-phase anomaly.

Anomaly 5 - Anomaly 5 is a negative conductivity anomaly at W370/N220, and may be representative of a void or anomalously conductive fill. It appears that buried metals are not prevalent at this location, due to the lack of a significant in-phase anomaly.

Anomaly 6 - Anomaly 6 is a negative conductivity anomaly at W430/N300, and may be representative of a void or anomalously conductive fill. It appears that buried metals are not prevalent at this location, due to the lack of a significant in-phase anomaly.

3.2 Site 48

Figure 3 presents the terrain conductivity data; Figure 4 presents the in-phase data. The majority of the surveyed area appears to be representative of background conductivity values within the depth of exploration of the EM-31. These values, indicated by the colors yellow and orange, were generally between 3 and 10 mS/m, typical of sandy soils. An area of higher conductivity, indicated by the color red in the east-central portion of the survey area, may indicate a change in soil texture or moisture content. Areas exhibiting an inphase response close to zero, represented by the color green, are likely free of buried metals within the depth of investigation of the EM-31.

Three anomalies were marked in the field during the survey: a small in-phase anomaly was identified as Anomaly 1 at coordinates N120/E165; a negative conductivity anomaly was identified as Anomaly 2 at N140/E96, where surface metal was also observed, and a small conductivity/in-phase anomaly (Anomaly 3) at the edge of the survey area at N180/E190. Areas of surface metal and/or debris were identified at grid coordinates N60/E190, N100/E77, N110/E67, N140/E100, along line N150 at E180 and E155, along lines N180 and N190 from E60 to E85 and E55 to E73, respectively. Shallow, buried metallic material may also be present at these locations. These areas may warrant additional characterization via intrusive methods.

4.0 SUMMARY

The EM-31 surveys performed at NSWC White Oak are a non-intrusive, indirect method of sub-surface exploration. The anomalies described herein have been characterized to the extent that they produce recognizable responses when compared to background data. Additional characterization via intrusive methods is recommended to confirm the nature and extent of anomalies identified during the survey that cannot be explained by visible or other known features.

ATTACHMENT A

GEOPHYSICAL SURVEY DATA – SITES 5 & 13

SITE5

LINE: W0 Direction: N
Date: 3- 4- 2 Time: 13:44
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.326	-0.069
2.653	3.784	-0.014
5.306	3.388	0.040
7.959	3.112	0.206
10.612	3.052	0.112
13.265	2.900	-0.096
15.918	2.716	0.125
18.571	2.594	0.459
21.224	2.960	0.360
23.878	2.532	0.329
26.531	2.320	0.254
29.184	2.594	0.213
31.837	2.656	0.232
34.490	2.746	0.233
37.143	2.900	0.204
39.796	1.862	0.152
42.449	1.618	0.211
45.102	2.106	0.281
47.755	1.954	0.362
50.408	0.702	-0.175
53.061	0.488	-0.433
55.714	2.258	0.053
58.367	2.442	0.158
61.020	2.380	0.134
63.673	2.778	0.167
66.327	2.808	0.136
68.980	2.594	0.226
71.633	2.716	0.066
74.286	2.442	0.042
76.939	1.770	-0.025
79.592	2.106	0.299
82.245	2.380	0.085
84.898	2.594	0.347
87.551	2.960	0.353
90.204	2.410	-0.021
92.857	2.624	-0.253
95.510	2.472	-0.027
98.163	2.624	0.257
100.816	2.686	0.006
103.469	2.930	-0.196
106.122	2.900	-0.030
108.776	2.960	0.004
111.429	2.532	-0.006
114.082	2.656	0.145
116.735	2.746	-0.027
119.388	2.624	0.040
122.041	2.472	0.059
124.694	2.838	0.016
127.347	2.900	-0.205
130.000	2.624	0.204

---> Comment : N130

LINE: W10 Direction: S
Date: 3- 4- 2 Time: 13:47
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	2.746	-0.197
127.174	2.288	-0.129

124.348	2.380	-0.061
121.522	2.442	-0.131
118.696	2.350	-0.084
115.870	2.198	-0.052
113.043	2.564	-0.052
110.217	2.686	0.055
107.391	2.746	-0.027
104.565	2.624	0.062
101.739	2.808	0.039
98.913	2.656	-0.196
96.087	2.656	-0.082
93.261	2.746	0.165
90.435	2.746	-0.014
87.609	2.990	-0.148
84.783	3.052	-0.118
81.957	2.930	-0.078
79.130	2.808	-0.118
76.304	2.838	-0.164
73.478	2.624	-0.039
70.652	2.686	-0.041
67.826	2.900	-0.300
65.000	2.686	0.116
62.174	2.868	0.154
59.348	2.838	0.154
56.522	2.778	0.085
53.696	2.778	0.132
50.870	2.778	-0.264
48.043	3.022	-0.306
45.217	2.868	-0.225
42.391	2.930	-0.098
39.565	2.808	-0.041
36.739	2.656	0.077
33.913	2.532	0.061
31.087	2.656	-0.043
28.261	2.960	0.075
25.435	3.266	-0.054
22.609	3.052	0.006
19.783	2.960	0.210
16.957	2.930	0.382
14.130	2.716	0.404
11.304	2.900	0.208
8.478	2.868	0.055
5.652	2.990	0.015
2.826	3.174	0.072
0.000	3.326	-0.017

---> Comment : NO

LINE: W20 Direction: N
Date: 3- 4- 2 Time: 13:49
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.296	-0.379
2.955	3.296	-0.300
5.909	2.808	-0.166
8.864	2.594	-0.265
11.818	2.930	-0.102
14.773	2.716	0.094
17.727	2.808	0.055
20.682	2.532	0.175
23.636	2.716	0.187
26.591	2.442	-0.028
29.545	1.984	0.037
32.500	2.288	-0.203

35.455	2.716	-0.221
38.409	2.868	-0.199
41.364	2.838	0.004
44.318	3.266	0.167
47.273	2.900	0.415
50.227	2.410	0.404
53.182	2.900	0.419
56.136	3.602	0.189
59.091	3.296	0.182
62.045	2.808	-0.047
65.000	2.808	-0.192
67.955	3.144	-0.170
70.909	3.388	-0.080
73.864	2.990	0.079
76.818	3.022	0.173
79.773	3.022	0.143
82.727	2.930	0.118
85.682	2.960	0.184
88.636	2.900	0.217
91.591	3.082	0.167
94.545	3.540	-0.047
97.500	3.296	-0.043
100.455	3.052	-0.100
103.409	3.052	-0.084
106.364	3.112	-0.124
109.318	3.418	-0.098
112.273	3.602	0.259
115.227	3.326	0.202
118.182	3.174	0.213
121.136	3.418	0.044
124.091	3.602	-0.023
127.045	3.602	0.088
130.000	2.930	-0.416

---> Comment : N130

LINE: W30 Direction: S
Date: 3- 4- 2 Time: 13:51
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	2.716	-0.414
126.829	2.868	-0.444
123.659	2.930	-0.207
120.488	3.022	0.081
117.317	2.990	0.029
114.146	3.082	0.072
110.976	3.204	0.154
107.805	3.052	0.187
104.634	2.990	0.136
101.463	3.112	0.022
98.293	3.204	-0.196
95.122	3.204	-0.140
91.951	3.266	0.292
88.780	3.234	0.171
85.610	3.296	0.141
82.439	3.388	0.127
79.268	2.900	0.046
76.098	3.052	-0.008
72.927	3.022	0.342
69.756	3.418	0.362
66.585	3.326	0.586
63.415	3.052	0.261
60.244	3.052	0.141
57.073	3.204	0.105

53.902	3.204	-0.036
50.732	3.174	0.127
47.561	3.144	0.243
44.390	2.502	0.009
41.220	3.082	0.081
38.049	3.266	0.162
34.878	3.296	0.086
31.707	3.112	0.073
28.537	3.082	-0.332
25.366	2.044	-0.197
22.195	1.800	0.075
19.024	2.166	0.507
15.854	2.472	0.368
12.683	2.808	0.224
9.512	2.930	0.033
6.341	3.052	-0.069
3.171	2.532	-0.100
0.000	3.234	-0.377

---> Comment : NO

LINE: W40 Direction: N
Date: 3- 4- 2 Time: 13:52
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.570	-0.054
3.333	3.296	0.092
6.667	3.724	-0.133
10.000	3.418	-0.201
13.333	3.602	0.090
16.667	3.112	0.520
20.000	3.022	0.395
23.333	2.502	0.327
26.667	2.410	0.226
30.000	2.868	0.134
33.333	3.632	-0.017
36.667	3.204	-0.212
40.000	2.930	-0.071
43.333	2.930	-0.003
46.667	3.326	-0.085
50.000	3.356	-0.043
53.333	4.058	0.298
56.667	3.540	0.318
60.000	3.052	0.342
63.333	3.112	0.435
66.667	3.112	-0.084
70.000	3.234	-0.104
73.333	3.448	0.226
76.667	3.480	0.121
80.000	3.356	0.072
83.333	3.144	-0.174
86.667	3.022	-0.087
90.000	3.052	-0.065
93.333	3.632	0.116
96.667	3.266	0.123
100.000	2.930	0.079
103.333	3.388	0.028
106.667	3.388	0.175
110.000	3.876	0.110
113.333	3.448	0.171
116.667	3.174	0.202
120.000	3.174	0.287
123.333	3.022	0.217
126.667	3.082	0.336

130.000	3.936	-0.017

---> Comment : N130

LINE: W50 Direction: S
Date: 3- 4- 2 Time: 13:55
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	3.144	-0.600
126.750	3.052	-0.604
123.500	3.022	-0.616
120.250	2.868	-0.462
117.000	2.930	0.112
113.750	3.510	-0.221
110.500	3.266	-0.541
107.250	3.052	-0.324
104.000	3.082	-0.039
100.750	2.594	-0.139
97.500	2.930	-0.201
94.250	3.388	-0.131
91.000	3.234	-0.186
87.750	3.144	-0.174
84.500	3.144	-0.076
81.250	3.266	0.050
78.000	3.326	0.075
74.750	3.356	0.039
71.500	3.234	-0.387
68.250	3.234	-0.115
65.000	3.480	0.028
61.750	3.326	-0.151
58.500	3.418	-0.183
55.250	3.540	0.083
52.000	3.388	0.158
48.750	3.266	-0.150
45.500	3.296	-0.326
42.250	2.838	-0.324
39.000	2.838	-0.221
35.750	3.112	-0.183
32.500	2.778	-0.317
29.250	2.930	-0.420
26.000	3.112	-0.177
22.750	2.900	-0.129
19.500	3.234	-0.422
16.250	2.990	-0.460
13.000	3.356	-0.559
9.750	3.326	-0.258
6.500	3.174	0.118
3.250	3.266	-0.001
0.000	3.234	-0.389

---> Comment : N0

LINE: W60 Direction: N
Date: 3- 4- 2 Time: 13:56
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	2.868	0.571
3.171	3.082	-0.216
6.341	2.808	-0.600
9.512	2.990	-0.660
12.683	3.204	-0.403
15.854	3.266	-0.368
19.024	2.990	-0.126
22.195	3.204	-0.278
25.366	3.144	-0.434

28.537	3.418	0.112
31.707	3.388	-0.113
34.878	2.624	-0.273
38.049	2.380	-0.559
41.220	3.174	-0.390
44.390	3.112	-0.150
47.561	3.174	-0.205
50.732	2.838	-0.240
53.902	3.448	-0.367
57.073	2.990	0.070
60.244	3.968	-0.214
63.415	3.540	-0.225
66.585	3.448	-0.245
69.756	3.356	-0.286
72.927	4.242	-0.365
76.098	3.326	0.215
79.268	2.716	0.265
82.439	3.022	-0.050
85.610	2.868	-0.343
88.780	3.112	-0.563
91.951	3.082	-0.469
95.122	3.082	-0.578
98.293	3.052	-0.604
101.463	3.052	0.191
104.634	3.082	0.520
107.805	2.900	-0.030
110.976	3.234	-0.150
114.146	3.082	-0.010
117.317	3.112	0.026
120.488	3.570	-0.251
123.659	2.990	-0.385
126.829	3.052	-0.420
130.000	3.144	-0.350

---> Comment : N130

LINE: W70 Direction: S
Date: 3- 4- 2 Time: 13:58
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	3.662	-0.041
126.905	3.724	0.000
123.810	3.754	0.048
120.714	3.602	-0.008
117.619	3.356	-0.133
114.524	3.052	-0.381
111.429	3.082	-0.640
108.333	3.082	-0.727
105.238	3.082	-0.473
102.143	3.296	-0.626
99.048	2.930	-0.694
95.952	3.174	-0.682
92.857	3.662	-0.480
89.762	3.388	-0.488
86.667	2.960	-0.298
83.571	2.990	-0.094
80.476	3.022	-0.115
77.381	3.144	-0.128
74.286	3.448	-0.389
71.190	3.326	-0.462
68.095	3.356	-0.302
65.000	3.418	-0.462
61.905	3.448	-0.694
58.810	3.296	-0.548

55.714	3.388	-0.567
52.619	3.204	-0.670
49.524	3.326	-0.486
46.429	3.418	-0.328
43.333	3.326	-0.060
40.238	3.266	0.022
37.143	3.234	0.020
34.048	3.052	0.116
30.952	3.022	-0.098
27.857	3.448	-0.039
24.762	3.448	-0.008
21.667	3.724	-0.071
18.571	3.356	-0.093
15.476	3.266	-0.515
12.381	3.388	-0.482
9.286	3.418	-0.455
6.190	3.266	-0.471
3.095	3.082	-0.436
0.000	2.960	-0.157

---> Comment : NO

LINE: W80 Direction: N
Date: 3- 4- 2 Time: 14: 0
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.082	-0.313
3.171	2.930	-0.289
6.341	3.814	-0.453
9.512	3.234	-0.453
12.683	3.356	-0.298
15.854	3.022	-0.526
19.024	3.082	-0.466
22.195	3.022	-0.370
25.366	2.868	-0.339
28.537	3.082	-0.153
31.707	3.204	0.000
34.878	3.052	0.103
38.049	3.692	-0.021
41.220	3.692	0.184
44.390	3.266	-0.139
47.561	3.846	-0.032
50.732	3.112	-0.699
53.902	1.648	-1.842
57.073	1.220	-0.502
60.244	1.586	-0.234
63.415	1.404	-2.316
66.585	2.656	-1.214
69.756	3.448	-0.005
72.927	3.510	-0.028
76.098	2.076	-0.058
79.268	2.960	-0.060
82.439	3.022	-0.515
85.610	2.350	-0.657
88.780	2.930	-0.436
91.951	3.388	-0.289
95.122	3.326	-0.104
98.293	3.906	-0.054
101.463	3.602	-0.438
104.634	3.174	-0.405
107.805	3.296	-0.126
110.976	3.174	0.044
114.146	3.296	0.055
117.317	3.418	-0.126

120.488	3.418	-0.093
123.659	3.326	-0.185
126.829	3.356	-0.394
130.000	3.602	-0.721

---> Comment : N130

LINE: W90 Direction: S
Date: 3- 4- 2 Time: 14: 2
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	6.684	0.860
126.977	5.554	0.298
123.953	3.936	-0.120
120.930	3.418	-0.534
117.907	3.632	-0.122
114.884	4.120	-0.240
111.860	3.876	-0.181
108.837	3.418	-0.458
105.814	3.326	-0.543
102.791	3.510	-0.539
99.767	3.144	-0.486
96.744	3.112	-0.501
93.721	3.418	-0.038
90.698	3.388	-0.030
87.674	3.448	-0.041
84.651	3.356	0.007
81.628	3.510	-0.253
78.605	3.418	-0.361
75.581	3.234	-0.434
72.558	3.204	-0.376
69.535	3.234	-0.302
66.512	3.266	-0.025
63.488	3.326	-0.210
60.465	3.356	-0.616
57.442	3.234	-0.543
54.419	3.356	-0.390
51.395	3.356	-0.219
48.372	3.266	-0.106
45.349	3.296	-0.122
42.326	3.266	-0.207
39.302	3.326	-0.243
36.279	3.204	-0.451
33.256	3.174	-0.594
30.233	3.388	-0.434
27.209	3.174	-0.490
24.186	3.234	-0.541
21.163	3.418	-0.229
18.140	3.356	-0.146
15.116	3.662	-0.620
12.093	3.540	-0.848
9.070	3.418	-0.826
6.047	3.174	-0.793
3.023	3.144	-0.778

---> Comment : N0

0.000	3.112	-0.716

LINE: W100 Direction: N
Date: 3- 4- 2 Time: 14: 3
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.448	-0.798
3.250	2.930	-0.833
6.500	3.418	-0.791

9.750	3.448	-1.063
13.000	1.862	-0.324
16.250	2.472	0.039
19.500	3.724	-0.170
22.750	3.448	-0.447
26.000	3.418	-0.335
29.250	3.326	-0.212
32.500	3.266	-0.370
35.750	3.326	-0.585
39.000	3.174	-0.385
42.250	3.174	-0.113
45.500	3.204	-0.015
48.750	3.022	-0.179
52.000	3.356	-0.493
55.250	2.990	-0.583
58.500	3.418	-0.550
61.750	3.326	-0.629
65.000	3.266	-0.507
68.250	3.784	-0.411
71.500	3.418	-0.802
74.750	3.144	-0.611
78.000	2.624	0.152
81.250	2.288	-0.140
84.500	2.656	-0.493
87.750	3.724	-0.297
91.000	3.936	-0.245
94.250	3.876	-0.240
97.500	3.174	-0.153
100.750	3.266	-0.212
104.000	3.174	-0.168
107.250	3.814	-0.072
110.500	3.998	-0.207
113.750	4.028	-0.163
117.000	3.876	-0.098
120.250	4.272	-0.525
123.500	4.456	-0.598
126.750	3.632	-0.332
130.000	3.266	-1.366

---> Comment : N130

LINE: W110 Direction: S
Date: 3- 4- 2 Time: 14: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	3.022	-0.995
126.829	3.296	-0.477
123.659	3.540	-0.646
120.488	4.792	-0.412
117.317	4.944	-0.642
114.146	3.754	-0.455
110.976	3.448	-0.082
107.805	3.540	-0.332
104.634	3.418	-0.581
101.463	3.936	-0.593
98.293	3.998	-0.403
95.122	3.784	-0.414
91.951	3.784	-0.383
88.780	3.570	-0.256
85.610	3.692	-0.620
82.439	3.846	-0.587
79.268	3.662	-0.094
76.098	3.540	-0.429
72.927	3.448	-0.344

69.756	3.266	-0.144
66.585	3.266	-0.175
63.415	3.296	-0.440
60.244	3.296	-0.681
57.073	3.144	-0.525
53.902	3.022	-0.394
50.732	3.144	-0.129
47.561	3.296	-0.069
44.390	3.082	-0.464
41.220	3.388	-0.298
38.049	3.510	-0.098
34.878	3.082	-0.148
31.707	3.418	-0.238
28.537	3.448	-0.276
25.366	3.174	-0.466
22.195	3.356	-0.409
19.024	3.448	-0.447
15.854	3.692	-0.337
12.683	3.998	-0.365
9.512	3.754	-0.453
6.341	3.692	-0.468
3.171	3.510	-0.434
0.000	3.296	-0.502

---> Comment : NO

LINE: W120 Direction: N
Date: 3- 4- 2 Time: 14: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.296	-0.205
3.514	2.594	-0.298
7.027	3.602	-0.330
10.541	3.936	-0.276
14.054	3.692	-0.581
17.568	3.570	-0.675
21.081	3.754	-0.850
24.595	3.540	-0.528
28.108	3.326	-0.488
31.622	3.662	-0.069
35.135	2.990	-0.085
38.649	2.960	-0.071
42.162	3.266	-0.012
45.676	3.418	-0.205
49.189	3.326	-0.151
52.703	3.296	-0.324
56.216	3.234	-0.574
59.730	3.326	-0.286
63.243	2.868	-0.486
66.757	3.174	-0.265
70.270	3.692	-0.096
73.784	3.418	-0.034
77.297	3.204	-0.115
80.811	3.540	-0.120
84.324	3.692	-0.188
87.838	3.510	-0.019
91.351	3.418	-0.113
94.865	3.570	-0.190
98.378	4.302	-0.256
101.892	4.058	-0.164
105.405	3.724	0.035
108.919	3.784	-0.284
112.432	4.150	-0.153
115.946	4.364	0.057

119.459	4.272	-0.258
122.973	4.120	-0.155
126.486	4.852	-0.418
130.000	4.974	-0.513

---> Comment : N130

LINE: W130 Direction: S
Date: 3- 4- 2 Time: 14: 7
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
130.000	3.234	-0.831
126.667	3.144	-0.716
123.333	3.144	-0.497
120.000	2.960	-0.620
116.667	3.754	-0.473
113.333	3.876	-0.355
110.000	4.028	-0.464
106.667	3.998	-0.311
103.333	4.028	-0.032
100.000	3.906	-0.117
96.667	3.602	-0.444
93.333	3.448	-0.425
90.000	4.090	-0.390
86.667	3.968	-0.267
83.333	3.906	-0.289
80.000	3.540	-0.315
76.667	3.356	-0.513
73.333	3.356	-0.455
70.000	3.662	-0.298
66.667	3.662	-0.379
63.333	3.326	-0.355
60.000	3.296	-0.387
56.667	3.448	-0.411
53.333	3.204	-0.640
50.000	2.532	-0.660
46.667	2.320	-0.502
43.333	2.198	-0.107
40.000	3.052	0.015
36.667	3.480	-0.163
33.333	3.510	-0.219
30.000	3.632	-0.352
26.667	2.960	-0.517
23.333	3.266	-0.484
20.000	3.876	-0.456
16.667	3.692	-0.484
13.333	3.936	-0.585
10.000	3.998	-0.587
6.667	3.998	-0.537
3.333	4.120	-0.842
0.000	3.876	-0.789

---> Comment : N0

LINE: W140 Direction: N
Date: 3- 4- 2 Time: 14: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.448	-0.453
3.333	3.936	-0.324
6.667	3.784	-0.111
10.000	3.418	-0.205
13.333	3.510	-0.267
16.667	3.814	-0.330
20.000	3.784	-0.736

23.333	3.602	-0.949
26.667	3.692	-0.662
30.000	4.028	-0.462
33.333	3.356	-0.276
36.667	3.266	-0.267
40.000	3.510	-0.416
43.333	3.968	-0.335
46.667	4.058	-0.365
50.000	3.480	-0.449
53.333	3.510	-0.253
56.667	3.936	-0.190
60.000	3.724	-0.166
63.333	3.936	-0.286
66.667	3.692	-0.317
70.000	2.808	-0.383
73.333	3.662	-0.618
76.667	3.724	-0.734
80.000	3.814	-0.626
83.333	3.846	-0.548
86.667	4.090	-0.163
90.000	3.662	-0.295
93.333	3.480	-0.328
96.667	3.602	-0.512
100.000	4.242	-0.502
103.333	3.814	-0.311
106.667	4.028	-0.282
110.000	4.670	-0.672
113.333	4.426	-0.754
116.667	3.356	-0.253
120.000	3.846	0.085
123.333	3.480	-0.163
126.667	3.418	-0.456
130.000	4.212	-1.010

---> Comment : N130

LINE: W150 Direction: S
Date: 3- 4- 2 Time: 14:11
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	4.516	-0.348
196.296	4.302	-0.379
192.593	4.058	-0.212
188.889	4.272	-0.253
185.185	4.486	-0.637
181.481	4.212	-0.615
177.778	4.212	-0.201
174.074	4.302	-1.063
170.370	4.822	-0.732
166.667	5.036	-0.135
162.963	4.608	-0.093
159.259	4.760	-0.416
155.556	4.914	-0.280
151.852	4.394	-0.392
148.148	4.242	-0.512
144.444	4.334	-0.585
140.741	4.426	-0.469
137.037	4.426	-0.523
133.333	3.784	-0.547
129.630	3.510	-0.539
125.926	4.058	-0.190
122.222	4.334	-0.464
118.519	4.638	-0.651
114.815	4.456	-0.675

111.111	4.058	-0.567
107.407	3.876	-0.389
103.704	3.906	-0.556
100.000	3.784	-0.567
96.296	3.784	-0.537
92.593	3.510	-0.589
88.889	3.876	-0.234
85.185	4.028	-0.229
81.481	3.724	-0.387
77.778	3.662	-0.346
74.074	3.296	-0.354
70.370	3.082	-0.802
66.667	3.724	-0.322
62.963	3.692	-0.321
59.259	3.510	-0.591
55.556	3.480	-0.466
51.852	3.388	-0.414
48.148	3.266	-0.150
44.444	3.480	-0.091
40.741	3.418	-0.234
37.037	3.754	-0.385
33.333	3.784	-0.769
29.630	3.724	-0.824
25.926	3.814	-0.346
22.222	3.876	-0.657
18.519	3.998	-0.611
14.815	3.876	-0.578
11.111	4.120	-0.456
7.407	4.272	-0.407
3.704	4.212	-0.580
0.000	4.212	-0.774

---> Comment : NO

LINE: W160 Direction: N
Date: 3- 4- 2 Time: 14:13
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.846	-0.672
3.571	3.724	-0.473
7.143	3.692	-0.387
10.714	3.022	-0.155
14.286	4.120	-0.642
17.857	4.058	-0.495
21.429	4.090	-0.300
25.000	3.724	-0.390
28.571	3.814	-0.480
32.143	3.968	-0.561
35.714	4.944	-0.321
39.286	4.090	-0.291
42.857	3.784	-0.372
46.429	3.448	-0.392
50.000	3.662	-0.583
53.571	3.632	-0.400
57.143	3.632	-0.367
60.714	3.754	-0.229
64.286	3.846	-0.376
67.857	3.724	-0.401
71.429	3.602	-0.372
75.000	3.724	-0.418
78.571	3.936	-0.420
82.143	3.632	-0.488
85.714	3.388	-0.547
89.286	3.144	-0.449

92.857	3.754	-0.519
96.429	3.814	-0.400
100.000	3.724	-0.304
103.571	3.998	-0.276
107.143	4.090	-0.368
110.714	4.364	-0.326
114.286	4.822	-0.447
117.857	4.670	-0.390
121.429	4.608	-0.468
125.000	4.516	-0.370
128.571	4.212	-0.295
132.143	4.426	-0.190
135.714	4.548	-0.403
139.286	3.876	-0.727
142.857	4.212	-0.585
146.429	5.158	-0.501
150.000	4.638	-0.365
153.571	4.456	-0.679
157.143	4.180	-0.594
160.714	4.426	-0.620
164.286	4.760	-0.453
167.857	4.792	-0.642
171.429	3.602	-0.684
175.000	3.022	-0.629
178.571	3.112	-0.585
182.143	1.190	-1.653
185.714	2.532	-1.500
189.286	4.272	-0.565
192.857	4.548	-0.269
196.429	3.968	-0.447
200.000	5.126	-0.931

---> Comment : N200

LINE: W170 Direction: S
Date: 3- 4- 2 Time: 14:14
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	3.906	-0.201
196.610	4.090	-0.082
193.220	4.730	-0.484
189.830	4.456	-0.414
186.441	4.364	-0.271
183.051	4.090	-0.137
179.661	4.426	0.029
176.271	4.120	-0.135
172.881	4.272	-0.418
169.492	4.486	-0.464
166.102	4.670	-0.374
162.712	4.822	-0.330
159.322	4.486	-0.372
155.932	4.456	-0.315
152.542	4.760	-0.556
149.153	4.578	-0.420
145.763	4.914	-0.317
142.373	4.608	-0.357
138.983	4.334	-0.425
135.593	3.906	-0.475
132.203	4.150	-0.060
128.814	4.242	-0.242
125.424	4.426	-0.298
122.034	4.426	-0.231
118.644	4.394	-0.412
115.254	4.516	-0.486

111.864	4.272	-0.550
108.475	3.998	-0.293
105.085	3.724	-0.304
101.695	3.662	-0.519
98.305	3.326	-0.344
94.915	3.112	-0.060
91.525	3.112	-0.113
88.136	3.692	-0.512
84.746	4.150	-0.383
81.356	3.936	-0.438
77.966	3.936	-0.326
74.576	4.120	-0.456
71.186	3.846	-0.078
67.797	3.906	-0.300
64.407	3.876	-0.622
61.017	3.692	-0.646
57.627	3.692	-0.550
54.237	3.632	-0.389
50.847	3.724	-0.319
47.458	3.662	-0.271
44.068	3.936	-0.372
40.678	3.692	-0.502
37.288	3.540	-0.438
33.898	3.754	-0.278
30.508	3.784	-0.245
27.119	3.814	-0.315
23.729	3.846	-0.372
20.339	4.150	-0.668
16.949	3.876	-0.804
13.559	4.058	-0.550
10.169	3.968	-0.416
6.780	3.876	-0.442
3.390	4.090	-0.532
0.000	4.302	-0.513

---> Comment : NO

LINE: W180 Direction: N
Date: 3- 4- 2 Time: 14:16
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	4.670	-0.587
3.226	4.394	-0.631
6.452	4.150	-0.602
9.677	3.754	-0.499
12.903	4.028	-0.326
16.129	2.686	-0.286
19.355	2.868	-0.286
22.581	3.876	-0.697
25.806	4.302	-0.745
29.032	3.724	-0.418
32.258	3.356	-0.648
35.484	3.692	-0.456
38.710	3.540	-0.567
41.935	2.990	-0.697
45.161	3.388	-0.593
48.387	3.662	-0.585
51.613	3.754	-0.497
54.839	3.570	-0.396
58.065	4.028	-0.429
61.290	3.936	-0.150
64.516	3.784	-0.058
67.742	3.234	-1.252
70.968	2.502	-2.470

74.194	2.320	-2.112
77.419	2.838	-0.844
80.645	3.906	0.037
83.871	4.608	-0.174
87.097	4.090	-0.594
90.323	3.814	-0.598
93.548	3.846	-0.547
96.774	4.272	-0.451
100.000	4.944	-0.368
103.226	4.394	-0.332
106.452	4.242	-0.357
109.677	3.998	-0.423
112.903	4.302	-0.433
116.129	5.462	-0.929
119.355	4.760	-0.679
122.581	4.334	-0.264
125.806	4.426	-0.269
129.032	4.334	-0.288
132.258	4.882	-0.185
135.484	5.280	-0.288
138.710	4.150	-0.565
141.935	4.516	-0.598
145.161	4.914	-0.616
148.387	4.974	-0.488
151.613	4.638	-0.313
154.839	4.456	-0.409
158.065	5.126	-0.513
161.290	5.126	-0.523
164.516	4.822	-0.434
167.742	4.700	-0.532
170.968	4.364	-0.434
174.194	4.670	-0.177
177.419	5.096	-0.203
180.645	4.242	-0.308
183.871	4.760	-0.486
187.097	4.822	-0.519
190.323	4.822	-0.547
193.548	4.944	-0.548
196.774	4.486	-0.677
200.000	4.364	-0.714

---> Comment : N200

LINE: W190 Direction: S
Date: 3- 4- 2 Time: 14:18
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	4.058	-0.761
196.610	4.364	-0.392
193.220	4.822	-0.554
189.830	4.730	-0.539
186.441	4.394	-0.278
183.051	4.150	-0.102
179.661	4.486	-0.183
176.271	4.578	-0.374
172.881	4.394	-0.381
169.492	4.608	-0.464
166.102	4.578	-0.495
162.712	4.730	-0.374
159.322	5.096	-0.293
155.932	5.250	-0.495
152.542	5.066	-0.469
149.153	5.218	-0.552
145.763	5.280	-0.436

142.373	5.676	-0.541
138.983	5.798	-0.602
135.593	5.768	-0.367
132.203	5.402	-0.543
128.814	5.188	-0.548
125.424	5.004	-0.609
122.034	4.852	-0.468
118.644	4.730	-0.260
115.254	4.730	-0.600
111.864	4.944	-0.357
108.475	4.730	-0.357
105.085	4.456	-0.423
101.695	4.364	-0.515
98.305	4.456	-0.449
94.915	4.212	-0.374
91.525	3.906	-0.282
88.136	4.058	-0.313
84.746	3.936	-0.493
81.356	3.692	-0.519
77.966	3.936	-0.532
74.576	3.906	-0.170
71.186	4.272	-0.174
67.797	4.028	-0.324
64.407	3.936	-0.407
61.017	3.998	-0.298
57.627	3.846	-0.616
54.237	4.028	-0.565
50.847	4.120	-0.504
47.458	4.150	-0.502
44.068	4.180	-0.589
40.678	4.090	-0.517
37.288	3.814	-0.433
33.898	3.846	-0.288
30.508	3.968	-0.422
27.119	3.906	-0.442
23.729	3.724	-0.422
20.339	4.394	-0.433
16.949	4.212	-0.517
13.559	3.906	-0.591
10.169	3.936	-0.446
6.780	3.936	-0.416
3.390	4.548	-0.462
0.000	4.456	-0.507

---> Comment : NO

LINE: W200 Direction: N
Date: 3- 4- 2 Time: 14:19
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	5.158	-0.576
3.333	5.462	-0.826
6.667	4.974	-0.594
10.000	4.670	-0.442
13.333	3.968	-0.262
16.667	3.814	-0.267
20.000	4.242	-0.556
23.333	3.906	-0.684
26.667	3.846	-0.418
30.000	4.180	-0.401
33.333	4.334	-0.550
36.667	4.180	-0.668
40.000	3.754	-0.728
43.333	3.968	-0.631

46.667	3.204	-0.456
50.000	3.724	-0.556
53.333	3.388	-0.256
56.667	3.754	-0.319
60.000	3.906	-0.332
63.333	3.480	-0.293
66.667	3.784	-0.550
70.000	3.724	-0.458
73.333	3.814	-0.276
76.667	3.724	-0.344
80.000	3.266	-0.574
83.333	3.632	-0.626
86.667	3.876	-0.368
90.000	3.356	-0.179
93.333	3.662	-0.451
96.667	4.242	-0.519
100.000	4.150	-0.488
103.333	4.426	-0.479
106.667	4.272	-0.512
110.000	4.394	-0.567
113.333	4.516	-0.813
116.667	4.548	-0.703
120.000	4.792	-0.486
123.333	4.944	-0.444
126.667	4.638	-0.482
130.000	5.036	-0.513
133.333	5.188	-0.482
136.667	5.188	-0.392
140.000	5.432	-0.321
143.333	5.920	-0.440
146.667	5.432	-0.530
150.000	5.494	-0.554
153.333	5.372	-0.570
156.667	5.524	-0.495
160.000	5.494	-0.449
163.333	5.066	-0.429
166.667	5.340	-0.532
170.000	5.126	-0.436
173.333	4.792	-0.471
176.667	4.882	-0.455
180.000	4.852	-0.525
183.333	4.608	-0.396
186.667	4.516	-0.528
190.000	4.548	-0.710
193.333	4.670	-0.624
196.667	4.516	-0.697
200.000	4.028	-0.765

---> Comment : N200

LINE: W210 Direction: S
Date: 3- 4- 2 Time: 14:21
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	3.814	-0.502
196.774	3.814	-0.719
193.548	3.144	-0.955
190.323	4.426	-0.242
187.097	4.730	-0.164
183.871	4.792	-0.442
180.645	4.914	-0.368
177.419	5.402	-0.499
174.194	5.584	-0.537
170.968	5.798	-0.502

167.742	4.974	-0.613
164.516	4.914	-0.484
161.290	5.280	-0.383
158.065	5.340	-0.183
154.839	5.706	-0.495
151.613	5.676	-0.589
148.387	5.616	-0.558
145.161	5.646	-0.525
141.935	5.738	-0.648
138.710	5.402	-0.429
135.484	5.676	-0.348
132.258	5.280	-0.458
129.032	5.158	-0.407
125.806	5.250	-0.567
122.581	5.218	-0.499
119.355	4.822	-0.705
116.129	4.700	-0.692
112.903	4.548	-0.526
109.677	4.272	-0.377
106.452	4.608	-0.512
103.226	4.638	-0.507
100.000	4.486	-0.587
96.774	4.456	-0.543
93.548	4.548	-0.519
90.323	4.120	-0.589
87.097	4.090	-0.475
83.871	3.906	-0.396
80.645	4.120	-0.490
77.419	4.456	-0.530
74.194	4.180	-0.506
70.968	4.272	-0.488
67.742	4.150	-0.376
64.516	3.936	-0.504
61.290	4.120	-0.374
58.065	4.272	-0.398
54.839	4.272	-0.412
51.613	4.426	-0.593
48.387	4.150	-0.507
45.161	3.936	-0.475
41.935	3.906	-0.311
38.710	3.876	-0.300
35.484	4.090	-0.484
32.258	3.906	-0.774
29.032	3.632	-0.758
25.806	3.326	-0.672
22.581	3.266	-0.499
19.355	2.532	-0.282
16.129	3.448	-0.164
12.903	4.180	-0.438
9.677	4.120	-0.322
6.452	4.670	-0.434
3.226	5.158	-0.216
0.000	5.126	-0.598

---> Comment : NO

LINE: W220 Direction: N
Date: 3- 4- 2 Time: 14:23
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	5.432	-0.620
3.125	5.616	-0.664
6.250	6.072	-0.420
9.375	4.914	-0.355

12.500	3.754	-0.333
15.625	4.242	-0.574
18.750	4.212	-0.216
21.875	3.846	-0.537
25.000	3.448	-0.569
28.125	3.998	-0.436
31.250	3.692	-0.491
34.375	3.356	-0.475
37.500	3.388	-0.456
40.625	3.602	-0.412
43.750	3.632	-0.262
46.875	3.876	-0.390
50.000	3.570	-0.390
53.125	3.724	-0.205
56.250	3.754	-0.181
59.375	4.180	-0.231
62.500	4.394	-0.690
65.625	4.212	-0.605
68.750	4.150	-0.344
71.875	4.212	-0.506
75.000	4.180	-0.622
78.125	3.968	-0.528
81.250	4.212	-0.591
84.375	4.028	-0.468
87.500	3.998	-0.506
90.625	4.028	-0.914
93.750	4.394	-0.875
96.875	3.510	-0.690
100.000	3.906	-0.670
103.125	4.364	-0.484
106.250	4.394	-0.539
109.375	4.548	-0.556
112.500	4.486	-0.677
115.625	4.058	-0.611
118.750	4.272	-0.493
121.875	4.548	-0.530
125.000	4.548	-0.626
128.125	4.548	-0.480
131.250	4.760	-0.927
134.375	5.066	-0.969
137.500	5.554	-0.907
140.625	5.004	-0.455
143.750	4.974	-0.390
146.875	4.670	-0.495
150.000	5.462	-0.537
153.125	5.920	-0.387
156.250	5.676	-0.631
159.375	5.524	-0.512
162.500	5.554	-0.552
165.625	5.462	-0.539
168.750	5.616	-0.416
171.875	5.768	-0.442
175.000	5.554	-0.203
178.125	5.950	-0.157
181.250	6.104	-0.721
184.375	5.738	-0.701
187.500	5.188	-0.635
190.625	4.914	-0.657
193.750	4.944	-0.620
196.875	4.516	-0.401
200.000	4.150	-0.717

---> Comment : N200

LINE: W230 Direction: S

SITE5

Date: 3- 4- 2 Time: 14:25
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	4.670	-0.951
196.610	4.822	-1.005
193.220	5.340	-0.892
189.830	5.188	-0.675
186.441	5.158	-0.451
183.051	5.188	-0.475
179.661	5.524	-0.429
176.271	5.402	-0.488
172.881	5.646	-0.504
169.492	5.798	-0.697
166.102	5.860	-0.611
162.712	5.554	-0.486
159.322	5.768	-0.569
155.932	5.920	-0.548
152.542	6.196	-0.526
149.153	6.440	-0.536
145.763	6.318	-0.602
142.373	5.768	-0.124
138.983	5.768	-0.328
135.593	5.646	-0.412
132.203	5.310	-0.324
128.814	4.944	-0.389
125.424	5.126	-0.471
122.034	5.250	-0.394
118.644	5.188	-0.214
115.254	5.218	-0.488
111.864	5.096	-0.550
108.475	4.882	-0.532
105.085	5.096	-0.583
101.695	4.882	-0.480
98.305	5.036	-0.547
94.915	4.700	-0.367
91.525	4.700	-0.139
88.136	4.882	-0.236
84.746	4.456	-0.311
81.356	4.608	-0.512
77.966	4.730	-0.425
74.576	4.852	-0.427
71.186	5.036	-0.589
67.797	4.822	-0.504
64.407	4.760	-0.253
61.017	4.700	-0.633
57.627	4.334	-0.771
54.237	4.302	-0.418
50.847	4.028	-0.607
47.458	4.058	-0.460
44.068	4.120	-0.209
40.678	4.028	-0.374
37.288	4.212	-0.392
33.898	3.968	-0.253
30.508	4.212	-0.264
27.119	4.852	-0.267
23.729	5.462	-0.256
20.339	6.256	-0.401
16.949	6.286	-0.188
13.559	6.196	-0.313
10.169	6.042	-0.310
6.780	6.348	-0.223
3.390	6.470	-0.253

.000 7.142 -0.545

---> Comment : N0

LINE: W240 Direction: N

Date: 3- 4- 2 Time: 14:27

Component: Both Dipole mode: Vertical Instrument Orientation: 1

Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	-19.866	-5.884
3.390	7.690	0.617
6.780	19.042	0.959
10.169	7.080	-2.333
---> Comment : 5GW02		
13.559	5.554	-2.974
16.949	-3.144	-6.131
20.339	22.492	1.044
23.729	15.168	1.341
27.119	5.188	-0.354
30.508	5.340	-0.692
33.898	5.280	-0.859
37.288	4.822	-0.602
40.678	3.936	-0.453
44.068	3.968	-0.416
47.458	4.212	-0.400
50.847	3.998	-0.324
54.237	3.510	0.220
57.627	4.058	0.073
61.017	4.058	-0.295
64.407	4.852	-0.082
67.797	4.670	-0.177
71.186	4.700	-0.076
74.576	4.792	-0.429
77.966	4.700	-0.497
81.356	3.936	-0.705
84.746	4.548	-0.497
88.136	4.792	-0.414
91.525	4.608	-0.365
94.915	4.486	-0.681
98.305	4.730	-0.640
101.695	4.974	-0.615
105.085	4.608	-0.712
108.475	4.760	-0.640
111.864	4.914	-0.543
115.254	4.730	-0.569
118.644	5.280	-0.315
122.034	5.250	-0.833
125.424	4.852	-0.813
128.814	5.096	-0.725
132.203	5.372	-0.477
135.593	5.616	-0.576
138.983	5.218	-0.530
142.373	5.676	-0.519
145.763	5.982	-0.427
149.153	6.072	-0.379
152.542	6.652	-0.515
155.932	6.256	-0.482
159.322	6.072	-0.515
162.712	5.524	-0.558
166.102	5.310	-0.666
169.492	5.890	-0.776
172.881	6.134	-0.769
176.271	5.676	-0.795
179.661	4.822	-0.510
183.051	4.760	-0.446

186.441	5.462	-0.587
189.830	5.310	-0.631
193.220	4.882	-0.650
196.610	5.188	-0.475
200.000	5.310	-0.446

---> Comment : N200

LINE: W250 Direction: S
Date: 3- 4- 2 Time: 14:30
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	4.822	-0.796
196.774	4.852	-0.739
193.548	4.852	-0.616
190.323	5.126	-0.455
187.097	5.738	-0.420
183.871	6.104	-0.507
180.645	6.318	-0.519
177.419	6.134	-0.525
174.194	6.684	-0.589
170.968	6.774	-0.379
167.742	6.806	-0.558
164.516	6.806	-0.585
161.290	6.806	-0.581
158.065	6.318	-0.668
154.839	5.646	-0.512
151.613	6.042	-0.475
148.387	5.738	-0.763
145.161	5.524	-0.918
141.935	6.774	-0.605
138.710	6.958	-0.304
135.484	6.988	-0.350
132.258	6.958	-0.210
129.032	6.866	-0.600
125.806	7.172	-0.512
122.581	6.896	-0.556
119.355	6.744	-0.580
116.129	7.020	-0.660
112.903	7.232	-0.587
109.677	7.110	-0.521
106.452	6.378	-0.392
103.226	5.646	-0.456
100.000	5.828	-0.504
96.774	5.890	-0.433
93.548	5.890	-0.412
90.323	5.920	-0.214
87.097	5.554	-0.271
83.871	5.462	-0.605
80.645	5.462	-0.479
77.419	5.310	-0.372
74.194	5.706	-0.308
70.968	6.286	-0.047
67.742	7.752	0.344
64.516	8.332	0.643
61.290	13.458	4.425
58.065	13.428	4.678
54.839	10.132	2.861
51.613	6.500	0.797
48.387	5.982	0.630
45.161	6.042	0.630
41.935	6.470	0.445
38.710	6.622	-0.146
35.484	4.974	-0.681

32.258	3.356	-0.745
29.032	3.174	0.160
25.806	1.618	1.420
22.581	6.134	1.385
19.355	9.186	0.873
16.129	10.376	0.825
12.903	11.170	-1.070
9.677	12.786	-0.686
6.452	13.276	0.004
3.226	13.366	0.210
0.000	12.726	0.072

---> Comment : NO

LINE: W260 Direction: N
Date: 3- 4- 2 Time: 14:33
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	16.358	0.000
3.125	25.756	0.211
6.250	19.562	-0.047
9.375	-7.232	-0.833
12.500	5.768	-0.760
15.625	7.904	-0.122
18.750	11.994	0.252
21.875	5.158	-0.282
25.000	6.684	-0.155
28.125	8.758	0.130
31.250	6.958	-0.705
34.375	7.844	-0.739
37.500	6.196	-2.603
40.625	-10.804	-14.614
43.750	-39.550	-24.768
46.875	-7.019	-8.734

---> Comment :

50.000	-69.122	-24.775

---> Comment : HDWALL

53.125	-53.679	-24.683
56.250	18.586	-4.591
59.375	19.042	3.142
62.500	6.744	0.603
65.625	4.914	-0.732
68.750	6.318	-0.662
71.875	6.530	-0.377
75.000	5.890	-0.330
78.125	5.280	-0.561
81.250	5.432	-0.436
84.375	6.592	-0.539
87.500	6.774	-0.664
90.625	6.836	-0.675
93.750	6.042	-0.541
96.875	4.700	0.020
100.000	3.846	0.162
103.125	5.066	-0.120
106.250	5.616	-0.594
109.375	6.562	-0.447
112.500	8.300	-0.692
115.625	8.576	-0.692
118.750	9.034	-0.664
121.875	8.972	-0.593
125.000	8.636	-0.660
128.125	7.874	-0.434
131.250	7.844	-0.451
134.375	7.812	-0.447

137.500	8.026	-0.567
140.625	7.508	-0.462
143.750	7.264	-0.389
146.875	7.172	-0.469
150.000	6.774	-0.541
153.125	6.684	-0.561
156.250	6.714	-0.605
159.375	6.652	-0.455
162.500	7.110	-0.453
165.625	7.232	-0.455
168.750	7.050	-0.570
171.875	7.324	-0.526
175.000	6.928	-0.383
178.125	6.836	-0.368
181.250	6.500	-0.333
184.375	6.592	-0.330
187.500	6.744	-0.350
190.625	6.134	-0.212
193.750	5.402	-0.310
196.875	5.616	-0.328
200.000	4.760	-0.409

---> Comment : N200

LINE: W270 Direction: S
Date: 3- 4- 2 Time: 14:36
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	6.072	-0.407
196.970	5.920	-0.433
193.939	5.280	-0.453
190.909	4.700	-0.197
187.879	4.302	-0.067
184.848	4.028	-0.688
181.818	6.318	-0.993
178.788	7.844	-0.377
175.758	7.660	-0.216
172.727	7.508	-0.359
169.697	7.354	-0.210
166.667	7.660	-0.339
163.636	7.966	-0.354
160.606	8.270	-0.517
157.576	8.606	-0.484
154.545	8.820	-0.565
151.515	8.972	-0.504
148.485	8.636	-0.670
145.455	9.186	-0.396
142.424	9.674	-0.396
139.394	9.582	-0.703
136.364	7.660	-1.008
133.333	3.174	-1.155
130.303	-3.052	-1.289
127.273	-8.543	-0.107
124.242	-10.102	2.341
121.212	-11.322	4.838

---> Comment : ANOM1

118.182	-10.406	4.267
115.152	-9.215	2.503
112.121	-3.936	-1.465
109.091	8.942	-0.681
106.061	10.620	-0.387
103.030	10.438	-0.455
100.000	10.162	-0.554
96.970	9.858	-0.480

93.939	9.308	-0.477
90.909	9.124	-0.390
87.879	8.544	-0.407
84.848	8.332	-0.507
81.818	8.210	-0.469
78.788	8.270	-0.434
75.758	7.720	-0.311
72.727	7.844	-0.411
69.697	8.210	-0.436
66.667	8.850	-0.286
63.636	10.132	-0.308
60.606	11.750	-0.163
57.576	14.344	0.220
54.545	17.090	1.779
51.515	14.404	-1.013
48.485	9.216	4.730
45.455	8.362	4.178

---> Comment : MHOLE

42.424	6.134	4.559
39.394	-3.905	-0.767
36.364	-9.064	-7.121
33.333	-2.106	-1.671
30.303	1.586	0.616
27.273	5.798	0.333
24.242	16.694	0.040
21.212	24.598	0.156
18.182	21.912	0.068
15.152	25.176	0.151
12.121	27.496	0.145
9.091	26.702	0.366
6.061	26.000	0.415
3.030	25.512	0.141
0.000	22.858	0.353

---> Comment : NO

LINE: W280 Direction: N
Date: 3- 4- 2 Time: 14:41
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
0.000	14.222	-0.041
3.226	14.526	0.044
6.452	14.924	0.178
9.677	15.716	0.371
12.903	15.838	0.390
16.129	16.572	0.252
19.355	16.296	0.230
22.581	16.174	0.287
25.806	15.624	0.252
29.032	15.380	0.226
32.258	14.740	-0.236
35.484	15.136	0.016
38.710	17.028	-0.089
41.935	-2.746	0.024
45.161	-0.945	0.112
48.387	-25.360	-0.618
51.613	-33.752	-0.653
54.839	-26.428	-0.756

---> Comment : ANOM2

58.065	-23.896	-0.830
61.290	-4.730	-0.725
64.516	15.076	-1.116
67.742	20.416	-0.411
70.968	16.754	-0.330

74.194	13.122	-0.381
77.419	11.506	-0.387
80.645	10.224	-0.049
83.871	8.118	0.028
87.097	6.378	0.472
90.323	5.890	0.527
93.548	7.080	0.254
96.774	8.026	0.162
100.000	6.896	0.169
103.226	7.416	0.178
106.452	9.430	0.044
109.677	10.620	0.002
112.903	10.560	0.013
116.129	9.246	0.204
119.355	5.890	0.652
122.581	5.066	0.683
125.806	5.432	0.489
129.032	6.226	0.781
132.258	5.860	0.869
135.484	6.774	-0.273
138.710	8.300	-1.456
141.935	10.314	-0.684
145.161	10.438	-0.014
148.387	9.460	-0.231
151.613	9.582	-0.504
154.839	9.858	-0.471
158.065	9.614	-0.449
161.290	9.216	-0.163
164.516	9.002	-0.219
167.742	8.850	-0.234
170.968	7.690	-0.392
174.194	7.110	-0.333
177.419	7.172	-0.370
180.645	7.354	-0.333
183.871	6.714	-0.429
187.097	6.196	-0.392
190.323	5.982	-0.047
193.548	5.828	0.055
196.774	5.860	-0.014
200.000	5.372	-0.444

---> Comment : N200

LINE: W290 Direction: S
Date: 3- 4- 2 Time: 14:46
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
200.000	5.616	-2.579
197.561	6.348	-2.682
195.122	6.592	-2.480
192.683	6.440	-2.039
190.244	7.538	0.210
187.805	7.476	1.038
185.366	6.866	0.309
182.927	6.774	-0.201
180.488	7.264	-0.289
178.049	8.728	-0.142
175.610	10.468	-0.194
173.171	10.772	-0.032
170.732	10.406	-0.049
168.293	9.888	-0.078
165.854	9.826	-0.063
163.415	9.888	-0.137
160.976	9.918	-0.297

158.537	9.858	-0.422
156.098	9.980	-0.449
153.659	10.254	-0.321
151.220	10.254	-0.212
148.780	10.192	-0.170
146.341	11.016	-0.135
143.902	11.840	-0.164
141.463	11.902	-0.170
139.024	12.208	-0.201
136.585	12.330	-0.218
134.146	12.390	-0.170
131.707	12.330	-0.157
129.268	11.962	-0.264
126.829	11.810	-0.315
124.390	11.658	-0.357
121.951	11.414	-0.447
119.512	11.414	-0.456
117.073	11.902	-0.339
114.634	11.506	-0.060
112.195	11.016	-0.175
109.756	10.468	-0.025
107.317	9.858	0.020
104.878	8.942	0.206
102.439	8.850	0.165
100.000	8.484	0.298
97.561	8.210	0.393
95.122	7.782	0.869
92.683	7.690	0.790
90.244	8.392	0.360
87.805	9.124	-0.021
85.366	9.704	-0.210
82.927	10.254	-0.385
80.488	10.650	-0.451
78.049	10.986	-0.475
75.610	10.986	-0.455
73.171	10.224	-0.449
70.732	8.942	-0.460
68.293	6.896	-0.512
65.854	2.258	-0.423
63.415	-2.228	-0.471
60.976	-4.852	-0.526
58.537	-4.670	-0.495
56.098	-1.891	-0.411
53.659	4.516	-0.455
51.220	11.292	-0.317
48.780	18.524	-0.109
46.341	22.064	-0.107
43.902	21.882	0.202
41.463	19.866	0.002
39.024	17.028	-0.242
36.585	14.740	-0.210
34.146	13.916	-0.098
31.707	12.330	-0.041
29.268	11.628	-0.122
26.829	11.840	-0.321
24.390	11.628	-0.175
21.951	11.780	-0.060
19.512	12.054	0.015
17.073	11.138	-0.045
14.634	10.528	0.118
12.195	10.834	0.349
9.756	11.230	0.202
7.317	10.620	0.254

4.878	10.834	0.154
2.439	10.620	0.432
0.000	11.932	0.375

---> Comment : N0

LINE: W300 Direction: N
Date: 3- 4- 2 Time: 14:48
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
0.000	10.560	0.702
2.532	10.712	0.899
5.063	10.864	0.717
7.595	10.438	0.412
10.127	10.528	0.299
12.659	11.170	0.279
15.190	11.444	0.327
17.722	11.810	0.263
20.253	11.780	0.085
22.784	11.840	0.204
25.316	11.994	0.059
27.848	11.536	-0.038
30.379	11.474	-0.113
32.911	11.138	-0.201
35.443	11.810	-0.058
37.975	12.878	-0.120
40.506	13.214	-0.115
43.038	13.214	-0.179
45.570	13.610	-0.332
48.101	13.946	-0.295
50.633	14.802	-0.212
53.165	16.846	-0.117
55.696	17.518	-0.253
58.228	15.930	-0.282
60.759	12.452	-0.365
63.291	9.582	-0.392
65.822	6.896	-0.477
68.354	4.272	-0.442
70.886	3.418	-0.501
73.417	3.540	-0.536
75.949	4.792	-0.510
78.481	6.744	-0.826
81.012	7.812	-1.583
83.544	6.836	-0.695
86.076	6.684	0.722
88.608	6.562	0.899
91.139	6.958	1.181
93.671	6.592	1.000
96.203	7.720	-0.006
98.734	9.918	-0.695
101.265	11.200	-0.605
103.797	11.016	-0.517
106.329	10.834	-0.262
108.860	10.192	-0.087
111.392	10.712	-0.039
113.924	11.474	-0.036
116.455	12.604	-0.146
118.987	12.574	-0.159
121.519	12.330	-0.242
124.050	12.360	-0.271
126.582	12.452	-0.466
129.114	11.840	-0.201
131.646	11.506	-0.229
134.177	11.718	-0.243

136.709	12.116	-0.144	
139.241	11.506	-0.717	
141.771	9.736	-2.034	
144.303	9.186	-0.918	
146.835	9.766	0.046	
149.366	9.156	-0.304	
151.898	9.522	-1.000	
154.430	10.284	-0.576	
156.962	10.192	-0.304	
159.493	9.948	-0.196	
162.025	10.010	-0.047	
164.557	9.826	0.007	
167.088	9.552	0.006	
169.620	10.070	-0.196	
172.152	10.010	-0.236	
174.683	8.544	-0.096	
177.215	7.294	-0.181	
179.747	6.500	-0.286	
182.278	6.408	-0.005	
184.809	6.866	0.187	
187.341	7.416	0.248	
189.873	7.568	-0.218	
192.404	7.324	-1.114	
194.936	7.020	-1.577	
197.468	7.294	0.064	
200.000	7.538	0.097	
202.000	6.408	-0.286	New segment
---> Comment : N200			
204.616	6.072	0.029	
207.231	3.846	-1.113	
209.846	1.496	-6.160	
212.462	1.342	-7.964	
215.077	4.730	-2.717	
217.692	6.866	1.400	
220.308	6.652	1.749	
222.924	6.134	1.036	
225.539	5.768	0.338	
228.154	5.950	0.656	
230.770	4.730	-0.140	
233.385	5.646	-0.192	
236.000	5.524	-0.080	
238.616	4.608	-0.166	
241.231	4.914	-0.337	
243.846	5.188	-0.262	
246.462	5.372	-0.368	
249.077	5.126	-0.455	
251.693	3.906	0.073	
254.308	3.570	-0.197	
256.924	3.632	-0.359	
259.539	4.302	-0.330	
262.154	4.334	-0.293	
264.770	4.302	0.066	
267.385	4.364	0.088	
270.000	3.784	-0.190	
272.000	4.852	0.210	New segment
---> Comment : N270			
275.122	5.676	0.009	
278.245	-0.610	-0.280	
281.366	-1.160	-0.593	
284.488	-0.274	-0.534	
287.610	2.564	0.391	
290.731	6.774	0.141	
293.854	8.422	0.252	

296.976	8.636	0.254
300.098	6.470	0.022
303.219	4.272	-0.411
306.342	9.552	-0.267
309.464	8.758	-0.335
312.585	8.210	-0.414
315.707	8.728	-0.451
318.830	8.790	-0.635
321.951	8.544	-0.447
325.073	8.270	-0.471
328.195	6.896	-0.607
331.318	6.408	-0.477
334.439	6.652	-0.411
337.561	6.622	-0.510
340.683	6.104	-0.436
343.805	4.426	-0.216
346.927	5.372	-0.104
350.049	6.104	-0.014
353.170	5.372	-0.288
356.293	5.036	-0.216
359.415	5.402	-0.412
362.537	5.188	-0.490
365.658	4.394	-0.052
368.781	4.364	-0.071
371.903	4.914	0.031
375.024	4.486	0.176
378.146	4.456	0.031
381.269	3.724	-0.126
384.390	4.944	-0.183
387.512	6.104	0.068
390.634	6.500	0.309
393.757	5.890	-0.291

---> Comment : N400

400.000	6.530	0.228

---> Comment : 4GW09

LINE: W310 Direction: S
Date: 3- 4- 2 Time: 14:55
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 30

Station	Cond.[mS/m]	Inphase [ppt]
400.000	4.364	-0.449
396.969	4.792	-0.471
393.939	4.792	-0.466
390.909	4.944	-0.043
387.879	5.372	-0.387
384.848	5.860	-0.690
381.818	5.646	-0.646
378.787	4.700	-0.258
375.758	4.212	-0.521
372.727	4.882	-0.256
369.697	4.578	0.099
366.666	4.670	-0.269
363.637	6.042	-0.425
360.606	6.256	-0.379
357.576	5.584	-0.741
354.545	5.372	-0.739
351.515	4.822	-0.392
348.485	5.218	-0.425
345.455	4.822	-0.054
342.424	5.432	-0.352
339.394	6.196	-0.526
336.363	5.554	-0.291
333.334	4.822	-0.348

330.303	4.944	-0.414	
327.273	5.494	-0.288	
324.242	5.646	-0.583	
321.213	5.066	-0.997	
318.182	4.822	-1.317	
315.152	4.638	-1.381	
312.121	4.516	-0.870	
309.091	5.340	-0.620	
306.061	5.950	-1.127	
303.031	7.202	-0.574	
300.000	7.812	0.588	
296.969	8.118	0.702	
293.939	9.216	0.369	
290.909	7.354	0.220	
287.879	-0.885	0.006	
284.848	-2.228	-0.225	
281.818	-3.876	-0.955	
278.788	0.794	-0.613	
275.758	9.308	-0.201	
272.727	9.948	0.114	
269.697	5.616	-0.232	
266.666	5.340	-0.190	
263.637	5.584	-0.396	
260.606	3.906	-0.346	
257.576	4.150	-0.468	
254.545	4.212	-0.387	
251.515	4.608	-0.135	
248.485	4.150	-0.183	
245.455	4.548	-0.177	
242.424	4.792	-0.258	
239.394	4.608	-0.295	
236.363	4.394	-0.615	
233.334	4.394	-0.572	
230.303	4.852	-0.218	
227.273	4.700	-0.324	
224.242	4.760	-0.377	
221.213	5.004	-0.058	
218.182	5.004	-0.341	
215.152	5.126	-0.431	
212.121	5.126	-0.304	
209.091	5.372	-0.225	
206.061	4.974	-0.221	
203.031	5.280	-0.163	
200.000	5.584	-0.089	
198.000	6.104	-0.344	New segment
---> Comment : N200			
194.945	6.592	-0.387	
191.891	6.684	-0.122	
188.837	6.318	-0.310	
185.782	6.378	-0.150	
182.727	6.226	0.118	
179.673	6.164	-0.087	
176.619	7.110	-0.449	
173.564	8.118	-0.468	
170.509	9.644	-0.348	
167.454	10.284	-0.166	
164.401	9.980	-0.196	
161.346	9.948	-0.383	
158.291	9.918	-0.721	
155.236	10.346	-0.495	
152.182	11.506	-0.425	
149.128	12.238	-0.231	
146.073	11.994	-0.297	

143.018	12.512	-0.288
139.963	13.062	-0.392
136.910	13.214	-0.390
133.855	13.092	-0.361
130.800	12.940	-0.330
127.745	13.306	-0.288
124.691	13.916	-0.341
121.637	14.556	-0.385
118.582	14.374	-0.278
115.527	14.648	-0.412
112.473	14.222	-0.506
109.418	14.190	-0.657
106.364	13.610	-0.190
103.309	12.878	0.147
100.255	12.176	-0.100
97.200	11.994	-0.278
94.146	11.414	-0.315
91.091	10.590	-0.458
88.037	10.712	-0.405
84.982	10.864	0.015
81.927	11.566	-0.407

---> Comment : STDPIPE

78.873	11.718	-0.210
75.818	12.298	0.075
72.764	12.664	-0.148
69.709	11.750	-0.308
66.654	12.146	-0.319
63.600	12.696	-0.181
60.546	12.664	-0.212
57.491	12.604	-0.306
54.436	12.238	-0.113
51.382	12.330	-0.174
48.328	12.482	-0.436
45.273	11.750	-0.128
42.218	11.352	0.002
39.163	11.596	-0.049
36.110	12.024	-0.063
33.055	12.664	0.224
30.000	12.452	0.463

---> Comment : N30

LINE: W320 Direction: N
Date: 3- 4- 2 Time: 15: 0
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 30 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
30.000	13.488	0.575
33.058	14.588	0.154
36.116	15.136	-0.155
39.174	14.466	-0.236
42.231	13.732	-0.300
45.289	12.634	-0.223
48.347	12.634	-0.157
51.405	13.916	-0.311
54.463	13.520	-0.372
57.521	13.366	-0.129
60.579	12.482	-0.069
63.636	11.718	-0.203
66.694	11.536	-0.260
69.752	11.810	-0.186
72.810	11.872	0.020
75.868	11.994	-0.094
78.926	11.414	0.022
81.983	11.078	0.029

85.041	11.108	-0.056
88.099	12.420	-0.469
91.157	12.574	-0.695
94.215	12.360	-0.335
97.273	12.176	-0.089
100.331	12.298	-0.084
103.388	12.482	-0.308
106.446	13.154	-0.251
109.504	14.100	-0.394
112.562	13.764	-0.611
115.620	13.764	-0.385
118.678	13.916	-0.471
121.736	14.984	-0.690
124.793	15.350	-0.868
127.851	14.832	-0.506
130.909	13.154	-0.273
133.967	12.420	-0.420
137.025	13.092	-0.078
140.083	13.336	0.018
143.140	13.428	-0.265
146.198	12.848	-0.510
149.256	11.932	-0.440
152.314	11.932	-0.207
155.372	10.804	-0.181
158.430	10.224	-0.282
161.488	10.406	-0.507
164.545	10.162	-0.203
167.603	9.796	0.013
170.661	9.704	-0.080
173.719	9.400	-0.350
176.777	8.178	-0.104
179.835	7.720	-0.411
182.893	7.050	-0.627
185.950	6.806	-0.773
189.008	6.896	-0.791
192.066	7.264	-0.607
195.124	7.720	-0.574
198.182	6.500	-0.495
201.240	6.530	-0.398
---> Comment : N200		
204.298	6.470	-0.267
207.355	5.524	-0.275
210.413	4.700	-0.163
213.471	5.218	-0.039
216.529	5.218	-0.036
219.587	5.250	-0.100
222.645	5.340	-0.321
225.702	4.670	-0.209
228.760	4.058	-0.102
231.818	4.028	-0.050
234.876	4.302	-0.341
237.934	4.486	-0.335
240.992	4.914	-0.308
244.050	3.784	-0.234
247.107	4.028	-0.148
250.165	3.936	-0.100
253.223	3.784	-0.385
256.281	4.364	-0.469
259.339	3.418	-1.052
262.397	9.918	-1.197
265.455	6.500	-1.265
268.512	-2.716	-1.158
271.570	-3.326	-1.149

274.628	-2.990	-0.831
277.686	0.396	-0.401
280.744	7.202	0.055
283.802	10.620	-0.091
286.859	9.124	-0.242
289.917	6.318	-0.567
292.975	6.012	-0.846
296.033	5.950	-0.605
299.091	6.134	-0.381
302.149	6.500	-0.785
305.207	5.950	-1.092
308.264	5.494	-1.361
311.322	5.432	-1.598
314.380	5.768	-1.304
317.438	4.852	-1.339
320.496	5.462	-1.226
323.554	5.310	-0.995
326.612	4.760	-0.949
329.669	4.638	-1.340
332.727	4.578	-0.975
335.785	5.524	-0.817
338.843	4.760	-0.774
341.901	4.670	-0.416
344.959	5.188	-0.190
348.017	4.578	-0.339
351.074	5.004	-0.289
354.132	5.280	-0.247
357.190	4.974	-0.712
360.248	5.494	-0.554
363.306	5.036	-0.438
366.364	4.670	-0.703
369.421	3.570	-0.844
372.479	4.272	-0.828
375.537	5.738	-0.490
378.595	5.920	-0.699
381.653	5.402	-0.716
384.711	6.196	-0.725
387.769	5.768	-0.741
390.826	5.280	-0.642
393.884	5.340	-0.238
396.942	4.516	-0.734

---> Comment : N400

400.000	5.616	-0.515

LINE: W330 Direction: S
Date: 3- 4- 2 Time: 15: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 30

Station	Cond.[mS/m]	Inphase [ppt]
400.000	4.700	-1.146
396.296	4.792	-1.008
392.593	7.050	-0.881
388.889	5.158	-1.122
385.185	5.432	-1.056
381.482	6.164	-0.629
377.778	5.494	-0.495
374.074	5.066	-0.414
370.370	4.456	-0.354
366.666	4.914	-0.420
362.963	6.318	-0.232
359.259	5.706	-0.479
355.555	5.004	-0.433
351.852	5.402	-0.513
348.148	6.104	-0.140

344.444	5.706	-0.484	
340.741	5.250	-0.789	
337.037	5.524	-1.201	
333.334	5.250	-1.348	
329.630	4.364	-0.745	
325.925	4.548	-0.752	
322.222	4.914	-0.789	
318.518	5.126	-0.547	
314.814	4.792	-0.556	
311.111	5.036	-0.367	
307.407	5.096	-0.515	
303.703	5.828	-0.615	
300.000	5.584	-0.341	
296.296	5.554	-0.374	
292.593	5.982	-0.201	
288.889	6.562	-0.229	
285.185	7.812	-0.181	
281.482	9.338	-0.021	
277.778	7.142	-0.054	
274.073	2.014	-0.701	
270.370	4.058	-0.763	
266.666	4.212	-0.684	
262.962	3.814	-0.796	
259.259	4.058	-0.804	
255.555	4.058	-0.831	
251.852	4.272	-0.815	
248.148	4.426	-0.695	
244.444	4.700	-0.710	
240.741	4.212	-0.833	
237.037	4.180	-0.844	
233.333	4.364	-0.942	
229.630	4.486	-0.653	
225.925	4.638	-0.752	
222.221	4.486	-0.655	
218.518	4.364	-0.600	
214.814	4.792	-0.578	
211.111	4.852	-0.473	
207.407	5.096	-0.412	
203.703	5.340	-0.497	
200.000	5.402	-0.420	
198.000	5.646	-1.054	New segment
---> Comment : N200			
194.945	6.134	-0.901	
191.891	6.256	-0.660	
188.836	6.318	-0.682	
185.781	6.806	-0.765	
182.727	7.386	-0.773	
179.673	7.264	-0.638	
176.619	7.172	-0.462	
173.564	7.264	-0.284	
170.509	7.752	-0.317	
167.455	8.820	-0.611	
164.400	9.858	-0.664	
161.345	9.980	-0.767	
158.291	10.438	-0.962	
155.236	11.078	-1.122	
152.181	10.772	-0.916	
149.127	10.864	-0.773	
146.073	12.116	-0.868	
143.019	12.146	-0.638	
139.964	12.878	-0.646	
136.909	13.336	-0.754	
133.855	13.946	-0.736	

130.800	14.190	-0.673
127.745	14.526	-0.822
124.691	14.312	-0.754
121.636	13.886	-0.765
118.581	13.916	-0.559
115.527	13.916	-0.593
112.473	14.312	-0.767
109.419	14.344	-0.776
106.364	14.374	-0.901
103.309	14.282	-0.800
100.255	14.160	-0.624
97.200	13.824	-0.550
94.145	13.642	-0.638
91.091	14.068	-0.761
88.036	14.466	-0.646
84.981	14.770	-0.420
81.927	14.924	-0.333
78.873	13.886	-0.517
75.819	12.482	-0.662
72.764	13.764	-0.802
69.709	16.418	-0.894
66.655	17.944	-0.896
63.600	16.296	-0.796
60.545	12.878	-0.672
57.491	10.498	-0.771
54.436	11.322	-0.672
51.381	11.902	-0.791
48.327	13.306	-0.776
45.273	15.228	-0.585
42.219	16.662	-0.471
39.164	16.266	-0.769
36.109	14.160	-0.431
33.055	12.420	0.015
30.000	12.116	-0.008

---> Comment : N30

LINE: W340 Direction: N
Date: 3- 4- 2 Time: 15: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 30 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
30.000	11.108	0.197
33.190	10.132	0.094
36.379	10.804	0.118
39.569	12.238	-0.420
42.759	14.618	-0.541
45.948	15.716	-0.559
49.138	15.380	-0.969
52.328	12.390	-0.988
55.517	7.232	-0.853
58.707	5.554	-0.545
61.897	12.268	-0.519
65.086	19.012	-1.169
68.276	17.182	-1.340
71.466	13.366	-0.401
74.655	11.048	0.208
77.845	9.216	-1.105
81.034	13.062	-1.434
84.224	14.130	-0.666
87.414	13.306	-0.418
90.603	13.610	-0.558
93.793	13.978	-0.747
96.983	14.862	-0.670
100.172	14.556	-0.530

103.362	14.068	-0.539
106.552	13.672	-0.490
109.741	13.916	-0.864
112.931	14.130	-0.925
116.121	13.550	-1.004
119.310	13.672	-0.456
122.500	13.336	-0.311
125.690	13.916	-0.539
128.879	13.854	-0.682
132.069	13.916	-0.756
135.259	13.154	-0.525
138.448	11.932	-0.464
141.638	11.474	-0.377
144.828	10.894	-0.447
148.017	10.894	-0.616
151.207	10.742	-0.745
154.397	9.918	-0.624
157.586	10.346	-0.210
160.776	10.192	-0.084
163.966	9.490	-0.144
167.155	9.034	-0.256
170.345	8.026	-0.405
173.534	7.782	-0.245
176.724	7.720	-0.490
179.914	7.264	-0.600
183.103	7.050	-0.532
186.293	6.896	-0.468
189.483	6.562	-0.425
192.672	6.226	-0.631
195.862	6.164	-0.530
199.052	4.914	-0.969

---> Comment : N200

202.241	5.372	-0.574
205.431	5.340	-0.333
208.621	4.822	-0.475
211.810	4.974	-0.368
215.000	5.340	-0.218
218.190	5.066	-0.447
221.379	4.974	-0.385
224.569	4.608	-0.418
227.759	4.822	-0.466
230.948	4.974	-0.368
234.138	4.334	-1.096
237.328	4.670	-0.574
240.517	4.638	-0.363
243.707	4.212	-0.431
246.897	4.120	-0.444
250.086	3.876	-0.686
253.276	4.548	-0.486
256.466	4.456	-0.585
259.655	4.760	-0.629
262.845	4.486	-0.425
266.034	3.968	-0.447
269.224	3.662	-0.434
272.414	3.510	-0.324
275.603	3.662	-0.253
278.793	4.028	-0.480
281.983	3.480	-0.390
285.172	10.346	-0.681
288.362	12.084	-0.852
291.552	-3.052	-0.455
294.741	-4.486	-0.251
297.931	-0.794	0.184

301.121	7.934	-0.181
304.310	11.048	-0.063
307.500	8.544	-0.089
310.690	7.020	-0.157
313.879	6.440	-0.012
317.069	6.988	-0.881
320.259	6.836	-1.107
323.448	6.012	-1.294
326.638	5.524	-1.158
329.828	5.706	-1.192
333.017	6.592	-0.706
336.207	5.218	-0.545
339.397	4.486	-0.716
342.586	5.860	-0.513
345.776	6.042	-0.067
348.965	5.188	-0.841
352.155	4.852	-0.607
355.345	5.218	-0.501
358.534	4.302	-0.925
361.724	4.944	-0.383
364.914	4.914	-0.256
368.103	3.968	-0.728
371.293	4.944	-1.298
374.483	5.860	-1.609
377.672	6.164	-1.225
380.862	5.310	-0.773
384.052	6.318	-0.839
387.241	6.530	-0.818
390.431	6.164	-0.806
393.621	5.768	-0.106
396.810	5.828	-0.460
400.000	6.592	-0.449

---> Comment : N400

LINE: W350 Direction: N
Date: 4- 4- 2 Time: 8:36
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 30 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
30.000	10.040	2.309
33.426	10.070	2.293
36.852	10.804	2.232
40.278	11.384	2.328
43.704	11.718	1.672
47.130	11.596	1.198
50.556	11.108	1.324
53.981	9.034	0.679
57.407	4.180	-0.259
60.833	3.570	1.069
64.259	6.896	2.302
67.685	11.260	2.383
71.111	14.496	2.285
74.537	15.014	2.388
77.963	14.802	1.773
81.389	14.556	1.398
84.815	14.038	1.661
88.241	13.916	1.925
91.667	14.038	1.923
95.093	14.404	1.857
98.519	13.580	1.793
101.944	12.970	1.697
105.370	12.390	1.910
108.796	11.962	1.995
112.222	12.360	1.729

115.648	12.970	1.626
119.074	12.908	1.679
122.500	12.390	2.125
125.926	12.268	2.276
129.352	12.146	1.570
132.778	12.146	1.383
136.204	11.872	1.923
139.630	10.926	2.048
143.056	10.682	1.672
146.481	10.712	1.920
149.907	11.108	1.824
153.333	10.712	1.839
156.759	10.192	2.313
160.185	9.216	2.265
163.611	9.064	2.125
167.037	8.698	2.024
170.463	7.720	2.274
173.889	7.264	1.967
177.315	6.896	1.923
180.741	6.530	1.879
184.167	6.562	1.756
187.593	6.196	1.800
191.019	5.950	1.697
194.444	5.402	1.870
197.870	5.096	1.975

---> Comment : N200

201.296	4.914	2.019
204.722	4.670	2.197
208.148	4.364	2.271
211.574	4.150	2.313
215.000	3.662	2.335
218.426	3.936	2.243
221.852	4.212	2.024
225.278	4.272	2.087
228.704	5.036	1.975
232.130	4.700	1.883
235.556	3.968	1.863
238.981	3.540	1.699
242.407	3.448	1.932
245.833	3.814	1.876
249.259	4.242	1.853
252.685	3.814	1.940
256.111	3.174	2.221
259.537	-1.342	2.090
262.963	-1.892	2.037
266.389	-1.678	1.824
269.815	-1.618	1.962
273.241	-1.252	2.140
276.667	1.984	1.782
280.093	-4.302	2.118
283.519	-9.826	2.149
286.944	-8.636	2.269
290.370	-2.106	2.081
293.796	6.072	1.966
297.222	5.372	2.199
300.648	5.706	2.313

---> Comment : ANOM3

304.074	4.608	2.407
307.500	2.930	2.339
310.926	1.556	2.061
314.352	1.068	1.940
317.778	1.038	1.863
321.204	0.916	2.010

324.630	1.160	1.920
328.056	0.824	1.899
331.481	0.518	1.694
334.907	0.000	1.927
338.333	0.274	1.986
341.759	0.428	1.896
345.185	0.672	1.835
348.611	1.098	1.865
352.037	1.008	1.774
355.463	0.762	1.995
358.889	0.610	2.144
362.315	0.092	2.195
365.741	-0.732	2.177
369.167	0.184	2.111
372.593	-0.122	2.037
376.019	0.428	2.250
379.444	-0.062	2.083
382.870	0.122	1.819
386.296	-0.886	1.580
389.722	0.672	1.719
393.148	1.678	1.894
396.574	0.274	1.843
400.000	-1.130	1.789

---> Comment : N400

LINE: W360 Direction: S
Date: 4- 4- 2 Time: 8:42
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 30

Station	Cond.[mS/m]	Inphase [ppt]
400.000	0.916	1.427
396.429	-0.030	1.727
392.857	1.068	2.148
389.286	1.740	2.136
385.715	0.610	1.690
382.143	0.184	1.673
378.571	0.702	1.839
375.000	0.458	2.307
371.428	-0.030	2.554
367.857	-1.648	2.982
364.286	-1.954	2.827
360.714	-0.702	2.636
357.143	0.274	2.552
353.572	0.336	2.634
350.000	-0.306	2.357
346.429	-0.062	2.087
342.858	0.184	2.366
339.285	0.092	2.342
335.714	-0.244	2.234
332.143	-0.702	2.381
328.571	0.000	2.326
325.000	1.098	2.219
321.429	1.648	2.227
317.857	1.130	2.219
314.286	1.160	2.328
310.715	1.160	2.574
307.143	1.892	2.697
303.572	2.746	0.319
300.001	-1.678	-12.386
296.428	-6.744	-12.366
292.857	-7.904	4.312
289.286	-8.026	-2.307

---> Comment : ANOM4

285.714	-4.608	11.660

282.143	-18.798	-24.478	
278.572	10.132	14.653	
275.000	-0.794	1.874	
271.429	-0.824	1.730	
267.858	-0.702	1.697	
264.286	-0.886	1.914	
260.715	-0.794	2.100	
257.143	-0.732	2.333	
253.571	-0.762	1.797	
250.000	-0.518	1.435	
246.429	-0.458	1.949	
242.857	-0.244	2.072	
239.286	0.092	2.103	
235.715	0.000	2.063	
232.143	0.366	2.006	
228.572	0.640	1.927	
225.001	0.550	1.613	
221.429	-0.640	1.451	
217.857	-2.532	1.986	
214.286	-1.374	2.414	
210.714	-0.396	2.129	
207.143	1.160	2.508	
203.572	1.892	2.866	
200.000	1.252	2.506	
198.000	0.976	2.100	New segment
---> Comment : N200			
194.889	1.160	1.951	
191.777	1.220	2.048	
188.667	1.618	1.938	
185.556	1.954	1.730	
182.444	1.954	1.683	
179.333	2.106	1.754	
176.223	1.832	1.800	
173.111	1.678	1.955	
170.000	1.984	1.894	
166.889	2.686	1.824	
163.777	3.602	1.846	
160.667	4.242	1.967	
157.556	4.670	1.896	
154.444	5.310	2.015	
151.333	5.706	1.859	
148.223	5.920	1.929	
145.111	5.768	1.863	
142.000	6.012	1.749	
138.889	5.462	1.846	
135.777	5.646	1.890	
132.667	6.012	1.830	
129.556	5.920	1.811	
126.444	6.042	1.828	
123.333	6.012	1.782	
120.223	5.982	1.905	
117.111	6.684	1.585	
114.000	6.928	1.446	
110.889	6.592	1.633	
107.777	6.286	1.582	
104.667	6.226	1.602	
101.556	6.408	1.725	
98.444	7.630	2.030	
95.333	8.422	1.956	
92.223	8.299	1.903	
89.111	8.088	2.050	
86.000	7.752	2.170	
82.889	7.966	2.056	

79.777	7.386	1.646
76.667	7.568	1.528
73.556	8.118	1.925
70.444	8.270	2.449
67.333	6.562	2.300
64.223	2.166	0.959
61.111	-1.008	-1.054
58.000	1.068	-0.356
54.889	5.126	1.754
51.777	7.020	2.497
48.667	6.714	2.351
45.556	5.982	2.135
42.444	5.646	1.596
39.333	5.310	1.894
36.223	4.914	2.315
33.111	4.058	2.192
30.000	2.960	1.918

---> Comment : N30

LINE: W370 Direction: N
Date: 4- 4- 2 Time: 8:46
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 30 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
30.000	3.296	2.206
33.304	3.356	2.206
36.607	3.174	2.346
39.911	3.052	2.471
43.214	3.968	2.113
46.518	5.372	1.945
49.821	5.982	1.640
53.125	5.676	1.673
56.429	5.036	2.438
59.732	4.700	2.917
63.036	4.760	2.910
66.339	5.158	2.215
69.643	6.104	2.263
72.946	6.470	2.486
76.250	6.500	2.379
79.554	7.020	2.105
82.857	6.988	1.923
86.161	6.348	2.037
89.464	7.232	2.311
92.768	6.714	1.503
96.071	5.646	0.608
99.375	6.408	1.436
102.679	6.196	2.078
105.982	5.798	1.971
109.286	6.500	1.938
112.589	7.324	1.982
115.893	7.080	1.885
119.196	6.164	1.876
122.500	5.584	1.833
125.804	5.126	1.809
129.107	5.798	1.844
132.411	6.134	1.830
135.714	5.798	1.910
139.018	6.530	1.811
142.321	6.286	1.848
145.625	6.072	1.865
148.929	5.280	1.846
152.232	5.250	2.032
155.536	5.004	1.997
158.839	5.004	1.859

162.143	4.852	1.809
165.446	4.150	1.701
168.750	3.356	1.732
172.054	2.686	1.609
175.357	2.778	1.697
178.661	2.716	1.824
181.964	2.656	1.802
185.268	2.198	1.798
188.571	2.106	1.730
191.875	1.832	1.907
195.179	1.770	2.116
198.482	1.800	2.447
201.786	1.800	2.493

---> Comment : N200

205.089	1.862	2.385
208.393	0.336	0.417
211.696	-7.110	-4.858
215.000	-17.670	-6.078
218.304	-19.806	-0.556
221.607	-19.532	1.582
224.911	-14.100	-0.501

---> Comment : ANOM5

228.214	0.580	0.558
231.518	1.740	1.809
234.821	1.740	2.502
238.125	0.550	2.274
241.429	0.030	1.966
244.732	0.152	1.819
248.036	-0.184	1.754
251.339	-0.244	1.876
254.643	-0.336	1.736
257.946	-0.396	1.694
261.250	-0.640	1.672
264.554	-1.008	1.769
267.857	-1.008	1.758
271.161	-0.672	1.653
274.464	-0.702	1.605
277.768	-0.518	1.561
281.071	-0.640	1.769
284.375	-59.082	-24.485
287.679	-54.810	-24.485
290.982	-29.938	-21.112
294.286	-19.990	10.409

---> Comment : ANOM4

297.589	-23.742	-6.379
300.893	-31.952	-24.489
304.196	-18.218	-24.487
307.500	3.632	-12.549
310.804	4.548	4.295
314.107	2.198	2.824
317.411	1.464	2.158
320.714	1.160	1.967
324.018	0.550	1.927
327.321	0.428	1.982
330.625	0.306	1.991
333.929	0.794	2.026
337.232	0.274	1.999
340.536	0.092	2.011
343.839	0.336	1.951
347.143	0.336	1.923
350.446	0.030	1.859
353.750	0.184	1.887
357.054	0.366	1.855

360.357	0.062	1.866
363.661	0.274	2.102
366.964	0.244	2.148
370.268	-0.244	2.056
373.571	-0.702	2.094
376.875	0.458	1.988
380.179	0.702	1.870
383.482	0.946	1.964
386.786	1.130	2.023
390.089	1.342	2.179
393.393	1.160	2.129
396.696	1.252	1.800
400.000	0.886	1.409

---> Comment : N400

LINE: W380 Direction: S
Date: 4- 4- 2 Time: 8:53
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 30

Station	Cond.[mS/m]	Inphase [ppt]
400.000	0.214	1.857
396.337	0.854	1.999
392.673	1.648	1.986
389.010	-0.244	1.958
385.347	-0.428	1.808
381.683	0.030	1.894
378.020	0.122	2.090
374.356	0.366	2.054
370.693	0.092	2.155
367.030	0.366	2.131
363.366	0.794	1.973
359.703	0.886	1.839
356.040	1.160	1.944
352.376	0.702	1.824
348.713	0.794	1.752
345.049	1.648	1.859
341.386	1.312	1.874
337.723	-0.030	1.914
334.059	0.428	1.831
330.396	0.946	1.679
326.733	1.008	1.841
323.069	1.038	2.120
319.406	0.794	2.081
315.743	1.220	2.054
312.079	1.282	2.383
308.416	1.038	2.465
304.752	1.678	2.585
301.089	2.014	2.660
297.426	1.526	3.068
293.762	1.282	3.215
290.099	1.190	3.342
286.436	1.954	3.386
282.772	-0.732	1.918
279.109	-0.458	1.729
275.446	-0.428	1.565
271.782	-0.366	1.629
268.119	-0.122	1.989
264.455	0.244	0.253
260.792	0.886	2.170
257.129	0.580	2.144
253.465	0.550	2.263
249.802	0.366	2.419
246.139	0.580	2.214
242.475	1.008	2.236

238.812	0.794	2.351
235.149	0.916	2.752
231.485	0.824	2.983
227.822	0.824	3.022
224.158	1.404	3.189
220.495	1.832	2.958
216.832	2.410	2.993
213.168	2.624	3.206
209.505	2.410	2.936
205.842	1.892	2.814

---> Comment : N200

202.178	1.770	2.612
198.515	2.166	2.158
194.851	1.984	2.136
191.188	1.586	2.050
187.525	1.954	2.021
183.861	2.228	2.019
180.198	2.594	1.820
176.535	2.960	1.668
172.871	2.960	1.620
169.208	3.480	1.721
165.545	4.058	1.758
161.881	4.852	1.806
158.218	5.494	1.782
154.554	5.158	1.712
150.891	4.944	1.872
147.228	5.126	1.868
143.564	5.310	1.655
139.901	5.036	1.082
136.238	4.302	1.550
132.574	4.302	1.723
128.911	3.724	0.490
125.248	5.494	1.405
121.584	6.592	2.033
117.921	6.592	1.988
114.257	6.500	2.050
110.594	5.920	1.848
106.931	5.860	1.905
103.267	5.462	1.951
99.604	5.372	2.184
95.941	6.042	2.528
92.277	6.226	2.379
88.614	6.592	2.407
84.950	6.378	2.348
81.287	6.042	2.283
77.624	4.944	2.324
73.960	5.890	2.131
70.297	6.226	2.081
66.634	5.768	1.980
62.970	4.608	2.100
59.307	3.724	2.401
55.644	3.906	2.203
51.980	4.302	2.045
48.317	4.852	2.017
44.653	4.516	2.151
40.990	3.448	2.063
37.327	2.960	2.208
33.663	3.266	2.427
30.000	2.900	2.408

---> Comment : N30

LINE: W390 Direction: N
Date: 4- 4- 2 Time: 8:57
Component: Both Dipole mode: Vertical Instrument Orientation: 1

Start station: 30 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]	
30.000	2.380	2.199	
33.208	3.204	2.326	
36.415	3.052	2.366	
39.623	3.112	2.283	
42.830	3.356	2.151	
46.038	3.174	1.670	
49.246	3.052	1.872	
52.453	3.602	2.002	
55.661	4.486	2.067	
58.867	5.250	2.212	
62.075	5.462	2.179	
65.283	5.066	2.100	
68.490	5.280	1.923	
71.698	5.706	2.006	
74.905	5.584	1.960	
78.113	5.494	2.096	
81.321	5.554	2.306	
84.528	6.072	2.377	
87.736	6.500	2.236	
90.943	6.226	2.294	
94.151	6.072	2.232	
97.359	5.828	2.006	
100.566	5.738	2.004	
103.774	5.890	1.931	
106.981	5.982	1.843	
110.189	6.348	1.800	
113.397	5.920	1.837	
116.603	5.950	1.894	
119.811	5.706	1.931	
123.019	5.402	2.054	
126.226	5.524	1.786	
129.434	5.616	1.558	
132.641	5.646	1.846	
135.849	5.646	1.686	
139.057	5.158	1.424	
142.264	4.760	1.644	
145.472	4.212	1.695	
148.679	4.242	1.587	
151.887	4.578	1.811	
155.095	5.036	1.855	
158.302	4.914	1.681	
161.510	4.486	1.681	
164.717	3.754	1.762	
167.925	2.960	1.837	
171.133	3.204	1.786	
174.339	3.174	1.784	
177.547	3.082	1.747	
180.754	2.624	1.999	
183.962	2.442	2.247	
187.170	2.044	2.574	
190.377	1.526	2.728	
193.585	1.800	2.811	
196.792	1.618	2.961	
200.000	1.282	2.884	
202.000	1.220	2.798	New segment
---> Comment : N200			
205.736	1.130	2.914	
209.472	1.008	3.009	
213.208	1.220	3.158	
216.944	0.854	2.928	
220.680	0.824	3.138	

224.415	0.396	3.395
228.151	0.702	3.248
231.887	0.732	3.020
235.622	0.946	2.811
239.358	0.916	2.328
243.094	0.306	2.157
246.830	0.396	2.342
250.566	0.336	1.883
254.302	0.336	1.817
258.038	0.092	1.718
261.773	-0.092	1.407
265.509	0.122	1.337
269.245	0.336	1.394
272.981	0.366	1.673
276.717	-0.244	1.547
280.453	-1.130	1.447
284.189	-1.220	1.727
287.925	-3.814	2.092
291.661	-3.632	1.872
295.397	-3.814	1.771
299.132	-3.784	1.795
302.867	-2.656	1.659
306.603	3.204	1.311
310.339	2.502	1.166
314.075	1.038	1.238
317.811	-0.062	1.065
321.547	-0.030	1.258
325.283	1.068	2.013
329.019	1.220	2.116
332.755	1.130	1.956
336.491	1.282	1.843
340.227	1.252	1.649
343.962	0.854	1.727
347.698	0.946	1.830
351.434	0.946	1.903
355.170	1.282	1.714
358.906	1.312	1.820
362.642	0.824	1.958
366.377	-0.336	2.203
370.113	0.000	2.001
373.849	0.886	1.942
377.585	0.518	2.092
381.320	0.336	2.107
385.056	1.556	1.991
388.792	1.252	2.001
392.528	1.220	2.114
396.264	0.306	2.293
400.000	2.624	1.865

---> Comment : N400

LINE: W400 Direction: S
Date: 4- 4- 2 Time: 9: 1
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 70

Station	Cond.[mS/m]	Inphase [ppt]
400.000	1.800	1.481
396.796	1.984	1.797
393.592	3.692	2.243
390.388	2.930	2.002
387.184	0.672	2.109
383.981	1.648	1.925
380.777	-0.092	2.033
377.573	1.404	1.883
374.369	1.862	1.644

371.165	1.586	1.706
367.961	0.580	1.841
364.757	1.068	1.947
361.553	0.976	1.927
358.350	1.160	1.786
355.146	1.434	1.813
351.942	1.618	1.727
348.738	1.586	1.743
345.534	1.130	1.752
342.330	0.946	1.923
339.126	0.976	1.929
335.922	1.496	1.831
332.718	1.832	1.666
329.515	2.350	1.806
326.311	3.204	1.833
323.107	3.936	1.730
319.903	4.364	1.475
316.699	5.402	1.569
313.495	5.554	1.795
310.291	-0.640	1.870
307.087	-6.530	2.002
303.883	-7.752	1.980
300.680	-5.676	1.932
297.476	2.166	1.815
294.272	10.254	1.651
291.068	7.904	1.642
287.864	5.188	1.740
284.660	3.052	1.624
281.456	0.396	1.822
278.252	0.518	1.982
275.049	0.336	1.813
271.845	0.122	1.763
268.641	0.000	1.712
265.437	0.062	1.771
262.233	0.062	1.923
259.029	0.092	1.918
255.825	0.488	1.809
252.621	0.854	1.949
249.417	1.068	2.056
246.214	1.130	2.204
243.010	1.098	2.487
239.806	-0.062	2.272
236.602	0.062	2.206
233.398	1.434	2.236
230.194	0.976	2.383
226.990	0.610	2.594
223.786	0.580	2.678
220.583	0.976	2.757
217.379	1.190	2.791
214.175	1.008	2.416
210.971	1.008	2.210
207.767	0.976	2.208
204.563	0.886	2.239
201.359	1.008	2.074
---> Comment : N200		
198.155	1.130	2.078
194.951	1.098	2.142
191.748	1.038	2.302
188.544	1.434	2.309
185.340	1.954	2.225
182.136	2.258	2.146
178.932	2.502	2.206
175.728	3.052	1.988

172.524	3.082	1.626
169.320	2.868	1.512
166.117	2.838	1.583
162.913	2.656	1.570
159.709	3.602	1.780
156.505	4.242	1.714
153.301	3.784	1.758
150.097	3.602	1.745
146.893	4.150	1.881
143.689	4.944	1.863
140.485	5.432	1.745
137.282	5.706	1.808
134.078	5.646	1.740
130.874	5.402	1.673
127.670	5.494	1.837
124.466	5.554	1.964
121.262	5.524	2.032
118.058	4.852	1.903
114.854	4.700	1.848
111.650	5.676	1.881
108.447	5.340	2.028
105.243	5.616	1.925
102.039	5.584	1.809
98.835	5.828	1.718
95.631	6.378	1.776
92.427	6.348	1.894
89.223	6.378	1.912
86.019	6.012	1.966
82.816	5.616	1.815
79.612	5.676	1.964
76.408	6.072	1.670
73.204	5.706	1.918
70.000	4.944	2.129

---> Comment : N70

LINE: W410 Direction: N
Date: 4- 4- 2 Time: 9: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 70 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
70.000	5.004	1.934
73.514	5.524	2.054
77.027	6.684	1.989
80.541	6.836	1.918
84.054	6.286	1.991
87.568	5.494	2.068
91.081	5.218	1.857
94.595	6.226	1.879
98.109	6.164	1.923
101.622	6.104	1.831
105.136	5.982	1.708
108.649	5.432	1.988
112.162	4.944	2.032
115.675	5.036	1.949
119.189	5.462	1.642
122.703	5.462	1.677
126.216	5.402	1.984
129.730	5.126	2.050
133.243	5.310	2.089
136.757	4.700	2.204
140.270	4.548	2.004
143.784	4.882	1.923
147.297	4.394	1.923
150.811	4.120	2.035

154.325	3.754	1.852	
157.838	3.784	1.892	
161.352	3.510	1.883	
164.865	3.388	1.787	
168.379	3.602	1.824	
171.892	3.480	1.874	
175.406	3.174	1.831	
178.920	2.808	1.923	
182.433	2.808	1.870	
185.947	2.410	1.743	
189.460	1.892	2.041	
192.973	1.832	1.846	
196.486	1.740	1.841	
200.000	1.922	1.765	
202.000	2.106	1.679	New segment
---> Comment : N200			
205.667	2.166	1.646	
209.333	2.076	1.789	
213.000	1.648	1.819	
216.667	0.854	1.773	
220.334	1.098	1.881	
224.000	1.098	2.048	
227.667	0.854	2.089	
231.334	0.488	2.021	
235.000	0.550	2.033	
238.667	1.008	2.320	
242.334	1.282	2.550	
246.000	1.098	2.438	
249.667	1.312	2.296	
253.334	1.130	2.019	
257.001	0.976	1.686	
260.667	0.610	1.220	
264.334	0.518	1.378	
268.001	0.122	1.304	
271.666	0.458	1.400	
275.333	9.094	1.431	
279.000	8.850	1.444	
282.667	6.622	1.591	
286.333	-7.202	2.171	
290.000	-12.542	2.028	
293.667	-9.918	1.791	
297.333	-4.516	1.969	
301.000	5.982	1.787	
304.667	9.582	1.357	
308.333	7.630	1.174	
312.000	5.706	1.324	
315.667	3.724	1.453	
319.334	2.228	1.449	
323.000	2.838	1.528	
326.667	1.832	1.537	
330.334	1.618	1.481	
334.000	1.586	1.565	
337.667	1.190	1.708	
341.334	1.832	1.960	
345.000	1.740	1.833	
348.667	1.586	1.692	
352.334	0.794	1.681	
356.000	1.312	1.681	
359.666	1.374	1.883	
363.333	0.976	1.971	
367.000	1.984	1.830	
370.666	2.044	1.572	
374.333	1.648	1.622	

378.000	2.198	1.653
381.666	1.708	1.655
385.333	2.380	1.686
389.000	1.892	1.648
392.667	2.258	1.462
396.333	0.732	1.820
400.000	1.312	1.695

---> Comment : N400

LINE: W420 Direction: S
Date: 4- 4- 2 Time: 9: 7
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 70

Station	Cond.[mS/m]	Inphase [ppt]
400.000	3.876	3.470
396.364	1.892	3.165
392.727	2.288	2.223
389.091	2.778	1.769
385.455	2.136	1.683
381.818	1.282	1.675
378.182	2.410	1.627
374.546	2.076	1.611
370.908	2.198	1.824
367.272	1.984	1.769
363.636	1.496	1.644
360.000	2.258	1.627
356.363	2.044	1.852
352.727	1.618	1.863
349.091	2.106	1.600
345.454	2.076	1.615
341.818	1.800	1.659
338.182	2.228	1.469
334.545	3.144	1.534
330.909	3.144	1.482
327.273	3.296	1.596
323.637	4.272	1.716
320.000	6.744	1.703
316.364	9.430	1.639
312.728	5.340	1.752
309.090	-3.448	1.653
305.454	-10.102	1.390
301.818	-12.420	1.793
298.181	-10.528	1.859
294.545	8.850	1.780

---> Comment : FGLASSTK

290.909	21.882	1.326
287.272	19.990	0.937
283.636	10.376	1.148
280.000	6.836	1.260
276.363	4.882	1.190
272.727	2.808	1.205
269.091	1.922	1.400
265.455	-1.740	2.039
261.818	0.000	1.934
258.182	-0.062	0.854
254.545	0.458	2.136
250.908	0.794	-3.786
247.272	1.098	-3.171
243.636	1.648	2.875
239.999	1.190	2.217
236.363	0.122	-5.826
232.727	1.130	-0.361
229.090	1.496	2.732
225.454	1.098	2.473

221.818	0.640	1.953	
218.182	0.396	1.826	
214.545	1.190	1.787	
210.909	1.190	1.804	
207.273	1.130	1.760	
203.636	2.198	1.822	
200.000	2.288	1.966	
198.000	1.556	1.690	New segment

---> Comment : N200

194.877	1.038	1.808
191.755	1.556	1.852
188.633	1.220	1.883
185.512	1.282	2.048
182.390	1.832	2.063
179.268	2.258	2.015
176.146	2.564	2.085
173.024	2.442	2.162
169.902	3.082	1.910
166.780	3.204	1.778
163.658	2.960	1.868
160.536	2.656	1.809
157.415	2.838	1.791
154.293	3.174	2.081
151.171	3.388	2.083
148.049	4.212	1.918
144.926	4.456	1.912
141.804	4.578	1.716
138.682	4.302	1.901
135.560	3.998	1.918
132.439	4.090	1.991
129.317	4.578	2.061
126.195	4.730	1.909
123.073	4.516	1.828
119.951	4.302	1.936
116.829	4.334	2.125
113.707	4.792	1.916
110.585	5.554	1.778
107.464	6.470	1.721
104.342	6.440	1.861
101.220	5.340	1.725
98.098	3.754	1.883
94.975	3.296	1.868
91.853	3.876	2.006
88.731	5.584	1.894
85.609	7.171	1.806
82.488	7.782	1.804
79.366	7.386	2.006
76.244	5.676	2.028
73.122	4.180	1.938
70.000	4.028	1.931

---> Comment : N70

LINE: W430 Direction: N
Date: 4- 4- 2 Time: 9:10
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 70 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
70.000	4.120	1.912
73.250	4.700	2.019
76.500	4.760	2.203
79.750	5.218	2.103
83.000	5.890	1.934
86.250	6.348	1.809
89.500	6.562	1.797

92.750	6.226	1.980	
96.000	5.402	1.859	
99.251	6.622	1.694	
102.500	6.988	1.666	
---> Comment : GRAVDEP			
105.750	6.958	1.754	
109.000	6.744	1.861	
112.250	6.072	1.758	
115.500	4.578	1.887	
118.750	3.448	2.162	
122.000	2.868	2.344	
125.250	2.624	2.342	
128.500	3.204	2.285	
131.750	3.388	2.181	
135.000	3.388	1.988	
138.250	3.784	1.830	
141.500	4.150	1.811	
144.750	4.120	1.837	
148.000	4.212	1.956	
151.251	3.876	2.247	
154.501	4.028	2.535	
157.751	3.968	2.868	
161.001	3.876	2.943	
164.251	3.326	2.737	
167.500	2.900	2.348	
170.750	2.228	2.096	
174.000	2.014	2.195	
177.250	2.106	2.421	
180.500	2.532	2.247	
183.750	2.838	1.879	
187.000	2.716	1.809	
190.250	2.410	1.831	
193.500	2.076	1.896	
196.750	1.800	1.833	
200.000	2.320	1.853	
202.000	1.862	1.672	New segment
---> Comment : N200			
205.536	2.198	1.734	
209.071	2.076	1.695	
212.607	2.106	1.684	
216.143	1.740	1.642	
219.678	1.342	1.692	
223.214	1.770	1.828	
226.750	1.954	1.491	
230.285	1.892	1.611	
233.821	1.954	1.763	
237.357	2.044	1.723	
240.892	2.258	2.074	
244.428	2.410	2.910	
247.964	2.442	2.484	
251.499	1.862	2.026	
255.035	0.854	1.866	
258.572	-0.030	0.334	
262.107	0.396	1.427	
265.643	1.740	2.759	
269.179	2.410	2.835	
272.714	1.740	2.357	
276.250	2.044	2.138	
279.785	2.288	2.177	
283.321	2.930	2.158	
286.857	3.632	2.416	
290.393	3.204	1.556	
293.928	7.416	1.570	

297.464	-10.926	1.815
300.999	-13.154	2.316
304.535	-12.512	2.502
308.071	-10.162	1.863
311.606	-8.362	1.714
315.143	9.490	1.519

---> Comment : ANOM6

318.679	9.246	1.600
322.214	7.690	1.892
325.750	5.340	1.791
329.286	3.448	1.497
332.821	2.686	1.458
336.357	2.746	1.367
339.893	2.656	1.582
343.428	2.838	1.618
346.964	1.984	1.631
350.500	2.198	1.646
354.035	2.014	1.718
357.571	2.136	1.646
361.107	1.922	1.736
364.642	1.984	1.820
368.178	2.594	1.692
371.714	2.716	1.809
375.250	2.320	1.910
378.786	2.442	1.640
382.322	2.076	1.615
385.857	2.228	1.565
389.393	2.350	1.583
392.929	1.800	1.765
396.464	2.014	1.789
400.000	1.220	1.863

---> Comment : N400

LINE: W440 Direction: S
Date: 4- 4- 2 Time: 9:16
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 70.00001

Station	Cond.[mS/m]	Inphase [ppt]
400.000	2.532	1.560
396.000	2.502	1.637
392.000	4.090	1.681
388.000	2.594	1.795
383.999	1.618	1.754
380.000	2.380	1.506
376.000	2.320	1.620
372.000	2.532	1.672
368.000	2.228	1.782
363.999	2.228	1.989
360.000	2.228	1.734
356.000	2.502	1.780
352.000	3.022	1.776
348.000	2.686	1.857
344.000	2.166	1.767
340.000	2.808	1.745
336.000	3.234	1.815
331.999	3.144	2.028
328.000	4.120	1.989
324.000	3.204	1.734
320.000	6.622	1.962
316.000	6.012	1.962
311.999	0.458	1.831
308.000	-7.874	1.905
304.000	-14.710	2.056
299.999	-11.596	2.017

296.000	2.258	3.085	
292.000	3.632	3.489	
288.000	4.120	2.649	
284.000	2.288	1.649	
279.999	2.076	1.955	
276.000	2.106	2.627	
272.000	2.532	3.024	
268.000	1.464	2.351	
264.000	-1.312	0.510	
259.999	-2.778	-0.598	
256.000	-2.656	-0.292	
252.000	-2.532	0.523	
247.999	0.550	2.427	
244.000	2.564	3.608	
240.000	2.624	3.594	
236.000	2.258	2.901	
232.000	1.648	2.236	
227.999	2.136	2.214	
224.000	2.136	2.280	
220.000	2.350	2.427	
215.999	2.502	2.449	
212.000	2.166	2.237	
207.999	1.954	2.090	
204.000	2.044	1.978	
200.000	2.502	1.877	
198.000	2.838	1.600	New segment
---> Comment : N200			
194.953	2.990	1.620	
191.905	2.990	1.809	
188.857	3.296	2.032	
185.810	3.112	1.853	
182.762	2.502	1.892	
179.715	2.624	1.885	
176.667	2.716	1.905	
173.619	3.052	2.158	
170.572	3.112	2.491	
167.524	3.326	2.862	
164.476	3.448	3.070	
161.429	3.418	3.031	
158.381	3.112	2.814	
155.334	3.388	2.822	
152.285	4.272	3.197	
149.238	4.486	3.502	
146.191	3.876	2.996	
143.143	3.082	2.441	
140.095	3.082	2.142	
137.048	2.716	2.050	
134.000	2.320	2.219	
130.953	3.052	2.401	
127.905	3.296	1.824	
124.857	4.120	1.677	
121.810	5.096	1.945	
118.762	4.670	2.287	
115.715	4.516	1.056	
112.666	5.004	1.653	
109.619	5.584	2.594	
106.572	5.494	2.526	
103.524	5.004	2.280	
100.476	4.730	2.054	
97.428	4.608	1.978	
94.381	4.486	2.078	
91.334	3.906	2.111	
88.285	3.724	2.190	

85.238	4.302	2.109
82.191	4.760	1.813
79.143	4.364	1.741
76.095	3.876	2.153
73.047	3.296	2.179
70.000	2.136	1.644

---> Comment : N70

LINE: W450 Direction: N
Date: 4- 4- 2 Time: 9:20
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 110 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]	
110.000	5.280	2.010	
113.462	6.470	2.302	

---> Comment : 5GW01

116.923	4.792	1.144	
120.385	6.684	2.267	
123.846	8.636	3.158	
127.308	6.348	3.075	
130.770	4.090	2.362	
134.230	3.296	2.072	
137.692	3.448	2.021	
141.153	3.876	1.995	
144.615	3.968	1.914	
148.077	3.570	2.050	
151.538	3.022	2.109	
155.000	3.296	2.109	
158.461	3.754	2.131	
161.923	3.632	2.403	
165.385	3.388	2.487	
168.846	3.724	2.508	
172.308	3.754	2.410	
175.769	3.692	2.127	
179.230	3.296	2.061	
182.692	2.656	2.030	
186.153	2.014	2.002	
189.615	2.350	2.199	
193.076	2.258	2.333	
196.538	2.564	2.098	
200.000	3.112	1.806	
202.000	3.754	1.637	New segment

---> Comment : N200

206.305	3.326	1.659
210.608	3.144	1.778
214.913	3.052	2.090
219.218	2.900	2.133
223.522	2.410	2.419
227.826	2.656	2.649
232.130	2.564	2.904
236.435	2.320	3.004
240.740	1.892	3.085
245.043	1.708	3.173
249.348	2.258	3.344
253.653	2.532	3.537
257.957	2.624	3.426
262.261	2.960	2.230
266.565	3.326	1.618
270.870	2.778	2.576
275.175	3.052	3.202
279.478	3.174	1.576
283.783	3.510	0.951
288.087	3.692	1.561
292.392	42.328	1.422

296.696	32.380	1.945
301.000	0.030	2.135
305.305	-15.046	2.041
309.608	-14.008	1.923
313.913	-6.408	1.872
318.218	4.394	2.151
322.522	8.941	2.181
326.826	6.866	1.804
331.130	5.584	1.736
335.435	4.334	2.182
339.740	3.234	1.953
344.043	2.746	1.773
348.348	2.594	1.444
352.652	2.746	1.587
356.957	3.234	1.982
361.261	2.228	2.441
365.565	1.374	1.916
369.870	2.472	2.063
374.174	2.564	1.940
378.478	3.082	1.694
382.783	2.258	1.940
387.087	1.954	2.004
391.392	2.746	1.949
395.695	2.594	2.035
400.000	2.198	1.655

---> Comment : N400

LINE: W460 Direction: S
Date: 4- 4- 2 Time: 9:25
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 120

Station	Cond.[mS/m]	Inphase [ppt]
400.000	3.052	1.653
396.543	2.686	1.449
393.086	2.532	1.885
389.630	2.502	1.697
386.173	1.618	2.114
382.716	1.282	1.653
379.259	2.808	1.780
375.802	3.052	1.774
372.346	2.564	1.830
368.889	3.144	1.714
365.432	2.624	1.637
361.975	2.838	1.727
358.519	3.296	1.751
355.062	3.632	1.545
351.605	3.510	1.661
348.148	2.778	1.526
344.691	2.838	1.541
341.235	2.838	1.493
337.778	3.480	1.569
334.321	3.754	1.554
330.864	4.302	1.605
327.407	4.822	1.464
323.951	5.462	1.604
320.494	5.310	1.537
317.037	2.198	1.844
313.580	-6.652	1.892
310.123	-12.482	1.855
306.667	13.642	1.256

---> Comment : CONC

303.210	24.170	1.220
299.753	24.688	1.291
296.296	15.350	1.425

292.839	9.246	1.593
289.383	5.920	2.019
285.926	5.004	1.892
282.469	3.846	1.914
279.012	3.082	2.227
275.556	3.418	2.113
272.099	3.326	2.013
268.642	2.990	2.245
265.185	2.838	2.133
261.728	3.388	2.195
258.272	3.112	2.407
254.815	2.564	2.315
251.358	2.228	2.201
247.901	2.166	2.219
244.444	2.320	2.460
240.988	2.564	2.243
237.531	3.356	2.072
234.074	3.296	1.940
230.617	2.838	1.980
227.160	2.686	1.944
223.704	2.778	1.789
220.247	2.960	1.811
216.790	2.778	2.043
213.333	2.808	2.212
209.877	2.442	2.186
206.420	3.082	1.958
202.963	3.326	1.975
199.506	3.204	2.111
196.049	3.234	1.958
192.593	3.356	1.958
189.136	3.510	2.061
185.679	3.632	1.813
182.222	3.754	1.830
178.765	3.662	1.817
175.309	3.448	1.912
171.852	3.814	1.798
168.395	3.724	1.865
164.938	3.510	1.945
161.481	3.388	1.899
158.025	3.326	1.793
154.568	3.418	1.907
151.111	3.326	2.013
147.654	3.144	2.023
144.198	3.296	1.738
140.741	3.662	1.883
137.284	3.480	1.966
133.827	3.602	2.131
130.370	4.120	1.578
126.914	4.394	1.944
123.457	4.700	2.763
120.000	5.310	3.860

---> Comment : ROAD

LINE: W470 Direction: N
Date: 4- 4- 2 Time: 9:28
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 120 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
120.000	4.242	2.522
123.478	4.272	2.304
126.957	4.028	2.037
130.435	3.814	1.971
133.913	3.480	1.876
137.392	3.052	1.673

140.869	3.234	1.956	
144.347	3.234	2.050	
147.826	3.052	1.980	
151.304	2.594	2.127	
154.782	2.716	2.197	
158.261	2.900	2.124	
161.739	3.296	2.100	
165.217	3.632	2.113	
168.696	3.632	1.964	
172.174	3.418	1.793	
175.652	3.266	1.800	
179.131	3.326	1.872	
182.608	2.716	2.028	
186.086	2.930	1.980	
189.565	2.990	2.113	
193.043	2.960	2.170	
196.521	2.594	2.103	
200.000	2.838	2.206	
202.000	3.266	1.901	New segment
---> Comment : N200			
205.882	3.266	1.833	
209.765	3.418	1.828	
213.647	3.784	1.883	
217.529	3.814	1.747	
221.412	3.876	1.670	
225.294	3.814	1.574	
229.176	3.540	1.646	
233.059	3.204	1.661	
236.941	3.234	1.532	
240.823	3.266	2.030	
244.706	2.502	2.399	
248.588	2.044	2.636	
252.470	1.984	2.923	
256.353	3.266	2.752	
260.235	3.876	2.603	
264.117	3.998	2.282	
268.000	3.876	2.359	
271.882	4.090	2.157	
275.764	4.486	1.999	
279.647	4.914	2.113	
283.529	5.646	2.081	
287.411	7.110	1.874	
291.294	7.996	2.056	
295.176	9.156	1.927	
299.059	1.922	2.019	
302.942	-12.604	2.287	
306.824	-12.664	2.171	
310.706	6.562	1.407	
314.589	11.384	1.236	
318.471	7.568	1.541	
322.353	8.514	1.491	
---> Comment : OHEADWRE			
326.236	7.660	1.534	
330.118	5.738	1.583	
334.000	4.486	1.609	
337.883	3.754	1.583	
341.765	2.960	1.712	
345.647	2.930	1.789	
349.530	3.570	1.692	
353.412	3.632	1.673	
357.294	3.174	1.973	
361.177	2.900	1.997	
365.059	2.778	1.927	

368.941	3.356	2.019
372.824	3.204	2.287
376.706	2.900	2.304
380.588	3.356	2.552
384.471	3.388	3.046
388.353	3.022	3.254
392.235	3.082	2.835
396.118	2.960	3.160
400.000	3.418	2.577

---> Comment : N400

LINE: W480 Direction: S
Date: 4- 4- 2 Time: 9:32
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 130

Station	Cond.[mS/m]	Inphase [ppt]
400.000	3.814	3.983
395.970	5.004	4.689
391.940	2.442	4.529
387.910	2.808	4.639
383.881	2.288	0.352
379.851	1.984	-2.930
375.821	3.570	1.221
371.791	3.480	2.825
367.761	2.380	2.158
363.731	2.350	1.793
359.701	2.320	1.863
355.672	3.448	1.802
351.642	3.754	1.679
347.612	3.570	1.651
343.582	3.082	1.629
339.552	2.900	1.769
335.522	3.876	1.525
331.493	3.876	1.227
327.463	4.608	1.148
323.433	5.066	1.255
319.403	5.798	1.176
315.373	7.660	1.330
311.343	9.156	1.622
307.313	11.048	1.627
303.284	5.890	1.486
299.254	-0.428	1.547
295.224	-4.852	1.648
291.194	-3.570	1.784
287.164	2.320	1.944
283.134	4.700	1.830
279.104	4.944	2.070
275.075	4.608	2.219
271.045	3.784	2.135
267.015	3.570	1.969
262.985	3.448	1.802
258.955	3.480	2.201
254.925	3.632	2.967
250.896	3.174	2.357
246.866	2.990	1.102
242.836	3.326	1.616
238.806	3.174	2.142
234.776	2.900	2.164
230.746	2.930	2.199
226.716	3.388	2.227
222.687	3.662	1.914
218.657	3.754	1.813
214.627	3.448	1.966
210.597	3.388	1.982

206.567	3.266	1.833

---> Comment : N200

202.537	3.356	1.896
198.507	3.296	2.054
194.478	3.052	2.032
190.448	2.960	2.081
186.418	3.234	2.263
182.388	3.724	2.419
178.358	3.968	2.408
174.328	3.662	2.465
170.298	3.846	2.170
166.269	3.144	1.888
162.239	3.388	1.916
158.209	3.418	2.050
154.179	3.480	2.059
150.149	3.510	1.859
146.119	4.028	1.602
142.090	4.302	1.468
138.060	4.670	1.859
134.030	5.310	1.918
130.000	4.882	1.730

---> Comment : ROAD

LINE: W490 Direction: N
Date: 4- 4- 2 Time: 9:34
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 130 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
130.000	5.554	0.972
134.576	5.554	1.074
139.153	5.432	1.183
143.729	4.914	1.400
148.305	3.876	2.074
152.881	3.602	2.089
157.458	3.692	2.186
162.034	3.876	2.328
166.610	3.846	2.291
171.186	4.242	2.381
175.763	4.212	2.254
180.339	3.570	2.192
184.915	3.480	2.328
189.492	3.174	2.243
194.068	3.052	2.153
198.644	3.540	2.186

---> Comment : N200

203.220	3.602	2.217
207.797	3.570	2.475
212.373	3.326	2.443
216.949	3.296	2.199
221.525	3.326	1.942
226.102	2.990	2.181
230.678	2.838	2.563
235.254	2.166	1.819
239.830	2.960	1.703
244.407	3.662	2.655
248.983	3.602	2.794
253.559	3.356	2.706
258.136	3.418	2.579
262.712	2.990	2.589
267.288	3.480	2.033
271.864	4.120	1.817
276.441	4.150	1.909
281.017	3.632	1.909
285.593	1.464	1.966

290.169	-0.092	2.182
294.746	-0.640	2.037
299.322	5.494	2.041
303.898	6.744	1.572
308.475	7.294	1.510
313.051	6.774	1.820
317.627	5.280	1.971
322.203	3.906	1.808
326.780	3.144	1.690
331.356	2.656	1.822
335.932	3.204	1.947
340.508	3.174	1.929
345.085	2.320	1.831
349.661	2.258	1.912
354.237	2.502	1.932
358.814	2.838	2.094
363.390	2.686	2.445
367.966	2.410	2.399
372.542	2.350	2.148
377.119	2.350	1.977
381.695	2.960	1.881
386.271	2.808	2.033
390.847	2.472	2.109
395.424	2.624	2.179
400.000	1.832	2.219

---> Comment : N400

LINE: W500 Direction: S
Date: 4- 4- 2 Time: 9:36
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
400.000	1.342	1.787
395.455	1.434	1.809
390.909	1.556	1.879
386.364	1.160	1.811
381.818	0.152	2.006
377.273	0.824	1.953
372.727	1.374	1.975
368.182	1.190	2.269
363.636	0.794	2.283
359.091	1.282	2.181
354.545	0.916	2.006
350.000	0.672	2.021
345.455	1.892	1.791
340.909	2.228	1.831
336.364	2.380	1.747
331.818	2.350	1.677
327.273	2.044	1.789
322.727	2.502	1.637
318.182	2.594	1.662
313.636	3.998	2.467
309.091	3.632	2.443
304.545	2.288	2.061
300.000	1.892	2.294
295.455	2.350	2.010
290.909	2.472	1.690
286.364	2.716	1.817
281.818	2.808	1.951
277.273	2.778	1.789
272.727	2.502	1.644
268.182	2.472	1.859
263.636	2.532	2.249
259.091	2.106	2.146

254.545	2.258	2.067
250.000	2.502	2.024
245.455	2.686	1.956
240.909	3.052	1.938
236.364	3.266	2.032
231.818	3.022	1.817
227.273	2.900	1.747
222.727	3.204	2.057
218.182	3.204	2.138
213.636	3.234	2.127
209.091	3.052	2.127
204.545	2.960	2.203
200.000	3.602	1.958

---> Comment : N200

LINE: W510 Direction: N
Date: 4- 4- 2 Time: 9:37
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 200 Final station: 400

Station	Cond.[mS/m]	Inphase [ppt]
200.000	3.082	1.710
204.762	3.144	1.741
209.524	3.082	1.846
214.286	2.716	1.991
219.048	3.082	1.944
223.810	3.144	1.765
228.571	3.234	1.822
233.333	2.868	2.010
238.095	2.716	1.927
242.857	2.778	1.922
247.619	2.502	1.988
252.381	2.624	2.243
257.143	2.686	2.227
261.905	2.746	2.184
266.667	3.234	2.181
271.429	3.204	2.070
276.190	3.174	2.182
280.952	3.388	2.381
285.714	2.808	2.489
290.476	2.258	2.151
295.238	2.136	2.057
300.000	1.648	1.789
304.762	1.984	1.839
309.524	2.564	2.063
314.286	2.198	2.083
319.048	1.252	2.052
323.809	1.098	2.008
328.571	1.954	1.824
333.333	1.496	2.090
338.095	0.702	2.131
342.857	0.824	2.151
347.619	1.160	2.149
352.381	1.098	1.870
357.143	1.342	1.874
361.905	0.732	2.254
366.667	0.244	2.359
371.429	0.122	2.432
376.190	0.824	2.148
380.952	1.312	2.067
385.714	0.886	1.885
390.476	-0.092	1.526
395.238	-0.092	2.021
400.000	0.366	1.633

---> Comment : N400

SITE5

LINE: W520 Direction: S
Date: 4- 4- 2 Time: 9:39
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 400 Final station: 200

Station	Cond.[mS/m]	Inphase [ppt]
400.000	-1.434	2.085
395.349	-0.610	2.212
390.698	-0.610	2.074
386.046	-1.130	1.920
381.395	-0.306	1.666
376.744	0.000	1.622
372.093	0.152	1.811
367.442	-0.214	1.940
362.791	-0.244	1.710
358.140	-0.122	1.701
353.488	0.214	1.918
348.837	0.306	1.978
344.186	0.152	1.991
339.535	0.184	2.026
334.884	0.396	2.010
330.233	1.098	1.980
325.581	1.618	1.936
320.930	1.892	1.899
316.279	1.708	1.721
311.628	2.014	1.918
306.977	2.044	2.092
302.326	1.954	2.011
297.674	1.954	2.300
293.023	2.716	2.614
288.372	2.960	1.710
283.721	1.892	-0.935
279.070	1.068	2.168
---> Comment : BETWELLS		
274.419	1.618	2.638
269.767	2.624	3.052
265.116	1.404	1.396
260.465	2.746	1.631
255.814	3.326	2.203
251.163	3.602	2.010
246.512	3.692	1.852
241.860	3.570	1.945
237.209	2.990	1.971
232.558	2.778	1.984
227.907	2.990	2.015
223.256	2.900	2.033
218.605	3.174	2.061
213.953	3.266	2.140
209.302	3.204	1.909
204.651	3.602	2.283
200.000	3.480	1.688
---> Comment : N200		

ATTACHMENT B

GEOPHYSICAL SURVEY DATA – SITE 48

SITE48

LINE: N0 Direction: E
Date: 4- 4- 2 Time: 10:35
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	4.914	1.894
2.879	4.760	1.442
5.758	4.852	1.104
8.636	4.700	0.881
11.515	4.944	0.595
14.394	4.638	0.398
17.273	4.426	0.490
20.152	5.066	0.295
23.030	4.516	-0.946
25.909	2.532	-0.694
28.788	2.656	0.628
31.667	2.044	0.439
34.545	-0.458	-0.966
37.424	-0.732	0.178
40.303	-0.244	0.692
43.182	-0.092	0.139
46.061	2.014	0.082
48.939	5.126	0.209
51.818	5.524	0.229
54.697	4.730	0.457
57.576	4.334	0.543
60.455	4.364	0.328
63.333	4.516	0.216
66.212	4.638	-0.531
69.091	4.548	-0.395
71.970	3.906	-0.259
74.848	4.302	-0.380
77.727	3.998	-0.435
80.606	3.906	-0.282
83.485	4.120	-0.273
86.364	4.486	-0.317
89.242	5.036	-0.293
92.121	5.372	-0.226
95.000	5.402	-0.218
97.879	4.944	-0.273
100.758	5.432	-0.121
103.636	5.372	0.023
106.515	5.340	0.165
109.394	5.004	-0.047
112.273	4.608	-0.308
115.152	5.004	-0.328
118.030	5.372	-0.442
120.909	5.402	-0.527
123.788	5.188	-0.514
126.667	5.188	-0.444
129.545	5.950	-0.455
132.424	6.440	-1.058
135.303	5.646	-1.100
138.182	4.974	-0.453
141.061	5.280	-0.172
143.939	6.408	-0.420
146.818	7.354	-0.576
149.697	7.232	-0.558
152.576	6.896	-0.428
155.455	7.232	-0.262
158.333	7.171	-0.305
161.212	6.592	-0.606
164.091	5.372	-0.670

166.970	4.364	-0.869
169.848	3.814	-1.120
172.727	4.334	-0.815
175.606	5.096	-0.334
178.485	4.974	-0.198
181.364	5.036	-0.202
184.242	4.792	-0.169
187.121	3.876	0.029
190.000	3.724	-0.437

---> Comment : E190

LINE: N10 Direction: W
Date: 4- 4- 2 Time: 10:37
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	3.846	-0.861
186.724	4.058	-0.745
183.448	4.792	-0.301
180.172	4.302	-0.608
176.897	5.004	-0.933
173.621	5.584	-0.795
170.345	5.860	-0.536
167.069	7.171	-0.589
163.793	7.232	-0.773
160.517	6.684	-0.560
157.241	7.294	-0.323
153.966	7.782	-0.464
150.690	8.698	-0.288
147.414	8.880	-0.198
144.138	8.240	-0.187
140.862	7.690	-0.338
137.586	7.568	-0.382
134.310	6.684	-0.308
131.034	6.286	-0.510
127.759	6.440	-0.391
124.483	7.171	-0.165
121.207	6.928	-0.259
117.931	6.592	-0.202
114.655	6.440	-1.613
111.379	5.982	-2.780
108.103	6.012	-0.705
104.828	5.828	-0.977
101.552	4.792	-4.527
98.276	4.516	-2.434
95.000	3.998	-0.633
91.724	4.334	-0.808
88.448	4.760	-0.718
85.172	5.372	-0.262
81.897	5.126	-0.722
78.621	5.004	-0.227
75.345	4.944	-0.150
72.069	4.882	0.020
68.793	4.608	-0.771
65.517	4.944	-0.731
62.241	4.822	-0.540
58.966	4.394	-0.689
55.690	4.456	-0.310
52.414	4.638	-0.246
49.138	4.548	-0.332
45.862	4.760	-0.176
42.586	4.456	-0.244
39.310	3.692	-0.075
36.034	2.166	0.073

32.759	1.800	0.363
29.483	1.404	0.578
26.207	1.862	0.826
22.931	2.044	1.280
19.655	1.800	0.461
16.379	2.198	0.073
13.103	4.548	-0.167
9.828	5.158	-0.676
6.552	4.792	-0.277
3.276	4.882	0.113
0.000	4.670	0.352

LINE: N20 Direction: E
Date: 4- 4- 2 Time: 10:39
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	4.394	0.497
3.167	4.394	0.626
6.333	3.936	0.387
9.500	4.578	-0.327
12.667	4.578	-0.509
15.833	4.670	-0.404
19.000	4.456	-0.435
22.167	4.670	-0.251
25.333	3.906	0.268
28.500	2.656	-0.108
31.667	1.618	-0.547
34.833	1.678	0.016
38.000	2.044	-0.167
41.167	2.778	-0.332
44.333	3.356	-0.564
47.500	4.150	-0.406
50.667	4.456	-0.444
53.833	4.578	-0.110
57.000	4.486	-0.220
60.167	4.242	-0.264
63.333	4.090	-0.453
66.500	4.212	-1.644
69.667	4.180	-2.963
72.833	5.218	-0.556
76.000	5.676	-0.038
79.167	5.554	-1.392
82.333	4.212	-1.207
85.500	4.792	-0.564
88.667	5.402	-0.203
91.833	5.494	-0.295
95.000	5.890	-0.488
98.167	6.012	-0.264
101.333	6.164	-0.363
104.500	6.378	-0.440
107.667	6.408	-0.422
110.833	6.408	-0.279
114.000	6.318	-0.444
117.167	6.408	-0.486
120.333	6.562	-0.382
123.500	6.592	-0.426
126.667	6.714	-0.464
129.833	7.476	-0.685
133.000	7.812	-0.856
136.167	8.514	-1.089
139.333	8.544	-0.869
142.500	8.392	-0.793
145.667	8.178	-1.201

148.833	8.422	-1.231
152.000	8.422	-1.098
155.167	8.088	-1.107
158.333	7.720	-0.812
161.500	7.782	-0.725
164.667	7.202	-1.030
167.833	6.928	-0.249
171.000	7.324	-0.192
174.167	6.622	-0.676
177.333	6.714	-1.317
180.500	6.774	-1.578
183.667	5.280	-2.592
186.833	2.838	-3.210
190.000	1.252	-1.515

LINE: N30 Direction: W
Date: 4- 4- 2 Time: 10:40
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	4.334	-0.358
186.724	4.608	-0.435
183.448	6.104	-0.113
180.172	7.508	0.016
176.897	8.422	-0.165
173.621	8.728	-0.082
170.345	8.972	0.115
167.069	9.522	-0.525
163.793	8.820	-1.769
160.517	8.332	-0.935
157.241	8.880	-0.323
153.966	8.972	-1.819
150.690	10.040	-1.622
147.414	10.986	-0.516
144.138	10.772	-0.389
140.862	10.010	-0.382
137.586	9.582	-0.264
134.310	8.912	-0.033
131.034	9.460	-0.163
127.759	9.796	-0.299
124.483	8.790	-0.481
121.207	8.728	-0.549
117.931	8.514	-0.439
114.655	8.178	-0.402
111.379	7.934	-0.531
108.103	8.270	-0.396
104.828	8.026	-0.461
101.552	8.240	-0.113
98.276	7.752	-0.299
95.000	7.324	-0.371
91.724	6.866	-0.745
88.448	6.440	-0.681
85.172	6.196	-0.091
81.897	5.828	-0.095
78.621	5.280	-0.549
75.345	3.936	-0.975
72.069	4.272	-0.663
68.793	3.662	-0.830
65.517	3.784	-0.303
62.241	4.578	-0.268
58.966	4.058	-0.301
55.690	4.242	-0.905
52.414	4.180	-0.426
49.138	4.150	-0.202

45.862	4.670	-0.330
42.586	3.052	-1.249
39.310	0.946	-2.260
36.034	0.488	-1.405
32.759	0.886	-1.752
29.483	0.274	-2.441
26.207	3.602	-0.733
22.931	4.638	-0.257
19.655	4.150	-0.106
16.379	4.150	-0.222
13.103	4.120	-0.134
9.828	4.578	-0.047
6.552	4.272	-0.093
3.276	4.578	0.058
0.000	4.456	0.181

LINE: N40 Direction: E
Date: 4- 4- 2 Time: 10:42
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	4.120	0.077
3.220	4.180	0.115
6.441	3.846	-0.290
9.661	3.356	-0.718
12.881	3.082	-0.740
16.102	3.846	-0.589
19.322	4.120	-0.900
22.542	4.486	-0.874
25.763	4.180	-0.801
28.983	4.334	-0.422
32.203	4.426	0.123
35.424	2.686	0.446
38.644	1.832	0.586
41.864	2.014	0.361
45.085	2.472	0.738
48.305	3.876	0.033
51.525	4.852	-0.281
54.746	4.730	-0.404
57.966	4.302	-0.821
61.186	4.364	-0.806
64.407	4.334	-0.723
67.627	4.548	-0.575
70.847	3.662	-0.519
74.068	3.662	-0.356
77.288	3.968	-0.310
80.508	5.676	-0.426
83.729	5.250	-0.271
86.949	5.554	-0.407
90.169	6.164	-0.347
93.390	6.164	0.132
96.610	6.988	0.044
99.831	7.934	0.236
103.051	7.934	1.144
106.271	8.026	0.856
109.492	8.728	-0.347
112.712	9.186	-0.502
115.932	8.850	-0.170
119.153	9.246	-0.334
122.373	10.192	-0.446
125.593	10.468	-1.383
128.814	10.956	-1.124
132.034	10.834	-0.780
135.254	10.590	-0.797

138.475	11.170	-0.981
141.695	11.932	-0.830
144.915	12.512	-0.801
148.136	12.054	-0.876
151.356	12.330	-0.646
154.576	12.756	-0.095
157.797	12.298	-0.259
161.017	11.444	-0.464
164.237	10.620	-0.529
167.458	9.613	-0.338
170.678	9.368	-0.306
173.898	9.064	-0.411
177.119	8.665	0.060
180.339	7.812	-0.384
183.559	6.562	-0.501
186.780	5.616	-0.332
190.000	5.768	-0.106

LINE: N50 Direction: W
Date: 4- 4- 2 Time: 10:44
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	5.096	-0.229
187.031	3.936	0.192
184.062	4.944	-0.369
181.094	5.646	-0.916
178.125	7.324	-0.644
175.156	8.299	-0.189
172.187	8.299	-0.113
169.219	8.820	-0.005
166.250	9.644	0.055
163.281	10.192	-0.180
160.312	11.230	-0.358
157.344	12.176	-0.532
154.375	12.452	-0.444
151.406	12.176	-0.531
148.437	12.146	-0.336
145.469	11.962	-0.293
142.500	11.902	-0.433
139.531	12.298	-0.117
136.562	12.390	0.027
133.594	12.604	-0.448
130.625	12.542	-0.510
127.656	11.048	-0.407
124.687	10.376	-0.360
121.719	10.560	-0.378
118.750	10.224	-0.279
115.781	9.736	-0.519
112.812	8.880	-0.679
109.844	8.088	-0.648
106.875	7.264	-1.015
103.906	7.080	-1.111
100.937	7.508	-1.618
97.969	6.408	-0.055
95.000	7.080	0.101
92.031	6.500	0.170
89.062	6.164	-0.308
86.094	5.554	-0.474
83.125	5.250	-0.496
80.156	4.180	-0.554
77.187	4.334	-0.617
74.219	5.372	-0.475
71.250	4.638	-0.588

68.281	4.730	-0.510
65.312	4.608	-0.297
62.344	4.822	-0.189
59.375	3.998	-0.562
56.406	4.882	-0.542
53.437	4.456	-0.589
50.469	5.126	-0.698
47.500	4.792	-0.481
44.531	4.578	-0.373
41.562	4.334	-0.229
38.594	3.204	0.349
35.625	2.502	0.749
32.656	2.410	0.745
29.687	3.174	1.021
26.719	2.838	0.762
23.750	3.846	0.529
20.781	4.426	0.659
17.812	4.242	0.185
14.844	3.540	-0.268
11.875	3.846	-0.598
8.906	4.180	-0.521
5.937	3.814	-0.468
2.969	3.540	-0.343
0.000	4.578	-0.633

LINE: N60 Direction: E
Date: 4- 4- 2 Time: 10:46
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	4.638	-0.580
3.167	4.150	-0.474
6.333	3.388	-0.413
9.500	2.564	-0.169
12.667	3.784	-0.670
15.833	3.388	-0.624
19.000	4.180	-0.384
22.167	4.426	0.036
25.333	4.302	1.106
28.500	2.990	0.949
31.667	2.228	0.102
34.833	2.228	0.378
38.000	2.624	0.472
41.167	1.464	0.444
44.333	2.044	0.200
47.500	3.418	-0.290
50.667	5.096	-0.349
53.833	5.372	-0.178
57.000	4.792	-0.633
60.167	4.882	-0.880
63.333	3.754	-1.289
66.500	3.724	-0.942
69.667	3.388	-0.334
72.833	2.686	-0.316
76.000	2.442	-1.207
79.167	2.930	-1.969
82.333	4.212	-1.115
85.500	4.670	-0.718
88.667	4.272	-0.716
91.833	4.334	-1.218
95.000	5.066	-1.743
98.167	4.486	-0.995
101.333	4.578	-0.764
104.500	5.432	-0.576

107.667	5.798	-0.667
110.833	5.462	-0.957
114.000	8.210	-0.703
117.167	10.224	-0.564
120.333	10.590	-0.540
123.500	10.742	-0.635
126.667	11.566	-0.745
129.833	11.596	-0.891
133.000	11.292	-1.593
136.167	8.514	-3.018
139.333	6.226	-3.250
142.500	7.294	-2.302
145.667	4.272	-5.113
148.833	2.900	-5.688
152.000	8.912	-1.749
155.167	13.092	-1.150
158.333	9.430	-6.535
161.500	6.470	-4.200
164.667	5.646	-0.863
167.833	3.022	-2.232
171.000	-2.960	-13.995
174.167	1.068	-10.499
177.333	1.130	-9.918
180.500	-0.854	-9.955
183.667	1.648	-2.364
186.833	2.746	2.221
190.000	-52.674	-24.904

---> Comment : SURFMTL

LINE: N70 Direction: W

Date: 4- 4- 2 Time: 10:49

Component: Both Dipole mode: Vertical Instrument Orientation: 1

Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	6.286	0.374
186.545	6.562	-0.093
183.091	6.866	-0.940
179.636	7.508	-1.107
176.182	8.299	-0.292
172.727	8.912	0.137
169.273	8.665	0.042
165.818	8.972	-0.253
162.364	9.704	-0.496
158.909	10.224	-0.549
155.455	11.048	-0.624
152.000	11.718	-0.363
148.545	13.184	-0.545
145.091	13.642	-0.560
141.636	12.054	-1.280
138.182	11.292	-1.282
134.727	12.238	-1.390
131.273	12.390	-0.841
127.818	11.658	-0.459
124.364	11.016	-0.479
120.909	10.804	-0.027
117.455	10.498	-0.273
114.000	6.134	-0.316
110.545	5.462	-0.415
107.091	5.554	-0.299
103.636	5.158	-0.286
100.182	4.882	-0.270
96.727	4.822	-0.633
93.273	4.364	-0.676
89.818	5.096	-0.654

86.364	5.218	-0.275
82.909	4.670	-0.203
79.455	3.144	-0.448
76.000	2.502	-0.310
72.545	4.272	-1.457
69.091	3.632	-1.194
65.636	4.516	-1.008
62.182	4.486	-0.731
58.727	4.334	-0.903
55.273	4.700	-0.994
51.818	3.602	-0.117
48.364	2.838	-0.185
44.909	1.862	-1.148
41.455	1.038	-1.539
38.000	2.564	-0.821
34.545	3.082	-0.720
31.091	3.112	-1.030
27.636	2.288	-0.266
24.182	2.442	-0.259
20.727	3.388	-0.973
17.273	4.212	-0.953
13.818	4.272	-0.486
10.364	4.426	-0.628
6.909	4.426	-0.582
3.455	3.692	-0.385
0.000	4.974	-0.492

LINE: N80 Direction: E
Date: 4- 4- 2 Time: 10:51
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.540	-0.514
3.878	3.082	-0.396
7.755	3.234	-0.270
11.633	3.144	-0.216
15.510	2.472	-0.349
19.388	3.356	-0.339
23.265	2.990	-0.187
27.143	2.778	-0.474
31.020	3.296	-0.310
34.898	2.564	-0.113
38.776	2.502	0.137
42.653	2.778	-0.108
46.531	3.480	-0.393
50.408	2.778	-0.626
54.286	2.350	-0.878
58.163	1.678	-0.938
62.041	1.678	-0.804
65.918	2.656	-0.801
69.796	2.778	-0.661
73.673	3.112	-0.233
77.551	4.456	-0.406
81.429	4.212	-0.446
85.306	3.998	-0.780
89.184	4.486	-0.852
93.061	5.432	-0.670
96.939	6.042	-0.415
100.816	5.432	-0.452
104.694	4.974	-0.453
108.571	5.340	-0.413
112.449	5.950	-0.604
116.327	11.078	-0.608
120.204	11.536	-0.779

124.082	11.414	-0.779
127.959	11.260	-0.902
131.837	11.840	-1.078
135.714	12.634	-1.225
139.592	13.336	-1.567
143.469	13.306	-1.460
147.347	12.878	-1.409
151.224	13.154	-1.013
155.102	12.452	-1.152
158.980	11.230	-0.999
162.857	10.498	-0.839
166.735	9.704	-0.707
170.612	8.636	-0.747
174.490	7.171	-0.894
178.367	6.774	-1.315
182.245	5.554	-1.986
186.122	5.280	-2.748
190.000	3.846	-3.711

LINE: N90 Direction: W
Date: 4- 4- 2 Time: 10:53
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	1.312	-1.653
186.667	-0.366	-1.898
183.333	-0.366	-2.034
180.000	2.472	-2.671
176.667	5.890	-2.522
173.333	9.796	-1.273
170.000	9.980	-0.806
166.667	9.736	-0.940
163.333	10.102	-0.922
160.000	11.078	-0.621
156.667	11.628	-0.861
153.333	12.664	-0.797
150.000	12.726	-0.701
146.667	12.512	-0.722
143.333	12.084	-0.442
140.000	11.688	-1.414
136.667	11.260	-1.624
133.333	11.566	-1.383
130.000	10.956	-1.273
126.667	9.796	-1.126
123.333	8.056	-0.836
120.000	7.294	-0.793
116.667	7.598	-0.648
113.333	6.530	-0.641
110.000	6.134	-0.422
106.667	5.158	-0.502
103.333	5.340	-0.521
100.000	5.890	-0.742
96.667	6.072	-0.764
93.333	5.554	-0.883
90.000	3.326	-2.311
86.667	-0.854	-3.605
83.333	0.152	-2.877
80.000	0.184	-2.833
76.667	-0.152	-3.129
73.333	4.944	-0.430
70.000	3.052	-0.499
66.667	3.570	-0.690
63.333	1.098	-1.286

---> Comment : GASCYL

60.000	0.458	-1.076
56.667	1.984	-0.893
53.333	3.510	-1.302
50.000	3.082	-0.791
46.667	1.160	-0.260
43.333	2.198	-1.052
40.000	3.510	-0.804
36.667	4.882	-0.617
33.333	2.320	-0.202
30.000	1.586	-0.367
26.667	3.448	-0.284
23.333	1.984	-0.297
20.000	2.656	-0.655
16.667	3.754	-0.856
13.333	4.058	-0.676
10.000	3.936	-0.033
6.667	3.234	-0.203
3.333	2.900	-0.847
0.000	2.594	-0.839

LINE: N100 Direction: E
Date: 4- 4- 2 Time: 10:56
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	2.624	-0.758
2.969	2.746	-0.659
5.937	3.906	-0.630
8.906	2.716	-0.628
11.875	1.954	-0.598
14.844	2.320	-0.198
17.812	3.814	-0.148
20.781	3.144	-0.624
23.750	2.778	-0.543
26.719	2.472	-0.277
29.687	3.174	-0.632
32.656	2.746	-0.735
35.625	2.532	-0.764
38.594	2.502	-0.815
41.562	3.112	-0.411
44.531	1.922	-1.109
47.500	1.098	-1.258
50.469	3.692	-0.924
53.437	2.746	-2.914
56.406	0.702	-3.729
59.375	-4.914	-3.145
62.344	-8.087	-4.580
---> Comment : TUBES		
65.312	-5.126	-3.300
68.281	2.380	-1.085
71.250	2.930	-1.089
74.219	2.808	-0.668
77.187	-38.482	-11.605
80.156	7.630	-0.598
83.125	4.670	-1.098
86.094	3.510	-0.935
89.062	3.570	-0.540
92.031	3.784	-0.488
95.000	4.394	-0.525
97.969	4.638	-0.762
100.937	4.944	-0.694
103.906	5.188	-0.687
106.875	5.126	-0.808
109.844	5.432	-0.953

112.812	4.822	-1.005
115.781	4.882	-0.481
118.750	6.470	-0.589
121.719	7.294	-0.966
124.687	7.294	-1.096
127.656	7.874	-0.821
130.625	9.094	-0.446
133.594	9.430	-0.676
136.562	9.430	-0.830
139.531	10.284	-1.062
142.500	11.566	-1.005
145.469	10.894	-1.032
148.437	10.682	-1.271
151.406	11.170	-1.223
154.375	11.810	-1.556
157.344	12.634	-1.356
160.312	13.244	-0.760
163.281	13.550	-0.817
166.250	13.032	-0.975
169.219	12.482	-0.850
172.187	12.054	-0.729
175.156	11.170	-0.687
178.125	9.796	-1.107
181.094	7.598	-1.962
184.062	5.524	-2.307
187.031	4.974	-1.521
190.000	5.890	-0.630

LINE: N110 Direction: W
Date: 4- 4- 2 Time: 10:58
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	4.272	-1.534
187.206	3.814	-1.863
184.412	3.692	-2.120
181.618	6.256	-1.651
178.824	8.392	-1.901
176.029	9.186	-1.784
173.235	10.010	-1.411
170.441	10.682	-1.155
167.647	11.688	-0.920
164.853	12.482	-1.339
162.059	12.208	-1.558
159.265	11.872	-1.490
156.471	11.444	-1.905
153.676	10.894	-2.320
150.882	9.064	-2.680
148.088	6.988	-2.033
145.294	7.080	-1.315
142.500	7.690	-1.106
139.706	8.820	-1.218
136.912	10.864	-1.074
134.118	10.620	-0.898
131.324	9.186	-0.795
128.529	8.698	-1.027
125.735	6.896	-0.867
122.941	5.828	-0.749
120.147	5.494	-0.865
117.353	6.196	-0.894
114.559	6.592	-0.716
111.765	4.700	-0.718
108.971	4.090	-1.135
106.176	3.814	-0.982

103.382	3.692	-0.152
100.588	3.846	-0.325
97.794	4.456	-0.582
95.000	5.036	-0.867
92.206	3.876	-0.889
89.412	3.632	-0.828
86.618	2.624	-0.889
83.824	4.180	-0.815
81.029	3.602	-0.358
78.235	3.480	-0.619
75.441	4.394	-0.319
72.647	2.258	-0.606
69.853	2.228	-7.833
67.059	-30.364	-17.858
64.265	-15.472	-9.598
61.471	6.256	1.227

---> Comment : MNDCONC

58.676	2.228	1.324
55.882	-3.480	-1.356
53.088	-39.276	-20.059
50.294	-20.508	-8.996
47.500	1.770	1.787
44.706	2.076	1.896
41.912	2.716	1.464
39.118	2.868	-0.005
36.324	3.296	-0.571
33.529	2.198	-0.812
30.735	1.954	-0.694
27.941	2.656	-0.446
25.147	3.784	-0.319
22.353	4.364	-0.913
19.559	3.204	-0.323
16.765	2.472	-0.157
13.971	2.442	-0.751
11.176	3.418	-1.231
8.382	2.472	-1.159
5.588	2.686	-0.858
2.794	3.998	-0.854
0.000	2.594	-0.867

LINE: N120 Direction: E
Date: 4- 4- 2 Time: 11: 0
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.784	-0.477
2.794	4.028	-0.257
5.588	3.326	-0.290
8.382	2.868	-0.453
11.176	2.410	-0.797
13.971	2.472	-0.861
16.765	2.076	-0.797
19.559	2.380	-0.801
22.353	2.532	-0.576
25.147	3.540	-0.576
27.941	3.632	-0.883
30.735	2.106	-0.635
33.529	1.648	-0.417
36.324	1.800	-0.339
39.118	1.648	-0.771
41.912	2.136	-1.447
44.706	3.692	-1.344
47.500	3.022	-0.170
50.294	1.648	-0.071

53.088	-1.648	-2.377
55.882	-2.746	-2.658
58.676	1.374	-0.404
61.471	2.930	-0.841
64.265	-2.990	-4.218
67.059	0.214	-2.079
69.853	4.394	-0.147
72.647	4.426	-0.286
75.441	4.700	-0.959
78.235	2.076	-0.927
81.029	2.686	-0.795
83.824	4.334	-0.705
86.618	4.272	-0.863
89.412	3.418	-0.929
92.206	3.632	-0.718
95.000	2.930	-0.766
97.794	3.876	-0.757
100.588	2.960	-0.600
103.382	4.150	-1.030
106.176	3.570	-0.837
108.971	7.020	-1.124
111.765	5.950	-1.383
114.559	5.646	-0.975
117.353	6.592	-0.496
120.147	9.002	-0.657
122.941	9.278	-1.074
125.735	9.400	-1.615
128.529	10.314	-1.356
131.324	9.034	-0.865
134.118	8.912	-0.927
136.912	9.430	-0.848
139.706	8.728	-1.025
142.500	10.314	-0.922
145.294	10.376	-0.977
148.088	11.078	-0.826
150.882	11.688	-0.646
153.676	12.360	-0.903
156.471	11.078	-3.064
159.265	7.690	-9.038
162.059	3.326	-13.091
164.853	1.618	-9.361
167.647	2.778	-4.558
170.441	-1.434	-11.614
173.235	1.342	-6.374
176.029	3.144	-2.625
178.824	-0.366	-8.163
181.618	1.892	-8.470
184.412	6.562	-3.410
187.206	6.684	-1.172

---> Comment : ANOM1

190.000	6.378	-0.657

LINE: N130 Direction: W
Date: 4- 4- 2 Time: 11: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	2.320	-3.085
187.246	2.198	-2.890
184.493	2.258	-1.793
181.739	3.632	-1.218
178.985	3.480	-1.508
176.232	3.724	-1.740
173.478	5.218	-1.872

170.725	6.774	-1.719
167.971	8.056	-1.670
165.217	8.544	-1.852
162.464	8.912	-1.809
159.710	9.490	-1.073
156.957	9.156	-0.832
154.203	8.880	-0.769
151.449	8.362	-0.676
148.696	9.552	-0.727
145.942	9.460	-1.089
143.188	7.996	-1.493
140.435	7.690	-1.473
137.681	7.752	-1.438
134.928	8.026	-1.190
132.174	8.606	-0.957
129.420	8.210	-1.049
126.667	7.966	-1.164
123.913	6.408	-1.107
121.159	6.348	-0.707
118.406	4.822	-0.690
115.652	4.700	-0.994
112.899	4.608	-0.701
110.145	4.272	-0.913
107.391	4.426	-1.299
104.638	4.578	-0.900
101.884	4.394	-0.382
99.130	4.394	-0.209
96.377	4.730	-0.169
93.623	5.310	-0.273
90.870	4.364	-0.413
88.116	2.136	-0.773
85.362	1.800	-1.152
82.609	2.778	-1.027
79.855	3.022	-1.049
77.101	3.814	-0.788
74.348	3.602	-0.518
71.594	1.740	-0.064
68.841	-0.580	-0.086
66.087	2.198	0.903
63.333	3.266	1.223
60.580	2.198	0.543
57.826	2.410	-0.885
55.072	3.540	-0.608
52.319	2.900	-0.661
49.565	3.112	-0.608
46.812	2.410	-0.648
44.058	1.648	-0.525
41.304	1.740	-0.523
38.551	2.990	-0.654
35.797	3.082	-0.764
33.043	2.044	-0.650
30.290	2.106	-0.933
27.536	1.892	-0.893
24.783	2.320	-0.760
22.029	2.198	-0.672
19.275	2.014	-0.700
16.522	2.014	-0.784
13.768	2.746	-0.876
11.014	2.320	-0.729
8.261	2.686	-0.536
5.507	2.716	-0.244
2.754	2.594	-0.481
0.000	1.252	-0.439

SITE48

LINE: N140 Direction: E
Date: 4- 4- 2 Time: 11: 6
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	2.656	-0.762
2.533	2.380	-0.742
5.067	1.832	-0.799
7.600	3.540	-0.418
10.133	3.326	-0.411
12.667	2.656	-0.742
15.200	2.532	-0.257
17.733	2.930	-0.319
20.267	2.868	-0.637
22.800	2.380	-0.211
25.333	2.564	-0.556
27.867	2.442	-0.700
30.400	2.502	-0.731
32.933	2.258	-0.863
35.467	2.044	-0.663
38.000	2.808	-0.815
40.533	2.320	-0.795
43.067	2.044	-0.773
45.600	2.044	-0.760
48.133	2.106	-0.424
50.667	3.692	-0.814
53.200	2.686	-0.540
55.733	0.824	-0.769
58.267	2.014	-1.015
60.800	1.678	-0.582
63.333	1.800	-0.619
65.867	2.106	-0.600
68.400	2.532	-0.312
70.933	2.532	-0.418
73.467	2.686	-0.468
76.000	2.808	-0.422
78.533	3.876	-0.475
81.067	2.564	-1.139
83.600	-1.434	-2.921
86.133	-5.340	-1.694
88.667	-5.950	-2.587
91.200	-8.880	-1.563
93.733	-8.972	-1.043
96.267	-6.134	-3.950
---> Comment : ANOM2		
98.800	-7.324	-5.075
---> Comment : SURFMTL		
101.333	-20.690	-24.788
103.867	-44.464	-24.787
106.400	-10.192	21.597
108.933	-0.580	22.811
111.467	-7.598	-12.950
114.000	-11.444	-24.778
116.533	-9.430	-24.778
119.067	2.044	-14.028
121.600	7.752	1.495
124.133	5.798	1.374
126.667	4.944	-0.191
129.200	5.768	-0.667
131.733	6.378	-0.637
134.267	6.042	-1.085
136.800	5.920	-2.796
139.333	5.402	-2.655

141.867	5.554	-2.014
144.400	4.914	-1.155
146.933	5.676	-1.245
149.467	5.920	-1.390
152.000	7.110	-1.374
154.533	7.476	-1.449
157.067	7.752	-1.021
159.600	8.880	-0.924
162.133	8.850	-0.964
164.667	8.606	-0.948
167.200	7.171	-0.639
169.733	7.171	-0.735
172.267	7.386	-1.045
174.800	4.944	-2.098
177.333	5.250	-2.065
179.867	6.042	-1.034
182.400	5.066	-1.275
184.933	0.672	-3.105
187.467	4.272	-2.517
190.000	5.616	-1.605

LINE: N150 Direction: W
Date: 4- 4- 2 Time: 11: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	5.402	-5.501
187.164	6.774	-2.506
184.328	9.064	-0.523
---> Comment : SURFMTL		
181.493	7.630	-0.685
178.657	7.020	-0.979
175.821	6.928	-1.346
172.985	7.324	-2.261
170.149	5.706	-4.016
167.313	2.716	-3.665
164.478	-0.274	-1.508
161.642	0.030	-0.981
158.806	-3.510	-5.481
155.970	-11.078	-11.370
153.134	-6.134	-6.515
150.298	3.174	-3.384
---> Comment : COOP		
147.463	3.936	-2.726
144.627	3.388	-2.350
141.791	4.364	-2.320
138.955	4.028	-0.784
136.119	8.576	-0.334
133.284	7.416	-1.039
130.448	5.432	-0.887
127.612	4.150	-0.913
124.776	5.188	-0.854
121.940	5.066	-0.321
119.104	3.906	-0.712
116.269	4.578	-1.569
113.433	4.608	-1.653
110.597	2.594	-1.025
107.761	3.052	-0.588
104.925	3.448	-1.493
102.090	3.296	-2.734
99.254	1.404	-2.129
96.418	-0.062	-0.286
93.582	1.252	-0.249
90.746	2.198	-0.979

87.910	1.526	-1.920
85.075	3.480	-1.214
82.239	4.058	-0.529
79.403	2.624	-0.611
76.567	2.716	-0.516
73.731	3.022	-0.650
70.896	2.288	-0.611
68.060	1.984	-0.321
65.224	1.618	-0.474
62.388	2.686	-0.762
59.552	1.282	-0.711
56.716	2.502	-0.949
53.881	1.892	-0.817
51.045	1.832	-0.696
48.209	1.220	-0.611
45.373	1.374	-0.676
42.537	2.228	-0.769
39.701	1.586	-0.611
36.866	1.832	-0.670
34.030	2.044	-0.527
31.194	1.770	-0.277
28.358	4.272	-0.376
25.522	2.746	-0.654
22.687	1.678	-0.883
19.851	2.624	-0.663
17.015	3.022	-0.457
14.179	1.892	-1.102
11.343	0.886	-0.893
8.507	2.716	-0.689
5.672	0.946	-0.551
2.836	2.136	-0.738
0.000	3.266	-0.356

LINE: N160 Direction: E
Date: 4- 4- 2 Time: 11:12
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.204	-0.834
3.455	2.778	-0.646
6.909	2.990	-0.676
10.364	3.174	-0.937
13.818	2.258	-0.806
17.273	2.502	-1.015
20.727	2.258	-0.744
24.182	2.472	-0.641
27.636	2.136	-0.667
31.091	1.618	-0.545
34.545	1.954	-0.598
38.000	2.502	-0.788
41.455	2.564	-0.881
44.909	2.594	-0.615
48.364	3.692	-0.551
51.818	3.602	-0.521
55.273	2.716	-0.740
58.727	1.008	-0.716
62.182	0.762	-0.720
65.636	2.350	-0.689
69.091	2.106	-0.545
72.545	3.234	-0.839
76.000	2.778	-0.703
79.455	2.930	-0.718
82.909	4.058	-0.358
86.364	3.174	-0.266

89.818	2.380	-0.676
93.273	1.922	-0.802
96.727	5.004	-0.589
100.182	5.250	-0.203
103.636	4.700	-0.459
107.091	4.486	-0.718
110.545	5.310	-0.745
114.000	4.882	-0.762
117.455	3.632	-0.858
120.909	3.570	-0.777
124.364	4.578	-0.506
127.818	5.524	-0.621
131.273	6.196	-0.679
134.727	5.950	-0.428
138.182	5.950	-0.736
141.636	4.426	-0.771
145.091	5.096	-0.758
148.545	3.388	-0.646
152.000	3.480	-0.339
155.455	3.876	-0.891
158.909	4.486	-1.424
162.364	4.914	-1.613
165.818	5.798	-2.734
169.273	6.744	-2.184
172.727	7.110	-0.775
176.182	6.042	-0.799
179.636	5.494	-2.611
183.091	6.714	-2.328
186.545	8.056	-1.732
190.000	7.476	-1.649

LINE: N170 Direction: W
Date: 4- 4- 2 Time: 11:15
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	6.134	-0.788
186.833	4.822	-1.367
183.667	3.144	-1.876
180.500	2.778	-1.642
177.333	2.960	-1.310
174.167	2.258	-1.379
171.000	1.008	-1.784
167.833	3.602	-1.326
164.667	5.310	-0.964
161.500	6.318	-1.062
158.333	5.982	-1.120
155.167	4.822	-1.291
152.000	5.828	-1.311
148.833	6.562	-0.784
145.667	5.462	-0.677
142.500	3.876	-1.049
139.333	3.968	-1.183
136.167	3.448	-1.109
133.000	2.960	-1.008
129.833	3.570	-1.015
126.667	3.082	-0.937
123.500	2.778	-0.745
120.333	3.540	-0.657
117.167	3.296	-0.580
114.000	3.296	-0.793
110.833	4.394	-0.312
107.667	4.090	-0.733
104.500	3.510	-0.903

101.333	3.724	-0.108
98.167	2.532	-0.760
95.000	2.808	-1.054
91.833	2.868	-1.041
88.667	2.288	-1.036
85.500	3.662	-1.280
82.333	2.594	-0.874
79.167	1.404	-0.799
76.000	3.480	-1.120
72.833	2.564	-0.856
69.667	3.632	-0.236
66.500	2.320	-0.509
63.333	2.320	-0.132
60.167	1.618	-0.483
57.000	2.808	-0.554
53.833	4.792	-0.391
50.667	2.716	-0.903
47.500	1.282	-0.981
44.333	0.732	-0.108
41.167	3.662	-0.303
38.000	3.602	-0.984
34.833	1.832	-1.253
31.667	1.648	-0.428
28.500	2.686	-0.848
25.333	0.702	-0.824
22.167	1.800	-0.900
19.000	2.198	-0.588
15.833	2.380	-1.225
12.667	1.068	-1.273
9.500	1.068	-0.435
6.333	3.204	-0.749
3.167	2.624	-1.594
0.000	2.900	-1.449

LINE: N180 Direction: E
Date: 4- 4- 2 Time: 11:17
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

Station	Cond.[mS/m]	Inphase [ppt]
0.000	3.082	-0.880
2.794	4.028	-0.944
5.588	2.746	-0.968
8.382	1.586	-0.777
11.176	2.106	-1.010
13.971	1.800	-0.861
16.765	2.106	-0.740
19.559	2.014	-0.676
22.353	2.258	-0.834
25.147	1.586	-0.896
27.941	2.106	-0.725
30.735	1.312	-0.677
33.529	2.076	-0.652
36.324	2.808	-0.720
39.118	2.686	-0.738
41.912	3.266	-0.681
44.706	1.374	-0.505
47.500	2.410	-0.470
50.294	1.404	-0.260
53.088	3.356	-0.279
55.882	4.058	1.321
58.676	8.820	3.542
61.471	-1.160	-7.693
64.265	-26.642	-24.743
67.059	-56.274	-24.768

69.853	-48.890	-24.741

---> Comment : SURFMTL

72.647	-38.086	-20.722
75.441	-21.362	-9.547
78.235	-47.546	-24.765
81.029	-34.240	-20.891
83.824	-19.226	-11.599
86.618	0.824	-1.833
89.412	2.686	-0.663
92.206	2.868	-0.841
95.000	2.960	-0.847
97.794	3.052	-0.529
100.588	3.234	-0.646
103.382	2.532	-0.817
106.176	3.144	-1.036
108.971	1.954	-0.916
111.765	1.404	-1.005
114.559	2.838	-1.085
117.353	3.448	-0.907
120.147	3.480	-0.824
122.941	3.448	-0.924
125.735	2.778	-0.745
128.529	1.862	-0.506
131.324	3.814	-0.893
134.118	3.906	-0.538
136.912	3.876	-0.801
139.706	3.968	-0.815
142.500	4.120	-0.701
145.294	3.754	-0.760
148.088	4.638	-0.872
150.882	5.096	-0.933
153.676	4.150	-1.051
156.471	4.578	-0.955
159.265	5.218	-0.907
162.059	5.158	-1.091
164.853	5.004	-0.788
167.647	4.670	-1.176
170.441	3.112	-2.013
173.235	2.564	-2.311
176.029	0.396	-3.156
178.824	-0.824	-3.808
181.618	-2.410	-4.321
184.412	-2.076	-3.843
187.206	-0.152	-3.263
190.000	-4.700	-5.519

---> Comment : ANOM3TINY

LINE: N190 Direction: W
Date: 4- 4- 2 Time: 11:22
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	5.280	-1.334
187.361	5.676	-1.403
184.722	4.914	-1.931
182.083	4.028	-3.788
179.444	5.126	-2.576
176.806	6.042	0.293
174.167	6.836	-0.595
171.528	6.408	-0.955
168.889	6.622	-1.218
166.250	5.372	-1.245
163.611	5.494	-1.317
160.972	4.212	-1.368

158.333	5.340	-1.100
155.694	4.670	-1.462
153.056	3.936	-1.236
150.417	4.638	-1.128
147.778	5.188	-0.824
145.139	4.730	-0.843
142.500	4.120	-1.550
139.861	3.296	-1.291
137.222	5.920	-0.701
134.583	4.852	-0.683
131.944	4.456	-1.065
129.306	5.036	-0.959
126.667	4.638	-0.986
124.028	4.578	-0.865
121.389	3.144	-0.815
118.750	2.930	-0.547
116.111	2.136	-0.545
113.472	2.532	-0.966
110.833	5.036	-1.286
108.194	5.218	-0.755
105.556	3.234	-1.117
102.917	2.320	-1.378
100.278	2.686	-1.119
97.639	2.990	-1.034
95.000	2.442	-0.883
92.361	2.808	-0.870
89.722	3.052	-0.632
87.083	1.892	-0.720
84.444	2.442	-0.700
81.806	3.540	-0.213
79.167	2.960	-0.075
76.528	3.784	-0.319
73.889	3.692	-2.894
71.250	-0.886	-13.779
68.611	-4.700	-16.277
65.972	3.480	7.215

---> Comment : SURFMTL

63.333	1.160	6.901
60.694	-6.896	-24.783
58.056	-13.764	-24.798
55.417	4.914	-7.421
52.778	4.486	0.600
50.139	4.058	0.236
47.500	3.570	-0.497
44.861	2.624	-0.848
42.222	2.472	-0.661
39.583	2.564	-0.837
36.944	1.678	-0.909
34.306	2.166	-0.799
31.667	1.984	-0.619
29.028	1.984	-0.779
26.389	2.380	-1.047
23.750	4.364	-0.907
21.111	2.716	-0.935
18.472	2.076	-0.852
15.833	2.960	-1.051
13.194	2.076	-0.979
10.556	2.350	-0.869
7.917	2.288	-0.812
5.278	2.106	-0.795
2.639	2.198	-0.661
0.000	2.044	-0.828

LINE: N200 Direction: E

SITE48

Date: 4- 4- 2 Time: 11:24
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 190

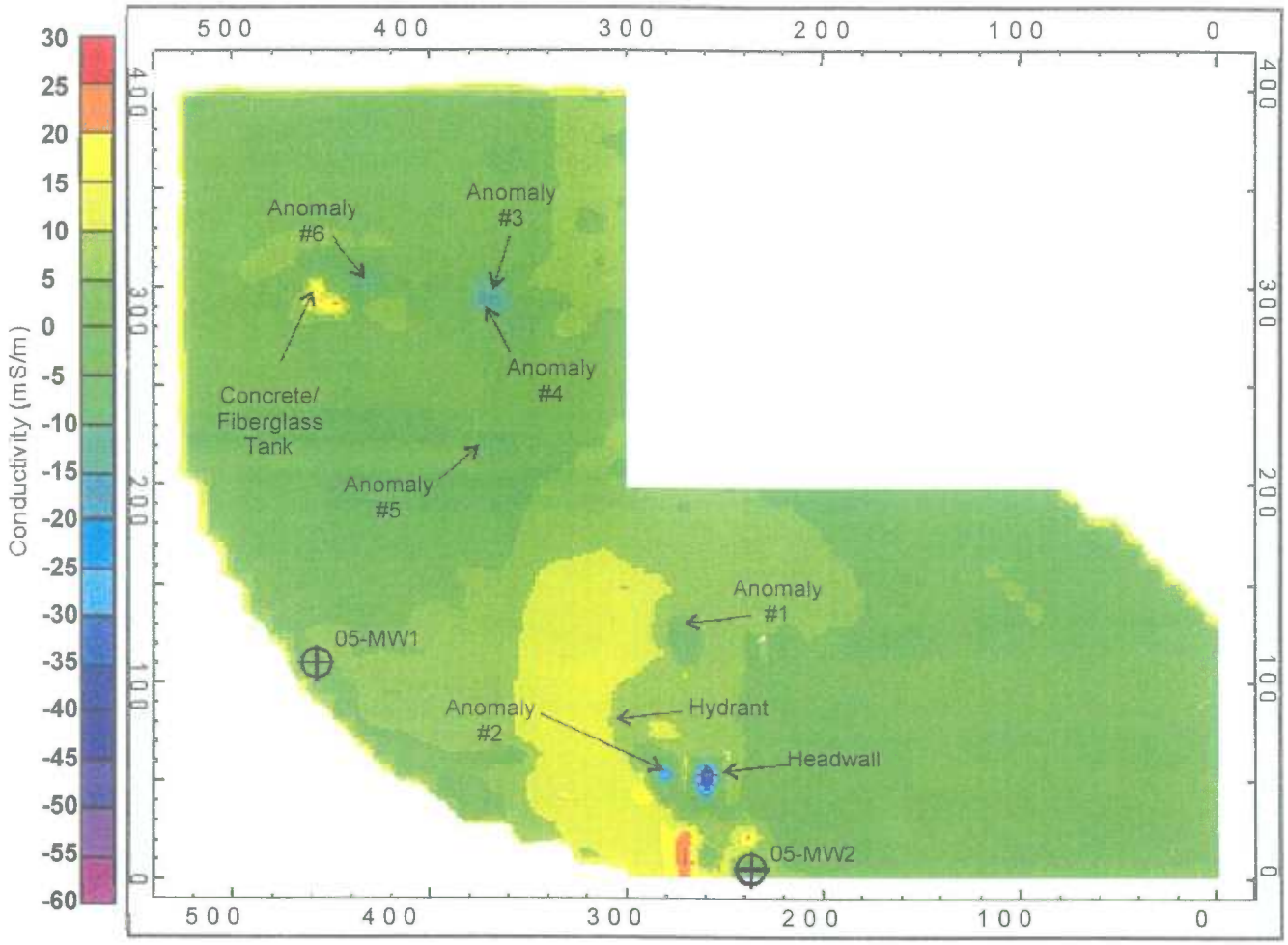
Station	Cond.[mS/m]	Inphase [ppt]
0.000	2.838	-1.017
2.923	2.532	-1.063
5.846	2.746	-0.850
8.769	2.656	-0.869
11.692	2.472	-0.984
14.615	2.808	-1.047
17.538	2.442	-1.058
20.462	2.350	-0.893
23.385	1.892	-0.837
26.308	2.442	-0.843
29.231	2.624	-0.834
32.154	1.984	-0.780
35.077	2.044	-1.073
38.000	3.234	-0.810
40.923	2.106	-0.918
43.846	2.564	-0.845
46.769	3.052	-0.775
49.692	2.320	-0.657
52.615	2.166	-0.543
55.538	3.662	-0.709
58.462	4.212	-0.711
61.385	3.112	-0.496
64.308	0.916	-0.655
67.231	1.800	-0.569
70.154	3.632	-1.084
73.077	3.754	-1.073
76.000	2.258	-0.101
78.923	2.320	-0.597
81.846	3.022	-0.556
84.769	2.778	-0.893
87.692	4.638	-0.440
90.615	3.692	-0.424
93.538	2.960	-0.354
96.462	2.960	-0.628
99.385	3.632	-0.598
102.308	3.846	-0.349
105.231	3.968	-0.371
108.154	2.808	-1.069
111.077	1.526	-1.282
114.000	0.824	-0.927
116.923	0.946	-0.604
119.846	0.030	-0.644
122.769	0.854	-1.264
125.692	3.814	-1.383
128.615	3.814	-1.754
131.538	3.418	-1.067
134.462	3.602	-0.951
137.385	4.058	-0.624
140.308	3.326	-1.015
143.231	3.174	-0.819
146.154	5.280	-0.475
149.077	4.426	-0.407
152.000	3.082	-0.744
154.923	3.906	-0.635
157.846	3.968	-0.598
160.769	3.510	-0.898
163.692	3.570	-1.106
166.615	3.266	-0.646
169.538	3.326	-0.891

172.462	0.916	-1.729
175.385	0.610	-1.299
178.308	4.120	-0.999
181.231	4.914	-0.731
184.154	4.058	-0.903
187.077	3.144	-1.532
190.000	3.968	-2.193

LINE: N210 Direction: W
Date: 4- 4- 2 Time: 11:25
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 190 Final station: 0

Station	Cond.[mS/m]	Inphase [ppt]
190.000	5.524	-0.602
187.324	4.730	-0.339
184.648	6.012	-0.687
181.972	6.226	-0.729
179.296	5.982	-0.586
176.620	3.998	-0.624
173.944	2.472	-0.606
171.268	2.410	-0.893
168.592	2.990	-0.876
165.915	5.706	-1.444
163.239	5.218	-0.619
160.563	4.548	-0.198
157.887	1.770	-0.674
155.211	4.578	-1.304
152.535	5.402	-0.758
149.859	5.004	0.077
147.183	3.754	0.233
144.507	3.448	0.012
141.831	3.022	-0.463
139.155	3.234	-0.865
136.479	2.746	-1.304
133.803	1.526	-1.401
131.127	1.342	-1.264
128.451	1.922	-1.255
125.775	2.166	-1.052
123.099	2.350	-1.091
120.423	2.258	-1.104
117.746	1.678	-0.384
115.070	1.922	-0.534
112.394	1.526	-0.578
109.718	3.112	-0.876
107.042	2.746	-0.558
104.366	4.548	-0.635
101.690	3.570	-1.005
99.014	4.150	-1.218
96.338	3.540	-0.683
93.662	3.266	-0.598
90.986	2.900	-0.521
88.310	3.418	-0.604
85.634	2.228	-0.801
82.958	2.198	-0.867
80.282	2.410	-1.018
77.606	2.014	-0.920
74.930	2.014	-0.828
72.254	3.234	-0.736
69.577	3.234	-1.438
66.901	3.022	-1.464
64.225	2.564	-0.898
61.549	2.564	-0.711
58.873	2.838	-0.858
56.197	2.502	-0.745

53.521	2.014	-0.957
50.845	1.160	-0.845
48.169	2.044	-0.764
45.493	2.320	-0.946
42.817	2.838	-1.038
40.141	2.532	-1.547
37.465	2.442	-1.639
34.789	2.624	-1.030
32.113	1.678	-0.893
29.437	1.922	-1.045
26.761	2.380	-0.698
24.085	1.954	-0.643
21.408	2.136	-0.858
18.732	2.716	-0.962
16.056	2.076	-0.898
13.380	1.556	-0.834
10.704	2.808	-0.887
8.028	2.410	-0.859
5.352	2.594	-0.869
2.676	1.740	-0.920
0.000	0.000	0.000



Monitoring Well Location

0 100 200 feet

DRAWN BY LR	DATE 4/18/02	Tetra Tech NUS, Inc.	CONTRACT NO N62467-94-D-0888	OWNER NO CTO 839
CHECKED BY MC	DATE 4/18/02	Geophysical Survey Results Terrain Conductivity Site 5 & 13 NSWC White Oak Silver Spring, Maryland	APPROVED BY	DATE
COST/SCHED-AREA			APPROVED BY	DATE
SCALE AS SHOWN			DRAWING NO. Figure 1	REV. 0

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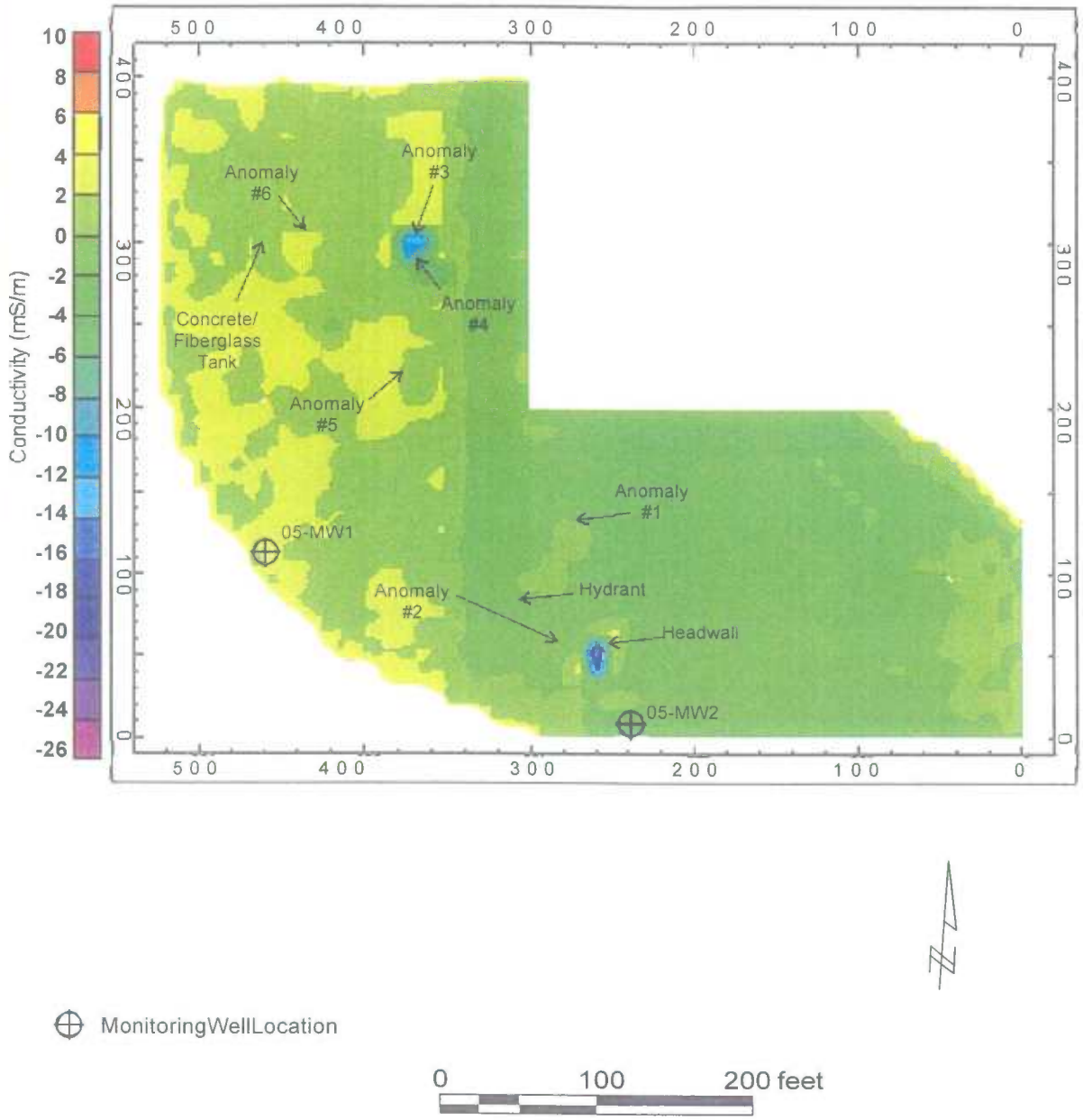

DRAWN BY	DATE	Tetra Tech NUS, Inc.	CONTRACT NO	OWNER NO
LR	4/18/02		N62467-94-D-0888	CTO 839
CHECKED BY	DATE	Geophysical Survey Results	APPROVED BY	DATE
MC	4/18/02	In-Phase Data		
COST/SCHED-AREA		Site 5 & 13	APPROVED BY	DATE
SCALE		NSWC White Oak	DRAWING NO.	REV.
AS SHOWN		Silver Spring, Maryland	Figure 2	0

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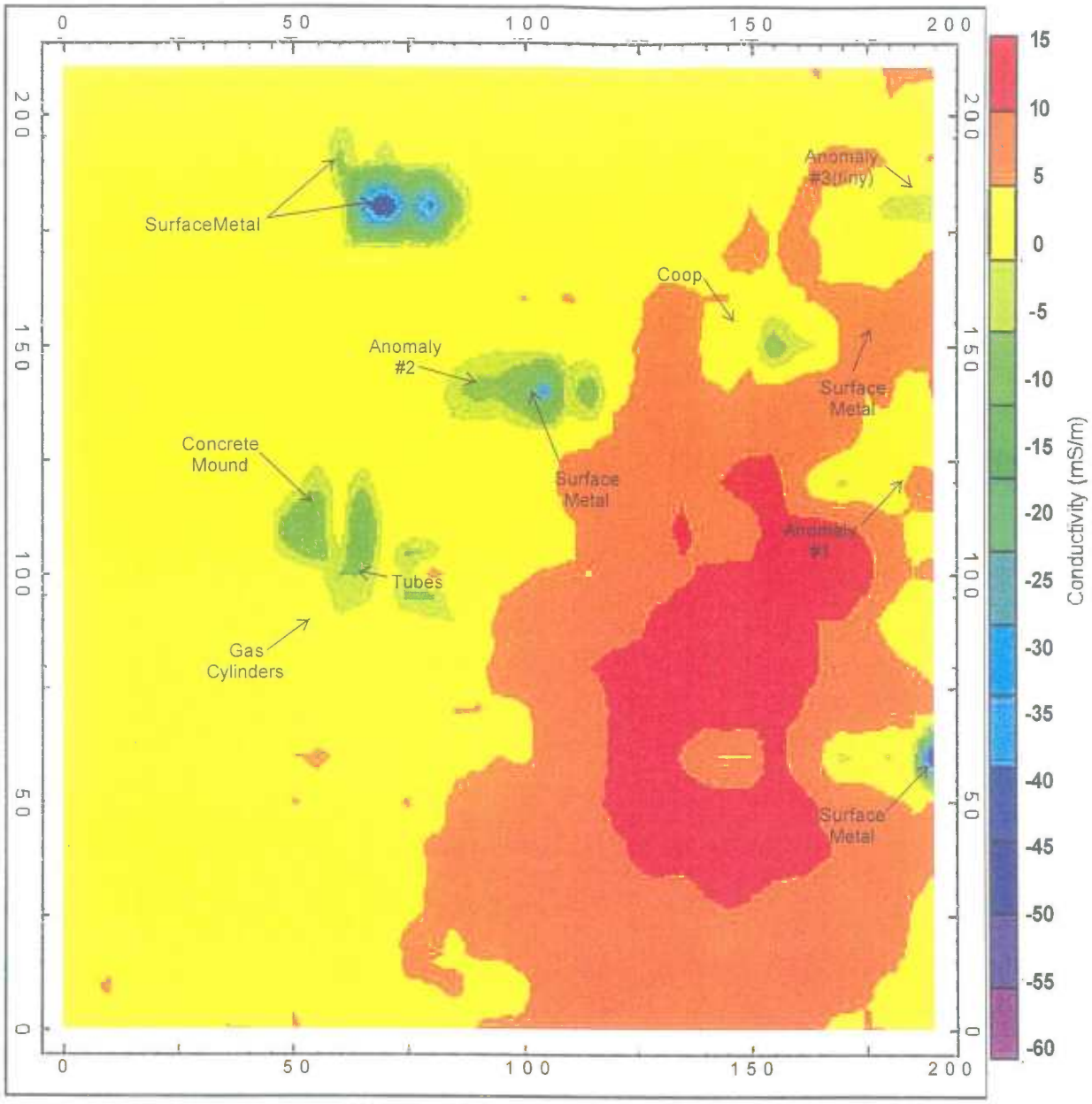

0 25 50 feet

DRAWN BY LR DATE 4/18/02	Tetra Tech NUS, Inc.	CONTRACT NO N62467-94-D-0888	OWNER NO CTO 839
CHECKED BY MC DATE 4/18/02	Geophysical Survey Results TerrainConductivity Site 48 NSWC White Oak Silver Spring, Maryland	APPROVED BY DATE	
COST/SCHED AREA		APPROVED BY DATE	
SCALE AS SHOWN		DRAWING NO. Figure 3	REV. 0

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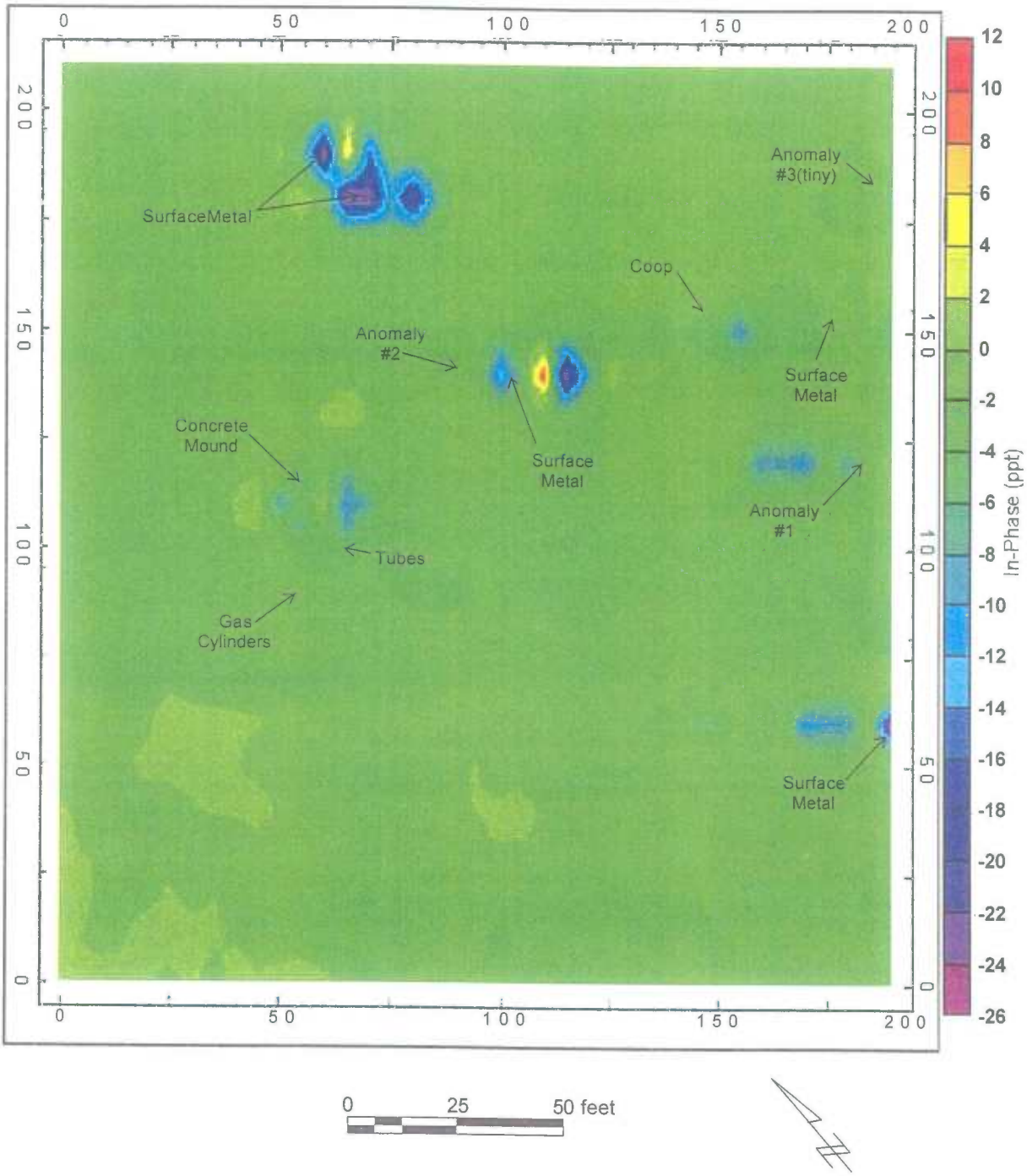

DRAWN BY LR	DATE 4/18/02	Tetra Tech NUS, Inc.	CONTRACT NO N62467-94-D-0888	OWNER NO CTO 839
CHECKED BY MC	DATE 4/18/02	Geophysical Survey Results In-Phase Data Site 48 NSWC White Oak Silver Spring, Maryland	APPROVED BY	DATE
COST/SCHED AREA			APPROVED BY	DATE
SCALE AS SHOWN			DRAWING NO. Figure 4	REV. 0

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APPENDIX D

TEST PIT LOGS

TEST PIT LOG

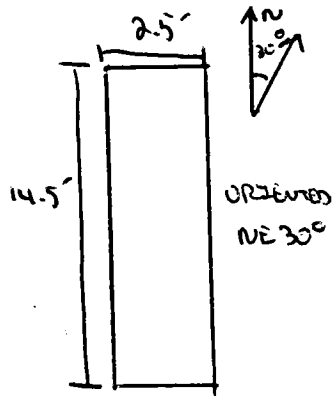
PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

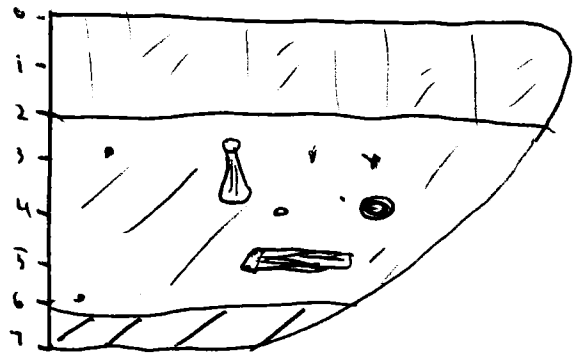
TEST PIT NUMBER: 48-TP-01
DATE: 5/30/02
GEOLOGIST: B. BALKOVEC

1210

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BROWN - SILT, W/ CLAY + SOME SAND	ML		0.0	0.0
2		↓ ↓	CL		↓	↓
3		↓ ASH, BURN - WOOD + RED BRICK	↓	@ 3.5' PLASTIC		
4		BLACK + BROWN - SILT, CLAY, GRAVEL + METAL.	GC	METAL @ 4'		
5		↓ ↓	FILL	BOTTLE, ALUM.		
6						
7		BROWN - SILTY CLAY W/ SAND	CL			
	T.D. 7'	TEL. UP				

TEST PIT CROSS SECTION AND / OR PLAN VIEW





REMARKS: SAMPLED 48TP01WS0304 - WASTE - @ 1220
48TP01SB0607 - NATURAL - @ 1230

PHOTO LOG:

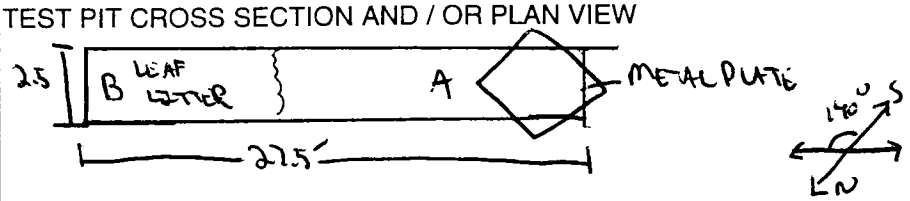
TEST PIT LOG

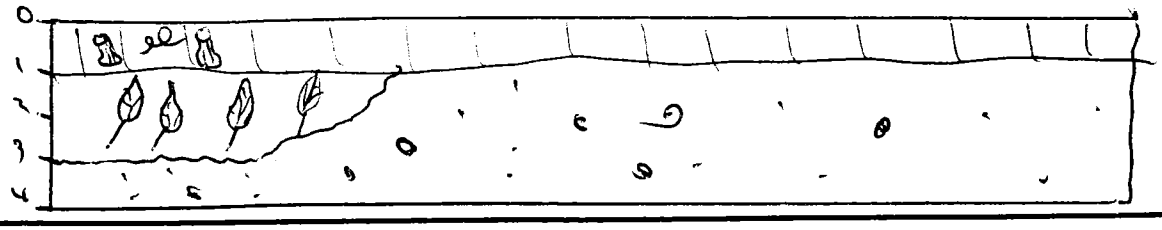
PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-02
DATE: 5/20/02
GEOLOGIST: BOB BALKOVICH

	Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
			SHEET OF METAL @ SURFACE		PLASTIC BOTTLE	0.0	0.0
A	1		BROWN & YELLOW OR. SANDY SILT W/ ROOTS	ML			
	2		YELLOW OR. M-C SAND & COBBLES	GW			
	3						
	4						
B	1		FILLED PLASTIC & SOME WIRE SILT	ML	LEAF LITTER & BOTTLES	0.0	0.0
	2		BLACK & BROWN - LEAF LITTER	ORG			
	3						
	4	T.D. 4'	YELLOW OR. - M-C SAND & COBBLES	GW			

TEST PIT CROSS SECTION AND / OR PLAN VIEW





REMARKS: SAMPLED - 48TP02 SB02 - NATURAL - @ 1400
NO REAL WASTE DEPOSIT.

PHOTO LOG:

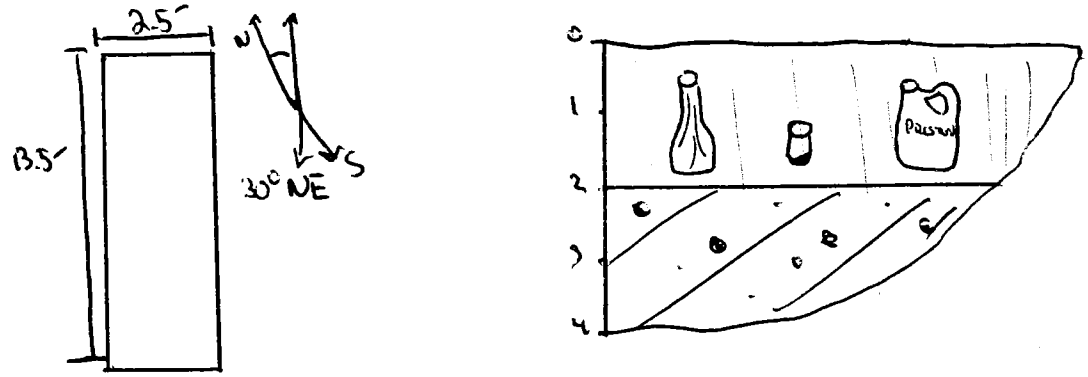
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-03
DATE: 5/30/02
GEOLOGIST: BOB BALKOVEC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BOTTLES, CANS, SANDY SILT	ML	WASTE 6" BGS	0.0	
2		PLASTIC, ANTI-FREEZE BOTTLE	FILL			
3		YELLOW VR - CLAY, SAND & GRAVEL	CL			
4						
	T.D. 4'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: SAMPLED - 48TP03WS0001 - WASTE MATERIAL @ 1300
48TP03SB0304 - NATURAL @ 1320

PHOTO LOG:

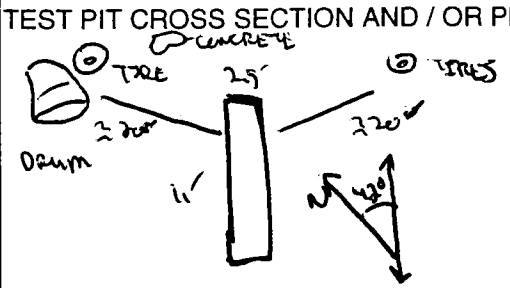
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-04
DATE: 5/20/02
GEOLOGIST: BOB BALKOVIC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BROWN SANDY SILT W/ROOTS	ML		0.0	0.0
2		YELL OR SILTY M-C SAND	GW	CLEAN	↓	↓
3		+ GRAVEL	↓			
4		YELL OR TAN ↓	↓	V-HARD	↓	↓
	T.D. 4'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



* SURFACE DEBRIS FOUND NEAR PIT.

11 x 2.5' 48° NE

REMARKS: NO SAMPLES COLLECTED

PHOTO LOG: DEBRIS AROUND BOUNDARY OF TEST PIT

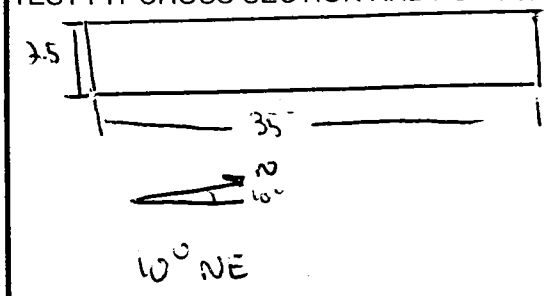
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-05
DATE: 5/20/07
GEOLOGIST: BOB BALLOVER

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1	1.1.1	YELLOW BR - SANDY SILT	ML		0.0	0.0
2	1.10	↓ - SANDY SILT W/ GRAVEL	GM		↓	↓
	T.D.					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE

PHOTO LOG:

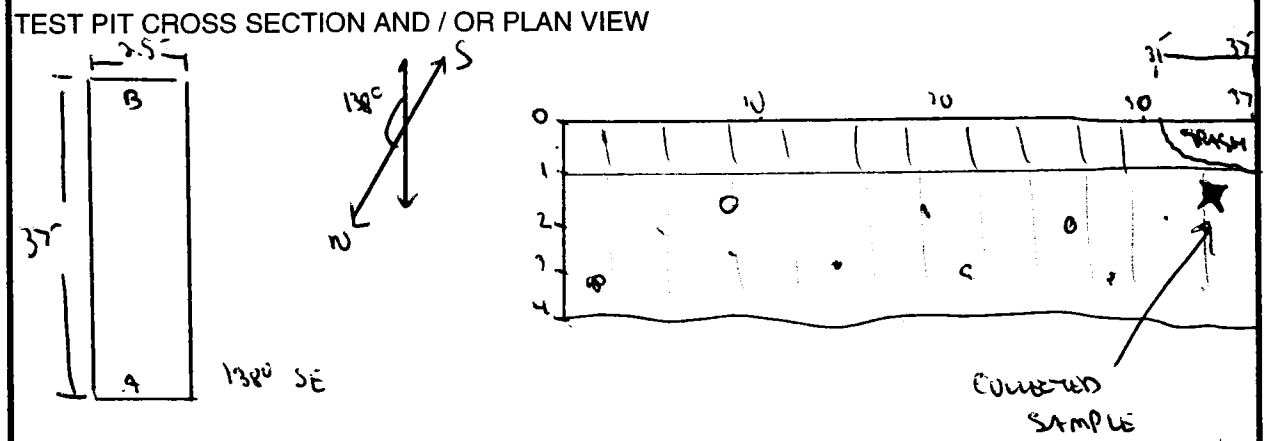
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-06
DATE: 5/21/02
GEOLOGIST: BOB BALKOVICZ

	Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	BZ (ppm)
	1		BROWN - CLAYEY SILT W/ SAND	ML		0.0	0.0
	2		YELLOW BR - SILTY SAND W/ GRAVEL	SM		↓	↓
A	3		↓	GM			
	4			↓			
		T.D. 4'					
	1		BROWN - SURFACE TRASH - BOTTLES, PVC WOOD, PLASTIC	ML	FILL / TRASH		
B	2		YELLOW BR - SILTY SAND W/ GRAVEL	SM			
	3		↓	GM			
	4			↓			
		T.D. 4'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: SAMPLED - 48TP06SB0203 - NATURAL MATERIAL - 0805

PHOTO LOG:

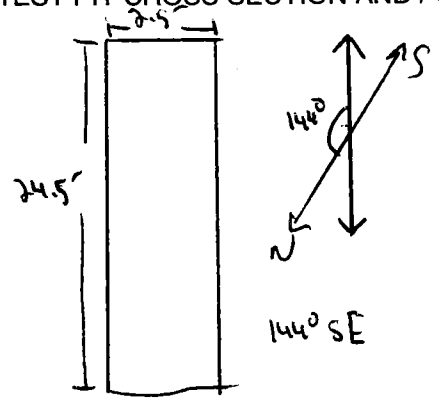
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SZTE 48

TEST PIT NUMBER: 48-TP-07
DATE: 5/21/02
GEOLOGIST: BOB BALKOVEC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		YELLOW BR- SILT W/ T-F-SAND	ML	CLEAN	0.0	0.0
2		↓	↓		↓	↓
	T.D. 2'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE - NO SIGNS OF TRASH.

PHOTO LOG:

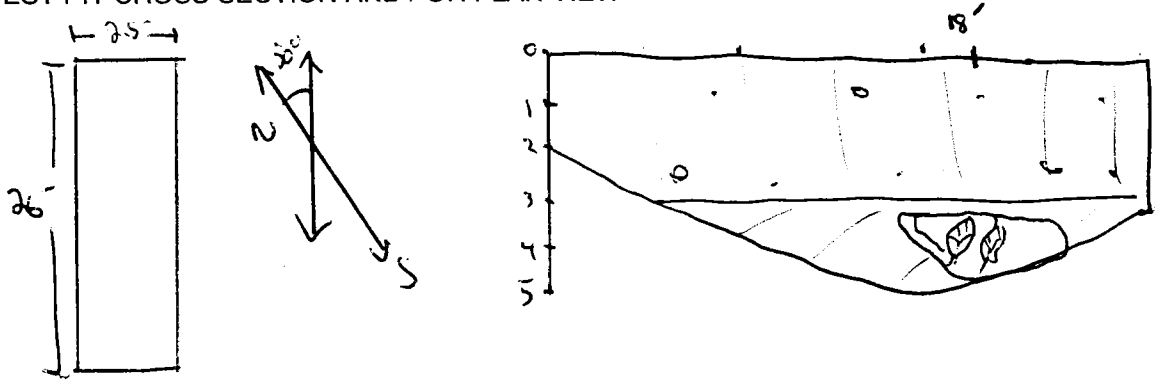
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-08
DATE: 5/21/02
GEOLOGIST: BOB BAUKOVEC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BROWN SILTY M-C SAND W/GRAVEL	SM/GM		0.0	0.0
2		↓ ↓	↓		↓	↓
3		↓ ↓	↓		↓	↓
4		BLACK/BROWN LEAF LITTER + CLAY	CL		↓	↓
5		↓ ↓	↓		↓	↓

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE

PHOTO LOG:

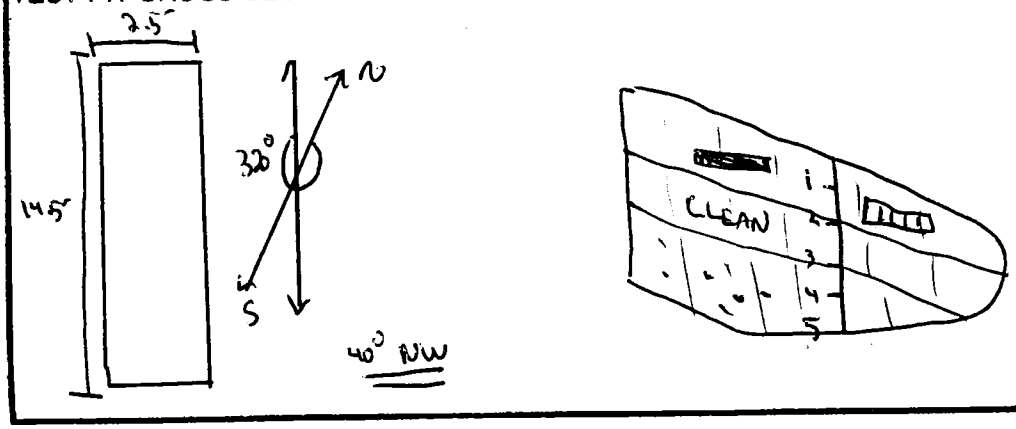
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SZTE48

TEST PIT NUMBER: 48-TP-09
DATE: 5/21/02
GEOLOGIST: BJB BANKOVICH

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	BZ (ppm)
1		BROWN- CONCRETE & SURFACE, WOOD	ML		0.0	0.0
2		METAL. SILTY SAND	FILL	SOME WASTE	↓	↓
3		BROWN- SILTY SAND -NO WASTE	ML			
4		YELLOW OR- SILTY SAND W/GRAVEL	SM			
5		↓	SM			
	TD 5'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: SAMPLED - 48TP09WS0002 - WASTE @ 0920
48TP09SB0405 - NATURAL @ 0940

PHOTO LOG:

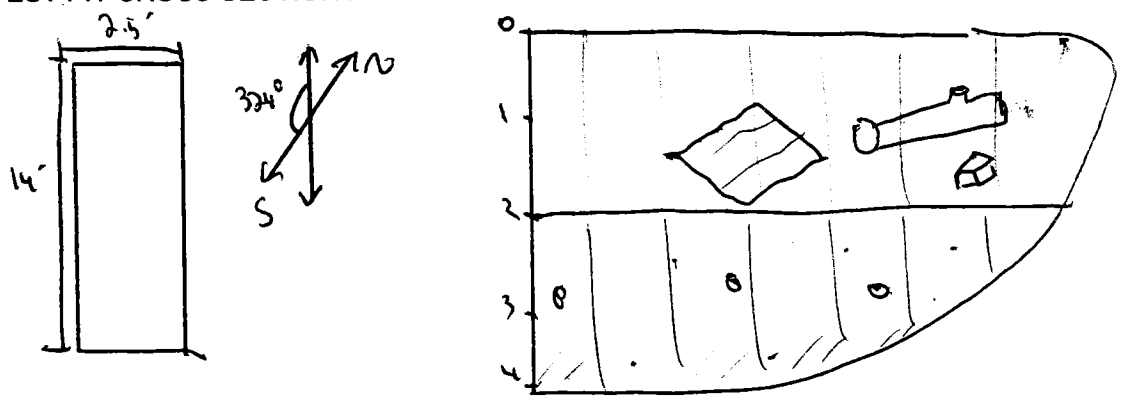
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-10
DATE: 5/21/02
GEOLOGIST: BOB BALKOVEC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BROWN - SILTY M-C SAND	SM	CLEAN	0.0	0.0
2		W/ BURIED PLASTIC, LUGS, BRICKS				
3		SILTY M-C SAND W/ GRAVELS	SM			
4		YELLOW BR - SOME CLAY	CM			
	T.D. 4'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE.

PHOTO LOG:

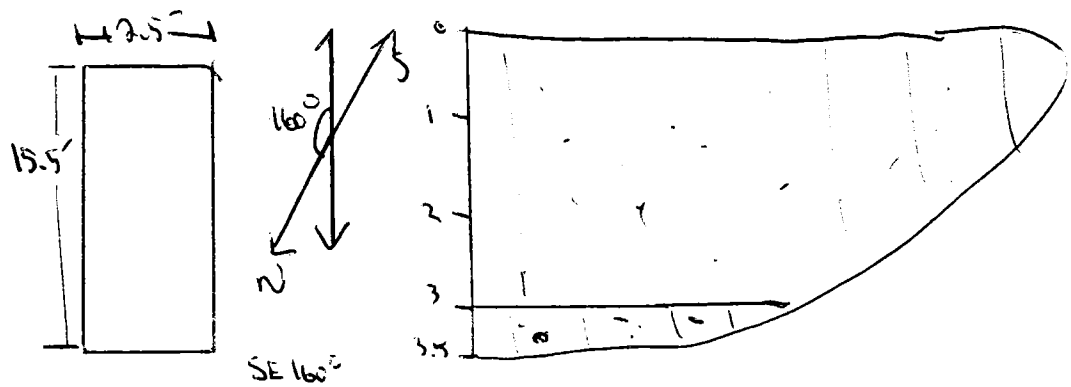
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-11
DATE: 5/21/02
GEOLOGIST: BOB BALKOVEC

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1		BROWN - SILTY SAND w/ TRACE SURFACE	ML	FILL?	0.0	0.0
2		TRASH, PLASTIC SHEETING		NATURAL 2-3.5'		
3		BROWN - SILTY SAND	SM			
3.5		YELLOW BR. SILTY MC SAND + GRAVEL	GM			
	T.D. 3.5'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE.

PHOTO LOG:

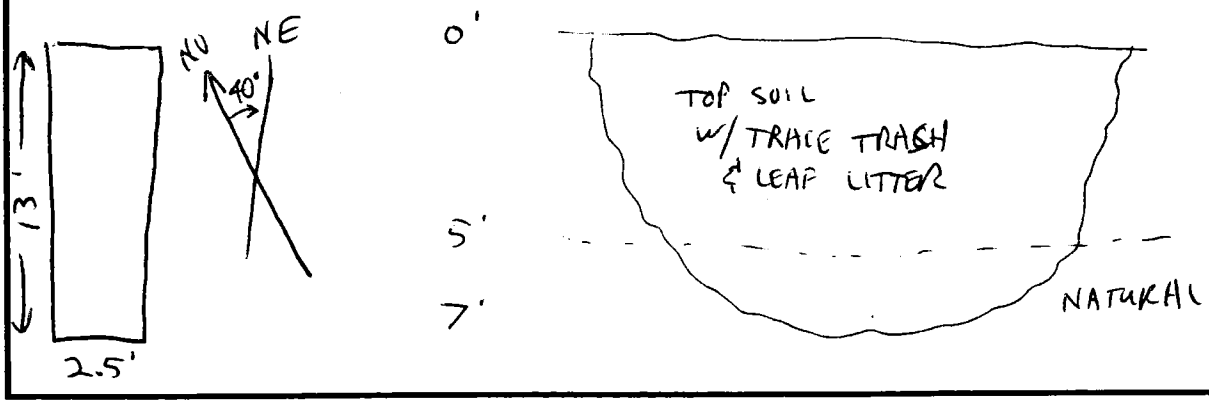
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48 TP 12
DATE: 5-21-02
GEOLOGIST: R. SIMPSON

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
1	FILL	BRN. SILT & SAND w/ TRACE	ML	MOIST	0	0
2		TRASH & LEAF LITTER.				
3		TRACE ROOTS/WOOD				
4						
5						
6	NATURAL	YELLOW BRN. SILTY SANDY	SM			
7						
	TD = 7'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: DID NOT SAMPLE

PHOTO LOG:

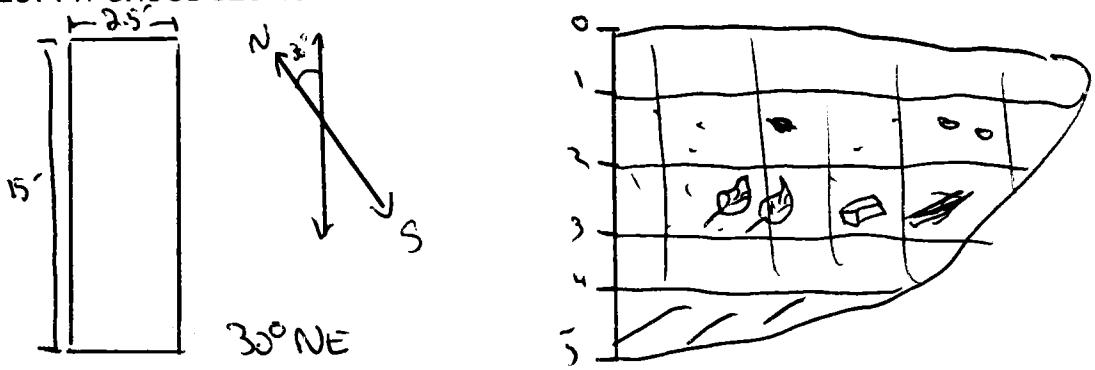
TEST PIT LOG

PROJECT NAME: WHITE OAK, MD
PROJECT NUMBER: CTO 839 N4246
LOCATION: SITE 48

TEST PIT NUMBER: 48-TP-13
DATE: 5/21/02
GEOLOGIST: BOB BALKOVEZ

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	BZ (ppm)
1		BROWN - SILT + SAND w/ROOTS	ML	CONCRETE CHUNK	0.0	0.0
2		↓ w/GRAVEL	GM		↓	↓
3		↓ SILTY SAND w/PLASTIC, METAL	SM	BRICK + LEAF LITTER	↓	↓
4		YELLOW ORANGE - SANDY SILT w/CLAY	ML		↓	↓
5		↓ SILTY CLAY	CL		↓	↓
	T.D. 5'					

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS: SAMPLED 48TP13WS0203 - WASTE @ 1250
48TP13SB0405 - NATURAL @ 1300

PHOTO LOG:

APPENDIX E

SOIL SAMPLE LOGS

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[X] Other: WASTE MATERIAL
[] QA Sample Type:

Sample ID No.: 48TP01WS0304
Sample Location: 48-TP-01
Sampled By: B.B / K.S.
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/20/02 Time: 1220 Method: BACKHOE Monitor Reading (ppm): 0.0	3-4'	BLACK + BROWN	SILT + CLAY, ASH AND DEBRIS, LEAF LITTER,

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(2) 4oz JAR	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS + CN	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	
TCLP (FULL)	8oz JAR	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): Robert Balkwe

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP01SB0607
Sample Location: 48-TP-01
Sampled By: B.B./K.S.
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/20/02 Time: 1230 Method: BACKHOE Monitor Reading (ppm): 0-0	6-7'	BROWN + YELLOW.	CLAY W/ SAND + SILT

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(3) ENCORES	6	
TCL SVOCs	4oz JAR	1	
TCL PEST/PCBs	4oz JAR	1	
TAL METALS + CN	4oz JAR	1	
EXPLOSIVES	4oz JAR	1	

OBSERVATIONS / NOTES:

DUP ON VOCs ONLY

MAP:

Circle If Applicable:

MS/MSD

Duplicate ID No.: FD052002 02

Signature(s): Robert Balkerey

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP02SB0102
Sample Location: 48TP02
Sampled By: B.B. / K.S.
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/20/02 Time: 1400 Method: BACK HOE Monitor Reading (ppm): 0.0	1-2'	YELLOW	M-C SAND & COBBLES

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(3) ENCORES	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS & CN	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkwill

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

Sample ID No.: 48TP03WS0001
Sample Location: 48-TP-03
Sampled By: BB/KS
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[X] Other: WASTE MATERIAL
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/30/01 Time: 1300 Method: BACK HOE Monitor Reading (ppm): 0.0	0'-1'	BROWN + BLACK	SANDY SILT, DEBRIS, CANS + BOTTLES

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(2) 4oz JAR	4	
TCL SVOCs	4oz JAR	2	
TCL PEST/PCBs	4oz JAR	2	
TAL METALS + CN	4oz JAR	2	
EXPLOSIVES	4oz JAR	2	
TCLP (FULL)	8oz JAR	2	

OBSERVATIONS / NOTES:

MAP:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
—	FD05200203

Signature(s): Robert Balkerve

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP03SB0304
Sample Location: 48-TP-03
Sampled By: BB/MS
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/20/02	3-4'	YELLOW ORANGE	CLAYEY SAND + GRAVEL
Time: 1320			
Method: BACK HOE			
Monitor Reading (ppm): 0-0			

COMPOSITE SAMPLE DATA:

	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(3) ENCORES	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS + CN	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP06SB0203
Sample Location: 48-TP-06
Sampled By: DB/KS
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/8/03 Time: 0805 Method: BACKHOE Monitor Reading (ppm): 0.0	2-3'	YELLOW ORANGE	SILTY SAND V. COMPACTED

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs 3 EN CORE	~~(2) 4oz JAR~~	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS + CN	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	

OBSERVATIONS / NOTES:

MAP:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Belkowe

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[X] Other: WASTE MATERIAL
[] QA Sample Type:

Sample ID No.: 48-P04[redacted]WS0W2
Sample Location: 48-TP-04
Sampled By: B.B/K.S
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/21/02 Time: 0920 Method: BACK HOE Monitor Reading (ppm): 0.0	1-2'	BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected		Other
TCL VOCs	(2) [redacted] 4oz JARS	✓	4	
TCL SVOCs	4oz JAR	✓	2	
TCL PEST/PCBs	4oz JAR	✓	2	
TAL METALS + CN	4oz JAR	✓	2	
EXPLOSIVES	4oz JAR	✓	2	
TCLP (full)	8oz JAR	✓	2	

OBSERVATIONS / NOTES:

MAP:

Circle If Applicable:

MS/MSD YES

Duplicate ID No.:

Signature(s): Robert Balkovec

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP09SB0405
Sample Location: 48-TP-09
Sampled By: BB/KS
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/21/02 Time: 0440 Method: BACK HOE Monitor Reading (ppm): 0.0	4-5'	YELLOW OR.	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(3) ENCORES	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[X] Other: WASTE MATERIAL
[] QA Sample Type:

Sample ID No.: 48TPBWS0203
Sample Location: 48-TP-13
Sampled By: BB/KS
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/21/02 Time: 1250 Method: BACKHOE Monitor Reading (ppm): 0.0	2'-3'	BROWN	SILTY SAND

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(2) 4oz JAR	✓	
TCL SVOCs	4oz JAR	✓	
TCL PEST/PCBs	4oz JAR	✓	
TAL METALS + CN	4oz JAR	✓	
EXPLOSIVES	4oz JAR	✓	
TCLP (FULL)	8oz JAR		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkenee

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: WHITE OAK, MD
Project No.: CTO 839 N4246

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 48TP13SB04U5
Sample Location: 48-TP-13
Sampled By: BB/KS
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/21/02 Time: 1300 Method: BACK HOE Monitor Reading (ppm): 0.0	4'-5'	YELLOW ORANGE	SILTY CLAY

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL VOCs	(3) ENCORES	✓	
TCL SVOCs	4oz	✓	
TCL PEST/PCBs	4oz	✓	
TAL METALS + CN	4oz	✓	
EXPLOSIVES	4oz	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec