

ORIGINAL

01.03.00.0013

0020

NASA WALLOPS FLIGHT FACILITY
WALLOPS ISLAND, VIRGINIA

ORIGINAL

**SITE INSPECTION FOR
MISCELLANEOUS SITES AT
WALLOPS FLIGHT FACILITY**

**VOLUME I
Site Inspection Report**

March 27, 1996

**Environmental A/E Services
Contract NAS5-35042
Delivery Order 14**

Submitted to:

**National Aeronautics and Space Administration
Wallops Flight Facility
Wallops Island, Virginia**



Metcalf & Eddy
An Air & Water Technologies Company

ORIGINAL

NASA WALLOPS FLIGHT FACILITY
WALLOPS ISLAND, VIRGINIA

ORIGINAL

~~Planned to be~~
~~March 1995~~

**SITE INSPECTION FOR
MISCELLANEOUS SITES AT
WALLOPS FLIGHT FACILITY**

**VOLUME I
Site Inspection Report**

March 27, 1996

**Environmental A/E Services
Contract NAS5-35042
Delivery Order 14**

Submitted to:

**National Aeronautics and Space Administration
Wallops Flight Facility
Wallops Island, Virginia**



Metcalf & Eddy
An Air & Water Technologies Company

TABLE OF CONTENTS

SECTION	PAGE
LIST OF VOLUMES	iii
LIST OF TABLES	iv
LIST OF FIGURES	v
LIST OF ACRONYMS AND ABBREVIATIONS	vii
Chemical Abbreviations	viii
Data Qualifiers	x
1.0 INTRODUCTION	1-1
1.1 Purpose	1-1
1.2 Location of Sites	1-2
1.3 Preliminary Evaluation of Sites	1-6
2.0 FIELD AND ANALYTICAL METHODOLOGIES	2-1
2.1 Unexploded Ordnance/Magnetometer Survey Procedures	2-1
2.2 Sampling Procedures	2-1
2.2.1 Soil Gas	2-1
2.2.2 Soil	2-1
2.2.3 Surface Water	2-2
2.2.4 Sediment	2-3
2.2.5 Groundwater	2-3
2.2.6 PCB Wipe	2-3
2.2.7 Debris Pile	2-3
2.2.8 Background	2-4
2.3 Data Analysis and Evaluation Procedures	2-3
3.0 SAMPLE COLLECTION AND RESULTS	3-1
3.1 Site 2 - Maintenance Facility, Former Building E-52	3-2
3.2 Site 4 - Debris Pile, North End of Wallops Island	3-13
3.3 Site 5 - Paint Stain, Building X-30	3-25
3.4 Site 6 - Former Island Fueling System, Buildings X-5 and X-10	3-42
3.5 Site 7 - Transformer Pads	3-52
3.6 Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134	3-71
3.7 Site 9 - Abandoned Drum Field, Along Runway 17-35	3-79
3.8 Site 10 - ADAS, Building N-168	3-95
3.9 Site 11 - Transformer Storage Areas, Buildings M-3, M-4, and V-30	3-107
3.10 Site 12 - Former Wind Tunnel, Near Building X-115	3-115

TABLE OF CONTENTS (CONTINUED)

SECTION	PAGE NUMBER
3.11 Site 14 - Debris Pile, North of Runway 10-28	3-123
3.12 Site 15 - Debris Pile, Along Runway 17-35	3-133
4.0 HAZARD RANKING SCORING SYSTEM RESULTS	4-1
4.1 Introduction and Methodology	4-1
4.2 Summary of HRS Scoring Results	4-3
5.0 CONCLUSIONS AND RECOMMENDATIONS	5-1
5.1 Site 2 - Maintenance Facility, Building E-52 (Main Base)	5-1
5.2 Site 4 - Debris Pile, North End of Wallops Island	5-2
5.3 Site 5 - Paint Stain, Building X-30 (Wallops Island)	5-2
5.4 Site 6 - Former Island Fueling System, Buildings X-5 and X-10 (Wallops Island)	5-3
5.5 Site 7 - Transformer Pads	5-4
5.6 Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134	5-5
5.7 Site 9 - Abandoned Drum Field, Along Runway 17-35 (Main Base)	5-5
5.8 Site 10 - Advanced Data Acquisition Support Facility (ADAS), Building N-168 (Main Base)	5-6
5.9 Site 11 - Transformer Storage Areas, Buildings M-3, M-4 (Main Base), and V-30 (Wallops Island)	5-6
5.10 Site 12 - Former Wind Tunnel, Near Building X-115 (Wallops Island)	5-7
5.11 Site 14 - Debris Pile, North of Runway 10-28 (Main Base)	5-7
5.12 Site 15 - Debris Pile, Along Runway 17-35 (Main Base)	5-8
6.0 REFERENCES	6-1

APPENDICES

APPENDIX A	-	Data Validation Summaries
A-1	-	Volatile Organic Results
A-2	-	Semivolatile Organic Results
A-3	-	Pesticide/PCB Results
A-4	-	Petroleum Hydrocarbon Results
A-5	-	Inorganic Results
A-6	-	Asbestos Results
APPENDIX B	-	Analytical Methods and Detection Limits
B-1	-	Analytical Methods
B-2	-	Analytes and Detection Limits
APPENDIX C	-	Background Data

LIST OF VOLUMES

- VOLUME I** - Site Inspection Report

- VOLUME II** - Preliminary Reports Prepared Under DO 14, Phases I-II, Field Surveys
- SECTION 1** - Unexploded Ordnance/Magnetometer Survey Report
- 2** - Soil Gas Survey Report
- 3** - Expanded Soil Gas Survey Report

- VOLUME III** - Preliminary Report Prepared Under DO 14, Phases III-IV, Field Sampling
- SECTION 1** - Soil/PCB Wipe/Surface Water/Sediment Sampling Report

- VOLUME IV** - Preliminary Report Prepared Under DO 14, HRS Scoring
- SECTION 1** - Preliminary Hazard Ranking System Scoring Results, Addended March 1996

- VOLUME V** - Preliminary Report Prepared Under DO 14, HRS PRESCORE Output
- SECTION 1** - Revised HRS PRESCORE Output for Sites 4,5,9,10, and 12

- VOLUME VI** - Preliminary Report Prepared Under DO 14, HRS PRESCORE Output
- SECTION 1** - Preliminary HRS PRESCORE Output, December 5, 1994

- VOLUME VII** - Preliminary Report Prepared Under DO 14, EPA HRS PRESCORE Program
- SECTION 1** - EPA HRS PRESCORE Software and Manual

- VOLUME VIII** - References

- VOLUME IX** - References (continued)

- VOLUME X** - References (continued)

LIST OF TABLES

TABLE NUMBER		PAGE
1-1	Samples Collected	1-7
2.2-1	Analytical Methods Used for Site Inspections	2-5
3.1-1	Site 2 - Maintenance Facility, Building E-52 - Samples Collected	3-3
3.1-2	Site 2 - Maintenance Facility, Building E-52 - Observed Contamination	3-7
3.2-1	Site 4 - Debris Pile, North End of Wallops Island - Samples Collected	3-14
3.2-2	Site 4 - Debris Pile, North End of Wallops Island - Observed Contamination	3-17
3.3-1	Site 5 - Paint Stain, Building X-30 - Samples Collected	3-26
3.3-2	Site 5 - Paint Stain, Building X-30 - Observed Contamination	3-31
3.4-1	Site 6 - Former Island Fueling System, Buildings X-5 and X-10 - Samples Collected	3-42
3.4-2	Site 6 - Former Island Fueling System, Buildings X-5 and X-10 - Observed Contamination	3-46
3.5-1	Site 7 - Transformer Pads - Samples Collected	3-52
3.5-2	Site 7 - Transformer Pads - Observed Contamination	3-61
3.6-1	Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134 - Samples Collected	3-72
3.6-2	Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134 - Observed Contamination	3-75
3.7-1	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Samples Collected	3-80
3.7-2	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Observed Contamination	3-84
3.8-1	Site 10 - ADAS, Building N-168 - Samples Collected	3-96
3.8-2	Site 10 - ADAS, Building N-168 - Observed Contamination	3-99
3.9-1	Site 11 - Transformer Storage Areas, Buildings M-3, M-4, and V-30 - Samples Collected	3-107
3.9-2	Site 11 - Transformer Storage, Buildings M-3, M-4, and V-30 - Observed Contamination	3-112
3.10-1	Site 12 - Former Wind Tunnel, Near Building X-115 - Samples Collected	3-115
3.10-2	Site 12 - Former Wind Tunnel, Near Building X-115 - Observed Contamination	3-118
3.11-1	Site 14 - Debris Pile, North of Runway 10-28 - Samples Collected	3-123
3.11-2	Site 14 - Debris Pile, North of Runway 10-28 - Observed Contamination	3-127
3.12-1	Site 15 - Debris Pile, Along Runway 17-35 - Samples Collected	3-133
3.12-2	Site 15 - Debris Pile, Along Runway 17-35 - Observed Contamination	3-137
3.13-1	Trip Blanks Collected	3-144

LIST OF FIGURES

FIGURE NO.		PAGE
1-1	WFF Vicinity Map	1-3
1-2	Main Base Sites	1-4
1-3	Wallops Island Sites	1-5
3.1-1	Site 2 - Maintenance Facility, Building E-52 - Samples Collected	3-5
3.1-2	Site 2 - Maintenance Facility, Building E-52 - Observed Contamination - Surface Soil Samples	3-11
3.1-3	Site 2 - Maintenance Facility, Building E-52 - Observed Contamination - Subsurface Soil Samples	3-12
3.2-1	Site 4 - Debris Pile, North End of Wallops Island - Samples Collected	3-15
3.2-2	Site 4 - Debris Pile, North End of Wallops Island - Observed Contamination - Surface Soil and Debris Pile Samples	3-23
3.2-3	Site 4 - Debris Pile, North End of Wallops Island - Observed Contamination - Subsurface Soil Samples	3-24
3.3-1	Site 5 - Paint Stain, Building X-30 - Samples Collected	3-28
3.3-2	Site 5 - Paint Stain, Building X-30 - Samples Collected	3-29
3.3-3	Site 5 - Paint Stain, Building X-30 - Observed Contamination - Surface Soil Samples	3-39
3.3-4	Site 5 - Paint Stain, Building X-30 - Observed Contamination - Subsurface Soil Samples	3-40
3.3-5	Site 5 - Paint Stain, Building X-30 - Observed Contamination - Surface Water and Sediment Samples	3-41
3.4-1	Site 6 - Former Island Fueling System, Buildings X-5 and X-10 - Samples Collected	3-44
3.4-2	Site 6 - Former Island Fueling System, Buildings X-5 and X-10 - Observed Contamination - Surface Soil Samples	3-50
3.4-3	Site 6 - Former Island Fueling System, Buildings X-5 and X-10 - Observed Contamination - Subsurface Soil Samples	3-51
3.5-1	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-64
3.5-2	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-65
3.5-3	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-66
3.5-4	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-67
3.5-5	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-68
3.5-6	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-69
3.5-7	Site 7 - Transformer Pads - Samples Collected and Observed Contamination	3-70
3.6-1	Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134 - Samples Collected	3-73
3.6-2	Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134 - Observed Contamination - Subsurface Soil Samples	3-78
3.7-1	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Sample Locations	3-82
3.7-2	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Observed Contamination - Subsurface Soil and Drum Content Samples	3-92
3.7-3	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Observed Contamination - Surface Water and Sediment Samples	3-93
3.7-4	Site 9 - Abandoned Drum Field, Along Runway 17-35 - Observed Contamination - Groundwater Samples	3-94
3.8-1	Site 10 - ADAS, Building N-168 - Sample Locations	3-97
3.8-2	Site 10 - ADAS, Building N-168 - Observed Contamination - Surface Soil Samples	3-104
3.8-3	Site 10 - ADAS, Building N-168 - Observed Contamination - Subsurface Soil Samples	3-105
3.8-4	Site 10 - ADAS, Building N-168 - Observed Contamination - Groundwater Samples	3-106
3.9-1	Site 11 - Transformer Storage Areas, Buildings M-3 and M-4 - Samples Collected	3-109

LIST OF FIGURES (CONTINUED)

<u>FIGURE NO.</u>	<u>PAGE</u>
3.9-2	Site 11 - Transformer Storage Areas, Building V-30 - Observed Contamination 3-110
3.9-3	Site 11 - Transformer Storage Areas, Buildings M-3 and M-4 - Observed Contamination 3-113
3.9-4	Site 11 - Transformer Storage Areas, Building V-30 - Observed Contamination 3-114
3.10-1	Site 12 - Former Wind Tunnel, Near Building X-115 - Samples Collected 3-116
3.10-2	Site 12 - Former Wind Tunnel, Near Building X-115 - Observed Contamination - Surface Soil and Sediment Samples 3-122
3.11-1	Site 14 - Debris Pile, North of Runway 10-28 - Samples Collected 3-125
3.11-2	Site 14 - Debris Pile, North of Runway 10-28 - Observed Contamination - Subsurface Soil 3-131
3.11-3	Site 14 - Debris Pile, North of Runway 10-28 - Observed Contamination - Surface Water and Sediment Samples 3-132
3.12-1	Site 15 - Debris Pile, Along Runway 17-35 - Samples Collected 3-135
3.12-2	Site 15 - Debris Pile, Along Runway 17-35 - Observed Contamination - Subsurface Soil and Debris Pile Samples 3-142
3.12-3	Site 15 - Debris Pile, Along Runway 17-35 - Observed Contamination - Surface Water and Sediment Samples 3-143

LIST OF ACRONYMS AND ABBREVIATIONS

ADAS	-	Advanced Data Acquisition Support Facility
AVG	-	Average
BTEX	-	Benzene, Toluene, Ethyl Benzene, Xylene
BLK	-	Blank
BKGRD	-	Background Sample
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	-	EPA Contract Laboratory Program
CFR	-	Code of Federal Regulations
cm	-	centimeter
cm ²	-	square centimeter
CNWR	-	Chincoteague National Wildlife Refuge
CRDL	-	Contract Required Detection Limit
CRQL	-	Contract Required Quantitation Limit
CSC	-	Computer Science Corporation
DL	-	Detection Limits for non-CLP analyses
dl	-	detection limit
DC	-	Drum Contents
DP	-	Debris Pile
DUP	-	Field Duplicate
E BLK	-	Equipment Blank
EPA	-	Environmental Protection Agency
F BLK	-	Field Blank
ft	-	feet
GSFC	-	Goddard Space Flight Center
ID	-	Identification Number
ILMO	-	Analytical method for inorganic analytes (CLP)
kg	-	kilogram
M&E	-	Metcalf & Eddy
MCL	-	Maximum Contaminant Level
mg/kg	-	milligrams per kilograms
mg/l	-	milligrams per liter
mg/l	-	milligrams per liter
MOR	-	Minimum Observed Release
MS/MSD	-	Matrix Spike/Matrix Spike Duplicate
NA	-	Not Applicable
NASA	-	National Aeronautics and Space Administration
NPL	-	National Priorities List
O/W	-	Oil/Water
OVA	-	Organic Vapor Analyzer
OLMO	-	Analytical method for organic compounds (CLP)
PA	-	Preliminary Assessment
PAH	-	Polycyclic Aromatic Hydrocarbon
PCB	-	Polychlorinated Biphenyl
pest	-	pesticide
PID	-	Photoionization Detector
ppb	-	parts per billion
ppm	-	parts per million
QA/QC	-	Quality Assurance/Quality Control

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

RCRA	-	Resource Conservation and Recovery Act
RECOLL	-	Recollected
SB	-	Soil Boring
SD	-	Sediment
SG	-	Soil Gas
SI	-	Site Inspection
SS	-	Surface Soil
SW	-	Surface Water
SW846	-	Environmental Protection Agency Solid Waste Analytic Method
TAL	-	Target Analyte List
TCL	-	Target Compound List
TPH	-	Total Petroleum Hydrocarbon with Fingerprinting
TSCA	-	Toxic Substance Control Act
$\mu\text{g}/\text{kg}$	-	micrograms per kilogram
ug/kg	-	micrograms per kilogram
$\mu\text{g}/\text{l}$	-	micrograms per liter
ug/l	-	micrograms per liter
UST	-	Underground Storage Tank
UXO	-	Unexploded Ordnance
voa	-	volatile organic analysis
VOC	-	Volatile Organic Compound
VA DEQ	-	Commonwealth of Virginia Department of Environmental Quality
VPDES	-	Virginia Pollutant Discharge Elimination System
WFF	-	Wallops Flight Facility
WIPE	-	PCB Wipe Sample

Chemical Abbreviations

VOLATILES:

Chlorom	=	Chloromethane
MeCl_2	=	Methylene chloride
2-But	=	2-Butanone
1,1,1TCA	=	1,1,1-Trichloroethane
4-M-2P	=	4-Methyl-2-pentanone
2-Hex	=	2-Hexanone
PCE	=	Tetrachloroethane
E Benz	=	Ethylbenzene
Xylenes	=	Total xylenes

SEMIVOLATILES:

Naphth	=	Naphthalene
2-Methyl	=	2-Methylnaphthalene
Acenapy	=	Acenaphthylene
Acenap	=	Acenaphthene
Dibenzf	=	Dibenzofuran
Phenan	=	Phenanthrene
Anthra	=	Anthracene
Carba	=	Carbazole

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

SEMIVOLATILES (con't):

Fluoran	=	Fluoranthene
Butylbp	=	Butylbenzylphthalate
Benz(a)a	=	Benzo(a)anthracene
Benz(b)	=	Benzo(b)fluoranthene
Benz(k)	=	Benzo(k)fluoranthene
Benz(a)p	=	Benzo(a)pyrene
Bis2ehp	=	bis(2-ethylhexyl)phthalate
Dinop	=	Di-n-octyl phthalate
Ideno	=	Ideno(1,2,3-cd)pyrene
Dib(ah)	=	Dibenz(a,h)anthracene
Ben(ghi)	=	Benzo(g,h,i)perylene

PESTICIDES/PCBS:

β BHC	=	beta-1,2,3,4,5,6-hexachloro-cyclohexane
Δ BHC	=	delta-1,2,3,4,5,6-hexachloro-cyclohexane
Hept Ep	=	Heptachlor epoxide
EndoI	=	Endosulfan I
4,4'-DDE	=	4,4'-dichlorodiphenyldichloroethene
4,4'-DDD	=	4,4'-dichlorodiphenyldichloroethane
End Sul	=	Endosulfan sulfate
4,4'-DDT	=	4,4'-dichlorodiphenyltrichloroethane
Methoxy	=	Methoxychlor
End Ket	=	Endrin ketone
End Ald	=	Endrin aldehyde
α -Chlor	=	alpha-Chlordane
γ -Chlor	=	gamma-Chlordane
A1254	=	Aroclor-1254
A1260	=	Aroclor-1260
TPH	=	Total Petroleum Hydrocarbons

INORGANICS:

Al	=	Aluminum
Sb	=	Antimony
As	=	Arsenic
Ba	=	Barium
Be	=	Beryllium
Cd	=	Cadmium
Ca	=	Calcium
Cr	=	Chromium
Co	=	Cobalt
Cu	=	Copper
Fe	=	Iron
Pb	=	Lead
Mg	=	Magnesium
Mn	=	Manganese
Hg	=	Mercury
Ni	=	Nickel

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

INORGANICS (con't):

K	=	Potassium
Se	=	Selenium
Ag	=	Silver
Na	=	Sodium
Tl	=	Thallium
V	=	Vanadium
Zn	=	Zinc
CN	=	Cyanide

Data Qualifiers

B	-	Not detected substantially above the level reported in lab or field blanks.
J	-	Analyte present. Reported value may not be accurate or precise, used in average.
J*	-	Analyte present. Reported value may not be accurate or precise, not used in average.
K	-	Analyte present. Reported value may be biased high.
L	-	Analyte present. Reported value may be biased low.
N	-	Tentative identification.
R	-	Unreliable result. Analyte may or may not be present in the sample.
U	-	Not detected.
UJ	-	Not detected. Quantitation limit may be inaccurate or imprecise.
UL	-	Not detected. Quantitation limit is probably higher.

SECTION 1.0

INTRODUCTION

1.1 PURPOSE

This Site Inspection Report is being prepared for the National Aeronautics and Space Administration (NASA), Goddard Space Flight Center (GSFC), Wallops Flight Facility (WFF), Wallops Island, Virginia. The report is being prepared under contract NAS5-35042, Delivery Order 14, Amendment 8: Wallops Flight Facility Site Inspection. The Site Inspection (SI) project included investigation of fifteen separate sites identified in 1990 during an Environmental Site Survey as being potentially affected by past activities. The Environmental Site Survey (NASA, 1990(d)) is being used in the place of a Preliminary Assessment (PA) for the sites, and will be referred to as such throughout this report.

The SI was conducted in phases due to the magnitude of the task. The phases completed are listed below:

PHASE	TASK	NO. OF SITES	DATE PERFORMED
Preliminary Preparation	Background Data Collection/Site Survey	15	February, 1993
I	Unexploded Ordnance/Magnetometer Survey	9	March, 1993
II	Initial Soil Gas Survey	11	March, 1993
II	Expanded Soil Gas Survey	3	June, 1993
III	Initial Soil and PCB Wipe Sampling	12	May-September, 1993
IV	Initial Surface Water and Sediment Sampling	3	May-September, 1993
HRS	Hazard Ranking System Scoring	12	December, 1994
V	Groundwater Sampling, Additional Soil and Surface Water/Sediment Sampling. Revision of the Hazard Ranking System Scoring	4	September, 1995

Field methodologies are described in detail in the Final Work Plan, (NASA, 1995), prepared by Metcalf & Eddy in August 1995 and summarized herein. The Site Inspection Report is being prepared to summarize the conclusion of all the field investigations, and includes results and discussion of each of the individual field efforts and the Hazard Ranking System (HRS) Scoring.

1.2 LOCATION OF SITES

WFF is composed of three separate specific areas in close proximity to each other--the Main Base, the Mainland, and Wallops Island (Figure 1-1). The fifteen sites investigated are located throughout these areas. WFF is located in the temperate zone at approximately 37° 56' north latitude and 75° 27' west longitude. WFF is within the political boundaries of Accomack County on the Eastern Shore of the Commonwealth of Virginia. WFF is approximately 40 miles southeast of Salisbury, Maryland, and 90 miles north by northeast of the Tidewater Regional area. Chincoteague Island is approximately five miles northeast of the WFF Main Base.

The fifteen areas investigated are listed below, and a description of each site is provided in Section 1.3. NASA discontinued investigation of Sites 1, 3, and 13 in March 1993 after completion of Phase II of the SI. These three sites were not investigated further because they were associated with former Navy activities (prior to 1959), and fall under the jurisdiction of the Army Corps of Engineers.

FIFTEEN SITES INVESTIGATED:

Site Name	Location
Site 1 - Old Wastewater Treatment Plant	Main Base
Site 2 - Maintenance Facility	Main Base - Former Building E-52
Site 3 - Two 600,000-Gallon Fuel Tanks	Main Base - Buildings A46-A and A46-B
Site 4 - Debris Pile	Wallops Island - North End
Site 5 - Paint Stain	Wallops Island - Building X-30
Site 6 - Former Island Fueling System	Wallops Island - Buildings X-5 and X-10
Site 7 - Transformer Pads	Main Base, Wallops Island, and Mainland
Site 8 - Former Main Base Fueling System	Main Base - Buildings N-133 and N-134
Site 9 - Abandoned Drum Field	Main Base - Along Runway 17-35
Site 10 - Advance Data Acquisition Support Facility (ADAS)	Main Base - Building N-168
Site 11 - Transformer Storage Areas	Main Base, Wallops Island - Buildings M-3, M-4, and V-30
Site 12 - Former Wind Tunnel	Wallops Island - Near Building X-115
Site 13 - Ordnance Disposal Area	Main Base - Boat Basin
Site 14 - Debris Pile	Main Base - North of Runway 10-28
Site 15 - Debris Pile	Main Base - Along Runway 17-35

The Main Base sites are illustrated on Figure 1-2, and the Wallops Island sites are illustrated on Figure 1-3. Transformer pads which comprise Site 7 are shown on figures presented in Section 3.0, and individual maps for each site are also included in Section 3.0.

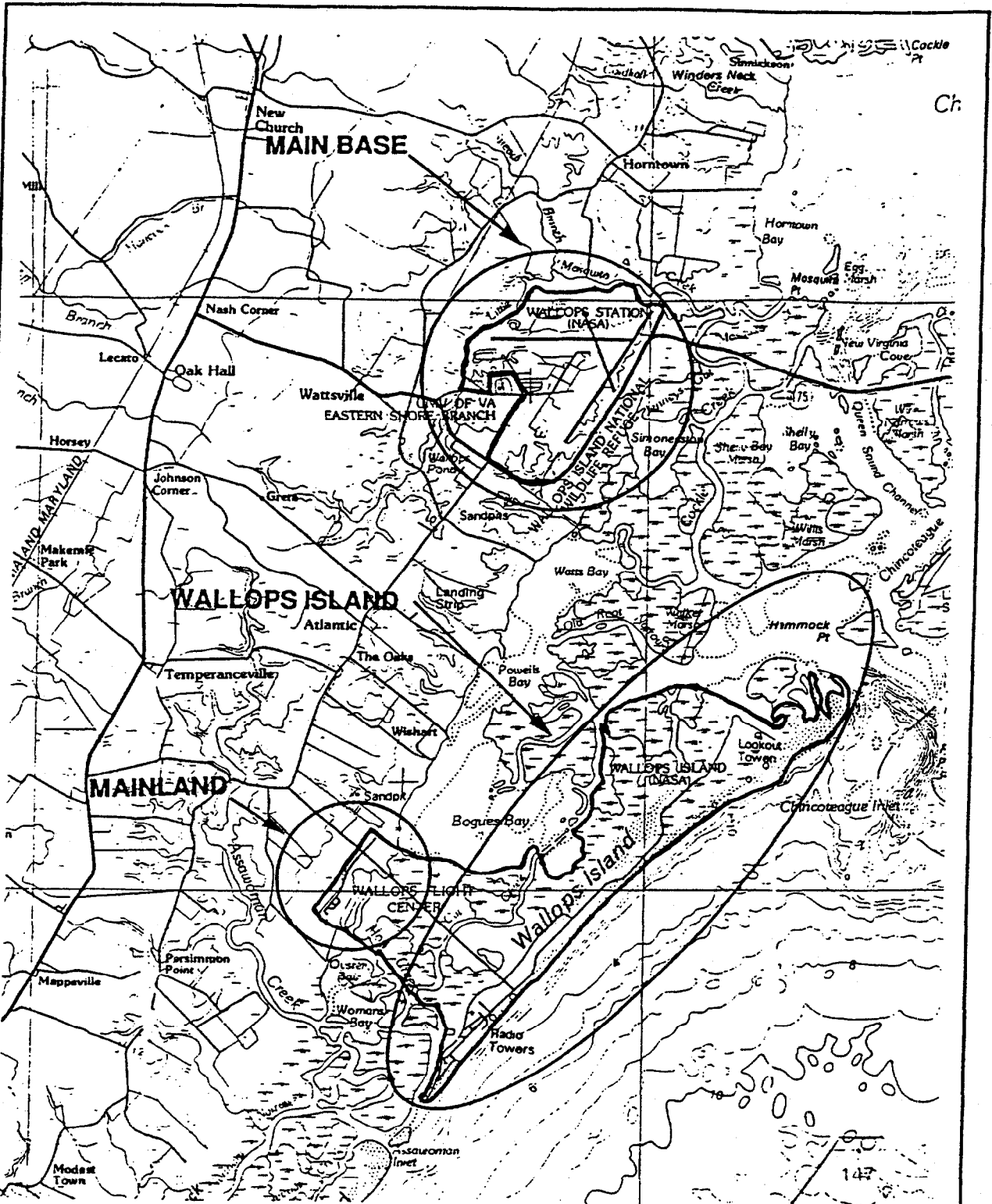
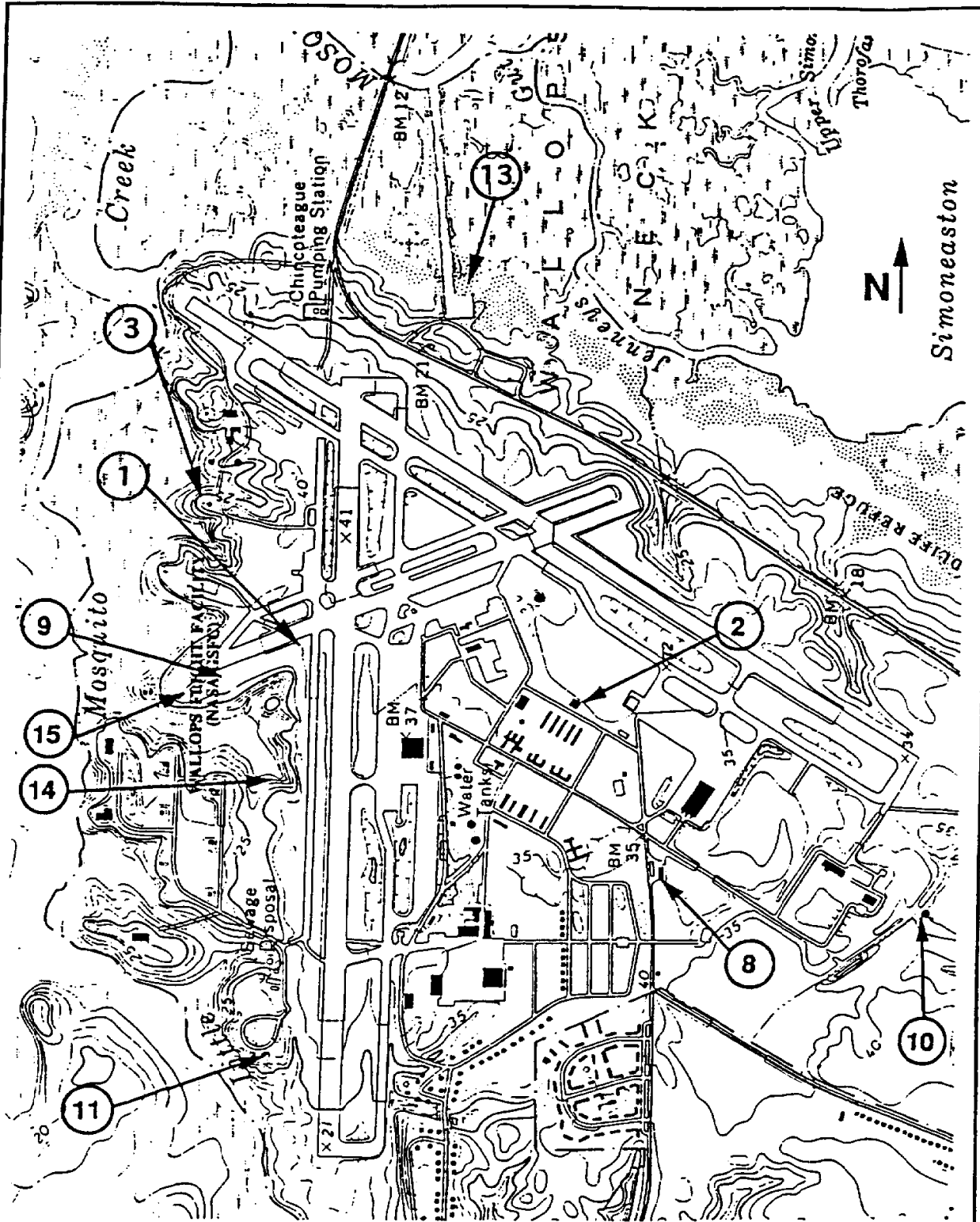


FIGURE 1-1

WFF VICINITY MAP

SOURCE: USGS NATIONAL OCEAN SURVEY

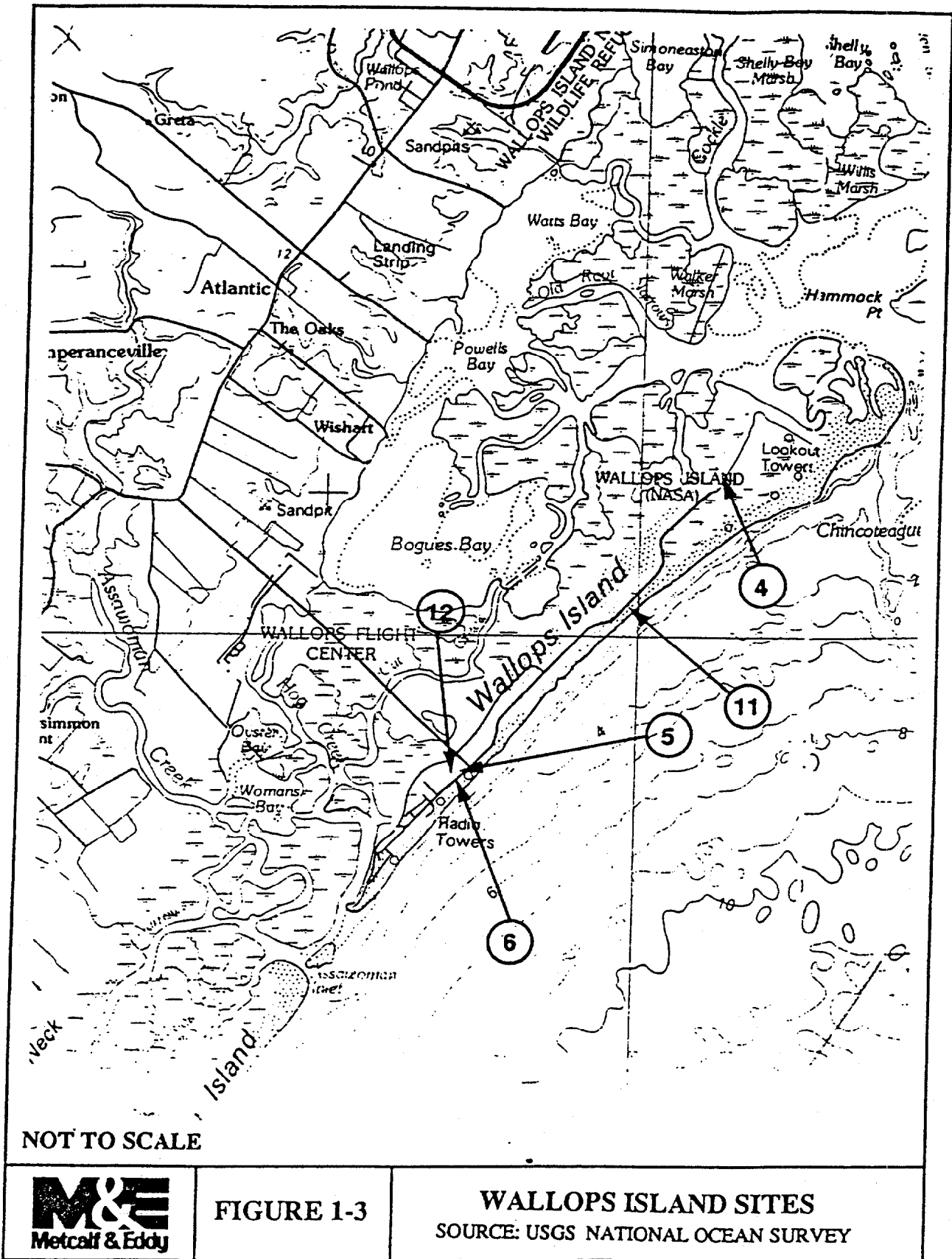


NOT TO SCALE



FIGURE 1-2

MAIN BASE SITES
SOURCE: USGS



Samples collected from the fifteen areas of concern are summarized in Table I-1. Magnetometer and soil gas surveys were conducted in March and June 1993 (Phases I and II). Soil, surface water, sediment, groundwater, debris, and/or PCB wipe samples were collected between May 1993 and September 1995 (Phases III and IV). More detailed sample lists indicating sample identification number, collection depths, analytical parameters, and reasons for sample collection are included in Section 3.0.

1.3 PRELIMINARY EVALUATION OF SITES

The following background information regarding each of the fifteen sites investigated was gathered during preliminary SI preparation and during Phases I and II of the SI. Additional information regarding the results of the magnetometer/UXO survey and the soil gas survey was presented in Preliminary Report #1 (NASA, 1993(c)) and Preliminary Report #2 (NASA, 1993(d)), respectively. These reports are included in Volume II of this report.

Site 1 - Old Wastewater Treatment Plant. The Old Wastewater Treatment Plant (WWTP) was constructed by the Navy, and was abandoned in 1957 when NASA took over the facility and constructed the current wastewater treatment plant. Structures and items noted during the initial site visit included: a plant control building, concrete process tanks and associated piping, sludge drying beds, a pump/valve building, a trickling filter, three transformers, and two compressed gas cylinders. A 1988 NASA memo (NASA, 1988(a)) memo addressed to the Corps of Engineers indicated that a drainage swale located near the Old WWTP was potentially used as an ordnance disposal site, but no evidence of ordnance was noted during the initial site survey.

The area surrounding the Old WWTP was investigated to determine the presence of buried tanks, piping, and UXO. Three separate areas were investigated at this site: immediate area surrounding the Old WWTP, possible sludge disposal area, and possible ordnance disposal area. Approximately 10 subsurface contacts were located in the immediate area surrounding the Old WWTP. Another 30 subsurface contacts were located in the possible sludge disposal area, and approximately 50 subsurface contacts were detected in the possible ordnance disposal area. The identities of all subsurface contacts were never determined. Additional discussion of the UXO/magnetometer surveys can be found in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

Six soil gas samples were collected during the March 1993 soil gas survey around the Old WWTP at depths from 2.5 to 5 feet. One sample indicated methane levels greater than 1000 ppm at a location north/northwest of the trickling filter. This may be indicative of degradation of some type of subsurface carbonaceous material. The soil gas surveys are described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 2 - Maintenance Facility, Former Building E-52. The site is located south of the former Aviation Fuel Tank Farm area and was used by the Navy as a Motor Pool. The facility was used by NASA as a building for the landscaping contractors. Building E-52 was demolished in 1994. A soil gas survey (NASA, 1990(c)) of the area detected xylene isomers along the border between the tank farm and former Building E-52, and a second soil gas survey (NASA, 1992(b)) detected perchloroethene in approximately the same area. Subsurface soil samples collected during the Supplemental Site Characterization (NASA, 1991(a)) for the tank farm indicated fuel related chemicals and trichloroethene down gradient of former Building E-52.

TABLE 1-1. SAMPLES COLLECTED

Site	Soil Gas	Surface Soil	Subsurface Soil	Sediment	Surface Water	Groundwater	PCB Wipes	Debris	Drum Contents
1. Old WWTP	6	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹
2. Former E-52	44	5	10	NA	NA	NA	NA	NA	NA
3. 600K Tanks(2)	13	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹
4. Debris Pile, WI	5	3	6	NA	NA	NA	NA	1	NA
5. Paint Stain	6	5	4	2	2	NA	NA	NA	NA
6. X-5/ X-10	14	1	9	NA	NA	NA	NA	NA	NA
7. XFMR Pads	NA	22	NA	NA	NA	NA	70	NA	NA
8. N-134	11	NA	8	NA	NA	NA	NA	NA	NA
9. Drum field	7	NA	6	7	7	3	NA	NA	1
10. ADAS	8	6	6	NA	NA	4	NA	NA	NA
11. XFMR Storage	NA	NA	NA	NA	NA	NA	13	NA	NA

TABLE 1-1. SAMPLES COLLECTED (Cont.)

Site	Soil Gas	Surface Soil	Subsurface Soil	Sediment	Surface Water	Groundwater	PCB Wipes	Debris	Drum Contents
12. Wind Tunnel	NA	NA	2	NA	NA	NA	NA	NA	NA
13. UXO Disposal	NA	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹
14. 10-28 Debris Pile	39	NA	13	4	3	NA	NA	NA	NA
15. 17-35 Debris Pile	30	NA	11	5	5	NA	NA	2	NA

¹ Site was not investigated beyond Phase II.

NOTES: Sample quantities do not include QA/QC samples.
 A detailed sample summary is provided in Appendix A.
 Analytical detection limits are provided in Appendix A.

ACRONYMS:

WWTP	- Wastewater Treatment Plant	WI	- Wallops Island
UXO	- Unexploded Ordnance	NA	- Not Applicable
PCB	- Polychlorinated Biphenyl	K	- Thousand
XFMR	- Transformer	ADAS	- Advanced Data Acquisition Support Facility
MOD	- Modified	MB	- Main Base

A review of aerial photographs taken in the 1960's indicated the presence of drum storage areas and at least one above ground tank. A 1991 fire prevention inspection survey of the facility indicated that hazardous materials were stored in open containers at the site at that time (NASA, 1991(b)). Additionally, the annual safety and health survey conducted by NASA in 1988 (NASA, 1988(b)) indicated that excessive numbers of batteries were stored around the area, and that two 500-gallon, above-ground fuel tanks were present at that time with no secondary containment.

Extensive soil staining was noted around the building during the February 1993 site walk-through. In addition, four protective bollards (posts) were noted near the building, which may have previously protected a fuel pump.

A magnetometer survey was conducted in the area surrounding former Building E-52 in March 1993 to determine the presence of buried tanks, pipes, and drums. Marston matting (i.e., steel sheeting commonly used by the military for constructing temporary roads, parking lots, air strips, etc.) was observed on the surface, and based upon magnetometer readings, is buried to the north, east, and south of former Building E-52. The Marston matting caused interference with the magnetometers, therefore, it is not known whether additional buried objects are located beneath the Marston matting in this area (NASA, 1993(c)).

Due to the interference from the Marston matting in other areas, the magnetometer survey was concentrated in the field east of former Building E-52. Numerous subsurface contacts were located and marked. The contacts ranged in size from small (i.e., less than two feet in diameter) to large (i.e., one contact measured approximately 50 feet by 50 feet). The area of the large contact (50 feet by 50 feet) was excavated in June 1993. Minor debris was unearthed, such as: broken concrete pieces approximately one foot in diameter, a section of rebar approximately one foot in length, one section of I-beam approximately two feet in length, and one piece of wire approximately five feet in length. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993 (c)).

A soil gas survey around former Building E-52 was conducted in March 1993, and an expanded soil gas survey was conducted in June 1993. Subsurface soil gas samples were analyzed in the field using a Photoionization Detector (PID) and an Organic Vapor Detector (OVA). Non-methane organic vapor detector readings ranging from non-detect to 289 parts per million (ppm) were obtained at various locations around former Building E-52. Methane was detected in eight samples at concentrations ranging from 0.5 to > 1000 ppm. The soil gas surveys are described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 3 - Two 600,000 Gallon Fuel Tanks, Buildings A-46A and A-46B. The two tanks, designated A-46A and A-46B, and the pump house are located north of taxiway 10-28. The tanks were used by the U.S. Navy for storage of JP-4 fuel. Interviews with personnel revealed that the tanks were emptied and filled with salt water. The tanks were never used by NASA (NASA, 1992(c)). Petroleum by-products were detected in one groundwater sample and a petroleum odor was noted near A-46A during the 1993 site survey. There was an abandoned pipe which connected these tanks to Building E-77, in the old aviation fuel tank farm. During the 1991 excavation of the old aviation fuel tank farm, this pipe contained product. This pipe was

allowed to drain and then it was capped. It is not known whether or not the line was completely drained.

Thirteen samples were collected during the March 1993 Soil Gas Survey at variable depths ranging from 4 to 6 feet around the two tanks and along the abandoned pipeline to locate possible subsurface volatile contamination due to leaks in the tanks or line. Detector readings of <5 ppm were obtained in 11 of the 13 samples collected. One sample located near monitoring well MW-41 exhibited an OVA detection of 37.4 ppm. That result, combined with a previous detection in MW-41, indicated that a leak may have occurred in the tanks and/or associated piping. Low levels of petroleum contamination may be present throughout the area and may have contributed to subsurface levels of methane. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Investigations (NASA, 1993(d)).

Site 4 - Debris Pile, North End of Wallops Island. Debris, metal, and telephone poles were disposed at the north end of Wallops Island. A magnetometer survey was conducted in the area of the Wallops Island debris pile in March 1993 to determine the edges of the debris pile. The debris pile was determined to be approximately 400 feet long with a width ranging from approximately 10 feet to 40 feet. Items noted in the debris pile included: Marston matting, an oil switch, drums, insulation, bottles, cans, and vehicle parts. (NOTE: Oil switches are used to control transformers, and may contain PCB contaminated oil). The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted in the debris pile in March 1993. Methane and non-methane volatile organics were detected at concentrations ranging from 1.0 ppm to 37.5 ppm. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 5 - Paint Stain, Building X-30. The exhaust fan from the spray paint booth has been expelling paint particles which have left a stained area behind the facility. Paint, paint thinner, and lacquer are currently used in this building.

A soil gas survey was conducted at this site in March 1993. One additional soil gas sample was collected in June 1993. No volatile organics were detected. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 6 - Former Island Fueling System, Buildings X-5 and X-10. Building X-10 was the former Wallops Island fueling system. Drawings of the facility indicate that there were two 30,000-gallon, above-ground steel fuel oil tanks, and five 3,000-gallon partially buried storage tanks (NASA, 1948). Drawings and aerial photographs from the 1960's indicate that the two 30,000-gallon, above-ground tanks were surrounded by a concrete dike, and that a concrete pad was located next to the underground tanks. The above ground tanks were removed in 1981 (NASA, 1992(b)) but the concrete saddles (tank supports) may still remain. The concrete pad is still present. A soil gas survey conducted by NASA indicated that volatile organics were present in the vicinity of the former Wallops Island fueling system at levels up to 100 ppm (NASA, 1993(a)).

Building X-5 was used as a support facility (NASA, 1992(c)). Drawings for the facility indicate the presence of a hydraulic system, a 500-gallon underground waste oil tank, and an

underground oil/water separator connected to a drain field. The hydraulic system which is still present consisted of two 30-gallon, above-ground tanks inside the building (NASA, 1993(e)). Additionally, a 250-gallon, above-ground fuel oil storage tank was located behind the building. In early 1993, the building's interior floor drains were flushed out, which caused oily material to overflow from an exterior standpipe located at the oil/water separator (NASA, 1993(b)). Extensive soil staining was noted around this standpipe during the 1993 site survey.

A magnetometer survey was conducted at this site in March 1993 to determine the presence of buried tanks, pipes, and tank saddles. Based upon the results of this survey it was concluded that the underground storage tanks (USTs) and piping associated with Building X-10 have been removed. Additionally, no subsurface contacts were located to indicate the presence of the tank saddles. However, it is suspected that many of the subsurface contacts which were identified are portions of broken concrete, which may have been part of the saddles. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted at this site in March of 1993. Methane and non-methane volatile organics were detected at levels up to 4.0 ppm. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 7 - Transformer Pads. Twenty-seven areas have been identified on the Main Base, Wallops Island, and Mainland where PCB transformers were previously located. These transformers were removed by NASA in 1988, and were disposed in accordance with Resource Conservation and Recovery Act (RCRA) and Toxic Substance Control Act (TSCA) requirements (NASA, 1992(c)). During the site survey, staining was evident on some concrete pads and building floors where the transformers were previously mounted.

Site 8 - Former Main Base Fueling System, Buildings N-133 and N-134. An underground storage tank fueling system was previously located to the east of the current Building N-133, formerly the Navy Exchange Building (Navy, 1956). The tanks were removed in the mid-seventies. Samples were not collected at the time of tank removal to determine whether any contamination was present (NASA, 1992(c)). In addition, a 550-gallon waste oil UST was once located to the south of the facility (Navy, 1956).

A magnetometer survey was conducted at this site in March 1993 to determine the presence and/or the location of the buried waste oil tank behind the current building (N-134) and the presence of the piping associated with the former fueling system. The waste oil tank was not located, but the pipes extending from the removed tanks to the former fueling islands were located. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted at this site in March 1993. Volatile organics were detected in all eleven of the soil gas samples collected at Site 8. The lowest detector response was 0.2 ppm and the highest was 90 ppm. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 9 - Abandoned Drum Field, Along Runway 17-35. During a NASA walk-through survey of stormwater discharges, abandoned drums were discovered within the tree line along Runway 17-35 (NASA, 1992(c)). There were several deteriorated drums protruding from the ground with visible tar-like residuals in and on the drums.

A magnetometer survey was conducted in March 1993 to investigate the extent of buried drums. The abandoned drum field is approximately 600 feet long and ranges in width from 20 to 200 feet. Twenty subsurface contacts of approximately 55-gallon drum size were located. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted in March 1993. The only detector reading at Site 9 was 0.2 ppm in one sample which was located near a mound of partially-buried drums. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 10 - ADAS, Building N-168. The ADAS facility contains a hydraulic system that holds approximately 1,000 gallons of hydraulic fluid. During the past several years, there have been discharges of the hydraulic fluid from the system. In addition, three drum storage areas have been used for storing new and used oil; one area is located west of Building N-168, another area is located north of Building N-168 and east of Building N-177, and the third area is located southeast of Building N-168. There is visible staining surrounding the base of the ADAS (Building N-168), at two of the drum-storage areas (north and southeast of N-168), and at the base of a heat exchange unit located adjacent to and north of Building N-168.

A soil gas survey was conducted at this site in March 1993. Volatile organic compounds were detected in all eight samples collected at this site. Samples were collected at shallow depths due to the possible presence of surface contamination. Non-methane detections of less than two ppm were obtained in the former drum storage area located to the west of Building N-168, and in the oil-stained areas near the heat exchanger. Detections of seven to 57.5 ppm were obtained in the stained drum storage area to the north of Building N-168 and east of Building N-177. Detections ranging from 3.2 to 19.5 ppm were obtained in the stained drum storage area located to the southeast of Building N-168. Methane (1.0 to 69 ppm) was detected in four of the eight samples collected. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

Site 11 - Transformer Storage Areas, Buildings M-3, M-4 and V-30. Buildings M-3, M-4, and V-30 were used as storage facilities for transformers prior to disposal. Transformers were stored inside and in front of the buildings. Some of these transformers may have contained PCBs. Some staining was noted during the site survey in areas where the transformers were stored.

Site 12 - Former Wind Tunnel, Near Building X-115. NASA formerly operated a wind tunnel on Wallops Island. The building has been removed, but the foundation is still present. The facility was used to test jet nozzles. Limited information is available; however, fuel tanks and a hydraulic system may have been present. Various fuels, including ethylene and solid propellant (containing metals such as magnesium, aluminum and boron) were used in the jets. It was noted in a 1978 history of Wallops Island that solid propellant was often expelled out of the end of the wind tunnel (NASA, 1978). In addition, problems with the mercury manometers which

have occurred at other NASA (i.e., Langley) wind tunnels raise the concern of possible mercury contamination in the general area of the former wind tunnel.

- Site 13 - Ordnance Disposal Area.** The WFF Master Plan indicated that the Navy disposed of ordnance at the pyrotechnics dump site located adjacent to the boat basin at the Visitor Information Center (VIC). No further information was available.

The UXO/magnetometer survey was conducted inside the fenced area and approximately 50 feet out from the fenced area in July 1993. A large number of small subsurface contacts were located inside the fenced area at the site. Thirteen subsurface contacts were detected outside the fenced area and marked with orange pin flags. The UXO/magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

- Site 14 - Debris Pile, North of Runway 10-28.** Metal, wood, concrete debris and other objects have been disposed along the taxiway north of Runway 10-28. A magnetometer survey was conducted in March 1993. The survey area along Runway 10-28 was investigated to determine the limits of the three debris piles located on either side of Virginia Pollution Discharge Elimination System (VPDES) Outfall 003 (one to the west and two to the east). VPDES Outfall 003 was previously referred to as VPDES Outfall 004 (NASA, 1993(e)).

The debris pile to the west of VPDES Outfall 003 is approximately 90 feet by 150 feet. Items noted in this debris pile included: brick, tile, pipe, ductwork, concrete blocks, a rocket nose cone, wood, metal sheeting, and insulation. The debris pile to the east of the outfall, which runs along the swale, is approximately 60 feet by 240 feet. Items noted in this debris pile included: broken concrete, pieces of concrete pipe, runway lights, and empty 5-gallon buckets which previously contained foam for fire fighting. The debris pile to the east of the outfall, which extends along the 10-28 taxiway, is triangular shaped with a base of approximately 75 feet and height of 180 feet. Items noted in the debris pile included: cement blocks, metal sheeting, and broken concrete. Leachate draining from the debris piles on either side of the swale was noted. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted at this site in March 1993, and an expanded soil gas survey was conducted in June, 1993. Detectable levels of non-methane volatile organics were obtained in nine of the 39 samples collected, and methane was detected in 10 of the 39 samples. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Inspections (NASA, 1993(d)).

The edges of the debris piles were not surveyed due to the removal of flagging tape during NASA brush clearing activities. The debris pile dimensions may have changed since being measured during the magnetometer survey.

- Site 15 - Debris Pile, Along Runway 17-35.** This site is located north of Site 9 at the 17 end of Runway 17-35. During a NASA walk-through survey of stormwater discharges, concrete-filled drums and other debris were discovered within the tree line along Runway 17-35. A preliminary radiation survey was performed on the concrete drums. No radiation levels were detected above background (NASA, 1992(c)). Also, there were several deteriorated drums protruding

from the ground with visible petroleum residuals (i.e., tar-like) in and on the drums.

A magnetometer survey was conducted in March 1993 to determine the edge of the debris pile. The debris pile is approximately 720 feet long and ranges in width from 25 to 100 feet. Items noted in the debris pile included: Marston matting, concrete-filled 55-gallon drums, empty 55-gallon drums, concrete blocks, broken pieces of concrete, pipe, brick, fence posts, bottles, cans, tires, toilets, asphalt, lumber, and steel cable. The magnetometer survey is described in more detail in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(c)).

A soil gas survey was conducted in March 1993. To further delineate soil gas of the site, an expanded soil gas survey was conducted in June, 1993. Detections ranging from 0.2 to 46 ppm were obtained at Site 15. The highest readings were obtained in a flat grassy area between the runway and the tree line. Other lower readings were found scattered throughout the area. The soil gas survey is described in more detail in the Preliminary Report for Phase II of the Site Investigations (NASA, 1993(d)).

SECTION 2.0

FIELD AND ANALYTICAL METHODOLOGIES

Field and analytical methodologies were developed as a guideline for sample collection during field surveys and sampling events conducted as part of the NASA site inspections. Procedures followed while conducting surveys and collecting samples during Phases I, II, III, IV, and V of the site inspections are summarized below.

2.1 UNEXPLODED ORDNANCE (UXO)/MAGNETOMETER SURVEY PROCEDURES

The areas to be surveyed were marked with wooden stakes based on aerial photos, maps and existing landmarks or other information provided by NASA. If the survey areas needed to be divided into search lanes, they were established and marked prior to beginning the survey. An M&E field operations representative assisted the UXO/magnetometer survey project leader in locating the correct survey locations. The UXO/magnetometer survey team consisted of two technicians experienced in surveys of this nature. One technician carried the Foerster Ferex Ordnance Locator and the other carried the White's Eagle II Metal Detector. The team searched predetermined lanes and marked all contacts with a marking flag or spray paint to facilitate avoidance by the soil gas survey crew. A visual survey took place simultaneously with the UXO/magnetometer survey. If brush clearance was required, it took place following the visual survey of the area to be cleared. Photographs and written logbooks were maintained to document the site conditions and inspection activities. QA/QC procedures for UXO/magnetometer surveys were followed as outlined in the Final Site Inspection Work Plan, Section 4.1 (NASA, 1995).

2.2 SAMPLING PROCEDURES

2.2.1 Soil Gas

A steel soil gas probe with disposable points was used to collect soil gas samples at the sites. The appropriate depths of sample collection were field determined based on the nature of the suspected contamination and site characteristics. After the probe was driven to the appropriate sample depth, a length of Teflon tubing was inserted into the top of the probe. The other end of the tubing was connected to a vacuum box, and all connections were sealed. The box was used to purge atmospheric air from the probe, and then to fill a disposable Tedlar bag with soil gas. The soil gas sample bag was then connected to a photoionization detector (PID) and an organic vapor analyzer (OVA) and the sample was extracted via the internal vacuum pump of the PID and OVA. QA/QC procedures for soil gas sampling, probe decontamination, and equipment calibration were followed as outlined in the Final Site Inspection Work Plan, Section 4.2 (NASA, 1995).

2.2.2 Soil

Subsurface Soil

Subsurface soil borings were advanced using a hand auger. All samples were collected as grab samples. If a sample was to be collected for volatile organic compound (VOC) analysis, then the auger was withdrawn at a depth of six inches above the chosen sampling depth, and a soil coring device was driven

into the boring to collect an undisturbed core sample. A dedicated brass core liner was used at each location to collect soil samples for the VOC analysis. The coring device was withdrawn, and the brass liner containing the soil sample was immediately removed and capped at both ends with aluminum foil and plastic caps. This sample was then labeled, wrapped in parafilm, and put on ice. This entire process was performed as quickly as possible to minimize volatilization of the sample. The samples for non-volatile analyses were collected by advancing the auger to the desired depth, withdrawing the auger from the boring, removing soil from the auger, and filling the appropriate sample containers. These samples were capped, labeled, and placed on ice immediately after collection. Samplers wore a new pair of latex or nitrile gloves for each sample. QA/QC procedures, sampling, and decontamination of the auger between each boring were conducted as outlined in the Final Site Inspection Work Plan, Section 4.3 (NASA, 1995).

Surface Soil

All samples were collected as grab samples from a depth of 0 to 6 inches. If a sample was to be collected for VOC analysis, a soil coring device was driven into the surface soil to collect an undisturbed core sample and the sample was collected in the same manner as subsurface soil. Samples for non-volatile analyses were then collected from a depth of six inches or less using disposable hand trowels. These samples were collected by removing the soil from the trowels, and filling the appropriate sample collection containers. When soil samples were to be collected for PCB analysis, a surface scrape sample was collected. Using a 10 cm x 10 cm (100 cm²) template to mark the area to be sampled, the surface was scraped to a depth of 1 cm with a dedicated stainless steel trowel. The sample was scraped directly into a precleaned glass bottle. If more sample was required, the area was expanded but not sampled deeper. A disposable template was used to prevent contamination of subsequent samples. These samples were capped, labeled, and placed on ice immediately after collection. Samplers wore a new pair of latex or nitrile gloves for each sample. QA/QC procedures for soil sampling and equipment decontamination were followed as outlined in the Final Site Inspection Work Plan, Section 4.3 (NASA, 1995).

2.2.3 Surface Water

Surface water samples were collected using clean-certified, dedicated, unpreserved bottles provided by the laboratory. All samples were collected as grab samples. Samples were always collected from downstream locations first, working upstream to minimize disturbances to the surface water. The sampler stood downstream of the sample collection point, and immersed the sample container in the water. When surface water samples were collected along with sediment samples, surface water was collected first to minimize disturbance of sediments. The samples were collected below the water surface by inverting the bottle, lowering it to the appropriate sampling depth, and holding it at a 45 degree angle. If a sample was to be chemically preserved, a dedicated, clean unpreserved bottle was filled in the above manner, then the sample was transferred to the pre-preserved bottle. Laboratory provided clean-certified sample containers were the only sampling equipment; therefore, decontamination was not necessary. Sample containers were capped, labeled and stored on ice immediately following sample collection. The sampler wore a new pair of latex or nitrile gloves for each sample.

For samples that were collected for VOC analyses, pre-preserved glass 40 millimeter (ml) vials with Teflon caps were filled. No air space or bubbles were allowed in the containers. Samples collected for dissolved metals analyses were field-filtered through disposable 0.45 micron filters using a peristaltic pump with dedicated, disposable silicone tubing, and then transferred to pre-preserved, high density polyethylene bottles. All sample containers that required preservation were pre-preserved by the laboratory. QA/QC procedures for surface water sampling were followed as outlined in the Final Site Inspection Work Plan,

Section 4.4 (NASA, 1995).

2.2.4 Sediment

Sediment samples were collected with clean-certified, dedicated, laboratory provided sampling containers, or with new, disposable trowels. All samples were collected as grab samples from a depth of 0 to 6 inches. Downstream samples were always collected prior to upstream samples to minimize surface water disturbance. Sediment samples associated with surface water samples were collected after the surface water to minimize surface water disturbance. The sampler stood downstream of the sample location during collection, and wore a new pair of latex or nitrile gloves for each sample.

Sample containers were filled with sediment, and immediately capped, labeled, and stored on ice. For samples collected for VOC analyses, the sample containers were fully filled, to minimize air space in the containers. QA/QC procedures for sediment sampling were followed as outlined in the Final Site Inspection Work Plan, Section 4.5 (NASA, 1995).

2.2.5 Groundwater

Sampling of the new monitoring wells was performed at least 48 hours after well installation and development. Prior to sampling, the wells were purged of three to five well volumes, or until the pH, conductivity and temperature parameters had stabilized.

Groundwater samples were collected using disposable bailers, polypropylene rope and disposable gloves. Samples for VOC analysis were collected first, followed by: semi volatile, pesticide/PCB, purgable TPH, non-purgable TPH, and inorganic analyses. Samples collected for inorganic analysis were filtered using a 0.45 micron filter. The samples were collected using laboratory grade sample jars provided by the subcontractor laboratory. The samples were then labeled, preserved, iced, and shipped to the laboratory with completed chain-of-custody forms. QA/QC procedures for groundwater sampling were followed as outlined in the Final Site Inspection Work Plan, Section 4.9 (NASA, 1995).

2.2.6 PCB Wipe

Concrete surfaces were sampled by first applying hexane to a gauze pad. This moistened gauze pad was then used to thoroughly swab a 100 cm² area as measured by a disposable sampling template. The gauze pad was placed into a sample container and the container was capped, labeled, and placed on ice immediately. Samplers wore a new pair of latex or nitrile gloves for each sample. QA/QC procedures for PCB wipe sampling were followed as outlined in the Final Site Inspection Work Plan, Section 4.3 (NASA, 1995).

2.2.7 Debris Pile

Samples of suspected asbestos board from debris piles were collected by placing sections of the board into ziploc bags. Samplers wore a new pair of latex gloves for each sample. The samples were supplied to NASA for analysis.

2.2.8 Background

Background samples for each sample media were collected at WFF Main Base and Wallops Island for comparison to site-specific samples. Site-specific background data were collected during Phase V at Sites 4, 5, 9, and 12 for further evaluation of these sites. Additionally, data acquired during previous projects were utilized (i.e., Delivery Orders 2: Final Design Investigation, Old Aviation Fuel Tank Farm; 5: Risk Assessment, Old Aviation Fuel Tank Farm; and 6: Environmental Resources Document, Open Burning/Open Detonation Area Sampling). Background levels for each area (i.e., Main Base and Wallops Island) were determined by first separating data by matrix (e.g., soil versus water) and by sample type (e.g., surface versus subsurface). In some cases, the data were then averaged for comparative purposes. Average background concentrations were generally multiplied by a factor of three for use in comparison to sample concentrations (40 CFR 300, 1992). Appendix C presents all background data utilized. A more detailed description of background determination is also presented in Appendix C.

2.3 DATA ANALYSIS AND EVALUATION PROCEDURES

All instruments used to detect or analyze samples during the UXO/magnetometer and soil gas surveys were calibrated at the start of each sampling day according to manufacturers specifications. Instrument calibrations were recorded in the field notebooks daily during each survey.

All samples collected for laboratory analyses (i.e., surface soil, subsurface soil, surface water, sediment, groundwater, PCB wipe, and QA/QC samples) were analyzed according to available U.S. Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) protocols or other EPA-approved methodologies with a CLP Level IV equivalent of quality assurance. Debris pile samples were analyzed for asbestos according to an EPA interim method. Specific methods are listed in Table 2.2-1, and presented in Appendix B. Analytical data are presented by site in Section 3.0 tables and figures. Analytical results have been validated in accordance with EPA Region III modifications to Standard Operating Procedures for Data Validation. The data presented in Section 3.0 include all results which are greater than or equal to three times the average background levels, except those detected in blanks. If no background level was determined, the sample results which are greater than instrument detection limits (IDL) or contract required detection limits (CRDL) are presented. Three times background (i.e., minimum observed release (MOR)) was used as required by the Hazard Ranking System Final Rule (40 CFR 300, 1992). Results for field QA/QC samples are not presented in Section 3.0, but complete validated analytical results are presented in Appendix A.

**TABLE 2.2-1
ANALYTICAL METHODS**

PARAMETER	METHOD
TCL Volatiles	OLMO 1.8
TCL Volatiles with low detection limits	OLMO 1.0
TCL Semivolatiles	OLMO 1.8, OLMO 1.9
TCL Pesticides/PCBs	OLMO 1.8, OLMO 1.9
TAL Inorganics	ILMO 2.1, ILMO 3.0
TCL PCBs (Wipes and Soils)	SW846 M8080
TPH	SW846 M8015M
BTEX	SW846 M8020
Lead	SW846 M7421
Asbestos	EPA-600/M4-82-020

NOTES: TCL = Target Compound List
(125 organics)

TAL = Target Analyte List
(23 Metals and Cyanide)

TPH = Total Petroleum Hydrocarbons

OLMO1.0 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.0

OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8

OLMO1.9 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.9

ILMO2.1 = Inorganic Analysis, Multi-Media Multi-Concentration, Revision 2.1

ILMO3.0 = Inorganic Analysis, Multi-Media Multi-Concentration, Revision 3.0

SW846 M8080 = Solid Waste 846 Method 8080 for analysis of PCBs

SW846 M8015M = Solid Waste 846 Method 8015 for analysis of total petroleum hydrocarbons, modified.

SW846 M8020 = Solid Waste 846 Method 8020 for BTEX

SW846 M7421 = Solid Waste 846 Method 7421 for lead

EPA-600/M4-82-020 = Interim Method for the Determination of Asbestos in Bulk Insulation Samples, December 1982.

BTEX = Benzene, Toluene, Ethyl Benzene, Xylene

PCB = Polychlorinated Biphenyl

SECTION 3.0

SAMPLE COLLECTION AND RESULTS

Under Phases III - V of Delivery Order 14, soil, surface water, sediment, groundwater, debris, and/or PCB wipe samples were collected from twelve sites between May 28 - September 28, 1993 and September 25 - 28, 1995. The sites investigated include:

Site 2	- Maintenance Facility	Main Base - Building E-52
Site 4	- Debris Pile	Wallops Island - North End
Site 5	- Paint Stain	Wallops Island - Building X-30
Site 6	- Former Island Fueling System	Wallops Island - Buildings X-5 and X-10
Site 7	- Transformer Pads	Main Base, Wallops Island, and Mainland
Site 8	- Former Main Base Fueling System	Main Base - Buildings N-133 and N-134
Site 9	- Abandoned Drum Field	Main Base - Along Runway 17-35
Site 10	- Advance Data Acquisition Support Facility (ADAS)	Main Base - Building N-168
Site 11	- Transformer Storage Areas	Main Base, Wallops Island - Buildings M-3, M-4, and V-30
Site 12	- Former Wind Tunnel	Wallops Island - Near Building X-115
Site 14	- Debris Pile	Main Base - North of Runway 10-28
Site 15	- Debris Pile	Main Base - Along Runway 17-35

Tables indicating sample identification numbers, collection depths, analytical parameters, and reasons for collection are included with each of the following sections as Tables 3.1-1 through 3.13-1. Sample locations are illustrated on Figures 3.1-1 through 3.12-1.

Analytical results are presented on Section 3.0 tables and figures for each site. The data presented include all results which are greater than or equal to three times the calculated background levels, except those detected in blanks. Three times background or the minimum observed release (MOR) was used as a data screening criteria, as required under the Hazard Ranking System Final Rule (40 CFR 300, 1992). The determination of average background levels for the Main Base and Wallops Island are presented in Appendix C. Site-specific average background levels for Sites 4,5,9,10, and 12 were determined during Phase V of Delivery Order 14, and are also presented in Appendix C.

For clarity of presentation, data qualifiers have not been included on the figures. Data qualifiers have been included on the tables. Results for field QA/QC samples are not presented in the tables, but complete validated analytical results are presented in Appendix A. The following text addresses only the analytical results presented in the tables and illustrated on the figures.

3.1 SITE 2 - MAINTENANCE FACILITY, FORMER BUILDING E-52

3.1.1 Sample Identification and Collection

A summary of samples collected at Site 2 is presented as Table 3.1-1 and sample locations are illustrated on Figure 3.1-1.

M&E collected five surface soil samples (WFF2-SS1 through WFF2-SS5) from areas where surface soil staining had been observed. One duplicate surface soil sample (WFF2-SS6) was collected at WFF2-SS3. M&E collected ten subsurface soil boring samples (WFF2-SB1 through WFF2-SB10) from this site. The depth of subsurface soil sample collection was based upon PID readings and visual examination of the soil (i.e., stained soil). One duplicate subsurface soil sample (WFF2-SB11) was collected at WFF2-SB1. All soil samples were analyzed for the Target Compound List (TCL), Target Analyte List (TAL), and Total Petroleum Hydrocarbon (TPH) parameters. The TCL includes volatile organic compounds, semivolatile organic compounds, pesticides, and PCBs. The TAL includes metals and cyanide. TPH includes volatile (purgeable) and non-volatile (extractable) target petroleum compounds.

TABLE 3.1-1
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF2-SS1	7/1/93	Surface	TCL, TAL, TPH	Identify and quantify source of soil staining.
WFFS-SS1	8/12/93	Surface	TCL (pest/PCB)	Recollected.
WFF2-SS2	7/1/93	Surface	TCL, TAL, TPH	Identify and quantify source of soil staining.
WFF2-SS2	8/12/93	Surface	TCL (pest/PCB)	Recollected.
WFF2-SS3	7/1/93	Surface	TCL, TAL, TPH	Identify and quantify source of soil staining.
WFF2-SS4	7/1/93	Surface	TCL, TAL, TPH	Identify and quantify source of soil staining.
WFF2-SS5	7/1/93	Surface	TCL, TAL, TPH	Identify and quantify source of soil staining.
WFF2-SS5	8/12/93	Surface	TCL (pest/PCB)	Recollected.
WFF2-SS6	7/1/93	Surface	TCL, TAL, TPH	Duplicate of SS3, MS/MSD.
WFF2-SS6	8/12/93	Surface	TCL(pest/PCB)	Recollected.
WFF2-SB1	6/29/93	3 - 4.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB1	8/11/93	3 - 4	TCL (pest/PCB)	Recollected.
WFF2-SB2	6/29/93	2.5 - 4	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB2	8/11/93	3 - 3.5	TCL (pest/PCB)	Recollected.
WFF2-SB3	6/29/93	3.5 - 5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB4	6/29/93	7 - 8.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB4	8/11/93	7 - 7.5	TCL (pest/PCB)	Recollected.

**TABLE 3.1-1 (Cont.)
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
SAMPLES COLLECTED**

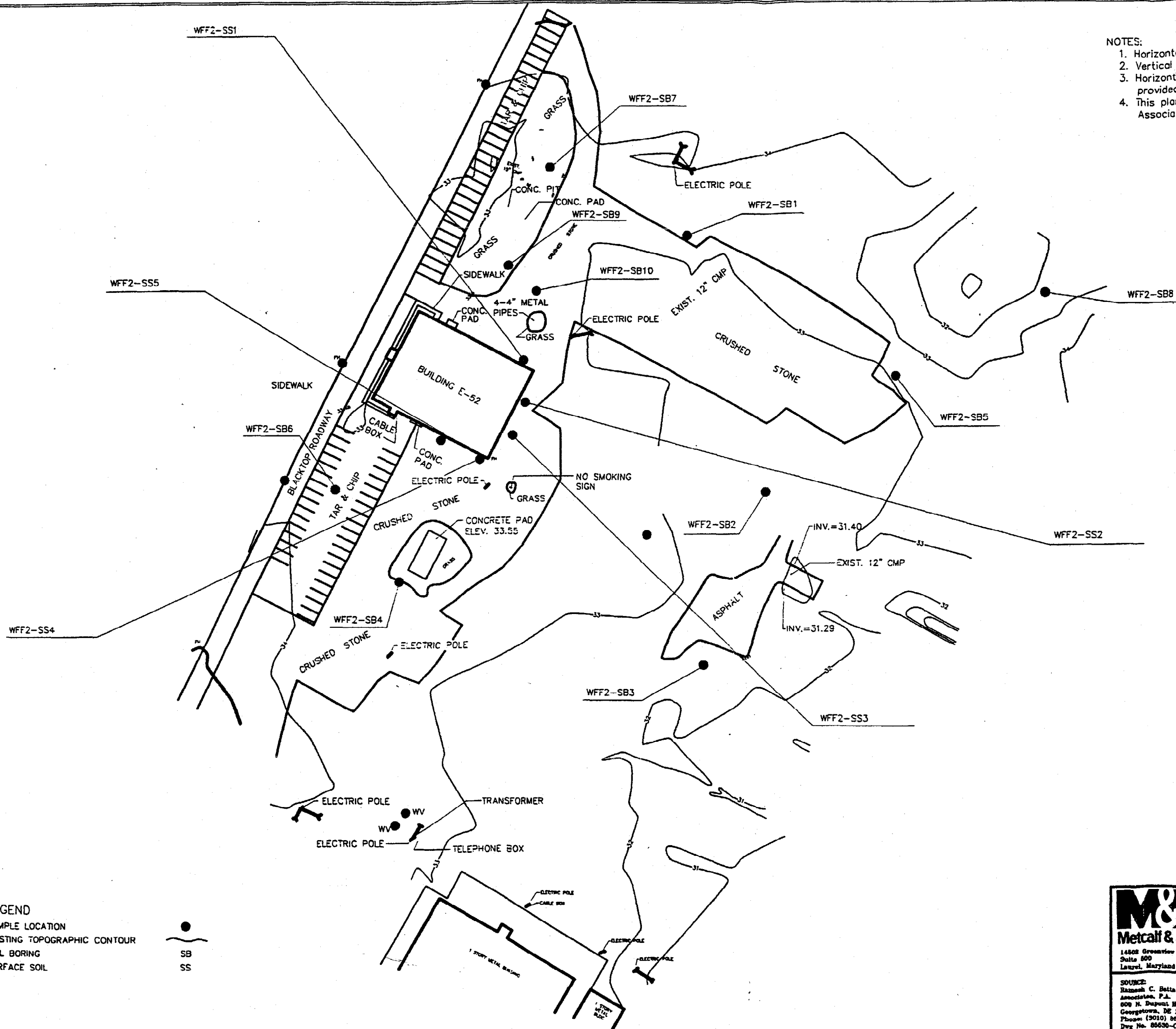
SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF2-SB5	6/30/93	3.5 - 5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB5	8/11/93	3.5 - 4	TCL (pest/PCB)	Recollected.
WFF2-SB6	6/30/93	4 - 5.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB6	8/11/93	4 - 4.5	TCL (pest/PCB)	Recollected.
WFF2-SB7	6/30/93	4.5 - 5.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB7	8/12/93	5 - 5.5	TCL (pest/PCB)	Recollected.
WFF2-SB8	6/30/93	4 - 5.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB9	7/1/93	3 - 3.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB9	8/12/93	3 - 3.5	TCL (pest/PCB)	Recollected.
WFF2-SB10	7/1/93	3 - 3.5	TCL, TAL, TPH	Identify and quantify sources detected during expanded soil gas survey, if any.
WFF2-SB10	8/11/93	3 - 3.5	TCL (pest/PCB)	Recollected.
WFF2-SB11	6/29/93	4.5 - 5.5	TCL, TAL, TPH	Duplicate of SB1, MS/MSD.
WFF2-SB11	8/11/93	5.5 - 6	TCL (pest/PCB)	Recollected.
WFF2-SW1	7/1/93	N/A	TCL, TAL, TPH	Field blank.
WFF2-SW1	8/12/93	N/A	TCL (pest/PCB)	Recollected.
WFF2-SW2	7/1/93	N/A	TCL, TAL, TPH	Equipment blank (surface soils).
WFF2-SW2	8/12/93	N/A	TCL (pest/PCB)	Recollected.

NOTES: SB = Soil Boring
 SS = Surface Soil
 SW = Surface Water
 pest = Pesticides
 MS/MSD = Matrix Spike/
 Matrix Spike Duplicate
 PCB = Polychlorinated Biphenyl
 N/A = Not Applicable

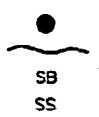
TCL = Target Compound List (125 Organics)
 TAL = Target Analyte List (23 Metals and Cyanide)
 TPH = Total Petroleum Hydrocarbons, with Fingerprinting

Samples were originally collected between May 28-July 9, 1993. However, due to laboratory analytical difficulties (i.e., missed holding times, laboratory-introduced contamination), some samples were recollected in August and September, 1993.

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



LEGEND
 SAMPLE LOCATION
 EXISTING TOPOGRAPHIC CONTOUR
 SOIL BORING
 SURFACE SOIL



 14808 Greenview Drive, Suite 500 Laurel, Maryland 20708 SOURCE: Ramesh C. Batta Associates, P.A. 600 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 866-2881 Dwg No. 85630-C-0007-2	0 50 100 FEET DATE: NOV. 10, 1994
	FIGURE 3.1-1 SITE 2-MAINTENANCE FACILITY, BUILDING E-52 SAMPLES COLLECTED 0020A01Z

3.1.2 Analytical Results

Analytical results for Site 2 are presented as Table 3.1-2 and illustrated on Figures 3.1-2 and 3.1-3.

Surface soil results indicate detectable levels of volatile organic compounds in all five samples, semivolatiles organic compounds in three samples, pesticides in all five samples, petroleum hydrocarbons in one sample, and elevated levels of metals in all five samples. PCBs and cyanide were not detected. One of the volatile organic compounds (i.e., methylene chloride) detected in all five samples is a common laboratory contaminant. In addition to the petroleum hydrocarbon (diesel fuel) detected in one sample, the chromatograms for four of the five samples indicated the presence of an unknown petroleum hydrocarbon. However, although none of the four petroleum compounds analyzed (i.e., fuel oil #4, gasoline, kerosene, and diesel fuel) were detected.

During the field investigation, a stained layer was noted in subsurface soil borings WFF2-SB1, WFF2-SB2, WFF2-SB4, WFF2-SB5, WFF2-SB7, WFF2-SB9, and WFF2-SB10. This layer was approximately four feet thick and was first visible at approximately two feet below the surface. The stained layer was generally grey or black clay with a strong odor. Subsurface soil results indicate detectable levels of semivolatiles organic compounds in one of the 10 samples, pesticides in six samples, petroleum hydrocarbons in one sample, and elevated levels of metals in six of the 10 samples. PCBs and cyanide were not detected. The semivolatiles organic compound (i.e., bis(2-ethylhexyl)phthalate) detected is a common laboratory contaminant.

TABLE 3.1-2
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
OBSERVED CONTAMINATION

Volatile Analysis (SOW:OLMO1.8)					
M&E SAMPLE ID:	WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH (ft):	NA	NA	NA	NA	NA
COMPOUND					
Methylene Chloride	67	41 J	70	59	46
2-Butanone			34	9 J	
4-Methyl-2-pentanone	24		15 J		
2-Hexanone			19 J		
Ethylbenzene		4,400 J			
Total Xylenes		67,000 J	8 J		

Semivolatile Analysis (SOW:OLMO1.8)				
M&E SAMPLE ID:	WFF2-SS1	WFF2-SS3	WFF2-SS5	WFF2-SB4
MATRIX:	SOIL	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH (ft):	NA	NA	NA	7
COMPOUND				
Fluoranthene	4,000 J			
Pyrene	4,100 J			
Butylbenzylphthalate		6,400 J	5,300 J	
Bis(2-ethylhexyl)phthalate				1,400 J

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.1-2, continued
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
OBSERVED CONTAMINATION

Pesticide/PCB Analysis (SOW-OLMOT.8)						
M&E SAMPLE ID:	WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5	
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	
SAMPLE DEPTH(ft):	NA	NA	NA	NA	NA	
COMPOUND						
Aldrin			42 L			
4,4'-DDE		2,000 L			1,700 L	
4,4'-DDD	63 L	36,000 L			3,600 L	
4,4'-DDT		3,500 L	34 R	69 J	31,000 L	
alpha-Chlordane		260 L				
gamma-Chlordane						
COMPOUND						
M&E SAMPLE ID:	WFF2-SB4	WFF2-SB5	WFF2-SB6	WFF2-SB7	WFF2-SB9	WFF2-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH(ft):	7	3.5	4	4.5	3	3
COMPOUND						
Aldrin						
4,4'-DDE		110.0		14 J	53	140
4,4'-DDD				74	18 J	
4,4'-DDT	13.0	9.7	7.3	9.4	33	47
alpha-Chlordane						7.1 J
gamma-Chlordane		4.7 J				20.0 J
delta-BHC				330 J		

Petroleum Hydrocarbons Analysis (SW846 M8015m)		
M&E SAMPLE ID:	WFF2-SS1	WFF2-SB10
MATRIX:	SOIL	SOIL
UNITS:	ppm	ppm
SAMPLE DEPTH (ft):		3
ANALYTES		
Diesel Fuel	674.4	26.98
Notes: Chromatograms for samples WFF2-SS2, WFF2-SS3, WFF2-SS4, WFF2-SS5, and WFF2-SS6 indicate the presence of unknown hydrocarbons.		
A key to symbols can be found on the last page of this table.		

TABLE 3.1-2, continued
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:JLM02.1)		SURFACE SOIL SAMPLES					
M&E SAMPLE ID:		WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5	
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
ANALYTES	MAIN BASE SURFACE SOIL BACKGROUND mg/kg(3xAVG)						
Antimony	4.81					14.6 L	
Arsenic	0.03	2.4	25	1.4	3.5	19.2	
Barium	88.62			455 L	508 L		
Calcium	679	1,250	1,210	3,860	2,450	1,270	
Chromium	26.04				77.9	47.5	
Cobalt	5.55					7.1	
Copper	0.65	47.1	55.4	21.3	52.8	55	
Iron	16,888					71,200 J	
Lead	1.71	64.4	61.3	33	81.1	2,430	
Magnesium	1,538		2,360	2,660			
Manganese	291					448 K	
Nickel	7.2	7.9			909	30.2	
Potassium	731		966	1,070	801		
Sodium	45.84				82.7		
Zinc	23.94	171 J	149 J	74.5 J	131 J	1,550 J	
Inorganic Analysis		SUBSURFACE SOIL SAMPLES					
M&E SAMPLE ID:		WFF2-SB1	WFF2-SB2	WFF2-SB5	WFF2-SB7	WFF2-SB9	WFF2-SB10
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
AMPLE DEPTH (ft):		3	2.5	3.5	4.5	3	3
ANALYTES	MAIN BASE SUB. SOIL BACKGROUND mg/kg (3xAVG)						
Barium	57.6	61.7	97.6		65.6 L	110 L	99.1 L
Beryllium	0.14	0.41	0.46	0.41	0.51	0.65	0.42
Calcium	495	515	23,800	1,030		906	752
Cobalt	4.23		4.8		5.4		
Copper	2.51	6.4	7.2			7.7	9.2
Iron	12,814	13,800	14,100				
Lead	5.10	6.9	9	18.6	7.3	5.7	
Magnesium	560	1,480	4,610	1,120	1,360		
Manganese	97.92	187	287	144 K	175 K	166 K	
Nickel	8.04	8.1	8.5				
Sodium	37	138 J	49.4 J				
Zinc	18.39	20.4	25.7	33.9 J			
NOTE: a key to symbols can be found on the last page of this table.							

TABLE 3.1-2, continued
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification

WFF = Wallops Flight Facility

SS = Surface Soil

SB = Soil Boring

SUB = Subsurface

Data Qualifiers

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high.

L = Analyte present. Reported value may be biased low.

R = Unreliable result. Analyte may or may not be present in the sample.

Analytical Methods

SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8
(CLP Method for organic compound - all matrices)

SOW:OLMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1
(CLP Method for inorganic compound - all matrices)

SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Petroleum
Hydrocarbons, with fingerprinting (all matrices).

Units

ug/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

ppm = parts per million

Other

NA = Not Applicable.

WFF2-SS1
 VOLATILES (µg/kg):
 MeCl₂ - 67
 4-M-2P - 24
 SEMIVOLATILES (µg/kg):
 Fluoran - 4,000
 Pyrene - 4,100
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDD - 63
 TPH (ppm):
 See Note *
 Diesel - 674.4
 INORGANICS (mg/kg):
 As - 2.4
 Ca - 1,250
 Cu - 47.1
 Pb - 64.4
 Ni - 7.9
 Zn - 171

WFF2-SS5
 VOLATILES (µg/kg):
 MeCl₂ - 46
 SEMIVOLATILES (µg/kg):
 Butylbp - 5,300
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 1,700
 4,4'-DDD - 3,600
 4,4'-DDT - 31,000
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Sb - 14.6
 As - 19.2
 Ca - 1,270
 Cr - 47.5
 Co - 7.1
 Cu - 55
 Fe - 71,200
 Pb - 2,430
 Mn - 448
 Ni - 30.2
 Zn - 1,550

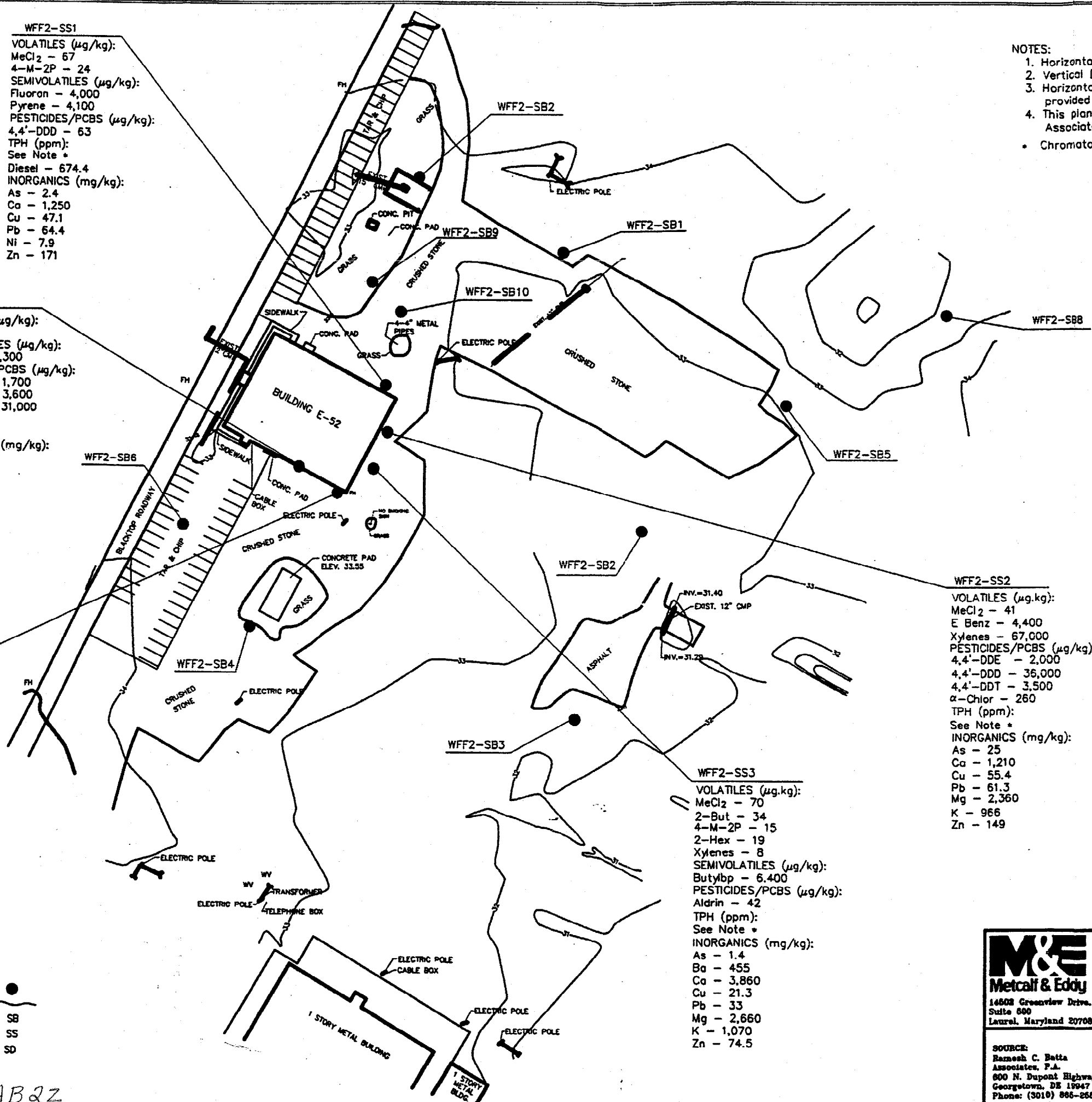
WFF2-SS4
 VOLATILES (µg/kg):
 MeCl₂ - 59
 2-But - 9
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDT - 69
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 3.5
 Ba - 508
 Ca - 2,450
 Cr - 77.9
 Cu - 52.8
 Pb - 81.1
 Ni - 909
 K - 801
 Na - 82.7
 Zn - 131

WFF2-SS2
 VOLATILES (µg/kg):
 MeCl₂ - 41
 E Benz - 4,400
 Xylenes - 67,000
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 2,000
 4,4'-DDD - 36,000
 4,4'-DDT - 3,500
 α-Chlor - 260
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 25
 Ca - 1,210
 Cu - 55.4
 Pb - 61.3
 Mg - 2,360
 K - 966
 Zn - 149

WFF2-SS3
 VOLATILES (µg/kg):
 MeCl₂ - 70
 2-But - 34
 4-M-2P - 15
 2-Hex - 19
 Xylenes - 8
 SEMIVOLATILES (µg/kg):
 Butylbp - 6,400
 PESTICIDES/PCBS (µg/kg):
 Aldrin - 42
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 1.4
 Ba - 455
 Ca - 3,860
 Cu - 21.3
 Pb - 33
 Mg - 2,660
 K - 1,070
 Zn - 74.5

NOTES:
 1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
 • Chromatogram indicates possible presence of unknown hydrocarbon.

CHEMICAL ABBREVIATIONS
VOLATILES:
 MeCl₂ = Methylene chloride
 2-But = 2-Butanone
 4-M-2P = 4-Methyl-2-Pentanone
 2-Hex = 2-Hexanone
 E Benz = Ethylbenzene
 Xylenes = Total Xylenes
SEMIVOLATILES:
 Fluoran = Fluoranthene
 Butylbp = Butylbenzophthalate
PESTICIDES:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 α-Chlor = alpha-Chlordane
 TPH = Total Petroleum Hydrocarbons
INORGANICS:
 Sb = Antimony
 As = Arsenic
 Ba = Barium
 Be = Beryllium
 Cr = Chromium
 Ca = Calcium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Ni = Nickel
 K = Potassium
 Na = Sodium
 Zn = Zinc



LEGEND
 SAMPLE LOCATION ●
 EXISTING TOPOGRAPHIC CONTOUR ---
 SOIL BORING SB
 SURFACE SOIL SS
 SEDIMENT SD

0020AB2Z

M&E
Metcalf & Eddy
 14602 Greenview Drive,
 Suite 600
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 800 N. Dupont Highway
 Georgetown, DE 19047
 Phone: (301) 866-2681
 DWG. NO. 85630-C-9057-2

0 50 100
 FEET

DATE: NOV. 1, 1994

FIGURE 3.1-2
 SITE 2-MAINTENANCE
 FACILITY, BUILDING E-52
 OBSERVED CONTAMINATION
 SURFACE SOIL SAMPLES

WFF2-SB7 (4.5 ft.)

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 14
 4,4'-DDD - 74
 4,4'-DDT - 9.4
 Δ BHC-330
 INORGANICS (mg/kg):
 Ba - 65.6
 Be - 0.51
 Co - 5.4
 Pb - 7.3
 Mg - 1,360
 Mn - 175

WFF2-SB9 (3 ft.)

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 53
 4,4'-DDD - 18
 4,4'-DDT - 33
 INORGANICS (mg/kg):
 Ba - 110
 Be - 0.65
 Co - 906
 Cu - 7.7
 Pb - 5.7
 Mn - 166

WFF2-SB1 (3 ft.)

INORGANICS (mg/kg):
 Ba - 61.7
 Be - 0.41
 Co - 515
 Cu - 6.4
 Fe - 13,800
 Pb - 6.9
 Mg - 1,480
 Mn - 187
 Ni - 8.1
 Na - 138
 Zn - 20.4

NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- Chromatogram indicate possible presence of unknown hydrocarbon.

CHEMICAL ABBREVIATIONS

VOLATILES:
 MeCl₂ = Methylene chloride
 SEMIVOLATILES:
 Bis2ehp = bis(2-ethylhexyl)phthalate
 PESTICIDES:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 α -Chlor = alpha-Chlordane
 γ -Chlor = gamma-Chlordane
 Δ BHC = delta-1,2,3,4,5,6-hexachloro-cyclohexane
 TPH = Total Petroleum Hydrocarbons
 INORGANICS:
 Ba = Barium
 Be = Beryllium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Ni = Nickel
 Na = Sodium
 Zn = Zinc

WFF2-SB6 (4 ft.)

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDT - 7.3

WFF2-SB10 (3 ft.)

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 140
 4,4'-DDT - 47
 α -Chlor - 7.1
 γ -Chlor - 20
 TPH (ppm):
 Diesel - 26.98
 INORGANICS (mg/kg):
 Ba - 99.1
 Be - 0.42
 Co - 752
 Cu - 9.2

WFF2-SB5 (3.5 ft.)

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 110
 4,4'-DDT - 9.7
 γ -Chlor - 4.7
 INORGANICS (mg/kg):
 Be - 0.41
 Co - 1,030
 Pb - 18.6
 Mg - 1,120
 Mn - 144
 Zn - 33.9

WFF2-SB2 (2.5 ft.)

INORGANICS (mg/kg):
 Ba - 97.6
 Be - 0.46
 Co - 23,800
 Cu - 4.8
 Fe - 7.2
 Pb - 14,100
 Mg - 9.0
 Mn - 4,610
 Ni - 287
 Na - 49.4
 Zn - 8.5
 Zn - 25.7

WFF2-SB4 (7 ft.)

SEMIVOLATILES ($\mu\text{g}/\text{kg}$):
 Bis2ehp - 1,400
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDT 13

WFF2-SB3 (3.5 ft.)

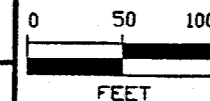
LEGEND

- SAMPLE LOCATION
 - EXISTING TOPOGRAPHIC CONTOUR
 - SOIL BORING
 - SURFACE SOIL
 - SEDIMENT
 - STARTING DEPTH OF SAMPLE
- SB
 SS
 SD
 (2 ft.)



14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 885-2581
 DWG. NO. 2:630-C-9057-7



DATE: NOV. 1, 1994

FIGURE 3.1-3

SITE 2-MAINTENANCE FACILITY, BUILDING E-52

OBSERVED CONTAMINATION SUBSURFACE SOIL SAMPLES

3.2 SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND

3.2.1 Sample Identification and Collection

A summary of samples collected at Site 4 is presented as Table 3.2-1 and sample locations are illustrated on Figure 3.2-1.

In June 1993, two background soil samples (WFF4-SB4 and WFF4-SB5) were collected outside the perimeter of Site 4 for comparison to Site 4 samples. Another background soil sample (WFF4-SB6) and its duplicate sample (WFF4-SB7) were collected for Site 4 in September 1995. All background samples were analyzed for the TAL and TPH parameters to determine background levels at the site. WFF4-SB6 and WFF4-SB7 were also analyzed for TCL parameters.

M&E collected three surface soil samples (WFF4-SS1 through WFF4-SS3) at Site 4 for PCB analyses. One surface soil sample was collected for PCB analysis at each of the abandoned transformers (WFF4-SS1 and WFF4-SS2) located by NASA personnel during Phase I, and one soil sample (WFF4-SS3) was collected near the abandoned oil switch identified in the Preliminary Report for Phase I of the Site Inspections (NASA, 1993(d)). One duplicate sample (WFF4-SS4) was collected at WFF4-SS1. Sample WFF4-SS1 was not included on Site 4 figures due to its remote location.

M&E collected three subsurface soil samples (WFF4-SB1 through WFF4-SB3) at each of the three soil gas locations where soil gas contaminants were detected: locations WFF4-SG1, WFF4-SG2 and WFF4-SG5, respectively (NASA, 1993(e)). The depth of subsurface soil sample collection (1-3 feet) was determined based upon the depth of groundwater (1-3 feet) at this site. These locations are well-spaced throughout the debris pile and were chosen due to the presence of suspect objects such as empty drums. All of these samples were analyzed for the TCL, TAL, and TPH parameters.

One debris pile sample (WFF4-DP1) was collected for asbestos analysis.

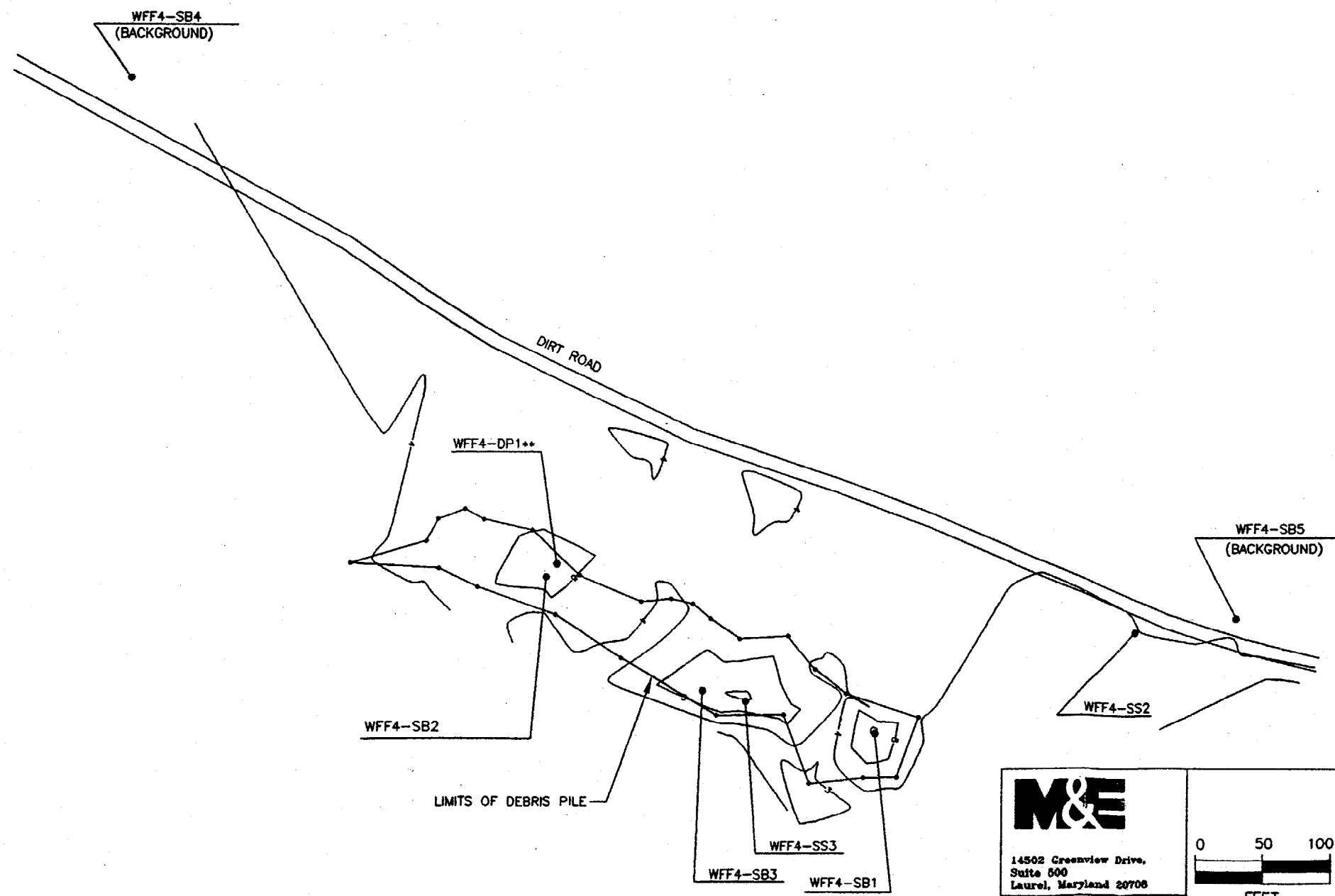
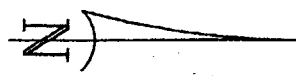
**TABLE 3.2-1
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF4-SS1	6/18/93	Surface	PCB	Check for presence of PCBs.
WFF4-SS2	8/12/93	Surface	PCB	Check for presence of PCBs.
WFF4-SS3	6/18/93	Surface	PCB	Check for presence of PCBs.
WFF4-SS4	6/18/93	Surface	PCB	QA/QC - Duplicate of SS1, MS/MSD.
WFF4-SB1	6/3/93	1.5 - 3	TCL, TAL, TPH	Search for subsurface contaminants.
WFF4-SB2	6/3/93	1.5 - 3	TCL, TAL, TPH	Search for subsurface contaminants.
WFF4-SB3	6/3/93	1.5 - 3	TCL, TAL, TPH	Search for subsurface contaminants.
WFF4-SB4	6/3/93	2 - 3	TAL, TPH	Background data for comparison to other samples.
WFF4-SB5	6/3/93	2 - 3	TAL, TPH	Background data for comparison to other samples.
WFF4-SB6	9/27/95	1 - 3	TCL, TAL, TPH	Background data for comparison to other samples.
WFF4-SB7	9/27/95	1 - 3	TCL, TAL, TPH	QA/QC - Duplicate of SB6, MS/MSD.
WFF4-DP1	8/16/93	Surface	Asbestos	Check for presence of asbestos.
WFF4-SW7	6/3/93	N/A	TCL, TAL, TPH	QA/QC - Equipment blank (SB).
WFF4-SW9	8/12/93	N/A	PCB	QA/QC - Equipment blank (SS).

NOTES: SB = Soil Boring
SS = Surface Soil
SW = Surface Water
DP = Debris Pile
MS/MSD = Matrix Spike/
Matrix Spike Duplicate
PCB = Polychlorinated Biphenyl
N/A = Not Applicable

TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting

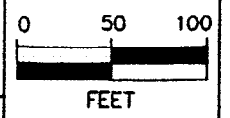
- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicated possible presence of unknown hydrocarbon.
 - ** Approximate location—sample point not surveyed.



LEGEND

SAMPLE LOCATION	●
EXISTING TOPOGRAPHIC CONTOUR	—
SOIL BORING	SB
SURFACE SOIL	SS
DEBRIS PILE	DP

M&E
 14502 Greenview Drive,
 Suite 600
 Laurel, Maryland 20706



SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-4

REVISED:
 JAN. 15, 1996

FIGURE 3.2-1
 SITE 4—WALLOPS ISLAND
 DEBRIS PILE
 NORTH END OF WALLOPS ISLAND

SAMPLES COLLECTED

0020A03Z

3.2.2 Analytical Results

Analytical results for Site 4 are presented as Table 3.2-2 and illustrated on Figures 3.2-2 and 3.2-3.

The results of background subsurface soil samples collected in June 1993 and September 1995 indicate detectable levels of a pesticide in one sample, diesel fuel in one sample, and metals in all three samples. All background subsurface soil samples for Site 4 were averaged and compared to subsurface soil samples collected from Site 4 to determine which contaminants from the site were elevated above natural background levels, as presented in Table 3.2-2. Detailed tables for the determination of Site 4 average background levels are presented in Appendix C.

Surface soil results indicated elevated PCB compounds in two of the three samples. No other analyses were performed on the surface soil samples.

Subsurface soil results after comparison to background indicated elevated levels of semivolatile organic compounds in all three of the subsurface soil samples, a pesticide in one sample, petroleum hydrocarbons in two samples, and metals in all three samples. Volatile organic compounds and PCBs were not detected. In addition to the petroleum hydrocarbons (diesel fuel) detected in two samples, the chromatograms for all three subsurface soil samples indicate the possible presence of an unknown petroleum hydrocarbon, although none of the four petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, and diesel fuel) were detected.

Debris sample results indicate asbestos in the one sample collected. No other analyses were performed on debris.

**TABLE 3.2-2
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
OBSERVED CONTAMINATION**

VOLATILE COMPOUNDS WERE NOT DETECTED AT SITE 4

Semivolatile Analysis (SOW:OLMO1.8)		SUBSURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF4-SB1	WFF4-SB2	WFF4-SB3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg
DEPTH OF SAMPLE(ft):		1.5	1.5	1.5
	SITE 4 BACKGROUND ug/kg (MOR)			
COMPOUND				
Naphthalene	360			9,200 J
2-Methylnaphthalene	360			3,500 J
Acenaphthene	360	4,900 J		12,000 J
Dibenzofuran	360			7,600 J
Fluorene	360	3,700 J		15,000
Phenanthrene	360	31,000		94,000
Anthracene	360	11,000 J		32,000
Carbazole	360	3,800 J		15,000
Fluoranthene	360	73,000		140,000
Pyrene	360	63,000		170,000
Benzo(a)anthracene	360	41,000		99,000
Chrysene	360	40,000		120,000
Benzo(b)fluoranthene	360	35,000		63,000
Benzo(k)fluoranthene	360	41,000		61,000
Benzo(a)pyrene	360	38,000	440 J	66,000
Indeno(1,2,3-cd)pyrene	360	20,000		32,000
Dibenz(a,h)anthracene	360	4,500 J		11,000 J
Benzo(g,h,i)perylene	360	13,000 J	590 J	25,000 J

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.2-2, continued
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
OBSERVED CONTAMINATION

Pesticide/PCB Analysis (SOW:OLMO1.8 or SW846 M8080)		SUBSURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF4-SS2	WFF4-SS3	WFF4-SB1
MATRIX:		SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg
DEPTH OF SAMPLE(ft):		NA	NA	1.5
	SITE 4			
	BACKGROUND			
COMPOUND	ug/kg (MOR)			
Endrin Ketone	3.6			56 L
Aroclor-1254	36		1000	
Aroclor-1260	36	350		

Petroleum Hydrocarbons Analysis (SW846 M8015m)		SURFACE & SUBSURFACE SOIL SAMPLES	
M&E SAMPLE ID:		WFF4-SB1	WFF4-SB3
MATRIX:		SOIL	SOIL
UNITS:		ppm	ppm
DEPTH OF SAMPLE(ft):		1.5	1.5
	SITE 4		
	BACKGROUND		
COMPOUND	mg/kg (MOR)		
Diesel Fuel	10	38.2	40.2
NOTES:			
Chromatograms for samples WFF4-SB1, WFF4-SB2, and WFF4-SB3 indicate the presence of unknown hydrocarbons.			
A key to symbols can be found on the last page of this table.			

TABLE 3.2-2, continued
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILMO2.1)		SUBSURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF4-SB1	WFF4-SB2	WFF4-SB3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):		1.5	1.5	1.5
	SITE 4 BACKGROUND mg/kg (MOR)			
ANALYTES				
Antimony	3.94			111
Arsenic	5.85			10.5
Barium	5.85		10.7	31.3
Cadmium	0.67			33
Calcium	557 J	1030 J	2,820 J	7,160 J
Chromium	8.90			28.7 J
Cobalt	2.22			9.6
Copper	2.45	3.3	5.4	215
Iron	7,360			69,900
Lead	13.35		25	182
Magnesium	892			980
Manganese	40.5		51.7	665
Mercury	0.12			0.37
Nickel	9.45			58.2
Silver	0.96			10.4
Vanadium	13.9			15.5
Zinc	56.7		60.2	866
MOR - Minimum Observed Release				

Asbestos Analysis	DEBRIS PILE SAMPLES
M&E SAMPLE ID:	WFF4-DP1
UNITS:	%
Asbestos	40 - 45
NOTE: A key to symbols can be found on the last page of this table.	

TABLE 3.2-2, continued
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
ANALYTES DETECTED IN BACKGROUND SAMPLES

Pesticide/PCB Analysis (SOW:OLM01.8 or SW846 M8080)	
M&E SAMPLE ID:	WFF4-SB6
MATRIX:	SOIL
UNITS:	ug/kg
SAMPLE DEPTH(ft):	1
COMPOUND	
Dieldrin	0.14 J
Endrin	0.52
Endosulfan II	0.076 J
4,4'-DDT	2.4
Alpha-chlordane	0.047 J
Gamma-chlordane	0.39 J

Inorganic Analysis (SOW:ILMO2.1)			
M&E SAMPLE ID:	WFF4-SB4	WFF4-SB5	WFF4-SB6
MATRIX:	SOIL	SOIL	SOIL
UNITS:	mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):	2	1.5	1
ANALYTES			
Aluminum	1,330 J	1,000 J	3,170
Arsenic	1.9	2	
Barium	2.3	1.6	8 J
Calcium	340 J	157 J	59.6 J
Chromium	3.1	2.6	3.2
Cobalt	0.74		
Copper	0.66	0.97	3.4 J
Iron	2,490	2,290	2,580
Lead	2.4	6.5	12.4 J
Magnesium	370	288	234
Manganese	16	11	36.3 J
Nickel	4.3		2
Potassium			117
Vanadium	5.2	4.5	4.2
Zinc			18.9
NOTE: All analytes are shown except those which were not detected or were detected in blanks.			

TABLE 3.2-2, continued
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
COMPOUNDS DETECTED IN BACKGROUND SAMPLES

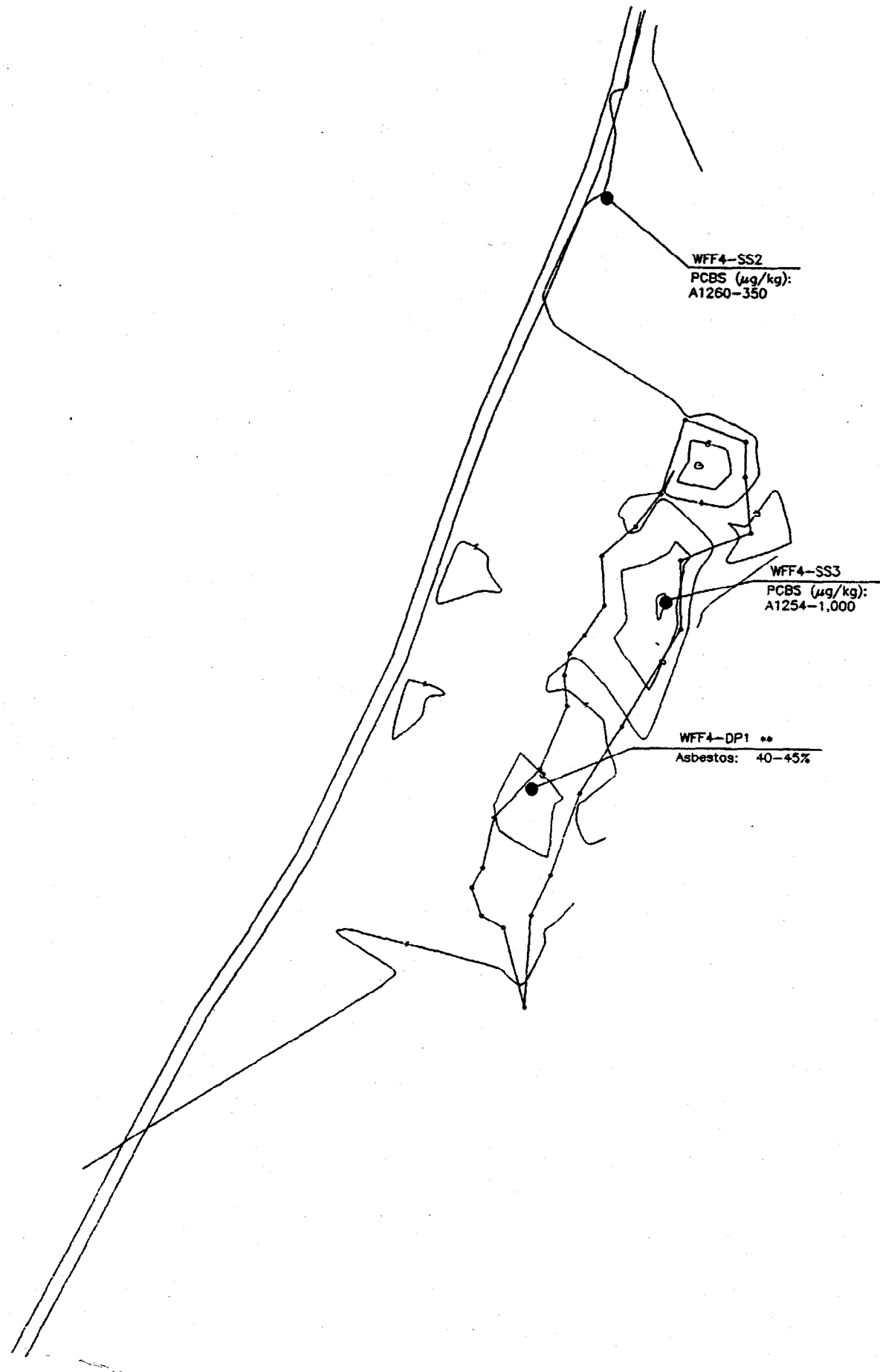
Petroleum Hydrocarbons Analysis (SW846 M8015m)	
M&E SAMPLE ID:	WFF4-SB4
MATRIX:	SOIL
UNITS:	ppm
DEPTH OF SAMPLE(ft):	2
COMPOUND	
Diesel Fuel	1.59
NOTE: A key to symbols can be found on the last page of this table.	

TABLE 3.2-2, continued
SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	Units
WFF = Wallops Flight Facility	ug/kg = micrograms per kilogram
SS = Surface Soil	mg/kg = milligrams per kilogram
SB = Soil Boring	ppm = parts per million
DP = Debris Pile	
Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
L = Analyte present. Reported value may be biased low.	
Analytical Methods	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).	
SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Petroleum Hydrocarbons, with fingerprinting (all matrices).	
SW846 M8080 = Solid Waste Method 8080 for analysis of PCBs (soil and wipes).	
Other	
NA = Not Applicable.	
MOR = Minimum Observed Release	

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- ** Approximate location—sample point not surveyed.

CHEMICAL ABBREVIATION
 PCBS:
 A1254 = Aroclor - 1254
 A1260 = Aroclor - 1260



LEGEND
 ● SITE LOCATION
 --- EXISTING TOPOGRAPHIC CONTOUR
 --- SURFACE SOIL
 --- DEBRIS PILE

SS
 DP

 14802 Greenview Drive, Suite 300 Laurel, Maryland 20708	0 50 100 FEET	FIGURE 3.2-2 SITE 4--WALLOPS ISLAND DEBRIS PILE NORTH END OF WALLOPS ISLAND OBSERVED CONTAMINATION SURFACE SOIL AND DEBRIS PILE SAMPLES
	SOURCE: Ramesh C. Batta Associates, P.A. 600 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 868-2681 DWG. NO. 85630-C-9057-4	

0020AB42

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicated possible presence of unknown hydrocarbon.
 ** Approximate location-sample point not surveyed.

CHEMICAL ABBREVIATIONS

SEMIVOLATILES:
 Naphth = Naphthalene
 2-Methyl = 2-Methylnaphthalene
 Acenap = Acenaphthene
 Dibenzf = Dibenzofuran
 Phenan = Phenanthrene
 Anthra = Anthracene
 Carba = Carbazole
 Fluoran = Fluoranthene
 Benz(a)a = Benzo(a)anthracene
 Benz(b) = Benzo(b)fluoranthene
 Benz(k) = Benzo(k)fluoranthene
 Benz(a)p = Benzo(a)pyrene
 Ideno = Ideno(1,2,3-cd)pyrene
 Dib(ah) = Dibenz(a,h)anthracene
 Ben(ghi) = Benzo(g,h,i)perylene

PESTICIDES/PCBS:
 End Ket = Endrin ketone
 TPH = Total Petroleum Hydrocarbons

INORGANICS:
 Sb = Antimony
 As = Arsenic
 Ba = Barium
 Cd = Cadmium
 Ca = Calcium
 Cr = Chromium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Hg = Mercury
 Ni = Nickel
 Ag = Silver
 V = Vanadium
 Zn = Zinc
 CN = Cyanide

WFF4-SB5(2 ft.)
 (BACKGROUND)

WFF4-SB1 (1.5 ft.)
 SEMIVOLATILES (µg/kg):
 Acenap - 4,900
 Fluorene - 3,700
 Phenan - 31,000
 Anthra - 11,000
 Carba - 3,800
 Fluoran - 73,000
 Pyrene - 63,000
 Benz(a)a - 41,000
 Chrysene - 40,000
 Benz(b) - 35,000
 Benz(k) - 41,000
 Benz(a)p - 38,000
 Ideno - 20,000
 Dib(ah) - 4,500
 Ben(ghi) - 13,000
 PESTICIDES/PCBS (µg/kg):
 End Ket - 56
 TPH (ppm):
 See Note *
 Diesel - 38.2
 INORGANICS (mg/kg):
 Ca - 1030
 Cu - 3.3

WFF4-SB3 (1.5 ft.)
 SEMIVOLATILES (µg/kg):
 Naphth - 9,200
 2-Methyl - 3,500
 Acenap - 12,000
 Dibenzf - 7,600
 Fluorene - 15,000
 Phenan - 94,000
 Anthra - 32,000
 Carba - 15,000
 Fluoran - 140,000
 Pyrene - 170,000
 Benz(a)a - 99,000
 Chrysene - 120,000
 Benz(b) - 63,000
 Benz(b)k - 61,000
 Benz(a)p - 66,000
 Ideno - 32,000
 Dib(ah) - 11,000
 Ben(ghi) - 25,000
 TPH (ppm):
 See Note *
 Diesel - 40.2
 INORGANICS (mg/kg):
 Sb - 111
 As - 10.5
 Ba - 31.3
 Cd - 33
 Ca - 7,160
 Cr - 28.7
 Co - 9.6
 Cu - 215
 Fe - 69,900
 Pb - 182
 Mg - 980
 Mn - 665
 Hg - 0.37
 Ni - 58.2
 Ag - 10.4
 V - 15.5
 Zn - 866
 CN - 3.4

WFF4-SB2 (1.5 ft.)
 SEMIVOLATILES (µg/kg):
 Benz(a)p - 440
 Ben(ghi) - 590
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Ba - 10.7
 Ca - 2,820
 Cu - 5.4
 Pb - 25
 Mn - 51.5
 Zn - 60.2

DIRT ROAD

LIMITS OF DEBRIS PILE

WFF4-SB4(2ft.)
 (BACKGROUND)

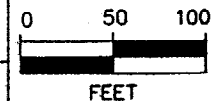
LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- SOL BORING
- STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)



14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-4



REVISED:
 JAN. 15, 1996

FIGURE 3.2-3

SITE 4-WALLOPS ISLAND
 NORTH END OF WALLOPS ISLAND
 DEBRIS PILE
 OBSERVED CONTAMINATION
 SUBSURFACE SOIL SAMPLES

3.3 SITE 5 - PAINT STAIN, BUILDING X-30

3.3.1 Sample Identification and Collection

A summary of samples collected at Site 5 is presented as Table 3.3-1. Sample locations are illustrated on Figure 3.3-1 and Figure 3.3-2.

M&E collected one background surface soil sample (WFF5-SS4) in June 1993 and one background surface soil sample (WFF5-SB5) in September 1995. Both samples were collected outside the paint stain and sandblasting area and analyzed for TAL and TPH parameters. WFF5-SB5 was also analyzed for TCL parameters. M&E also collected one background surface water/sediment sample (WFF5-SW3/SD3) and one subsurface soil sample (WFF5-SB4) in September 1995. The background samples were collected outside the paint stain and sandblasting area and were analyzed for TCL, TAL, and TPH parameters. A duplicate surface water/sediment sample (WFF5-SW6/SD6) was collected at WFF5-SW3/SD3.

M&E collected one surface soil sample (WFF5-SS1) in the center of the paint stain and two surface soil samples to the west (WFF5-SS2) and north (WFF5-SS3) of the sandblasting pad. These samples were analyzed for the TCL/TAL parameters. Pesticide and PCB analyses were not planned for this site, however, the laboratory inadvertently performed pesticide and PCB analyses on the surface soil samples.

M&E collected one subsurface soil sample (WFF5-SB1) in the center of the paint stain. Subsurface soil samples were also collected to the west (WFF5-SB2) and north (WFF5-SB3) of the sandblasting pad. These samples were analyzed for the TCL and TAL parameters, with the exception of TCL pesticides/PCBs.

One surface water (WFF5-SW2) and sediment sample (WFF5-SD2) was collected at this site and analyzed for TCL, TAL, and TPH parameters.

**TABLE 3.3-1
SITE 5 - PAINT STAIN, BUILDING X-30
SAMPLES COLLECTED**

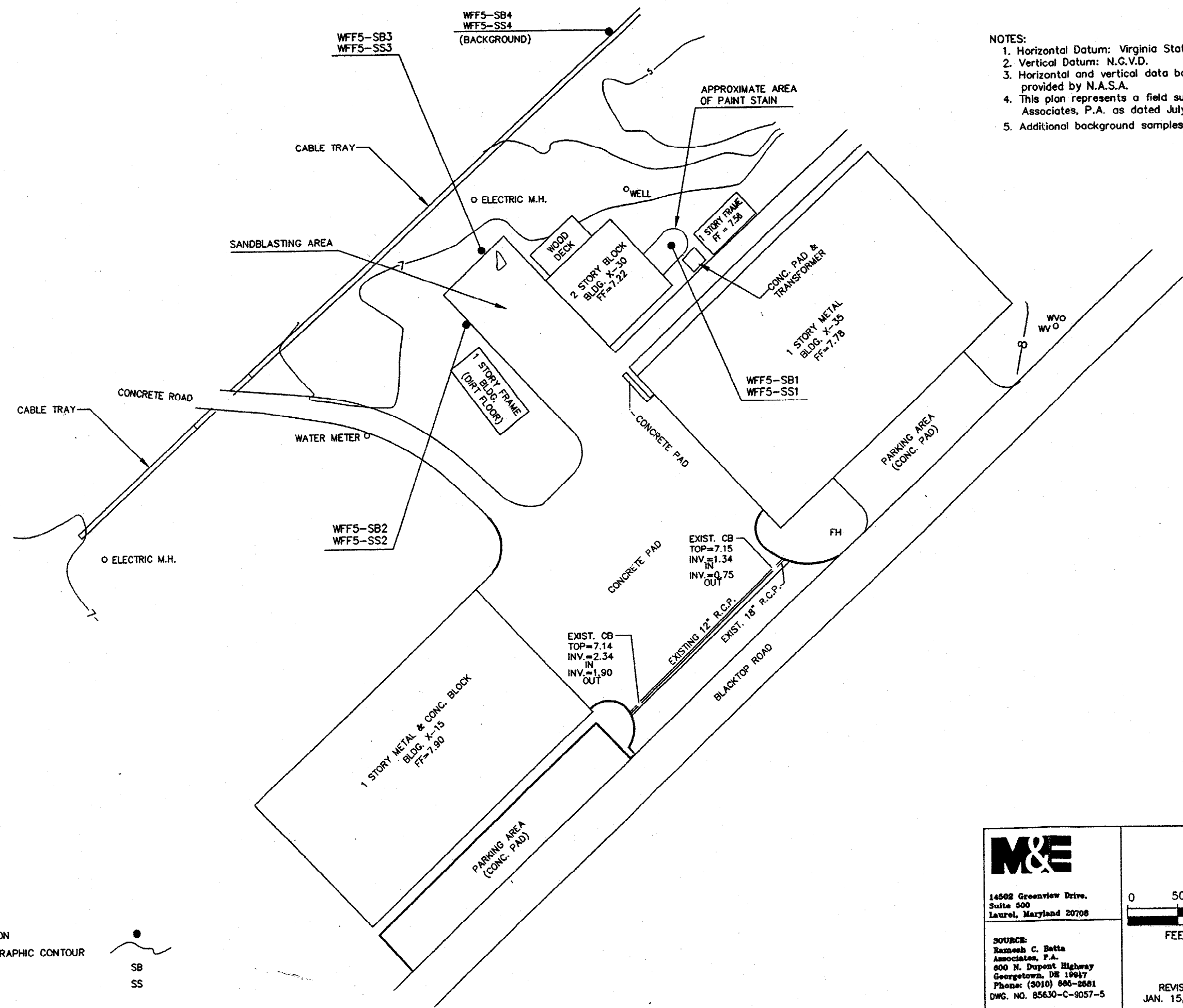
SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF5-SS1	8/17/93	Surface	TCL and TAL	Identify and quantify paint contamination.
WFF5-SB1	6/14/93	0.75-1.25	TCL (voa, semi), TAL	Identify and quantify paint contamination.
WFF5-SS2	8/17/93	Surface	TCL and TAL	Identify and quantify contamination from sandblasting.
WFF5-SB2	6/14/93	1 - 2	TCL (voa, semi), TAL	Identify and quantify contamination from sandblasting.
WFF5-SS3	8/17/93	Surface	TCL, TAL	Identify and quantify contamination from sandblasting.
WFF5-SB3	6/14/93	1-1.5	TCL (voa, semi), TAL	Identify and quantify contamination from sandblasting.
WFF5-SS4	8/17/93	Surface	TAL, TPH	Background-data for comparison to Site 5 and 12 samples.
WFF5-SB4	6/14/93	1-1.5	TAL, TPH	Background data for comparison to Site 5 and 12 samples.
WFF5-SB5	9/27/95	Surface	TCL, TAL, TPH	Background data for comparison to Site 5 and 12 samples.
WFF5-SW1	8/17/93	N/A	TCL (voa, semi), TAL	QA/QC - Field Blank
WFF5-SW2	9/26/95	N/A	TCL, TAL, TPH	Search for contaminants migrating to sensitive environments from site.
WFF5-SD2	9/26/95	0 - 0.5	TCL, TAL, TPH	Search for contaminants migrating to sensitive environments from site.
WFF5-SW3	9/27/95	N/A	TCL, TAL, TPH	Background data for comparison to Site 5 and 12 samples.
WFF5-SD3	9/27/95	0 - 0.5	TCL, TAL, TPH	Background data for comparison to Site 5 and 12 samples.
WFF5-SW4	9/27/95	N/A	TCL, TAL, TPH	QA/QC - Equipment Blank (SS)
WFF5-SW5	9/27/95	N/A	TCL, TAL, TPH	QA/QC - Field Blank
WFF5-SW6	9/27/95	N/A	TCL, TAL, TPH	QA/QC - Duplicate of WFF5-SW3
WFF5-SD6	9/27/95	0 - 0.5	TCL, TAL, TPH	QA/QC - Duplicate of WFF5-SD3

TABLE 3.3-1 (Con't)
SITE 5 - PAINT STAIN, BUILDING X-30
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF5-SW7	9/27/95	N/A	TCL, TAL, TPH	QA/QC - Equipment Blank (SW)
WFF5-SW8	9/27/95	N/A	TCL, TAL, TPH	QA/QC - Equipment Blank (SD)


NOTES:


SB	=	Soil Boring	DC	=	Drum Contents
SS	=	Surface Soil	TCL	=	Target Compound List (125 Organics)
SD	=	Sediment	TAL	=	Target Analyte List (23 Metals and Cyanide)
SW	=	Surface Water	TPH	=	Total Petroleum Hydrocarbons, with Fingerprinting
WIPE	=	PCB Wipe Sample	voa	=	Volatile Organic Analysis
MS/MSD	=	Matrix Spike/ Matrix Spike Duplicate	semi	=	Semivolatile Organic Analysis
			QA/QC	=	Quality Assurance/Quality Control





- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.
 5. Additional background samples shown on 3.3-2.


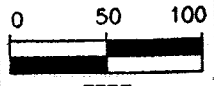
LEGEND

SAMPLE LOCATION 

EXISTING TOPOGRAPHIC CONTOUR 

SOIL BORING  SB

SURFACE SOIL  SS

 14502 Greenview Drive. Suite 500 Laurel, Maryland 20708	 FEET	FIGURE 3.3-1
		SITE 5-PAIN STAIN, BUILDING X-30 SAMPLES COLLECTED
SOURCE: Ramesh C. Batta Associates, P.A. 600 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 866-2681 DWG. NO. 85630-C-9057-5	REVISED: JAN. 15, 1996	

0020AB52

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.

WFF5-SW3
WFF5-SD3
(BACKGROUND)

WFF5-SB5
(BACKGROUND)

WFF5-SW2
WFF5-SD2

CHEMICAL ABBREVIATIONS

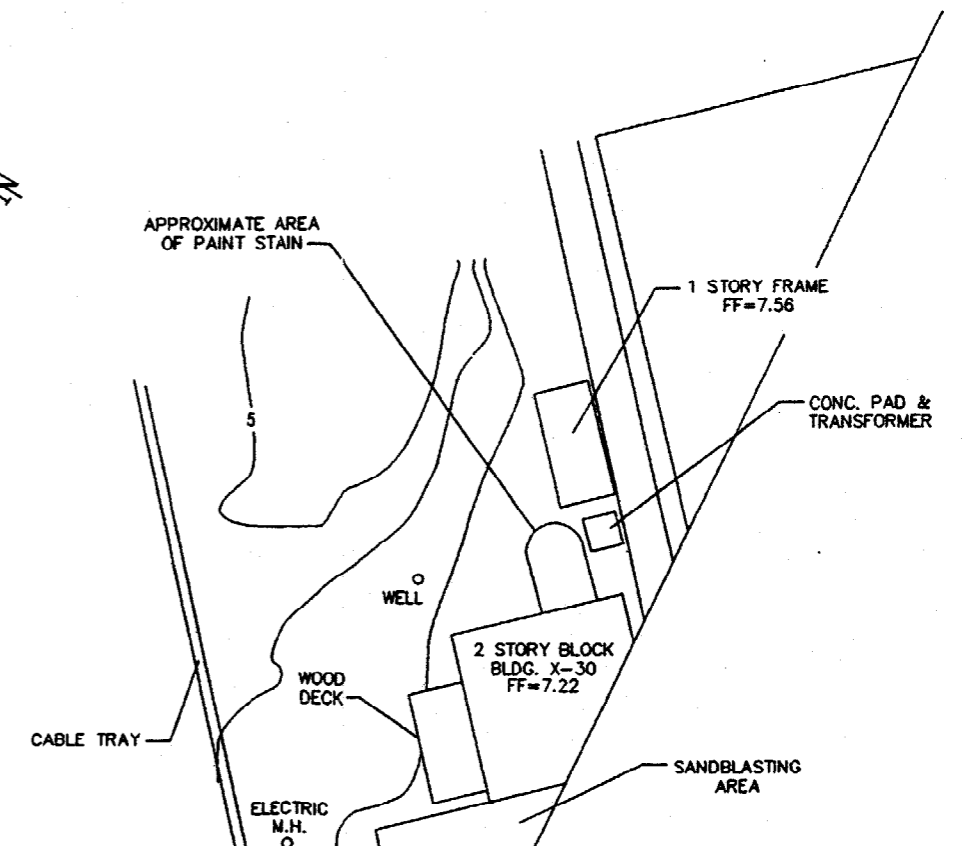
PESTICIDES/PCBS:

Methoxy = p,p'-Methoxychlor
Endrin = Endrin ketone

TPH = Total Petroleum Hydrocarbons
Diesel

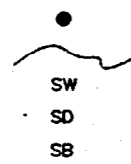
INORGANICS:

Al = Aluminum
Ca = Calcium
Cr = Chromium
Fe = Iron
Pb = Lead
V = Vanadium
Zn = Zinc



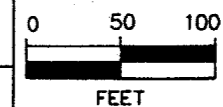
LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- SURFACE WATER
- SEDIMENT
- SOIL BORING



14602 Greenview Drive,
Suite 500
Laurel, Maryland 20708

SOURCE:
Ramesh C. Batta
Associates, P.A.
600 N. Dupont Highway
Georgetown, DE 19847
Phone: (301) 683-2581
DWG. NO. 85630-C-9057-5



REVISED:
JAN. 15, 1996

FIGURE 3.3-2

SITE 5-PAIN STAIN,
BUILDING X-30

SAMPLES COLLECTED

3.3.2 Analytical Results

Analytical results for Site 5 are presented in Table 3.3-2 and illustrated on Figures 3.3-3 through 3.3-5.

M&E averaged the results from six background surface soil samples for comparison to Site 5 surface soil samples. The six background surface soil samples M&E used were comprised of two samples (WFF5-SS4 and WFF5-SB5) collected specifically for Site 5 and four samples (WFF6R-SS1 through WFF6R-SS4) collected for Wallops Island. Pesticide compounds were detected in one of the six surface soil background samples, PCBs in one sample, diesel fuel in one sample, and inorganics in all of the samples. The background subsurface soil (WFF5-SB4) and surface water (WFF5-SW3) samples collected indicate the presence of metals. Analysis of the background sediment sample (WFF5-SD3) revealed the presence of pesticides and metals. Average background levels used for comparison to Site 5 samples are presented in Table 3.3-2. Appendix C provides more detailed tables on the samples used to calculate average background levels for Site 5.

Surface soil results indicate elevated levels of semivolatile organic compounds in one of the three samples, pesticides in all three samples, PCBs in two samples, and metals in all three samples.

Subsurface soil results indicate elevated levels of a volatile organic compound in two of the three samples, a semivolatile organic compound in two samples, and metals in all three samples. Cyanide was not detected. Pesticide/PCB analysis was not performed on subsurface soil samples, however, PCBs were tentatively identified during the semivolatile analysis of sample WFF5-SB3. These results are consistent with the PCBs detected in the surface soil samples. The volatile organic compound (i.e., acetone) and the semivolatile organic compound (i.e., bis(2-ethylhexyl)phthalate) detected are common laboratory contaminants.

One surface water and sediment sample pair (WFF5-SW2/WFF5-SD2) was collected and results indicate elevated levels of a pesticide and metals in each sample. Diesel fuel was also detected in WFF5-SD2.

**TABLE 3.3-2
SITE 5 - PAINT STAIN, BUILDING X-30
OBSERVED CONTAMINATION**

Volatile Analysis (SOW:OLM01.8)		SUBSURFACE SOIL SAMPLES	
M&E SAMPLE ID:		WFF5-SB2	WFF5-SB3
MATRIX:		SOIL	SOIL
UNITS:		ug/kg	ug/kg
SAMPLE DEPTH (ft):		2	1.5
	SITE 5 BACKGROUND		
COMPOUND	ug/kg(MOR)		
Acetone	10	130 J	54 J

Semivolatile Analysis (SOW:OLM01.8)		SURFACE & SUBSURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF5-SS1	WFF5-SB2	WFF5-SB3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg
SAMPLE DEPTH (ft):		1	2	1.5
	SITE 5 BACKGROUND			
COMPOUND	ug/kg(MOR)			
Phenanthrene	480	3,800 J		
Anthracene	480	890 J		
Carbazole	480	520 J		
Fluoranthene	480	3,800 J		
Pyrene	480	3,400 J		
Benzo(a)anthracene	480	1,700 J		
Chrysene	480	1,600 J		
Bis(2-ethylhexyl)phthalate	480		1100	1400
Benzo(b)fluoranthene	480	1,300 J		
Benzo(k)fluoranthene	480	940 J		
Benzo(a)pyrene	480	1,400 J		
Indeno(1,2,3-cd)pyrene	480	1,000 J		
Benzo(g,h,i)perylene	480	660 J		

NOTE: A key to symbols can be found on the last page of this table.

**TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
OBSERVED CONTAMINATION**

Pesticide/PCB Analysis (SOW:OLM01.8) M&E SAMPLE ID: MATRIX: UNITS:		SUBSURFACE SOIL SAMPLES		
		WFF5-SS1	WFF5-SS2	WFF5-SS3
		SOIL	SOIL	SOIL
		ug/kg	ug/kg	ug/kg
SITE 5 BACKGROUND ug/kg(MOR)				
COMPOUND				
4,4'-DDE	3.6 J	190 J		
4,4'-DDD	2.7 J	19 J		
Endosulfan Sulfate	4.9	8.8 J		
4,4'-DDT	4.9	350 J	11 J	19 J
Endrin Aldehyde	0.48 J			8.8 J
gamma-Chlordane	2.5	7.9 J		
Aroclor-1254	49	760 J		
Aroclor-1260	15 J			110 J

Note: Subsurface soil samples were not analyzed for pesticides or PCBs.

Pesticide/PCB Analysis (SOW:OLM01.8) M&E SAMPLE ID: MATRIX: UNITS:		SURFACE WATER & SEDIMENT SAMPLES	
		WFF5-SW2	WFF5-SD2
		SOIL	SOIL
		ug/kg	ug/kg
SITE 5 BACKGROUND ug/kg(MOR)			
COMPOUND			
p,p'-Methoxychlor	17		21
Endrin ketone	0.63	0.89 J	

NOTE: A key to symbols can be found on the last page of this table.

Petroleum Hydrocarbons Analysis (SW846 M8015m) M&E SAMPLE ID: MATRIX: UNITS:		SEDIMENT SAMPLES
		WFF5-SD2
		SOIL
		ppm
SITE 5 BACKGROUND mg/kg(MOR)		
COMPOUND		
Diesel Fuel	10	38

NOTES:
Chromatograms for samples WFF5-SS1, WFF5-SS2, and WFF5-SS3 indicate the presence of unknown hydrocarbons. A key to symbols can be found on the last page of this table.

**TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
OBSERVED CONTAMINATION**

Inorganic Analysis (SOW:ILM02.1)		SURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF5-SS1	WFF5-SS2	WFF5-SS3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg
SITE 5 BACKGROUND mg/kg(MOR)				
ANALYTES				
Calcium	588	1,340 J		
Chromium	27	63.3	37.6	
Copper	6.9 J	10.9 J	17.3 J	
Lead	28 JK	560 K	127 K	166 K
Silver	0.34	1.9		
Zinc	66	298	119	

Inorganic Analysis (SOW:ILM02.1)		SUBSURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF5-SB1	WFF5-SB2	WFF5-SB3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):		1	2	1.5
SITE 5 BACKGROUND mg/kg(MOR)				
ANALYTES				
Aluminum	5,700			12,400
Arsenic	3	3.1		
Barium	13.8		13.8	40.9
Beryllium	0.22			0.31
Calcium	1,536	3,600		
Copper	2.19	3.3	3.4	4.9
Iron	8,910 J			10,900 J
Lead	14.4	28.6	99.1	38
Magnesium	1,962	1,970		
Mercury	0.11			0.17
Nickel	3.3			4.2
Selenium	0.22			0.25
Vanadium	17.7			21.2
Zinc	36.3	63.4	123	44

NOTE: A key to symbols can be found on the last page of this table.

**TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
OBSERVED CONTAMINATION**

Inorganic Analysis (SOW:ILM02.1)		SURFACE WATER SAMPLES
M&E SAMPLE ID:		WFF5-SW2
MATRIX:		WATER
UNITS:		ug/l
	SITE 5 BACKGROUND	
ANALYTES	mg/kg(MOR)	
Aluminum	200	798
Iron	1689	3930
Lead	1.6	16.5
Vanadium	2.5 L	3.2
Zinc	20	73.6

Inorganic Analysis (SOW:ILM02.1)		SEDIMENT SAMPLES
M&E SAMPLE ID:		WFF5-SD2
MATRIX:		SOIL
UNITS:		mg/kg
	SITE 5 BACKGROUND	
ANALYTES	mg/kg(MOR)	
Calcium	2,094 J	5150 J
Chromium	17.7	30.5
Lead	15 J	121 J
Zinc	63.3	89.6
NOTE: A key to symbols can be found on the last page of this table.		

TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
COMPOUNDS DETECTED IN BACKGROUND SAMPLES

Volatile Analysis (SOW:OLM01.8)		
M&E SAMPLE ID:	WFF6R-SS1	WFF6R-SS2
MATRIX:	SOIL	SOIL
UNITS:	mg/kg	mg/kg
SAMPLE DEPTH(ft):	0.5	0.5
COMPOUND		
Chloroform	1.49 J	
Chlorobenzene		1.13 J

Pesticide/PCB Analysis (SOW:OLM01.8)			
M&E SAMPLE ID:	WFF5-SB5	WFF5-SW3	WFF5-SD3
MATRIX:	SOIL	WATER	SOIL
UNITS:	mg/kg	ug/l	mg/kg
SAMPLE DEPTH(ft):	0.5		
COMPOUND			
Beta-BHC			0.55
Gamma-BHC (Lindane)	0.38 J	1.6 J	
Heptachlor		0.03 J	
Aldrin			0.21 J
4,4'-DDE	1.2 J		1.1 J
4,4'-DDD	0.9 J		
Endrin ketone		0.21 J	
Endrin aldehyde	0.16 J		
Alpha-chlordane			0.42 J
PCB-1260	5 J		
NOTE: All analytes are shown except those which were not detected or were detected in blanks.			

TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
ANALYTES DETECTED IN BACKGROUND SAMPLES

Inorganic Analysis (SOW:ILMO2.1)	WFF5-SB4	WFF5-SB5	WFF5-SS4	WFF6R-SS2
M&E SAMPLE ID:	SOIL	SOIL	SOIL	SOIL
MATRIX:	mg/kg	mg/kg	mg/kg	mg/kg
UNITS:				
SAMPLE DEPTH(ft):	1	0.5	0.5	0.5
ANALYTES				
Aluminum	1,900	3,960	1,250	14,600
Antimony				12.5
Arsenic	0.94	5.3	1.3	2.04
Barium	4.6	8.4 J	3	50.1
Beryllium				0.36
Calcium	512	673 J	465 J	235
Chromium	5.4	9.9	5.7	12.4
Cobalt	1.9	1.9	1.5	
Copper	0.73	3.9 J	0.67 J	
Iron	2,970 J	11,600	2,320	10,400
Lead	4.8	9 J	11.4 K	4.97
Magnesium	654	1,140	424	1,110
Manganese	25.3	32.9	17.4	112
Nickel		3.6		7.7
Potassium	339	875	302	528
Selenium		1.1 K		
Vanadium	5.9	13.3	3.8	19.2
Zinc	12.1	25.3	32.5	18.2

NOTE: All analytes are shown except those which were not detected or were detected in blanks.

TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
ANALYTES DETECTED IN BACKGROUND SAMPLES

Inorganic Analysis (SOW:ILMO2.1)				
M&E SAMPLE ID:	WFF6R-SS3	WFF6R-SS4	WFF5-SW3	WFF5-SD3
MATRIX:	SOIL	SOIL	WATER	SOIL
UNITS:	mg/kg	mg/kg	ug/l	mg/kg
SAMPLE DEPTH(ft):	0.5	0.5		
ANALYTES				
Aluminum	2,950	16,200		2,890 J
Arsenic		1.78		1.7
Barium	4.84	61.8	22.8 J	4.2 J
Beryllium		0.48		
Calcium	75.6	277	211000	698 J
Chromium	3.47	14.3		5.9
Cobalt				2.5
Iron	2,930	12,100	563	5,590 J
Lead	15.6	5.67		5 J
Magnesium	236	1380	528000	661
Manganese	45	143	135	28.5 J
Nickel		11.2		4.2
Potassium	80.4	812	298000	411
Selenium				1.9 K
Sodium		267	3960000 J	
Vanadium	5.3	22.8	0.82 L	7.9
Zinc	10.1	23.2		21.1

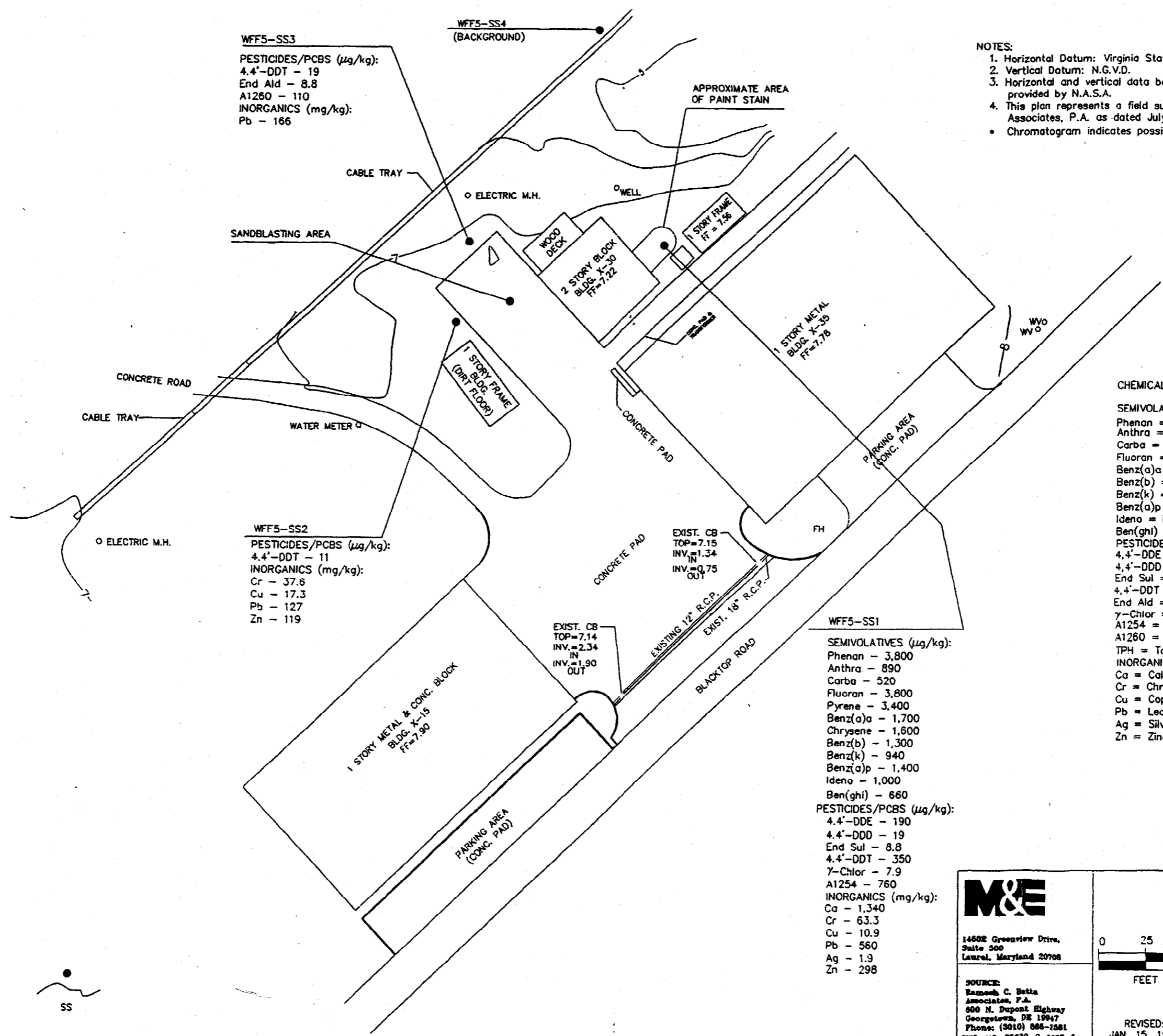
NOTE: All analytes are shown except those which were not detected or were detected in blanks.

Petroleum Hydrocarbons Analysis (SW846 M8015m)	
M&E SAMPLE ID:	WFF5-SS4
MATRIX:	SOIL
UNITS:	mg/kg
DEPTH OF SAMPLE(ft):	0.5
ANALYTES	
Diesel Fuel	36 L

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.3-2, continued
SITE 5 - PAINT STAIN, BUILDING X-30
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	Units
WFF = Wallops Flight Facility	ug/kg = micrograms per kilogram
SS = Surface Soil	mg/kg = milligrams per kilogram
SB = Soil Boring	ppm = parts per million
SW = Surface Water	
SD = Sediment	
Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
K = Analyte present. Reported value may be biased high.	
L = Analyte present. Reported value may be biased low.	
Analytical Methods	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8, (CLP method for organic analyses, all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).	
SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Petroleum Hydrocarbons, with fingerprinting (all matrices).	
Other	
NA = Not Applicable	
MOR = Minimum Observed Release	



WFF5-SS3
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDT - 19
 End Ald - 8.8
 A1260 - 110
 INORGANICS (mg/kg):
 Pb - 166

WFF5-SS2
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDT - 11
 INORGANICS (mg/kg):
 Cr - 37.6
 Cu - 17.3
 Pb - 127
 Zn - 119

WFF5-SS1
 SEMIVOLATILES ($\mu\text{g}/\text{kg}$):
 Phenan - 3,800
 Anthra - 890
 Carba - 520
 Fluoran - 3,800
 Pyrene - 3,400
 Benz(a)a - 1,700
 Chrysene - 1,600
 Benz(b) - 1,300
 Benz(k) - 940
 Benz(a)p - 1,400
 Ideno - 1,000
 Ben(ghi) - 660
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 190
 4,4'-DDD - 19
 End Sul - 8.8
 4,4'-DDT - 350
 γ -Chlor - 7.9
 A1254 - 760
 INORGANICS (mg/kg):
 Ca - 1,340
 Cr - 63.3
 Cu - 10.9
 Pb - 560
 Ag - 1.9
 Zn - 298

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.
- * Chromatogram indicates possible presence of unknown hydrocarbon.

CHEMICAL ABBREVIATIONS

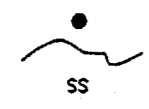
SEMIVOLATILES:
 Phenan = Phenanthrene
 Anthra = Anthracene
 Carba = Carbazole
 Fluoran = Fluoranthene
 Benz(a)a = Benzo(a)anthracene
 Benz(b) = Benzo(b)fluoranthene
 Benz(k) = Benzo(k)fluoranthene
 Benz(a)p = Benzo(a)pyrene
 Ideno = Ideno(1,2,3-cd)pyrene
 Ben(ghi) = benzo(g,h,i)perylene

PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 End Sul = Endosulfan sulfate
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 End Ald = Endrin aldehyde
 γ -Chlor = gamma Chlordane
 A1254 = Aroclor-1254
 A1260 = Aroclor-1260

TPH = Total Petroleum Hydrocarbons

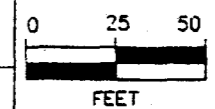
INORGANICS:
 Ca = Calcium
 Cr = Chromium
 Cu = Copper
 Pb = Lead
 Ag = Silver
 Zn = Zinc

LEGEND
 SAMPLE LOCATION
 EXISTING TOPOGRAPHIC CONTOUR
 SURFACE SOIL



M&E
 14602 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 800 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 866-7681
 DWG. NO. 35630-C-9057-5



REVISED:
 JAN. 15, 1996

FIGURE 3.3-3
 SITE 5-PAINT STAIN,
 BUILDING X-30
 OBSERVED CONTAMINATION
 SURFACE SOIL SAMPLES

0020AB62



WFF5-SB1 (0.75 ft.)
 INORGANICS (mg/kg):
 As - 3.1
 Ca - 3,600
 Cu - 3.3
 Pb - 28.6
 Mg - 1,970
 Zn - 63.4

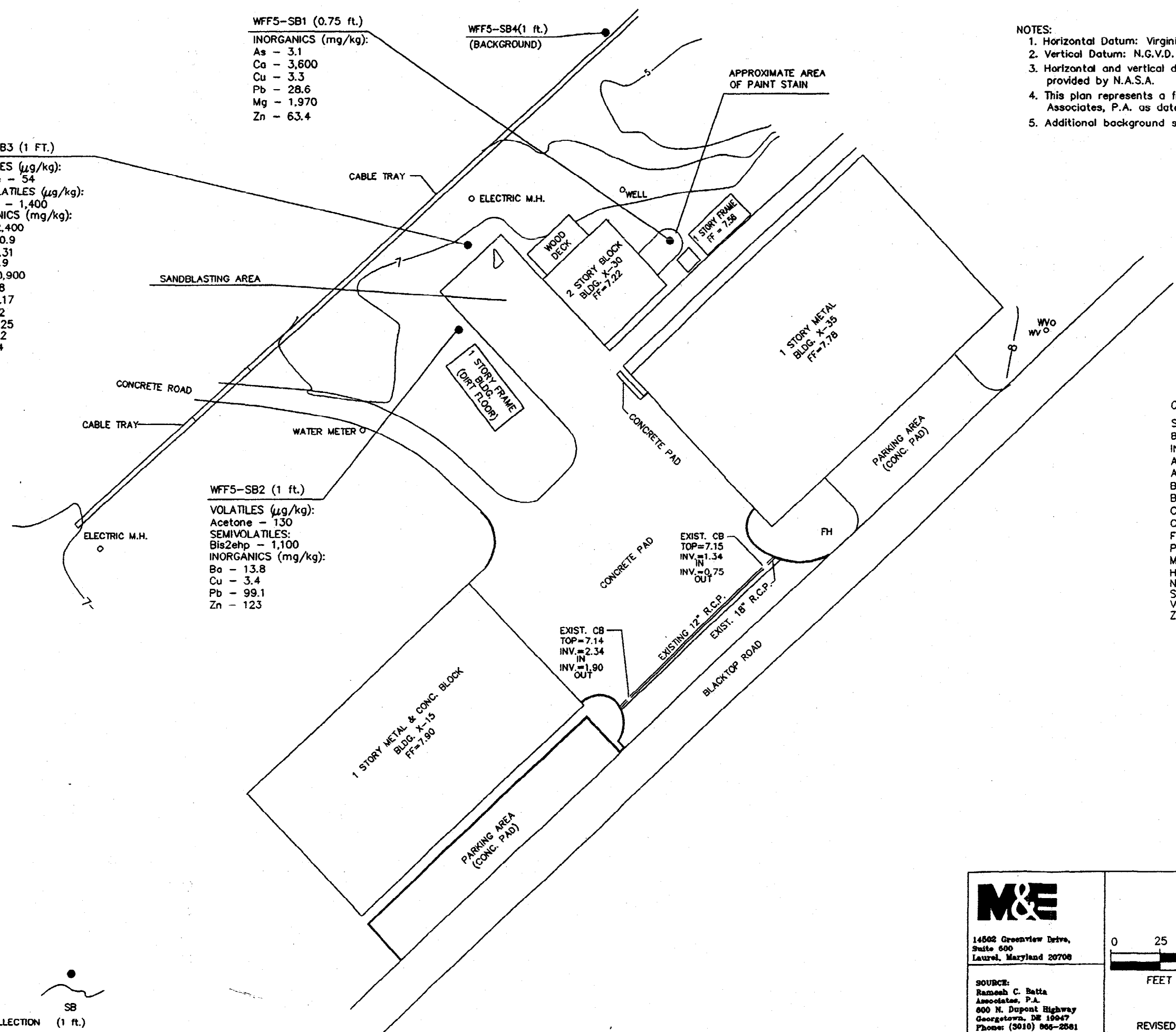
WFF5-SB4 (1 ft.)
 (BACKGROUND)

WFF5-SB3 (1 FT.)
 VOLATILES (µg/kg):
 Acetone - 54
 SEMIVOLATILES (µg/kg):
 Bis2ehp - 1,400
 INORGANICS (mg/kg):
 Al - 12,400
 Ba - 40.9
 Be - 0.31
 Cu - 4.9
 Fe - 10,900
 Pb - 38
 Hg - 0.17
 Ni - 4.2
 Se - 0.25
 V - 21.2
 Zn - 44

WFF5-SB2 (1 ft.)
 VOLATILES (µg/kg):
 Acetone - 130
 SEMIVOLATILES:
 Bis2ehp - 1,100
 INORGANICS (mg/kg):
 Ba - 13.8
 Cu - 3.4
 Pb - 99.1
 Zn - 123

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.
 5. Additional background samples shown on 3.3-2.

CHEMICAL ABBREVIATIONS
 SEMIVOLATILES:
 Bis2ehp=Bis(2ethylhexyl)phthalate
 INORGANICS:
 Al = Aluminum
 As = Arsenic
 Ba = Barium
 Be = Beryllium
 Ca = Calcium
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Hg = Mercury
 Ni = Nickel
 Se = Selenium
 V = Vanadium
 Zn = Zinc



LEGEND
 SAMPLE LOCATION ●
 EXISTING TOPOGRAPHIC CONTOUR ~~~~~
 SOIL BORING SB
 STARTING DEPTH OF SAMPLE COLLECTION (1 ft.)

 14502 Greenview Drive, Suite 600 Laurel, Maryland 20708 SOURCE: Ramesh C. Batta Associates, P.A. 600 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 866-2681 DWG. NO. 85630-C-9037-5	0 25 50 FEET	FIGURE 3.3-4 SITE 5-PAIN STAIN, BUILDING X-30 OBSERVED CONTAMINATION SUBSURFACE SOIL SAMPLES
	REVISED: JAN. 15, 1996	



- NOTES:**
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.

WFF5-SW2

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 Endrin - 0.89

INORGANICS (mg/kg):
 Al - 798
 Fe - 3,930
 Pb - 17
 V - 3.2
 Zn - 74

WFF5-SD2

PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 Methoxy - 21

TPH
 Diesel - 38

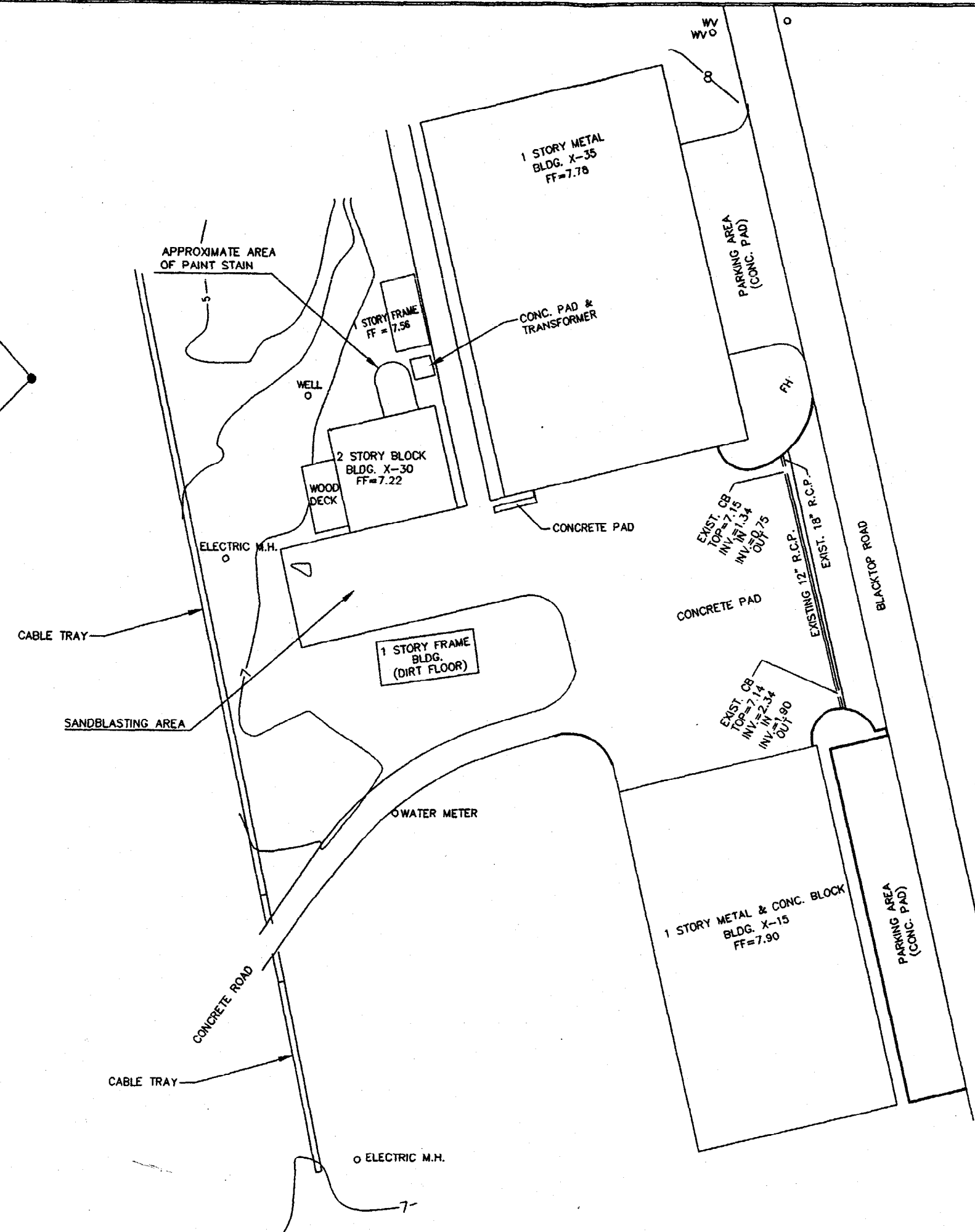
INORGANICS (mg/kg):
 Ca - 5,150
 Cr - 31
 Pb - 121
 Zn - 90

CHEMICAL ABBREVIATIONS

PESTICIDES/PCBS:
 Methoxy = p,p'-Methoxychlor
 Endrin = Endrin ketone

TPH = Total Petroleum Hydrocarbons

INORGANICS:
 Al = Aluminum
 Ca = Calcium
 Cr = Chromium
 Fe = Iron
 Pb = Lead
 V = Vanadium
 Zn = Zinc



LEGEND

SAMPLE LOCATION

EXISTING TOPOGRAPHIC CONTOUR

SURFACE WATER

SEDIMENT

SOIL BORING

M&E

14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20706

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 800 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-5

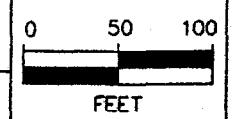


FIGURE 3.3-5

SITE 5-PAINSTAIN,
 BUILDING X-30

OBSERVED CONTAMINATION
 SURFACE WATER &
 SEDIMENT SAMPLES

REVISED:
 JAN. 15, 1996

3.4 SITE 6 - FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10

3.4.1 Sample Identification and Collection

A summary of samples collected at Site 6 is presented as Table 3.4-1 and sample locations are illustrated on Figure 3.4-1. One surface soil sample (WFF6-SS1) was collected near the oil/water separator standpipe, and analyzed for the TCL, TAL and TPH parameters. M&E collected nine subsurface soil samples (WFF6-SB1 through WFF6-SB9). One sample (WFF6-SB1) was collected near the visible soil staining around the oil/water separator standpipe approximately below the location of the oil/water separator. One sample was collected near the waste oil tank below the elevation of the tank bottom (WFF6-SB2). These two samples were analyzed for the TCL, TAL, and TPH parameters. The collection depths of the remaining subsurface soil samples (WFF6-SB3 through WFF6-SB9) were field determined based upon PID readings and visual examination of the soil. Five subsurface soil samples were collected from the area of the former above ground tanks, with one in the center (WFF6-SB3) and four around the outside of the tank locations (WFF6-SB4 through WFF6-SB7). Two were collected from the area of the former partially buried tanks (WFF6-SB8 and WFF6-SB9). One duplicate sample (WFF6-SB10) was collected at WFF6-SB9. These samples were analyzed for TPH, benzene, toluene, ethyl benzene, xylene (BTEX), and lead.

**TABLE 3.4-1
SITE 6 - FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF6-SS1	8/17/93	Surface	TCL, TAL, TPH	Identify and quantify surface stain.
WFF6-SB1	6/28/93	5-6.5	TCL, TAL, TPH	Check for leaks from O/W separator.
WFF6-SB2	6/28/93	3.5-5	TCL, TAL, TPH	Check for leaks from waste oil tank.
WFF6-SB3	5/28/93	1.5-3	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF6-SB3	9/27/93	1.5-2	TPH purgeable, BTEX	Recollected.
WFF6-SB4	5/28/93	2.5-4	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF6-SB4	9/27/93	2.5-3	TPH purgeable, BTEX	Recollected.
WFF6-SB5	5/28/93	3-4.5	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF6-SB5	9/27/93	3.5-4.0	TPH purgeable, BTEX	Recollected.
WFF6-SB6	5/28/93	2-3.5	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF6-SB6	9/27/93	2-2.5	TPH purgeable, BTEX	Recollected.
WFF6-SB7	5/28/93	1.5-3	TPH, BTEX, lead	Quantify remaining tank contamination, if any.

TABLE 3.4-1 (continued)
SITE 6 - FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF6-SB8	5/28/93	1.5-3	TPH, BTEX, lead	Quantify UST contamination, if any.
WFF6-SB9	5/31/93	2 - 3	TPH, BTEX, lead	Quantify UST contamination, if any.
WFF6-SB10	5/31/93	2 - 3	TPH, BTEX, lead	Duplicate of SB9, MS/MSD.
WFF6-SW1	5/31/93	N/A	TPH, BTEX, lead	Field blank.

NOTES: SB = Soil Boring
SS = Surface Soil
SW = Surface Water
MS/MSD = Matrix Spike/Matrix Spike Duplicate
N/A = Not Applicable
O/W = Oil/Water

TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting
BTEX = Benzene, Toluene, Ethyl Benzene, Xylene

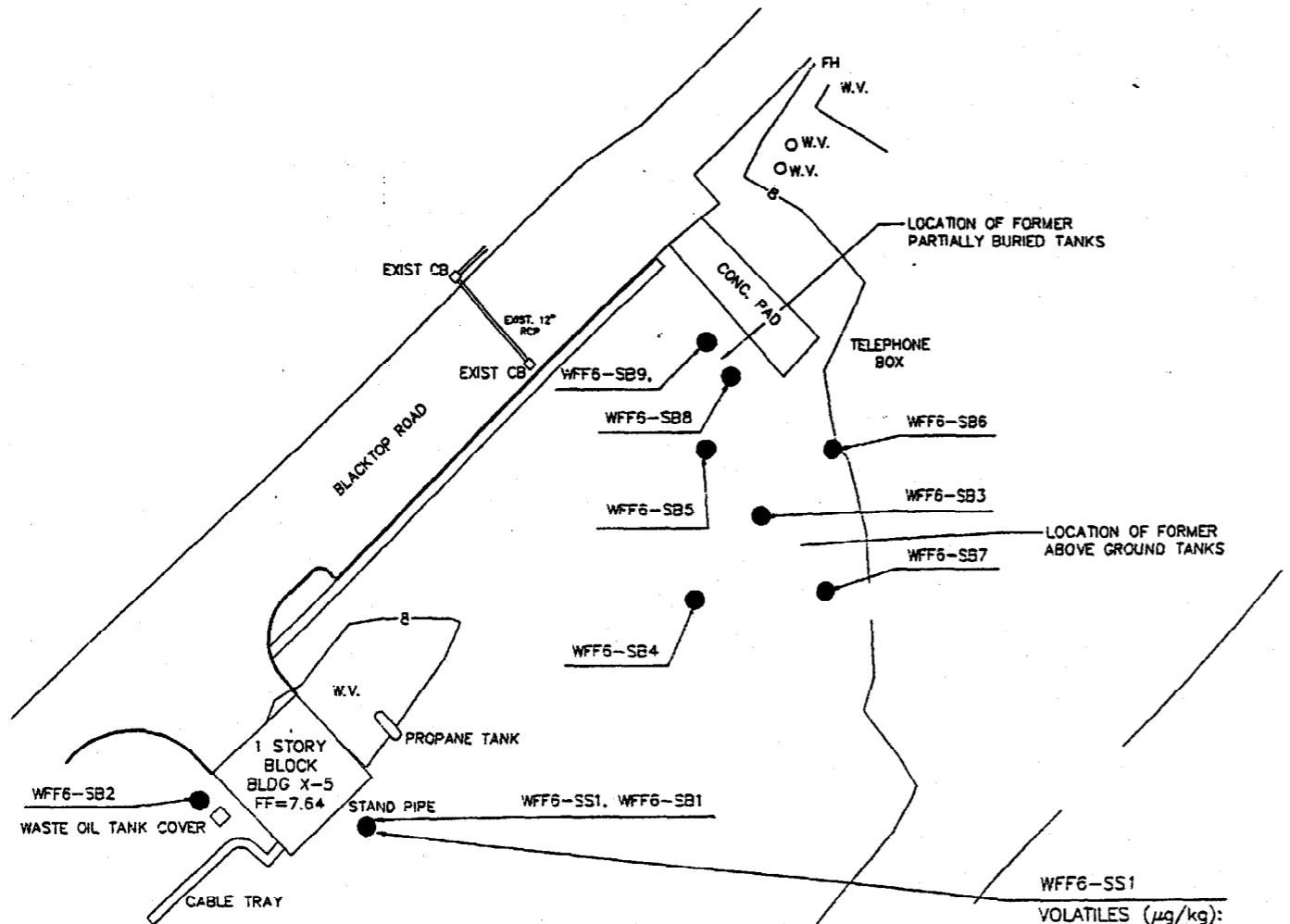
Samples were originally collected between May 28 - July 9, 1993. However, due to laboratory analytical difficulties (i.e., missed holding times, laboratory-introduced contamination), some samples were recollected in August and September, 1993.



- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 8, 1993.

CHEMICAL ABBREVIATIONS

- VOLATILES:
 2-But = 2-Butane
 4-M-2P = 4-Methyl-2-Pentanone
- PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 End Ald = Endrin aldehyde
 ̳-Chlor = gamma-Chlordane
 A1260 = Aroclor-1260
 TPH = Total Petroleum Hydrocarbons
- INORGANICS:
 Ba = Barium
 Ca = Calcium
 Cu = Copper
 Pb = Lead
 Zn = Zinc



WFF6-SS1

VOLATILES ($\mu\text{g}/\text{kg}$):	
Acetone	- 42
2-But	- 14
4-M-2P	- 32
PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):	
4,4'-DDE	- 77
Endrin	- 8.9
4,4'-DDD	- 110
4,4'-DDT	- 150
End Ald	- 67
̳-Chlor	- 4.9
A1260	- 710
TPH (ppm):	
Diesel	- 14
INORGANICS (mg/kg):	
Ba	- 47.2
Ca	- 4,980
Cu	- 7.3
Pb	- 62.8
Zn	- 68.4

- LEGEND
- SAMPLE LOCATION
 - EXISTING TOPOGRAPHIC CONTOUR
 - SOIL BORING SB
 - SURFACE SOIL SS

0020 AB7Z

M&E
Metcalf & Eddy
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.

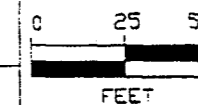
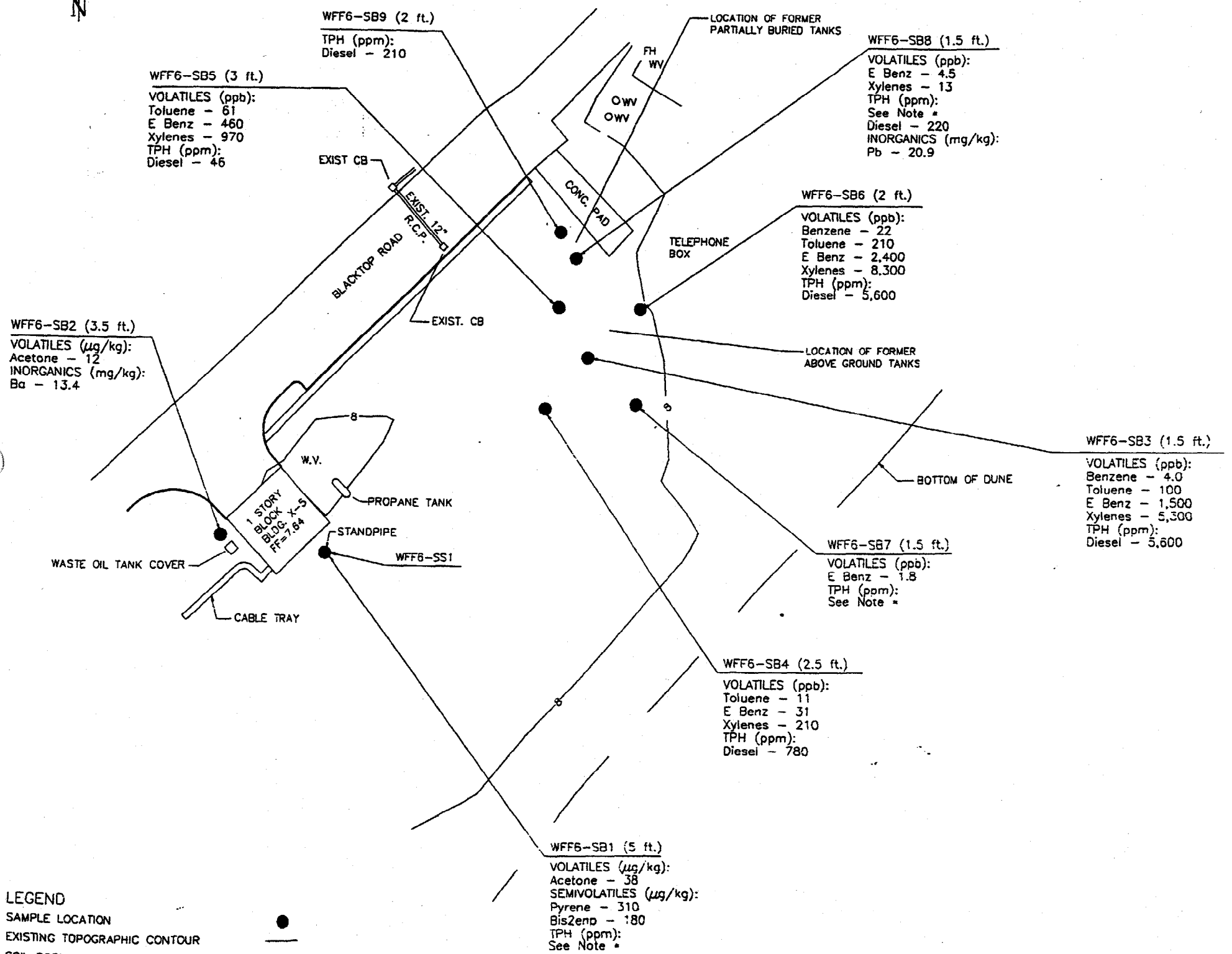


FIGURE 3.4-2
 SITE 6-FORMER ISLAND
 FUELING SYSTEM, BUILDINGS
 X-5 AND X-10
 OBSERVED CONTAMINATION



- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 8, 1993.
- * Sample also contains high levels of unidentified hydrocarbon compound.



CHEMICAL ABBREVIATIONS

- VOLATILES:
 E Benz = Ethylbenzene
 Xylenes = Total Xylenes
 SEMIVOLATILES:
 Bis2ehp = bis(2-ethylhexyl)phthalate
 TPH = Total Petroleum Hydrocarbons
 INORGANICS:
 Ba = Barium
 Pb = Lead

- LEGEND
- SAMPLE LOCATION ●
 - EXISTING TOPOGRAPHIC CONTOUR —
 - SOIL BORING SB
 - SURFACE SOIL SS
 - STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)

M&E
Metcalf & Eddy
 14502 Greenview Drive,
 Suite 300
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 865-2581
 DWS. NO. 85630-C-9057-6

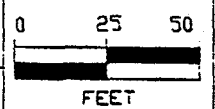


FIGURE 3.4-3
 SITE 6-FORMER ISLAND
 FUELING SYSTEM, BUILDINGS
 X-5 AND X-10
 OBSERVED CONTAMINATION
 SUBSURFACE SOIL SAMPLES

DATE: NOV. 1, 1994

3.4.2 Analytical Results

Analytical results for Site 6 are presented as Table 3.4-2 and illustrated on Figures 3.4-2 and 3.4-3. Surface soil results indicate detectable levels of volatile organic compounds, pesticides, PCBs, and elevated levels of metals in the one sample collected (WFF6-SS1). Semivolatiles, petroleum hydrocarbons and cyanide were not detected. One of the volatile organic compounds (i.e., acetone) detected is a common laboratory contaminant.

Subsurface soil results for the two samples analyzed for the TCL, TAL, and TPH parameters (i.e., WFF6-SB1 and WFF6-SB2), indicate detectable levels of volatile organic compounds in both samples, semivolatile organic compounds in one sample, and an elevated level of a metal in one sample. PCBs, petroleum hydrocarbons and cyanide were not detected. The chromatogram for one sample (i.e., WFF6-SB1) indicated high levels of an unknown petroleum hydrocarbon, although none of the four petroleum compounds analyzed (i.e., fuel oil #4, gasoline, kerosene, and diesel fuel) were detected. One of the volatile organic compounds (i.e., acetone) and one of the semivolatile organic compounds (i.e., bis(2-ethylhexyl)phthalate) detected are common laboratory contaminants.

During the field investigation, a stained layer was noted during advancement of six of the seven soil borings collected in the vicinity of the former tanks (i.e., WFF6-SB3, WFF6-SB4, WFF6-SB5, WFF6-SB6, WFF6-SB8, and WFF6-SB9). This layer was approximately three feet thick and was first visible at approximately one foot below the surface. The layer was generally grey or black sand with a strong odor. Subsurface soil results for these samples (analyzed for TPH, BTEX, and lead), indicate detectable levels of diesel fuel in six of the seven samples, BTEX compounds in six of the seven samples, and an elevated level of lead in one sample.

**TABLE 3.4-2
SITE 6 - FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
OBSERVED CONTAMINATION**

Volatile Analysis (TCL) (SOW:OLMO1.8) or BTEX only (SW846 M8020)									
M&E SAMPLE ID:	WFF6-SS1	WFF6-SB1	WFF6-SB2	WFF6-SB3	WFF6-SB4	WFF6-SB5	WFF6-SB6	WFF6-SB7	WFF6-SB8
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg	ppb	ppb	ppb	ppb	ppb	ppb
DEPTH OF SAMPLE (ft):	NA	5	3.5	1.5	2.5	3	2	2	1.5
NOTES:	(OLMO 1.8)	(OLMO 1.8)	(OLMO 1.8)	(M8020)	(M8020)	(M8020)	(M8020)	(M8020)	(M8020)
COMPOUND									
Acetone	42	38 J	12 J	NA	NA	NA	NA	NA	NA
2-Butanone	14 J			NA	NA	NA	NA	NA	NA
Benzene				4.0			22		
4-Methyl-2-pentanone	32 J			NA	NA	NA	NA	NA	NA
Toluene				100	11	61	210		
Ethylbenzene				1,500	31	460	2,400	1.8	4.5
Total Xylenes				5,300	210	970	8,300		13
NOTE: A key to symbols can be found on the last page of this table.									

TABLE 3.4-2, continued
 SITE 6- FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
 OBSERVED CONTAMINATION

Semivolatile Analysis (SOW:OLM01.8)	
M&E SAMPLE ID:	WFF6-SB1
MATRIX:	SOIL
UNITS:	ug/kg
DEPTH OF SAMPLE (ft):	5
COMPOUND	
Pyrene	310 J
Bis(2-ethylhexyl)phthalate	180 J

Pesticide/PCB Analysis (SOW:OLM01.8)	
M&E SAMPLE ID:	WFF6-SS1
MATRIX:	SOIL
UNITS:	ug/kg
DEPTH OF SAMPLE (ft):	NA
COMPOUND	
4,4'-DDE	77.0 J
Endrin	8.9 J
4,4'-DDD	110.0 J
4,4'-DDT	150.0 J
Endrin Aldehyde	67.0 J
gamma-Chlordane	4.9 J
Aroclor-1260	710.0 J

Petroleum Hydrocarbons Analysis (SW846 M8015m)					
M&E SAMPLE ID:	WFF6-SB3	WFF6-SB4	WFF6-SB5	WFF6-SB6	WFF6-SB9
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	ppm	ppm	ppm	ppm	ppm
DEPTH OF SAMPLE (ft):	1.5	2.5	3	2	2
ANALYTES					
Diesel Fuel	5,600 J	780 J	46	5,600	210
Note: Chromatograms for samples WFF6-SB1, WFF6-SB7, and WFF6-SB8 indicate presence of an unknown hydrocarbon. A key to symbols can be found on the last page of this table.					

TABLE 3.4-2, continued
 SITE 6- FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
 OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILM02.1 or SW846 M7421)			
M&E SAMPLE ID: MATRIX: UNITS: SAMPLE DEPTH(ft):	WFF6-SS1 SOIL mg/kg NA (ILMO 2.1)	WFF6-SB2 SOIL mg/kg 3.5 (ILMO 2.1)	WFF6-SB8 SOIL mg/kg 1.5 (M 7421)
WALLOPS ISLAND BACKGROUND			
ANALYT	SURFACE mg/kg (3xAVG)	SUBSURFACE mg/kg	
Barium	89.81	8.49	47.2
Calcium	587.6	1,536	13.4
Copper	2.01	2.37	NA
Lead	28.23	13.71	NA
Zinc	63	36.3	62.8 K
			20.9
			68.4
			NA

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.4-2, continued
SITE 6- FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification

WFF = Wallops Flight Facility
SS = Surface Soil
SB = Soil Boring

Units

ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ppm = parts per million

Data Qualifiers

J = Analyte present. Reported value may not be accurate or precise.
K = Analyte present. Reported value may be biased high.

Analytical Methods

BTEX = Benzene, toluene, ethylbenzene, and xylenes.

SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).

SOW:OLMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).

SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Total Petroleum Hydrocarbons, with fingerprinting (all matrices).

SW846 M8020 = Solid Waste Method 8020 for analysis of BTEX, with second column confirmation (soil).

SW846 M7421 = Solid Waste Method 7421 for analysis of lead (soil and water).

Other

NA = Not Applicable

3.5 SITE 7 - TRANSFORMER PADS

3.5.1 Sample Identification and Collection

A summary of samples collected at Site 7 is presented as Table 3.5-1 and sample locations are illustrated on Figures 3.5-1 through 3.5-7. The figures are presented in Section 3.5.2. M&E collected 22 surface soil samples from six of the 27 transformer locations which collectively comprise Site 7. Additionally, M&E collected 70 PCB wipe samples from 21 of the 27 transformer locations which collectively comprise Site 7. All wipe samples were collected from the concrete pads/floors. The purpose of this sampling was to quantify PCB contamination, if any, at each of the locations.

**TABLE 3.5-1
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/A41 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/A41 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/A41 - WIPE3	6/4/93	N/A	PCB	Duplicate of WIPE2, MS/MSD.
WFF7/D49A - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/D49A - WIPE2	6/17/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E105 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E105 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E105 - WIPE3	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E105 - WIPE4	6/4/93	N/A	PCB	Field blank.
WFF7/E106 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E106 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E106 - WIPE3	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E107 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E107 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/E107 - WIPE3	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E108 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E108 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E108 - WIPE3	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/E108 - WIPE4	6/4/93	N/A	PCB	Equipment blank (wipes).
WFF7/N159D - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N159D - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N159D - WIPE3	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N159D - WIPE4	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE1	6/17/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE2	6/17/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE3	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE4	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE5	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE6	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE7	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE8	6/17/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N167A - WIPE9	8/16/93	N/A	PCB	Duplicate of WIPE3, MS/MSD.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/N169 - WIPE1	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N169 - WIPE2	6/28/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N169 - WIPE3	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N169 - WIPE4	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N169 - WIPE5	8/13/93	N/A	PCB	Field blank.
WFF7/N175 - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N175 - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N175 - WIPE3	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N175 - WIPE4	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/N175 - WIPE5	8/16/93	N/A	PCB	Equipment blank (wipes).
WFF7/N222 - SS1	6/16/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/N222 - SS2	6/16/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/N222 - SS3	6/16/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/N222 - SS4	6/16/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/N222 - SW1	6/16/93	N/A	PCB	Equipment blank (surface soils).
WFF7/F10 - WIPE1	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/F10 - WIPE2	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/F10 - WIPE3	6/4/93	N/A	PCB	Quantify PCB contamination, if any.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
FF7/F10 - WIPE4	6/4/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/F10 - WIPE5	6/4/93	N/A	PCB	Duplicate of WIPE1, MS/MSD.
WFF7/F10 - WIPE6	6/4/93	N/A	PCB	Field blank.
WFF7/F18 - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/F18 - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z26 - SS1	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/Z26 - SS2	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/Z26 - SS3	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/Z26 - SS4	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/Z26 - SW1	6/8/93	N/A	PCB	Field blank.
WFF7/Z41 - WIPE1	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z41 - WIPE2	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z41 - WIPE3	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z41 - WIPE4	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z42 - WIPE1	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z42 - WIPE2	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z42 - WIPE3	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z42 - WIPE4	8/13/93	N/A	PCB	Quantify PCB contamination, if any.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/Z44 - WIPE1	6/17/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Z44 - WIPE2	8/13/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Y75 - WIPE1	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Y75 - WIPE2	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Y75 - WIPE3	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Y75 - WIPE4	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/Y75 - WIPE5	6/16/93	N/A	PCB	Field blank.
WFF7/X115A - WIPE1	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X115A - WIPE2	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X115A - WIPE3	6/16/93	N/A	PCB	Equipment blank (wipes).
WFF7/X85 - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X85 - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X85 - WIPE3	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X85 - WIPE4	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/X85 - WIPE5	6/17/93	N/A	PCB	Equipment blank (wipes).
WFF7/W32 - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/W32 - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/V50 - WIPE1	6/16/93	N/A	PCB	Quantify PCB contamination, if any.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/V50 - WIPE2	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/V50 - WIPE3	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/V50 - WIPE4	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/V50 - WIPE5	6/16/93	N/A	PCB	Duplicate of WIPE4, MS/MSD.
WFF7/V81 - SS1	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V81 - SS2	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V81 - SS3	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V81 - SS4	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V81 - SW1	6/8/93	N/A	PCB	Field blank.
WFF7/V65 - SS1	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V65 - SS2	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V65 - SS3	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V65 - SS4	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/V65 - SW1	6/8/93	N/A	PCB	Field blank.
WFF7/W20 - WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/W20 - WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF7/U5 - SS1	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/U5 - SS2	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/U40A - SS1	6/8/93	Surface	PCB	Quantify PCB contamination, if any.

**TABLE 3.5-1 (Cont.)
SITE 7 - TRANSFORMER PADS
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF7/U40A - SS2	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/U40A - SS3	6/8/92	Surface	PCB	Quantify PCB contamination, if any.
WFF7/U40A - SS4	6/8/93	Surface	PCB	Quantify PCB contamination, if any.
WFF7/U40A - SS5	6/8/93	Surface	PCB	Duplicate of SS2, MS/MSD.
WFF7/U40A - SW1	6/8/93	N/A	PCB	Equipment blank (surface soils).

NOTES: SS = Surface Soil MS/MSD = Matrix Spike/Matrix Spike Duplicate
SW = Surface Water
WIPE = PCB Wipe Sample N/A = Not Applicable
PCB = Polychlorinated Biphenyl

3.5.2 Analytical Results

Analytical results for Site 7 are presented as Table 3.5-1 and are illustrated on Figures 3.5-1 through 3.5-7. The laboratory reported the PCB wipe results in terms of total micrograms (μg) extracted from the wipe. Therefore, results are reported in the table and the figures as μg per 100 cm^2 , the area of the pavement wiped.

Building A-41. Wipe samples WFF7/A41-WIPE1 and WFF7/A41-WIPE2 were collected at this location. PCBs were not detected in sample WFF7/A41-WIPE1. Aroclor-1242 and Aroclor-1260 were detected in sample WFF7/A41-WIPE2.

Building D-49A. Wipe samples WFF7/D49A-WIPE1 and WFF7/D49A-WIPE2 were collected at this location. Aroclor-1254 was detected in both samples.

Building E-105. Wipe samples WFF7/E105-WIPE1 through WFF7/E105-WIPE3 were collected at this location. Aroclor-1260 was detected in sample WFF7/E105-WIPE1 and in sample WFF7/E105-WIPE3. PCBs were not detected in sample WFF7/E105-WIPE2.

Building E-106. Wipe samples WFF7/E106-WIPE1 through WFF7/E106-WIPE3 were collected at this location. Aroclor-1260 and 1254 were detected in sample WFF7/E106-WIPE1 and in sample WFF7/E106-WIPE3, respectively. PCBs were not detected in sample WFF7/E106-WIPE2.

Building E-107. Aroclor-1260 was detected in all three wipe samples (WFF7/E107-WIPE1, WFF7/E107-WIPE2, and WFF7/E107-WIPE3) collected at this location.

Building E-108. Aroclor-1260 was detected in all three wipe samples (WFF7/E108-WIPE1, WFF7/E108-WIPE2, and WFF7/E108-WIPE3) collected at this location.

Building N-159D. Aroclor-1260 was detected in all four wipe samples (WFF7/N159D-WIPE1 through WFF7/N159D-WIPE4) collected at this location.

Building N-167A. Wipe samples WFF7/N167A-WIPE1 through WFF7/N167A-WIPE8 were collected at this location. Aroclor-1242 was detected in sample WFF7/N167A-WIPE3. PCBs were not detected in any of the other seven samples.

Building N-169. Wipe samples WFF7/N169-WIPE1 through WFF7/N169-WIPE4 were collected at this location. Aroclor-1260 was detected in samples WFF7/N169-WIPE1, WFF7/N169-WIPE3, and WFF7/N169-WIPE4. Aroclor-1242 was detected in sample WFF7/N169-WIPE2.

Building N-175. PCBs were not detected in any of the four wipe samples (WFF7/N175-WIPE1 through WFF7/N175-WIPE4) collected at this location.

Building N-222. PCBs were not detected in any of the four surface soil samples (WFF7/N222-SS1 through WFF7/N222-SS4) collected at this location.

Building E-10. Wipe samples WFF7/F10-WIPE1 through WFF7/F10-WIPE4 were collected outside the door of the transformer room at Building F10 to determine if interior contamination had migrated outside. Aroclor-1260 was detected in sample WFF7/F10-WIPE3. PCBs were not detected in samples WFF7/F10-WIPE1, WFF7/F10-WIPE2, or WFF7/F10-WIPE4.

Building E-18. Wipe samples WFF7/F18-WIPE1 and WFF7/F18-WIPE2 were collected at this location. PCBs were not detected in sample WFF7/F18-WIPE1. Aroclor-1260 was detected in sample WFF7/F18-WIPE2.

Building Z-26. PCBs were not detected in any of the four surface soil samples (WFF7/Z26-SS1 through WFF7/Z26-SS4) collected at this location.

Building Z-41. Wipe samples WFF7/Z41-WIPE1 through WFF7/Z41-WIPE4 were collected at this location. PCBs were not detected in samples WFF7/Z41-WIPE1 or WFF7/Z41-WIPE2. Aroclor-1254 was detected in samples WFF7/Z41-WIPE3 and WFF7/Z41-WIPE4.

Building Z-42. Wipe samples WFF7/Z42-WIPE1 through WFF7/Z42-WIPE4 were collected at this location. Aroclor-1254 was detected in all four samples.

Building Z-44. PCBs were not detected in either of the two samples (WFF7/Z44-WIPE1 and WFF7/Z44-WIPE2) collected at this location.

Building Y-75. Wipe samples WFF7/Y75-WIPE1 through WFF7/Y75-WIPE4 were collected at this location. Aroclor-1260 was detected in sample WFF7/Y75-WIPE4 only.

Building X-115A. Wipe samples WFF7/X115A-WIPE1 and WFF7/X115A-WIPE2 were collected at this location. Aroclor-1260 was detected in both wipe samples.

Building X-85. Wipe samples WFF7/X85-WIPE1 through WFF7/X85-WIPE4 were collected at this location. Aroclor-1242 was detected in sample WFF7/X85-WIPE1. Aroclor-1260 was detected in samples WFF7/X85-WIPE2 and WFF7/X85-WIPE3. PCBs were not detected in sample WFF7/X85-WIPE4.

Building W-32. Wipe samples WFF7/W32-WIPE1 and WFF7/W32-WIPE2 were collected at this site. Aroclor-1242 and Aroclor-1254 were detected in both samples.

Building V-50. Aroclor-1260 was detected in all four wipe samples (WFF7/V50-WIPE1 through WFF7/V50-WIPE4) collected at this location.

Building V-81. PCBs were not detected in any of the four surface soil samples (WFF7/V81-SS1 through WFF7/V81-SS4) collected at this location.

Building V-65. PCBs were not detected in any of the four surface soil samples (WFF7/V65-SS1 through WFF7/V65-SS4) collected at this location.

Building W-20. Aroclor-1242 and Aroclor-1260 were detected in both samples (WFF7/W20-WIPE1 and WFF7/W20-WIPE2) collected at this location.

Building U-5. PCBs were not detected in either of the two surface soil samples (WFF7/U5-SS1 and WFF7/U5-SS2) collected at this location.

Building U-40A. Surface soil samples WFF7/U40A-SS1 through WFF7/U40A-SS4, and a duplicate of SS2 (WFF7/U40A-SS5) were collected at this location. Aroclor-1242 was detected in the duplicate soil sample WFF7/U40A-SS5, but PCBs were not detected in soil sample WFF7/U40A-SS2 or any of the other soil samples collected at this location.

TABLE 3.5-2
SITE 7 - TRANSFORMER PADS
OBSERVED CONTAMINATION

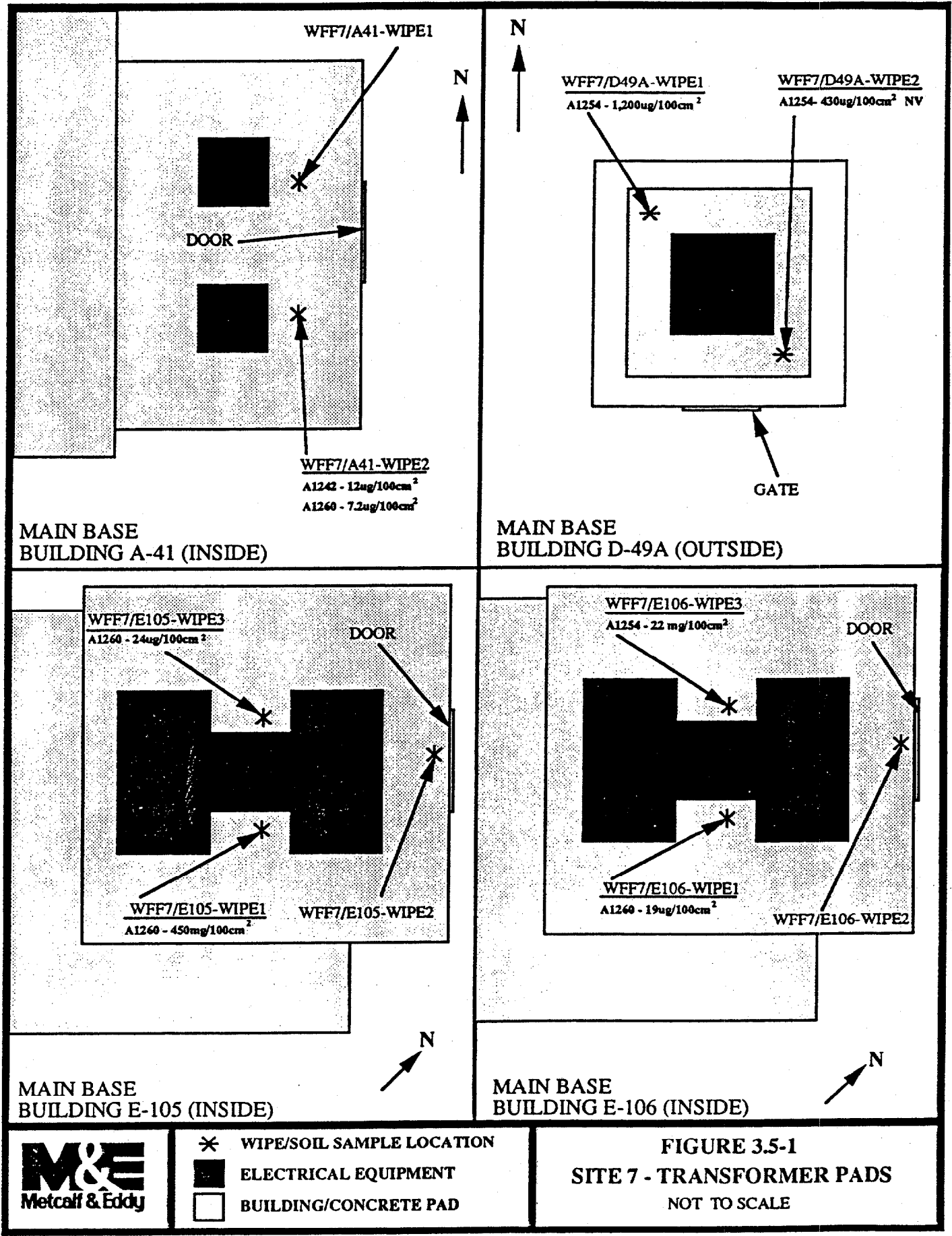
PCB Analysis (SW846 M8080)	SURFACE SOIL AND PCB WIPE SAMPLES							
SITE/BUILDING NO.:	WFF7/A41-	WFF7/D49A	WFF7/D49A	WFF7/E105-	WFF7/E105-	WFF7/E106-	WFF7/E106-	WFF7/E107-
M&E SAMPLE NO.:	WIPE2	WIPE1	WIPE2	WIPE1	WIPE3	WIPE1	WIPE3	WIPE1
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2
LOCATION:	MB (in)	MB (out)	MB (out)	MB (in)	MB (in)	MB (in)	MB (in)	MB (in)
COMPOUND								
Aroclor-1242	12.0 J							
Aroclor-1254		1,200	430 J				22,000 J	
Aroclor-1260	7.2 J			450,000 J	24 J	19 J		25 J
SITE/BUILDING NO.:	WFF7/E107-	WFF7/E107-	WFF7/E108-	WFF7/E108-	WFF7/E108-	WFF7/N159D	WFF7/N159D	WFF7/N159D
M&E SAMPLE NO.:	WIPE2	WIPE3	WIPE1	WIPE2	WIPE3	WIPE1	WIPE2	WIPE3
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2
LOCATION:	MB (in)	MB (in)	MB (in)	MB (in)	MB (in)	MB (out)	MB (out)	MB (out)
COMPOUND								
Aroclor-1242								
Aroclor-1254								
Aroclor-1260	11 J	20 J	210 J	10 J	8.8 J	47	8.8 K	7.4 K
SITE/BUILDING NO.:	WFF7/N159D	WFF7/N167A-	WFF7/N169-	WFF7/N169-	WFF7/N169-	WFF7/N169-	WFF7/F10-	WFF7/F18-
M&E SAMPLE NO.:	WIPE4	WIPE3	WIPE1	WIPE2	WIPE3	WIPE4	WIPE3	WIPE 2
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2
LOCATION:	MB (out)	MB (out)	MB (in)	MB (in)	MB (in)	MB (in)	MB (out)	MB (out)
COMPOUND								
Aroclor-1242		1.5 J		13 J				
Aroclor-1254								
Aroclor-1260	1,500		5.8		13 K	9.3	8.2 J	34
NOTE: A key to symbols can be found on the last page of this table.								

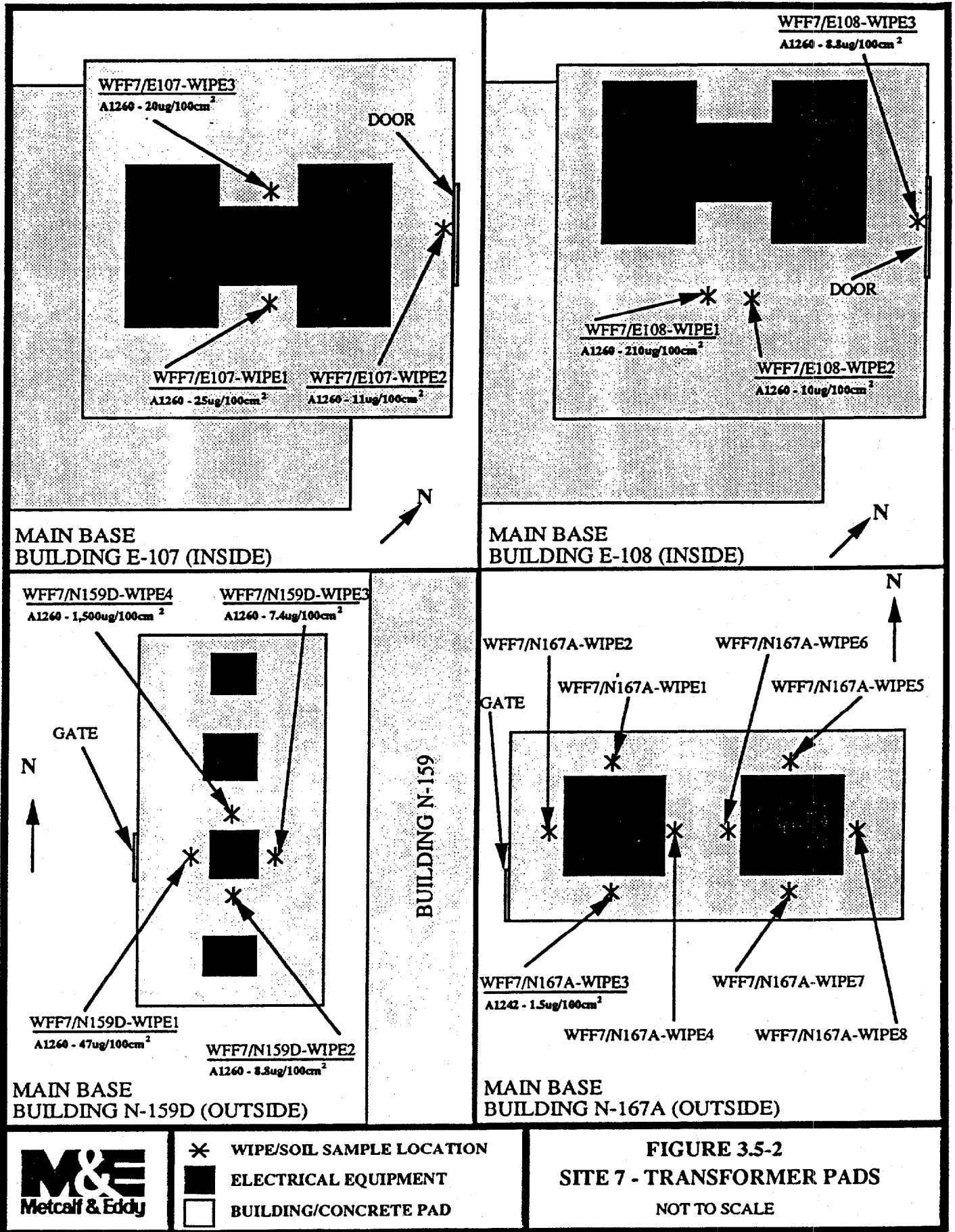
TABLE 3.5-2, continued
 SITE 7 - TRANSFORMER PADS
 OBSERVED CONTAMINATION

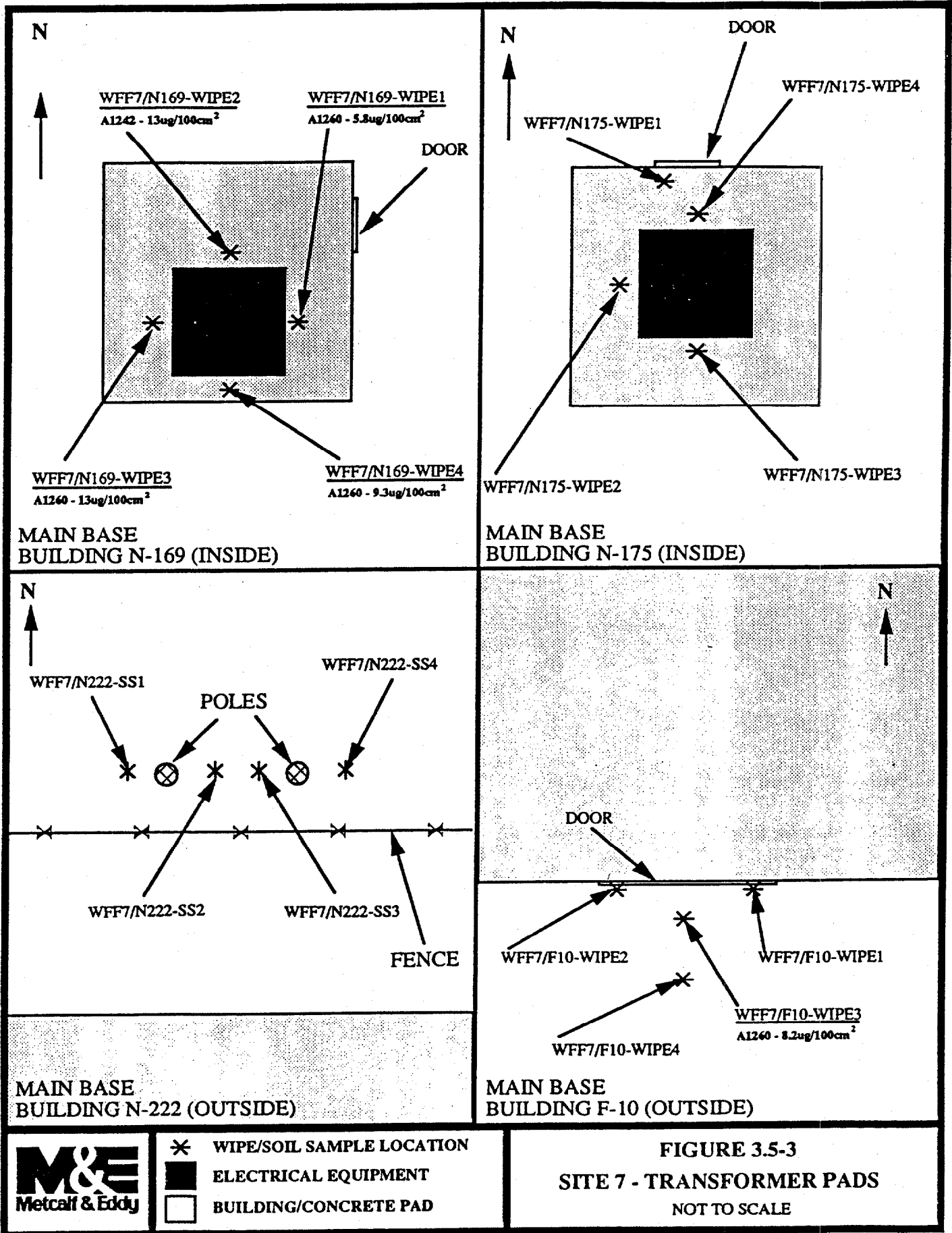
PCB Analysis (SW846 M8080)	SURFACE SOIL AND PCB WIPE SAMPLES							
SITE/BUILDING NO.:	WFF7-Z41	WFF7-Z41	WFF7/Z42	WFF7/Z42	WFF7/Z42	WFF7/Z42	WFF7/Y75-	WFF7/X115A-
M&E SAMPLE NO.:	WIPE3	WIPE4	WIPE1	WIPE2	WIPE3	WIPE4	WIPE4	WIPE1
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2
LOCATION:	WI (out)	WI (in)	WI (in)	WI (in)	WI (in)	WI (in)	WI (out)	WI (out)
COMPOUND								
Aroclor-1242								
Aroclor-1254	4	2.8	4.4	8.1	3.9	2.6		
Aroclor-1260							370 J	230,000 J
SITE/BUILDING NO.:	WFF7/X115A-	WFF7-X85	WFF7-X85	WFF7-X85	WFF7-W32	WFF7-W32	WFF7/V50-	WFF7/V50-
M&E SAMPLE NO.:	WIPE2	WIPE1	WIPE2	WIPE3	WIPE1	WIPE2	WIPE1	WIPE2
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2
LOCATION:	WI (out)	WI (in)	WI (in)	WI (in)	WI (in)	WI (in)	WI (out)	WI (out)
COMPOUND								
Aroclor-1242		4.5			2.3	19 L		
Aroclor-1254					1.5	870 L		
Aroclor-1260	1,800 J		1.0	2.8			74 J	49 J
SITE/BUILDING NO.:	WFF7/V50-	WFF7/V50-	WFF7/W20-	WFF7/W20-	WFF7/U40A-	WFF7/U40A-		
M&E SAMPLE NO.:	WIPE3	WIPE4	WIPE1	WIPE2	SS2	SS5		
UNITS:	ug/100cm2	ug/100cm2	ug/100cm2	ug/100cm2	ug/kg	ug/kg		
LOCATION:	WI (out)	WI (out)	WI (in)	WI (in)	ML (out)	ML (out)		
NOTES:					DUP(SS5)	DUP(SS2)		
COMPOUND								
Aroclor-1242			4.5	13		230 J		
Aroclor-1254								
Aroclor-1260	190,000 J	1,600 J	2.1	2.0				
NOTE: A key to symbols can be found on the last page of this table.								

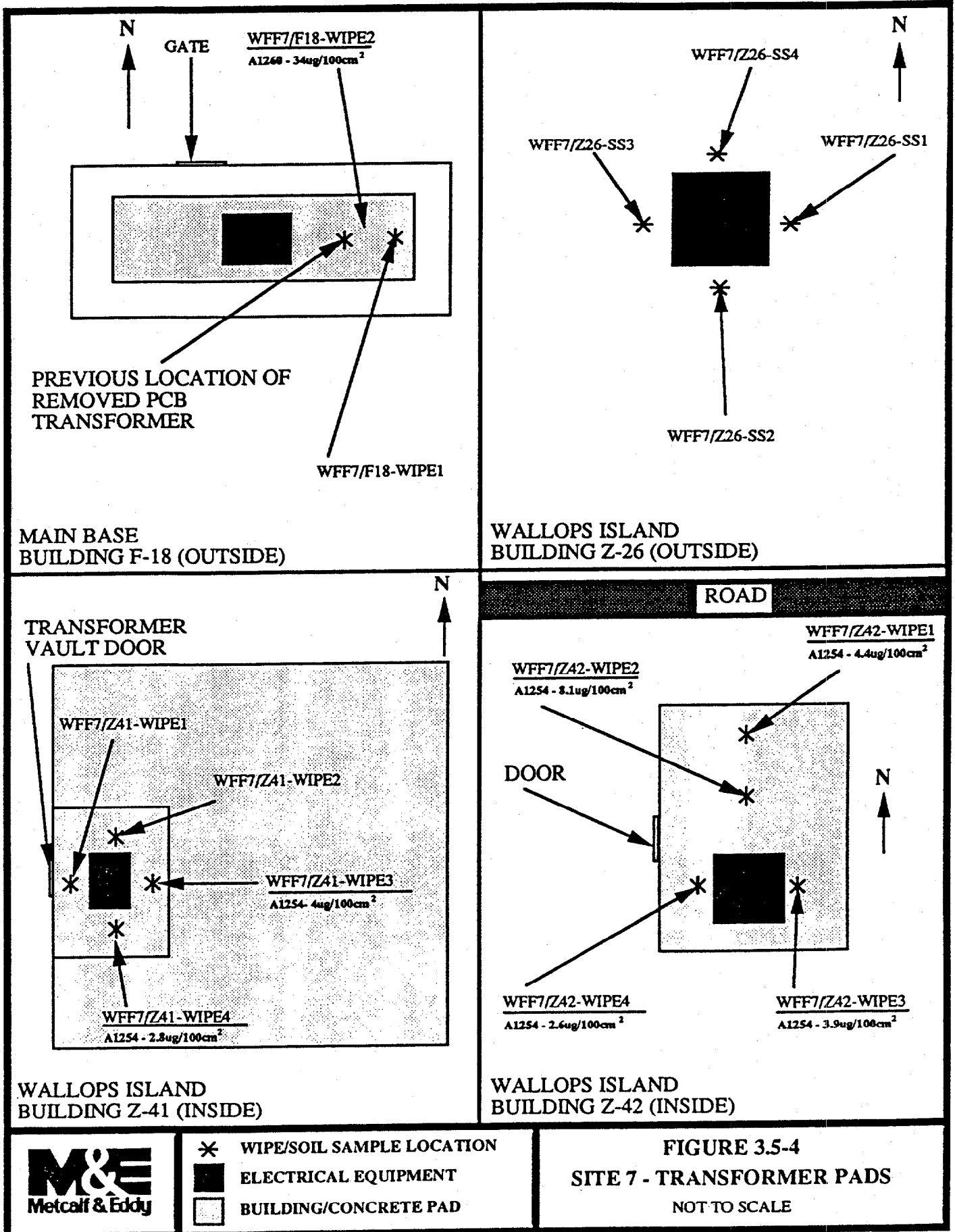
TABLE 3.5-2, continued
SITE 7- TRANSFORMER PADS
KEY TO SYMBOLS AND ABBREVIATIONS

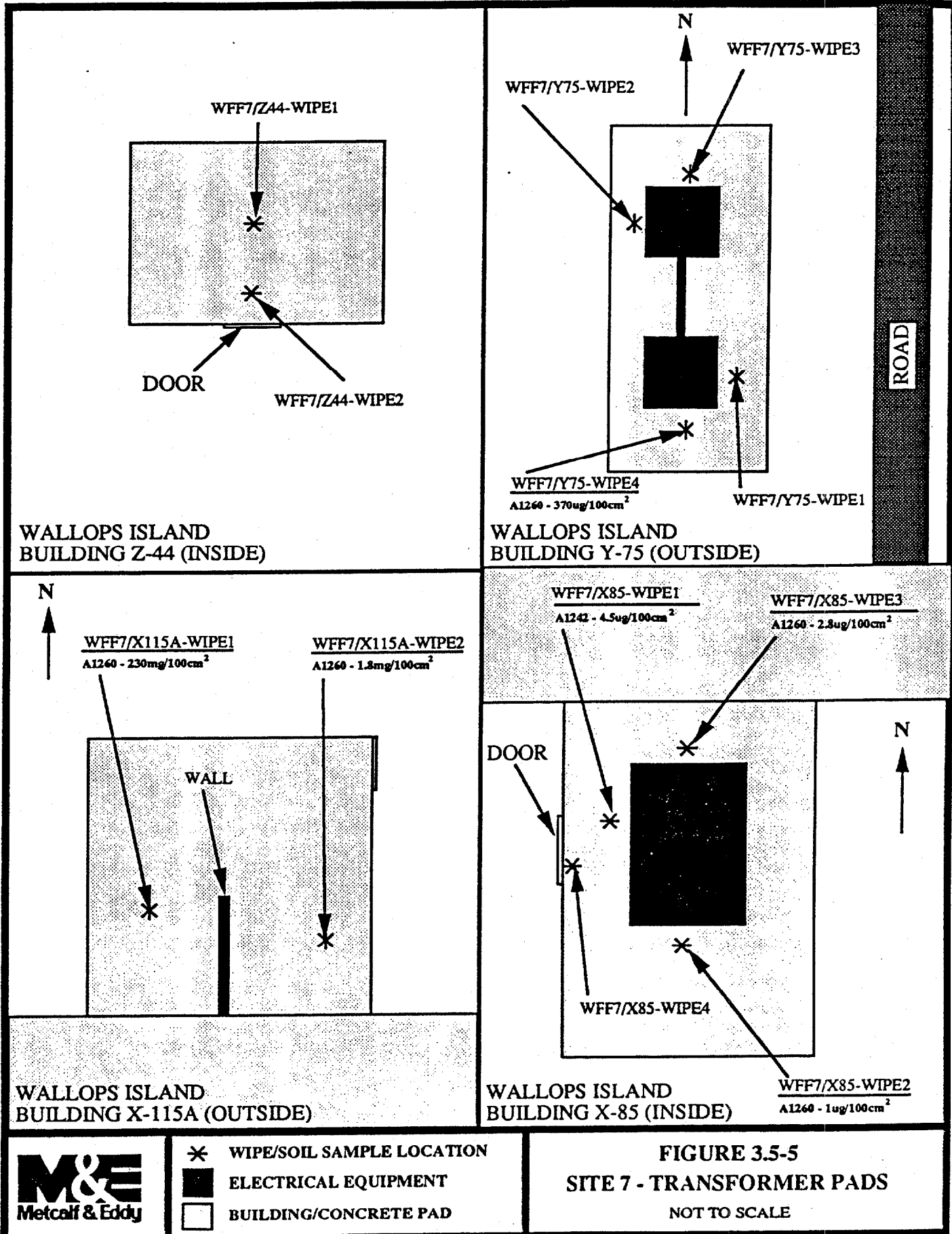
Sample Identification WFF = Wallops Flight Facility SS = Surface Soil WIPE = PCB Wipe DUP() = Field Duplicate(of Sample ID)	Units ug/kg = micrograms per kilogram ug/100cm ² = micrograms per 100 square centimeters
Sample Locations MB = Main Base in = indoor sample location WI = Wallops Island out = outdoor sample location ML = Mainland	
Data Qualifiers J = Analyte present. Reported value may not be accurate or precise. K = Analyte present. Reported value may be biased high.	Other NA = Not Applicable
Analytical Methods SW846 M8080 = Solid Waste Method 8080 for analysis of PCBs (soil and wipes).	











- * WIPE/SOIL SAMPLE LOCATION
- ELECTRICAL EQUIPMENT
- BUILDING/CONCRETE PAD

FIGURE 3.5-5
SITE 7 - TRANSFORMER PADS
NOT TO SCALE

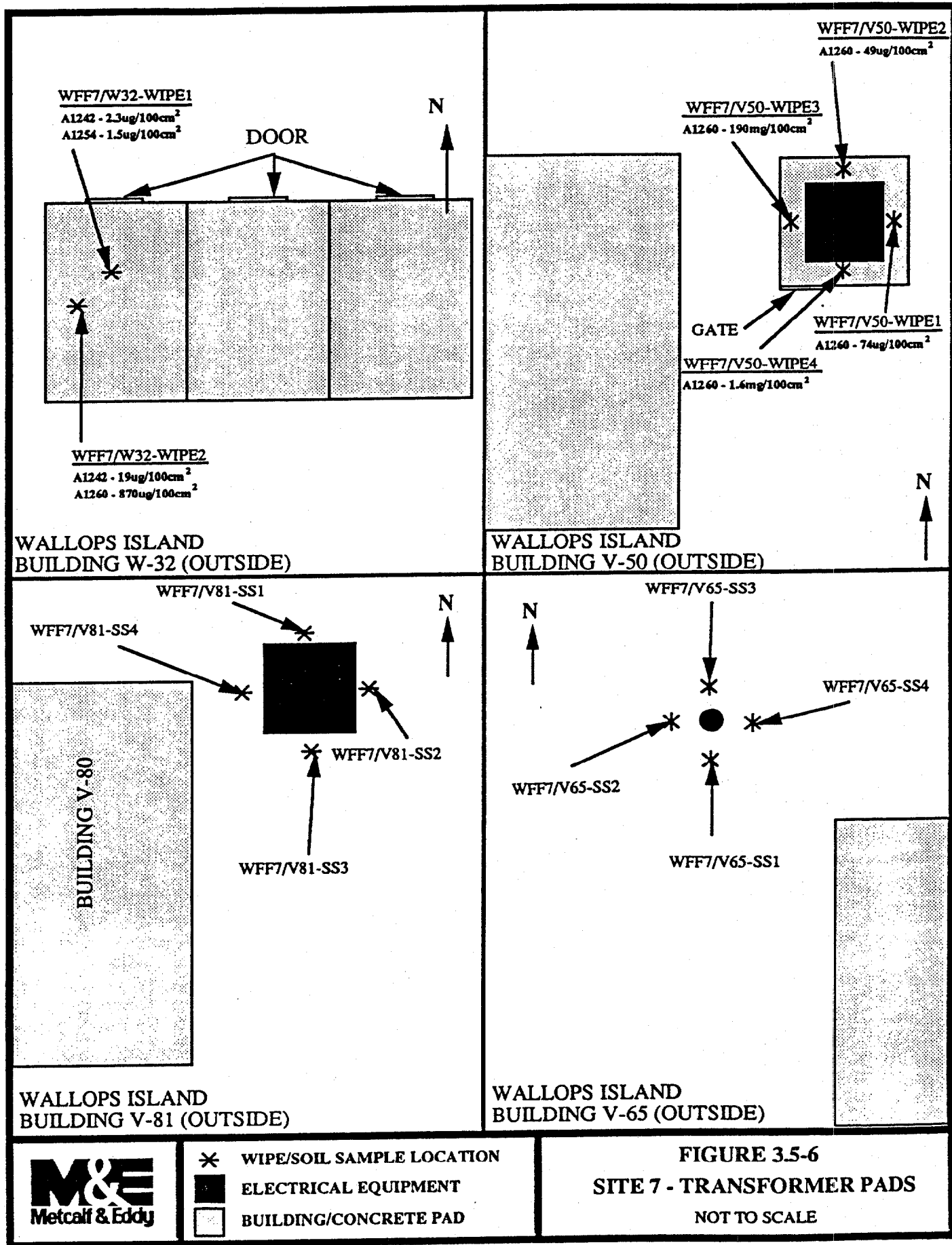
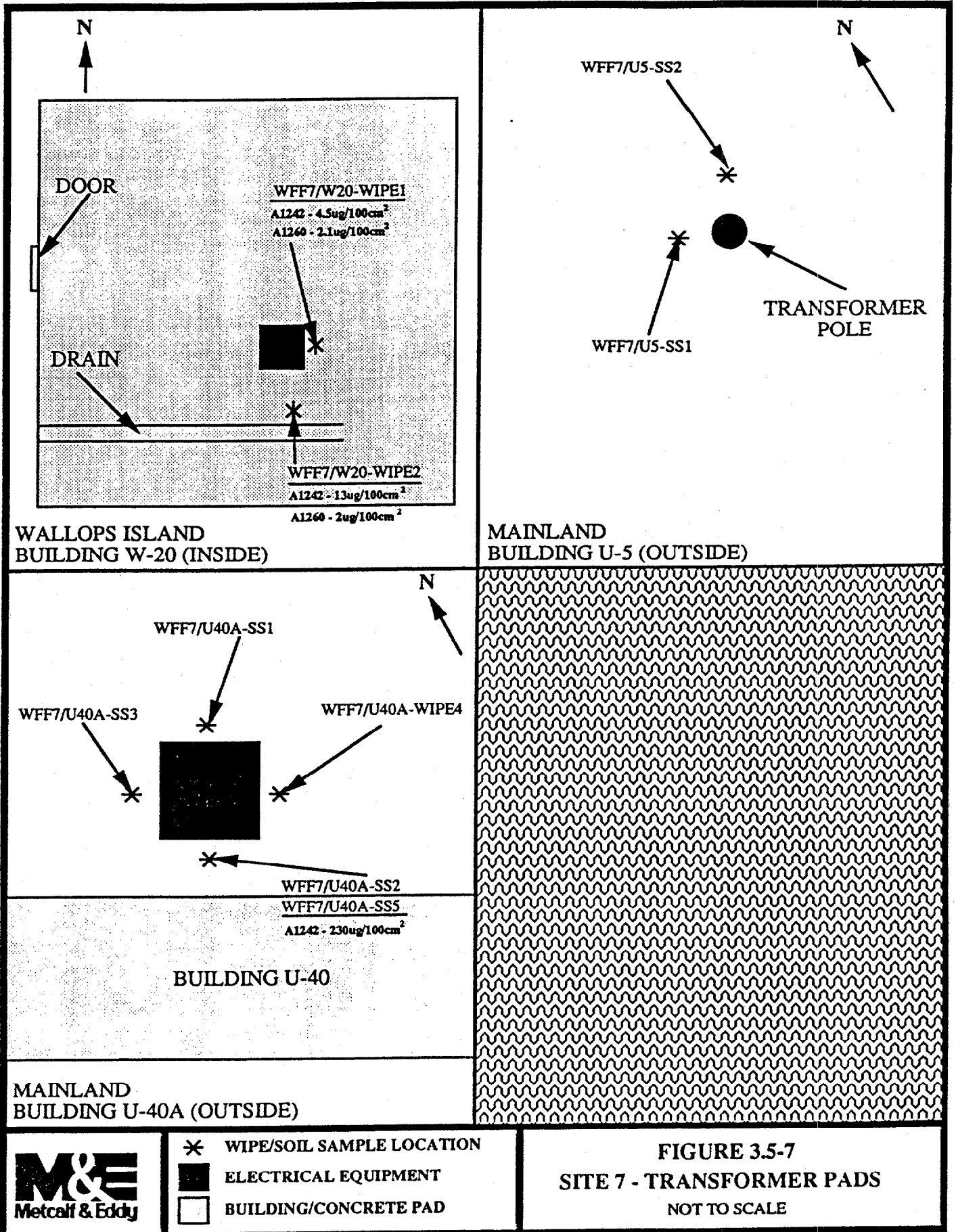


FIGURE 3.5-6
SITE 7 - TRANSFORMER PADS
 NOT TO SCALE



3.6 SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134

3.6.1 Sample Identification and Collection

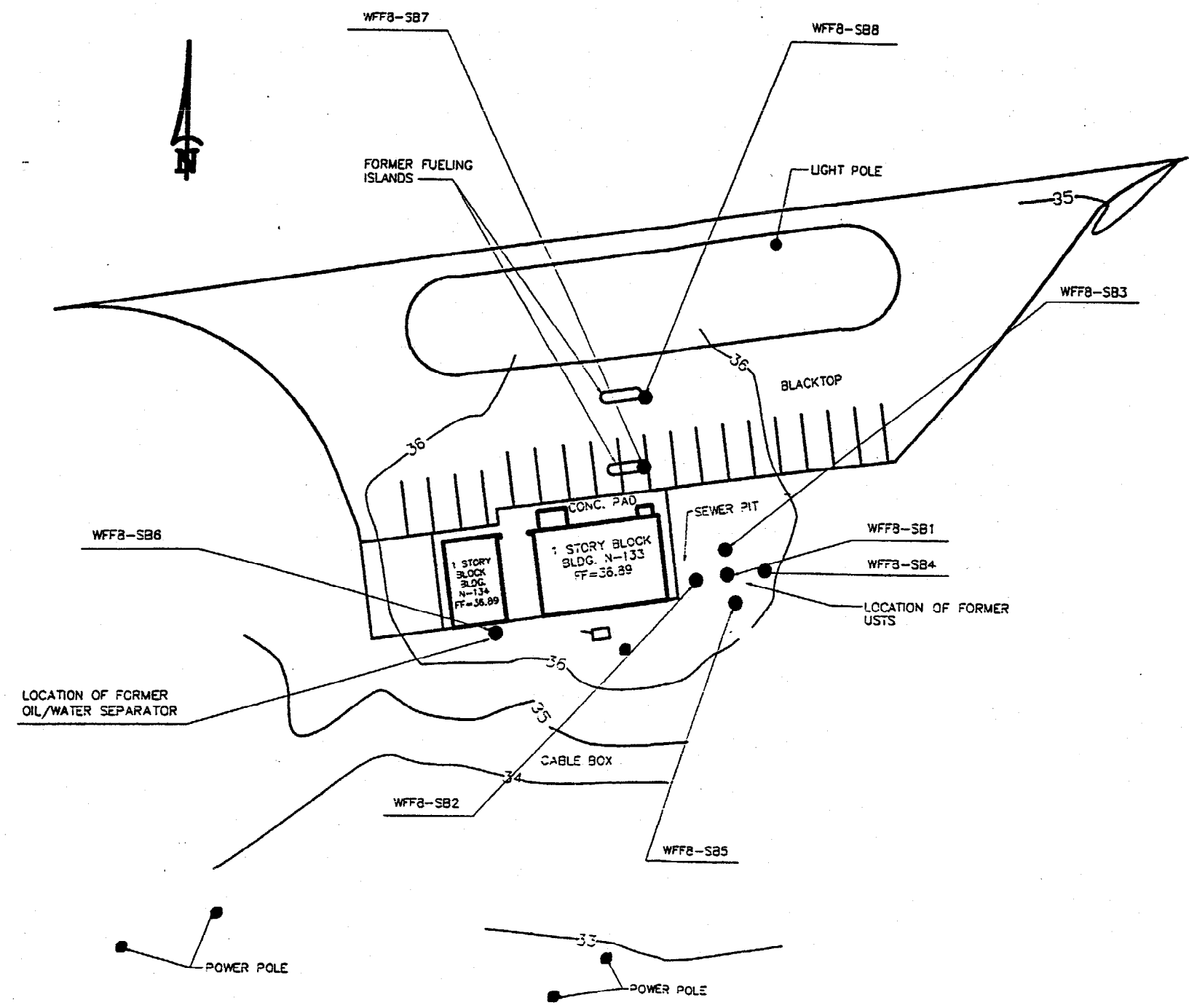
A summary of samples collected at Site 8 is presented as Table 3.6-1 and sample locations are illustrated on Figure 3.6-1. M&E collected eight subsurface soil samples (WFF8-SB1 through WFF8-SB8) at this site. Five samples (WFF8-SB1 through WFF8-SB5) were collected in the area of the former underground storage tanks. These samples were analyzed for TPH, BTEX, and lead. The depth of sample collection was field determined, and was based upon PID readings and visual examination of the soil (i.e., stained soil). One sample (WFF8-SB6) was collected near the former waste oil tank and was analyzed for the TCL, TAL, and TPH parameters. This sample was collected at approximately the bottom of the former waste oil tank. One sample each (WFF8-SB7 and WFF8-SB8) was collected below the pavement at each previous fueling island, and was analyzed for TPH, BTEX, and lead. The depth of sample collection was field determined, and was based upon PID readings and visual examination of the soil.

TABLE 3.6-1
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF8-SB1	5/31/93	13.5 - 15	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF8-SB2	5/31/93	7 - 8.5	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF8-SB3	5/31/93	4 - 5.5	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF8-SB4	5/31/93	7.5 - 9	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF8-SB5	5/31/93	4 - 5.5	TPH, BTEX, lead	Quantify remaining tank contamination, if any.
WFF8-SB6	6/28/93	4 - 5.5	TPH, TCL, TAL	Check for leaks from waste oil tank.
WFF8-SB7	5/31/93	1.5 - 3	TPH, BTEX, lead	Quantify fuel contamination.
WFF8-SB8	5/31/93	2.5 - 4	TPH, BTEX, lead	Quantify fuel contamination.
WFF8-SW1	5/31/93	N/A	TPH, BTEX, lead	Equipment blank (soil borings).

NOTES: SB = Soil Boring
SW = Surface Water
N/A = Not Applicable
BTEX = Benzene, Toluene, Ethyl Benzene, Xylene
TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates P.A.



LEGEND
 ● SAMPLE LOCATION
 — EXISTING TOPOGRAPHIC CONTOUR
 ○ SOIL BORING



M&E
 14802 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 808 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 866-2681
 Dwg No. 00000-A-0007-7

0 25 50
 FEET
 DATE: NOV. 10, 1994

FIGURE 3.6-1
 SITE 8-FORMER MAIN BASE
 FUELING SYSTEM, BUILDINGS
 N-133 and N-134
 SAMPLES COLLECTED

0020A082

3.6.2 Analytical Results

Analytical results for Site 8 are presented as Table 3.6-2 and illustrated on Figure 3.6-2. Subsurface soil results for the one sample collected near the waste oil tank (i.e., WFF8-SB6) indicate elevated levels of metals. Semivolatile organic compounds, pesticides, PCBs, cyanide, and petroleum hydrocarbons were not detected in this sample.

Subsurface soil results for the seven samples analyzed for TPH, BTEX, and lead indicate detectable levels of petroleum hydrocarbons in two of the seven samples, detectable levels of BTEX compounds in five samples, and elevated levels of lead in four of the seven samples.

**TABLE 3.8-2
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134
OBSERVED CONTAMINATION**

Volatile Analysis (SOW:OLM01.8 or SW846 M8020, BTEX)					
M&E SAMPLE ID:	WFF8-SB1	WFF8-SB2	WFF8-SB3	WFF8-SB7	WFF8-SB8
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	ppb	ppb	ppb	ppb	ppb
SAMPLE DEPTH(ft)	13.5	7	4	1.5	2.5
COMPOUND					
Benzene				6.9	J
Toluene	3.7	2.4	1.8	210	J
Ethylbenzene		20	6.8	1,100	J
Total Xylenes		5.9	7.9	5,200	J 14 J

SEMIVOLATILE AND PESTICIDE/PCB COMPOUNDS WERE NOT DETECTED AT SITE 8

Petroleum Hydrocarbons Analysis (SW846 M8015m)		
M&E SAMPLE ID:	WFF8-SB3	WFF8-SB7
MATRIX:	SOIL	SOIL
UNITS:	ppm	ppm
SAMPLE DEPTH(ft):	4	1.5
ANALYTES		
Gasoline		880 J
Diesel Fuel	570	32

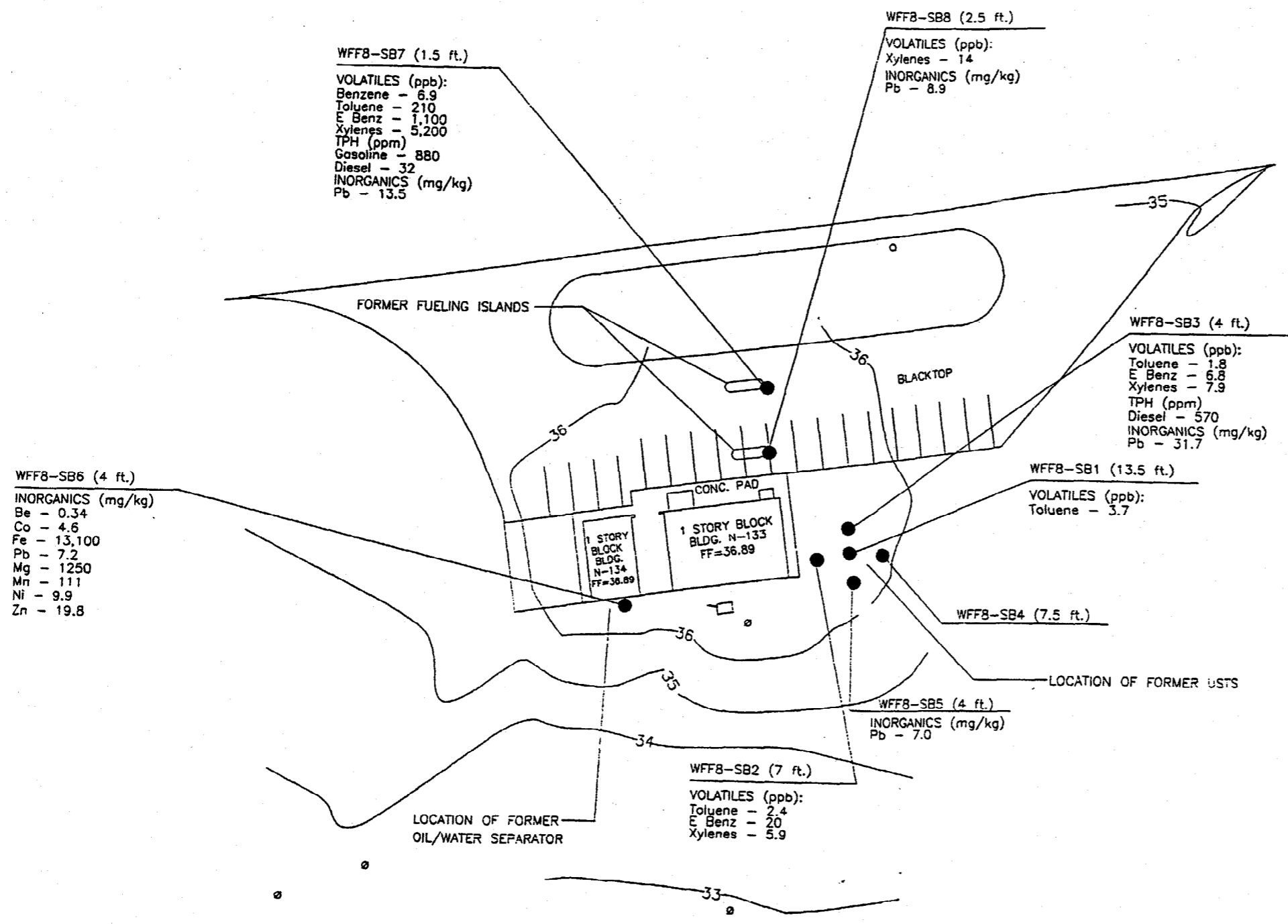
NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.6-2, continued
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILM02.1 or SW840 M7421)							
M&E SAMPLE ID: MATRIX: UNITS: SAMPLE DEPTH(ft):			WFF8-SB3 SOIL mg/kg 4	WFF8-SB5 SOIL mg/kg 4	WFF8-SB6 SOIL mg/kg 4	WFF8-SB7 SOIL mg/kg 1.5	WFF8-SB8 SOIL mg/kg 2.5
ANALYTES	MAIN BASE SUBSURFACE SOIL BACKGROUND mg/kg (3xAVG)						
Beryllium	0.14		NA	NA	0.34	NA	NA
Cobalt	4.23		NA	NA	4.6	NA	NA
Copper	2.51		NA	NA	8.8	NA	NA
Iron	12,814		NA	NA	13,100	NA	NA
Lead	5.10		31.7	7.0	7.2	13.5	8.9
Magnesium	560		NA	NA	1,250	NA	NA
Manganese	97.92		NA	NA	111	NA	NA
Nickel	8.04		NA	NA	9.9	NA	NA
Zinc	18.39		NA	NA	19.8	NA	NA
NOTE: A key to symbols can be found on the last page of this table.							

TABLE 3.6-2, continued
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	
WFF = Wallops Flight Facility	Units
SB = Soil Boring	mg/kg = milligrams per kilogram
	ppm = parts per million
	ppb = parts per billion
Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
Analytical Methods	
BTEX = Benzene, toluene, ethylbenzene, and xylenes.	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).	
SW846 M8015 = Solid Waste 846 Method 8015 modified for analysis of Total Petroleum Hydrocarbons, with fingerprinting (all matrices).	
SW846 M8020 = Solid Waste Method 8020 for analysis of BTEX, with second column confirmation (soil).	
SW846 M7421 = Solid Waste Method 7421 for analysis of lead (soil and water).	
Other	
NA = Not Applicable	



- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates P.A.

CHEMICAL ABBREVIATIONS

TPH = Total Petroleum Hydrocarbons
 E Benz = Ethylbenzene
 Xylenes = Total Xylenes
 Be = Beryllium
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Ni = Nickel
 K = Potassium
 Zn = Zinc

LEGEND

SAMPLE LOCATION

EXISTING TOPOGRAPHIC CONTOUR

SOIL BORING

SURFACE SOIL

STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)

 14502 Greenview Drive, Suite 500 Laurel, Maryland 20708	 FEET	FIGURE 3.6-2 SITE 3-FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134 OBSERVED CONTAMINATION SUBSURFACE SOIL SAMPLES
	SOURCE: Ramesh C. Batta Associates, P.A. 800 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 886-2581 DWG. NO. 35630-C-9357-7	DATE: NOV. 1, 1994

3.7 SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35

3.7.1 Sample Identification and Collection

A summary of samples collected at Site 9 is presented as Table 3.7-1 and sample locations are illustrated on Figure 3.7-1.

One background subsurface soil sample (WFF9-SB6) was collected outside the debris pile at Site 9 for analyses of the TAL and TPH parameters. M&E collected three pairs of background surface water/sediment samples (WFF9-SW8/SD8 through WFF9-SW10/SD10) upgradient of Sites 9 and 15 for analysis of the TCL, TAL, and TPH parameters. WFF9-SW8/SD8 and WFF9-SW10/SD10 were collected upgradient of Site 9 at the spring behind the old WWTP (near the northwest corner of Runways 10-28 and 17-35). WFF9-SW9/SD9 were collected at the VPDES Outfall 003 located at Site 14, and are shown on Site 14 sample location map (Figure 3.11-1). M&E collected one upgradient background groundwater sample (WFF9-GW1) for analyses of the TCL, TAL, and TPH parameters. A duplicate sample (WFF9-GW4) was collected at WFF9-GW1 and analyzed for the same parameters.

M&E collected five subsurface soil samples (WFF9-SB1 through WFF9-SB5) in and around the debris pile. The depth of subsurface soil sample collection was field determined, and was based upon PID readings and visual examination of the soil (i.e., stained soil). These samples were analyzed for the TCL, TAL, and TPH parameters.

M&E collected eight pairs of surface water/sediment samples (WFF9-SW1/SD1 through WFF9-SW7/SD7 and WFF9-SW12/SD12) in the 1,300 foot long swale behind Sites 9 and 15 to be analyzed for the TCL, TAL, and TPH parameters. The eight pairs of surface water/sediment samples were collected to search for contaminants which may be leaching from Sites 9 and 15. Although all of these samples are labeled as Site 9 samples, samples WFF9-SW1/SD1 through WFF9-SW4/SD4 are used for evaluation of surface water/sediment conditions for Site 15, and samples WFF9-SW5/SD5 through WFF9-SW7/SD7 and WFF9-SW12/SD12 are used for evaluation of surface water/sediment conditions for Site 9. WFF9-SW5/SD5 was also used as a background sample for Site 15 as discussed in Section 3.12.

M&E collected two groundwater samples (WFF9-GW2 and WFF9-GW3) at Site 9 for analysis of the TCL, TAL, and TPH parameters.

One sample (WFF9-DC1) of a tar-like residue from an abandoned drum was also collected at Site 9.

TABLE 3.7-1
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF9-SB1	6/1/93	1 - 2.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF9-SB1	9/28/93	1 - 1.5	TPH purgeable	Recollected.
WFF9-SB2	6/1/93	1 - 2.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF9-SB2	9/28/93	1.5 - 2	TPH purgeable	Recollected.
WFF9-SB3	6/1/93	1.5 - 3	TCL, TAL, TPH	Search for subsurface contamination.
WFF9-SB3	9/28/93	1.5 - 2	TPH purgeable	Recollected.
WFF9-SB4	6/1/93	6 - 7.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF9-SB4	9/28/93	6 - 6.5	TPH purgeable	Recollected.
WFF9-SB5	6/1/93	2 - 3.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF9-SB5	9/28/93	2 - 2.5	TPH purgeable	Recollected.
WFF9-SB6	6/1/93	1.5 - 2.5	TAL, TPH	Background data for comparison to other samples.
WFF9-SB6	9/28/93	1.5 - 2	TPH purgeable	Recollected.
WFF9-DC1	6/1/93	N/A	TCL, TAL, TPH	To identify the petroleum residue.
WFF9-SD5	7/8/93	0-0.5	TCL, TAL, TPH	Search for contaminants leaching from Sites 9. Background for Site 15.
WFF9-SW5	7/8/93	N/A	TCL, TAL, TPH	Search for contaminants leaching from Sites 9. Background for Site 15.
WFF9-SD6	7/8/93	0-0.5	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SW6	7/8/93	N/A	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SD7	7/8/93	0-0.5	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SW7	7/8/93	N/A	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SD8	7/8/93	0-0.5	TAL	Background for Site 9.
WFF9-SW8	7/8/93	N/A	TAL	Background for Site 9.
WFF9-SD9	9/25/95	N/A	TCL, TAL, TPH	Background for Site 9.
WFF9-SW9	9/25/95	N/A	TCL, TAL, TPH	Background for Site 9.
WFF9-SD10	9/25/95	N/A	TCL, TAL, TPH	Background for Site 9.
WFF9-SW10	9/25/95	N/A	TCL, TAL, TPH	Background for Site 9.

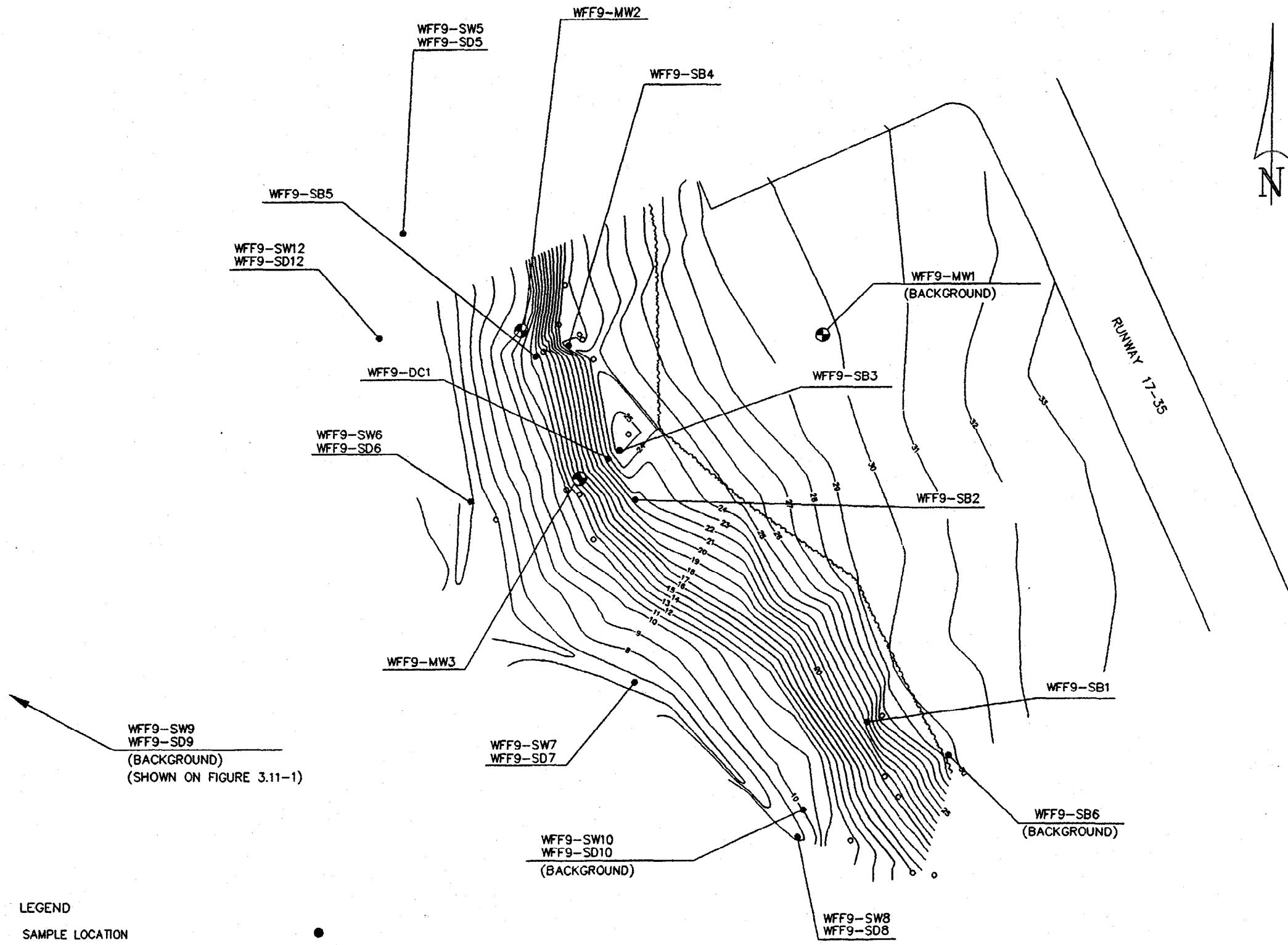
SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF9-SD11	7/7/93	0-0.5	TCL, TAL, TPH	QA/QC - Duplicate of SD1, MS/MSD.
WFF9-SW11	7/7/93	N/A	TCL, TAL, TPH	QA/QC - Duplicate of SW1, MS/MSD.
WFF9-SW12	9/25/95	N/A	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SD12	9/25/95	N/A	TCL, TAL, TPH	Search for contaminants leaching from Site 9.
WFF9-SW13	6/1/93	N/A	TCL, TAL, TPH	QA/QC - Equipment blank (SB).
WFF9-SW14	7/8/93	N/A	TAL	QA/QC - Equipment blank (SD).
WFF9-SW15	7/8/93	N/A	TAL	QA/QC - Equipment blank (SW).
WFF9-SW16	7/8/93	N/A	TAL	QA/QC - Field blank.
WFF9-SW17	9/25/95	N/A	TCL, TAL, TPH	QA/QC - Duplicate of SW9, MS/MSD.
WFF9-SD17	9/25/95	N/A	TCL, TAL, TPH	QA/QC - Duplicate of SD9, MS/MSD.
WFF9-SW18	9/28/95	N/A	TCL, TAL, TPH	QA/QC - Field blank.
WFF9-SW19	9/26/95	N/A	TCL, TAL, TPH	QA/QC - Equipment blank (SW).
WFF9-SW20	9/26/95	N/A	TCL, TAL, TPH	QA/QC - Equipment blank (SD).
WFF9-GW1	9/28/95	*	TCL, TAL, TPH	Background for Site 9.
WFF9-GW2	9/27/95	*	TCL, TAL, TPH	Search for contaminants migrating to groundwater.
WFF9-GW3	9/27/95	*	TCL, TAL, TPH	Search for contaminants migrating to groundwater.
WFF9-GW4	9/28/95	*	TCL, TAL, TPH	QA/QC - Duplicate of GW1, MS/MSD.
WFF9-GW5	9/28/95	*	TCL, TAL, TPH	QA/QC - Equipment blank (GW).

NOTES: SB = Soil Boring DC = Drum Contents
SS = Surface Soil TCL = Target Compound List (125 Organics)
SD = Sediment TAL = Target Analyte List (23 Metals and Cyanide)
SW = Surface Water TPH = Total Petroleum Hydrocarbons, with
MS/MSD = Matrix Spike/Matrix Fingerprinting
Spike Duplicate GW = Groundwater
N/A = Not Applicable

Some samples collected between May 28 - July 9, 1993 may have been recollected in August and September, 1993 due to laboratory analytical difficulties (i.e., missed holding times, laboratory-introduced contamination).

NOTES:

1. Horizontal datum: Virginia State Plane Coordinate System
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.

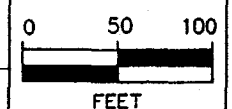


LEGEND

- SAMPLE LOCATION ●
- LOCATION OF POSSIBLE BURIED DRUM ○
- EXISTING TOPOGRAPHIC CONTOUR ———
- SOIL BORING SB
- SEDIMENT SD
- SURFACE WATER SW
- DRUM CONTENTS DC
- LOCATION OF MONITORING WELLS ⊕

M&E
 14602 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2681
 DWG. NO. 85630-C-9057-8



REVISED:
 JAN. 15, 1996

FIGURE 3.7-1
 SITE 9-ABANDONED DRUM
 FIELD, ALONG RUNWAY 17-35
 SAMPLE LOCATIONS

00804 102

3.7.2 Analytical Results

Analytical results for Site 9 are presented in Table 3.7-2 and illustrated on Figures 3.7-2 and 3.7-3.

The background subsurface soil sample (WFF9-SB6) result did not indicate the presence of the TAL or TPH parameters. Analysis of background surface water samples indicate the presence of pesticides in one of the three samples analyzed and metals in all three samples analyzed. The corresponding sediment samples contain semivolatiles in one sample, pesticides in two samples, and metals in all three samples collected. One background groundwater sample (WFF9-GW-1) was collected and analyses indicates detectable levels of tetrachloroethene (10 ug/l) and several metals. Tetrachloroethene (PCE) found in WFF9-GW1 may be due to contamination from another site upgradient of this monitoring well. Average background levels used for comparison to Site 9 samples are presented in Table 3.7-2. Appendix C provides more detailed tables on the samples and values used to calculate average background levels for Site 9.

Subsurface soil results indicate elevated levels of semivolatile organic compounds in two of the five samples, and cyanide in three samples. Pesticides, PCBs and petroleum hydrocarbons were not detected, and there were no elevated metals in any of the five samples.

Surface water results indicate elevated levels of volatile organic compounds and pesticides in three of the four samples. Cyanide was not detected in any surface water samples, but an elevated level of aluminum (32.1 mg/l) was detected in WFF9-SW6. Elevated levels of PCBs, cyanide, and petroleum hydrocarbons were not detected, and there were no metals other than aluminum elevated above background. Although none of the four petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, diesel fuel) were detected above background in any of the surface water samples, the chromatograms indicate the possible presence of an unknown petroleum hydrocarbon in all four samples.

Sediment results indicate elevated levels of volatile organic compounds in one of the four samples, pesticides in two of the four samples, and metals in three samples. Elevated levels of semivolatiles, PCBs and cyanide were not detected above background. Although none of the four petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, diesel fuel) were detected in any of the sediment samples, the chromatograms indicate the possible presence of an unknown petroleum hydrocarbon in all four samples.

Groundwater sampling results indicate elevated levels of metals in both samples (WFF9-GW2 and WFF9-GW3). Volatiles, semivolatiles, pesticides, PCBs, cyanide, and petroleum hydrocarbons were not elevated above background levels.

Drum content results (WFF9-DC1) indicate elevated levels of volatile organic compounds, semivolatile organic compounds, pesticides, and metals. Elevated levels of PCBs, petroleum hydrocarbons, and cyanide were not detected.

**TABLE 3.7-2
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION**

Volatile Analysis (SOW:OLM01.8)		DRUM CONTENT SAMPLES	
M&E SAMPLE ID:		WFF9-DC1	
MATRIX:		DRUM	
UNITS:		ug/kg	
	SITE 9 BACKGROUND		
COMPOUND	ug/kg (MOR)		
2-Butanone	NA	470	J
Styrene	NA	580	J

Volatile Analysis (SOW:OLM01.8)		SURFACE WATER SAMPLES		
M&E SAMPLE ID:		WFF9-SW5	WFF9-SW7	WFF9-SW12
MATRIX:		WATER	WATER	WATER
UNITS:		ug/l	ug/l	ug/l
	SITE 9 BACKGROUND			
COMPOUND	ug/kg (MOR)			
Chloromethane	1	10	15	
Cis-1,2-Dichloroethene	1			2

Volatile Analysis (SOW:OLM01.8)		SEDIMENT SAMPLES	
M&E SAMPLE ID:		WFF9-SD6	
MATRIX:		SOIL	
UNITS:		ug/kg	
	SITE 9 BACKGROUND		
COMPOUND	ug/kg (MOR)		
Cis-1,2-Dichloroethene	NA	470	J
2-Butanone	12	580	J

NOTE: A key to symbols can be found on the last page of this table.

**TABLE 3.7-2
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION**

Semivolatile Analysis (SOW:OLM01.8)		SUBSURFACE SOIL & DRUM SAMPLES		
M&E SAMPLE ID:		WFF9-SB3	WFF9-SB4	WFF9-DC1
MATRIX:		SOIL	SOIL	DRUM
UNITS:		ug/kg	ug/kg	ug/kg
SAMPLE DEPTH(ft):		1.5	2	NA
COMPOUND		SITE 9 BACKGROUND ug/kg (MOR)		
Naphthalene	NA			270,000 J
2-Methylnaphthalene	NA			460,000 J
Acenaphthylene	NA			360,000 J
Acenaphthene	NA			130,000 J
Dibenzofuran	NA			82,000 J
Fluorene	NA			570,000 J
Phenanthrene	NA			1,700,000 J
Anthracene	NA			310,000 J
Fluoranthene	NA			770,000 J
Pyrene	NA			1,300,000 J
Benzo(a)anthracene	NA			350,000 J
Chrysene	NA			400,000 J
Bis(2-ethylhexyl)phthalate	NA			29,000 J
Di-n-octyl phthalate	NA	61 J	35 J	
Benzo(b)fluoranthene	NA			200,000 J
Benzo(k)fluoranthene	NA			230,000 J
Benzo(a)pyrene	NA			300,000 J
Indeno(1,2,3-cd)pyrene	NA			180,000 J
Dibenz(a,h)anthracene	NA			43,000 J
Benzo(g,h,i)perylene	NA			170,000 J

NOTE: A key to symbols can be found on the last page of this table.

**TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION**

Pesticide/PCB Analysis (SOW:OLM01.8)		DRUM CONTENT SAMPLES	
M&E SAMPLE ID:		WFF9-DC1	
MATRIX:		DRUM	
UNITS:		ug/kg	
	SITE 9 BACKGROUND ug/kg (MOR)		
COMPOUND			
delta-BHC	NA		4,100 L
Heptachlor Epoxide	NA		1,300 L
4,4'-DDE	NA		1,200 L
4,4'-DDT	NA		6,400 L

Pesticide/PCB Analysis (SOW:OLM01.8)		SURFACE WATER SAMPLES		
M&E SAMPLE ID:		WFF9-SW6	WFF9-SW7	WFF9-SW12
MATRIX:		WATER	WATER	WATER
UNITS:		ug/l	ug/l	ug/l
	SITE 9 BACKGROUND ug/kg (MOR)			
COMPOUND				
4,4'-DDE	0.1	0.15 J		
4,4'-DDD	0.045 J	0.25	0.28 J	0.071
4,4'-DDT	0.15		0.19	

Pesticide/PCB Analysis (SOW:OLM01.8)		SEDIMENT SAMPLES	
M&E SAMPLE ID:		WFF9-SD6	WFF9-SD12
MATRIX:		SOIL	SOIL
UNITS:		ug/kg	ug/kg
	SITE 9 BACKGROUND ug/kg (MOR)		
COMPOUND			
4,4'-DDE	11.8	76	
Endrin ketone	0.22		0.42 J

NOTES: Petroleum hydrocarbon compounds were not detected at Site 9. However, chromatograms for samples WFF9-SW5, WFF9-SW6, WFF9-SW7, WFF9-SD5, WFF9-SD6, and WFF9-SD7 indicate the presence of an unknown hydrocarbon.

A key to symbols can be found on the last page of this table.

TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILM02.1)		DRUM AND SUBSURFACE SOIL SAMPLES			
M&E SAMPLE ID:		WFF9-DC1	WFF9-SB1	WFF9-SB2	WFF9-SB3
MATRIX:		DRUM	SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg
SAMPLE DEPTH (ft):		N/A	1	2	1.5
SITE 9 BACKGROUND mg/kg (MOR)					
ANALYTES					
Aluminum	22,079	213 J			
Arsenic	3.3	4			
Barium	57.6	5 J			
Calcium	495	1,080J			
Chromium	21.3	35.8			
Cobalt	4.2	14.9			
Copper	2.5	120			
Iron	12,814	111,000			
Lead	5.1	16.9			
Magnesium	560	2,860			
Manganese	97.9	320			
Nickel	8.0	77.2			
Vanadium	42.0	42.2			
Zinc	18.4	300			
Cyanide	NA		0.6	0.91	0.77

Inorganic Analysis (SOW:ILM02.1)		SEDIMENT SAMPLES		
M&E SAMPLE ID:		WFF9-SD5	WFF9-SD6	WFF9-SD12
MATRIX:		SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg
SITE 9 BACKGROUND mg/kg (MOR)				
ANALYTES				
Aluminum	3,565		5,490	3,600
Arsenic	1.8		4	
Barium	16.3 J	17.2	35.7	
Calcium	239 J	248	1,070	1,140
Chromium	7.2		9.3	
Cobalt	0.75		2.3	
Copper	23 J			25.3
Iron	5,400 J		7,190	
Lead	9.3 J		40.9	
Magnesium	387		838	439
Manganese	22		40.6	
Nickel	0.1	8	13.7	
Selenium	0.62		0.76	
Thallium	0.66		0.67	
Vanadium	7.7	32.2	54.2	
Zinc	21 L	27.1	63.5	

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILM02.1)		SURFACE WATER SAMPLES	
M&E SAMPLE ID:		WFF9-SW6	
MATRIX:		WATER	
UNITS:		ug/l	
SITE 9 BACKGROUND ug/l (MOR)			
ANALYTES			
Aluminum	27	32.1	

Inorganic Analysis (SOW:ILM02.1)		GROUNDWATER SAMPLES	
M&E SAMPLE ID:		WFF9-GW2	WFF9-GW3
MATRIX:		WATER	WATER
UNITS:		ug/l	ug/l
SITE 9 BACKGROUND ug/l (MOR)			
ANALYTES			
Aluminum	200	673	
Chromium	0.7	0.84	0.89
Iron	100	171 J	

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
COMPOUNDS DETECTED IN BACKGROUND SAMPLES

Volatile Analysis (SOW:OLM01.8)	
M&E SAMPLE ID:	WFF9-GW1
MATRIX:	WATER
UNITS:	ug/l
COMPOUND	
Tetrachloroethene	10

Semivolatile Analysis (SOW:OLM01.8)	
M&E SAMPLE ID:	WFF9-SD9
MATRIX:	SOIL
UNITS:	ug/kg
COMPOUND	
Phenanthrene	75 J
Fluoranthene	130 J
Pyrene	120 J
Benzo(a)anthracene	41 J
Chrysene	69 J
Benzo(b)fluoranthene	110 J
Benzo(k)fluoranthene	99 J
Benzo(a)pyrene	52 J

Pesticide/PCB Analysis (SOW:OLM01.8)				
M&E SAMPLE ID:	WFF9-SW9	WFF9-SD9	WFF9-SD10	WFF9-GW1
MATRIX:	SOIL	SOIL	SOIL	WATER
UNITS:	ug/kg	ug/kg	ug/kg	ug/l
COMPOUND				
Gamma-BHC			0.099 J	
Heptachlor Epoxide			0.052 J	0.027 J
Dieldrin	0.96 J	0.44 J		0.0067 J
4,4'-DDE		7.5	0.35	
4,4'-DDD	0.015 J	28 J		
4,4'-DDT	0.05	27 J		0.026 J
Endrin ketone		0.074		
Endrin aldehyde		0.13 J		
Alpha-chlordane		0.2 J		
Gamma-chlordane		1.2 J		
NOTE: A key to symbols can be found on the last page of this table.				

TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
ANALYTES DETECTED IN BACKGROUND SAMPLES

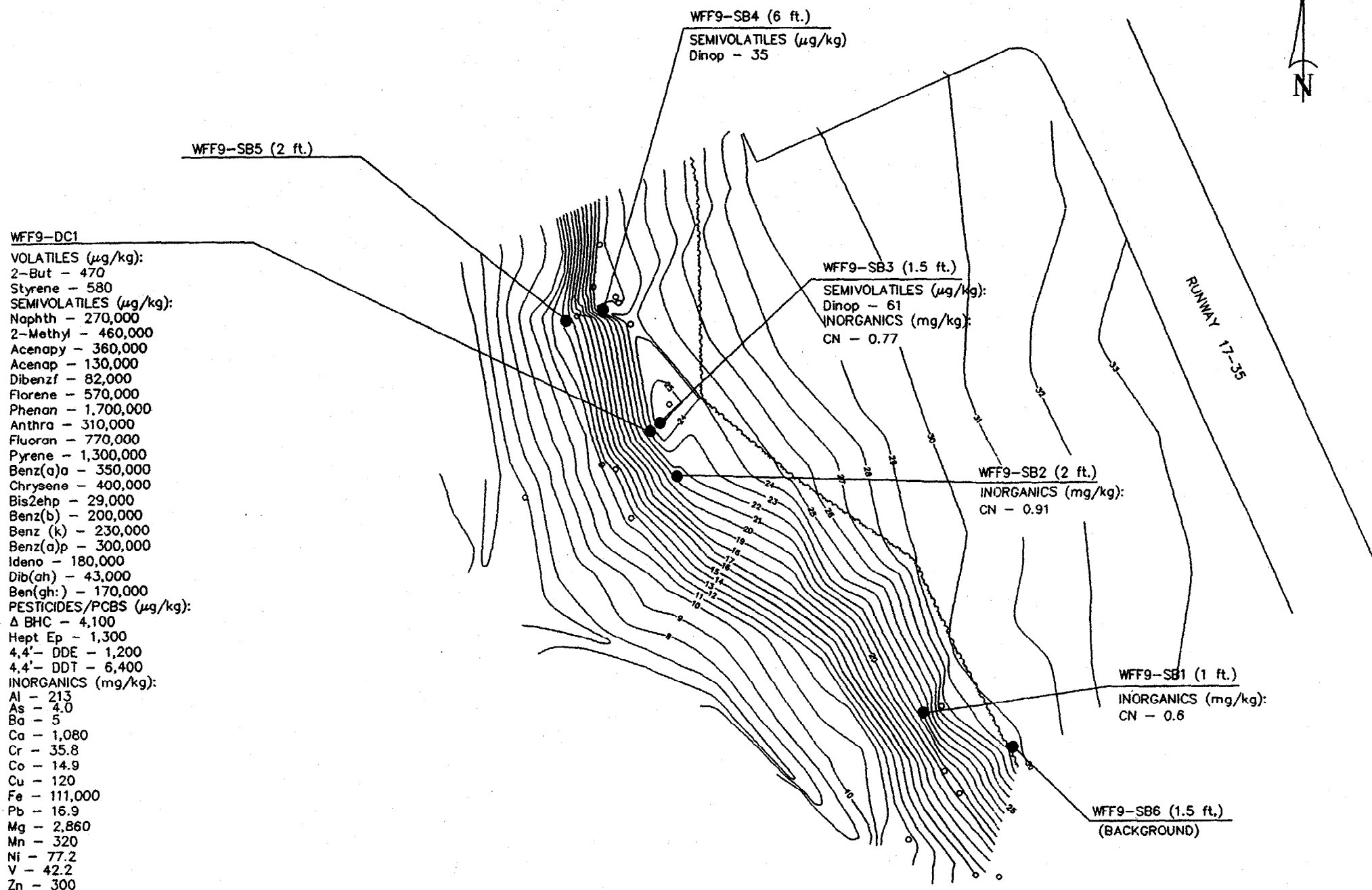
Inorganic Analysis (SOW:ILM02.1)			
M&E SAMPLE ID:	WFF9-SD8	WFF9-SD9	WFF9-SD10
MATRIX:	SOIL	SOIL	SOIL
UNITS:	mg/kg	mg/kg	mg/kg
ANALYTES			
Aluminum	1240	1690	635
Arsenic	0.6		
Barium	4.7	8.8	2.8 J
Calcium	90.5	99.6	49 J
Chromium	1.8	3	
Copper		7.6 J	
Iron	1440	2790	1170
Lead		3.1 J	
Magnesium	82.2	176	
Manganese	6.9	105	7.6
Nickel		1.4	
Potassium		86.3	
Vanadium	2	4.1	1.6
Zinc		9.2	4.5 L

Inorganic Analysis (SOW:ILM02.1)				
M&E SAMPLE ID:	WFF9-SW8	WFF9-SW9	WFF9-SW10	WFF9-GW1
MATRIX:	WATER	WATER	WATER	WATER
UNITS:	ug/l	ug/l	ug/l	ug/l
ANALYTES				
Barium	22.1	20.8	29.6 J	
Calcium	12300	10,300	13,900	6660
Iron	2400	2,890	4000	
Magnesium	4270	5630	3340	2390
Manganese	118	468	215	7.9
Potassium		1530	2020	676
Sodium	9460	8760	8580	5730 J
Zinc			64	8.6 J

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.7-2, continued
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	Units
WFF = Wallops Flight Facility	ug/kg = micrograms per kilogram
SB = Soil Boring	ug/l = micrograms per liter
SW = Surface Water	mg/kg = milligrams per kilogram
SD = Sediment	ppm = parts per million
DC = Drum Content	
GW = Groundwater	
Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
L = Analyte present. Reported value may be biased low.	
Analytical Methods	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).	
SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Petroleum Hydrocarbons, with fingerprinting (all matrices).	
SW846 M8080 = Solid Waste Method 8080 for analysis of PCBs (soil and wipes).	
Other	
NA = Not Applicable	
MOR = Minimum Observed Release	



- NOTES:
1. Horizontal datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.C.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Botto Associates, P.A.
- * Chromatogram indicated possible presence of unknown hydrocarbon.

- CHEMICAL ABBREVIATIONS
- VOLATILES:
Chlorom = Chloromethane
2-But = 2-Butanone
- SEMIVOLATILES:
Naphth = Naphthalene
2-Methyl = 2-Methylnaphthalene
Acenapy = Acenaphthylene
Acenap = Acenaphthene
Dibenzf = Dibenzofuran
Phenan = Phenanthrene
Anthra = Anthracene
Fluoran = Fluoranthene
Benz(a)a = Benzo(a)anthracene
Bis2ehp = bis(2-ethylhexyl)phthalate
Dinop = Di-n-octyl phthalate
Benz(b) = Benzo(b)fluoranthene
Benz(k) = Benzo(k)fluoranthene
Benz(a)p = Benzo(a)pyrene
Ideno = Ideno(1,2,3-cd)pyrene
Dib(ah) = Dibenz(a,h)anthracene
Ben(ghi) = Benzo(g,h,i)perylene
- PESTICIDES/PCBS:
Δ BHC = delta-1,2,3,4,5,6-hexachloro-cyclohexane
Hept Ep = Heptachlor epoxide
4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
- INORGANICS:
Al = Aluminum
As = Arsenic
Ba = Barium
Ca = Calcium
Cr = Chromium
Co = Cobalt
Cu = Copper
Fe = Iron
Pb = Lead
Mg = Magnesium
Mn = Manganese
Ni = Nickel
Se = Selenium
V = Vanadium
Zn = Zinc
CN = Cyanide

- LEGEND
- SAMPLE LOCATION
 - LOCATION OF POSSIBLE BURIED DRUM
 - EXISTING TOPOGRAPHIC CONTOUR
 - SB SOIL BORING
 - DC DRUM CONTENTS
 - (2 ft.) STARTING DEPTH OF SAMPLE COLLECTION

<p>14502 Greenview Drive, Suite 500 Laurel, Maryland 20708</p>	<p>FEET</p>	FIGURE 3.7-2
		<p>SITE 9-ABANDONED DRUM FIELD, ALONG RUNWAY 17-35</p> <p>OBSERVED CONTAMINATION SUBSURFACE SOIL AND DRUM CONTENT SAMPLES</p>
<p>SOURCE: Ramesh C. Botto Associates, P.A. 600 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 866-2881 DWG. NO. 85630-C-9057-8</p>	<p>REVISED: JAN. 15, 1996</p>	

0020ABIIZ

WFF9-SD5

TPH (ppm):
See Note *
INORGANICS (mg/kg):
Ba - 17.2
Ca - 248
Ni - 8
V - 32.2
Zn - 27.1

WFF9-SW5

VOLATILES (µg/l):
Chlorom - 10
TPH (ppm):
See Note *

WFF9-SW12

VOLATILES (mg/l):
Cis-1,2-Di - 2
PESTICIDES/PCBS (mg/kg):
4,4'-DDD - 0.071

WFF9-SD12

PESTICIDES/PCBS (mg/kg):
Endrin - 0.42
INORGANICS (mg/kg):
Al - 3600
Ca - 1,140
Cu - 25.3
Mg - 439

WFF9-SW6

PESTICIDES/PCBS (µg/l):
4,4'-DDE - 0.15
4,4'-DDD - 0.25
TPH (ppm):
See Note *
INORGANICS (mg/l):
Al - 32.1

WFF9-SD6

VOLATILES (µg/kg):
Acetone - 65
2-But - 17
PESTICIDES/PCBS (µg/kg):
4,4'-DDE - 76
4,4'-DDD - 190
TPH (ppm):
See Note *
INORGANICS (mg/kg):
Al - 5,490
As - 4.0
Ba - 35.7
Ca - 1,070
Cr - 9.3
Co - 2.3
Fe - 7,190
Pb - 40.9
Mg - 838
Mn - 40.6
Ni - 13.7
Se - 0.76
Ti - 0.67
V - 54.2
Zn - 63.5

WFF9-SD7

TPH (ppm):
See Note *

WFF9-SW7

VOLATILES (µg/l):
Chlorom - 15
PESTICIDES/PCBS (µg/l):
4,4'-DDD - 0.28
4,4'-DDT - 0.19
TPH (ppm):
See Note *

WFF9-SD8

WFF9-SW8
(BACKGROUND)

WFF9-SD10

WFF9-SW10
(BACKGROUND)

WFF9-SD9
WFF9-SW9

(BACKGROUND)
(SHOWN ON FIGURE 3.11-3)

LEGEND

SAMPLE LOCATION
LOCATION OF POSSIBLE BURIED DRUM
OR DEBRIS
EXISTING TOPOGRAPHIC CONTOUR
SEDIMENT
SURFACE WATER



RUNWAY 17-35

NOTES:

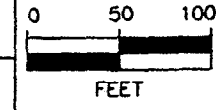
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicated possible presence of unknown hydrocarbon.

CHEMICAL ABBREVIATIONS

VOLATILES:
Chlorom = Chloromethane
Cis-1,2Di = Cis-1,2-Dichloroethene
2-But = 2-Butanone
SEMIVOLATILES:
Fluoran = Fluoranthene
Bis2ehp = bis (2-ethylhexyl) phthalate
PESTICIDES/PCBS:
4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
Endrin = Endrinetone
TPH = Total Petroleum Hydrocarbons
INORGANICS:
Al = Aluminum
As = Arsenic
Ba = Barium
Ca = Calcium
Cr = Chromium
Cu = Copper
Co = Cobalt
Fe = Iron
Pb = Lead
Mg = Magnesium
Mn = Manganese
Ni = Nickel
Se = Selenium
Ti = Thallium
V = Vanadium
Zn = Zinc

14502 Greenview Drive,
Suite 500
Lanese, Maryland 20708

SOURCE:
Ramesh C. Batta
Associates, P.A.
900 N. Dupont Highway
Georgetown, DE 19847
Phone: (301) 886-2591
DWG. NO. 85830-C-9057-8



REVISED:
JAN. 15, 1996

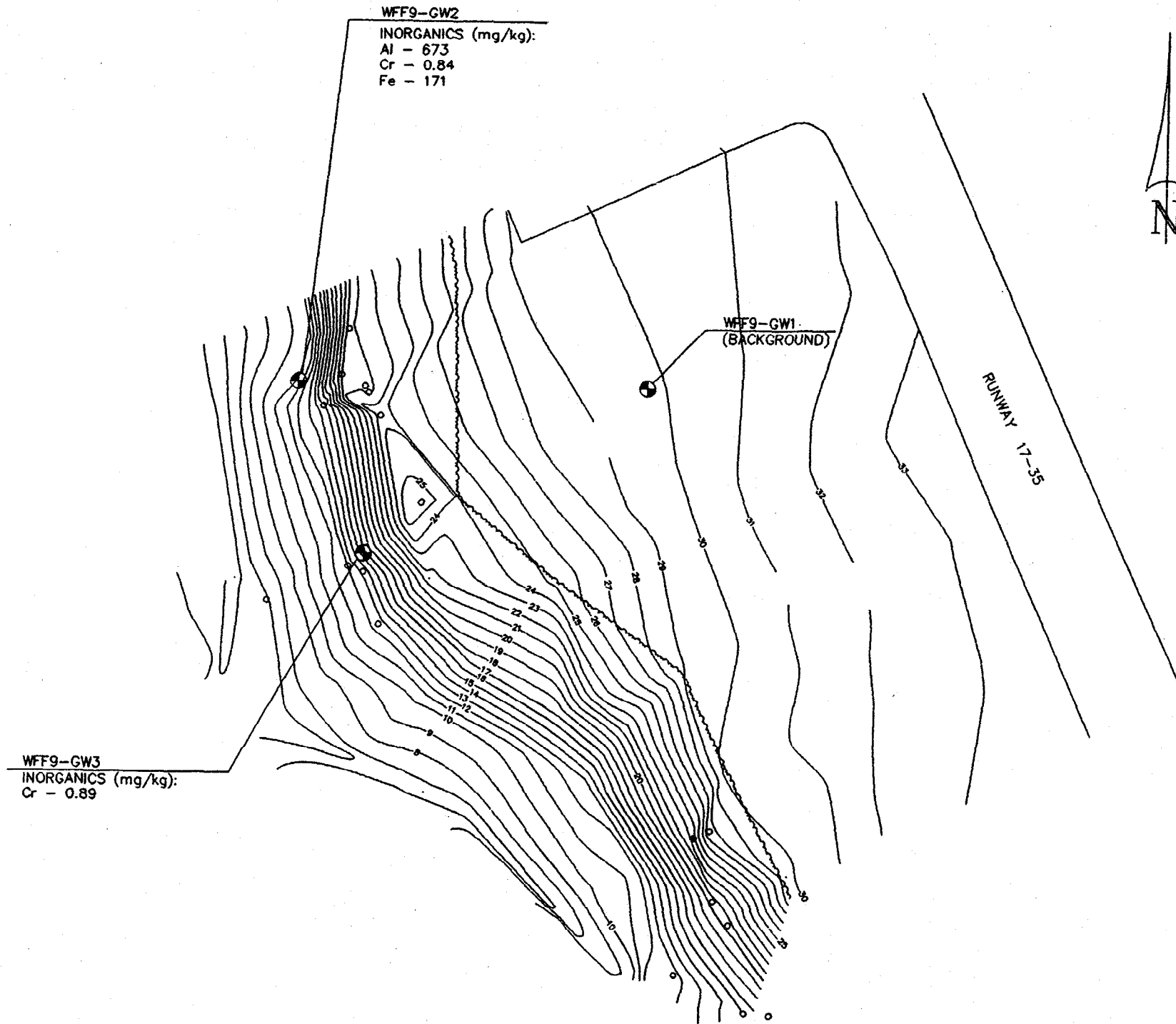
FIGURE 3.7-3

SITE 9-ABANDONED DRUM
FIELD, ALONG RUNWAY 17-35

OBSERVED CONTAMINATION
SURFACE WATER AND
SEDIMENT SAMPLES

NOTES:

1. Horizontal datum: Virginia State Plane Coordinate System
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



CHEMICAL ABBREVIATIONS

INORGANICS:
 Al = Aluminum
 Cr = Chromium
 Fe = Iron

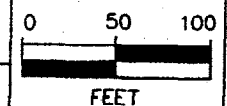
LEGEND

- SAMPLE LOCATION
- LOCATION OF POSSIBLE BURIED DRUM
- EXISTING TOPOGRAPHIC CONTOUR
- LOCATION OF MONITORING WELLS



14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 866-2681
 DWG. NO. 85630-C-9057-8



REVISED:
 JAN. 15, 1996

FIGURE 3.7-4

**SITE 9-ABANDONED DRUM
 FIELD, ALONG RUNWAY 17-35**

**OBSERVED CONTAMINATION
 GROUNDWATER SAMPLES**

3.8 SITE 10 - ADAS, BUILDING N-168

3.8.1 Sample Identification and Collection

A summary of samples collected at Site 10 is presented as Table 3.8-1 and sample locations are illustrated on Figure 3.8-1.

Surface and subsurface soil background samples collected from the Main Base area in September and November 1991 were used for Site 10 surface and subsurface soil background samples. In September 1995, M&E collected one background groundwater sample (WFF10-GW1) from the upgradient well at Site 10 for analyses of the TCL, TAL, and TPH parameters.

M&E collected six surface soil samples (WFF10-SS1 through WFF10-SS6) in the stained areas near locations where volatile organic compounds were detected during the soil gas survey (NASA, 1993(e)). M&E also collected six subsurface soil samples (WFF10-SB1 through WFF10-SB6) at the same locations as the six surface soil samples. The depth of subsurface soil sample collection was field determined, and was based upon PID readings and visual examination of the soil (i.e., stained soil). Additionally, M&E collected three groundwater samples (WFF10-GW2, WFF10-GW3, and WFF10-GW43) at locations downgradient of Site 10. All samples were analyzed for the TCL, TAL, and TPH parameters.

**TABLE 3.8-1
SITE 10 - ADAS, BUILDING N-168
SAMPLES COLLECTED**

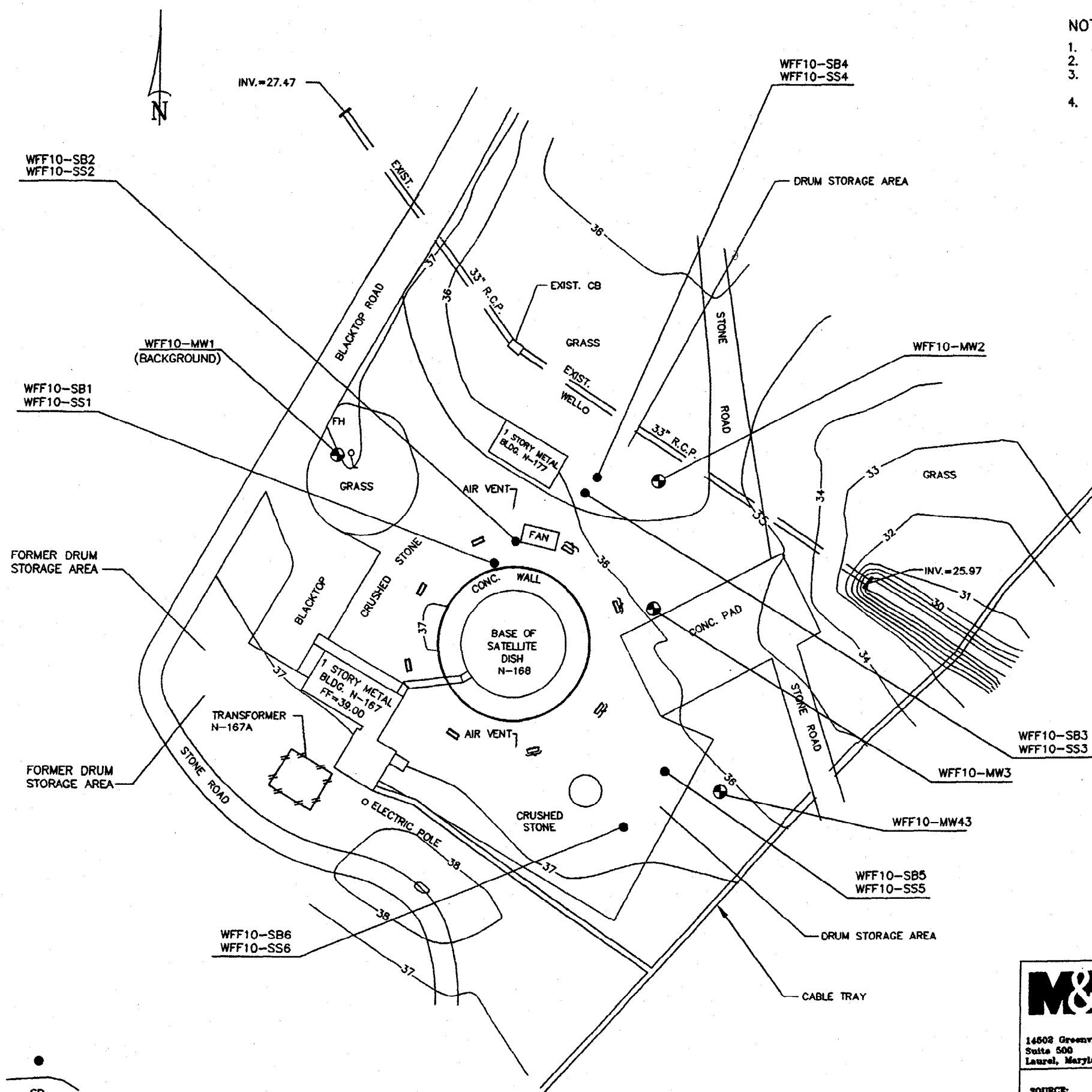
SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF10-SS1	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB1	6/2/93	1.5 - 3	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SS2	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB2	6/2/93	2 - 3.5	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SS3	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB3	6/2/93	1.5 - 3	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SS4	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB4	6/2/93	2 - 3.5	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SS5	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB5	6/2/93	2 - 3.5	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SS6	7/7/93	Surface	TCL, TAL, TPH	Identify and quantify soil staining.
WFF10-SB6	6/2/93	1 - 2.5	TCL, TAL, TPH	Delineate depth of soil contamination from surface staining, if any.
WFF10-SW1	6/2/93	N/A	TCL, TAL, TPH	QA/QC - Equipment blank (SB).
WFF10-SW2	6/2/93	N/A	TCL, TAL, TPH	QA/QC - Field blank.
WFF10-GW1	9/28/95	N/A	TCL, TAL, TPH	Background for Site 10 wells.
WFF10-GW2	9/28/95	N/A	TCL, TAL, TPH	Search for contaminants migrating to groundwater.
WFF10-GW3	9/28/95	N/A	TCL, TAL, TPH	Search for contaminants migrating to groundwater.
WFF10-GW43	9/28/95	N/A	TCL, TAL, TPH	Search for contaminants migrating to groundwater.
WFF10-GW5	9/28/95	N/A	TCL, TAL, TPH	QA/QC - Field blank.

NOTES: SB = Soil Boring
 SS = Surface Soil
 GW = Groundwater
 N/A = Not Applicable

TCL = Target Compound List (125 Organics)
 TAL = Target Analyte List (23 Metals and Cyanide)
 TPH = Total Petroleum Hydrocarbons, with Fingerprinting

NOTES:

1. Horizontal datum: Virginia State Plane Coordinate System
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



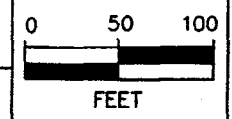
LEGEND

- SAMPLE LOCATION ●
- EXISTING TOPOGRAPHIC CONTOUR ———
- SOIL BORING SB
- SURFACE SOIL SS
- LOCATION OF MONITORING WELLS ⊕

M&E

14502 Greenview Drive,
Suite 500
Laurel, Maryland 20708

SOURCE:
Ramesh C. Batta
Associates, P.A.
600 N. Dupont Highway
Georgetown, DE 19847
Phone: (301) 866-2581
DWG. NO. 85630-C-9057-8



REVISED:
JAN. 15, 1996

FIGURE 3.8-1

SITE 10-ADAS
BUILDING N-168

SAMPLE LOCATION

0020 A122

3.8.2 Analytical Results

Analytical results from Site 10 are presented in Table 3.8-2 and illustrated on Figure 3.8-2.

Analysis of the background groundwater sample (WFF10-GW1) indicates no detectable volatiles, semivolatiles, pesticides, PCBs, TPH, metals, or cyanide. Average background levels used for comparison to Site 10 samples are presented in Table 3.8-2. Detailed tables indicating the samples and values used to calculate average background levels for the Main Base and Site 10 are provided in Appendix C.

During the field investigation, two stained layers were noted during advancement of all six soil borings. The stained surface layer was approximately six inches thick. The stained subsurface layer was approximately one foot thick and was generally visible at approximately one foot below the surface. These two layers were contiguous in some samples. The surface layer was generally a black gravel/soil mixture with an odor, and the subsurface layer was a grey dense clay with an odor.

Surface soil results indicate elevated levels of volatile organic compounds in three of the six samples, a semivolatile organic compound in one sample, pesticides in two samples, a PCB in one sample, and metals in all six samples. Cyanide was not detected in the surface soil samples. One of the two volatile organic compounds (i.e., acetone) detected in the three surface soil samples is a common laboratory contaminant. Petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, diesel fuel) were not detected in any of the samples, however, the chromatograms for all of the samples indicate the possible presence of an unknown petroleum hydrocarbon.

Subsurface soil results indicate an elevated level of a volatile organic compound in one of the six samples, pesticides in four samples, and metals in all six samples. Semivolatile organic compounds, PCBs, and cyanide were not detected in subsurface soils. Petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, diesel fuel) were not detected in any of the samples, however, the chromatograms for all of the samples indicate the possible presence of an unknown petroleum hydrocarbon.

Groundwater results indicate elevated levels of volatile organic compounds (i.e., PCE and cis-1,2-dichloroethene) in two of the three samples. WFF10-GW3 and WFF10-GW43 indicated elevated levels of PCE. Also, WFF10-GW3 indicated an elevated level of cis-1,2-dichloroethene which is a breakdown product of PCE.

**TABLE 3.8-2
SITE 10 - ADAS, BUILDING N-168
OBSERVED CONTAMINATION**

Volatle Analysis (SOW:OLM01.8)		SURFACE & SUBSURFACE SOIL SAMPLES			
M&E SAMPLE ID:		WFF10-SS1	WFF10-SS2	WFF10-SS4	WFF10-SB4
MATRIX:		SOIL	SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH(ft):		NA	NA	NA	2
	SITE 10 BACKGROUND				
COMPOUND	ug/kg (MOR)				
Acetone	NA	1,300 J		340 J	
2-Butanone	NA				14
Tetrachloroethene	NA		11		

Volatle Analysis (SOW:OLM01.8)		GROUNDWATER SAMPLES	
M&E SAMPLE ID:		WFF10-GW3	WFF10-GW43
MATRIX:		WATER	WATER
UNITS:		ug/l	ug/l
	SITE 10 BACKGROUND		
COMPOUND	ug/l (MOR)		
Cis-1,2-Dichloroethene	NA	13	
Tetrachloroethene	NA	12	6
NOTE: A key to symbols can be found on the last page of this table.			

TABLE 3.8-2, continued
 SITE 10 - ADAS, BUILDING N-168
 OBSERVED CONTAMINATION

Semivolatile Analysis (SOW:OLM01.8)		SURFACE SOIL SAMPLES	
M&E SAMPLE ID:		WFF10-SS4	
MATRIX:		SOIL	
UNITS:		ug/kg	
SAMPLE DEPTH(ft):		0.5	
	SITE 10 BACKGROUND		
COMPOUND	ug/kg (MOR)		
Pyrene	NA	3,500 J	

Pesticide/PCB Analysis (SOW:OLM01.8)		SURFACE & SUBSURFACE SOIL SAMPLES						
M&E SAMPLE ID:		WFF10-SS1	WFF10-SS4	WFF10-SS6	WFF10-SB1	WFF10-SB3	WFF10-SB4	WFF10-SB6
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH(ft):		NA	NA	NA	1.5	1.5	2	1
	SITE 10 BACKGROUND							
COMPOUND	ug/kg (MOR)							
beta-BHC	NA	2.0 L						
delta-BHC	NA	2.0 L						
Endosulfan I	NA	5.0 L						
Dieldrin	NA	7.1 J						
4,4'-DDE	NA	9.8 J 37.0 L 150.0 L 6.1 J						
Endrin	NA	6.2 L						
4,4'-DDD	NA	24.0 J 43.0 L 210.0 L 5.3 J						
4,4'-DDT	NA	14.0 L						
Methoxychlor	NA	81.0 L						
alpha-Chlordane	NA	3.4 L						
gamma-Chlordane	NA	3.7 L						
Aroclor-1254	NA	2,600 L						
NOTE: A key to symbols can be found on the last page of this table.								

3-100

Petroleum Hydrocarbons Analysis: Petroleum hydrocarbon compounds were not detected at Site 10. However, chromatograms for all samples collected indicate the presence of an unknown petroleum hydrocarbon compound.

**TABLE 3.8-2, continued
SITE 10 - ADAS, BUILDING N-168
OBSERVED CONTAMINATION**

Inorganic Analysis (SOW:ILM02.1)		SURFACE SOIL SAMPLES					
M&E SAMPLE ID:		WFF10-SS1	WFF10-SS2	WFF10-SS3	WFF10-SS4	WFF10-SS5	WFF10-SS6
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ANALYTES	SITE 10 BACKGROUND mg/kg (MOR)						
Arsenic	0.03	1.2	1.4	65.5	2.1	3	3.3
Cadmium	0.41	10.6 K			3.7 K		
Calcium	679	6,500	1,520	9,590	5,580	7,630	9,360
Cobalt	5.55	6.5		21.4	9.3	11.8	21.7
Copper	0.65	21.8	6.5	154	67.2	66	167
Iron	16,888			33,300		20,500	34,400
Lead	1.71	235	12.8	24	38.7	8.4	10
Magnesium	1,538	2,770	1,790	8,020	3,600	4,240	6,720
Manganese	291			421	301		490
Nickel	7.2	13.1		19.7	16	13.8	20.1
Potassium	731	1,220	1,590	1,120	1,020		1,100
Sodium	45.84	132		1,330	320	689	1,180
Vanadium	44.1			95.2		55.8	134
Zinc	23.94	350	95	154	288	52.7	230

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.8-2, continued
 SITE 10 - ADAS, BUILDING N-168
 OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILM02.1)		SUBSURFACE SOIL SAMPLES					
M&E SAMPLE ID:		WFF10-SB1	WFF10-SB2	WFF10-SB3	WFF10-SB4	WFF10-SB5	WFF10-SB6
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):		1.5	2	1.5	2	2	1
ANALYTES	SITE 10 BACKGROUND mg/kg (MOR)						
Arsenic	3.3					3.8	
Beryllium	0.14	0.36		0.31	0.39	0.31	
Calcium	495	583 J		2040 J	665 J		
Cobalt	4.23			5.4		4.5	
Copper	2.51	4.2	2.7	27.8	3.4	6	3
Iron	12,814					14,200	
Lead	5.1	8.8		9.7	11.9	17.2	
Magnesium	560	1,100		1,870	677	1,670	
Manganese	98			159	120	121	
Nickel	8.04			8.5		10	
Zinc	18	20.3		34.8		22.6	

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.8-2, continued
SITE 10 - ADAS, BUILDING N-168
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification

WFF = Wallops Flight Facility
SS = Surface Soil
SB = Soil Boring
GW = Groundwater

Data Qualifiers

J = Analyte present. Reported value may not be accurate or precise.
L = Analyte present. Reported value may be biased low.
K = Analyte present. Reported value may be biased high.

Units

ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/l = micrograms per liter

Other

NA = Not Applicable
MOR = Minimum Observed Release

Analytical Methods

SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).

NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.

WFF10-SS2
 VOLATILES (µg/kg):
 PCE - 11
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 1.4
 Ca - 1,520
 Cu - 6.5
 Pb - 12.8
 Mg - 1,790
 K - 1,590
 Zn - 95

WFF10-SS1
 VOLATILES (µg/kg):
 Acetone - 1,300
 PESTICIDES/PCBS (µg/kg):
 A1254 - 2,600
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 1.2
 Cd - 10.6
 Ca - 6,500
 Co - 6.5
 Cu - 21.8
 Pb - 235
 Mg - 2,770
 Ni - 13.1
 K - 1,200
 Na - 132
 Zn - 350

WFF10-SS4
 VOLATILES (µg/kg):
 Acetone - 340
 SEMIVOLATILES (mg/kg):
 Pyrene - 3,500
 PESTICIDES/PCBS:
 Δ BHC - 2.0
 Endo I - 5.0
 Endrin - 6.2
 Methoxy - 81
 α-Chlor - 3.4
 γ-Chlor - 3.7
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 2.1
 Cd - 3.7
 Ca - 5,580
 Cu - 67.2
 Pb - 38.7
 Mg - 3,600
 Mn - 301
 Ni - 16
 K - 1,020
 Na - 320
 Zn - 288

CHEMICAL ABBREVIATIONS

VOLATILES:
 PCE = Tetrachloroethene
 PESTICIDES/PCBS:
 β BHC = beta-1,2,3,4,5,6,-hexachloro-cyclohexane
 Δ BHC = delta-1,2,3,4,5,6,-hexachloro-cyclohexane
 Endo I = Endosulfan I
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethane
 Methoxy = Methoxychlor
 α-Chlor = alpha-chlordane
 γ-Chlor = gamma-chlordane
 A1254 = Aroclor-1254
 TPH = Total Petroleum Hydrocarbons
 INORGANICS:
 As = Arsenic
 Cd = Cadmium
 Ca = Calcium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Ni = Nickel
 K = Potassium
 Na = Sodium
 V = Vanadium
 Zn = Zinc

WFF10-SS3
 INORGANICS (mg/kg):
 As - 65.5
 Ca - 9,590
 Co - 21.4
 Cu - 154
 Fe - 33,300
 Pb - 24
 Mg - 8,020
 Mn - 421
 Ni - 19.7
 K - 1,120
 Na - 1,330
 V - 95.2
 Zn - 154

WFF10-SS5
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 3.0
 Ca - 7,630
 Co - 11.8
 Cu - 66
 Fe - 20,500
 Pb - 8.4
 Mg - 4,240
 Ni - 13.8
 Na - 689
 V - 55.8
 Zn - 52.7

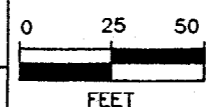
WFF10-SS6
 PESTICIDES/PCBS (µg/kg):
 β BHC - 2
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 3.3
 Co - 9,360
 Cu - 21.7
 Fe - 34,400
 Pb - 10
 Mg - 6,720
 Mn - 490
 Ni - 20.1
 K - 1,100
 Na - 1,180
 V - 134
 Zn - 230

LEGEND
 SAMPLE LOCATION
 EXISTING TOPOGRAPHIC CONTOUR
 SURFACE SOIL



14602 Greenview Drive,
 Suite 300
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 800 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 866-2581
 DWG. NO. 85630-C-9057-9



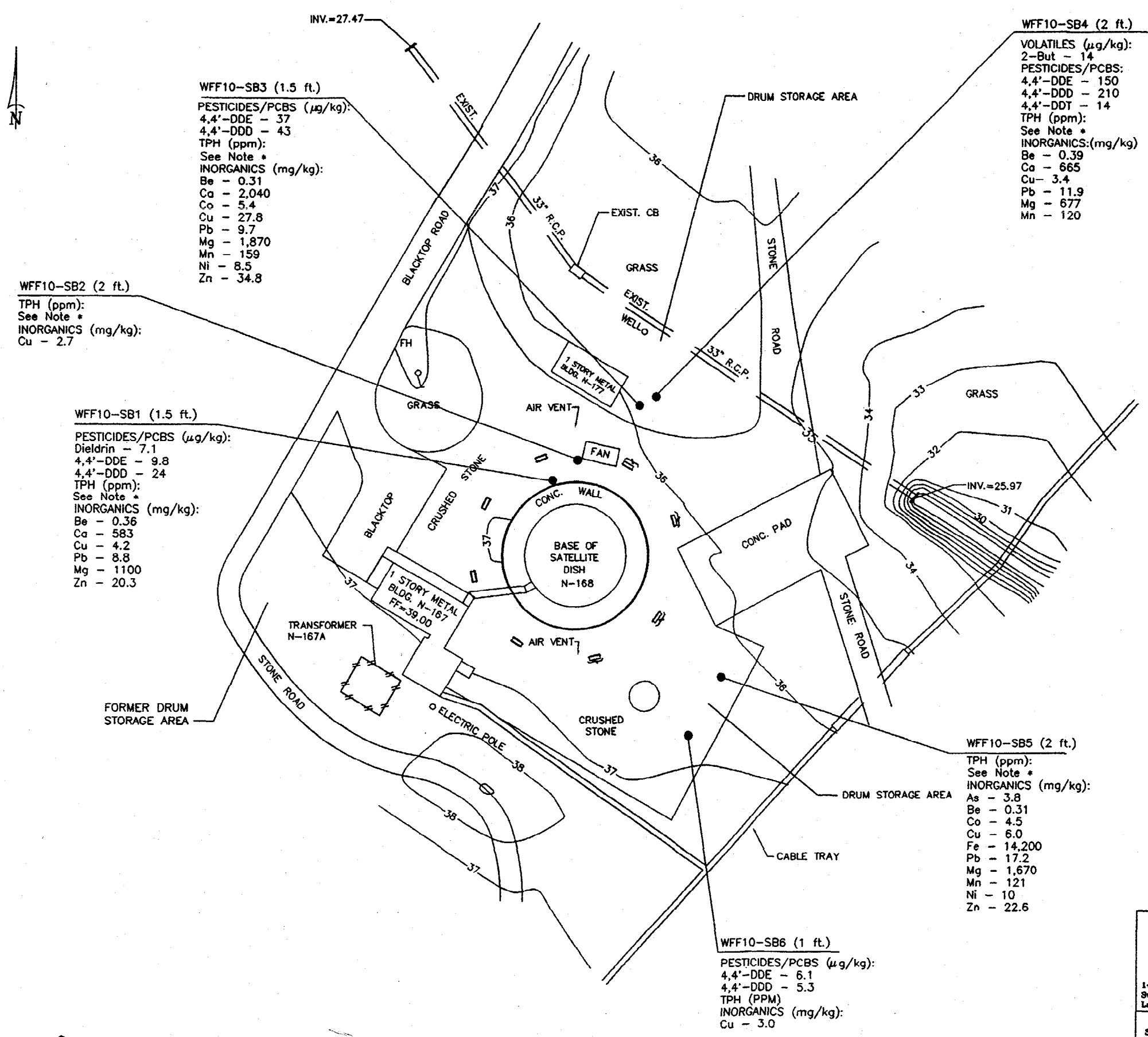
REVISED:
 JAN. 15, 1996

FIGURE 3.8-2

SITE 10 - AREAS
 BUILDING N-168

OBSERVED CONTAMINATION
 SURFACE SOIL SAMPLES

0020AB13Z



WFF10-SB3 (1.5 ft.)
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 37
 4,4'-DDD - 43
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Be - 0.31
 Ca - 2,040
 Co - 5.4
 Cu - 27.8
 Pb - 9.7
 Mg - 1,870
 Mn - 159
 Ni - 8.5
 Zn - 34.8

WFF10-SB2 (2 ft.)
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Cu - 2.7

WFF10-SB1 (1.5 ft.)
 PESTICIDES/PCBS (µg/kg):
 Dieldrin - 7.1
 4,4'-DDE - 9.8
 4,4'-DDD - 24
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Be - 0.36
 Ca - 583
 Cu - 4.2
 Pb - 8.8
 Mg - 1,100
 Zn - 20.3

WFF10-SB4 (2 ft.)
 VOLATILES (µg/kg):
 2-But - 14
 PESTICIDES/PCBS:
 4,4'-DDE - 150
 4,4'-DDD - 210
 4,4'-DDT - 14
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Be - 0.39
 Ca - 665
 Cu - 3.4
 Pb - 11.9
 Mg - 677
 Mn - 120

WFF10-SB5 (2 ft.)
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 As - 3.8
 Be - 0.31
 Co - 4.5
 Cu - 6.0
 Fe - 14,200
 Pb - 17.2
 Mg - 1,670
 Mn - 121
 Ni - 10
 Zn - 22.6

WFF10-SB6 (1 ft.)
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 6.1
 4,4'-DDD - 5.3
 TPH (PPM)
 INORGANICS (mg/kg):
 Cu - 3.0

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicates possible presence of unknown hydrocarbon

- CHEMICAL ABBREVIATIONS
- VOLATILES:
 2-But=2-Butanone
- PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichlorethane
 4,4'-DDD = 4,4'-dichlorodiphenyldichlorethane
 4,4'-DDT = 4,4'-dichlorodiphenyldichlorethane
- TPH=Total Petroleum Hydrocarbons
- INORGANICS:
 As = Arsenic
 Be = Beryllium
 Ca = Calcium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Ni = Nickel
 Zn = Zinc

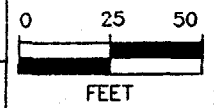
LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- SOIL BORING
- STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)

M&E

14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20706

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2561
 DWG. NO. 85630-C-9057-9



REVISED:
 JAN. 15, 1996

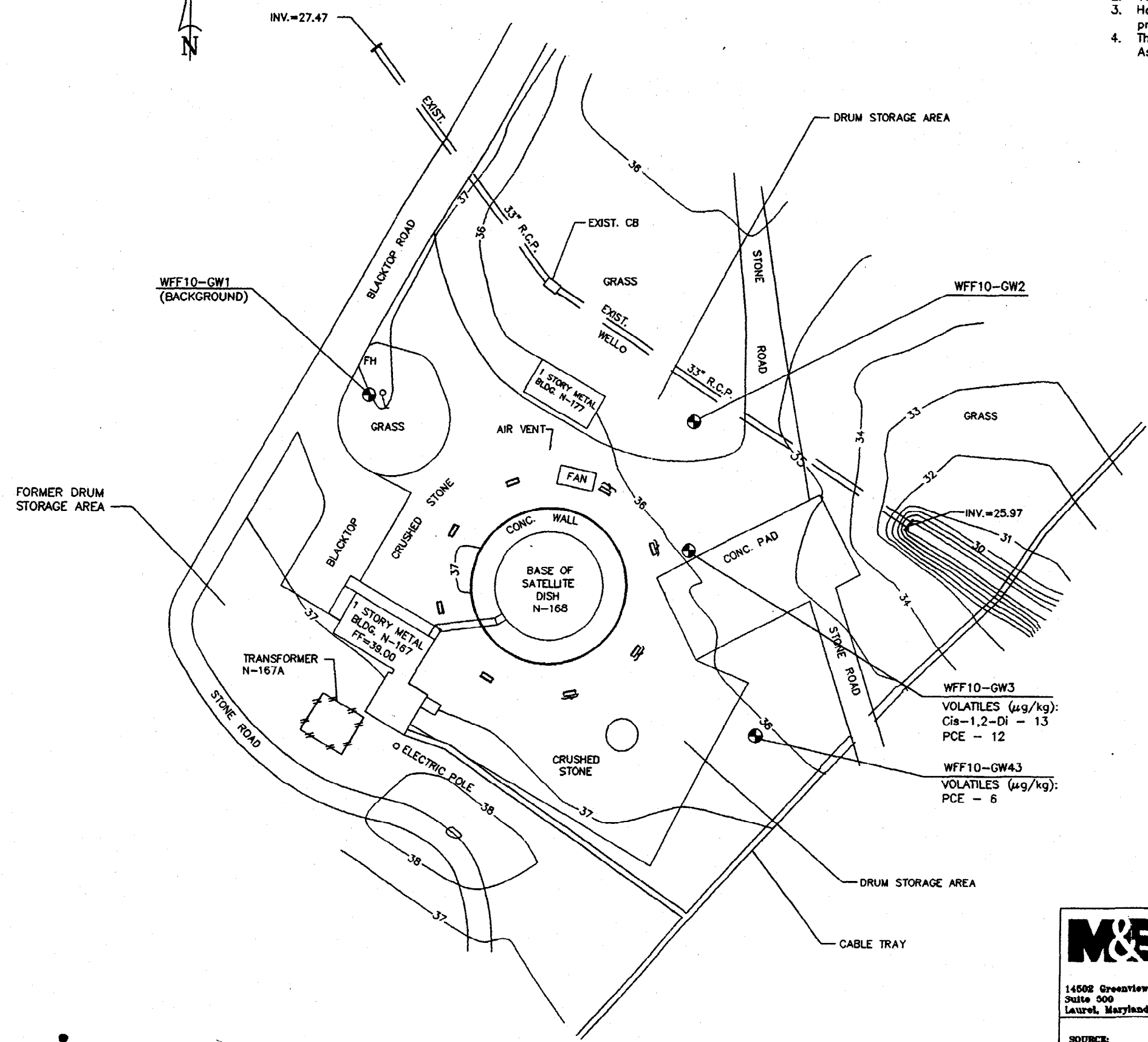
FIGURE 3.8-3

SITE 10-ADAS,
 BUILDING N-168

OBSERVED CONTAMINATION
 SUBSURFACE SOIL SAMPLES



- NOTES:**
1. Horizontal datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



CHEMICAL ABBREVIATIONS
VOLATILES:
 Cis-1,2-Di=Cis-1,2-Dichloroethene
 PCE=2-Tetrachloroethene

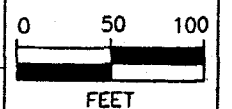
WFF10-GW3
 VOLATILES (µg/kg):
 Cis-1,2-Di - 13
 PCE - 12

WFF10-GW43
 VOLATILES (µg/kg):
 PCE - 6

LEGEND
 ● SAMPLE LOCATION
 --- EXISTING TOPOGRAPHIC CONTOUR
 ○ LOCATION OF MONITORING WELLS

M&E
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 866-2661
 DWG. NO. 85630-C-9057-8



REVISED:
 JAN. 15, 1996

FIGURE 3.8-4
 SITE 10-ADAS
 BUILDING N-168
 OBSERVED CONTAMINATION
 GROUNDWATER SAMPLES

3.9 SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4, AND V30

3.9.1 Sample Identification and Collection

A summary of samples collected at Site 11 is presented as Table 3.9-1 and sample locations are illustrated on Figures 3.9-1 and 3.9-2. Buildings M-3 and M-4 are located on the Main Base, and Building V-30 is located on Wallops Island. M&E collected 13 PCB wipe samples at the three buildings which collectively comprise Site 11. All wipe samples were collected from the concrete floors of the buildings or pads in front of the buildings. The purpose of this sampling was to quantify PCB contamination, if any, at each of the buildings.

**TABLE 3.9-1
SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4, AND V-30
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF11/V-30-WIPE1	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/V-30-WIPE2	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/V-30-WIPE3	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/V-30-WIPE4	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/V-30-WIPE5	6/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/V-30-WIPE6	6/16/93	N/A	PCB	Field blank.
WFF11/M3, M4- WIPE1	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE2	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE3	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE4	6/18/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE5	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE6	8/16/93	N/A	PCB	Quantify PCB contamination, if any.

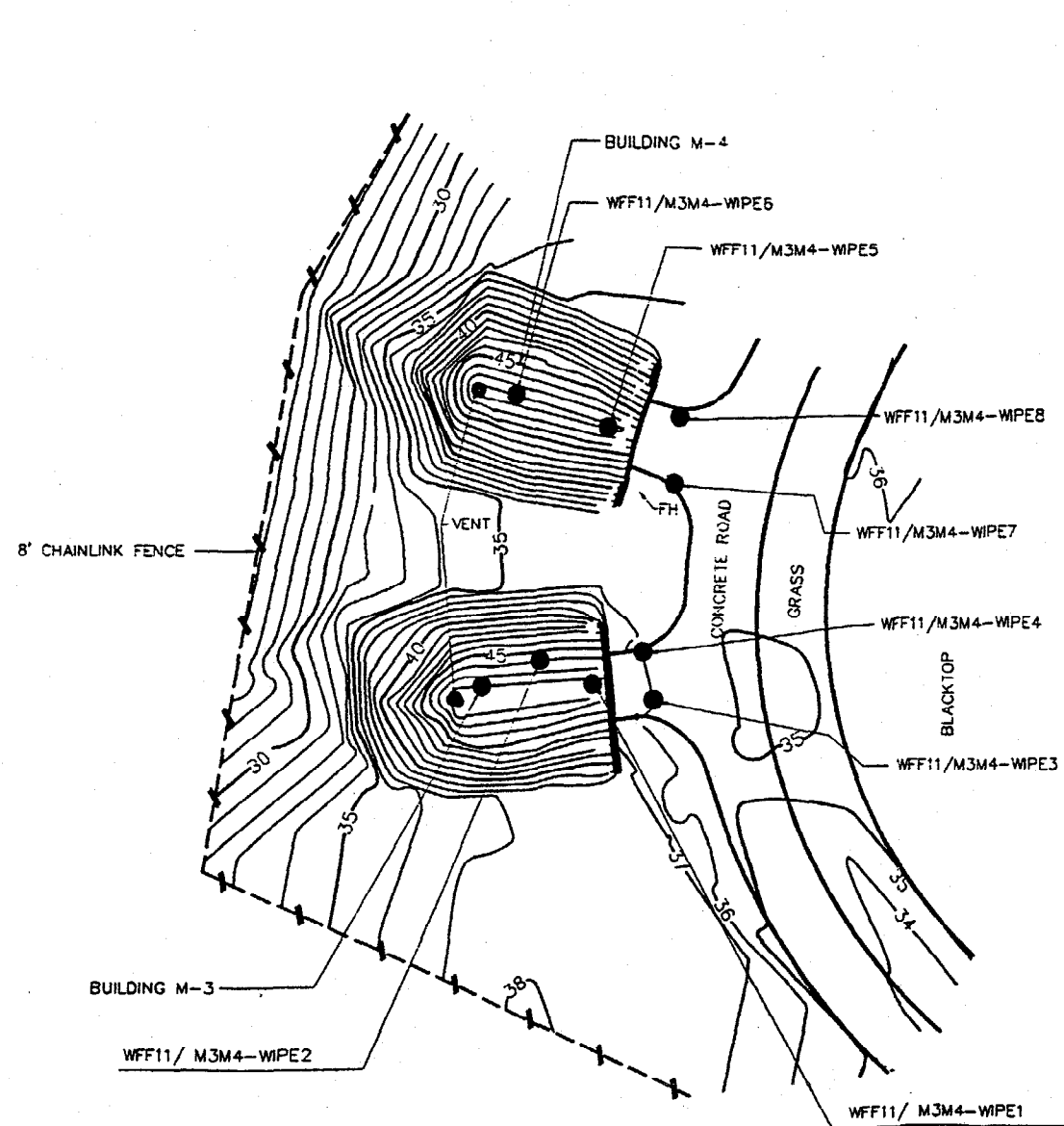
TABLE 3.9-1 (Cont.)
SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4, AND V-30
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF11/M3, M4- WIPE7	8/16/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4-WIPE8	6/18/93	N/A	PCB	Quantify PCB contamination, if any.
WFF11/M3, M4- WIPE9	8/16/93	N/A	PCB	Duplicate of WIPE1, MS/MSD.
WFF11/M3, M4- WIPE10	6/18/93	N/A	PCB	Equipment blank (wipes).

NOTES: WIPE = PCB Wipe Sample PCB = Polychlorinated Biphenyl
MS/MSD = Matrix Spike/Matrix Spike Duplicate N/A = Not Applicable

NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- PCB WPE SAMPLE



	FEET DATE: NOV. 10, 1994
SOURCE: Ramesh C. Batta Associates, P.A. 800 N. Dupont Highway Georgetown, DE 19847 Phone: (301) 856-2581 Dwg No. 85630-A-9067-10	

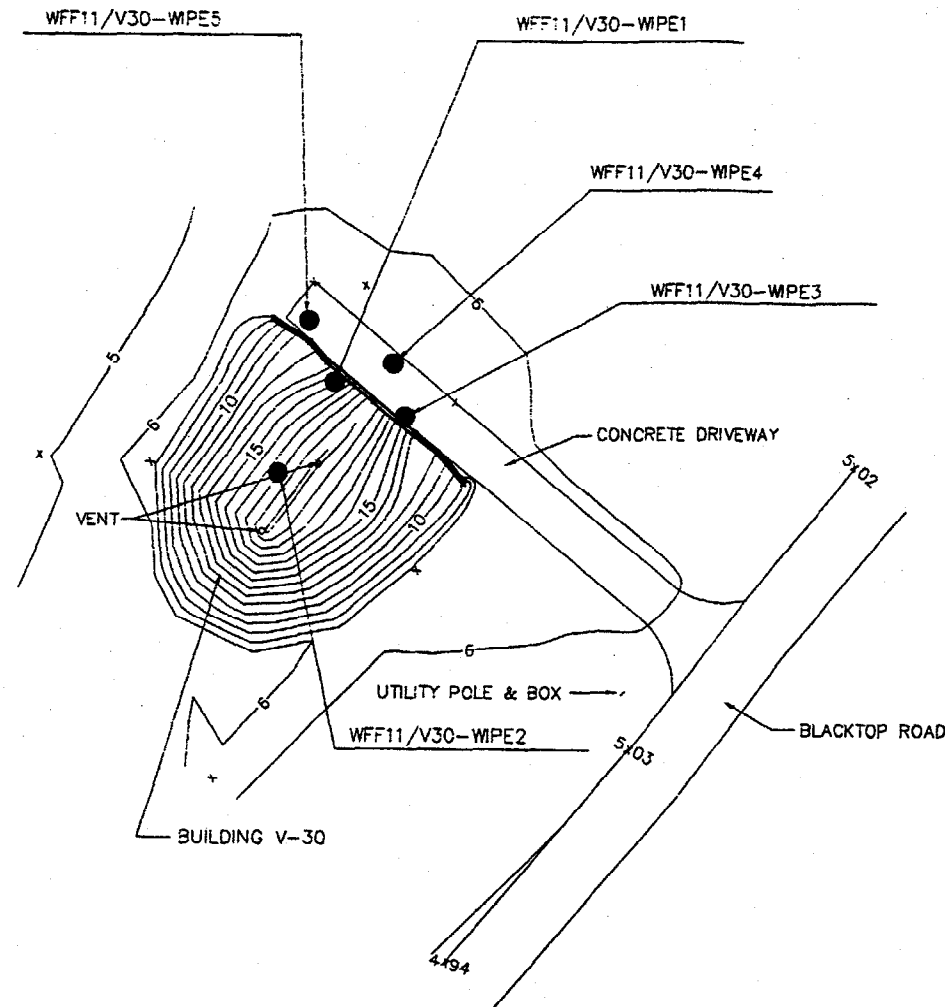
FIGURE 3.9-1

SITE 11-TRANSFORMER
 STORAGE AREAS, BUILDINGS
 M-3 AND M-4 (MAIN BASE)

SAMPLES COLLECTED
 0020 AB14Z

NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System
2. Vertical Datum: N.G.V.D.
3. Horizontal and vertical data based on control information provided by N.A.S.A.
4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 8, 1993.



LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- PCB WIPE SAMPLE



<p>14502 Greenview Drive, Suite 500 Laurel, Maryland 20708</p>	<p>FEET</p>	<p>FIGURE 3.9-2</p> <p>SITE 11-TRANSFORMER STORAGE AREAS, BUILDING V-30</p> <p>OBSERVED CONTAMINATION (WALLOPS ISLAND)</p>

3.9.2 Analytical Results

Analytical results for Site 11 are presented as Table 3.9-2 and illustrated on Figures 3.9-3 and 3.9-4.

Buildings M-3 and M-4 (Main Base). Eight samples (WFF11/M3M4-WIPE1 through WFF11/M3M4-WIPE8) were collected inside and outside of Buildings M-3 and M-4. Aroclor-1242 and Aroclor-1260 were detected in sample WFF11/M3M4-WIPE1 and WFF11/M3M4-WIPE2 (inside Building M-3). PCBs were not detected in any other samples collected at this location.

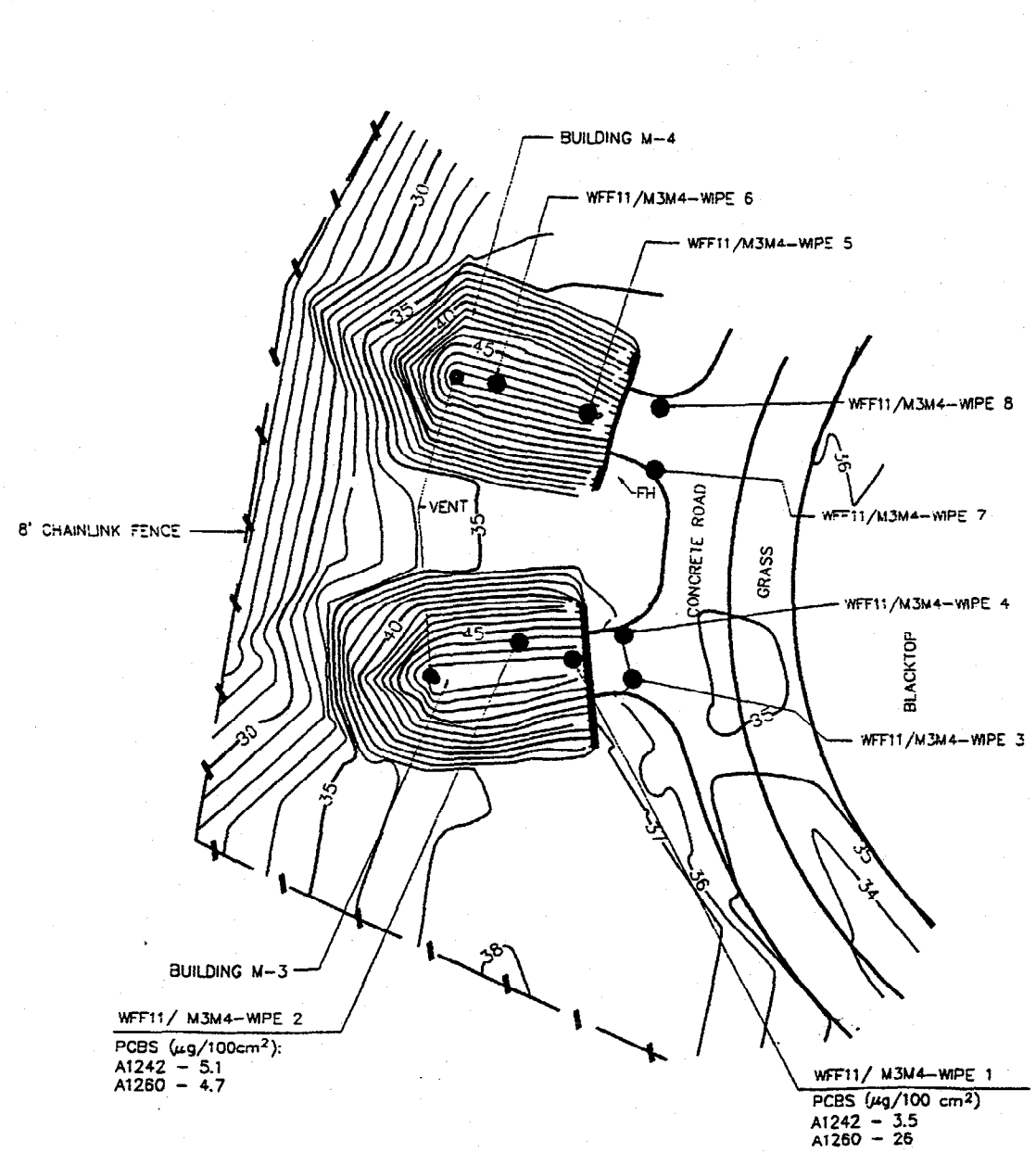
Building V-30 (Wallops Island). Five wipe samples (WFF11/V30-WIPE1 through WFF11/V30-WIPE5) were collected inside and outside Building V-30. Aroclor-1260 was detected in samples WFF11/V30-WIPE1 (inside), WFF11/V30-WIPE2 (inside), WFF11/V30-WIPE3 (outside), and WFF11/V30-WIPE5 (outside). PCBs were not detected in sample WFF11/V30-WIPE4.

TABLE 3.9-2
SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4, V-30
OBSERVED CONTAMINATION

PCB Analysis (SW846 M8080)			
SITE/BUILDING NO.: M&E SAMPLE NO.: UNITS: LOCATION:	WFF11/V30- WIPE1 ug/100cm2 WI (in)	WFF11/V30- WIPE2 ug/100cm2 WI (in)	WFF11/V30- WIPE3 ug/100cm2 WI (out)
COMPOUND			
Aroclor-1242 Aroclor-1260	1.5	0.55	0.85
SITE/BUILDING NO.: M&E SAMPLE NO.: UNITS: LOCATION:	WFF11/V30- WIPE5 ug/100cm2 WI (out)	WFF11/M3M4- WIPE1 ug/100cm2 MB (in)	WFF11/M3M4- WIPE2 ug/100cm2 MB (in)
COMPOUND			
Aroclor-1242 Aroclor-1260	0.57	3.5 26	5.1 4.7

KEY TO SYMBOLS AND ABBREVIATIONS	
<p>Sample Identification WFF = Wallops Flight Facility WIPE = PCB Wipe MB = Main Base WI = Wallops Island in = indoor sample location out = outdoor sample location</p>	<p>Units ug/100cm2 = micrograms per 100 square centimeters</p>
<p>Analytical Methods SW846 M8080 = Solid Waste Method 8080 for analysis of PCBs (soil and wipes).</p>	

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.



CHEMICAL ABBREVIATIONS
 A1242 = Aroclor-1242
 A1260 = Aroclor-1260

LEGEND
 SAMPLE LOCATION ●
 EXISTING TOPOGRAPHIC CONTOUR —
 PCB WIPE SAMPLE — WPE

0020AB152

M&E
Metcalf & Eddy
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 865-2581

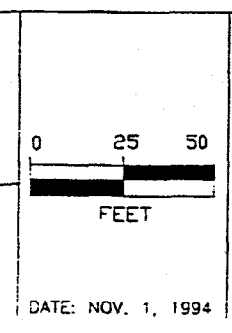
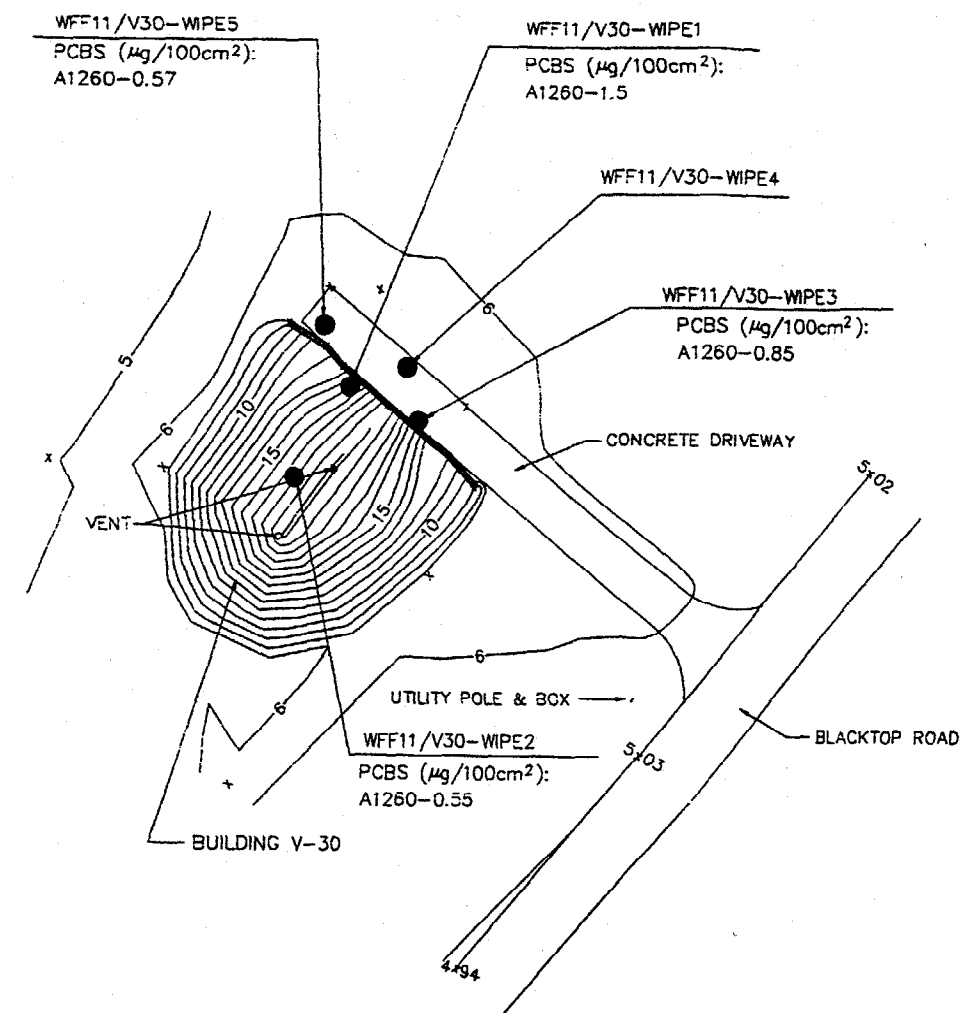


FIGURE 3.9-3
 SITE 11-TRANSFORMER
 STORAGE AREAS
 BUILDINGS M-3 AND M-4
 OBSERVED CONTAMINATION
 (MAIN BASE)

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 8, 1993.



LEGEND
 SAMPLE LOCATION
 EXISTING TOPOGRAPHIC CONTOUR
 PCB WIPE SAMPLE

CHEMICAL ABBREVIATIONS
 A1260 = Aroclor-1260



M&E
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708
 SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-10A

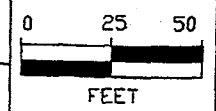


FIGURE 3.9-4
 SITE 11-TRANSFORMER
 STORAGE AREAS, BUILDING V-30
 OBSERVED CONTAMINATION
 (WALLOPS ISLAND)

DATE: NOV. 1, 1994

3.10 SITE 12 - FORMER WIND TUNNEL, NEAR BUILDING X-115

3.10.1 Sample Identification and Collection

A summary of samples collected at Site 12 is presented as Table 3.10-1 and sample locations are illustrated on Figure 3.10-1.

Two background surface soil samples (WFF5-SS4 and WFF5-SB5) and one background sediment sample (WFF5-SD3) collected near the adjacent Site 5 were used for comparison to samples collected at Site 12. Site 12 sample results were compared to background samples collected near Site 5 due to the close proximity of the two sites. Additional information and the locations of WFF5-SS4, WFF5-SB5, and WFF5-SD3 are presented in Section 3.3.

M&E collected three surface soil samples (WFF12-SS1 through WFF12-SS3) at this site. The purpose of this sampling was to identify any contamination which may have resulted from operation of the former wind tunnel. These samples were analyzed for the TCL, TAL and TPH parameters.

M&E collected two sediment samples in the marsh immediately surrounding this site to be analyzed for the TCL, TAL, and TPH parameters. The purpose of collecting these samples was to determine if any contaminants are present in the marsh from the operation of the former wind tunnel.

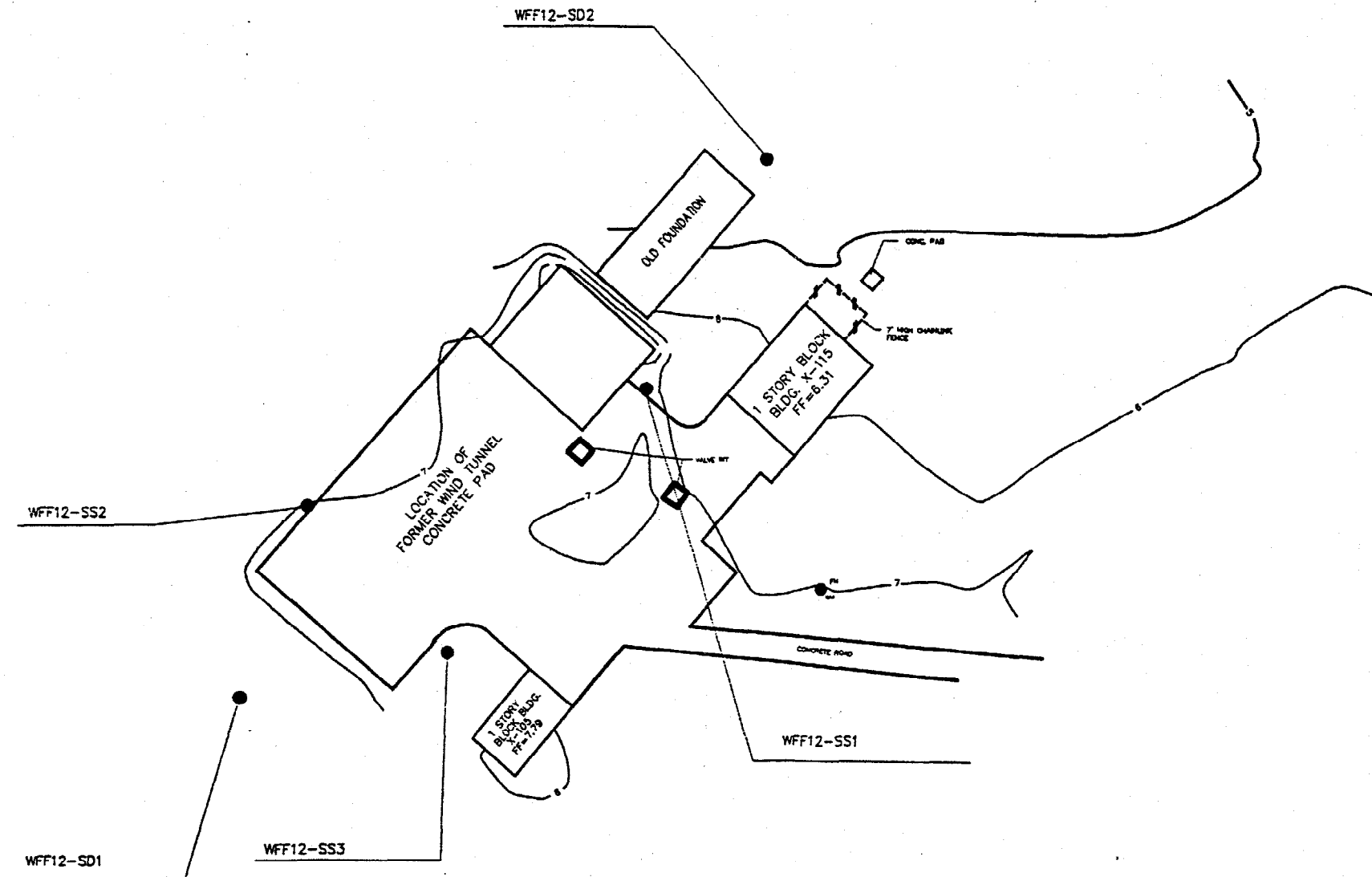
**TABLE 3.10-1
SITE 12 - FORMER WIND TUNNEL, NEAR BUILDING X-115
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF12-SS1	8/17/93	Surface	TCL, TAL, TPH	Search for surface contamination from wind tunnel operation.
WFF12-SS2	8/17/93	Surface	TCL, TAL, TPH	Search for surface contamination from wind tunnel operation.
WFF12-SS3	8/17/93	Surface	TCL, TAL, TPH	Search for surface contamination from wind tunnel operation.
WFF12-SD1	8/17/93	0-0.5	TCL, TAL, TPH	Search for surface contamination from wind tunnel operation.
WFF12-SD2	8/17/93	0-0.5	TCL, TAL, TPH	Search for surface contamination from wind tunnel operation.

NOTES: SS = Surface Soil
SD = Sediment

TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting

- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.



LEGEND

SAMPLE LOCATION ●

EXISTING TOPOGRAPHIC CONTOUR —

SURFACE SOIL SS

SEDIMENT SD

<p>14602 Greenview Drive, Suite 500 Laurel, Maryland 20706</p> <p>SOURCE: Ramesh C. Batta Associates, P.A. 800 N. Dupont Highway Georgetown, DE 19847 Phone (301) 866-2681 Dwg. No. 86630-C-9067-6</p>	<p>0 25 50</p> <p>FEET</p> <p>DATE: NOV. 10, 1994</p>	<p>FIGURE 3.10-1</p> <p>SITE 12-FORMER WIND TUNNEL, NEAR BUILDING X-115</p> <p>SAMPLES COLLECTED</p>
	<p>0020A162</p>	

3.10.2 Analytical Results

Analytical results for Site 12 are presented as Table 3.10-2 and illustrated on Figure 3.10-2.

Background surface soil results for Site 12 from samples (WFF5-SS4 and WFF5-SB5) collected near Site 5 indicate detectable levels of diesel fuel in one of the two samples and metals in both samples. Analysis of the background sediment sample WFF5-SD3, also collected near Site 5, indicate detectable levels of pesticides and metals. Analytical data for WFF5-SS4, WFF5-SB5, and WFF5-SD3 are presented in Section 3.3. Average background levels used for Site 5 were used for comparison to Site 12 samples because of the close proximity of the two sites. Site 5 average background levels are compared to Site 12 sample results in Table 3.10-2. Appendix C provides more detailed tables on the samples and values used to calculate average background levels for Site 5.

Surface soil results indicate elevated levels of a volatile organic compound in two of the three samples, semivolatile compounds in all three samples, pesticides in all three samples, PCBs in two of the three samples, and metals in all three samples. Petroleum hydrocarbons were not detected, although the chromatogram for one sample indicated the presence of an unknown hydrocarbon. The volatile organic compound (i.e., acetone) detected in two of the three samples is a common laboratory contaminant.

Sediment results indicate elevated levels of a semivolatile organic compounds, pesticides, PCBs, and metals in both samples. Cyanide and petroleum hydrocarbon compounds were not detected, although the chromatogram for one sample indicated the presence of an unknown hydrocarbon.

**TABLE 3.10-2
SITE 12- FORMER WIND TUNNEL, NEAR BUILDING X-115
OBSERVED CONTAMINATION**

Volatile Analysis (SOW:OLM01.8)		SURFACE SOIL SAMPLES	
M&E SAMPLE ID:		WFF12-SS2	WFF12-SS3
MATRIX:		SOIL	SOIL
UNITS:		ug/kg	ug/kg
	SITE 12 BACKGROUND		
COMPOUND	ug/kg (MOR)		
Acetone	15	1,200	110 J

Semivolatile Analysis (SOW:OLM01.8)		SURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF12-SS1	WF12-SS2	WFF12-SS3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg
	SITE 12 BACKGROUND			
COMPOUND	ug/kg (MOR)			
Acenaphthene	480	1,000 J		
Fluorene	480	550 J		
Phenanthrene	480	6,100 J	3,200 J	1,300 J
Anthracene	480	1,100 J	590 J	
Carbazole	480	1,200 J		
Fluoranthene	480	8,800 J	4,100 J	2,300 J
Pyrene	480	7,800 J	4,200 J	2,200 J
Benzo(a)anthracene	480	4,600 J	2,100 J	1,100 J
Chrysene	480	4,900 J	2,300 J	1,300 J
Benzo(b)fluoranthene	480	3,900 J	1,800 J	1,300 J
Benzo(k)fluoranthene	480	4,000 J	1,600 J	800 J
Benzo(a)pyrene	480	4,000 J	1,900 J	1,100 J
Indeno(1,2,3-cd)pyrene	480	2,400 J	920 J	710 J
Dibenz(a,h)anthracene	480	560 J		
Benzo(g,h,i)perylene	480	1,400 J	630 J	690 J

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.10-2, continued
SITE 12- FORMER WIND TUNNEL, NEAR BUILDING X-115
OBSERVED CONTAMINATION

Semivolatile Analysis (SOW:OLM01.8)		SEDIMENT SAMPLES	
M&E SAMPLE ID:		WFF12-SD1	WFF12-SD2
MATRIX:		SOIL	SOIL
UNITS:		ug/kg	ug/kg
	SITE 12 BACKGROUND ug/kg (MOR)		
Phenanthrene	490	590 J	5,400 J
Anthracene	490		1,300 J
Fluoranthene	490	850 J	6,800 J
Pyrene	490	860 J	7,100 J
Benzo(a)anthracene	490		3,600 J
Chrysene	490		4,500 J
Bis(2-ethylhexyl)phthalate	490		7,600
Benzo(b)fluoranthene	490		4,000 J
Benzo(k)fluoranthene	490		3,600 J
Benzo(a)pyrene	490		4,000 J
Indeno(1,2,3-cd)pyrene	490		3,200 J
Benzo(g,h,i)perylene	490		2,100 J

Pesticide/PCB Analysis (SOW:OLM01.8)		SURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WF12-SS1	WF12-SS2	WFF12-SS3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		ug/kg	ug/kg	ug/kg
	SITE 12 BACKGROUND ug/kg (MOR)			
delta-BHC	2.5			9.9 J
Aldrin	2.5		13 J	
4,4'-DDE	3.6 J	240 J	180 J	330 J
4,4'-DDD	2.7 J	12 J	17 J	24 J
4,4'-DDT	4.9	120 J	250 J	390 J
Endrin Aldehyde	0.48 J			11 J
gamma-Chlordane	2.5			14 J
Toxaphene	250	380 J		
Aroclor-1254	49		330 J	550 J

Pesticide/PCB Analysis (SOW:OLM01.8)		SEDIMENT SAMPLES	
M&E SAMPLE ID:		WFF12-SD1	WFF12-SD2
MATRIX:		SOIL	SOIL
UNITS:		ug/kg	ug/kg
	SITE 12 BACKGROUND ug/kg (MOR)		
Aldrin	0.63 J	15 J	
Endosulfan I	2.5		6.1 J
4,4'-DDE	3.3 J	110 J	69 J
4,4'-DDD	4.9	120 J	26 J
4,4'-DDT	4.9	60 J	
Endrin Aldehyde	4.9	30 J	
Aroclor-1254	49	390 J	580 J

NOTE: A key to symbols can be found on the last page of this table.

**TABLE 3.10-2, continued
SITE 12- FORMER WIND TUNNEL, NEAR BUILDING X-115
OBSERVED CONTAMINATION**

NOTE: Petroleum hydrocarbon compounds were not detected at Site 12. However, chromatograms for samples WFF12-SS1 and WFF12-SD1 indicate the presence of an unknown petroleum hydrocarbon.

Inorganic Analysis (SOW:ILM02.1)		SURFACE SOIL SAMPLES		
M&E SAMPLE ID:		WFF12-SS1	WFF12-SS2	WFF12-SS3
MATRIX:		SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg
	SITE 12 BACKGROUND mg/kg (MOR)			
Cadmium	0.57			2.4 K
Calcium	588	1,070 J	822 J	2,970 J
Chromium	27		51.8	50.4
Copper	6.9 J	9.4 J	124 J	74.1 J
Lead	28 J	222 K	322 K	149 K
Mercury	0.10	0.52 L	2.9 L	
Nickel	22			52.6
Zinc	66	153	960	223

Inorganic Analysis (SOW:ILM02.1)		SEDIMENT SAMPLES	
M&E SAMPLE ID:		WFF12-SD1	WFF12-SD2
MATRIX:		SOIL	SOIL
UNITS:		mg/kg	mg/kg
	SITE 12 BACKGROUND mg/kg (MOR)		
Barium	12.6 J		14
Cadmium	0.15		1.4 K
Chromium	18		22
Copper	0.02	10.2 J	23.7 J
Lead	15 J	62.8 K	59.4 K
Manganese	86 J		278
Mercury	0.15	0.28 L	
Zinc	63	113	387

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.10-2, continued
SITE 12 - FORMER WIND TUNNEL, NEAR BUILDING X-115
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	Units
WFF = Wallops Flight Facility	ug/kg = micrograms per kilogram
SS = Surface Soil	mg/kg = milligrams per kilogram
SD = Sediment	
Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
K = Analyte present. Reported value may be biased high.	
L = Analyte present. Reported value may be biased low.	
Analytical Methods	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP method for organic compounds - all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP method for inorganic compounds - all matrices).	
Other	
NA = Not Applicable	
MOR = Minimum Observed Release	

WFF12-SD2
 SEMIVOLATILES (µg/kg):
 Phenan - 5,400
 Anthra - 1,300
 Fluoran - 6,800
 Pyrene - 7,100
 Benz(a) - 3,600
 Chrysene - 4,500
 Bis2ehp - 7,600
 Benz(b) - 4,000
 Benz(k) - 3,600
 Benz(a)p - 4,000
 Ideno - 3,200
 Ben(ghi) - 2,100
 PESTICIDES/PCBS (µg/kg):
 Endol - 6
 4,4'-DDE - 69
 4,4'-DDT - 26
 A1254 - 580
 INORGANICS (mg/kg):
 Ba - 14
 Cd - 1.4
 Cr - 22
 Cu - 23.7
 Pb - 59.4
 Mn - 278
 Zn - 387

WFF12-SS2
 VOLATILES (µg/kg):
 Acetone - 1,200
 SEMIVOLATILES (µg/kg):
 Phenan - 3,200
 Anthra - 590
 Fluoran - 4,100
 Pyrene - 4,200
 Benz(a) - 2,100
 Chrysene - 2,300
 Benz(b) - 1,800
 Benz(k) - 1,600
 Benz(a)p - 1,900
 Ideno - 920
 Ben(ghi) - 630
 PESTICIDES/PCBS (µg/kg):
 Aldrin - 13
 4,4'-DDE - 180
 4,4'-DDD - 17
 4,4'-DDT - 250
 A1254 - 330
 INORGANICS (mg/kg):
 Ca - 822
 Cr - 51.8
 Cu - 124
 Pb - 322
 Hg - 2.9
 Zn - 960

WFF12-SD1
 SEMIVOLATILES (µg/kg):
 Phenan - 590
 Fluoran - 850
 Pyrene - 860
 PESTICIDES/PCBS (µg/kg):
 Aldrin - 15
 4,4'-DDE - 110
 4,4'-DDD - 120
 4,4'-DDT - 60
 End Ald - 30
 A1254 - 390
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Cu - 10.2
 Pb - 62.8
 Hg - 0.28
 Zn - 113

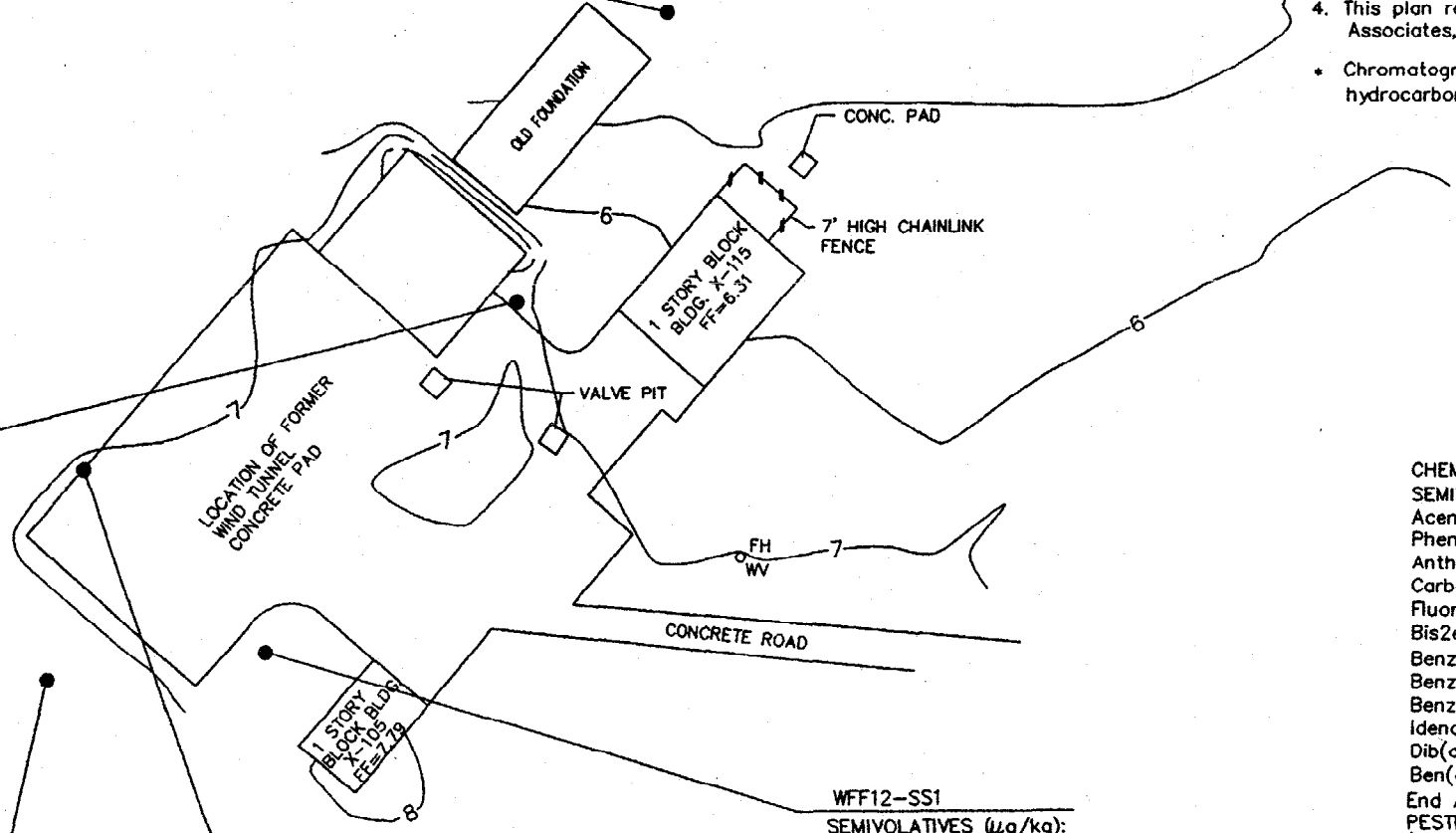
WFF12-SS3
 VOLATILES (µg/kg):
 Acetone - 110
 SEMIVOLATILES (µg/kg):
 Phenan - 1,300
 Fluoran - 2,300
 Pyrene - 2,200
 Benz(a) - 1,100
 Chrysene - 1,300
 Benz(b) - 1,300
 Benz(k) - 800
 Benz(a)p - 1,100
 Ideno - 710
 Ben(ghi) - 690
 PESTICIDES/PCBS (µg/g):
 ΔBHC - 9.9
 4,4'-DDE - 330
 4,4'-DDD - 24
 4,4'-DDT - 390
 End Ald - 11
 γ-Chlor - 14
 A1254 - 550
 INORGANICS (mg/kg):
 Cd - 2.4
 Co - 2,970
 Cr - 50.4
 Cu - 74.1
 Pb - 149
 Ni - 52.6
 Zn - 223

WFF12-SS1
 SEMIVOLATILES (µg/kg):
 Acenap - 1,000
 Fluorene - 550
 Phenan - 6,100
 Anthra - 1,100
 Carba - 1,200
 Fluoran - 8,800
 Pyrene - 7,800
 Benz(a) - 4,600
 Chrysene - 4,900
 Benz(b) - 3,900
 Benz(k) - 4,000
 Benz(a)p - 4,000
 Ideno - 2,400
 Dib(ah) - 560
 Ben(ghi) - 1,400
 PESTICIDES/PCBS:
 4,4'-DDE - 240
 4,4'-DDD - 12
 4,4'-DDT - 120
 Toxaphene - 380
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Ca - 1,070
 Cu - 9.4
 Pb - 222
 Hg - 0.52
 Zn - 153

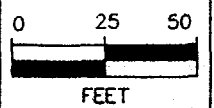
NOTES:
 1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A. as dated July 12, 1993.
 * Chromatogram indicates possible presence of unknown hydrocarbon.

CHEMICAL ABBREVIATIONS
 SEMIVOLATILES:
 Acenap = Acenaphthene
 Phenan = Phenanthrene
 Anthra = Anthracene
 Carba = Carbazole
 Fluoran = Fluoranthene
 Bis2ehp = Bis(2-ethylhexyl)phthalate
 Benz(b) = Benzo(b)fluoranthene
 Benz(k) = Benzo(k)fluoranthene
 Benz(a)p = Benzo(a)pyrene
 Ideno = Ideno(1,2,3-cd)pyrene
 Dib(ah) = Dibenzo(a,h)anthracene
 Ben(ghi) = Benzo(g,h,i)perylene
 End Ald = Endrin Aldehyde
 PESTICIDES/PCBS:
 ΔBHC = delta-1,2,3,4,5,6-hexachloro-cyclohexane
 Endol = Endosulfan I
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 γ-Chlor = gamma Chlordane
 A1254 = Aroclor-1254
 TPH = Total Petroleum Hydrocarbons
 INORGANICS:
 Ba = Barium
 Ca = Calcium
 Cd = Cadmium
 Cr = Chromium
 Cu = Copper
 Pb = Lead
 Hg = Mercury
 Mn = Manganese
 Zn = Zinc
 CN = Cyanide

LEGEND
 SAMPLE LOCATION ●
 EXISTING TOPOGRAPHIC CONTOUR ~~~~~
 SOIL BORING SB
 SURFACE SOIL SS
 SEDIMENT SD
 STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)



M&E
 14602 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708
 SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19047
 Phone: (301) 866-2581
 DWG. NO. 85630-C-9057-5



REVISED:
 JAN. 15, 1996

FIGURE 3.10-2
 SITE 12-FORMER WIND TUNNEL,
 NEAR BUILDING X-115
 OBSERVED CONTAMINATION
 SURFACE SOIL AND
 SEDIMENT SAMPLES

0020A17Z

3.11 SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28

3.11.1 Sample Identification and Collection

A summary of samples collected at Site 14 is presented as Table 3.11-1 and sample locations are illustrated on Figure 3.11-1.

M&E collected 13 subsurface soil samples (WFF14-SB1 through WFF14-SB13) throughout and around the debris pile, and from the banks of the drainage swale. The depth of subsurface soil sample collection was field determined, and was based upon PID readings and visual observation of the soil (i.e., stained soil). The depth of sample collection was often limited by the presence of debris (i.e., concrete, steel). One duplicate sample (WFF14-SB14) was collected at WFF14-SB1. These samples were analyzed for the TCL, TAL, and TPH parameters.

M&E collected two surface water samples (WFF14-SW2 and WFF14-SW3) from debris pile leachate. The purpose of this sampling was to provide data regarding compounds which may be leaching from the pile into the surrounding surface water. The samples were analyzed for the TCL, TAL and TPH parameters.

M&E collected four sediment samples (WFF14-SD2 through WFF14-SD5) in areas where debris pile leachate was flowing or ponding. The purpose of this sampling was to provide data regarding compounds which may be leaching from the pile and accumulating in the sediment. The samples were analyzed for the TCL, TAL and TPH parameters.

One surface water/sediment sample (WFF9-SW9/SD9) was collected at the VPDES Outfall 003 at Site 14 as a background sample for Site 9.

**TABLE 3.11-1
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
SAMPLES COLLECTED**

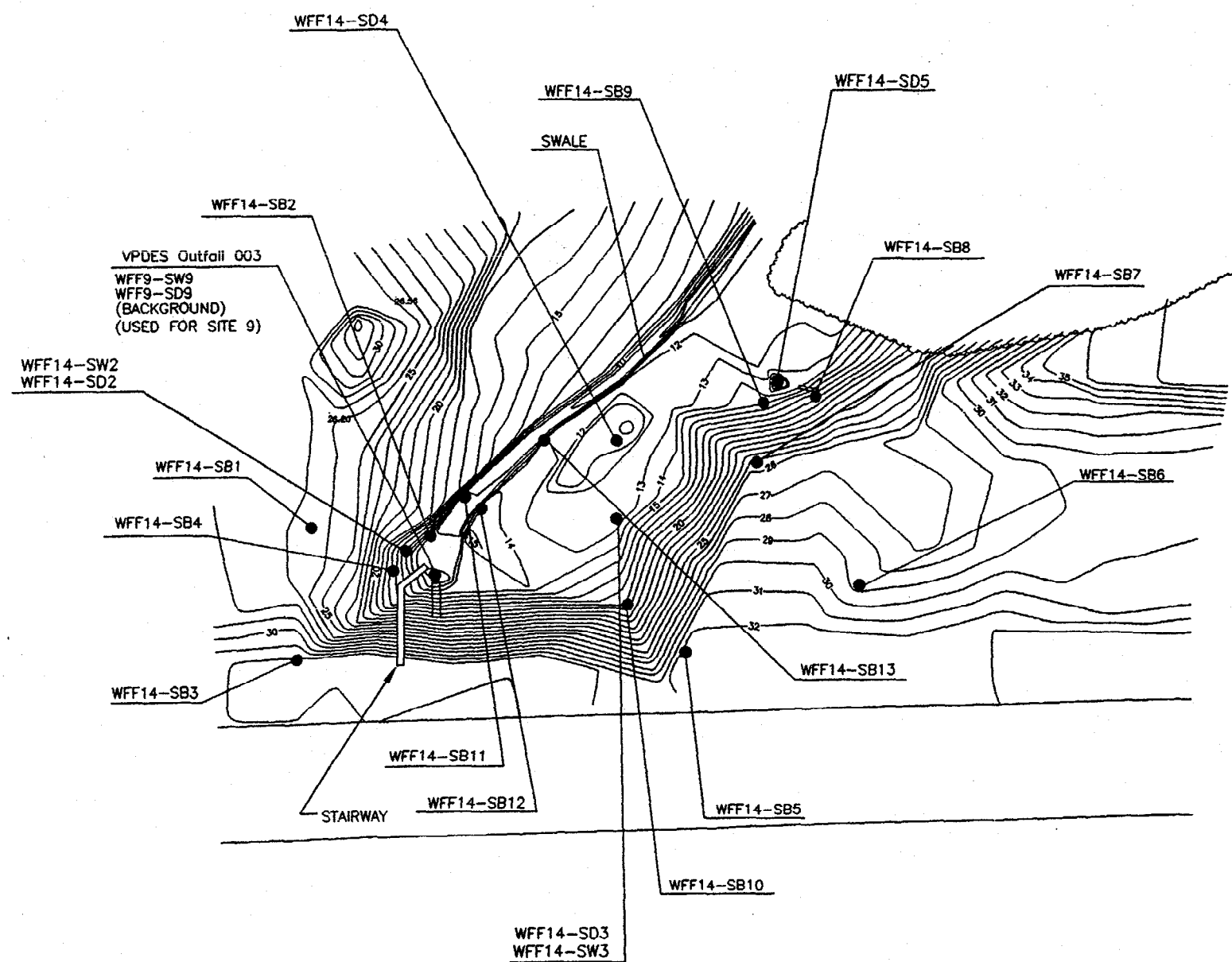
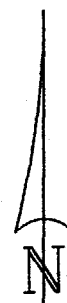
SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF14-SB1	6/15/93	1 - 2.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB2	6/22/93	0.5 - 1.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB3	6/22/93	4.5 - 6	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB4	6/22/93	0.5 - 1.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB5	6/23/93	11 - 12	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB6	6/23/93	8 - 9.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB7	6/23/93	1.5 - 2.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB8	6/24/93	2 - 3	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB9	6/23/93	1 - 2	TCL, TAL, TPH	Search for subsurface contamination.

TABLE 3.11-1 (Cont.)
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF14-SB10	6/24/93	2 - 3	TCL, TAL, TPH	Search for subsurface contamination.
WFF14-SB11	6/22/93	0.5 - 1.5	TCL, TAL, TPH	Search for contamination.
WFF14-SB12	6/22/93	0.5 - 1.5	TCL, TAL, TPH	Search for contamination.
WFF14-SB13	6/22/93	0.5 - 1.5	TCL, TAL, TPH	Search for contamination.
WFF14-SB14	6/15/93	1 - 2.5	TCL, TAL, TPH	Duplicate of SB1, MS/MSD.
WFF14-SW1	6/15/93	N/A	TCL, TAL, TPH	Field blank.
WFF14-SD2	8/18/93	N/A	TCL, TAL, TPH	Sediment.
WFF14-SD2	9/28/93	N/A	TCL (voa)	Recollected.
WFF14-SW2	8/18/93	N/A	TCL, TAL, TPH	Leachate.
WFF14-SD3	8/18/93	N/A	TCL, TAL, TPH	Sediment.
WFF14-SD3	9/28/93	N/A	TCL (voa)	Recollected.
WFF14-SW3	8/18/93	N/A	TCL, TAL, TPH	Leachate.
WFF14-SD4	8/18/93	N/A	TCL, TAL, TPH	Sediment.
WFF14-SD4	9/28/93	N/A	TCL (voa)	Recollected.
WFF14-SW4	8/18/93	N/A	TCL, TAL, TPH	Field blank.
WFF14-SD5	8/18/93	N/A	TCL, TAL, TPH	Sediment.
WFF14-SD5	9/28/93	N/A	TCL (voa)	Recollected.
WFF14-SW5	8/18/93	N/A	TCL, TAL, TPH	Equipment blank (sediment).
WFF9-SD9	9/25/95	N/A	TCL, TAL, TPH	Background for comparison to Site 9 sediment samples.
WFF9-SW9	9/25/95	N/A	TCL, TAL, TPH	Background for comparison to Site 9 surface water samples.

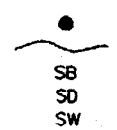
NOTES: SB = Soil Boring
SD = Sediment
SW = Surface Water
MS/MSD = Matrix Spike/Matrix Spike Duplicate
N/A = Not Applicable
TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting
voa = Volatile Organic Analysis

Samples were originally collected between May 28 - July 9, 1993. However, due to laboratory analytical difficulties (i.e., missed holding times, laboratory-introduced contamination), some samples were recollected in August and September, 1993.



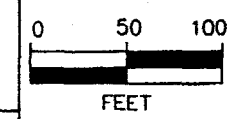
- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.

LEGEND
 SAMPLE LOCATION
 EXISTING TOPOGRAPHIC CONTOUR
 SOIL BORING
 SEDIMENT
 SURFACE WATER



M&E
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19847
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-12



REVISED:
 JAN. 15, 1996

FIGURE 3.11-1

SITE 14 DEBRIS PILE
 NORTH OF RUNWAY 10-28

SAMPLES COLLECTED

3.11.2 Analytical Results

Analytical results for Site 14 are presented as Table 3.11-2 and illustrated on Figures 3.11-2 and 3.11-3.

Subsurface soil results indicate detectable levels of pesticides in three of the 13 samples, PCBs in one sample, and elevated metals in six samples. Semivolatile organic compounds and cyanide were not detected. Petroleum hydrocarbons analyzed (i.e., fuel oil #4, gasoline, kerosene, diesel fuel) were not detected in any of the samples, however, the chromatographs for five samples indicate the possible presence of an unknown petroleum hydrocarbon. Samples WFF14-SB2, WFF14-SB11, WFF14-SB12, WFF14-SB13 were collected at approximately six inches into the banks of the swale. During the advancement of WFF14-SB12 and WFF14-SB13, grey stained soil was noted.

Surface water results indicate detectable levels of semivolatile organic compounds in one of the two samples, pesticides in one sample, cyanide in one sample, and elevated levels of metals in both samples. Volatile organic compounds, PCBs, and petroleum hydrocarbons were not detected in surface water samples.

Sediment results indicate detectable levels of volatile organic compounds in three of the four samples, semivolatile organic compounds in one sample, pesticides in all four samples, and elevated metals in all four samples. PCBs, cyanide and petroleum hydrocarbons were not detected in sediment samples.

Results for WFF9-SW9 and WFF9-SD9 background samples are provided in Section 3.7.2, Table 3.7-2.

TABLE 3.11-2
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
OBSERVED CONTAMINATION

Volatile Analysis (SOWOLMO1.8)			
M&E SAMPLE ID:	WFF14-SD3	WFF14-SD4	WFF14-SD5
MATRIX:	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH (ft):			
COMPOUND			
2-Butanone	48	24	27
Ethylbenzene			8

Semivolatile Analysis (SOWOLMO1.8)				
M&E SAMPLE ID:	WFF14-SW2	WFF14-SD2		
MATRIX:	SOIL	SOIL		
UNITS:	ug/kg	ug/kg		
SAMPLE DEPTH (ft):	NA	NA		
COMPOUND				
Acenaphthene	3	J		
Fluorene	2	J		
Phenanthrene	17		250	J
Anthracene	4	J		
Fluoranthene	18		280	J
Pyrene	18		350	J
Benzo(a)anthracene	8	J	170	J
Chrysene	8	J	180	J
Benzo(b)fluoranthene	9	J	130	J
Benzo(k)fluoranthene	4	J	140	J
Indeno(1,2,3-cd)pyrene	4	J		
Benzo(g,h,i)perylene	3	J		
NOTE: A key to symbols can be found on the last page of this table.				

TABLE 3.11-2, continued
 SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
 OBSERVED CONTAMINATION

Pesticide/PCB Analysis (SOWOLMO1.8)								
M&E SAMPLE ID:	WFF14-SB7	WFF14-SB11	WFF14-SB13	WFF14-SW2	WFF14-SD2	WFF14-SD3	WFF14-SD4	WFF14-SD5
MATRIX:	SOIL	SOIL	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS:	ug/kg	ug/kg	ug/kg	ug/l	ug/kg	ug/kg	ug/kg	ug/kg
SAMPLE DEPTH(ft):	1.5	0.5	0.5	NA	NA	NA	NA	NA
COMPOUND								
4,4'-DDE			4 L	1.1 L	260 J	250 J	280 J	51 J
4,4'-DDD				0.12 L	85 J	120 J	700 J	
Endosulfan sulfate					16 J			
4,4'-DDT	4.1 J	4.5 J	25.5 L	2.1 L	630 J		120 J	
alpha-Chlordane				0.24 L	27 J		13 J	
gamma-Chlordane				0.35 L	40 J			
Aroclor-1260			68 L					
NOTE: A key to symbols can be found on the last page of this table.								

NOTE: Petroleum hydrocarbon compounds were not detected at Site 14. However, chromatograms for samples WFF14-SB4, WFF14-SB5, WFF14-SB11, WFF14-SB12, and WFF14-SB13 indicate presence of an unknown hydrocarbon.

TABLE 3.11-2, continued
 SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
 OBSERVED CONTAMINATION

Inorganic Analysis (SOW:ILMO2.1)		SUBSURFACE SOIL SAMPLES					
M&E SAMPLE ID:		WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB7	WFF14-SB11	WFF14-SB12
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):		0.5	4.5	0.5	1.5	0.5	0.5
MAIN BASE SUBSURF SOIL BACKGROUND							
ANALYTES	mg/kg (3xAVG)						
Arsenic	3.30		3.3		5.5		
Calcium	495		920		961	557	
Copper	2.51		6	1.5			4.2
Lead	5.10	22.1	6.3 K		9 K	5.7	
Magnesium	560		812		717		564
Manganese	97.92				119 L		
Sodium	37		74.9				
Zinc	18.39	22.4		21.3			
Inorganic Analysis		SURFACE WATER AND SEDIMENT SAMPLES					
M&E SAMPLE ID:		WFF14-SW2	WFF14-SW3	WFF14-SD2	WFF14-SD3	WFF14-SD4	WFF14-SD5
MATRIX:		WATER	WATER	SOIL	SOIL	SOIL	SOIL
UNITS:		ug/l	ug/l	mg/kg	mg/kg	mg/kg	mg/kg
SAMPLE DEPTH(ft):		NA	NA	NA	NA	NA	NA
MAIN BASE SW/SED BKGRD							
ANALYTES	ug/l (3xAVG)	SW	SED				
Aluminum	27	3,720			15,800	11,500	
Calcium	36,900	272		1,090 J	693 J	659 J	380 J
Cobalt	3	0.75		2.3	3.5	3.1	
Copper	3	0.75		8.7 J	6 J	7.6 J	
Iron	7,200	4,320		14,500	9,250	9,550	
Lead	1.00	3		23.6 K	23.7 K	22.8 K	4.3 K
Magnesium	12,810	247		757	1,040	951	
Manganese	354	20.7	2,150	97	82.6	89.5	
Mercury	0.1	0.06					1.3 L
Potassium	1,090	273	5,380				
Sodium	28,380	13.3		238			
Vanadium	3	6		8.2	23.1	20.1	16.9
Zinc	20	20	84.7	30.2 K	142	27.4	35.9
Cyanide	NA	NA	265 L				

NOTE: A key to symbols can be found on the last page of this table.

TABLE 3.11-2, continued
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification

WFF = Wallops Flight Facility
SB = Soil Boring
SW = Surface Water
SD = Sediment

Units

ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/l = micrograms per liter

Data Qualifiers

J = Analyte present. Reported value may not be accurate or precise.
L = Analyte present. Reported value may be biased low.
K = Analyte present. Reported value may be biased high.

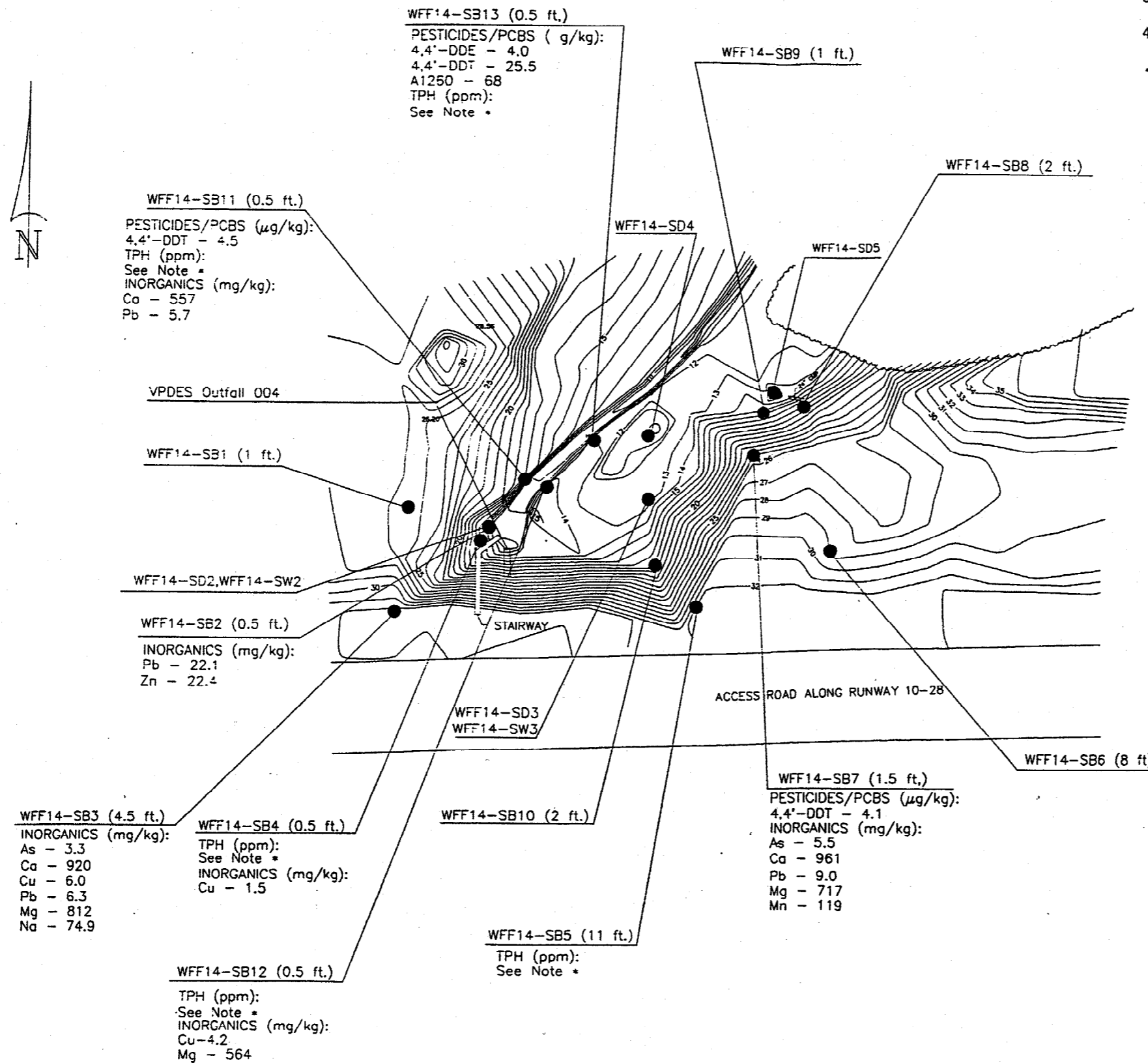
Analytical Methods

SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organic compounds - all matrices).
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganic compounds - all matrices).

Other

NA = Not Applicable

- NOTES:
- Horizontal Datum: Virginia State Plane Coordinate System.
 - Vertical Datum: N.G.V.D.
 - Horizontal and vertical data based on control information provided by N.A.S.A.
 - This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
 - Chromatogram indicates possible presence of unknown hydrocarbon.



CHEMICAL ABBREVIATIONS

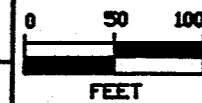
PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 A1250 = Aroclor-1260
 TPH = Total Petroleum Hydrocarbons

INORGANICS:
 As = Arsenic
 Ca = Calcium
 Cu = Copper
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Na = Sodium
 Zn = Zinc

- LEGEND
- SAMPLE LOCATION
 - - - EXISTING TOPOGRAPHIC CONTOUR
 - SOIL BORING
 - SEDIMENT
 - SURFACE WATER
 - STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)
 - SB
 - SD
 - SW

M&E
Metcalf & Eddy
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 865-2581
 DWG. NO. 85630-C-9057-12



DATE: NOV. 1, 1994

FIGURE 3.11-2

SITE 14 DEBRIS PILE,
 NORTH OF RUNWAY 10-28

OBSERVED CONTAMINATION
 SUBSURFACE SOIL SAMPLES

0020AB19Z



WFF14-SD4
 VOLATILES (µg/kg):
 2-But - 24
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 280
 4,4'-DDD - 700
 4,4'-DDT - 120
 α-Chlor - 13
 INORGANICS (mg/kg):
 Al - 11,500
 Ca - 659
 Cr - 12.5
 Co - 3.1
 Cu - 7.6
 Fe - 9,550
 Pb - 22.8
 Mg - 951
 Mn - 89.5
 V - 20.1
 Zn - 35.9

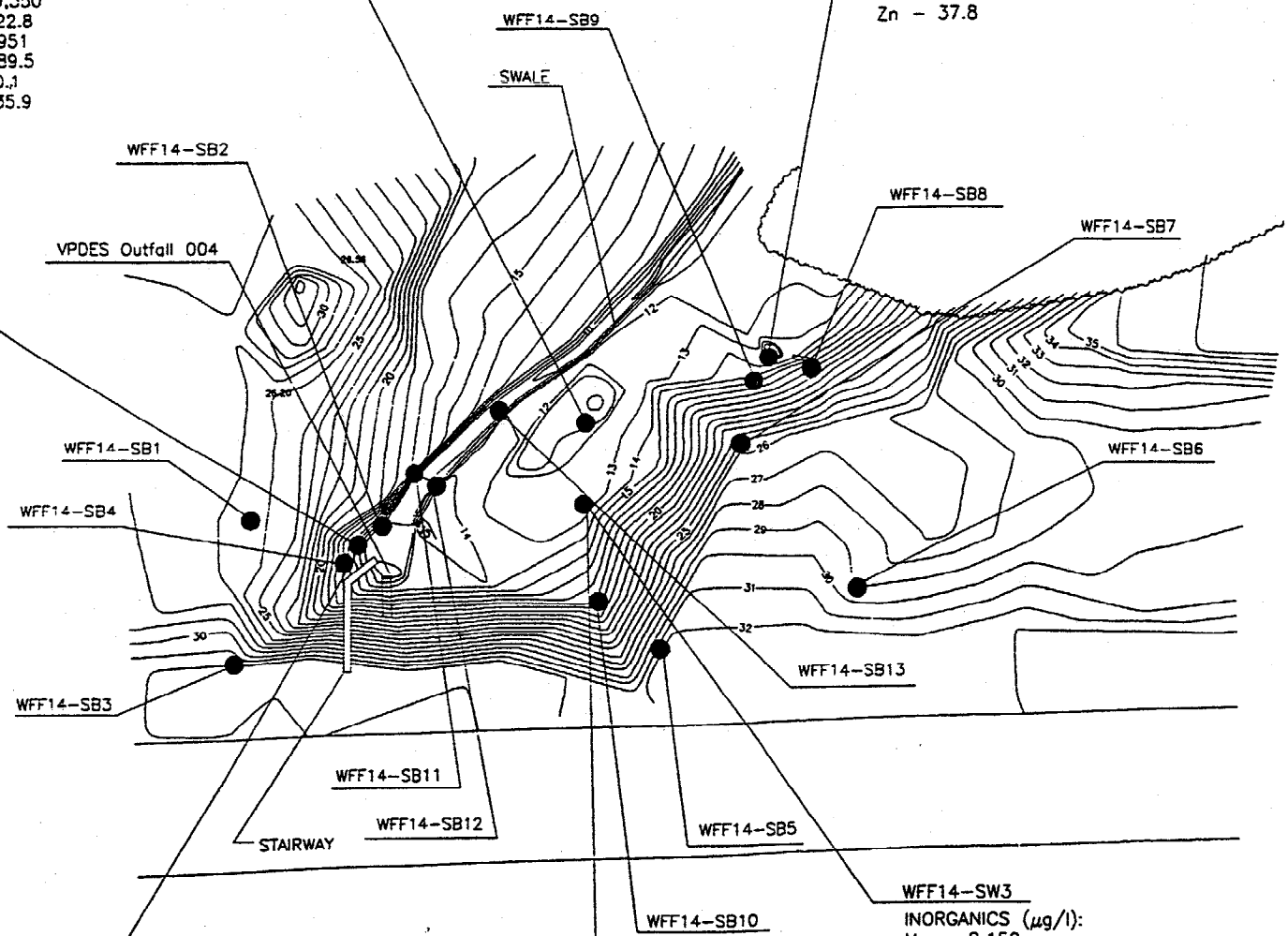
WFF14-SD5
 VOLATILES (µg/kg):
 2-But - 27
 E Benz - 8
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 51
 INORGANICS (mg/kg):
 Ca - 380
 Pb - 4.3
 Hg - 1.3
 V - 16.9
 Zn - 37.8

WFF14-SD2
 SEMIVOLATILES (µg/kg):
 Phenon - 250
 Fluoran - 280
 Pyrene - 350
 Benzo(a) - 170
 Chrysene - 180
 Benz(b) - 130
 Benz(u) - 140
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 260
 4,4'-DDD - 85
 4,4'-DDT - 630
 Endo Sul - 16
 α-Chlor - 27
 γ-Chlor - 40
 INORGANICS (mg/kg):
 Ca - 1,090
 Cr - 6.8
 Co - 2.3
 Cu - 8.7
 Fe - 14,500
 Pb - 23.6
 Mg - 757
 Mn - 97
 Na - 238
 V - 8.2
 Zn - 142

WFF14-SW2
 SEMIVOLATILES (µg/l):
 Acenap - 3
 Fluorene - 2
 Phenon - 17
 Anthra - 4
 Fluoran - 18
 Pyrene - 18
 Benz(a)a - 8
 Chrysene - 8
 Benz(b) - 9
 Benz(k) - 4
 Benz(a)p - 7
 Ideno - 4
 Ben(ghi) - 3
 PESTICIDES/PCBS (µg/l):
 4,4'-DDE - 1.1
 4,4'-DDD - 0.12
 4,4'-DDT - 2.1
 α-Chlor - 0.24
 γ-Chlor - 0.35
 INORGANICS (mg/l):
 Zn - 84.7
 CN - 265

WFF14-SD3
 VOLATILES (µg/kg):
 2-But - 48
 PESTICIDES/PCBS (µg/kg):
 4,4'-DDE - 250
 4,4'-DDD - 120
 INORGANICS (mg/kg):
 Al - 15,800
 Ca - 693
 Cr - 14.7
 Co - 3.5
 Cu - 6.0
 Fe - 9,250
 Pb - 23.7
 Mg - 1,040
 Mn - 82.6
 V - 23.1
 Zn - 27.4

WFF14-SW3
 INORGANICS (µg/l):
 Mn - 2,150
 K - 5,380
 Zn - 30.2



- NOTES:
1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicates possible presence of unknown hydrocarbon.

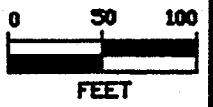
CHEMICAL ABBREVIATIONS

- VOLATILES:
 2-But = 2-Butanone
 E Benz = Ethylbenzene
 SEMIVOLATILES:
 Acenap = Acenaphthene
 Phenan = Phenanthrene
 Anthra = Anthracene
 Fluoran = Fluoranthene
 Benz(a)a = Benzo(a)anthracene
 Benz(b) = Benzo(b)fluoranthene
 Benz(k) = Benzo(k)fluoranthene
 Benz(a)p = Benzo(a)pyrene
 Ideno = Ideno(1,2,3-cd)pyrene
 Ben(ghi) = benzo (g,h,i)perylene
 PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethene
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 α-Chlor = alpha - Chlordane
 γ-Chlor = gamma - Chlordane
 INORGANICS:
 Al = Aluminium
 Ca = Chromium
 Cr = Chromium
 Co = Cobalt
 Cu = Copper
 Fe = Iron
 Pb = Lead
 Mg = Magnesium
 Mn = Manganese
 Hg = Mercury
 K = Potassium
 Na = Sodium
 V = Vanadium
 Zn = Zinc
 CN = Cyanide

- LEGEND
- SAMPLE LOCATION
 - EXISTING TOPOGRAPHIC CONTOUR
 - SOIL BORING
 - SEDIMENT
 - SURFACE WATER
 - STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)
- SB
 SD
 SW

M&E
 Metcalf & Eddy
 14502 Greenview Drive,
 Suite 500
 Laurel, Maryland 20706

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 600 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 865-2581
 DWG. NO. 25630-C-9057-12



DATE: NOV. 1, 1994

FIGURE 3.11-3

SITE 14 DEBRIS PILE,
 NORTH OF RUNWAY 10-28

OBSERVED CONTAMINATION
 SURFACE WATER AND
 SEDIMENT SAMPLES

3.12 SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35

3.12.1 Sample Identification and Collection

A summary of samples collected at Site 15 is presented as Table 3.12-1 and sample locations are illustrated on Figure 3.12-2. M&E collected 10 subsurface soil samples (WFF15-SB1 through WFF15-SB10) for analyses of the TCL, TAL, and TPH parameters. The depth of subsurface soil sample collection was field determined and was based upon PID readings and visual observation of the soil (i.e., stained soil). One duplicate sample (WFF15-SB11) was collected at WFF15-SB1. Two debris pile samples (WFF15-DP1 and WFF15-DP2) were collected for asbestos analysis from either end of the debris pile.

M&E did not collect any surface water samples that were specifically labeled as Site 15 samples. However, samples collected as Site 9 samples (WFF9-SW1 through WFF9-SW8) have been used to obtain information regarding surface water discharge which occurs upgradient from Site 15 (WFF9-SW5 through WFF9-SW8) and in the vicinity of Site 15 (WFF9-SW1 through WFF9-SW4). Upgradient sample WFF9-SW5 is being used as background for Site 15.

Similarly, M&E did not collect any sediment samples that were specifically labeled as Site 15 samples. Samples collected as Site 9 samples (WFF9-SD1 through WFF9-SD8) have been used to obtain information regarding sediment contamination which may occur upgradient from Site 15 (WFF9-SD5 through WFF9-SD8) and in the vicinity of Site 15 (WFF9-SD1 through WFF9-SD4). Upgradient sample WFF9-SD5 is being used as background for Site 15.

**TABLE 3.12-1
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
SAMPLES COLLECTED**

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF15-SB1	6/24/93	1.5-3	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB1	8/10/93	1.5-2	TCL (pest/PCB)	Recollected.
WFF15-SB2	6/24/93	1.5-3	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB2	8/10/93	1.5-2	TCL (pest/PCB)	Recollected.
WFF15-SB3	6/24/93	1.5-3	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB3	8/10/93	1.5 -2	TCL (pest/PCB)	Recollected.
WFF15-SB4	6/24/93	1.5-3	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB4	8/10/93	1.5-2	TCL (pest/PCB)	Recollected.
WFF15-SB5	8/19/93	4.5-6	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB5	9/28/93	4.5-5	TCL (pest/PCB)	Recollected.
WFF15-SB6	8/19/93	5-6.5	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB6	9/28/93	5-5.5	TCL (pest/PCB)	Recollected.
WFF15-SB7	8/19/93	7.5-9	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB7	9/28/93	7.5-8	TCL (pest/PCB)	Recollected.
WFF15-SB8	8/19/93	4.5-6	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB8	9/28/93	4.5-5	TCL (pest/PCB)	Recollected.

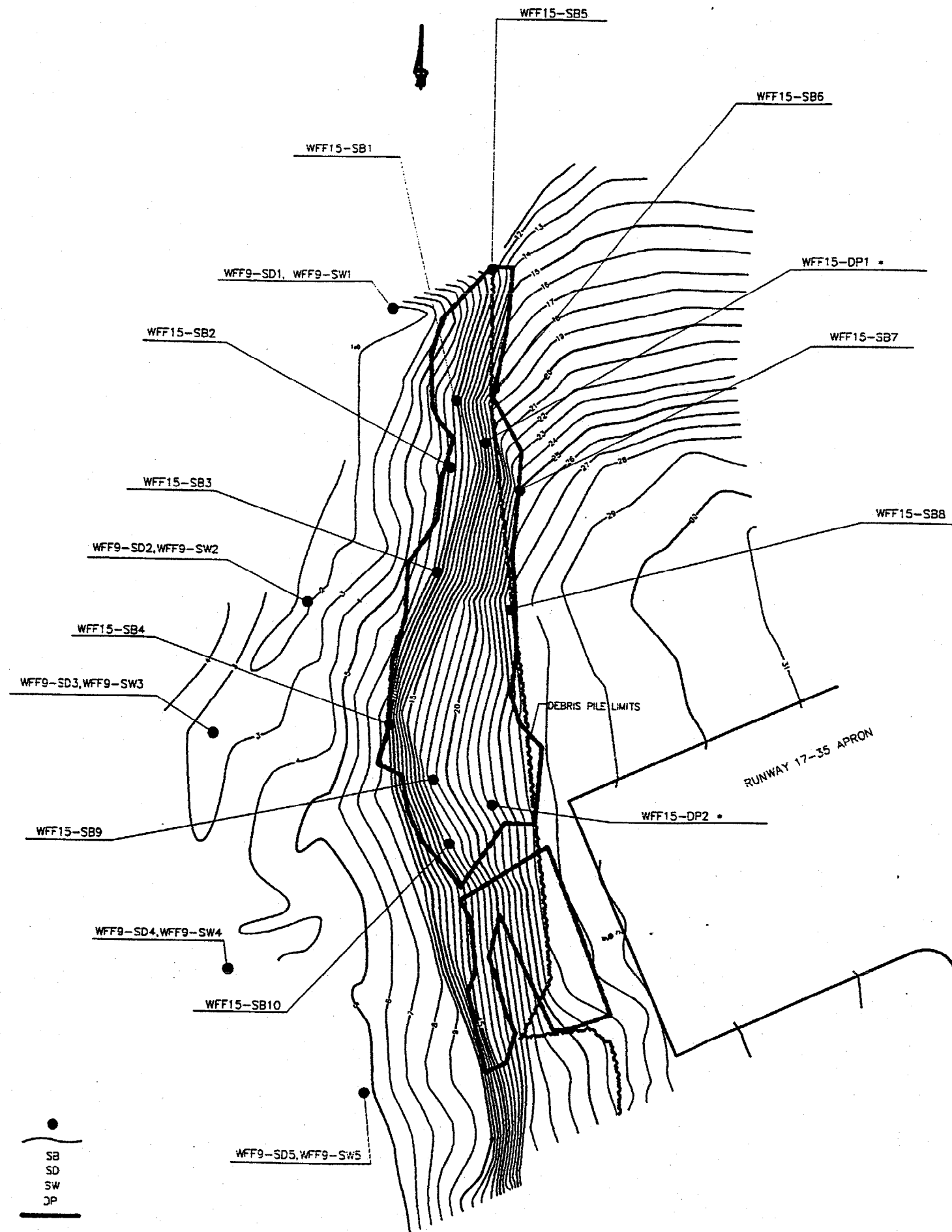
TABLE 3.12-1
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
SAMPLES COLLECTED

SAMPLE ID	DATE OF SAMPLE COLLECTION	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF15-SB9	6/28/93	4.5-6	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB10	6/28/93	4.5-6	TCL, TAL, TPH	Search for subsurface contamination.
WFF15-SB11	6/24/93	1.5-3	TCL, TAL, TPH	Duplicate of SB1, MS/MSD.
WFF15-SB11	8/10/93	1.5-2	TCL (pest/PCB)	Recollected.
WFF15-SW1	9/28/93	N/A	TCL (voa, pest/PCB, TPH purge)	Equipment blank (soil borings).
WFF15-SW2	9/28/93	N/A	TCL (voa, pest/PCB, TPH purge)	Field blank.
WFF15-DP1	3/11/93	Surface	Asbestos	Check for presence of asbestos.
WFF15-DP2	3/11/93	Surface	Asbestos	Check for presence of asbestos.
WFF9-SD1	7/7/93	0-0.5	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SW1	7/7/93	N/A	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SD2	7/8/93	0-0.5	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SW2	7/8/93	N/A	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SD3	7/8/93	0-0.5	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SW3	7/8/93	N/A	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SD4	7/8/93	0-0.5	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SW4	7/8/93	N/A	TAL, TCL, TPH	Search for contaminants leaching from Site 15.
WFF9-SD5	7/8/93	0-0.5	TAL, TCL, TPH	Background for Site 15 samples.
WFF9-SW5	7/8/93	N/A	TAL, TCL, TPH	Background for Site 15 samples.

NOTES: SB = Soil Boring
SD = Sediment
SW = Surface Water
DP = Debris Pile
voa = Volatile Organic Analysis
pest = Pesticides
PCB = Polychlorinated Biphenyl
purge = purgeable

TCL = Target Compound List (125 Organics)
TAL = Target Analyte List (23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons, with Fingerprinting
MS/MSD = Matrix Spike/Matrix Spike Duplicate
N/A = Not Applicable

Samples were originally collected between May 28 - July 9, 1993. However, due to laboratory analytical difficulties (i.e., missed holding times, laboratory-introduced contamination), some samples were recollected in August and September, 1993.

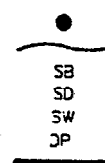


NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Approximate location - sample point not surveyed.

LEGEND

- SAMPLE LOCATION
- EXISTING TOPOGRAPHIC CONTOUR
- SOIL BORING
- SEDIMENT
- SURFACE WATER
- DEBRIS PILE
- DEBRIS PILE LIMITS



WFF9-SD5, WFF9-SW5

M&E
Metcalf & Eddy
 14608 Greenview Drive,
 Suite 600
 Laurel, Maryland 20706

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 608 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (301) 856-2581
 Reg. No. 65630-C-9067-13

SCALE: 1"=100'

FEET

DATE: NOV. 10, 1994

FIGURE 3.12-1

SITE 15-DEBRIS PILE,
 ALONG RUNWAY 17-35

SAMPLES COLLECTED

3.12.2 Analytical Results

Analytical results for Site 15 are presented as Table 3.12-2 and illustrated on Figure 3.12-2.

Subsurface soil results indicate detectable levels of volatile organic compounds in one of the ten samples, a semivolatile organic compound in one sample, pesticides in two samples, elevated metals in five samples, and diesel fuel in two samples. PCBs and cyanide were not detected. The only semivolatile organic compound (i.e., bis(2-ethylhexyl)phthalate) detected is a common laboratory contaminant.

Surface water results indicate detectable levels of volatile organic compounds in two of the four samples, a semivolatile organic compound in one sample, pesticides in two samples, and elevated levels of metals in three samples. The only volatile organic compound (i.e., acetone) and the only semivolatile organic compound (i.e., bis(2-ethylhexyl)phthalate) detected are common laboratory contaminants. PCBs, cyanide, and petroleum hydrocarbons were not detected. TAL data obtained from sample WFF9-SW5 was used as surface water background for Site 15.

Sediment results indicate detectable levels of volatile organic compounds in one of the four samples, pesticides in one sample, elevated levels of metals in one sample, and diesel fuel in one sample. Semivolatile organic compounds and cyanide were not detected. TAL data obtained from sample WFF9-SD5 was used as sediment background for Site 15.

Debris sample results indicate asbestos in both samples collected. No other analyses were performed on the debris.

**TABLE 3.12-2
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION**

Volatile Analysis (SOW:OLM01.8)		
M&E SAMPLE ID:	WFF15-SB2	WFF9-SD1
MATRIX:	SOIL	WATER
UNITS:	ug/kg	ug/kg
SAMPLE DEPTH (ft):	1.5	
COMPOUND		
2-Butanone		41
Styrene	200 J	

Semivolatile Analysis (SOW:OLM01.8)		
M&E SAMPLE ID:	WFF15-SB10	WFF9-SW2
MATRIX:	SOIL	WATER
UNITS:	ug/kg	ug/l
SAMPLE DEPTH(ft):	4.5	NA
COMPOUND		
Bis(2-ethylhexyl)phthalate	440	4
NOTE: A key to symbols can be found on the last page of this table.		

**TABLE 3.12-2, continued
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION**

Pesticide/PCB Analysis (SOW:OLM01.8)					
M&E SAMPLE ID:	WFF15-SB3	WFF15-SB4	WFF9-SW1	WFF9-SW2	WFF9-SD1
MATRIX:	SOIL	SOIL	WATER	WATER	SOIL
UNITS:	ug/kg	ug/kg	ug/l	ug/l	ug/kg
SAMPLE DEPTH(ft):	1.5	1.5	NA	NA	
COMPOUND					
beta-BHC					11 L
Heptachlor Epoxide					
4,4'-DDE	14.0	57.0	0.24 J	0.22 J	180 L
4,4'-DDD				0.58 J	
4,4'-DDT		47.0		0.16 J	50 L
alpha-Chlordane					12 L

Petroleum Hydrocarbon Analysis (SW846 M8015m)			
M&E SAMPLE ID:	WFF15-SB7	WFF15-SB8	WFF9-SD1
MATRIX:	SOIL	SOIL	SOIL
UNITS:	ppm	ppm	ppm
SAMPLE DEPTH(ft):	7.5	4.5	NA
ANALYTES			
Diesel Fuel	30	27	22.84 J
NOTE: Chromatograms for samples WFF15-SB5 and WFF15-SB6 indicate presence of an unknown hydrocarbon.			

Asbestos Analysis		
SAMPLE ID:	WFF15-DP1	WFF15-DP2
UNITS:	%	%
Asbestos	45 - 50	45 - 50
NOTE: A key to symbols can be found on the last page of this table.		

TABLE 3.12-2, continued
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
OBSERVED CONTAMINATION

Inorganic Analysis (SOW:JLM02.1)		SUBSURFACE SOIL SAMPLES				
	M&E SAMPLE ID:	WFF15-SB3	WFF15-SB4	WFF15-SB8	WFF15-SB9	WFF15-SB10
	MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
	UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	DEPTH(ft):	1.5	1.5	4.5	4.5	4.5
ANALYTES		MAIN BASE SUBSURF SOIL BACKGROUND mg/kg (3xAVG)				
Arsenic	3.3					4.8
Beryllium	0.14			0.33	0.29	0.32
Calcium	495	670	1,030			
Copper	2.51		2.6	3.6	2.6	2.8
Lead	5.1		19.3 K			
Magnesium	560				668	690
		SURFACE WATER AND SEDIMENT SAMPLES				
	M&E SAMPLE ID:	WFF9-SW1	WFF9-SD1			
	MATRIX:	WATER	SOIL			
	UNITS:	ug/l	mg/kg			
ANALYTES		MAIN BASE BCKGRD				
	SW	SED				
	ug/l (3x)	mg/kg				
Aluminum	27	7,200	20,100 J			
Lead	3.3	16.2	65.4 J			
Magnesium	15,720	843	1,760 J			
Sodium	35,700	14	577			
Thallium	1	0.27	14.9 L			
Zinc	20	81.3	22.2			
NOTES: Background data for Site 15 surface water/sediment is taken from samples WFF9-SW5 and WFF9-SD5. A key to symbols can be found on the last page of this table.						

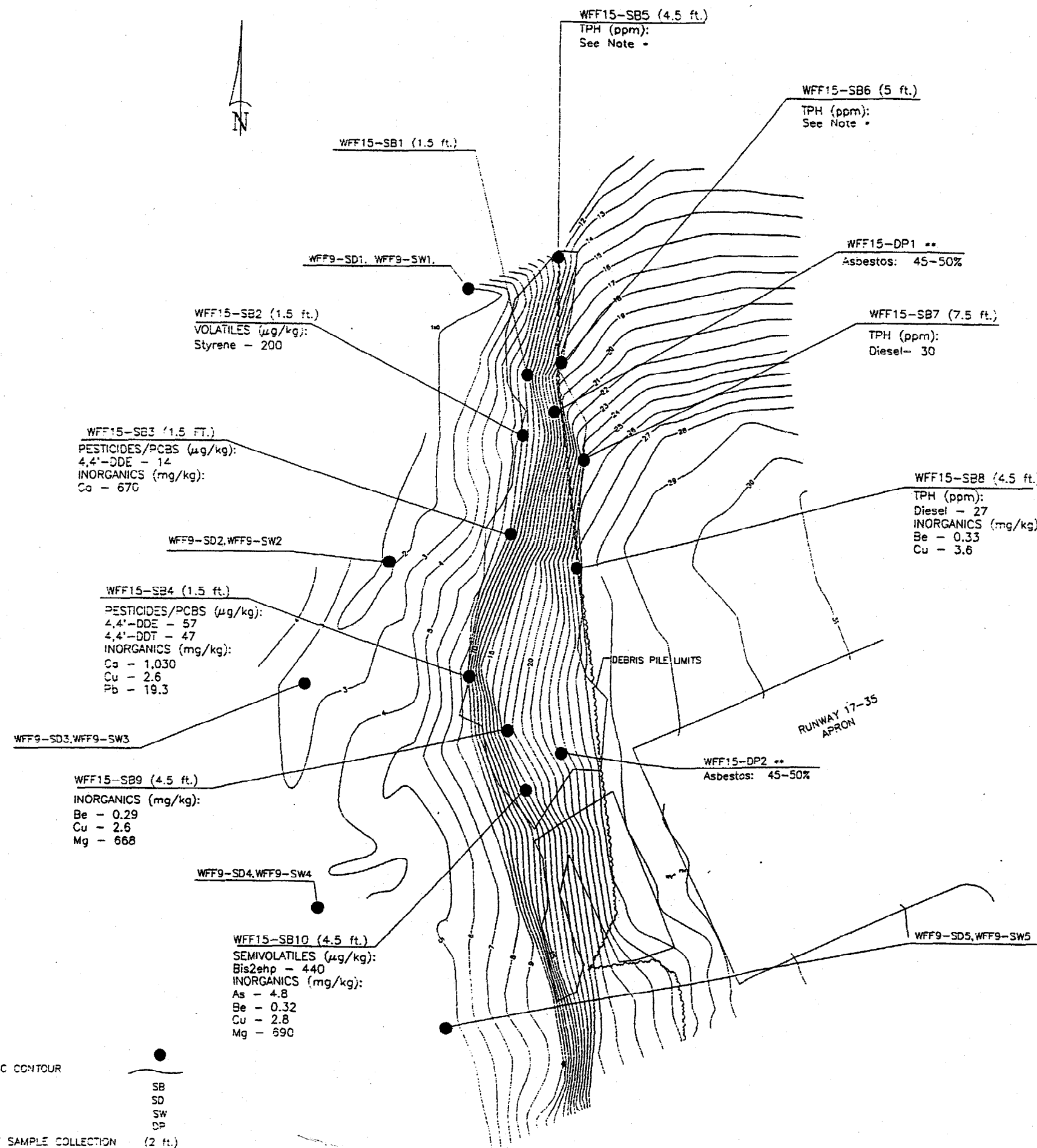
TABLE 3.12-2, continued
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
ANALYTES DETECTED IN BACKGROUND SAMPLES

Inorganic Analysis (SOW:ILMO2.1)		
M&E SAMPLE ID:	WFF9-SW5	WFF9-SD5
MATRIX:	WATER	SOIL
UNITS:	ug/l	mg/kg
SAMPLE DEPTH(ft):	N/A	N/A
ANALYTES		
Aluminum		2,400
Arsenic		0.85
Barium	20.2	17.2
Calcium	8240	248
Chromium		6.1
Cobalt		
Copper		17.3
Iron	183	3,030
Lead	1.1	5.4
Magnesium	5240	281
Manganese	80.6	21.7
Nickel		8
Potassium		
Selenium	1.2	
Sodium	11900	
Vanadium		32.2
Zinc		27.1
NOTE: All analytes are shown except those which were not detected or were detected in blanks.		

Organic Analysis (SOW:OLMO 1.8)		
M&E SAMPLE ID:	WFF9-SW5	WFF9-SD5
MATRIX:	WATER	SOIL
UNITS:	ug/l	mg/kg
DEPTH OF SAMPLE(ft):	N/A	N/A
ANALYTES		
Chloromethane	10	
Fluoranthene		130 J
Pyrene		110 J
4,4'-DDE		13
4,4'-DDD		18 J
4,4'-DDT		15
NOTE: A key to symbols can be found on the last page of this table.		

TABLE 3.12-2, continued
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35
KEY TO SYMBOLS AND ABBREVIATIONS

Sample Identification	Units
WFF = Wallops Flight Facility	ug/kg = micrograms per kilogram
SB = Soil Boring	mg/kg = milligrams per kilogram
SW = Surface Water	ug/l = micrograms per liter
SD = Sediment	ppm = parts per million
DP = Debris Pile	
BKGRD = Background	
 Data Qualifiers	
J = Analyte present. Reported value may not be accurate or precise.	
L = Analyte present. Reported value may be biased low.	
 Analytical Methods	
SOW:OLMO1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8 (CLP Method for organics, all matrices).	
SOW:ILMO2.1 = Inorganic Analysis Multi-Media Multi-Concentration, Revision 2.1 (CLP Method for inorganics, all matrices).	
SW846 M8015m = Solid Waste 846 Method 8015 modified for analysis of Total Petroleum Hydrocarbons, with fingerprinting (all matrices).	
 Other	
NA = Not Applicable	



NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicates possible presence of unknown hydrocarbon.
** Approximate location - sample point not surveyed.

CHEMICAL ABBREVIATIONS

SEMIVOLATILES:
Bis2ehp = bis(2-ethylhexyl)phthalate
PESTICIDES/PCBS:
4,4'-DDE = 4,4'-dichlorodiphenyldichloroethene
4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
TPH = Total Petroleum Hydrocarbons
INORGANICS:
As = Arsenic
Be = Beryllium
Ca = Calcium
Cu = Copper
Pb = Lead
Mg = Magnesium

LEGEND

- SAMPLE LOCATION ●
- EXISTING TOPOGRAPHIC CONTOUR ———
- SOIL BORING SB
- SEDIMENT SD
- SURFACE WATER SW
- DEBRIS PILE DP
- STARTING DEPTH OF SAMPLE COLLECTION (2 ft.)



14502 Greenview Drive,
Suite 500
Laurel, Maryland 20708

SOURCE:
Ramesh C. Batta
Associates, P.A.
600 N. Dupont Highway
Georgetown, DE 19847
Phone: (301) 865-2581
LWG. NO. 85635-C-3057-13



DATE: NOV. 1, 1994

FIGURE 3.12-2

SITE 15 - DEBRIS PILE,
ALONG RUNWAY 17-35

OBSERVED CONTAMINATION
SUBSURFACE SOIL AND
DEBRIS PILE SAMPLES

0030AB212

WFF9-SD1
 VOLATILES ($\mu\text{g}/\text{kg}$):
 2-But: - 41
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 β BHC - 11
 4,4'-DDE - 180
 4,4'-DDT - 50
 α -Chlor - 12
 Diesel - 22.84
 INORGANICS (mg/kg):
 Al - 20,100
 Pb - 65.4
 Mg - 1,760
 No - 577

WFF9-SW1
 PESTICIDES/PCBS (g/lg):
 4,4'-DDD - 0.24 μ
 INORGANICS (mg/l):
 TI - 14.9
 Zn - 22.2

WFF9-SW2
 SEMIVOLATILES ($\mu\text{g}/\text{lg}$):
 Bis2ehp - 4
 PESTICIDES/PCBS ($\mu\text{g}/\text{l}$):
 4,4'-DDE - 0.22
 4,4'-DDD - 0.58
 4,4'-DDT - 0.16

WFF9-SD2

WFF9-SD3, WFF9-SW3

WFF9-SD4, WFF9-SW4

WFF9-SW5 VOLATILES:
 CHLORO -10

WFF15-SB5

WFF15-SB1

WFF15-SB2

WFF15-SB3

WFF15-SB4

WFF15-SB9

WFF15-SB5

WFF15-SB6

WFF15-SB7

WFF15-SB8

WFF15-SB10

WFF15-DP1 **

WFF15-DP2 **

WFF9-SD5

SEMIVOLATILES ($\mu\text{g}/\text{kg}$):
 Fluoran - 130
 Pyrene - 110
 PESTICIDES/PCBS ($\mu\text{g}/\text{kg}$):
 4,4'-DDE - 13
 4,4'-DDD - 18
 4,4'-DDT - 15
 TPH (ppm):
 See Note *
 INORGANICS (mg/kg):
 Ba - 17.2
 Cr - 6.1
 Cu - 17.3
 Pb - 5.4
 Mg - 281
 Mn - 21.7
 V - 32.2
 Zn - 27.1

LEGEND
 SAMPLE LOCATION ●
 EXISTING TOPOGRAPHIC CONTOUR ———
 SOIL BORING SB
 SEDIMENT SD
 SURFACE WATER SW

SB
 SD
 SW



NOTES:

1. Horizontal Datum: Virginia State Plane Coordinate System.
 2. Vertical Datum: N.G.V.D.
 3. Horizontal and vertical data based on control information provided by N.A.S.A.
 4. This plan represents a field survey taken by Ramesh C. Batta Associates, P.A.
- * Chromatogram indicates possible presence of unknown hydrocarbon.
 ** Approximate location - sample point not surveyed.

CHEMICAL ABBREVIATIONS

VOLATILES:
 CHLORO = chloromethane
 2-But = 2-Butanone
 SEMIVOLATILES:
 Bis2ehp = bis(2-ethylhexyl)phthalate
 PESTICIDES/PCBS:
 4,4'-DDE = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDD = 4,4'-dichlorodiphenyldichloroethane
 4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane
 β BHC = beta-1,2,3,4,5,6-hexachloro-cyclohexane
 α -Chlor = alpha-Chlordane
 TPH = Total Petroleum Hydrocarbons
 INORGANICS:
 Al = Aluminum
 Pb = Lead
 Mg = Magnesium
 No = Sodium
 TI = Thallium
 Zn = Zinc

DEBRIS PILE LIMITS

RUNWAY 17-35
 APRON



14502 Greenview Drive,
 Suite 600
 Laurel, Maryland 20708

SOURCE:
 Ramesh C. Batta
 Associates, P.A.
 800 N. Dupont Highway
 Georgetown, DE 19947
 Phone: (801) 866-2581
 DWG. NO. 85630-C-9057-13



DATE: NOV. 1, 1994

FIGURE 3.12-3

SITE 15-DEBRIS PILE,
 ALONG RUNWAY 17-35

OBSERVED CONTAMINATION
 SURFACE WATER AND
 SEDIMENT SAMPLE

3.13 TRIP BLANKS

3.13.1 Sample Identification and Collection

A summary of trip blanks collected is presented as Table 3.13-1. All trip blanks were referred to as Site 16 samples (i.e., WFF16). M&E collected 24 trip blanks for TCL volatile or BTEX parameters.

3.13.2 Analytical Results

No volatile organic compounds were detected in any of the trip blanks. Volatile analytical results for QA/QC samples and all other field samples are presented in Appendix A-1.

**TABLE 3.13-1
TRIP BLANKS COLLECTED**

SAMPLE ID	DATE OF SAMPLE SHIPMENT	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF16-SW1	8/17/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW2	6/14/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW3	6/2/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW4	6/3/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW5	8/18/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW6	6/1/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW7	9/28/95	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW9	6/29/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW10	7/8/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW11	6/24/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW12	6/28/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW13	7/1/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.

**TABLE 3.13-1 (Cont.)
TRIP BLANKS COLLECTED**

SAMPLE ID	DATE OF SAMPLE SHIPMENT	DEPTH (FT)	ANALYTICAL PARAMETERS	REASON
WFF16-SW14	6/30/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW15	6/23/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW16	7/7/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW17	8/19/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW18	9/27/93	N/A	BTEX	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW19	6/15/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW20	5/31/93	N/A	BTEX	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW20	6/22/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW21	5/28/93	N/A	BTEX	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW22	9/28/93	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW24	9/27/95	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.
WFF16-SW25	9/26/95	N/A	TCL (voa)	Trip blank - Identify volatile contaminants introduced during sample shipping & handling.

NOTES: SW = Surface Water
 N/A = Not Applicable
 BTEX = Benzene, Toluene, Ethyl Benzene and Xylene

TCL = Target Compound List (125 Organics)
 voa = Volatile Organic Analysis

SECTION 4.0

HAZARD RANKING SCORING SYSTEM RESULTS

4.1 INTRODUCTION AND METHODOLOGY

The purpose of calculating preliminary HRS scores for WFF sites is to provide NASA with information needed for site prioritization to be used in future NASA environmental action. The HRS scores are not intended for use in EPA or State regulatory action, and are not final. Data gaps and recommendations for additional data needs were discussed in the Preliminary HRS Scoring Results Report prepared by M&E in December 1994 (NASA, 1994(f)). An addendum to the Preliminary HRS Scoring Results Report was prepared by M&E in March 1996, as part of Phase V for NASA WFF Site Inspections. The addendum includes revised HRS scores for additional Phase V investigations of Sites 4,5,9,10, and 12. The Preliminary HRS Scoring Results Report with Addendum is presented in Volumes IV-VI of this report.

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) required the United States Environmental Protection Agency (EPA) to establish criteria for determining priorities among hazardous substance releases or threatened releases for remedial or removal actions throughout the United States. Criteria and priorities were to be based upon the relative risk to the public health, welfare, or the environment, taking into account the populations at risk, the degree of hazard of the substances at the facilities, and the potential for contamination of drinking water supplies, direct human contact, or destruction of sensitive ecosystems. To meet this goal, the EPA finalized the Hazard Ranking System (HRS) as an appendix to the National Contingency Plan (NCP) in December, 1990. The HRS is the primary tool used by the EPA to determine whether a site will be placed on the National Priorities List (NPL). The NPL identifies priority sites for long term investigation and potential remedial response (40 CFR 300, 1992).

An HRS score for a site is determined by evaluating four pathways:

- Groundwater migration
- Surface water migration
- Soil exposure; and
- Air migration

Scoring for individual pathways is based on numerous factors grouped into three major categories: (1) likelihood of release (for soil exposure, likelihood of exposure); (2) waste characteristics; and (3) targets. The factor categories are evaluated individually and then combined to produce a pathway score. The four pathway scores are then combined mathematically to obtain a total site score. The total site score is only an indicator of the highest priority releases or threatened releases and not a specified level or risk. Based on the HRS, any site which scores 28.50 or greater (out of a possible 100 points) is considered for the NPL (40 CFR 300, 1992).

Some of the factors which are evaluated within the three major categories are described below.

- 1) **Likelihood of Release** - The first factor considered in the likelihood of release category is whether a documented release has occurred from a source to a pathway media (i.e., groundwater, surface water, or air). If any such release has been documented, a maximum likelihood of release score of 550 points is assigned to that pathway. If no release can be documented, then the site's potential to release is evaluated. The potential to release score is calculated by evaluating factors such as average net precipitation at the site, containment of the source, the depth to a groundwater aquifer or distance to a surface water body, runoff values, and flooding frequency at the site. For the soil exposure pathway, this evaluation is replaced by an evaluation of likelihood of exposure, which is based solely on the presence or absence of documented contamination in the top two feet of soil.
- 2) **Waste Characteristics** - The waste characteristics score is calculated from two factors: the combined toxicity and mobility of each of the hazardous substances which are present in a source; and the quantity of hazardous waste at a site. Petroleum compounds cannot be used in HRS scoring due to the CERCLA petroleum exclusion (EPA, 1992(b)). Therefore, petroleum compounds were not evaluated at any Wallops Flight Facility (WFF) HRS site. The hazardous waste quantity is the same for all pathways, and is based on one of the following: the mass of CERCLA hazardous compounds allocated to the source (if adequately documented); the mass of hazardous wastestreams that have entered the source (if adequately documented); the volume of the source (if estimated with reasonable accuracy); or the area of the source. The toxicity and mobility portion of the waste characteristics score is pathway specific, and evaluates the toxicity and mobility (and in some cases, persistence) of each compound present in a source within each specific pathway. The toxicity/mobility score used for a pathway is the highest one assigned for all the compounds in the source(s).
- 3) **Targets** - The targets category is the most complex portion of the HRS score, and includes several target groups for each pathway. Each target group is assessed within target distance limits (TDLs) (i.e., 0-1/4 mile, 1/4-1/2 mile, 1/2-1 mile, 1-2 miles, 2-3 miles, 3-4 miles, and for surface water, 4-15 miles), which are concentric rings around a site's sources. Target groups in the rings closest to a source contribute a significantly higher score to the pathway than target groups in distant rings. After each target group is evaluated, a target score is calculated for each pathway.

For groundwater, drinking water wells and the populations served by the wells are assessed for each TDL. In addition, the presence of groundwater resources and wellhead protection areas within the TDLs contribute to the target score for the groundwater pathway.

Surface water targets include populations served by drinking water intakes that are located within the TDLs, populations which consume seafood caught within the TDLs, and sensitive environments located within the TDLs.

Soil exposure targets include persons who reside or attend school or daycare on or near a site, workers on or near a site, nearby populations who may travel to a site, and terrestrial sensitive environments present on a site.

Air targets include populations within the TDLs and sensitive environments within the TDLs.

Twelve WFF sites were evaluated under the HRS. The sites are:

- Site 2 - Maintenance Facility, Building E-52 (Main Base)
- Site 4 - Debris Pile, North End of Wallops Island (Wallops Island)
- Site 5 - Paint Stain, Building X-30 (Wallops Island)
- Site 6 - Former Island Fueling System, Building X-5 and X-10 (Wallops Island)
- Site 7A - Transformer Pads (Main Base)
- Site 7B - Transformer Pads (Wallops Island)
- Site 8 - Former Main Base Fueling System, N-133 (Main Base)
- Site 9 - Abandoned Drum Field, Along Runway 17-35 (Main Base)
- Site 10 - Advanced Data Acquisition Support Facility, Building N-168 (Main Base)
- Site 11A - Transformer Storage Areas, Buildings M-3 and M-4 (Main Base)
- Site 11B - Transformer Storage Areas, Building V-30 (Wallops Island)
- Site 12 - Former Wind Tunnel (Wallops Island)
- Site 14 - Debris Pile, North of Runway 10-28 (Main Base)
- Site 15 - Debris Pile, Along Runway 17-35 (Main Base)

To increase the accuracy of the HRS scores, transformer pads and storage areas were separated according to geographical location, therefore Sites 7 and 11 were each split into two sites. An additional transformer pad site is located on the WFF Mainland, however, this site was not scored under HRS because it did not meet the minimum size requirement as set forth in the HRS Rule.

Preliminary site scores were calculated based on data gathered under M&E's Delivery Order 14 - NASA Wallops Flight Facility Site Inspection, Phases I-V. Additional information was obtained from reports generated during previous M&E delivery orders.

All WFF HRS site scores have been calculated using EPA's computerized PRESCORE package. Data gathered during future investigations can be entered into the PRESCORE files and site scores can be revised. All PRESCORE output has been hand checked. All methods and assumptions used in preparing the preliminary site scores have been guided by the HRS Final Rule, the EPA's HRS Guidance Manual, and communication with HRS specialists at the EPA. A computer disk containing the PRESCORE software and user manual is provided in Volume VII, Section 1 of this report.

4.2 SUMMARY OF HRS SCORING RESULTS

This section briefly summarizes the HRS scores of the twelve designated WFF sites. In this section, the individual pathway and total numerical scores are presented and the major contributing factors are briefly stated. Detailed data used for HRS scoring and definitions of key terms are presented in the Preliminary HRS Scoring Results Report with Addendum, which is presented in Volumes IV-VI of this report

A table presenting WFF HRS site scores is shown on the following page. Descriptions of scores are presented by site. The numerical values indicated in the table are taken from the PRESCORE output. According to the HRS Rule, scores are first calculated for individual pathways and then are combined using the following root-mean-square equation to determine the overall HRS site score:

$$S = \sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2}{4}}$$

S - Overall score
 S_{gw} - Groundwater migration pathway score
 S_{sw} - Surface water migration pathway score

S_s - Soil exposure pathway score
 S_a - Air migration pathway score

HRS SCORE SUMMARY

SITE NO.	GROUNDWATER MIGRATION PATHWAY	SURFACE WATER MIGRATION PATHWAY	SOIL EXPOSURE PATHWAY	AIR MIGRATION PATHWAY	TOTAL PRELIMINARY SITE SCORE
2	7.57	0.17	0.60	2.02	3.93
4	7.52	0.92	17.07	6.52	9.89
5	1.48	100.00	9.60	3.16	50.26
6	0.49	0.52	0.60	1.89	1.05
7A	4.99	0.11	1.20	5.16	3.64
7B	0.65	0.52	9.60	2.80	5.03
8	9.57	0.13	0.00	0.33	4.79
9	15.58	34.21	9.60	1.93	19.42
10	12.69	0.39	0.60	2.09	6.44
11A	0.00	0.00	0.60	1.41	0.76
11B	0.15	0.52	9.60	2.00	4.91
12	1.48	100.00	9.60	1.05	50.24
14	27.69	100.00	1.07	2.89	51.90
15	8.65	99.21	1.07	0.77	49.80

Site 2 - Maintenance Facility, Building E-52

A preliminary score of 3.93 was calculated for Site 2. The groundwater pathway was the highest scoring individual pathway due to the potential for contamination of NASA and Town of Chincoteague (TOC) drinking water wells, which are located within a relatively close proximity to the site. There were no documented surface water or air releases, and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, surface water and air pathways did not significantly impact the overall score. The soil pathway also did not significantly impact the overall score, because most of the residents in the vicinity of WFF live greater than one mile from the site.

Site 4 - Debris Pile, North End of Wallops Island

A preliminary score of 9.89 was calculated for Site 4. The soil exposure pathway was the highest scoring individual pathway because Site 4 is located in a terrestrial environment known to be used by Federal and State designated threatened or endangered species. The air pathway score was also based on this terrestrial sensitive environment. There were no documented surface water releases at this site, and the target impacts based on potential surface water contamination were relatively low for this pathway. Therefore, this pathway score did not significantly impact the overall score. The groundwater pathway score is driven by the proximity of the site to NASA and TOC drinking water wells. However, the HRS does not take into account the local hydrogeological conditions (i.e., barriers created by bays and ocean water), which would most likely prevent contamination of these wells from sources on Wallops Island. Results from additional sampling completed during the Phase V field investigation did not change the preliminary HRS score for this site.

Site 5 - Paint Stain, Building X-30

A preliminary score of 50.26 was calculated for Site 5. A maximum pathway score of 100 was calculated for the surface water pathway, based on the human food chain and environmental threats. The existence of a documented hazardous substance surface water release (detected in surface water and sediment) creates the potential for contamination of commercial and recreational fishing areas in the surrounding bays and ocean, and therefore increases the potential for human food chain contamination. Additionally, the release was found in a sensitive environment known to be used by Federal and State designated threatened or endangered species. The soil exposure pathway was the second highest scoring (9.60) individual pathway based on its location in a terrestrial environment known to be used by Federal and State designated threatened or endangered species. The target impacts based on potential air contamination were relatively low for this pathway and did not significantly impact the overall score. Due to the location and relatively small population served by drinking water wells within the 4-mile TDL, the groundwater pathway score did not significantly impact the overall site score. Results from additional sampling completed during the Phase V field investigation revealed surface water and sediment contamination which increased the preliminary HRS score from 4.91 points, reported by M&E in 1994 (NASA, 1994(e)), to the current score of 50.26.

Site 6 - Former Island Fueling Station, Buildings X-5 and X-10

A preliminary score of 1.05 was calculated for Site 6. Due to the location and relatively small population served by drinking water wells within the 4-mile TDL, the groundwater pathway score did not significantly impact the overall site score. There were no documented surface water or air releases and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, these pathways did not significantly impact the overall score. The soil pathway also did not significantly impact the overall score, because most of the residents in the vicinity of WFF live greater than one mile from the site. Additionally, Site 6 was not categorized as a terrestrial sensitive environment due to the lack of onsite or adjacent sensitive habitats.

Site 7A - Transformer Pads (Main Base)

A preliminary score of 3.64 was calculated for Site 7A. The groundwater and air pathways were the highest scoring individual pathways. These scores were respectively based on the proximity of transformer pad locations to NASA drinking water wells and residential areas within WFF (i.e., Navy and Coast Guard Housing). There were no surface water releases, and the target impacts based on potential contamination were relatively low for this pathway. Therefore, the surface water pathway did not have a significant impact on the overall site score. The negligible impact of the soil exposure pathway was due primarily to the inaccessibility of the transformer pads to the public.

Site 7B - Transformer Pads (Wallops Island)

A preliminary score of 5.03 was calculated for Site 7B. The soil exposure pathway was the highest scoring individual pathway because Site 7B is located in a terrestrial environment known to be used by Federal and State designated threatened or endangered species. Due to the location and relatively small population served by drinking water wells within the 4-mile TDL, the groundwater pathway score did not significantly impact the overall site score. There were no documented surface water or air releases and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, these pathways did not significantly impact the overall score.

Site 8 - Former Main Base Fueling System, Building N-133

A preliminary score of 4.79 was calculated for Site 8. The groundwater pathway was the highest scoring individual pathway based on its proximity to NASA and TOC drinking water wells. There were no documented surface water or air releases and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, these pathways did not significantly impact the overall score. The soil exposure pathway scored zero because all contaminants were found greater than two feet below the ground surface.

Site 9 - Abandoned Drum Field, Along Runway 17-35

A preliminary score of 19.42 was calculated for Site 9. The surface water pathway was the highest scoring individual pathway due to a documented hazardous substance surface water and sediment release at

the site. This release creates the potential for contamination of commercial and recreational fishing areas in the surrounding bays and ocean, and therefore increases the potential for human food chain contamination. The groundwater score was driven by the relative proximity of the site to NASA and TOC drinking water wells. The soil exposure pathway had a small impact on the overall score, due to the site's location in a terrestrial sensitive environment. The air pathway, based on potential air contamination, did not significantly impact the overall score. Results from additional sampling completed during the Phase V field investigation did not change the preliminary HRS score for this site.

Site 10 - Advanced Data Acquisition Support Facility (ADAS)

A preliminary score of 6.44 was calculated for Site 10. The groundwater pathway was the highest scoring individual pathway based on the proximity of the site to NASA and TOC drinking water wells. There were no documented surface water or air releases, and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, these pathways did not significantly impact the overall score. The soil pathway also did not significantly impact the overall score, because most residents in the vicinity of WFF live a distance greater than one mile from the HRS site. Results from groundwater sampling completed during the Phase V field investigation did not change the preliminary HRS score for this site.

Site 11A - Transformer Storage Area, Buildings M-3 and M-4

A preliminary score of 0.76 was calculated for Site 11A. All of the pathway scores were low for Site 11A, due to the fact that the source is enclosed inside a maintained structure. The groundwater and surface water migration pathways scored zero due to the structure which provides protection from precipitation so that neither run-off nor leachate are generated. The soil exposure was negligible due to inaccessibility to the public or wildlife. The air pathway score was low due to minimal potential for contaminant release.

Site 11B - Transformer Storage Area, Building V-30

A preliminary score of 4.91 was calculated for Site 11B. Unlike Site 11A, this site has sources of PCB contamination both inside and outside the storage building. The soil exposure pathway was the highest scoring of the individual pathways based on the site's location in a terrestrial environment known to be used by Federal and State designated threatened or endangered species. There were no documented surface water or air releases, and the target impacts based on potential surface water or air contamination were relatively low for these pathways. Therefore, these pathways did not significantly impact the overall score. Due to the location and relatively small population served by drinking water wells within the 4-mile TDL, the groundwater pathway score did not significantly impact the overall site score.

Site 12 - Former Wind Tunnel

A preliminary score of 50.24 was calculated for Site 12. A maximum pathway score of 100 was calculated for the surface water pathway, based on the human food chain and environmental threats. The existence of a documented hazardous substance surface water release (detected in sediment) creates the

potential for contamination of commercial and recreational fishing areas in the surrounding bays and ocean, and therefore increases the potential for human food chain contamination. Additionally, the release was found in a sensitive environment known to be used by Federal and State designated threatened or endangered species. Due to the location and relatively small population served by drinking water wells within the 4-mile TDL, the groundwater pathway score did not significantly impact the overall site score. The air migration pathway score, based on potential air contamination, did not significantly impact the overall score. The soil exposure pathway score had a slight impact on the overall score, due to the fact that the site is located in a terrestrial sensitive environment. The HRS score at this site was recalculated during Phase V to determine if the September 1995 collection of site-specific background samples (upgradient of the adjacent Site 5) might impact the Site 12 score. However, results from analyses of the new background samples collected near Site 5 did not change the preliminary HRS score for this site.

Site 14 - Debris Pile, North of Runway 10-28

A preliminary score of 51.90 was calculated for Site 14. A maximum pathway score of 100 was calculated for the surface water pathway, based on the human food chain and environmental threats. The existence of a documented hazardous substance surface water release at the site creates the potential for contamination of commercial and recreational fishing areas in the surrounding bays and ocean, and therefore increases the potential for human food chain contamination. Additionally, the release was found in a sensitive environment known to be used by Federal and State designated threatened or endangered species. Soil exposure and air migration pathways scores did not significantly impact the overall score. The proximity of the site to NASA and TOC drinking water wells caused the groundwater pathway to impact the overall score somewhat.

Site 15 - Debris Pile, Along Runway 17-35

A preliminary score of 49.80 was calculated for Site 15. A pathway score of 99.21 was calculated for the surface water pathway, based on the human food chain and environmental threats. The existence of a documented hazardous substance surface water release at the site creates the potential for contamination of commercial and recreational fishing areas in the surrounding bays and ocean, and therefore increases the potential for human food chain contamination. Additionally, the release was found in a sensitive environment known to be used by Federal and State designated threatened or endangered species. The groundwater pathway score was driven by the proximity of the site to NASA and TOC drinking water wells. Soil exposure and air migration pathway scores did not significantly impact the overall score.

SECTION 5.0

CONCLUSIONS AND RECOMMENDATIONS

The purpose of Section 5.0 is to summarize the status of each site based on data gathered during the Site Inspections (M&E Delivery Order 14, Phases I-V). The results of the preliminary HRS scoring are being incorporated into this summary to provide NASA with information needed for site prioritization which may be used in future NASA environmental action. The calculated HRS scoring results are presented in Volumes IV, V, and VI of this report. Preliminary HRS scores were based on data gathered during Phases I-V of the Site Inspections.

The EPA's HRS Guidance Manual (EPA, 1992(b)) specifically states that petroleum compounds cannot be used to consider a site for the National Priorities List (NPL). Petroleum compounds include the petroleum product and any constituents that are contained in the petroleum product (e.g., benzene), if those constituents were deposited solely by petroleum. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) excludes sites that are contaminated by petroleum alone. If a site is contaminated by CERCLA hazardous substances and petroleum, then the site is still considered under CERCLA guidance, but the petroleum compounds are excluded. Therefore, M&E did not include petroleum contamination in any of the HRS site scores and has not specifically discuss data needs for petroleum contaminated sites. However, petroleum compounds may still pose a risk to public health or the environment, so should not be entirely excluded from consideration in future NASA actions. Petroleum contamination detected at any of the sites should be addressed under guidance from the Commonwealth of Virginia's Department of Environmental Quality (VA DEQ) and considered from a risk-based perspective.

The goal of the Site Inspection is to provide sufficient data for evaluation of site waste characteristics; to identify contaminant releases from the sources to groundwater, surface water or air; and to document any hazardous substances present on residential, school or daycare property, or on terrestrial sensitive environments (EPA, 1992(a)). Evaluation of waste characteristics includes identification of site contaminants and approximation of source sizes. Actual contaminant releases from the sites, if any, are normally documented by collecting background and release data from each migration pathway. Site waste characteristics and release data for the migration routes were determined during Phases I-V of the Site Inspection. Although a full Site Inspection would include data collection from each migration pathway at each site, to conserve NASA funds, M&E has attempted to collect data only if it appears that the potential for contaminant migration is high, and/or if potential migration from the site could significantly impact nearby targets (e.g., populations or sensitive environments). The text that follows provides a summary of the hazardous substances present at each site, along with contaminant migration information and recommendations for future action.

5.1 SITE 2 - MAINTENANCE FACILITY, BUILDING E-52 (MAIN BASE)

Site 2 encompasses approximately 137,950 square feet adjacent to Building E-52, with documented contamination from the surface to a depth of seven feet. Analysis of the surface soil around former Building E-52 location indicates the presence of diesel fuel and several pesticides, including aldrin, chlordane, and DDT and its breakdown products. Volatile and semivolatile fuel products were detected, including ethyl benzene, xylenes and pyrene. In addition, several metals appear to be elevated above background, including arsenic, barium, lead and chromium. Based on visual observation, it appears that surface contamination may have been caused by surface deposition of maintenance and/or grounds maintenance materials, and/or by leaking equipment stored in the area. Subsurface soil results indicate the presence of diesel fuel and pesticides, including chlordane, BHC, and DDT and its breakdown products.

In addition, metals appear to be elevated in the subsurface, including barium, lead and manganese. A stained soil layer from approximately two to six feet below the surface was noted during field activities. Detailed results are presented in Section 3.1.

Although the overall preliminary HRS site score was only 3.93, the potential for contaminant release to groundwater is fairly high for Site 2, due to the lack of contaminant containment and a relatively short contaminant travel distance of approximately 13 feet from the source to groundwater (i.e., contaminants were detected at 7 feet below the surface, and groundwater is 20 feet below the surface). Groundwater samples have not been collected at Site 2, so it is unknown whether contaminants have migrated to the underlying aquifers. Although the levels of contaminants detected in the soils at Site 2 are relatively low, the site should be considered as a potential source if nearby groundwater contamination is detected in the future. Significant contamination of nearby surface water bodies attributed to Site 2 is unlikely due to the Main Base drainage patterns and low contaminant levels involved. The majority of the hazardous substances detected at Site 2 were low level and non-volatile (excluding petroleum compounds) which also limits contaminant release to air. Therefore, future investigative action at Site 2 is not recommended unless groundwater contamination is suspected. Personnel performing intrusive procedures (e.g., excavation) at this site should take precautions due to the presence of contaminants. The site should also be inaccessible to the public due to the presence of surface contamination.

5.2 SITE 4 - DEBRIS PILE, NORTH END OF WALLOPS ISLAND

Site 4 encompasses approximately 19,920 square feet on the north end of Wallops Island, with a maximum documented contaminant depth of two feet below the surface. Analysis of shallow soil samples indicates the presence of Aroclor 1254 and 1260 near an abandoned oil switch found during a previous phase of the Site Inspection (NASA, 1993(c)). Additional soil results indicated the presence of diesel fuel and a pesticide (endrin ketone). A number of semivolatile polycyclic aromatic hydrocarbons (PAHs) commonly associated with fuel products were detected, including naphthalene, phenanthrene, pyrene and chrysene. In addition, metals appear to be elevated, including antimony, arsenic, barium, chromium, mercury and silver. Asbestos was detected in a sample of debris from Site 4. Low levels of pesticides (i.e., 4-4'-DDT) were detected in one background sample. Diesel fuel (< 2 ppm) was also detected in one background sample collected near the site. M&E conducted localized background sampling near the site to determine whether contaminants detected here and on the south end of Wallops Island were widespread over the entire island. Analytical results from background sampling indicate that contamination is localized at the site. Contamination of this site was probably caused by disposal of wastes generated by a variety of former operations. Detailed results are presented in Section 3.2.

The potential for contaminant release to groundwater is high at Site 4 due to the lack of containment and a very short contaminant travel distance of approximately 2 feet from the source to groundwater. However, Site 4 is separated from drinking water wells by the various saltwater bays, channels, and wetlands between Wallops Island and the Virginia mainland, and migration of Site 4 contaminants via groundwater to drinking water wells is unlikely. Site 4 soil sampling indicated the presence of several semi-volatile compounds, mercury, and other contaminants which may pose a future concern for personnel exposure if future development of this area is expected.

5.3 SITE 5 - PAINT STAIN, BUILDING X-30 (WALLOPS ISLAND)

Site 5 encompasses approximately 17,671 square feet adjacent to Building X-30, with documented contamination from the surface to a depth of one foot. Analysis of the surface soil in the paint stain and sandblasting areas indicates the presence of diesel fuel and several pesticides, including chlordane and DDT and its breakdown products. Semivolatile PAHs commonly associated with fuel products are present in the soil, including fluorene, phenanthrene, pyrene, and chrysene. Aroclors 1254 and 1260 are also present. Diesel fuel was detected in a background soil sample collected near the site. In addition, a number of inorganics appear to be elevated above background, including chromium, copper, lead, and cyanide.

Subsurface soil results indicate the presence of pyrene and a number of elevated metals, including barium, chromium, lead, manganese, and vanadium. Stained sand layers of different colors (primarily gray) were noted in the sandblasting area during field activities. Analysis of surface water and sediment samples indicated elevated levels of pesticides and metals above background, including p,p'-methoxychlor, endrin ketone, chromium, iron, aluminum, and lead. Diesel fuel was detected in a background sediment sample. Detailed results are presented in Section 3.3.

Site 5 received a preliminary HRS score of 50.26, which is high enough to qualify it for the NPL. The score was based primarily on contaminants detected in the surface soils, surface water, and sediments at the site, and on the site's location in an ecologically sensitive environment. The source of elevated metals detected at this site is assumed to be painting and sandblasting activities. The source of organic contamination (i.e., fuel, pesticides, and PCBs) is unknown. However, similar compounds were also detected at Site 12 (Former Wind Tunnel) and at Site 4 (Debris Pile), both located on Wallops Island. M&E conducted background sampling during Phase V to determine whether organic contamination is widespread on Wallops Island, but background results did not show organic contamination. Therefore, the contamination detected at Sites 5 and 12 appear to be local and site related. The contamination detected at Site 4 was probably caused by waste disposal, and does not appear to be related to activities on the south end of the island. Due to the high HRS scores calculated at Sites 5 and 12, M&E believes that remedial investigations are warranted to delineate the extent of contamination at the sites and to more precisely determine the sources. NASA may want to combine these two sites into one investigation to conserve funds, but the presence of two separate contaminant sources should be acknowledged.

5.4 SITE 6 - FORMER ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10 (WALLOPS ISLAND)

Site 6 encompasses approximately 17,400 square feet adjacent to Buildings X-5 and X-10, with documented contamination from the surface to a depth of 3.5 feet below the surface. Analysis of the one surface soil sample collected near a waste oil tank standpipe indicated the presence of volatile compounds, including 2-butanone and 4-methyl-2-pentanone. Pesticides and PCBs were also detected, including endrin, chlordane, DDT and its breakdown products, and Aroclor 1260. In addition, a number of metals appear to be elevated above background, including barium, copper, lead, and zinc. Based on visual observation, it appears that surface contamination may have been caused by overflows of the waste oil tank standpipe. Subsurface soil results from samples collected throughout the site indicate the presence of diesel fuel and volatile and semivolatile fuel compounds, including benzene, toluene, ethyl benzene, xylenes, and pyrene. Metals also appear to be elevated in the subsurface, including barium and lead. Detailed results are presented in Section 3.4.

With the exception of the area around the waste oil tank standpipe, M&E does not recommend any further CERCLA action at this site. The soil around the standpipe could be excavated and disposed to remove the

hazardous substances detected there. However, this soil does not appear to pose any significant risk to the public or sensitive environments. The majority of substances detected at this site appear to be from fuel contamination, which is exempt from CERCLA action. M&E recommends discussion of future action at this site with the VA DEQ. M&E evaluated Site 6 carefully during calculation of the HRS score, which totaled 1.05 points (out of a possible 100 points). M&E initially calculated the HRS score according to the CERCLA petroleum exclusion. However, in order to reflect worst case conditions at Site 6, M&E recalculated the score including all petroleum compounds detected at the site, and obtained a revised total score of 1.30 points, which is well below the 28.5 points needed for consideration of the site for the National Priorities List (NPL). M&E does not believe that this site requires further CERCLA investigation because of the natural barrier between the site and any drinking water wells; the lack of sensitive ecological habitat directly on or adjacent to the site; and the deposition of contaminants primarily by fuel. NASA should continue to restrict public access to Site 6, and should protect any future personnel working on the site from exposure to surface and subsurface contaminants. The potential for volatile release during intrusive activity at this site is high.

5.5 SITE 7 - TRANSFORMER PADS

5.5.1 Summary of Site 7 Results

Main Base:

Transformers with a total PCB oil capacity of approximately 2,476 gallons have been removed from various locations on the WFF Main Base (NASA, 1990(b)). Concrete wipe samples were collected from the 12 pads which held these transformers, and surface soil samples were collected under one pole-mounted transformer. Analytical results indicated the presence of PCBs on 11 of the 12 pads, six of which are located indoors. The PCBs detected include Aroclors 1242, 1254, and 1260. Soil contamination was not detected.

Wallops Island:

Transformers with a total PCB oil capacity of approximately 1,790 gallons have been removed from various locations on Wallops Island (NASA, 1990(b)). Concrete wipe samples were collected from nine pads which held these transformers, and surface soil samples were collected around three outdoor transformers. Analytical results indicated the presence of PCBs on eight of the nine pads, five of which are located indoors. The PCBs detected include Aroclors 1242, 1254, and 1260. Soil contamination was not detected.

Mainland:

Transformers with a total PCB oil capacity of approximately 753 gallons have been removed from two locations on the Mainland (NASA, 1990(b)). Surface soil samples were collected around the former outdoor transformer locations on the Mainland. Aroclor 1242 was detected in one sample collected near Building U-40A. PCBs were not detected at the second location, Building U-5. M&E does not recommend any further CERCLA action at Mainland transformer pads due to the very limited area of detected contamination.

5.5.2 Recommendations

M&E does not anticipate the need for future CERCLA action at any of these sites. However, additional data may be necessary to address TSCA concerns for PCBs if disposal of the concrete pads and

surrounding soil is planned in the future. NASA should continue to restrict public access to all transformer pads to prevent any exposure to PCBs.

5.6 SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134

Site 8 encompasses approximately 20,563 square feet adjacent to Buildings N-133 and N-134, with a maximum documented contaminant depth of four feet below the surface. Analysis of the soil around Buildings N-133 and N-134 indicates the presence of gasoline, diesel fuel, and volatile fuel products (benzene, toluene, ethyl benzene, and xylenes). In addition, a number of metals appear to be elevated above background, including beryllium, cobalt, manganese, lead, and zinc. Based on historical records and results of a magnetometer study (NASA, 1993(c)), it appears that fuel contamination was primarily caused by leaking pipes located between the former underground storage tanks and the former fueling islands. Elevated metals detected in a soil sample collected near a former oil/water separator may be attributable to the separator. Detailed results are provided in Section 3.6.

M&E does not recommend any further CERCLA action at this site. The majority of substances detected at this site appear to be from fuel contamination, which is exempt from CERCLA action. M&E recommends discussion of future action at this site with the VA DEQ. M&E evaluated Site 8 carefully during calculation of the preliminary HRS score, which totaled 4.79 points (out of a possible 100 points). M&E initially calculated the HRS score according to the CERCLA petroleum exclusion. However, in order to reflect worst case conditions at Site 8, M&E recalculated the score including all petroleum compounds detected at the site, and obtained a revised total score of 4.83 points, which is well below the 28.5 points needed for consideration of the site for the NPL. M&E does not believe this site could obtain a final score near 28.5 because of the lack of sensitive ecological habitat on or adjacent to the site, and the deposition of contaminants primarily by fuel. NASA may need to discuss the potential need for groundwater data from this site with the VA DEQ. Petroleum contamination of groundwater from this site if present, could pose a potential risk to populations served by nearby NASA and/or TOC drinking water wells. NASA should discourage public use of Site 8, and should protect any future personnel working on the site from exposure to surface and subsurface contaminants. The potential for volatile release during intrusive activity at this site is high.

5.7 SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35 (MAIN BASE)

Site 9 encompasses approximately 91,200 square feet adjacent to Runway 17-35, with documented contamination in soil, surface water, sediment, groundwater, and one sample of drum contents. Analysis of the soil at Site 9 indicates the presence of one semivolatile compound (di-n-octyl phthalate) in two samples and cyanide in three samples. No other contaminants were detected in soil samples collected from Site 9. Analysis of the drum sample indicates the presence of PAHs, and other semivolatile compounds including naphthalene, benzo(a)pyrene, flouranthene, pyrene, and chrysene. Pesticides were also detected, including chlordane, and DDT and its breakdown products. Styrene and 2-butanone were detected in addition to a number of metals, including arsenic, barium, chromium, lead, cobalt, manganese, vanadium and zinc. Surface water and sediment results indicate elevated levels above background of volatile compounds, including chloromethane, cis-1,2-dichloroethene, and 2-butanone. Pesticides were also detected, including DDT and its breakdown products, and endrin ketone. In addition, metals appear to be elevated in the sediment, including aluminum, arsenic, barium, chromium, cobalt, lead, manganese, nickel, vanadium and zinc. Groundwater sampling results indicate metal levels elevated above background, including aluminum, chromium, and iron. Detailed results are presented in Section 3.7.

The preliminary HRS score calculated for Site 9 (19.42 points) was high enough to warrant sampling all of the exposure pathways. Analyses of groundwater samples and additional surface water/sediment samples collected during Phase V of the SI indicate no significant contamination and did not alter the preliminary HRS score. Although M&E does not recommend any further CERCLA investigation, it should be recognized that the drums at this site and the contamination in the sediments and soils continue to be potential sources of contamination for downstream fisheries and sensitive environments. M&E recommends removal of the drums from the site because some drums still contain hazardous substances and may leach heavy metals to the soil and surface water as they continue to deteriorate. In addition, M&E recommends consideration of this site as a potential upstream contaminant source during any further CERCLA action that may be conducted at the adjacent Site 15.

5.8 SITE 10 - ADVANCED DATA ACQUISITION SUPPORT FACILITY (ADAS), BUILDING N-168 (MAIN BASE)

Site 10 encompasses approximately 15,320 square feet adjacent to Building N-168, with documented contamination from the surface to a depth of two feet. Analysis of the soil around Building N-168 indicates the presence of several pesticides, including BHC, methoxychlor, dieldrin, chlordane, and DDT and its breakdown products, as well as a PCB, Aroclor 1254. Volatile and semivolatile compounds were detected, including acetone, 2-butanone, tetrachloroethene (PCE) and pyrene. In addition, a number of metals appear to be elevated above background, including arsenic, beryllium, cadmium, lead, manganese, and vanadium. Two stained layers were noted during field activities. The surface layer was approximately six inches thick, and the subsurface layer extended from approximately one to two feet below the surface. Based on visual observation, it appears that surface contamination may have been caused by surface deposition from drums, or leaks from ADAS and the heat exchange unit. In addition, it appears that PCE used to clean the antenna machinery may have leaked from the base of the building. The concrete berm around the base of ADAS has several drainage holes, and staining appears particularly heavy near the drains. Analyses of groundwater samples at Site 10 indicated levels of volatiles above background, including cis-1,2-dichloroethene, and PCE. Cis-1,2-dichloroethene is typically a breakdown product of PCE. Detailed results are presented in Section 3.8.

M&E does not recommend further CERCLA investigation of this site based on the preliminary HRS score of 6.44 calculated for this site. However, due to the proximity of the site to TOC drinking water wells, groundwater samples were collected during Phase V of the SI. Analyses of groundwater samples indicates the presence of PCE. This finding did not impact the preliminary HRS score for the site because the contaminant was not detected in a drinking water well. However, there is potential for drinking water contamination, and Site 10 should be acknowledged as a potential source if solvent contamination (i.e., PCE) is detected in TOC wells in the future. Site 10 should also be considered a potential source for the PCE which has previously been detected in monitoring wells at the old AFTF (NASA, 1992(b)). NASA should consider removal or remediation of contaminated soils at Site 10 to prevent further groundwater contamination, and should continue to monitor the groundwater quality to ensure that a drinking water threat does not occur.

5.9 SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4 (MAIN BASE), AND V-30 (WALLOPS ISLAND)

Site 11 encompasses approximately 9,840 square feet including Buildings M-3, M-4, and V-30. Wipe samples were collected inside and outside the buildings. Analysis of wipe samples indicates the presence of low level PCB contamination ($< 30 \mu\text{g}/100\text{cm}^2$) inside Building M-3. PCBs were also detected inside and outside Building V-30 at concentrations of less than $2 \mu\text{g}/100\text{cm}^2$. The PCBs detected were Aroclor

1242 and 1260.

M&E does not recommend any further CERCLA action at Site 11. The likelihood of PCB migration away from these buildings appears fairly low since the majority of contamination is enclosed. The contamination detected outside Building V-30 is very low, and was probably caused by outdoor drum storage. In addition, the documented source sizes are lower than the minimum size of 17,000 square feet normally considered under the HRS. The estimated areas of the Main Base and Wallops Island storage areas are 3,640 and 5,840 square feet, respectively. Additional data may be necessary to address TSCA concerns for PCBs if disposal of the concrete pads and surrounding soil is planned in the future. NASA should continue to restrict public access to all transformer pads to prevent any exposure to PCBs.

5.10 SITE 12 - FORMER WIND TUNNEL, NEAR BUILDING X-115 (WALLOPS ISLAND)

Site 12 encompasses approximately 18,160 square feet near Building X-115, with documented hazardous substance contamination on the surface. Analysis of the surface soil and sediment in the area of the Former Wind Tunnel indicates the presence of several pesticides, including BHC, aldrin, chlordane, toxaphene, and DDT and its breakdown products. Aroclor 1254 was also detected. Semivolatile PAHs commonly associated with fuel products were detected, including fluorene, phenanthrene, pyrene, and chrysene. In addition, a number of inorganics appear to be elevated above background, including chromium, copper, lead, mercury, and cyanide. It is possible that contaminants detected at Site 12 are attributable to former Wind Tunnel activities, and it should be noted that many of the Site 12 contaminants were also detected at the adjacent Site 5.

Site 12 received a preliminary HRS score of 50.24, which is high enough to qualify it for the NPL. The score was based primarily on contaminants detected in the surface soils and sediments at the site, and on the site's location in an ecologically sensitive environment. The source of organic contamination (i.e., fuel, pesticides, and PCBs) is unknown. However, similar compounds were also detected at Site 5 (Paint Stain) and at Site 4 (Debris Pile), both located on Wallops Island. M&E conducted background sampling during Phase V in September 1995 to determine whether organic contamination is widespread on Wallops Island, but background results did not show organic contamination. Therefore, the contamination detected at Sites 12, 5, and 4 appears to be local and site related. Due to the high HRS scores calculated at Sites 12 and 5, M&E believes that remedial investigations are warranted to delineate the extent of contamination at the sites and to more precisely determine the sources. NASA may want to combine these two sites into one investigation to conserve funds, but the presence of two separate contaminant sources should be acknowledged.

5.11 SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28 (MAIN BASE)

Site 14 encompasses approximately 80,000 square feet north of Runway 10-28, with documented contamination from the surface to a depth of 4.5 feet, as well as in leachate and sediment samples. Analysis of the soil indicates the presence of PCBs and pesticides, including Aroclor 1260 and DDT and its breakdown products. In addition, a number of metals appear to be elevated above background, including arsenic, copper, lead, manganese, and zinc. Surface water and sediment results indicate the presence of pesticides, including chlordane and DDT and its breakdown products. In addition, volatile and semivolatile fuel compounds were detected, including 2-butanone, ethylbenzene, fluorene, phenanthrene, pyrene and chrysene. Inorganics appear to be elevated in the surface water and sediment, including cobalt, copper, lead, manganese, mercury, vanadium and cyanide. Detailed results are presented in Section 3.11.

Site 14 received a preliminary HRS score of 51.90, which is high enough to qualify it for the NPL. The score was primarily a result of a cyanide detection in a leachate sample. This leachate drains from the debris pile into the stream on the site, which is surrounded by wetlands and drains into commercial and recreational fishing and shellfish areas as well as sensitive environments. A Remedial Investigation is recommended to determine the extent of contamination migration and the likelihood of contamination of nearby target areas, and to further delineate the source(s) of contamination.

5.12 SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35 (MAIN BASE)

Site 15 encompasses approximately 36,155 square feet adjacent to Runway 17-35, with a maximum documented contaminant depth of 4.5 feet below the surface. Surface water and sediment contamination have also been detected. Analysis of soil indicates the presence of styrene, diesel fuel, and several pesticides, including DDT and DDE. In addition, a number of metals appear to be elevated above background, including arsenic, beryllium, copper and lead. Asbestos was detected in two debris samples collected from the site. Surface water and sediment results indicate the presence of diesel fuel and pesticides, including chlordane, BHC, and DDT and its breakdown products. In addition, metals appear to be elevated, including aluminum, lead, thallium and zinc. Detailed results are presented in Section 3.12.

The preliminary HRS score which was calculated for Site 15 is 49.8, which is high enough to qualify the site for the NPL. This score was based primarily on metals and pesticides which were detected in the surface water draining from the site, and on the presence of fisheries, wetlands, and sensitive environments on or downgradient from the site. M&E collected and analyzed background data in September 1995 during Phase V to determine whether contaminants detected at Site 15 may be from upstream sources. However, contaminants detected in the surface water at Site 15 were not detected in the upgradient samples collected during Phase IV and V background sampling. Therefore, Phase V data did not impact the Site 15 score. A Remedial Investigation is recommended to delineate contaminant migration from the site, and to further identify the source(s) of contamination.

SECTION 6.0

REFERENCES

- AC Pop, 1990. *1990 U.S. Census Population Counts, Accomack-Northhampton Planning District*. Provided by Sandra Mantar, Environmental Planner, Accomack County Department of Public Affairs.
- AIC, 1994. Agency Information Consultants, Inc., *Population Analysis*, August, 1994.
- Bundick, 1994. Personal communication between Bundick Wells and Pumping, and Bruce Jones (M&E) regarding depths of domestic wells in vicinity of WFF. September 29, 1994.
- EPA, 1992(a). *Guidance for Performing Site Inspections Under CERCLA, Interim Final*. September, 1992. EPA/540-R-92-021.
- EPA, 1992(b). *Hazard Ranking System Guidance Manual*, U.S. Environmental Protection Agency EPA 540-R-92-026, November, 1992.
- EPA, 1994. *Using Qualified Data to Document an Observed Release*, U.S. Environmental Protection Agency EPA/540/F-94/028, July, 1994.
- FEMA, 1983. *Federal Emergency Management Agency, Flood Insurance Study, Accomack County, Virginia, Unincorporated Areas*, December 1, 1983.
- 40 CFR 230.2, 1992. *Code of Federal Regulations, Title 40, Part 230.2*, July 1, 1992.
- 40 CFR 300, 1992. *Code of Federal Regulations, Section 40, Part 300, Appendix A*. July 1, 1992.
- M&E, 1993(a). Letter from Ms. Peggy Farrell (M&E) to Ms. Teresa Spagnuolo (NASA). February 8, 1993.
- M&E, 1993(b). *NASA Wallops Flight Facility Site Inspection Field Logbook, Metcalf & Eddy, Inc.*, May - September, 1993.
- M&E, 1993(c). GP Environmental Services, Inc., *Sample Analysis Report for NASA Wallops Flight Facility*, January 4, 1993.
- MDE, 1994. Personal communication between Sehatine Senanayake (Maryland Department of Environment, Public Drinking Water Section) and Bruce Jones (M&E) regarding surface water intakes in Maryland. July 7, 1994.

- MDNR, 1994. Facsimile communication from Connie Lewis (Maryland Department of Natural Resources) to Bruce Jones (M&E) regarding Maryland fisheries. July 6, 1994.
- NASA, 1948. Drawings for former Wallops Island Fueling System - Drawing #LD-30120, pages 1-20, July 22, 1948.
- NASA, 1978. *A New Dimension: Wallops Island Flight Test Range: The First Fifteen Years*. Prepared by Joseph Adams Shortal, Wallops Flight Facility. NASA Reference Publication 1028. December, 1978.
- NASA, 1988(a). Memo to Mr. Graham J. Ellixson, Jr., Corps of Engineers, from Mr. Billie J. McGarvey, Assistant Associate Administrator for Facilities Management. September 26, 1988.
- NASA, 1988(b). Memo to Bernie Wilson from Health, Safety and Security regarding Annual Safety and Health Survey Report - Building E-52. October 31, 1988.
- NASA, 1990(a). Telecon to J. Wall from B. Wilson, January 9, 1990.
- NASA, 1990(b). Memorandum from Code 293, Head of Plant Operations and Maintenance Branch to Code 205.2, Teresa Spagnuolo regarding PCB Transformers. February 14, 1990.
- NASA, 1990(c). *Final Soil Gas Report*. Prepared by Ebasco Services, Inc., September 1990.
- NASA, 1990(d). *Environmental Sites Survey, WFF, Wallops Island, Virginia*. Prepared by Ebasco Services, Inc., November, 1990.
- NASA, 1991(a). *Revised Final Supplemental Site Characterization - Aviation Fuel Tank Farm*. Prepared by Ebasco Services, Inc., January, 1991.
- NASA, 1991(b). *Fire Prevention Inspection Report, Building E-52, Code 93.2*, March, 1991.
- NASA, 1992(a). Facsimile communication from Teresa Spagnuolo (NASA) to Karen Thorpe (M&E) regarding number of employees per building at WFF. February 11, 1992.
- NASA, 1992(b). *Final Design Investigation of the Old Aviation Fuel Tank Farm*. Prepared by Metcalf & Eddy, Inc., June, 1992.
- NASA, 1992(c). *Statement of Work for Performance of a Site Inspection for Miscellaneous Sites*. December 30, 1992.

- NASA, 1993(a). Personal communication between M. Bunting (CSC), R. Williams (M&E), and J. Phillips (M&E). February, 1993.
- NASA, 1993(b). Personal communication between D. Traynor (NASA), R. Williams (M&E), and J. Phillips (M&E), February, 1993.
- NASA, 1993(c). *NASA Wallops Flight Facility Site Inspection Preliminary Report #1: Unexploded Ordnance/Magnetometer Survey Results*. Prepared by Metcalf & Eddy, Inc., April 28, 1993. Revised July 23, 1993.
- NASA, 1993(d). *NASA Wallops Flight Facility Site Inspection Preliminary Report #2: Soil Gas Survey Results*. Prepared by Metcalf & Eddy, Inc., April 28, 1993. Revised July 23, 1993.
- NASA, 1993(e). NASA comments to *NASA Wallops Flight Facility Site Inspection Preliminary Report #3: Phase III and IV Sampling Results*. Draft report prepared by Metcalf & Eddy, Inc., November 3, 1993. Comments prepared by NASA, November 26, 1993.
- NASA, 1994(a). *Environmental Resources Document, Wallops Flight Facility*. Prepared by Metcalf & Eddy, Inc., May, 1994.
- NASA, 1994(b). Letter from Teresa Spagnuolo (NASA) to Jane Phillips (M&E) regarding employee distribution over WFF Mainbase, Wallops Island and Mainland. June, 1994.
- NASA, 1994(c). Personal communication between William Bott (NASA) and Bruce Jones (M&E) regarding pumpage rates for NASA drinking water wells. August 26, 1994.
- NASA, 1994(d). Personal communication between Bundick Wells and Pumping, and Bruce Jones (M&E) regarding depths of domestic wells in vicinity of WFF. September 29, 1994.
- NASA, 1994(e). *Wallops Flight Facility Site Inspection, Preliminary Hazard Ranking System Scoring Results*. Prepared by Metcalf & Eddy, Inc., December 5, 1994.
- NASA, 1994(f). *Wallops Flight Facility Site Inspection Preliminary Report #3: Phase III and IV Sampling Results*. Prepared by Metcalf & Eddy, Inc., December 5, 1994.
- NASA, 1995. *NASA Wallops Flight Facility Final Site Inspection Work Plan*. Prepared by Metcalf & Eddy, Inc., March 1, 1993. Revised May 12, 1993.
- NAVY, 1956. Drawings of former Navy Exchange Service Station, Drawing #55-107.

- SCS, 1992. Personal communication between Rodney Lewis (Soil Conservation Service, Accomack Conservation District, Accomac, Virginia) and Karen Thorpe (M&E) regarding 2 year, 24 hour rainfall data for vicinity of WFF. February 6, 1992.
- SCS, 1994. Personal communication between Rodney Lewis (Soil Conservation Service, Accomack Conservation District, Accomac, Virginia) and Bruce Jones (M&E) regarding sources of agricultural irrigation water. September, 1994.
- TOC, 1994. Personal communication between Stuart Baker (Town of Chincoteague) and Bruce Jones (M&E) regarding permanent versus transient TOC populations. September 3, 1994.
- VA DEQ, 1994. Personal communication between Terry Wagner (Commonwealth of Virginia, Department of Environmental Quality) and Bruce Jones (M&E) regarding Virginia wellhead protection areas. June 7, 1994.
- VA DOH, 1994. Personal communication between Evans Massie (Commonwealth of Virginia, Department of Health) and Jane Phillips (M&E) regarding Virginia surface water intakes. June 22, 1994.
- VA SWCB, 1991. Letter from Michelle Fults (Water Resources Planner, Commonwealth of Virginia, State Water Control Board) to Phil Klinedinst (M&E) regarding pumpage rates for TOC drinking water wells. November 19, 1991. Enclosures: *1990 pumpage data for NASA and Town of Chincoteague water supply wells*; excerpt from *Eastern Shore Water Supply Plan, Virginia State Water Control Board Planning Bulletin 342*, March, 1988.
- VA MRC, 1994. Letter from Sonya K. Davis (Commonwealth of Virginia, Marine Resources Commission, Fisheries Management Division, Plans/Statistics Department) to Bruce Jones (M&E) regarding Virginia fisheries. July 22, 1994.

APPENDIX A

DATA VALIDATION SUMMARIES

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52							
WFF2-SB1	A-1.13	A-2.17	A-3.34	A-4.10	A-4.30	A-5.13	
WFF2-SB2	A-1.13	A-2.17	A-3.34	A-4.10	A-4.30	A-5.13	
WFF2-SB3	A-1.13	A-2.17	A-3.26	A-4.10	A-4.30	A-5.13	
WFF2-SB4	A-1.13	A-2.17	A-3.35	A-4.11	A-4.31	A-5.13	
WFF2-SB5	A-1.15	A-2.21	A-3.34	A-4.12	A-4.32	A-5.15	
WFF2-SB6	A-1.15	A-2.21	A-3.35	A-4.12	A-4.32	A-5.15	
WFF2-SB7	A-1.15	A-2.21	A-3.36	A-4.12	A-4.32	A-5.15	
WFF2-SB8	A-1.15	A-2.21	A-3.28	A-4.13	A-4.32	A-5.15	
WFF2-SB9	A-1.15	A-2.21	A-3.36	A-4.13	A-4.32	A-5.15	
WFF2-SB10	A-1.15	A-2.21	A-3.34	A-4.12	A-4.32	A-5.17	
WFF2-SB11	A-1.13	A-2.17	A-3.34	A-4.11	A-4.30	A-5.14	DUP (SB1)
WFF2-SW1	A-1.17	A-2.25	A-3.27	A-4.12	A-4.33	A-5.17	F BLK
WFF2-SW2	A-1.17	A-2.25	A-3.27	A-4.12	A-4.33	A-5.17	E BLK(SS)
WFF2-SS1	A-1.16	A-2.23	A-3.36	A-4.12	A-4.32	A-5.16	
WFF2-SS2	A-1.16	A-2.23	A-3.36	A-4.12	A-4.32	A-5.16	
WFF2-SS3	A-1.16	A-2.23	A-3.28	A-4.12	A-4.32	A-5.16	
WFF2-SS4	A-1.16	A-2.23	A-3.28	A-4.12	A-4.32	A-5.16	
WFF2-SS5	A-1.16	A-2.23	A-3.36	A-4.13	A-4.32	A-5.16	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 2 - MAINTENANCE FACILITY, BUILDING E-52 (Continued)							
WFF2-SS6	A-1.16	A-2.23	A-3.36	A-4.13	A-4.32	A-5.17	DUP(SS3)
SITE 4 - DEBRIS PILE, WALLOPS ISLAND							
WFF4-SB1	A-1.3	A-2.1	A-3.4	A-4.5	A-4.24	A-5.5	
WFF4-SB2	A-1.3	A-2.1	A-3.2	A-4.5	A-4.23	A-5.5	
WFF4-SB3	A-1.3	A-2.1	A-3.2	A-4.5	A-4.23	A-5.5	
WFF4-SB4	NA	NA	NA	A-4.5	A-4.23	A-5.5	BCKGRD
WFF4-SB5	NA	NA	NA	A-4.5	A-4.23	A-5.5	BCKGRD
WFF4-SB6	A-1.29	A-2.43	A-3.52	A-4.43	A-4.50	A-5.29	
WFF4-SB7	A-1.29	A-2.43	A-3.52	A-4.43	A-4.50	A-5.29	DUP (SB6)
WFF4-SS1	NA	NA	A-3.19	NA	NA	NA	
WFF4-SS2	NA	NA	A-3.37	NA	NA	NA	
WFF4-SS3	NA	NA	A-3.19	NA	NA	NA	
WFF4-SS4	NA	NA	A-3.19	NA	NA	NA	
WFF4-SW7	A-1.3	A-2.1	A-3.1	A-4.5	A-4.23	A-5.6	EB (SB)
WFF4-SW9	NA	NA	A-3.49	NA	NA	NA	EB (SS)
WFF4-DP1	NA	NA	NA	NA	NA	NA	Asbestos: A-6.2
SITE 5 - PAINT STAIN, BUILDING X-30							
WFF5-SS1	A-1.22	A-2.35	A-3.47	NA	NA	A-5.25	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 5 - PAINT STAIN, BUILDING X-30 (Continued)							
WFF5-SB1	A-1.7	A-2.9	NA	NA	NA	A-5.7	
WFF5-SS2	A-1.22	A-2.35	A-3.47	NA	NA	A-5.25	
WFF5-SB2	A-1.7	A-2.9	NA	NA	NA	A-5.7	
WFF5-SS3	A-1.22	A-2.35	A-3.48	NA	NA	A-5.25	
WFF5-SB3	A-1.7	A-2.9	NA	NA	NA	A-5.7	
WFF5-SS4	NA	NA	NA	A-4.16	A-4.36	A-5.25	
WFF5-SB4	NA	NA	NA	A-4.6	A-4.25	A-5.7	
WFF5-SB5	A-1.30	A-2.45	A-3.53	A-4.44	A-4.51	A-5.30	
WFF5-SW1	A-1.24	A-2.35	NA	NA	NA	A-5.27	F BLK
WFF5-SD2	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	
WFF5-SW2	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	
WFF5-SD3	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	
WFF5-SW3	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	
WFF5-SW4	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	E BLK (SS)
WFF5-SW5	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	F BLK
WFF5-SD6	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	DUP (SD3)
WFF5-SW6	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	DUP (SW3)
WFF5-SW7	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	E BLK (SW)

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
WFF5-SW8	A-1.31	A-2.47	A-3.54	A-4.45	A-4.52	A-5.31	E BLK (SD)
SITE 6 - FORMER WALLOPS ISLAND FUELING SYSTEM, BUILDINGS X-5 AND X-10							
WFF6-SS1	A-1.22	A-2.35	A-3.46	A-4.16	A-4.36	A-5.25	
WFF6-SB1	A-1.13	A-2.17	A-3.25	A-4.11	A-4.30	A-5.13	
WFF6-SB2	A-1.14	A-2.19	A-3.25	A-4.10	A-4.30	A-5.14	
WFF6-SB3	A-1.26	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB4	A-1.26	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB5	A-1.26	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB6	A-1.26	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB7	A-1.1	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB8	A-1.1	NA	NA	A-4.1	A-4.20	A-5.1	
WFF6-SB9	A-1.2	NA	NA	A-4.2	A-4.22	A-5.1	
WFF6-SB10	A-1.2	NA	NA	A-4.2	A-4.22	A-5.1	DUP (SB9)
WFF6-SW1	A-1.2	NA	NA	A-4.2	A-4.21	A-5.1	
SITE 7 - TRANSFORMER PADS							
WFF7/A41-WIPE1	NA	NA	A-3.6	NA	NA	NA	
WFF7/A41-WIPE2	NA	NA	A-3.6	NA	NA	NA	
WFF7/A41-WIPE3	NA	NA	A-3.6	NA	NA	NA	DUP (WIPE2)
WFF7/D49A-WIPE1	NA	NA	A-3.44	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/D49A-WIPE2	NA	NA	A-3.20	NA	NA	NA	
WFF7/E105-WIPE1	NA	NA	A-3.6	NA	NA	NA	
WFF7/E105-WIPE2	NA	NA	A-3.6	NA	NA	NA	
WFF7/E105-WIPE3	NA	NA	A-3.6	NA	NA	NA	
WFF7/E105-WIPE4	NA	NA	A-3.7	NA	NA	NA	F BLK
WFF7/E106-WIPE1	NA	NA	A-3.7	NA	NA	NA	
WFF7/E106-WIPE2	NA	NA	A-3.7	NA	NA	NA	
WFF7/E106-WIPE3	NA	NA	A-3.7	NA	NA	NA	
WFF7/E107-WIPE1	NA	NA	A-3.7	NA	NA	NA	
WFF7/E107-WIPE2	NA	NA	A-3.7	NA	NA	NA	
WFF7/E107-WIPE3	NA	NA	A-3.8	NA	NA	NA	
WFF7/E108-WIPE1	NA	NA	A-3.8	NA	NA	NA	
WFF7/E108-WIPE2	NA	NA	A-3.8	NA	NA	NA	
WFF7/E108-WIPE3	NA	NA	A-3.8	NA	NA	NA	
WFF7/E108-WIPE4	NA	NA	A-3.41	NA	NA	NA	E BLK
WFF7/N159D-WIPE1	NA	NA	A-3.41	NA	NA	NA	
WFF7/N159D-WIPE2	NA	NA	A-3.41	NA	NA	NA	
WFF7/N159D-WIPE3	NA	NA	A-3.41	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/N159D-WIPE4	NA	NA	A-3.41	NA	NA	NA	
WFF7/N167A-WIPE1	NA	NA	A-3.20	NA	NA	NA	
WFF7/N167A-WIPE2	NA	NA	A-3.20	NA	NA	NA	
WFF7/N167A-WIPE3	NA	NA	A-3.41	NA	NA	NA	
WFF7/N167A-WIPE4	NA	NA	A-3.42	NA	NA	NA	
WFF7/N167A-WIPE5	NA	NA	A-3.42	NA	NA	NA	
WFF7/N167A-WIPE6	NA	NA	A-3.42	NA	NA	NA	
WFF7/N167A-WIPE7	NA	NA	A-3.42	NA	NA	NA	
WFF7/N167A-WIPE8	NA	NA	A-3.20	NA	NA	NA	
WFF7/N167A-WIPE9	NA	NA	A-3.42	NA	NA	NA	DUP(WIPE3)
WFF7/N169-WIPE1	NA	NA	A-3.40	NA	NA	NA	
WFF7/N169-WIPE2	NA	NA	A-3.24	NA	NA	NA	
WFF7/N169-WIPE3	NA	NA	A-3.40	NA	NA	NA	
WFF7/N169-WIPE4	NA	NA	A-3.40	NA	NA	NA	
WFF7/N169-WIPE5	NA	NA	A-3.41	NA	NA	NA	F BLK
WFF7/N175-WIPE1	NA	NA	A-3.42	NA	NA	NA	
WFF7/N175-WIPE2	NA	NA	A-3.43	NA	NA	NA	
WFF7/N175-WIPE3	NA	NA	A-3.43	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/N175-WIPE4	NA	NA	A-3.43	NA	NA	NA	
WFF7/N175-WIPE5	NA	NA	A-3.43	NA	NA	NA	E BLK
WFF7/N222-SS 1	NA	NA	A-3.15	NA	NA	NA	
WFF7/N222-SS 2	NA	NA	A-3.15	NA	NA	NA	
WFF7/N222-SS 3	NA	NA	A-3.15	NA	NA	NA	
WFF7/N222-SS 4	NA	NA	A-3.15	NA	NA	NA	
WFF7/N222-SW1	NA	NA	A-3.15	NA	NA	NA	
WFF7/F10-WIPE1	NA	NA	A-3.5	NA	NA	NA	
WFF7/F10-WIPE2	NA	NA	A-3.5	NA	NA	NA	
WFF7/F10-WIPE3	NA	NA	A-3.5	NA	NA	NA	
WFF7/F10-WIPE4	NA	NA	A-3.5	NA	NA	NA	
WFF7/F10-WIPE5	NA	NA	A-3.5	NA	NA	NA	DUP (WIPE1)
WFF7/F10-WIPE6	NA	NA	A-3.5	NA	NA	NA	F BLK
WFF7/F18-WIPE1	NA	NA	A-3.43	NA	NA	NA	
WFF7/F18-WIPE2	NA	NA	A-3.43	NA	NA	NA	
WFF7/Z26-SS 1	NA	NA	A-3.12	NA	NA	NA	
WFF7/Z26-SS 2	NA	NA	A-3.12	NA	NA	NA	
WFF7/Z26-SS 3	NA	NA	A-3.12	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/Z26-SS 4	NA	NA	A-3.12	NA	NA	NA	
WFF7/Z26-SW1	NA	NA	A-3.9	NA	NA	NA	
WFF7/Z41-WIPE1	NA	NA	A-3.20	NA	NA	NA	
WFF7/Z41-WIPE2	NA	NA	A-3.21	NA	NA	NA	
WFF7/Z41-WIPE3	NA	NA	A-3.39	NA	NA	NA	
WFF7/Z41-WIPE4	NA	NA	A-3.39	NA	NA	NA	
WFF7/Z42-WIPE1	NA	NA	A-3.39	NA	NA	NA	
WFF7/Z42-WIPE2	NA	NA	A-3.40	NA	NA	NA	
WFF7/Z42-WIPE3	NA	NA	A-3.40	NA	NA	NA	
WFF7/Z42-WIPE4	NA	NA	A-3.40	NA	NA	NA	
WFF7/Z44-WIPE1	NA	NA	A-3.21	NA	NA	NA	
WFF7/Z44-WIPE2	NA	NA	A-3.39	NA	NA	NA	
WFF7/Y75-WIPE1	NA	NA	A-3.18	NA	NA	NA	
WFF7/Y75-WIPE2	NA	NA	A-3.18	NA	NA	NA	
WFF7/Y75-WIPE3	NA	NA	A-3.18	NA	NA	NA	
WFF7/Y75-WIPE4	NA	NA	A-3.18	NA	NA	NA	
WFF7/Y75-WIPE5	NA	NA	A-3.18	NA	NA	NA	F BLK
WFF7/X115A-WIPE1	NA	NA	A-3.17	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/X115A-WIPE2	NA	NA	A-3.17	NA	NA	NA	
WFF7/X115A-WIPE3	NA	NA	A-3.18	NA	NA	NA	
WFF7/X85-WIPE1	NA	NA	A-3.38	NA	NA	NA	
WFF7/X85-WIPE2	NA	NA	A-3.38	NA	NA	NA	
WFF7/X85-WIPE3	NA	NA	A-3.39	NA	NA	NA	
WFF7/X85-WIPE4	NA	NA	A-3.39	NA	NA	NA	
WFF7/X85-WIPE5	NA	NA	A-3.20	NA	NA	NA	E BLK
WFF7/W32-WIPE1	NA	NA	A-3.38	NA	NA	NA	
WFF7/W32-WIPE2	NA	NA	A-3.38	NA	NA	NA	
WFF7/V50-WIPE1	NA	NA	A-3.15	NA	NA	NA	
WFF7/V50-WIPE2	NA	NA	A-3.16	NA	NA	NA	
WFF7/V50-WIPE3	NA	NA	A-3.16	NA	NA	NA	
WFF7/V50-WIPE4	NA	NA	A-3.16	NA	NA	NA	
WFF7/V50-WIPE5	NA	NA	A-3.16	NA	NA	NA	DUP (WIPE4)
WFF7/V81-SS1	NA	NA	A-3.11	NA	NA	NA	
WFF7/V81-SS2	NA	NA	A-3.11	NA	NA	NA	
WFF7/V81-SS3	NA	NA	A-3.11	NA	NA	NA	
WFF7/V81-SS4	NA	NA	A-3.12	NA	NA	NA	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 7 - TRANSFORMER PADS (Continued)							
WFF7/V81-SW1	NA	NA	A-3.9	NA	NA	NA	F BLK
WFF7/V65-SS1	NA	NA	A-3.10	NA	NA	NA	
WFF7/V65-SS2	NA	NA	A-3.11	NA	NA	NA	
WFF7/V65-SS3	NA	NA	A-3.11	NA	NA	NA	
WFF7/V65-SS4	NA	NA	A-3.11	NA	NA	NA	
WFF7/V65-SW1	NA	NA	A-3.9	NA	NA	NA	F BLK
WFF7/W20-WIPE1	NA	NA	A-3.38	NA	NA	NA	
WFF7/W20-WIPE2	NA	NA	A-3.38	NA	NA	NA	
WFF7/U5-SS1	NA	NA	A-3.12	NA	NA	NA	
WFF7/U5-SS2	NA	NA	A-3.13	NA	NA	NA	
WFF7/U40A-SS1	NA	NA	A-3.10	NA	NA	NA	
WFF7/U40A-SS2	NA	NA	A-3.10	NA	NA	NA	
WFF7/U40A-SS3	NA	NA	A-3.10	NA	NA	NA	
WFF7/U40A-SS4	NA	NA	A-3.10	NA	NA	NA	
WFF7/U40A-SS5	NA	NA	A-3.10	NA	NA	NA	DUP (SS2)
WFF7/U40A-SW1	NA	NA	A-3.9	NA	NA	NA	E BLK(SS)
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134							
WFF8-SB1	A-1.1	NA	NA	A-4.1	A-4.21	A-5.1	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 8 - FORMER MAIN BASE FUELING SYSTEM, BUILDINGS N-133 AND N-134 (Continued)							
WFF8-SB2	A-1.1	NA	NA	A-4.1	A-4.21	A-5.1	
WFF8-SB3	A-1.1	NA	NA	A-4.1	A-4.21	A-5.1	
WFF8-SB4	A-1.1	NA	NA	A-4.1	A-4.22	A-5.1	
WFF8-SB5	A-1.2	NA	NA	A-4.2	A-4.22	A-5.1	
WFF8-SB6	A-1.14	A-2.19	A-3.25	A-4.10	A-4.30	A-5.14	
WFF8-SB7	A-1.1	NA	NA	A-4.1	A-4.21	A-5.1	
WFF8-SB8	A-1.1	NA	NA	A-4.1	A-4.21	A-5.1	
WFF8-SW1	A-1.1	NA	NA	A-4.2	A-4.21	A-5.1	E BLK(SB)
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35							
WFF9-SB1	A-1.3	A-2.1	A-3.1	A-4.41	A-4.23	A-5.2	
WFF9-SB2	A-1.4	A-2.3	A-3.1	A-4.41	A-4.24	A-5.2	
WFF9-SB3	A-1.4	A-2.3	A-3.2	A-4.41	A-4.24	A-5.2	
WFF9-SB4	A-1.4	A-2.3	A-3.2	A-4.40	A-4.24	A-5.2	
WFF9-SB5	A-1.4	A-2.3	A-3.2	A-4.40	A-4.24	A-5.3	
WFF9-SB6	NA	NA	A-3.2	A-4.41	A-4.24	A-5.3	BCKGRD
WFF9-DC1	A-1.3	A-2.1	A-3.3	A-4.41	A-4.23	A-5.2	
WFF9-SD1	A-1.18	A-2.27	A-3.30	A-4.14	A-4.34	A-5.18	
WFF9-SW1	A-1.19	A-2.29	A-3.29	A-4.14	A-4.34	A-5.18	Site 15

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 9 - ABANDONED DRUM FIELD, ALONG RUNWAY 17-35 (Continued)							
WFF9-SD2	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	Site 15
WFF9-SW2	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.21	Site 15
WFF9-SD3	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	Site 15
WFF9-SW3	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.21	Site 15
WFF9-SD4	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	Site 15
WFF9-SW4	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.22	Site 15
WFF9-SD5	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	
WFF9-SW5	A-1.19	A-2.31	A-3.31	A-4.15	A-4.35	A-5.22	
WFF9-SD6	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.21	
WFF9-SW6	A-1.19	A-2.31	A-3.31	A-4.15	A-4.35	A-5.22	
WFF9-SD7	A-1.19	A-2.29	A-3.32	A-4.15	A-4.35	A-5.21	
WFF9-SW7	A-1.19	A-2.31	A-3.31	A-4.15	A-4.35	A-5.22	
WFF9-SD8	NA	NA	NA	NA	NA	A-5.21	BCKGRD
WFF9-SW8	NA	NA	NA	NA	NA	A-5.22	BCKGRD
WFF9-SD9	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	
WFF9-SW9	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	
WFF9-SD10	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	
WFF9-SW10	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
WFF9-SD11	A-1.19	A-2.29	A-3.30	A-4.14	A-4.34	A-5.19	
WFF9-SW11	A-1.19	A-2.31	A-3.29	A-4.14	A-4.34	A-5.19	DUP (SW1)
WFF9-SD12	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	
WFF9-SW12	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	
WFF9-SW13	A-1.4	A-2.3	A-3.1	A-4.4	A-4.24	A-5.6	
WFF9-SW14	NA	NA	NA	NA	NA	A-5.23	E BLK(SD)
WFF9-SW15	NA	NA	NA	NA	NA	A-5.23	E BLK(SW)
WFF9-SW16	NA	NA	NA	NA	NA	A-5.23	F BLK
WFF9-SD17	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	DUP (SD9)
WFF9-SW17	A-1.32	A-2.49	A-3.55	A-4.46	A-4.53	A-5.32	DUP (SW9)
WFF9-SW18	A-1.33	A-2.51	A-3.56	A-4.47	A-4.54	A-5.33	F BLK
WFF9-SW19	A-1.33	A-2.51	A-3.56	A-4.47	A-4.54	A-5.33	E BLK (SW)
WFF9-SW20	A-1.33	A-2.51	A-3.56	A-4.47	A-4.54	A-5.33	E BLK (SD)
WFF9-GW1	A-1.34	A-2.53	A-3.57	A-4.48	A-4.55	A-5.34	
WFF9-GW2	A-1.34	A-2.53	A-3.57	A-4.48	A-4.55	A-5.34	
WFF9-GW3	A-1.34	A-2.53	A-3.57	A-4.48	A-4.55	A-5.34	
WFF9-GW4	A-1.34	A-2.53	A-3.57	A-4.48	A-4.55	A-5.34	
WFF9-GW5	A-1.34	A-2.53	A-3.57	A-4.48	A-4.55	A-5.34	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 10 - ADAS, BUILDING N-168							
WFF10-SS1	A-1.20	A-2.31	A-3.29	A-4.14	A-4.34	A-5.18	
WFF10-SB1	A-1.4	A-2.3	A-3.4	A-4.4	A-4.23	A-5.3	
WFF10-SS2	A-1.21	A-2.31	A-3.29	A-4.14	A-4.34	A-5.18	
WFF10-SB2	A-1.5	A-2.5	A-3.3	A-4.4	A-4.23	A-5.3	
WFF10-SS3	A-1.21	A-2.33	A-3.29	A-4.14	A-4.34	A-5.18	
WFF10-SB3	A-1.5	A-2.5	A-3.3	A-4.4	A-4.23	A-5.3	
WFF10-SS4	A-1.21	A-2.33	A-3.29	A-4.14	A-4.34	A-5.19	
WFF10-SB4	A-1.5	A-2.5	A-3.3	A-4.4	A-4.23	A-5.4	
WFF10-SS5	A-1.21	A-2.33	A-3.30	A-4.14	A-4.34	A-5.19	
WFF10-SB5	A-1.5	A-2.5	A-3.3	A-4.4	A-4.23	A-5.4	
WFF10-SS6	A-1.21	A-2.33	A-3.30	A-4.14	A-4.34	A-5.19	
WFF10-SB6	A-1.5	A-2.5	A-3.3	A-4.4	A-4.24	A-5.4	
WFF10-SW1	A-1.5	A-2.5	A-3.1	A-4.4	A-4.24	A-5.6	E BLK (SB)
WFF10-SW2	A-1.6	A-2.7	A-3.1	A-4.4	A-4.24	A-5.6	F BLK
WFF10-GW1	A-1.35	A-2.55	A-3.58	A-4.49	A-4.56	A-5.35	
WFF10-GW2	A-1.35	A-2.55	A-3.58	A-4.49	A-4.56	A-5.35	
WFF10-GW3	A-1.35	A-2.55	A-3.58	A-4.49	A-4.56	A-5.35	
WFF10-GW5	A-1.35	A-2.55	A-3.58	A-4.49	A-4.56	A-5.35	F BLK

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 10 - ADAS, BUILDING N-168 (Continued)							
WFF10-GW43	A-1.35	A-2.55	A-3.58	A-4.49	A-4.56	A-5.35	
SITE 11 - TRANSFORMER STORAGE AREAS, BUILDINGS M-3, M-4 AND V-30							
WFF11/V30-WIPE1	NA	NA	A-3.16	NA	NA	NA	
WFF11/V30-WIPE2	NA	NA	A-3.16	NA	NA	NA	
WFF11/V30-WIPE3	NA	NA	A-3.17	NA	NA	NA	
WFF11/V30-WIPE4	NA	NA	A-3.17	NA	NA	NA	
WFF11/V30-WIPE5	NA	NA	A-3.17	NA	NA	NA	
WFF11/V30-WIPE6	NA	NA	A-3.44	NA	NA	NA	F BLK
WFF11/M3M4-WIPE1	NA	NA	A-3.44	NA	NA	NA	
WFF11/M3M4-WIPE2	NA	NA	A-3.44	NA	NA	NA	
WFF11/M3M4-WIPE3	NA	NA	A-3.44	NA	NA	NA	
WFF11/M3M4-WIPE4	NA	NA	A-3.51	NA	NA	NA	
WFF11/M3M4-WIPE5	NA	NA	A-3.44	NA	NA	NA	
WFF11/M3M4-WIPE6	NA	NA	A-3.44	NA	NA	NA	
WFF11/M3M4-WIPE7	NA	NA	A-3.45	NA	NA	NA	
WFF11/M3M4-WIPE8	NA	NA	A-3.51	NA	NA	NA	
WFF11/M3M4-WIPE9	NA	NA	A-3.45	NA	NA	NA	DUP (WIPE1)
WFF11/M3M4-WIPE10	NA	NA	A-3.51	NA	NA	NA	E BLK

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 12 - FORMER WIND TUNNEL, NEAR BUILDING X-115A							
WFF12-SS1	A-1.23	A-2.37	A-3.46	A-4.17	A-4.36	A-5.24	
WFF12-SS2	A-1.23	A-2.37	A-3.47	A-4.17	A-4.36	A-5.24	
WFF12-SS3	A-1.23	A-2.37	A-3.47	A-4.17	A-4.36	A-5.24	
WFF12-SD1	A-1.22	A-2.35	A-3.47	A-4.17	A-4.36	A-5.24	
WFF12-SD2	A-1.22	A-2.37	A-3.47	A-4.17	A-4.37	A-5.24	
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28							
WFF14-SB1	A-1.7	A-2.9	A-3.14	A-4.6	A-4.25	A-5.7	
WFF14-SB2	A-1.9	A-2.11	A-3.22	A-4.7	A-4.26	A-5.9	
WFF14-SB3	A-1.9	A-2.11	A-3.22	A-4.7	A-4.26	A-5.9	
WFF14-SB4	A-1.9	A-2.11	A-3.22	A-4.7	A-4.26	A-5.9	
WFF14-SB5	A-1.9	A-2.11	A-3.22	A-4.7	A-4.26	A-5.9	
WFF14-SB6	A-1.9	A-2.11	A-3.22	A-4.7	A-4.27	A-5.9	
WFF14-SB7	A-1.9	A-2.11	A-3.22	A-4.7	A-4.27	A-5.10	
WFF14-SB8	A-1.10	A-2.13	A-3.34	A-4.8	A-4.27	A-5.10	
WFF14-SB9	A-1.10	A-2.13	A-3.23	A-4.7	A-4.27	A-5.10	
WFF14-SB10	A-1.10	A-2.13	A-3.33	A-4.48	A-4.27	A-5.10	
WFF14-SB11	A-1.10	A-2.13	A-3.23	A-4.7	A-4.26	A-5.11	
WFF14-SB12	A-1.10	A-2.13	A-3.23	A-4.7	A-4.26	A-5.11	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 14 - DEBRIS PILE, NORTH OF RUNWAY 10-28 (Continued)							
WFF14-SB13	A-1.10	A-2.13	A-3.23	A-4.7	A-4.26	A-5.11	
WFF14-SB14	A-1.7	A-2.9	A-3.14	A-4.6	A-4.28	A-5.8	DUP (SB1)
WFF14-SW1	A-1.7	A-2.9	A-3.14	A-4.6	A-4.25	A-5.8	F BLK
WFF14-SD2	A-1.27	A-2.37	A-3.48	A-4.10	A-4.37	A-5.26	
WFF14-SW2	A-1.23	A-2.39	A-3.46	A-4.16	A-4.37	A-5.27	
WFF14-SD3	A-1.27	A-2.37	A-3.48	A-4.17	A-4.37	A-5.26	
WFF14-SW3	A-1.23	A-2.39	A-3.46	A-4.16	A-4.37	A-5.27	
WFF14-SD4	A-1.27	A-2.39	A-3.48	A-4.18	A-4.37	A-5.26	
WFF14-SW4	A-1.23	A-2.39	A-3.46	A-4.16	A-4.38	A-5.27	F BLK
WFF14-SD5	A-1.27	A-2.39	A-3.48	A-4.18	A-4.37	A-5.26	
WFF14-SW5	A-1.24	A-2.39	A-3.46	A-4.16	A-4.38	A-5.27	E BLK (SD)
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35							
WFF15-SB1	A-1.11	A-2.15	A-3.33	A-4.8	A-4.27	A-5.11	
WFF15-SB2	A-1.11	A-2.15	A-3.33	A-4.8	A-4.27	A-5.12	
WFF15-SB3	A-1.11	A-2.15	A-3.33	A-4.8	A-4.28	A-5.12	
WFF15-SB4	A-1.11	A-2.15	A-3.33	A-4.9	A-4.28	A-5.12	
WFF15-SB5	A-1.25	A-2.41	A-3.50	A-4.19	A-4.39	A-5.28	
WFF15-SB6	A-1.25	A-2.41	A-3.50	A-4.19	A-4.39	A-5.28	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE /PCB	TPH (PURGEABLE)	TPH (NON- PURGEABLE)	INORGANIC	NOTES
SITE 15 - DEBRIS PILE, ALONG RUNWAY 17-35 (Continued)							
WFF15-SB7	A-1.25	A-2.41	A-3.50	A-4.19	A-4.39	A-5.28	
WFF15-SB8	A-1.25	A-2.41	A-3.50	A-4.19	A-4.39	A-5.28	
WFF15-SB9	A-1.14	A-2.19	A-3.25	A-4.10	A-4.29	A-5.14	
WFF15-SB10	A-1.14	A-2.19	A-3.25	A-4.11	A-4.29	A-5.14	
WFF15-SB11	A-1.11	A-2.15	A-3.33	A-4.9	A-4.28	NA	DUP (SBI)
WFF15-SW1	A-1.27	NA	A-3.50	A-4.42	NA	NA	E BLK (SB)
WFF15-SW2	A-1.27	NA	A-3.50	A-4.42	NA	NA	F BLK
WFF15-DP1	NA	NA	NA	NA	NA	NA	Asbestos: A-6.1
WFF15-DP2	NA	NA	NA	NA	NA	NA	Asbestos: A-6.1
WFF9-SW1	A-1.19	A-2.29	A-3.29	A-4.14	A-4.34	A-5.18	
WFF9-SD2	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	
WFF9-SW2	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.21	
WFF9-SD3	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	
WFF9-SW3	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.21	
WFF9-SD4	A-1.18	A-2.27	A-3.32	A-4.15	A-4.35	A-5.20	
WFF9-SW4	A-1.19	A-2.29	A-3.31	A-4.15	A-4.35	A-5.22	

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE	TPH	TPH (NON-	INORGANIC	NOTES
			/PCB	(PURGEABLE)	PURGEABLE)		
SITE 16 - TRIP BLANKS							
WFF16-SW1	A-1.24						
WFF16-SW2	A-1.8						
WFF16-SW3	A-1.6						
WFF16-SW4	A-1.6						
WFF16-SW5	A-1.24						
WFF16-SW6	A-1.6						
WFF16-SW7	A-1.36						
WFF16-SW9	A-1.14						
WFF16-SW10	A-1.14						
WFF16-SW11	A-1.11						
WFF16-SW12	A-1.14						
WFF16-SW13	A-1.17						
WFF16-SW14	A-1.17						
WFF16-SW15	A-1-12						
WFF16-SW16	A-1.21						
WFF16-SW17	A-1.25						
WFF16-SW18	A-1.26						
WFF16-SW19	A-1.8						

INDEX FOR APPENDIX A
Appendix Page Numbers of Validated Data Results

PARAMETER:	VOLATILE	SEMIVOLATILE	PESTICIDE	TPH	TPH (NON-	INORGANIC	NOTES
			/PCB	(PURGEABLE)	PURGEABLE)		
SITE 16 - TRIP BLANKS (Continued)							
WFF16-SW20 (BTEX)	A-1.2						
WFF16-SW20 (VOA)	A-1.12						
WFF16-SW21	A-1.2						
WFF16-SW22	A-1.28						
WFF16-SW24	A-1.36						
WFF16-SW25	A-1.36						

APPENDIX A-1

VOLATILE ORGANIC RESULTS

GC Volatile Analysis
 BTEX and Gasoline
 (Method 602/8020 and Calif. LUFT)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 BATCH NO.: 1, 2 CONTROL NO.: 7874, 7880

CLIENT SAMPLE ID:	WFF6SB3	WFF6SB4	WFF6SB5	WFF6SB6	WFF6SB7	WFF6SB8
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	100	100	500	500	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB	PPB
% SOLID:	NA	NA	NA	NA	NA	NA
COMPOUND						
Benzene	0.72 J	UJ	49 J	10 J		
Toluene	15 J	44 J	960 J	120 J		
Ethylbenzene	160 J	74 J	4200 J	2400 J	1.8	4.5
Total Xylene	920 J	170 J	13000 J	4700 J		13
Gasoline	3800 J	UJ	7000 J	1200 J		

CLIENT SAMPLE ID:	WFF8SB7	WFF8SB8	WFF8SB1	WFF8SB2	WFF8SB3	WFF8SB4
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	100	100	1	1	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB	PPB
% SOLID:	NA	NA	NA	NA	NA	NA
COMPOUND						
Benzene	6.9 J	UJ				
Toluene	210 J	UJ	3.7	2.4	1.8	
Ethylbenzene	1100 J	UJ		20	6.8	
Total Xylene	5200 J	14 J		5.9	7.9	
Gasoline	5200 J	UJ				

A-1.1

GC Volatile Analysis
 BTEX and Gasoline
 (Method 602/8020 and Calif. LUFT)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 BATCH NO.: 1, 2 CONTROL NO.: 7874.7880

CLIENT SAMPLE ID:	WFF8SB5	WFF6SB9	WFF6SB10	WFF16SW21	WFF8SW1
MATRIX:	SOIL	SOIL	SOIL	WATER	WATER
DILUTION FACTOR:	1	1	10	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB
% SOLID:	NA	NA	NA	NA	NA

COMPOUND

Benzene					UJ
Toluene					UJ
Ethylbenzene					UJ
Total Xylene		UJ		11	J
Gasoline					UJ

CLIENT SAMPLE ID:	WFF6SW1	WFF16SW20
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	PPB	PPB
% SOLID:	NA	NA

COMPOUND

Benzene		
Toluene		
Ethylbenzene		
Total Xylene		
Gasoline		

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO. 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID: WFF4-SB1
MATRIX: SOIL
DILUTION FACTOR: 1
UNITS: UG/KG
% MOISTURE: 22

WFF4-SB2
SOIL
1
UG/KG
16

WFF4-SB3
SOIL
1
UG/KG
34

WFF4-SW7
WATER
1
UG/L
NA

WFF9-DC1 RE
DRUM
MEDIUM/1.0
UG/KG
1

WFF9-SB1
SOIL
1
UG/KG
4

COMPOUND

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene(total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethylbenzene
Styrene
Total Xylenes

9 J

8 BJ

160 B

470 J
UJ

UJ
UJ
UJ
UJ
UJ
UJ
UJ
UJ
UJ

580 J

A-1.3

REMARK:

EQUIPMENT BLK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF9-SB2	WFF9-SB3	WFF9-SB4	WFF9-SB5	WFF9-SW13	WFF10-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
DILUTION FACTOR:	1	1	1	1/5*	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/KG
% MOISTURE:	4	5	5	12		12

COMPOUND

Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride						
Acetone			6 BJ	770 BJ*	7 BJ	31 B
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene(total)						
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-						
Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
Toluene						
1,1,2,2-Tetrachloroethane						
Chlorobenzene						
Ethylbenzene						
Styrene						
Total Xylenes						

A-1.4

REMARK:

* - THE RESULT IS REPORTED FROM THE DILUTED SAMPLE.

EQUIPMENT BLK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
X MOISTURE:

WFF10-SB2
SOIL
1
UG/KG
10

WFF10-SB3
SOIL
1
UG/KG
16

WFF10-SB4
SOIL
1
UG/KG
18

WFF10-SB5
SOIL
1
UG/KG
14

WFF10-SB6
SOIL
1
UG/KG
7

WFF10-SW1
WATER
1
UG/L
NA

COMPOUND

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene(total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethylbenzene
Styrene
Total Xylenes

63 B

130 B

14

A-1.5

REMARK:

EQUIPMENT BLK

Volatile Analysis

(SOU:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID: WFF10-SW2
MATRIX: WATER
DILUTION FACTOR: 1
UNITS: UG/L
% MOISTURE: NA

WFF16-SW3
WATER
1
UG/L
NA

WFF16-SW4
WATER
1
UG/L
NA

WFF16-SW6
WATER
1
UG/L
NA

COMPOUND

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene(total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropene
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethylbenzene
Styrene
Total Xylenes

19

A-1.6

REMARK:

FIELD BLK

TRIP BLK

TRIP BLK

TRIP BLK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 7940, 7945

BATCH NO.: 8, 9

CLIENT SAMPLE ID:
 MATRIX:
 DILUTION FACTOR:
 UNITS:
 % MOISTURE:

WFF5-SB1
 SOIL
 1
 UG/KG
 16

WFF5-SB2
 SOIL
 1
 UG/KG
 7

WFF5-SB3
 SOIL
 1
 UG/KG
 11

WFF14-SB1
 SOIL
 1
 UG/KG
 12

WFF14-SB14
 SOIL
 1
 UG/KG
 16

WFF14-SW1
 WATER
 1
 UG/L
 N/A

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

UJ

130 J

54 J

17 J

26 J

A-1.7

REMARKS:

FIELD DUP

FIELD DUP

FIELD BLANK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 7940, 7945 BATCH NO.: 8, 9

CLIENT SAMPLE ID:	WFF16-SW2	WFF16-SW19
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	UG/L	UG/L
% MOISTURE:	N/A	N/A

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

8.1-1.8

REMARKS:

TRIP BLANK

TRIP BLANK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7998 SDG NO.: 13

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
% MOISTURE:

WFF14-SB2
SOIL
1
UG/KG
22

WFF14-SB3
SOIL
1
UG/KG
15

WFF14-SB4
SOIL
1
UG/KG
13

WFF14-SB5
SOIL
1
UG/KG
22

WFF14-SB6
SOIL
1
UG/KG
7

WFF14-SB7
SOIL
1
UG/KG
12

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

120 J

12 J

95 J

A-1.9

.....

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7996 SDG NO.:

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
X MOISTURE:

WFF14-SB8
SOIL
1
UG/KG
6

WFF14-SB9
SOIL
1/5*
UG/KG
13

WFF14-SB10
SOIL
1
UG/KG
11

WFF14-SB11
SOIL
1
UG/KG
11

WFF14-SB12
SOIL
1
UG/KG
16

WFF14-SB13
SOIL
1
UG/KG
13

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

28 J

270 *J

99 J

69 J

53 J

.....
* - The result is transferred from diluted sample analysis

A-1.10

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7996 SDG NO.:

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
X MOISTURE:

WFF15-SB1
SOIL
1
UG/KG
4

WFF15-SB2
SOIL
1/2.5*
UG/KG
9

WFF15-SB3
SOIL
1
UG/KG
11

WFF15-SB4
SOIL
1/5*
UG/KG
13

WFF15-SB11
SOIL
1
UG/KG
16

WFF16-SW11
WATER
1
UG/L
NA

COMPOUND	CROL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

UJ

5 J

700 *J

28 J

200 *J

A-1.11



Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7996 SDG NO.:

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
% MOISTURE:

WFF16-SW15
WATER
1
UG/L
NA

WFF16-SW20
WATER
1
UG/L
NA

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

A-1.12

.....

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005, 8011 SDG NO.: 17, 18

CLIENT SAMPLE ID:	WFF2-SB1	WFF2-SB2	WFF2-SB3	WFF2-SB4	WFF2-SB11	WFF6-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1/10*	1	1	1	1	5
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	18	14	3	8	14	17

COMPOUND

COMPOUND	WFF2-SB1	WFF2-SB2	WFF2-SB3	WFF2-SB4	WFF2-SB11	WFF6-SB1
Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride						
Acetone	1200 BJ*	170 B	7 BJ	47 BJ	91 BJ	38 J
Carbon Disulfide						
1,1-Dichloroethane						
1,1-Dichloroethane						
1,2-Dichloroethane(total)						
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-						
Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
Toluene						
1,1,2,2-Tetrachloroethane						
Chlorobenzene						
Ethylbenzene						
Styrene						
Total Xylenes						

A-1-13

 REMARK: FIELD DUPLICATE FIELD DUPLICATE

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005, 8011 SDG NO.: 17, 18

CLIENT SAMPLE ID:	WFF6-SB2	WFF8-SB6	WFF15-SB9	WFF15-SB10	WFF16-SW9	WFF16-SW12
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
% MOISTURE:	22	13	12	11	NA	NA

COMPOUND

Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride						
Acetone	12 J	26 J	75 J	120 J		
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene(total)						
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-						
Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
Toluene						
1,1,2,2-Tetrachloroethane						
Chlorobenzene						
Ethylbenzene						
Styrene						
Total Xylenes						

A-1.1.14

REMARK:

TRIP BLANK

TRIP BLANK

Volatile Analysis

(SOM:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017.8023

SDG NO.: 19

CLIENT SAMPLE ID:	WFF2-SB5	WFF2-SB6	WFF2-SB7	WFF2-SB8	WFF2-SB9	WFF2-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	10	7	14	4	14	20

COMPOUND	CRQL					
	10					
Chloromethane	10					
Bromomethane	10					
Vinyl Chloride	10					
Chloroethane	10					
Methylene Chloride	10					
Acetone	10	100 BJ	9 BJ	39 B	6 BJ	50
Carbon Disulfide	10				16 BJ	180 BJ
1,1-Dichloroethene	10					
1,1-Dichloroethane	10					
1,2-Dichloroethene(total)	10					
Chloroform	10					
1,2-Dichloroethane	10					
2-Butanone	10					
1,1,1-Trichloroethane	10					
Carbon Tetrachloride	10					
Bromodichloromethane	10					
1,2-Dichloropropane	10					
cis-1,3-Dichloropropene	10					
Trichloroethene	10					
Dibromochloromethane	10					
1,1,2-Trichloroethane	10					
Benzene	10					
trans-1,3-Dichloropropene	10					
Bromoform	10					
4-Methyl-2-pentanone	10					
2-Hexanone	10					
Tetrachloroethene	10					
Toluene	10					
1,1,2,2-Tetrachloroethane	10					
Chlorobenzene	10					
Ethylbenzene	10					
Styrene	10					
Total Xylenes	10					
						47
						240 BJ

A-1.15

SAMPLE REC'D DATE :	07-01-93	07-01-93	07-01-93	07-01-93	07-02-93	07-02-93
SAMPLE ANALYSIS DATE:	07-02-93	07-02-93	07-02-93	07-06-93	07-07-93	07-07-93

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017.8023 SDG NO.:

CLIENT SAMPLE ID:	WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5	WFF2-SS6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1/MED*	1/5/MED*	1/5*	1/5*	1/5*	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	6	13	2	6	9	2
COMPOUND	CRQL					
Chloromethane	10					
Bromomethane	10		UJ			
Vinyl Chloride	10		UJ			
Chloroethane	10		UJ			
Methylene Chloride	10	67	41 J	70	59	59
Acetone	10	2000* JB	UJ	280* JB	680* JB	46
Carbon Disulfide	10		UJ			460* JB
1,1-Dichloroethene	10		UJ			82 BJ
1,1-Dichloroethane	10		UJ			
1,2-Dichloroethene(total)	10		UJ			
Chloroform	10		UJ			
1,2-Dichloroethane	10		UJ			
2-Butanone	10		UJ	34	9 J	
1,1,1-Trichloroethane	10		UJ	UJ		26
Carbon Tetrachloride	10		UJ	UJ		UJ
Bromodichloromethane	10		UJ	UJ		UJ
1,2-Dichloropropane	10		UJ	UJ		UJ
cis-1,3-Dichloropropene	10		UJ	UJ		UJ
Trichloroethene	10		UJ	UJ		UJ
Dibromochloromethane	10		UJ	UJ		UJ
1,1,2-Trichloroethane	10		UJ	UJ		UJ
Benzene	10		UJ	UJ		UJ
trans-1,3-Dichloropropene	10		UJ	UJ		UJ
Bromoform	10		UJ	UJ		UJ
4-Methyl-2-pentanone	10	24	UJ	15 J		8 J
2-Hexanone	10	UJ		19 J	UJ	20 J
Tetrachloroethene	10	UJ		UJ	UJ	UJ
Toluene	10	UJ		UJ	UJ	UJ
1,1,2,2-Tetrachloroethane	10	UJ		UJ	UJ	UJ
Chlorobenzene	10	UJ		UJ	UJ	UJ
Ethylbenzene	10	UJ	4400* J	UJ	UJ	UJ
Styrene	10	UJ		UJ	UJ	UJ
Total Xylenes	10	UJ	67000* J	8 J	UJ	UJ

A-1.16

SAMPLE REC'D DATE : 07-02-93 07-02-93 07-02-93 07-02-93 07-02-93 07-02-93 07-02-93
SAMPLE ANALYSIS DATE: 07-07-93 07-07-93 07-07-93 07-07-93 07-07-93 07-07-93 07-07-93
* - The result is transferred from medium level analysis or the diluted sample analysis

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017.8023 SDG NO.:

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
% MOISTURE:

WFF2-SW1
WATER
1
UG/L
N/A

WFF2-SW2
WATER
1/2.5*
UG/L
N/A

WFF16-SW13
WATER
1/5*
UG/L
N/A

WFF16-SW14
WATER
1
UG/L
N/A

COMPOUND	CROL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

11 B

16 B

7 J

A-1.17

SAMPLE REC'D DATE :	07-02-93	07-02-93	07-02-93	07-01-93
SAMPLE ANALYSIS DATE:	07-07-93	07-07-93	07-07-93	07-07-93

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041

SOG NO.: 22, 23

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
% MOISTURE:

WFF9-SD1
SOIL
5
UG/KG
36

WFF9-SD2
SOIL
1
UG/KG
31

WFF9-SD3
SOIL
1
UG/KG
21

WFF9-SD4
SOIL
1
UG/KG
21

WFF9-SD5
SOIL
1
UG/KG
25

WFF9-SD6
SOIL
1
UG/KG
56

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

150 B
340 BJ

65 J

41 J

17 J

A-1.18

.....

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.:

CLIENT SAMPLE ID:	WFF9-SD7	WFF9-SD11	WFF9-SW1	WFF9-SW11	WFF9-SW2	WFF9-SW3
MATRIX:	SOIL	SOIL	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	5	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	23	79	N/A	N/A	N/A	N/A
COMPOUND	CROL					
Chloromethane	10		5 J	6 J		5 J
Bromomethane	10			UJ		
Vinyl Chloride	10			UJ		
Chloroethane	10			UJ		
Methylene Chloride	10	430 B		UJ		
Acetone	10	770 BJ	5 J	12 J	6 J	
Carbon Disulfide	10			UJ		
1,1-Dichloroethene	10			UJ		
1,1-Dichloroethane	10			UJ		
1,2-Dichloroethene(total)	10			UJ		
Chloroform	10			UJ		
1,2-Dichloroethane	10			UJ		
2-Butanone	10	86 J		UJ		
1,1,1-Trichloroethane	10			UJ		
Carbon Tetrachloride	10			UJ		
Bromodichloromethane	10			UJ		
1,2-Dichloropropane	10			UJ		
cis-1,3-Dichloropropene	10			UJ		
Trichloroethene	10			UJ		
Dibromochloromethane	10			UJ		
1,1,2-Trichloroethane	10			UJ		
Benzene	10			UJ		
trans-1,3-Dichloropropene	10			UJ		
Bromoform	10			UJ		
4-Methyl-2-pentanone	10			UJ		
2-Hexanone	10			UJ		
Tetrachloroethene	10			UJ		
Toluene	10			UJ		
1,1,2,2-Tetrachloroethane	10			UJ		
Chlorobenzene	10			UJ		
Ethylbenzene	10			UJ		
Styrene	10			UJ		
Total Xylenes	10			UJ		

A-1.19

.....

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.:

CLIENT SAMPLE ID:	WFF9-SW4	WFF9-SW5	WFF9-SW6	WFF9-SW7	WFF9-SW10	WFF10-SS1
MATRIX:	WATER	WATER	WATER	WATER	WATER	SOIL
DILUTION FACTOR:	1	1	1	1	1	1/MED*
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/KG
% MOISTURE:	N/A	N/A	N/A	N/A	N/A	3
COMPOUND	CRQL					
Chloromethane	10	6 J	10		15	
Bromomethane	10					
Vinyl Chloride	10					
Chloroethane	10					
Methylene Chloride	10					
Acetone	10			7 J	6 J	15 B
Carbon Disulfide	10					1300 J*
1,1-Dichloroethene	10					
1,1-Dichloroethane	10					
1,2-Dichloroethene(total)	10					
Chloroform	10					
1,2-Dichloroethane	10					
2-Butanone	10					
1,1,1-Trichloroethane	10					
Carbon Tetrachloride	10					
Bromodichloromethane	10					
1,2-Dichloropropane	10					
cis-1,3-Dichloropropene	10					
Trichloroethene	10					
Dibromochloromethane	10					
1,1,2-Trichloroethane	10					
Benzene	10					
trans-1,3-Dichloropropene	10					
Bromoform	10					
4-Methyl-2-pentanone	10					
2-Hexanone	10					
Tetrachloroethene	10					
Toluene	10					
1,1,2,2-Tetrachloroethane	10					
Chlorobenzene	10					
Ethylbenzene	10					
Styrene	10					
Total Xylenes	10					

* Result transferred from the medium level analysis.

A-1.20

Volatile Analysis

(SOW:OLN01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.:

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:
% MOISTURE:

WFF10-SS2
SOIL
1
UG/KG
1

WFF10-SS3
SOIL
1
UG/KG
13

WFF10-SS4
SOIL
1
UG/KG
2

WFF10-SS5
SOIL
1
UG/KG
5

WFF10-SS6
SOIL
1
UG/KG
4

WFF16-SW16
WATER
1
UG/L
N/A

COMPOUND	CRQL
Chloromethane	10
Bromomethane	10
Vinyl Chloride	10
Chloroethane	10
Methylene Chloride	10
Acetone	10
Carbon Disulfide	10
1,1-Dichloroethene	10
1,1-Dichloroethane	10
1,2-Dichloroethene(total)	10
Chloroform	10
1,2-Dichloroethane	10
2-Butanone	10
1,1,1-Trichloroethane	10
Carbon Tetrachloride	10
Bromodichloromethane	10
1,2-Dichloropropane	10
cis-1,3-Dichloropropene	10
Trichloroethene	10
Dibromochloromethane	10
1,1,2-Trichloroethane	10
Benzene	10
trans-1,3-Dichloropropene	10
Bromoform	10
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	10
Toluene	10
1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10
Ethylbenzene	10
Styrene	10
Total Xylenes	10

13 J

21 B
340 J

16 B
110 BJ

16 B
86 BJ

11

UJ
UJ
UJ
UJ
UJ
UJ
UJ

A-1.21

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Waioloa Island
 CASE NO.: 8230/8223 SDG NO.: 29, 30

CLIENT SAMPLE ID:	WFF5-SS1	WFF5-SS2	WFF5-SS3	WFF6-SS1	WFF12-SD1	WFF12-SD2
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	5	1	1	1	1	5
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	17	24	1	22	48	29

COMPOUND

Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride					14 J	8 J
Acetone		130 B				
Carbon Disulfide			6 B			
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene(total)						
Chloroform						
1,2-Dichloroethane						
2-Butanone				14 J		
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-						
Bromoform						
4-Methyl-2-pentanone					32 J	
2-Hexanone	UJ	UJ	UJ		UJ	
Tetrachloroethene					UJ	
Toluene					UJ	
1,1,2,2-Tetrachloroethane					UJ	
Chlorobenzene					UJ	
Ethylbenzene					UJ	
Styrene					UJ	
Total Xylenes					UJ	

A-1.22

REMARK:

Volatiles Analysis

(80W:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8223

SDG NO.: 29, 30

CLIENT SAMPLE ID:	WFF12-SS1	WFF12-SS2	WFF12-SS3	WFF14-SU2	WFF14-SU3	WFF14-SU4
MATRIX:	SOIL	SOIL	SOIL	WATER	WATER	WATER
DILUTION FACTOR:	5	1.0/5.0*	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L
X MOISTURE:	14	35	13	NA	NA	NA

COMPOUND

Chloromethane						18 J
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride						
Acetone		8 J 1200 *		110 J		
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene(total)						
Chloroform						13
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-						
Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
Toluene						
1,1,2,2-Tetrachloroethane						
Chlorobenzene						
Ethylbenzene						
Styrene						
Total Xylenes						

A-1.23

REMARK:

FIELD BLANK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8223

SDG NO.: 29, 30

CLIENT SAMPLE ID:	WFF14-SW5	WFF16-SW1	WFF16-SW5	WFF5-SW1
MATRIX:	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	NA	NA	NA	NA

COMPOUND

Chloromethane	5 J			
Bromomethane				
Vinyl Chloride				
Chloroethane				
Methylene Chloride				
Acetone				19
Carbon Disulfide				
1,1-Dichloroethene				
1,1-Dichloroethane				
1,2-Dichloroethene(total)				
Chloroform				6 J
1,2-Dichloroethane				
2-Butanone				
1,1,1-Trichloroethane				
Carbon Tetrachloride				
Bromodichloromethane				
1,2-Dichloropropane				
cis-1,3-Dichloropropene				
Trichloroethene				
Dibromochloromethane				
1,1,2-Trichloroethane				
Benzene				
trans-1,3-				
Bromoform				
4-Methyl-2-pentanone				
2-Hexanone				
Tetrachloroethene				
Toluene				
1,1,2,2-Tetrachloroethane				
Chlorobenzene				
Ethylbenzene				
Styrene				
Total Xylenes				

A-1.24

REMARK:

EQUIPMENT BLANK

TRIP BLANK

TRIP BLANK

FIELD BLANK

Volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: WALLOPS ISLAND
 CONTROL NO.: 8411

BATCH NO.:

CLIENT SAMPLE ID:	WFF6SB3V	WFF6SB4V	WFF6SB5V	WFF6SB6V	WFF16SW18
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER
DILUTION FACTOR:	1	1	1	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB
COMPOUND					
Benzene	4			22	
Toluene	100	11	61	210	
Ethylbenzene	1500	31	460	2400	
Xylene (Total)	5300	210 J	970	8300	

REMARK:

TRIP BLANK

ROY F. WESTON, INC.
Volatile Analysis
(SOW:OLH01.8)

CLIENT: Metcalf & Eddy
SITE: Wallops Island
CONTROL NO.: 8419

BATCH NO.: 33

CLIENT SAMPLE ID:	WFF14-SD2V	WFF14-SD3V	WFF14-SD4V	WFF14-SD5V	WFF15-SW1	WFF15-SW2
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
% MOISTURE:	20	70	46	32	NA	NA
COMPOUND						
Chloromethane		UJ		UJ		UJ
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride	12 J	30 J	21	17		
Acetone		58	36	39		
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene(total)						
Chloroform						
1,2-Dichloroethane		48	24	27		
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
Toluene						
1,1,2,2-Tetrachloroethane						
Chlorobenzene						
Ethylbenzene				8 J		
Styrene						
Total Xylenes						

A-1.27

REMARK:

FIELD BLANK

FIELD BLANK

ROY F. WESTON, INC.
Volatile Analysis
(SOW:OLM01.6)

CLIENT: Metcalf & Eddy
SITE: Wallops Island
CONTROL NO.: 8419

BATCH NO.: 33

CLIENT SAMPLE ID: WFF16-SW22
MATRIX: WATER
DILUTION FACTOR: 1
UNITS: UG/L
% MOISTURE: NA

COMPOUND

Chloromethane UJ
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene(total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethane
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethylbenzene
Styrene
Total Xylenes

REMARK:

TRIP BLANK

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760792	760796
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Analysis Date:	10/01/95	10/01/95
Remarks:		Duplicate of WFF4-SB6

Units of Measure: UG/KG UG/KG

Compound Description

Chloromethane	< 11	< 11
Bromomethane	< 11	< 11
Vinyl chloride	< 11	< 11
Chloroethane	< 11	< 11
Methylene chloride	5 B	5 B
Acetone	< 11	6 B
Carbon disulfide	< 11	< 11
1,1-Dichloroethene	< 11	< 11
1,1-Dichloroethane	< 11	< 11
1,2-Dichloroethene(Total)	< 11	< 11
Chloroform	< 11	< 11
1,2-Dichloroethane	< 11	< 11
2-Butanone	< 11	< 11
1,1,1-Trichloroethane	< 11	< 11
Carbon tetrachloride	< 11	< 11
Bromodichloromethane	< 11	< 11
1,2-Dichloropropane	< 11	< 11
Cis-1,3-Dichloropropene	< 11	< 11
Trichloroethene	< 11	< 11
Dibromochloromethane	< 11	< 11
1,1,2-Trichloroethane	< 11	< 11
Benzene	< 11	< 11
Trans-1,3-Dichloropropene	< 11	< 11
Bromoform	< 11	< 11
4-Methyl-2-pentanone	< 11	< 11
2-Hexanone	< 11	< 11
Tetrachloroethene	< 11	< 11
1,1,2,2-Tetrachloroethane	< 11	< 11
Toluene	< 11	< 11
Chlorobenzene	< 11	< 11
Ethylbenzene	< 11	< 11
Styrene	< 11	< 11
Xylenes (Total)	< 11	< 11

Volatile Analysis

Sample ID: WFF5-SB5
 Lab Sample ID: 760818
 Matrix: SOIL
 Collection Date: 09/27/95
 Receipt Date: 09/28/95
 Analysis Date: 09/30/95
 Remarks:

Units of Measure: UG/KG

Compound Description	UG/KG	
Chloromethane	< 15	
Bromomethane	< 15	
Vinyl chloride	< 15	
Chloroethane	< 15	
Methylene chloride	11	B
Acetone	10	B
Carbon disulfide	< 15	
1,1-Dichloroethene	< 15	
1,1-Dichloroethane	< 15	
1,2-Dichloroethene(Total)	< 15	
Chloroform	< 15	
1,2-Dichloroethane	< 15	
2-Butanone	< 15	
1,1,1-Trichloroethane	< 15	
Carbon tetrachloride	< 15	
Bromodichloromethane	< 15	
1,2-Dichloropropane	< 15	
Cis-1,3-Dichloropropene	< 15	
Trichloroethene	< 15	
Dibromochloromethane	< 15	
1,1,2-Trichloroethane	< 15	
Benzene	< 15	
Trans-1,3-Dichloropropene	< 15	
Bromoform	< 15	
4-Methyl-2-pentanone	< 15	
2-Hexanone	< 15	
Tetrachloroethene	< 15	
1,1,2,2-Tetrachloroethane	< 15	
Toluene	< 15	
Chlorobenzene	< 15	
Ethylbenzene	< 15	
Styrene	< 15	
Xylenes (Total)	< 15	

A-1.30

Volatile Analysis

Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760093	760137	760702	760743	760822	760829	760721	760735	760768	760783
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Analysis Date:	09/30/95	10/02/95	10/01/95	10/01/95	09/30/95	09/30/95	09/30/95	09/30/95	09/30/95	10/01/95
Remarks:				Duplicate of WFF5-SW3		Duplicate of WFF5-SD3	Equipment Blank	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	UG/L	UG/KG	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
Chloromethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Bromomethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Vinyl chloride	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Chloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Methylene chloride	1 B	21 B	< 2	< 2	15 B	14 B	3	5 J	2 J	2 J
Acetone	< 5 R	37 B	< 5 R	8 B	23 B	17 B	< 5 R	6 L	3 L	8 L
Carbon disulfide	0.6 B	< 23	< 1 UJ	2 B	< 15	< 12	< 1 UJ	< 2 UJ	< 1 UJ	< 1 UJ
1,1-Dichloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,1-Dichloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Cis-1,2-Dichloroethane	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
Trans-1,2-Dichloroethane	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
1,2-Dichloroethane(Total)	N/A	< 23	N/A	N/A	< 15	< 12	N/A	N/A	N/A	N/A
Chloroform	< 1	< 23	< 1	< 1	< 15	< 12	2	47	5	5
1,2-Dichloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
2-Butanone	< 5 R	9 J	< 5 R	< 5 R	< 15	< 12	< 5 R	< 10 R	< 5 R	< 5 R
Bromochloromethane	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
1,1,1-Trichloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Carbon tetrachloride	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Bromodichloromethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,2-Dichloropropane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Cis-1,3-Dichloropropene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Trichloroethene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Dibromochloromethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,1,1,2-Trichloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Benzene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Trans-1,3-Dichloropropene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Bromoform	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
+Methyl-2-pentanone	< 5	< 23	< 5	< 5 R	< 15	< 12	< 5	< 10	< 5	< 5
2-Hexanone	< 5 R	< 23	< 5 R	< 5	< 15	< 12	< 5 R	< 10 R	< 5 R	< 5 R
Tetrachloroethene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,2-Dibromoethane (Ethylene dibromide)	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
Toluene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Chlorobenzene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Ethylbenzene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Styrene	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
Xylenes (Total)	< 1	< 23	< 1	< 1	< 15	< 12	< 1	< 2	< 1	< 1
1,3-Dichlorobenzene	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
1,4-Dichlorobenzene	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
1,2-Dichlorobenzene	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	< 1	N/A	< 1	< 1	N/A	N/A	< 1	< 2	< 1	< 1

A-131

Volatile Analysis

Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760112	760124	760158	760171	760116	760162	760120	760167
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Analysis Date:	09/30/95	09/30/95	10/02/95	10/02/95	09/30/95	10/02/95	09/30/95	10/02/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9				

Compound Description	Units of Measure:	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/KG	UG/L	UG/KG
Chloromethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Bromomethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Vinyl chloride		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Chloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Methylene chloride		1	B < 2	11	B 10	0.9	B 6	B 1	B 9
Acetone		< 5	R 2	B 8	B < 12	< 5	R 6	B 17	B 4
Carbon disulfide		< 1	UJ < 1	UJ < 12	< 12	< 1	UJ < 12	< 1	UJ < 12
1,1-Dichloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,1-Dichloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Cis-1,2-Dichloroethane		< 1	< 1	N/A	N/A	2	N/A	2	N/A
Trans-1,2-Dichloroethane		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
1,2-Dichloroethane(Total)		N/A	N/A	< 12	< 12	N/A	< 12	N/A	< 12
Chloroform		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,2-Dichloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
2-Butanone		< 5	R < 5	R < 12	< 12	< 5	R < 12	< 5	R < 12
Bromochloromethane		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
1,1,1-Trichloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Carbon tetrachloride		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Bromodichloromethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,2-Dichloropropane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Cis-1,3-Dichloropropene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Trichloroethene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Dibromochloromethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,1,2-Trichloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Benzene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Trans-1,3-Dichloropropene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Bromoform		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
4-Methyl-2-pentanone		< 5	< 5	< 12	< 12	< 5	< 12	< 5	< 12
2-Hexanone		< 5	R < 5	R < 12	< 12	< 5	R < 12	< 5	R < 12
Tetrachloroethene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,1,2,2-Tetrachloroethane		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,2-Dibromoethane (Ethylene dibromide)		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
Toluene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Chlorobenzene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Ethylbenzene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Styrene		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
Xylenes (Total)		< 1	< 1	< 12	< 12	< 1	< 12	< 1	< 12
1,3-Dichlorobenzene		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
1,4-Dichlorobenzene		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
1,2-Dichlorobenzene		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A
1,2-Dibromo-3-chloropropane (DBCP)		< 1	< 1	N/A	N/A	< 1	N/A	< 1	N/A

A-1.32

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761340	760129	760133
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Analysis Date:	10/03/95	09/30/95	09/30/95
Remarks:	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	UG/L	UG/L	UG/L

Compound Description	WFF9-SW18	WFF9-SW19	WFF9-SW20
Chloromethane	< 1	< 1	< 1
Bromomethane	< 1	< 1	< 1
Vinyl chloride	< 1	< 1	< 1
Chloroethane	< 1	< 1	< 1
Methylene chloride	9 J	8	8
Acetone	< 7 R	< 5 R	< 5 R
Carbon disulfide	< 1	< 1 UJ	< 1 UJ
1,1-Dichloroethene	< 1	< 1	< 1
1,1-Dichloroethane	< 1	< 1	< 1
Cis-1,2-Dichloroethene	< 1	< 1	< 1
Trans-1,2-Dichloroethene	< 1	< 1	< 1
1,2-Dichloroethene(Total)	N/A	N/A	N/A
Chloroform	29	18	18
1,2-Dichloroethane	< 1	< 1	< 1
2-Butanone	< 7 R	< 5 R	< 5 R
Bromochloromethane	< 1	< 1	< 1
1,1,1-Trichloroethane	< 1	< 1	< 1
Carbon tetrachloride	< 1	< 1	< 1
Bromodichloromethane	< 1	< 1	< 1
1,2-Dichloropropane	< 1	< 1	< 1
Cis-1,3-Dichloropropene	< 1	< 1	< 1
Trichloroethene	< 1	< 1	< 1
Dibromochloromethane	< 1	< 1	< 1
1,1,2-Trichloroethane	< 1	< 1	< 1
Benzene	< 1	< 1	< 1
Trans-1,3-Dichloropropene	< 1	< 1	< 1
Bromoform	< 1	< 1	< 1
4-Methyl-2-pentanone	< 7 R	< 5	< 5
2-Hexanone	< 7	< 5 R	< 5 R
Tetrachloroethene	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1
1,2-Dibromoethane (Ethylene dibromide)	< 1	< 1	< 1
Toluene	< 1	< 1	< 1
Chlorobenzene	< 1	< 1	< 1
Ethylbenzene	< 1	< 1	< 1
Styrene	< 1	< 1	< 1
Nylenes (Total)	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	< 1	< 1	< 1

A-1.33

Volatile Analysis

Sample ID:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761303	761311	761348	761353	761327
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/27/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Analysis Date:	10/03/95	10/02/95	10/02/95	10/02/95	10/03/95
Remarks:		Duplicate of WFF9-GW1			Equipment Blank

Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Compound Description					
Chloromethane	< 1	< 1	< 1	< 1	< 1
Bromomethane	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	< 1	< 1	< 1	< 1	< 1
Chloroethane	< 1	< 1	< 1	< 1	< 1
Methylene chloride	< 2	< 2	< 2	< 2	5 J
Acetone	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R
Carbon disulfide	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	< 1	< 1	< 1	< 1	< 1
Cis-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1
Trans-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1
Chloroform	< 1	< 1	< 1	< 1	25
1,2-Dichloroethane	< 1	< 1	< 1	< 1	< 1
2-Butanone	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R
Bromochloromethane	< 1	< 1	< 1	< 1	< 1
1,1,1-Trichloroethane	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1
Cis-1,3-Dichloropropene	< 1	< 1	< 1	< 1	< 1
Trichloroethene	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1	< 1
Benzene	< 1	< 1	< 1	< 1	< 1
Trans-1,3-Dichloropropene	< 1	< 1	< 1	< 1	< 1
Bromoform	< 1	< 1	< 1	< 1	< 1
4-Methyl-2-pentanone	< 5	< 5	< 5 R	< 5 R	< 5
2-Hexanone	< 5 R	< 5 R	< 5	< 5	< 5 R
Tetrachloroethene	10	9	0.9 J	5	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane (Ethylene dibromide)	< 1	< 1	< 1	< 1	< 1
Toluene	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	< 1	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1	< 1
Xylenes (Total)	< 1	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	< 1	< 1	< 1	< 1	< 1

A-1.34

Volatil Analysis

Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761280	761284	761276	761344	761296
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Analysis Date:	10/03/95	10/02/95	10/02/95	10/02/95	10/03/95

Remarks:

Field
Blank
UG/L

Compound Description	Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane		< 1	< 1	< 1	< 1	< 1
Bromomethane		< 1	< 1	< 1	< 1	< 1
Vinyl chloride		< 1	< 1	< 1	< 1	< 1
Chloroethane		< 1	< 1	< 1	< 1	< 1
Methylene chloride		< 2	< 2	< 2	0.7 J	< 2
Acetone		< 5 R	< 5 R	< 5 R	< 5 R	< 5 R
Carbon disulfide		< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene		< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		< 1	< 1	< 1	< 1	< 1
Cis-1,2-Dichloroethene		< 1	< 1	13	< 1	< 1
Trans-1,2-Dichloroethene		< 1	< 1	< 1	< 1	< 1
Chloroform		3 B	< 1	< 1	2	2 B
1,2-Dichloroethane		< 1	< 1	< 1	< 1	< 1
2-Butanone		< 5 R	< 5 R	< 5 R	< 5 R	< 5 R
Bromochloromethane		< 1	< 1	< 1	< 1	< 1
1,1,1-Trichloroethane		< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride		< 1	< 1	< 1	< 1	< 1
Bromodichloromethane		< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane		< 1	< 1	< 1	< 1	< 1
Cis-1,3-Dichloropropene		< 1	< 1	< 1	< 1	< 1
Trichloroethene		< 1	< 1	1	< 1	< 1
Dibromochloromethane		< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane		< 1	< 1	< 1	< 1	< 1
Benzene		< 1	< 1	< 1	< 1	< 1
Trans-1,3-Dichloropropene		< 1	< 1	< 1	< 1	< 1
Bromoform		< 1	< 1	< 1	< 1	< 1
4-Methyl-2-pentanone		< 5	< 5	< 5	< 5 R	< 5
2-Hexanone		< 5 R	< 5 R	< 5 R	< 5	< 5 R
Tetrachloroethene		< 1	0.9 J	12	< 1	6
1,1,2,2-Tetrachloroethane		< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane (Ethylene dibromide)		< 1	< 1	< 1	< 1	< 1
Toluene		< 1	< 1	< 1	< 1	< 1
Chlorobenzene		< 1	< 1	< 1	< 1	< 1
Ethylbenzene		< 1	< 1	< 1	< 1	< 1
Styrene		< 1	< 1	< 1	< 1	< 1
Xylenes (Total)		< 1	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene		< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene		< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene		< 1	< 1	< 1	< 1	< 1
i,2-Dibromo-3-chloropropane (DBCP)		< 1	< 1	< 1	< 1	< 1

A-1.35

Volatile Analysis

Sample ID:	WFF16-SW7	WFF16-SW24	WFF16-SW25
Lab Sample ID:	761352	760754	760089
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/27/95	09/26/95
Receipt Date:	09/29/95	09/28/95	09/27/95
Analysis Date:	10/02/95	10/01/95	09/30/95
Remarks:	Trip	Trip	Trip
	Blank	Blank	Blank
Units of Measure:	UG/L	UG/L	UG/L

Compound Description	WFF16-SW7	WFF16-SW24	WFF16-SW25
Chloromethane	< 1	< 1	< 1
Bromomethane	< 1	< 1	< 1
Vinyl chloride	< 1	< 1	< 1
Chloroethane	< 1	< 1	< 1
Methylene chloride	< 2	< 2	1 J
Acetone	< 5 R	8 L	< 5 R
Carbon disulfide	< 1	2 J	< 1 UJ
1,1-Dichloroethene	< 1	< 1	< 1
1,1-Dichloroethane	< 1	< 1	< 1
Cis-1,2-Dichloroethene	< 1	< 1	< 1
Trans-1,2-Dichloroethene	< 1	< 1	< 1
Chloroform	< 1	< 1	< 1
1,2-Dichloroethane	< 1	< 1	< 1
2-Butanone	< 5 R	< 5 R	< 5 R
Bromochloromethane	< 1	< 1	< 1
1,1,1-Trichloroethane	< 1	< 1	< 1
Carbon tetrachloride	< 1	< 1	< 1
Bromodichloromethane	< 1	< 1	< 1
1,2-Dichloropropane	< 1	< 1	< 1
Cis-1,3-Dichloropropene	< 1	< 1	< 1
Trichloroethene	< 1	< 1	< 1
Dibromochloromethane	< 1	< 1	< 1
1,1,2-Trichloroethane	< 1	< 1	< 1
Benzene	< 1	< 1	< 1
Trans-1,3-Dichloropropene	< 1	< 1	< 1
Bromoform	< 1	< 1	< 1
4-Methyl-2-pentanone	< 5 R	< 5 R	< 5 R
2-Hexanone	< 5	< 5 R	< 5 R
Tetrachloroethene	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1
1,2-Dibromoethane (Ethylene dibromide)	< 1	< 1	< 1
Toluene	< 1	< 1	< 1
Chlorobenzene	< 1	< 1	< 1
Ethylbenzene	< 1	< 1	< 1
Styrene	< 1	< 1	< 1
Xylenes (Total)	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	< 1	< 1	< 1

A-1.36

APPENDIX A-2

SEMIVOLATILE ORGANIC RESULTS

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SOG NO 2

CLIENT SAMPLE ID:	WFF4-SB1	WFF4-SB2	WFF4-SB3	WFF4-SW7	WFF9-DC1	WFF9-SB1
MATRIX:	SOIL	SOIL	SOIL	WATER	SOIL/MED.	SOIL
DILUTION FACTOR:	50	2	25./50*	1	25	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/L	UG/KG	UG/KG
X MOISTURE:	16	18	39	NA	5	4

COMPOUND

Phenol						UJ
Bis(2-chloroethyl)ether						UJ
2-Chlorophenol						UJ
1,3-Dichlorobenzene						UJ
1,4-Dichlorobenzene						UJ
1,2-Dichlorobenzene						UJ
2-Methylphenol						UJ
2,2'-Oxybis(1-chloropropane)						UJ
4-Methylphenol						UJ
N-Nitroso-di-n-propylamine						UJ
Hexachloroethane						UJ
Nitrobenzene						UJ
Isophorone						UJ
2-Nitrophenol						UJ
2,4-Dimethylphenol						UJ
Bis(2-chloroethoxy)methane						UJ
2,4-Dichlorophenol						UJ
1,2,4-Trichlorobenzene						UJ
Naphthalene			9200 J			UJ
4-Chloroaniline					270000 J	UJ
Hexachlorobutadiene						UJ
4-Chloro-3-methylphenol						UJ
2-Methylnaphthalene			3500 J		460000 J	UJ
Hexachlorocyclopentadiene						UJ
2,4,6-Trichlorophenol						UJ
2,4,5-Trichlorophenol						UJ
2-Chloronaphthalene						UJ
2-Nitroaniline						UJ
Dimethylphthalate						UJ
Acenaphthylene					360000 J	UJ
2,6-Dinitrotoluene						UJ
3-Nitroaniline						UJ
Acenaphthene	4900 J		12000 J		130000 J	UJ
2,4-Dinitrophenol	UJ	UJ	UJ	UJ		UJ
4-Nitrophenol						UJ
Dibenzofuran			7600 J		82000 J	UJ
2,4-Dinitrotoluene						UJ
Diethylphthalate						UJ
4-Chlorophenyl-phenylether						UJ
Fluorene	3700 J		15000		570000 J	UJ
4-Nitroaniline						UJ

A-2.1

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF4-SB1	WFF4-SB2	WFF4-SB3	WFF4-SW7	WFF9-DC1	WFF9-SB1
MATRIX:	SOIL	SOIL	SOIL	WATER	SOIL/MED.	SOIL
DILUTION FACTOR:	50	2	25./50*	1	25	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/L	UG/KG	UG/KG
X MOISTURE:	16	18	39	NA	5	4

COMPOUND

4,6-Dinitro-2-methylphenol						UJ
N-Nitrosodiphenylamine						UJ
4-Bromophenyl-phenylether						UJ
Hexachlorobenzene						UJ
Pentachlorophenol						UJ
Phenanthrene	31000		94000		1700000	J
Anthracene	11000 J		32000		310000	J
Carbazole	3800 J		15000			UJ
Di-n-butylphthalate						UJ
Fluoranthene	73000		140000 *		770000	J
Pyrene	63000	180 J	170000 *		1300000	J
Butylbenzylphthalate		UJ				UJ
3,3'-Dichlorobenzidine		UJ				UJ
Benzo(a)anthracene	41000	130 J	99000		350000	J
Chrysene	40000	240 J	120000 *		400000	J
Bis(2-ethylhexyl)phthalate		520 BJ			29000	J
Di-n-octylphthalate		UJ				UJ
Benzo(b)fluoranthene	35000	UJ	63000		200000	J
Benzo(k)fluoranthene	41000	UJ	61000		230000	J
Benzo(a)pyrene	38000	440 J	66000		300000	J
Indeno(1,2,3-cd)pyrene	20000	UJ	32000		180000	J
Dibenz(a,h)anthracene	4500 J	UJ	11000 J		43000	J
Benzo(g,h,i)perylene	13000 J	590 J	25000 J		170000	J

A-2.2

REMARK:

* THE RESULT IS TRANSFERRED FROM THE MORE DILUTED SAMPLE.

EQUIPMENT BLK

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF9-SB2	WFF9-SB3	WFF9-SB4	WFF9-SB5	WFF9-SW13	WFF10-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/KG
% MOISTURE:	5	6	3	11	1	14

COMPOUND

- Phenol
- Bis(2-chloroethyl)ether
- 2-Chlorophenol
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene
- 1,2-Dichlorobenzene
- 2-Methylphenol
- 2,2'-Oxybis(1-chloropropane)
- 4-Methylphenol
- N-Nitroso-di-n-propylamine
- Hexachloroethane
- Nitrobenzene
- Isophorone
- 2-Nitrophenol
- 2,4-Dimethylphenol
- Bis(2-chloroethoxy)methane
- 2,4-Dichlorophenol
- 1,2,4-Trichlorobenzene
- Naphthalene
- 4-Chloroaniline
- Hexachlorobutadiene
- 4-Chloro-3-methylphenol
- 2-Methylnaphthalene
- Hexachlorocyclopentadiene
- 2,4,6-Trichlorophenol
- 2,4,5-Trichlorophenol
- 2-Chloronaphthalene
- 2-Nitroaniline
- Dimethylphthalate
- Acenaphthylene
- 2,6-Dinitrotoluene
- 3-Nitroaniline
- Acenaphthene
- 2,4-Dinitrophenol
- 4-Nitrophenol
- Dibenzofuran
- 2,4-Dinitrotoluene
- Diethylphthalate
- 4-Chlorophenyl-phenylether
- Fluorene
- 4-Nitroaniline

UJ

UJ

UJ

UJ

UJ

UJ

A-2.3

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF9-SB2	WFF9-SB3	WFF9-SB4	WFF9-SB5	WFF9-SW13	WFF10-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/KG
X MOISTURE:	5	6	3	11	1	14

COMPOUND

4,6-Dinitro-2-methylphenol						
N-Nitrosodiphenylamine						
4-Bromophenyl-phenylether						
Hexachlorobenzene						
Pentachlorophenol						
Phenanthrene						
Anthracene						
Carbazole						
Di-n-butylphthalate	40 BJ	50 BJ	36 BJ	63 BJ		
Fluoranthene						
Pyrene						
Butylbenzylphthalate						
3,3'-Dichlorobenzidine						
Benzo(a)anthracene						
Chrysene						
Bis(2-ethylhexyl)phthalate	200 BJ	700 B	1100 B	140 BJ		140 BJ
Di-n-octylphthalate		61 J	35 J			
Benzo(b)fluoranthene						
Benzo(k)fluoranthene						
Benzo(a)pyrene						
Indeno(1,2,3-cd)pyrene						
Dibenz(a,h)anthracene						
Benzo(g,h,i)perylene						

A-2.4

REMARK:

EQUIPMENT BLK

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF10-SB2	WFF10-SB3	WFF10-SB4	WFF10-SB5	WFF10-SB6	WFF10-SW1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
DILUTION FACTOR:	10	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L
% MOISTURE:	10	14	20	6	11	

COMPOUND

Phenol
Bis(2-chloroethyl)ether
2-Chlorophenol
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2'-Oxybis(1-chloropropane)
4-Methylphenol
N-Nitroso-di-n-propylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
Bis(2-chloroethoxy)methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylphenol
2-Methylnaphthalene
Hexachlorocyclopentadiene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2-Chloronaphthalene
2-Nitroaniline
Dimethylphthalate
Acenaphthylene
2,6-Dinitrotoluene
3-Nitroaniline
Acenaphthene
2,4-Dinitrophenol
4-Nitrophenol
Dibenzofuran
2,4-Dinitrotoluene
Diethylphthalate
4-Chlorophenyl-phenylether
Fluorene
4-Nitroaniline

UJ

UJ

UJ

UJ

UJ

UJ

A-2.5

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF10-SB2	WFF10-SB3	WFF10-SB4	WFF10-SB5	WFF10-SB6	WFF10-SW1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
DILUTION FACTOR:	10	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L
X MOISTURE:	10	14	20	6	11	

COMPOUND

4,6-Dinitro-2-methylphenol	
N-Nitrosodiphenylamine	
4-Bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	UJ
Butylbenzylphthalate	UJ
3,3'-Dichlorobenzidine	UJ
Benzo(a)anthracene	UJ
Chrysene	UJ
Bis(2-ethylhexyl)phthalate	UJ
Di-n-octylphthalate	UJ
Benzo(b)fluoranthene	UJ
Benzo(k)fluoranthene	UJ
Benzo(a)pyrene	UJ
Indeno(1,2,3-cd)pyrene	UJ
Dibenz(a,h)anthracene	UJ
Benzo(g,h,i)perylene	UJ

A-2.6

REMARK:

EQUIPMENT BLK

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID: WFF10-SW2
MATRIX: WATER
DILUTION FACTOR: 1
UNITS: UG/L
X MOISTURE:

COMPOUND

Phenol
Bis(2-chloroethyl)ether
2-Chlorophenol
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2'-Oxybis(1-chloropropane)
4-Methylphenol
N-Nitroso-di-n-propylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
Bis(2-chloroethoxy)methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylphenol
2-Methylnaphthalene
Hexachlorocyclopentadiene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2-Chloronaphthalene
2-Nitroaniline
Dimethylphthalate
Acenaphthylene
2,6-Dinitrotoluene
3-Nitroaniline
Acenaphthene
2,4-Dinitrophenol
4-Nitrophenol
Dibenzofuran
2,4-Dinitrotoluene
Diethylphthalate
4-Chlorophenyl-phenylether
Fluorene
4-Nitroaniline

UJ

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID: WFF10-SW2
MATRIX: WATER
DILUTION FACTOR: 1
UNITS: UG/L
% MOISTURE:

COMPOUND

4,6-Dinitro-2-methylphenol
N-Nitrosodiphenylamine
4-Bromophenyl-phenylether
Hexachlorobenzene
Pentachlorophenol
Phenanthrene
Anthracene
Carbazole
Di-n-butylphthalate
Fluoranthene
Pyrene
Butylbenzylphthalate
3,3'-Dichlorobenzidine
Benzo(a)anthracene
Chrysene
Bis(2-ethylhexyl)phthalate
Di-n-octylphthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene
Benzo(g,h,i)perylene

A-2.8

REMARK:

FIELD BLK

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 7940, 7945

BATCH NO.: 8, 9

CLIENT SAMPLE ID:	WFF5-SB1	WFF5-SB2	WFF5-SB3	WFF14-SB1	WFF14-SB14	WFF14-SW1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L
% MOISTURE:	20	8	9	16	5	N/A

COMPOUND

Phenol
 Bis(2-chloroethyl)ether
 2-Chlorophenol
 1,3-Dichlorobenzene
 1,4-Dichlorobenzene
 1,2-Dichlorobenzene
 2-Methylphenol
 2,2'-Oxybis(1-chloropropane)
 4-Methylphenol
 N-Nitroso-di-n-propylamine
 Hexachloroethane
 Nitrobenzene
 Isophorone
 2-Nitrophenol
 2,4-Dimethylphenol
 Bis(2-chloroethoxy)methane
 2,4-Dichlorophenol
 1,2,4-Trichlorobenzene
 Naphthalene
 4-Chloroaniline
 Hexachlorobutadiene
 4-Chloro-3-methylphenol
 2-Methylnaphthalene
 Hexachlorocyclopentadiene
 2,4,6-Trichlorophenol
 2,4,5-Trichlorophenol
 2-Chloronaphthalene
 2-Nitroaniline
 Dimethylphthalate
 Acenaphthylene
 2,6-Dinitrotoluene
 3-Nitroaniline
 Acenaphthene
 2,4-Dinitrophenol
 4-Nitrophenol
 Dibenzofuran
 2,4-Dinitrotoluene
 Diethylphthalate
 4-Chlorophenyl-phenylether
 Fluorene
 4-Nitroaniline

A-2.9

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7988 SDG NO.: 13

CLIENT SAMPLE ID:	WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB5	WFF14-SB6	WFF14-SB7
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	20	13	14	16	7	11

COMPOUND	CRQL
Phenol	330
Bis(2-chloroethyl)ether	330
2-Chlorophenol	330
1,3-Dichlorobenzene	330
1,4-Dichlorobenzene	330
1,2-Dichlorobenzene	330
2-Methylphenol	330
2,2'-Oxybis(1-chloropropane)	330
4-Methylphenol	330
N-Nitroso-di-n-propylamine	330
Hexachloroethane	330
Nitrobenzene	330
Isophorone	330
2-Nitrophenol	330
2,4-Dimethylphenol	330
Bis(2-chloroethoxy)methane	330
2,4-Dichlorophenol	330
1,2,4-Trichlorobenzene	330
Naphthalene	330
4-Chloroaniline	330
Hexachlorobutadiene	330
4-Chloro-3-methylphenol	330
2-Methylnaphthalene	330
Hexachlorocyclopentadiene	330
2,4,6-Trichlorophenol	330
2,4,5-Trichlorophenol	800
2-Chloronaphthalene	330
2-Nitroaniline	800
Dimethylphthalate	330
Acenaphthylene	330
2,6-Dinitrotoluene	330
3-Nitroaniline	800
Acenaphthene	330
2,4-Dinitrophenol	800
4-Nitrophenol	800
Dibenzofuran	330
2,4-Dinitrotoluene	330
Diethylphthalate	330
4-Chlorophenyl-phenylether	330
Fluorene	330
4-Nitroaniline	800

A-2.11

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7988 SDG NO.: 13

CLIENT SAMPLE ID:	WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB5	WFF14-SB6	WFF14-SB7
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	20	13	14	16	7	11

COMPOUND	CRQL
4,6-Dinitro-2-methylphenol	800
N-Nitrosodiphenylamine	330
4-Bromophenyl-phenylether	330
Hexachlorobenzene	330
Pentachlorophenol	800
Phenanthrene	330
Anthracene	330
Carbazole	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butylbenzylphthalate	330
3,3'-Dichlorobenzidine	330
Benzo(a)anthracene	330
Chrysene	330
Bis(2-ethylhexyl)phthalate	330
Di-n-octylphthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Indeno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330

A-2.12



Semivolatile Analysis

(SOW:OLN01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7986 SDG NO.:

CLIENT SAMPLE ID:	WFF14-SB8	WFF14-SB9	WFF14-SB10	WFF14-SB11	WFF14-SB12	WFF14-SB13
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	9	17	9	17	17	12

COMPOUND	CRQL
Phenol	330
Bis(2-chloroethyl)ether	330
2-Chlorophenol	330
1,3-Dichlorobenzene	330
1,4-Dichlorobenzene	330
1,2-Dichlorobenzene	330
2-Methylphenol	330
2,2'-Oxybis(1-chloropropane)	330
4-Methylphenol	330
N-Nitroso-di-n-propylamine	330
Hexachloroethane	330
Nitrobenzene	330
Isophorone	330
2-Nitrophenol	330
2,4-Dimethylphenol	330
Bis(2-chloroethoxy)methane	330
2,4-Dichlorophenol	330
1,2,4-Trichlorobenzene	330
Naphthalene	330
4-Chloroaniline	330
Hexachlorobutadiene	330
4-Chloro-3-methylphenol	330
2-Methylnaphthalene	330
Hexachlorocyclopentadiene	330
2,4,6-Trichlorophenol	330
2,4,5-Trichlorophenol	800
2-Chloronaphthalene	330
2-Nitroaniline	800
Dimethylphthalate	330
Acenaphthylene	330
2,6-Dinitrotoluene	330
3-Nitroaniline	800
Acenaphthene	330
2,4-Dinitrophenol	800
4-Nitrophenol	800
Dibenzofuran	330
2,4-Dinitrotoluene	330
Diethylphthalate	330
4-Chlorophenyl-phenylether	330
Fluorene	330
4-Nitroaniline	800

A-2.13

Semi-volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 CASE NO.: 7978, 7985, 7988 SOG NO.:

CLIENT SAMPLE ID:	WFF14-SB8	WFF14-SB9	WFF14-SB10	WFF14-SB11	WFF14-SB12	WFF14-SB13
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	9	17	9	17	17	12

COMPOUND	CRQL
4,6-Dinitro-2-methylphenol	800
N-Nitrosodiphenylamine	330
4-Bromophenyl-phenylether	330
Hexachlorobenzene	330
Pentachlorophenol	800
Phenanthrene	330
Anthracene	330
Carbazole	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butylbenzylphthalate	330
3,3'-Dichlorobenzidine	330
Benzo(a)anthracene	330
Chrysene	330
Bis(2-ethylhexyl)phthalate	330
Di-n-octylphthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Indeno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330

A-2.14

=====

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7986, 7988 SDG NO.:

CLIENT SAMPLE ID:	WFF15-SB1	WFF15-SB2	WFF15-SB3	WFF15-SB4	WFF15-SB11
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	6	10	13	10	3

COMPOUND	CRQL
Phenol	330
Bis(2-chloroethyl)ether	330
2-Chlorophenol	330
1,3-Dichlorobenzene	330
1,4-Dichlorobenzene	330
1,2-Dichlorobenzene	330
2-Methylphenol	330
2,2'-Oxybis(1-chloropropane)	330
4-Methylphenol	330
N-Nitroso-di-n-propylamine	330
Hexachloroethane	330
Nitrobenzene	330
Isophorone	330
2-Nitrophenol	330
2,4-Dimethylphenol	330
Bis(2-chloroethoxy)methane	330
2,4-Dichlorophenol	330
1,2,4-Trichlorobenzene	330
Naphthalene	330
4-Chloroaniline	330
Hexachlorobutadiene	330
4-Chloro-3-methylphenol	330
2-Methylnaphthalene	330
Hexachlorocyclopentadiene	330
2,4,6-Trichlorophenol	330
2,4,5-Trichlorophenol	800
2-Chloronaphthalene	330
2-Nitroaniline	800
Dimethylphthalate	330
Acenaphthylene	330
2,6-Dinitrotoluene	330
3-Nitroaniline	800
Acenaphthene	330
2,4-Dinitrophenol	800
4-Nitrophenol	800
Dibenzofuran	330
2,4-Dinitrotoluene	330
Diethylphthalate	330
4-Chlorophenyl-phenylether	330
Fluorene	330
4-Nitroaniline	800

A-2.15

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7966 SDG NO.:

CLIENT SAMPLE ID:	WFF15-SB1	WFF15-SB2	WFF15-SB3	WFF15-SB4	WFF15-SB11
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	6	10	13	10	3

COMPOUND	CRQL
4,6-Dinitro-2-methylphenol	800
N-Nitrosodiphenylamine	330
4-Bromophenyl-phenylether	330
Hexachlorobenzene	330
Pentachlorophenol	800
Phenanthrene	330
Anthracene	330
Carbazole	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butylbenzylphthalate	330
3,3'-Dichlorobenzidine	330
Benzo(a)anthracene	330
Chrysene	330
Bis(2-ethylhexyl)phthalate	330
Di-n-octylphthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Indeno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330

A-2.16

.....

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005, 8011 SDG NO.: 17, 18

CLIENT SAMPLE ID:	WFF2-SB1	WFF2-SB2	WFF2-SB3	WFF2-SB4	WFF2-SB11	WFF6-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	13	12	3	9	13	18

COMPOUND

Phenol	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethyl)ether	UJ	UJ	UJ	UJ	UJ	UJ
2-Chlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
1,3-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
1,2-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
2,2'-Oxybis(1-chloropropane)	UJ	UJ	UJ	UJ	UJ	UJ
4-Methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
N-Nitroso-di-n-propylamine	UJ	UJ	UJ	UJ	UJ	UJ
Hexachloroethane	UJ	UJ	UJ	UJ	UJ	UJ
Nitrobenzene	UJ	UJ	UJ	UJ	UJ	UJ
Isophorone	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dimethylphenol	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethoxy)methane	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
1,2,4-Trichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
Naphthalene	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorobutadiene	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloro-3-methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylnaphthalene	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorocyclopentadiene	UJ	UJ	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
2-Chloronaphthalene	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Dimethylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthylene	UJ	UJ	UJ	UJ	UJ	UJ
2,6-Dinitrotoluene	UJ	UJ	UJ	UJ	UJ	UJ
3-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthene	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
4-Nitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
Dibenzofuran	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	UJ	UJ	UJ	UJ	UJ	UJ
Diethylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
4-Chlorophenyl-phenylether	UJ	UJ	UJ	UJ	UJ	UJ
Fluorene	UJ	UJ	UJ	UJ	UJ	UJ
4-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ

A-2.17

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005.8011 SDG NO.: 17,18

CLIENT SAMPLE ID:	WFF2-SB1	WFF2-SB2	WFF2-SB3	WFF2-SB4	WFF2-SB11	WFF6-SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	13	12	3	9	13	18
COMPOUND						
4,6-Dinitro-2-methylphenol	UJ	UJ	UJ	UJ	UJ	
N-Nitrosodiphenylamine	UJ	UJ	UJ	UJ	UJ	
4-Bromophenyl-phenylether	UJ	UJ	UJ	UJ	UJ	
Hexachlorobenzene	UJ	UJ	UJ	UJ	UJ	
Pentachlorophenol	UJ	UJ	UJ	UJ	UJ	
Phenanthrene	UJ	UJ	UJ	UJ	UJ	
Anthracene	UJ	UJ	UJ	UJ	UJ	
Carbazole	UJ	UJ	UJ	UJ	UJ	
Di-n-butylphthalate	UJ	UJ	UJ	UJ	UJ	
Fluoranthene	UJ	UJ	UJ	UJ	UJ	
Pyrene	UJ	UJ	UJ	UJ	UJ	310 J
Butylbenzylphthalate	UJ	UJ	UJ	UJ	UJ	
3,3'-Dichlorobenzidine	UJ	UJ	UJ	UJ	UJ	
Benzo(a)anthracene	UJ	UJ	UJ	UJ	UJ	
Chrysene	UJ	UJ	UJ	UJ	UJ	
Bis(2-ethylhexyl)phthalate	180 BJ	UJ	230 BJ	1400 J	UJ	180 J
Di-n-octylphthalate	UJ	UJ	UJ	UJ	UJ	
Benzo(b)fluoranthene	UJ	UJ	UJ	UJ	UJ	
Benzo(k)fluoranthene	UJ	UJ	UJ	UJ	UJ	
Benzo(a)pyrene	UJ	UJ	UJ	UJ	UJ	
Indeno(1,2,3-cd)pyrene	UJ	UJ	UJ	UJ	UJ	
Dibenz(a,h)anthracene	UJ	UJ	UJ	UJ	UJ	
Benzo(g,h,i)perylene	UJ	UJ	UJ	UJ	UJ	

A-2.18

REMARK:

FIELD DUPLICATE

FIELD DUPLICATE

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005, 8011 SDG NO.: 17

CLIENT SAMPLE ID:	WFF6-SB2	WFF8-SB6	WFF15-SB9	WFF15-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	25	13	10	9

COMPOUND

Phenol
 Bis(2-chloroethyl)ether
 2-Chlorophenol
 1,3-Dichlorobenzene
 1,4-Dichlorobenzene
 1,2-Dichlorobenzene
 2-Methylphenol
 2,2'-Oxybis(1-chloropropane)
 4-Methylphenol
 N-Nitroso-di-n-propylamine
 Hexachloroethane
 Nitrobenzene
 Isophorone
 2-Nitrophenol
 2,4-Dimethylphenol
 Bis(2-chloroethoxy)methane
 2,4-Dichlorophenol
 1,2,4-Trichlorobenzene
 Naphthalene
 4-Chloroaniline
 Hexachlorobutadiene
 4-Chloro-3-methylphenol
 2-Methylnaphthalene
 Hexachlorocyclopentadiene
 2,4,6-Trichlorophenol
 2,4,5-Trichlorophenol
 2-Chloronaphthalene
 2-Nitroaniline
 Dimethylphthalate
 Acenaphthylene
 2,6-Dinitrotoluene
 3-Nitroaniline
 Acenaphthene
 2,4-Dinitrophenol
 4-Nitrophenol
 Dibenzofuran
 2,4-Dinitrotoluene
 Diethylphthalate
 4-Chlorophenyl-phenylether
 Fluorene
 4-Nitroaniline

A-2.19

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8005, 8011 SDG NO.: 17

CLIENT SAMPLE ID:	WFF6-SB2	WFF8-SB6	WFF15-SB9	WFF15-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	25	13	10	9

COMPOUND

4,6-Dinitro-2-methylphenol
 N-Nitrosodiphenylamine
 4-Bromophenyl-phenylether
 Hexachlorobenzene
 Pentachlorophenol
 Phenanthrene
 Anthracene
 Carbazole
 Di-n-butylphthalate
 Fluoranthene
 Pyrene
 Butylbenzylphthalate
 3,3'-Dichlorobenzidine
 Benzo(a)anthracene
 Chrysene
 Bis(2-ethylhexyl)phthalate
 Di-n-octylphthalate
 Benzo(b)fluoranthene
 Benzo(k)fluoranthene
 Benzo(a)pyrene
 Indeno(1,2,3-cd)pyrene
 Dibenz(a,h)anthracene
 Benzo(g,h,i)perylene

440

REMARK:

A-2.20

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017, 8023 SDG NO.: 19

CLIENT SAMPLE ID:	WFF2-SB5	WFF2-SB6	WFF2-SB7	WFF2-SB8	WFF2-SB9	WFF2-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	9	5	13	5	12	15

COMPOUND	CRQL	
Phenol	330	
Bis(2-chloroethyl)ether	330	R
2-Chlorophenol	330	R
1,3-Dichlorobenzene	330	
1,4-Dichlorobenzene	330	
1,2-Dichlorobenzene	330	
2-Methylphenol	330	
2,2'-Oxybis(1-chloropropane)	330	R
4-Methylphenol	330	R
N-Nitroso-di-n-propylamine	330	
Hexachloroethane	330	
Nitrobenzene	330	
Isophorone	330	
2-Nitrophenol	330	R
2,4-Dimethylphenol	330	R
Bis(2-chloroethoxy)methane	330	
2,4-Dichlorophenol	330	R
1,2,4-Trichlorobenzene	330	
Naphthalene	330	
4-Chloroaniline	330	
Hexachlorobutadiene	330	
4-Chloro-3-methylphenol	330	R
2-Methylnaphthalene	330	
Hexachlorocyclopentadiene	330	
2,4,6-Trichlorophenol	330	R
2,4,5-Trichlorophenol	800	R
2-Chloronaphthalene	330	
2-Nitroaniline	800	
Dimethylphthalate	330	
Acenaphthylene	330	
2,6-Dinitrotoluene	330	
3-Nitroaniline	800	
Acenaphthene	330	
2,4-Dinitrophenol	800	R
4-Nitrophenol	800	R
Dibenzofuran	330	
2,4-Dinitrotoluene	330	
Diethylphthalate	330	
4-Chlorophenyl-phenylether	330	
Fluorene	330	
4-Nitroaniline	800	

A-2.21

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017.8023 SDG NO.: 19

CLIENT SAMPLE ID:	WFF2-SB5	WFF2-SB6	WFF2-SB7	WFF2-SB8	WFF2-SB9	WFF2-SB10
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	9	5	13	5	12	15

COMPOUND	CRQL
4,6-Dinitro-2-methylphenol	800
N-Nitrosodiphenylamine	330
4-Bromophenyl-phenylether	330
Hexachlorobenzene	330
Pentachlorophenol	800
Phenanthrene	330
Anthracene	330
Carbazole	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butylbenzylphthalate	330
3,3'-Dichlorobenzidine	330
Benzo(a)anthracene	330
Chrysene	330
Bis(2-ethylhexyl)phthalate	330
Di-n-octylphthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Indeno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330

R

R

180 BJ

160 BJ

SAMPLE RECEIVED:	07-01-93	07-01-93	07-01-93	07-01-93	07-02-93	07-02-93
SAMPLE EXTRACT:	07-08-93	07-08-93	07-08-93	07-08-93	07-08-93	07-08-93
SAMPLE ANALYSIS:	07-15-93	07-16-93	07-16-93	07-16-93	07-16-93	07-16-93

A-2.22

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017, 8023 SDG NO.:

CLIENT SAMPLE ID:	WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5	WFF2-SS6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	MED	10	MED	MED	MED	MED
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
% MOISTURE:	3	1	2	9	3	N/A
COMPOUND	CRQL					
Phenol	330	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethyl)ether	330	UJ	UJ	UJ	UJ	UJ
2-Chlorophenol	330	UJ	UJ	UJ	UJ	UJ
1,3-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ
1,2-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ
2-Methylphenol	330	UJ	UJ	UJ	UJ	UJ
2,2'-Oxybis(1-chloropropane)	330	UJ	UJ	UJ	UJ	UJ
4-Methylphenol	330	UJ	UJ	UJ	UJ	UJ
N-Nitroso-di-n-propylamine	330	UJ	UJ	UJ	UJ	UJ
Hexachloroethane	330	UJ	UJ	UJ	UJ	UJ
Nitrobenzene	330	UJ	UJ	UJ	UJ	UJ
Isophorone	330	UJ	UJ	UJ	UJ	UJ
2-Nitrophenol	330	UJ	UJ	UJ	UJ	UJ
2,4-Dimethylphenol	330	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethoxy)methane	330	UJ	UJ	UJ	UJ	UJ
2,4-Dichlorophenol	330	UJ	UJ	UJ	UJ	UJ
1,2,4-Trichlorobenzene	330	UJ	UJ	UJ	UJ	UJ
Naphthalene	330	UJ	UJ	UJ	UJ	UJ
4-Chloroaniline	330	UJ	UJ	UJ	UJ	UJ
Hexachlorobutadiene	330	UJ	UJ	UJ	UJ	UJ
4-Chloro-3-methylphenol	330	UJ	UJ	UJ	UJ	UJ
2-Methylnaphthalene	330	UJ	UJ	UJ	UJ	UJ
Hexachlorocyclopentadiene	330	UJ	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol	330	UJ	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	800	UJ	UJ	UJ	UJ	UJ
2-Chloronaphthalene	330	UJ	UJ	UJ	UJ	UJ
2-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ
Dimethylphthalate	330	UJ	UJ	UJ	UJ	UJ
Acenaphthylene	330	UJ	UJ	UJ	UJ	UJ
2,6-Dinitrotoluene	330	UJ	UJ	UJ	UJ	UJ
3-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ
Acenaphthene	330	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrophenol	800	UJ	UJ	UJ	UJ	UJ
4-Nitrophenol	800	UJ	UJ	UJ	UJ	UJ
Dibenzofuran	330	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	330	UJ	UJ	UJ	UJ	UJ
Diethylphthalate	330	UJ	UJ	UJ	UJ	UJ
4-Chlorophenyl-phenylether	330	UJ	UJ	UJ	UJ	UJ
Fluorene	330	UJ	UJ	UJ	UJ	UJ
4-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ

A-2.23

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017, 8023 SDG NO.:

CLIENT SAMPLE ID:	WFF2-SS1	WFF2-SS2	WFF2-SS3	WFF2-SS4	WFF2-SS5	WFF2-SS6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	MED	10	MED	MED	MED	MED
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L
% MOISTURE:	3	1	2	9	3	N/A
COMPOUND	CRQL					
4,6-Dinitro-2-methylphenol	800	UJ	UJ	UJ	UJ	UJ
N-Nitrosodiphenylamine	330	UJ	UJ	UJ	UJ	UJ
4-Bromophenyl-phenylether	330	UJ	UJ	UJ	UJ	UJ
Hexachlorobenzene	330	UJ	UJ	UJ	UJ	UJ
Pentachlorophenol	800	UJ	UJ	UJ	UJ	UJ
Phenanthrene	330	UJ	UJ	UJ	UJ	UJ
Anthracene	330	UJ	UJ	UJ	UJ	UJ
Carbazole	330	UJ	UJ	UJ	UJ	UJ
Di-n-butylphthalate	330	UJ	UJ	UJ	UJ	UJ
Fluoranthene	330	4000 J	UJ	UJ	UJ	UJ
Pyrene	330	4100 J	UJ	UJ	UJ	UJ
Butylbenzylphthalate	330	UJ	UJ	6400 J	UJ	5300 J
3,3'-Dichlorobenzidine	330	UJ	UJ	UJ	UJ	UJ
Benzo(a)anthracene	330	UJ	UJ	UJ	UJ	UJ
Chrysene	330	UJ	UJ	UJ	UJ	UJ
Bis(2-ethylhexyl)phthalate	330	5300 BJ	UJ	4200 BJ	6400 BJ	38000 BJ
Di-n-octylphthalate	330	UJ	UJ	UJ	UJ	UJ
Benzo(b)fluoranthene	330	UJ	UJ	UJ	UJ	UJ
Benzo(k)fluoranthene	330	UJ	UJ	UJ	UJ	UJ
Benzo(a)pyrene	330	UJ	UJ	UJ	UJ	UJ
Indeno(1,2,3-cd)pyrene	330	UJ	UJ	UJ	UJ	UJ
Dibenz(a,h)anthracene	330	UJ	UJ	UJ	UJ	UJ
Benzo(g,h,i)perylene	330	UJ	UJ	UJ	UJ	UJ

SAMPLE RECEIVED:	07-02-93	07-02-93	07-02-93	07-02-93	07-02-93	07-02-93
SAMPLE EXTRACT:	07-12-93	07-08-93	07-12-93	07-12-93	07-12-93	07-12-93
SAMPLE ANALYSIS:	07-20-93	07-16-93	07-20-93	07-20-93	07-20-93	07-20-93

* MED= Sample analyzed according to the medium level analysis.

A-2.24

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017, 8023 SDG NO.:

CLIENT SAMPLE ID:	WFF2-SW1	WFF2-SW2
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	UG/L	UG/L
% MOISTURE:	N/A	N/A

COMPOUND	CRQL
Phenol	330
Bis(2-chloroethyl)ether	330
2-Chlorophenol	330
1,3-Dichlorobenzene	330
1,4-Dichlorobenzene	330
1,2-Dichlorobenzene	330
2-Methylphenol	330
2,2'-Oxybis(1-chloropropane)	330
4-Methylphenol	330
N-Nitroso-di-n-propylamine	330
Hexachloroethane	330
Nitrobenzene	330
Isophorone	330
2-Nitrophenol	330
2,4-Dimethylphenol	330
Bis(2-chloroethoxy)methane	330
2,4-Dichlorophenol	330
1,2,4-Trichlorobenzene	330
Naphthalene	330
4-Chloroaniline	330
Hexachlorobutadiene	330
4-Chloro-3-methylphenol	330
2-Methylnaphthalene	330
Hexachlorocyclopentadiene	330
2,4,6-Trichlorophenol	330
2,4,5-Trichlorophenol	800
2-Chloronaphthalene	330
2-Nitroaniline	800
Dimethylphthalate	330
Acenaphthylene	330
2,6-Dinitrotoluene	330
3-Nitroaniline	800
Acenaphthene	330
2,4-Dinitrophenol	800
4-Nitrophenol	800
Dibenzofuran	330
2,4-Dinitrotoluene	330
Diethylphthalate	330
4-Chlorophenyl-phenylether	330
Fluorene	330
4-Nitroaniline	800

A-2.25

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8017.8023 SDG NO.:

CLIENT SAMPLE ID:	WFF2-SW1	WFF2-SW2
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	UG/L	UG/L
% MOISTURE:	N/A	N/A

COMPOUND	CRQL
4,6-Dinitro-2-methylphenol	800
N-Nitrosodiphenylamine	330
4-Bromophenyl-phenylether	330
Hexachlorobenzene	330
Pentachlorophenol	800
Phenanthrene	330
Anthracene	330
Carbazole	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butylbenzylphthalate	330
3,3'-Dichlorobenzidine	330
Benzo(a)anthracene	330
Chrysene	330
Bis(2-ethylhexyl)phthalate	330
Di-n-octylphthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Indeno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330

SAMPLE RECEIVED:	07-02-93	07-02-93
SAMPLE EXTRACT:	07-06-93	07-06-93
SAMPLE ANALYSIS:	07-16-93	07-16-93

A-2.26

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.: 22, 23

CLIENT SAMPLE ID:	WFF9-SD1	WFF9-SD2	WFF9-SD3	WFF9-SD4	WFF9-SD5	WFF9-SD6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	78	24	26	32	24	35

COMPOUND	CRQL	WFF9-SD1	WFF9-SD2	WFF9-SD3	WFF9-SD4	WFF9-SD5	WFF9-SD6
Phenol	330	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethyl)ether	330	UJ	UJ	UJ	UJ	UJ	UJ
2-Chlorophenol	330	UJ	UJ	UJ	UJ	UJ	UJ
1,3-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ	UJ
1,2-Dichlorobenzene	330	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylphenol	330	UJ	UJ	UJ	UJ	UJ	UJ
2,2'-Oxybis(1-chloropropane)	330	UJ	UJ	UJ	UJ	UJ	UJ
4-Methylphenol	330	UJ	UJ	UJ	UJ	UJ	UJ
N-Nitroso-di-n-propylamine	330	UJ	UJ	UJ	UJ	UJ	UJ
Hexachloroethane	330	UJ	UJ	UJ	UJ	UJ	UJ
Nitrobenzene	330	UJ	UJ	UJ	UJ	UJ	UJ
Isophorone	330	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitrophenol	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dimethylphenol	330	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethoxy)methane	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dichlorophenol	330	UJ	UJ	UJ	UJ	UJ	UJ
1,2,4-Trichlorobenzene	330	UJ	UJ	UJ	UJ	UJ	UJ
Naphthalene	330	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloroaniline	330	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorobutadiene	330	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloro-3-methylphenol	330	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylnaphthalene	330	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorocyclopentadiene	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	800	UJ	UJ	UJ	UJ	UJ	UJ
2-Chloronaphthalene	330	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ	UJ
Dimethylphthalate	330	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthylene	330	UJ	UJ	UJ	UJ	UJ	UJ
2,6-Dinitrotoluene	330	UJ	UJ	UJ	UJ	UJ	UJ
3-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthene	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrophenol	800	UJ	UJ	UJ	UJ	UJ	UJ
4-Nitrophenol	800	UJ	UJ	UJ	UJ	UJ	UJ
Dibenzofuran	330	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	330	UJ	UJ	UJ	UJ	UJ	UJ
Diethylphthalate	330	UJ	UJ	UJ	UJ	UJ	UJ
4-Chlorophenyl-phenylether	330	UJ	UJ	UJ	UJ	UJ	UJ
Fluorene	330	UJ	UJ	UJ	UJ	UJ	UJ
4-Nitroaniline	800	UJ	UJ	UJ	UJ	UJ	UJ

A-2.27

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.: 22, 23

CLIENT SAMPLE ID:	WFF9-SD1	WFF9-SD2	WFF9-SD3	WFF9-SD4	WFF9-SD5	WFF9-SD6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	78	24	26	32	24	35
COMPOUND	CRQL					
4,6-Dinitro-2-methylphenol	800	UJ	UJ	UJ	UJ	UJ
N-Nitrosodiphenylamine	330	UJ	UJ	UJ	UJ	UJ
4-Bromophenyl-phenylether	330	UJ	UJ	UJ	UJ	UJ
Hexachlorobenzene	330	UJ	UJ	UJ	UJ	UJ
Pentachlorophenol	800	UJ	UJ	UJ	UJ	UJ
Phenanthrene	330	UJ	UJ	UJ	UJ	UJ
Anthracene	330	UJ	UJ	UJ	UJ	UJ
Carbazole	330	UJ	UJ	UJ	UJ	UJ
Di-n-butylphthalate	330	UJ	UJ	UJ	UJ	UJ
Fluoranthene	330	UJ	UJ	UJ	UJ	UJ
Pyrene	330	UJ	UJ	UJ	130 J	140 J
Butylbenzylphthalate	330	UJ	UJ	UJ	110 J	160 J
3,3'-Dichlorobenzidine	330	UJ	UJ	UJ	UJ	UJ
Benzo(a)anthracene	330	UJ	UJ	UJ	UJ	UJ
Chrysene	330	UJ	UJ	UJ	UJ	UJ
Bis(2-ethylhexyl)phthalate	330	210000 BJ	UJ	UJ	UJ	670 BJ
Di-n-octylphthalate	330	UJ	UJ	UJ	UJ	UJ
Benzo(b)fluoranthene	330	UJ	UJ	UJ	UJ	UJ
Benzo(k)fluoranthene	330	UJ	UJ	UJ	UJ	UJ
Benzo(a)pyrene	330	UJ	UJ	UJ	UJ	UJ
Indeno(1,2,3-cd)pyrene	330	UJ	UJ	UJ	UJ	UJ
Dibenz(a,h)anthracene	330	UJ	UJ	UJ	UJ	UJ
Benzo(g,h,i)perylene	330	UJ	UJ	UJ	UJ	UJ

SAMPLE RECEIVED:	07-08-93	07-09-93	07-09-93	07-09-93	07-09-93	07-09-93
SAMPLE EXTRACT:	07-15-93	07-19-93	07-19-93	07-19-93	07-19-93	07-19-93
SAMPLE ANALYSIS:	07-26-93	07-28-93	07-28-93	07-28-93	07-28-93	07-28-93

MED

A-2.28

Semi-volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.: 22,

CLIENT SAMPLE ID:	WFF9-S07	WFF9-S011	WFF9-SW1	WFF9-SW2	WFF9-SW3	WFF9-SW4
MATRIX:	SOIL	SOIL	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	24	68	N/A	N/A	N/A	N/A
COMPOUND	CRQL					
Phenol	330	UJ	UJ			
Bis(2-chloroethyl)ether	330	UJ	UJ			
2-Chlorophenol	330	UJ	UJ			
1,3-Dichlorobenzene	330	UJ	UJ			
1,4-Dichlorobenzene	330	UJ	UJ			
1,2-Dichlorobenzene	330	UJ	UJ			
2-Methylphenol	330	UJ	UJ			
2,2'-Oxybis(1-chloropropane)	330	UJ	UJ			
4-Methylphenol	330	UJ	UJ			
N-Nitroso-di-n-propylamine	330	UJ	UJ			
Hexachloroethane	330	UJ	UJ			
Nitrobenzene	330	UJ	UJ			
Isophorone	330	UJ	UJ			
2-Nitrophenol	330	UJ	UJ			
2,4-Dimethylphenol	330	UJ	UJ			
Bis(2-chloroethoxy)methane	330	UJ	UJ			
2,4-Dichlorophenol	330	UJ	UJ			
1,2,4-Trichlorobenzene	330	UJ	UJ			
Naphthalene	330	UJ	UJ			
4-Chloroaniline	330	UJ	UJ			
Hexachlorobutadiene	330	UJ	UJ			
4-Chloro-3-methylphenol	330	UJ	UJ			
2-Methylnaphthalene	330	UJ	UJ			
Hexachlorocyclopentadiene	330	UJ	UJ			
2,4,6-Trichlorophenol	330	UJ	UJ			
2,4,5-Trichlorophenol	800	UJ	UJ			
2-Chloronaphthalene	330	UJ	UJ			
2-Nitroaniline	800	UJ	UJ			
Dimethylphthalate	330	UJ	UJ			
Acenaphthylene	330	UJ	UJ			
2,6-Dinitrotoluene	330	UJ	UJ			
3-Nitroaniline	800	UJ	UJ			
Acenaphthene	330	UJ	UJ			
2,4-Dinitrophenol	800	UJ	UJ			
4-Nitrophenol	800	UJ	UJ			
Dibenzofuran	330	UJ	UJ			
2,4-Dinitrotoluene	330	UJ	UJ			
Diethylphthalate	330	UJ	UJ			
4-Chlorophenyl-phenylether	330	UJ	UJ			
Fluorene	330	UJ	UJ			
4-Nitroaniline	800	UJ	UJ			

A-2.29

Semivolatile Analysis

(SOW:OLN01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.: 22,

CLIENT SAMPLE ID:	WFF9-SD7	WFF9-SD11	WFF9-SW1	WFF9-SW2	WFF9-SW3	WFF9-SW4
MATRIX:	SOIL	SOIL	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	24	68	N/A	N/A	N/A	N/A

COMPOUND	CRQL		
4,6-Dinitro-2-methylphenol	800	UJ	UJ
N-Nitrosodiphenylamine	330	UJ	UJ
4-Bromophenyl-phenylether	330	UJ	UJ
Hexachlorobenzene	330	UJ	UJ
Pentachlorophenol	800	UJ	UJ
Phenanthrene	330	UJ	UJ
Anthracene	330	UJ	UJ
Carbazole	330	UJ	UJ
Di-n-butylphthalate	330	UJ	UJ
Fluoranthene	330	UJ	UJ
Pyrene	330	UJ	UJ
Butylbenzylphthalate	330	UJ	UJ
3,3'-Dichlorobenzidine	330	UJ	UJ
Benzo(a)anthracene	330	UJ	UJ
Chrysene	330	UJ	UJ
Bis(2-ethylhexyl)phthalate	330	1900 BJ	6800 BJ
Di-n-octylphthalate	330	UJ	UJ
Benzo(b)fluoranthene	330	UJ	UJ
Benzo(k)fluoranthene	330	UJ	UJ
Benzo(a)pyrene	330	UJ	UJ
Indeno(1,2,3-cd)pyrene	330	UJ	UJ
Dibenz(a,h)anthracene	330	UJ	UJ
Benzo(g,h,i)perylene	330	UJ	UJ

4 J

SAMPLE RECEIVED:	07-09-93	07-08-93	07-08-93	07-09-93	07-09-93	07-09-93
SAMPLE EXTRACT:	07-19-93	07-15-93	07-12-93	07-12-93	07-12-93	07-12-93
SAMPLE ANALYSIS:	07-28-93	07-26-93	07-16-93	07-16-93	07-16-93	07-16-93

MED

A-2.30

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SOG NO.: 22,

CLIENT SAMPLE ID:	WFF9-SW5	WFF9-SW6	WFF9-SW7	WFF9-SW11	WFF10-SS1	WFF10-SS2
MATRIX:	WATER	WATER	WATER	WATER	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/KG	UG/KG
% MOISTURE:	N/A	N/A	N/A	N/A	5	0
COMPOUND	CRQL					
Phenol	330				UJ	UJ
Bis(2-chloroethyl)ether	330				UJ	UJ
2-Chlorophenol	330				UJ	UJ
1,3-Dichlorobenzene	330				UJ	UJ
1,4-Dichlorobenzene	330				UJ	UJ
1,2-Dichlorobenzene	330				UJ	UJ
2-Methylphenol	330				UJ	UJ
2,2'-Oxybis(1-chloropropane)	330				UJ	UJ
4-Methylphenol	330				UJ	UJ
N-Nitroso-di-n-propylamine	330				UJ	UJ
Hexachloroethane	330				UJ	UJ
Nitrobenzene	330				UJ	UJ
Isophorone	330				UJ	UJ
2-Nitrophenol	330				UJ	UJ
2,4-Dimethylphenol	330				UJ	UJ
Bis(2-chloroethoxy)methane	330				UJ	UJ
2,4-Dichlorophenol	330				UJ	UJ
1,2,4-Trichlorobenzene	330				UJ	UJ
Naphthalene	330				UJ	UJ
4-Chloroaniline	330				UJ	UJ
Hexachlorobutadiene	330				UJ	UJ
4-Chloro-3-methylphenol	330				UJ	UJ
2-Methylnaphthalene	330				UJ	UJ
Hexachlorocyclopentadiene	330				UJ	UJ
2,4,6-Trichlorophenol	330				UJ	UJ
2,4,5-Trichlorophenol	800				UJ	UJ
2-Chloronaphthalene	330				UJ	UJ
2-Nitroaniline	800				UJ	UJ
Dimethylphthalate	330				UJ	UJ
Acenaphthylene	330				UJ	UJ
2,6-Dinitrotoluene	330				UJ	UJ
3-Nitroaniline	800				UJ	UJ
Acenaphthene	330				UJ	UJ
2,4-Dinitrophenol	800				UJ	UJ
4-Nitrophenol	800				UJ	UJ
Dibenzofuran	330				UJ	UJ
2,4-Dinitrotoluene	330				UJ	UJ
Diethylphthalate	330				UJ	UJ
4-Chlorophenyl-phenylether	330				UJ	UJ
Fluorene	330				UJ	UJ
4-Nitroaniline	800				UJ	UJ

A-2.31

Semivolatile Soil Analysis

(SOM:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 8038, 8041 SDG NO.: 22,

CLIENT SAMPLE ID:	WFF10-SS3	WFF10-SS4	WFF10-SS5	WFF10-SS6
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	4	1	4	6

COMPOUND	CRQL				
4,6-Dinitro-2-methylphenol	800	UJ	UJ	UJ	UJ
N-Nitrosodiphenylamine	330	UJ	UJ	UJ	UJ
4-Bromophenyl-phenylether	330	UJ	UJ	UJ	UJ
Hexachlorobenzene	330	UJ	UJ	UJ	UJ
Pentachlorophenol	800	UJ	UJ	UJ	UJ
Phenanthrene	330	UJ	UJ	UJ	UJ
Anthracene	330	UJ	UJ	UJ	UJ
Carbazole	330	UJ	UJ	UJ	UJ
Di-n-butylphthalate	330	UJ	UJ	UJ	UJ
Fluoranthene	330	UJ	UJ	UJ	UJ
Pyrene	330	UJ	3500 J	UJ	UJ
Butylbenzylphthalate	330	UJ	UJ	UJ	UJ
3,3'-Dichlorobenzidine	330	UJ	UJ	UJ	UJ
Benzo(a)anthracene	330	UJ	UJ	UJ	UJ
Chrysene	330	UJ	UJ	UJ	UJ
Bis(2-ethylhexyl)phthalate	330	14000 BJ	37000 BJ	UJ	UJ
Di-n-octylphthalate	330	UJ	UJ	UJ	UJ
Benzo(b)fluoranthene	330	UJ	UJ	UJ	UJ
Benzo(k)fluoranthene	330	UJ	UJ	UJ	UJ
Benzo(a)pyrene	330	UJ	UJ	UJ	UJ
Indeno(1,2,3-cd)pyrene	330	UJ	UJ	UJ	UJ
Dibenz(a,h)anthracene	330	UJ	UJ	UJ	UJ
Benzo(g,h,i)perylene	330	UJ	UJ	UJ	UJ

=====				
SAMPLE RECEIVED:	07-08-93	07-08-93	07-08-93	07-08-93
SAMPLE EXTRACT:	07-15-93	07-15-93	07-15-93	07-15-93
SAMPLE ANALYSIS:	07-26-93	07-26-93	07-26-93	07-26-93
	MED	MED	MED	MED

A-2.34

W:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8233

SDG NO.: 29, 30

CLIENT SAMPLE ID:	WFF5-SS1	WFF5-SS2	WFF5-SS3	WFF5-SW1	WFF6-SS1	WFF12-SD1
MATRIX:	SOIL	SOIL	SOIL	WATER	SOIL	SOIL
DILUTION FACTOR:	1.0/2.0*	1	1	1	50	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/L	UG/KG	UG/KG
% MOISTURE:	2	8	8	NA	16	62

COMPOUND

Phenol	UJ	UJ	UJ		UJ	UJ
Bis(2-chloroethyl)ether	UJ	UJ	UJ		UJ	UJ
2-Chlorophenol	UJ	UJ	UJ		UJ	UJ
1,3-Dichlorobenzene	UJ	UJ	UJ		UJ	UJ
1,4-Dichlorobenzene	UJ	UJ	UJ		UJ	UJ
1,2-Dichlorobenzene	UJ	UJ	UJ		UJ	UJ
2-Methylphenol	UJ	UJ	UJ		UJ	UJ
2,2'-Oxybis(1-chloropropane)	UJ	UJ	UJ		UJ	UJ
4-Methylphenol	UJ	UJ	UJ		UJ	UJ
N-Nitroso-di-n-propylamine	UJ	UJ	UJ		UJ	UJ
Hexachloroethane	UJ	UJ	UJ		UJ	UJ
Nitrobenzene	UJ	UJ	UJ		UJ	UJ
Isophorone	UJ	UJ	UJ		UJ	UJ
2-Nitrophenol	UJ	UJ	UJ		UJ	UJ
2,4-Dimethylphenol	UJ	UJ	UJ		UJ	UJ
Bis(2-chloroethoxy)methane	UJ	UJ	UJ		UJ	UJ
2,4-Dichlorophenol	UJ	UJ	UJ		UJ	UJ
1,2,4-Trichlorobenzene	UJ	UJ	UJ		UJ	UJ
Naphthalene	110 J	UJ	UJ		UJ	UJ
4-Chloroaniline	UJ	UJ	UJ		UJ	UJ
Hexachlorobutadiene	UJ	UJ	UJ		UJ	UJ
4-Chloro-3-methylphenol	UJ	UJ	UJ		UJ	UJ
2-Methylnaphthalene	UJ	UJ	UJ		UJ	UJ
Hexachlorocyclopentadiene	UJ	UJ	UJ		UJ	UJ
2,4,6-Trichlorophenol	UJ	UJ	UJ		UJ	UJ
2,4,5-Trichlorophenol	UJ	UJ	UJ		UJ	UJ
2-Chloronaphthalene	UJ	UJ	UJ		UJ	UJ
2-Nitroaniline	UJ	UJ	UJ		UJ	UJ
Dimethylphthalate	UJ	UJ	UJ		UJ	UJ
Acenaphthylene	UJ	UJ	UJ		UJ	UJ
2,6-Dinitrotoluene	UJ	UJ	UJ		UJ	UJ
3-Nitroaniline	UJ	UJ	UJ		UJ	UJ
Acenaphthene	460 J	UJ	UJ		UJ	UJ
2,4-Dinitrophenol	UJ	UJ	UJ		UJ	UJ
4-Nitrophenol	UJ	UJ	UJ		UJ	UJ
Dibenzofuran	270 J	UJ	UJ		UJ	UJ
2,4-Dinitrotoluene	UJ	UJ	UJ		UJ	UJ
Diethylphthalate	UJ	UJ	UJ		UJ	UJ
4-Chlorophenyl-phenylether	UJ	UJ	UJ		UJ	UJ
Fluorene	470 J	UJ	UJ		UJ	UJ
4-Nitroaniline	UJ	UJ	UJ		UJ	UJ
4,6-Dinitro-2-methylphenol	UJ	UJ	UJ		UJ	UJ
N-Nitrosodiphenylamine	UJ	UJ	UJ		UJ	UJ
4-Bromophenyl-phenylether	UJ	UJ	UJ		UJ	UJ
Hexachlorobenzene	UJ	UJ	UJ		UJ	UJ

4-2.35

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8233

SDG NO.: 29, 30

CLIENT SAMPLE ID:	WFF5-SS1	WFF5-SS2	WFF5-SS3	WFF5-SW1	WFF6-SS1	WFF12-SD1
MATRIX:	SOIL	SOIL	SOIL	WATER	SOIL	SOIL
DILUTION FACTOR:	1.0/2.0*	1	1	1	50	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/L	UG/KG	UG/KG
% MOISTURE:	2	8	8	NA	16	62
COMPOUND						
Pentachlorophenol	UJ	UJ	UJ		UJ	UJ
Phenanthrene	3800 J*	UJ	UJ		UJ	590 J
Anthracene	890 J	UJ	UJ		UJ	UJ
Carbazole	520 J	UJ	UJ		UJ	UJ
Di-n-butylphthalate	190 B	UJ	UJ		UJ	UJ
Fluoranthene	3800 J*	UJ	UJ		UJ	850 J
Pyrene	3400 J*	UJ	UJ		UJ	860 J
Butylbenzylphthalate	UJ	UJ	UJ		UJ	UJ
3,3'-Dichlorobenzidine	UJ	UJ	UJ		UJ	UJ
Benzo(a)anthracene	1700 J	UJ	UJ		UJ	430 J
Chrysene	1600 J	UJ	UJ		UJ	420 J
Bis(2-ethylhexyl)phthalate	2000 B	270 B	1100 B		6100 B	UJ
Di-n-octylphthalate	UJ	UJ	UJ		UJ	UJ
Benzo(b)fluoranthene	1300 J	UJ	UJ		UJ	460 J
Benzo(k)fluoranthene	940 J	UJ	UJ		UJ	270 J
Benzo(a)pyrene	1400 J	UJ	UJ		UJ	UJ
Indeno(1,2,3-cd)pyrene	1000 J	UJ	UJ		UJ	UJ
Dibenz(a,h)anthracene	350 J	UJ	UJ		UJ	UJ
Benzo(g,h,i)perylene	660 J	UJ	UJ		UJ	UJ

REMARK:

FIELD BLANK

A-2.36

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8233

SDG NO.: 29

CLIENT SAMPLE ID:	WFF12-SD2	WFF12-SS1	WFF12-SS2	WFF12-SS3	WFF14-SD2	WFF14-SD3
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	5	5	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	27	10	9	7	26	30

COMPOUND

Phenol	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethyl)ether	UJ	UJ	UJ	UJ	UJ	UJ
2-Chlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
1,3-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
1,2-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
2,2'-Oxybis(1-chloropropane)	UJ	UJ	UJ	UJ	UJ	UJ
4-Methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
N-Nitroso-di-n-propylamine	UJ	UJ	UJ	UJ	UJ	UJ
Hexachloroethane	UJ	UJ	UJ	UJ	UJ	UJ
Nitrobenzene	UJ	UJ	UJ	UJ	UJ	UJ
Isophorone	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dimethylphenol	UJ	UJ	UJ	UJ	UJ	UJ
Bis(2-chloroethoxy)methane	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
1,2,4-Trichlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ
Naphthalene	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorobutadiene	UJ	UJ	UJ	UJ	UJ	UJ
4-Chloro-3-methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
2-Methylnaphthalene	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorocyclopentadiene	UJ	UJ	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
2-Chloronaphthalene	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Dimethylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthylene	UJ	UJ	UJ	UJ	UJ	UJ
2,6-Dinitrotoluene	UJ	UJ	UJ	UJ	UJ	UJ
3-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ
Acenaphthene	UJ	1000 J	UJ	100 J	UJ	UJ
2,4-Dinitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
4-Nitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
Dibenzofuran	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	UJ	UJ	UJ	UJ	UJ	UJ
Diethylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
4-Chlorophenyl-phenylether	UJ	UJ	UJ	UJ	UJ	UJ
Fluorene	UJ	550 J	UJ	86 J	UJ	UJ
4-Nitroaniline	UJ	UJ	UJ	UJ	UJ	UJ
4,6-Dinitro-2-methylphenol	UJ	UJ	UJ	UJ	UJ	UJ
N-Nitrosodiphenylamine	UJ	UJ	UJ	UJ	UJ	UJ
4-Bromophenyl-phenylether	UJ	UJ	UJ	UJ	UJ	UJ
Hexachlorobenzene	UJ	UJ	UJ	UJ	UJ	UJ

A-2.37

Semivolatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Waioloa Island
 CASE NO.: 8230/8233 SDG NO.: 29

CLIENT SAMPLE ID:	WFF12-SD2	WFF12-SS1	WFF12-SS2	WFF12-SS3	WFF14-SD2	WFF14-SD3
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	5	5	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	27	10	9	7	26	30

COMPOUND

Pentachlorophenol	UJ	UJ	UJ	UJ	UJ	UJ
Phenanthrene	5400 J	6100 J	3200 J	1300 J	250 J	UJ
Anthracene	1300 J	1100 J	590 J	180 J	UJ	UJ
Carbazole	UJ	1200 J	UJ	160 J	UJ	UJ
Di-n-butylphthalate	UJ	UJ	UJ	160 B	280 J	UJ
Fluoranthene	6800 J	8800 J	4100 J	2300 J	350 J	UJ
Pyrene	7100 J	7800 J	4200 J	2200 J	UJ	UJ
Butylbenzylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
3,3'-Dichlorobenzidine	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)anthracene	3600 J	4600 J	2100 J	1100 J	170 J	UJ
Chrysene	4500 J	4900 J	2300 J	1300 J	180 J	UJ
Bis(2-ethylhexyl)phthalate	7600	UJ	3800 B	350 B	220 B	UJ
Di-n-octylphthalate	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(b)fluoranthene	4000 J	3900 J	1800 J	1300 J	130 J	UJ
Benzo(k)fluoranthene	3600 J	4000 J	1600 J	800 J	140 J	UJ
Benzo(a)pyrene	4000 J	4000 J	1900 J	1100 J	UJ	UJ
Indeno(1,2,3-cd)pyrene	3200 J	2400 J	920 J	710 J	UJ	UJ
Dibenz(a,h)anthracene	UJ	560 J	UJ	UJ	UJ	UJ
Benzo(g,h,i)perylene	2100 J	1400 J	630 J	690 J	UJ	UJ

REMARK:

A-2.38

Semi-volatile Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8233

SDG NO.: 29

CLIENT SAMPLE ID:	WFF14-S04	WFF14-S05	WFF14-SW2	WFF14-SW3	WFF14-SW4	WFF14-SW5
MATRIX:	SOIL	SOIL	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	52	26	NA	NA	NA	NA

COMPOUND

Phenol	UJ	UJ				
Bis(2-chloroethyl)ether	UJ	UJ				
2-Chlorophenol	UJ	UJ				
1,3-Dichlorobenzene	UJ	UJ				
1,4-Dichlorobenzene	UJ	UJ				
1,2-Dichlorobenzene	UJ	UJ				
2-Methylphenol	UJ	UJ				
2,2'-Oxybis(1-chloropropane)	UJ	UJ				
4-Methylphenol	UJ	UJ				
N-Nitroso-di-n-propylamine	UJ	UJ				
Hexachloroethane	UJ	UJ				
Nitrobenzene	UJ	UJ				
Isophorone	UJ	UJ				
2-Nitrophenol	UJ	UJ				
2,4-Dimethylphenol	UJ	UJ				
Bis(2-chloroethoxy)methane	UJ	UJ				
2,4-Dichlorophenol	UJ	UJ				
1,2,4-Trichlorobenzene	UJ	UJ				
Naphthalene	UJ	UJ				
4-Chloroaniline	UJ	UJ				
Hexachlorobutadiene	UJ	UJ				
4-Chloro-3-methylphenol	UJ	UJ				
2-Methylnaphthalene	UJ	UJ				
Hexachlorocyclopentadiene	UJ	UJ				
2,4,6-Trichlorophenol	UJ	UJ				
2,4,5-Trichlorophenol	UJ	UJ				
2-Chloronaphthalene	UJ	UJ				
2-Nitroaniline	UJ	UJ				
Dimethylphthalate	UJ	UJ				
Acenaphthylene	UJ	UJ				
2,6-Dinitrotoluene	UJ	UJ				
3-Nitroaniline	UJ	UJ				
Acenaphthene	UJ	UJ				
2,4-Dinitrophenol	UJ	UJ				
4-Nitrophenol	UJ	UJ				
Dibenzofuran	UJ	UJ				
2,4-Dinitrotoluene	UJ	UJ				
Diethylphthalate	UJ	UJ				
4-Chlorophenyl-phenylether	UJ	UJ				
Fluorene	UJ	UJ				
4-Nitroaniline	UJ	UJ				
4,6-Dinitro-2-methylphenol	UJ	UJ				
N-Nitrosodiphenylamine	UJ	UJ				
4-Bromophenyl-phenylether	UJ	UJ				
Hexachlorobenzene	UJ	UJ				

A-2.39

3 J

2 J

Semivolatile Analysis

(SOW:OLN01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8230/8233

SDG NO.: 29

CLIENT SAMPLE ID:	WFF14-SD4	WFF14-SD5	WFF14-SW2	WFF14-SW3	WFF14-SW4	WFF14-SW5
MATRIX:	SOIL	SOIL	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	52	26	NA	NA	NA	NA
COMPOUND						
Pentachlorophenol	UJ	UJ				
Phenanthrene	UJ	UJ	17			
Anthracene	UJ	UJ	4 J			
Carbazole	UJ	UJ				
Di-n-butylphthalate	UJ	UJ				
Fluoranthene	UJ	UJ	18			
Pyrene	UJ	UJ	18			
Butylbenzylphthalate	UJ	UJ				
3,3'-Dichlorobenzidine	UJ	UJ				
Benzo(a)anthracene	UJ	UJ	8 J			
Chrysene	UJ	UJ	8 J			
Bis(2-ethylhexyl)phthalate	440 B	240 B				
Di-n-octylphthalate	UJ	UJ				
Benzo(b)fluoranthene	UJ	UJ	9 J			
Benzo(k)fluoranthene	UJ	UJ	4 J			
Benzo(a)pyrene	UJ	UJ	7 J			
Indeno(1,2,3-cd)pyrene	UJ	UJ	4 J			
Dibenz(a,h)anthracene	UJ	UJ				
Benzo(g,h,i)perylene	UJ	UJ	3 J			

A-2.40

REMARK:

FIELD BLANK

EQUIPMENT BLANK

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8242

SDG NO.: 31

CLIENT SAMPLE ID:	WFF15-SB5	WFF15-SB6	WFF15-SB7	WFF15-SB8
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	4	6	4	4

COMPOUND

Phenol
 Bis(2-chloroethyl)ether
 2-Chlorophenol
 1,3-Dichlorobenzene
 1,4-Dichlorobenzene
 1,2-Dichlorobenzene
 2-Methylphenol
 2,2'-Oxybis(1-chloropropane)
 4-Methylphenol
 N-Nitroso-di-n-propylamine
 Hexachloroethane
 Nitrobenzene
 Isophorone
 2-Nitrophenol
 2,4-Dimethylphenol
 Bis(2-chloroethoxy)methane
 2,4-Dichlorophenol
 1,2,4-Trichlorobenzene
 Naphthalene
 4-Chloroaniline
 Hexachlorobutadiene
 4-Chloro-3-methylphenol
 2-Methylnaphthalene
 Hexachlorocyclopentadiene
 2,4,6-Trichlorophenol
 2,4,5-Trichlorophenol
 2-Chloronaphthalene
 2-Nitroaniline
 Dimethylphthalate
 Acenaphthylene
 2,6-Dinitrotoluene
 3-Nitroaniline
 Acenaphthene
 2,4-Dinitrophenol
 4-Nitrophenol
 Dibenzofuran
 2,4-Dinitrotoluene
 Diethylphthalate
 4-Chlorophenyl-phenylether
 Fluorene
 4-Nitroaniline
 4,6-Dinitro-2-methylphenol
 N-Nitrosodiphenylamine
 4-Bromophenyl-phenylether
 Hexachlorobenzene

A-2.41

Semi-volatile Analysis

(SOV:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CASE NO.: 8242

SDG NO.: 31

CLIENT SAMPLE ID:	WFF15-S85	WFF15-S86	WFF15-S87	WFF15-S88
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	4	6	4	4

COMPOUND

Pentachlorophenol

Phenanthrene

Anthracene

Carbazole

Di-n-butylphthalate

Fluoranthene

Pyrene

Butylbenzylphthalate

3,3'-Dichlorobenzidine

Benzo(a)anthracene

Chrysene

Bis(2-ethylhexyl)phthalate

Di-n-octylphthalate

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Benzo(a)pyrene

Indeno(1,2,3-cd)pyrene

Dibenz(a,h)anthracene

Benzo(g,h,i)perylene

350 B

120 B

 REMARK:

A-2.42

Semivolatiles Analysis

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760792	760796
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Extraction Date:	09/29/95	09/29/95
Analysis Date:	10/02/95	10/03/95
Remarks:		Duplicate of WFF4-SB6

Units of Measure:	UG/KG	UG/KG
-------------------	-------	-------

Compound Description

Phenol	< 360	< 370
bis(2-Chloroethyl)ether	< 360	< 370
2-Chlorophenol	< 360	< 370
1,3-Dichlorobenzene	< 360	< 370
1,4-Dichlorobenzene	< 360	< 370
1,2-Dichlorobenzene	< 360	< 370
2-Methylphenol	< 360	< 370
2,2'-Oxybis(1-chloropropane)	< 360	< 370
4-Methylphenol	< 360	< 370
N-Nitroso-di-n-propylamine	< 360	< 370
Hexachloroethane	< 360	< 370
Nitrobenzene	< 360	< 370
Isophorone	< 360	< 370
2-Nitrophenol	< 360	< 370
2,4-Dimethylphenol	< 360	< 370
bis(2-Chloroethoxy)methane	< 360	< 370
2,4-Dichlorophenol	< 360	< 370
1,2,4-Trichlorobenzene	< 360	< 370
Naphthalene	< 360	< 370
4-Chloroaniline	< 360	< 370
Hexachlorobutadiene	< 360	< 370
4-Chloro-3-methylphenol	< 360	< 370
2-Methylnaphthalene	< 360	< 370
Hexachlorocyclopentadiene	< 360	< 370
2,4,6-Trichlorophenol	< 360	< 370
2,4,5-Trichlorophenol	< 870	< 890
2-Chloronaphthalene	< 360	< 370
2-Nitroaniline	< 870	< 890
Dimethyl phthalate	< 360	< 370
Acenaphthylene	< 360	< 370
2,6-Dinitrotoluene	< 360	< 370
3-Nitroaniline	< 870	< 890
Acenaphthene	< 360	< 370
2,4-Dinitrophenol	< 870	< 890
4-Nitrophenol	< 870	< 890
Dibenzofuran	< 360	< 370
2,4-Dinitrotoluene	< 360	< 370
Diethyl phthalate	< 360	< 370

Semivolatile Analysis

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760792	760796
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Extraction Date:	09/29/95	09/29/95
Analysis Date:	10/02/95	10/03/95
Remarks:		Duplicate of WFF4-SB6

Compound Description	Units of Measure:	UG/KG	UG/KG
4-Chlorophenyl phenyl ether		< 360	< 370
Fluorene		< 360	< 370
4-Nitroaniline		< 870	< 890
4,6-Dinitro-2-methylphenol		< 870	< 890
N-Nitrosodiphenylamine(1)		< 360	< 370
4-Bromophenyl phenyl ether		< 360	< 370
Hexachlorobenzene		< 360	< 370
Pentachlorophenol		< 870	< 890
Phenanthrene		< 360	< 370
Anthracene		< 360	< 370
Carbazole		< 360	< 370
Di-n-butyl phthalate		< 360	< 370
Fluoranthene		< 360	< 370
Pyrene		< 360	< 370
Butyl benzyl phthalate		< 360	< 370
3,3'-Dichlorobenzidine		< 360	< 370
Benzo(a)anthracene		< 360	< 370
Chrysene		< 360	< 370
bis(2-Ethylhexyl)phthalate		36 B	380 B
Di-n-octyl phthalate		< 360	< 370
Benzo(b)fluoranthene		< 360	< 370
Benzo(k)fluoranthene		< 360	< 370
Benzo(a)pyrene		< 360	< 370
Indeno(1,2,3-cd)pyrene		< 360	< 370
Dibenzo(a,h)anthracene		< 360	< 370
Benzo(g,h,i)perylene		< 360	< 370

A-2.44

Sample ID: WFF5-SB5
 Lab Sample ID: 760818
 Matrix: SOIL
 Collection Date: 09/27/95
 Receipt Date: 09/28/95
 Extraction Date: 09/29/95
 Analysis Date: 10/02/95
 Remarks:

Units of Measure: UG/KG

Compound Description	UG/KG
Phenol	< 480
bis(2-Chloroethyl)ether	< 480
2-Chlorophenol	< 480
1,3-Dichlorobenzene	< 480
1,4-Dichlorobenzene	< 480
1,2-Dichlorobenzene	< 480
2-Methylphenol	< 480
2,2'-Oxybis(1-chloropropane)	< 480
4-Methylphenol	< 480
N-Nitroso-di-n-propylamine	< 480
Hexachloroethane	< 480
Nitrobenzene	< 480
Isophorone	< 480
2-Nitrophenol	< 480
2,4-Dimethylphenol	< 480
bis(2-Chloroethoxy)methane	< 480
2,4-Dichlorophenol	< 480
1,2,4-Trichlorobenzene	< 480
Naphthalene	< 480
4-Chloroaniline	< 480
Hexachlorobutadiene	< 480
4-Chloro-3-methylphenol	< 480
2-Methylnaphthalene	< 480
Hexachlorocyclopentadiene	< 480
2,4,6-Trichlorophenol	< 480
2,4,5-Trichlorophenol	< 1200
2-Chloronaphthalene	< 480
2-Nitroaniline	< 1200
Dimethyl phthalate	< 480
Acenaphthylene	< 480
2,6-Dinitrotoluene	< 480
3-Nitroaniline	< 1200
Acenaphthene	< 480
2,4-Dinitrophenol	< 1200
4-Nitrophenol	< 1200
Dibenzofuran	< 480
2,4-Dinitrotoluene	< 480
Diethyl phthalate	< 480

Semivolatile Analysis

Sample ID: WFF5-SB5
Lab Sample ID: 760818
Matrix: SOIL
Collection Date: 09/27/95
Receipt Date: 09/28/95
Extraction Date: 09/29/95
Analysis Date: 10/02/95
Remarks:

Units of Measure: UG/KG

Compound Description	
4-Chlorophenyl phenyl ether	< 480
Fluorene	< 480
4-Nitroaniline	< 1200
4,6-Dinitro-2-methylphenol	< 1200
N-Nitrosodiphenylamine(1)	< 480
4-Bromophenyl phenyl ether	< 480
Hexachlorobenzene	< 480
Pentachlorophenol	< 1200
Phenanthrene	< 480
Anthracene	< 480
Carbazole	< 480
Di-n-butyl phthalate	< 480
Fluoranthene	< 480
Pyrene	< 480
Butyl benzyl phthalate	< 480
3,3'-Dichlorobenzidine	< 480
Benzo(a)anthracene	< 480
Chrysene	< 480
bis(2-Ethylhexyl)phthalate	< 480
Di-n-octyl phthalate	< 480
Benzo(b)fluoranthene	< 480
Benzo(k)fluoranthene	< 480
Benzo(a)pyrene	< 480
Indeno(1,2,3-cd)pyrene	< 480
Dibenzo(a,h)anthracene	< 480
Benzo(g,h,i)perylene	< 480

Semivolatile Analysis

Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760093	760137	760702	760743	760822	760829	760721	760735	760768	760783
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Extraction Date:	09/29/95	09/29/95	10/02/95	10/02/95	09/29/95	09/29/95	10/02/95	10/02/95	10/02/95	10/02/95
Analysis Date:	09/30/95	10/02/95	10/03/95	10/04/95	10/02/95	10/02/95	10/03/95	10/03/95	10/03/95	10/03/95
Remarks:				Duplicate of WFF5-SW3		Duplicate of WFF5-SD3	Equipment Blank	Field Blank	Equipment Blank	Equipment Blank

Units of Measure:	UG/L	UG/KG	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
Compound Description										
Phenol	< 10	< 750	< 10	I J	< 490	< 410	< 10	< 10	< 10	< 10
bis(2-Chloroethyl)ether	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2-Chlorophenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
1,3-Dichlorobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
1,4-Dichlorobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
1,2-Dichlorobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2-Methylphenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,2'-Oxybis(1-chloropropane)	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
4-Methylphenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
N-Nitroso-di-n-propylamine	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Hexachloroethane	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Nitrobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Isophorone	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2-Nitrophenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4-Dimethylphenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
bis(2-Chloroethoxy)methane	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4-Dichlorophenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
1,2,4-Trichlorobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Naphthalene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
4-Chloroaniline	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Hexachlorobutadiene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
4-Chloro-3-methylphenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2-Methylnaphthalene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Hexachlorocyclopentadiene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4,6-Trichlorophenol	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
2-Chloronaphthalene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2-Nitroaniline	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
Dimethyl phthalate	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Acenaphthylene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,6-Dinitrotoluene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
3-Nitroaniline	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
Acenaphthene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4-Dinitrophenol	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
4-Nitrophenol	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
Dibenzofuran	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
2,4-Dinitrotoluene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Diethyl phthalate	I	B	< 750	I B	< 10	< 490	< 410	I J	< 10	< 10
4-Chlorophenyl phenyl ether	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Fluorene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
4-Nitroaniline	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
4,6-Dinitro-2-methylphenol	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25

A-2.47

Semivolatle Analysis

Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760093	760137	760702	760743	760822	760829	760721	760735	760768	760783
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Extraction Date:	09/29/95	09/29/95	10/02/95	10/02/95	09/29/95	09/29/95	10/02/95	10/02/95	10/02/95	10/02/95
Analysis Date:	09/30/95	10/02/95	10/03/95	10/04/95	10/02/95	10/02/95	10/03/95	10/03/95	10/03/95	10/03/95
Remarks:				Duplicate of WFF5-SW3		Duplicate of WFF5-SD3	Equipment Blank	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	UG/L	UG/KG	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
Compound Description										
N-Nitrosodiphenylamine(1)	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
4-Bromophenyl phenyl ether	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Hexachlorobenzene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Pentachlorophenol	< 25	< 1800	< 25	< 25	< 1200	< 990	< 25	< 25	< 25	< 25
Phenanthrene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Anthracene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Carbazole	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Di-n-butyl phthalate	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Fluoranthene	< 10	82	J	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Pyrene	< 10	91	J	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Butyl benzyl phthalate	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
3,3'-Dichlorobenzidine	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Benzo(a)anthracene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Chrysene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	1	B	150	B	< 10	2	B	58	B	< 410
Di-n-octyl phthalate	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	< 10	89	J	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Benzo(k)fluoranthene	< 10	77	J	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Benzo(a)pyrene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Dibenzo(a,h)anthracene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 750	< 10	< 10	< 490	< 410	< 10	< 10	< 10	< 10

A-2.48

Semivolatile Analysis

Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760112	760124	760158	760171	760116	760162	760120	760167
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Extraction Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Analysis Date:	09/30/95	09/30/95	10/02/95	10/02/95	09/30/95	10/02/95	09/30/95	10/02/95

Remarks:

Duplicate of
WFF9-SW9Duplicate of
WFF9-SD9

Units of Measure:	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/KG	UG/L	UG/KG
Compound Description								
Phenol	< 10	1	< 390	< 390	< 10	< 390	< 10	< 410
bis(2-Chloroethyl)ether	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2-Chlorophenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
1,3-Dichlorobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
1,4-Dichlorobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
1,2-Dichlorobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2-Methylphenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,2'-Oxybis(1-chloropropane)	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
4-Methylphenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
N-Nitroso-di-n-propylamine	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Hexachloroethane	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Nitrobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Isophorone	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2-Nitrophenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4-Dimethylphenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
bis(2-Chloroethoxy)methane	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4-Dichlorophenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
1,2,4-Trichlorobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Naphthalene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
4-Chloroaniline	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Hexachlorobutadiene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
4-Chloro-3-methylphenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2-Methylnaphthalene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Hexachlorocyclopentadiene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4,6-Trichlorophenol	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4,5-Trichlorophenol	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
2-Chloronaphthalene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2-Nitroaniline	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
Dimethyl phthalate	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Acenaphthylene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,6-Dinitrotoluene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
3-Nitroaniline	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
Acenaphthene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4-Dinitrophenol	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
4-Nitrophenol	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
Dibenzofuran	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
2,4-Dinitrotoluene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Diethyl phthalate	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410

Semivolatile Analysis

Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760112	760124	760158	760171	760116	760162	760120	760167
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Extraction Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Analysis Date:	09/30/95	09/30/95	10/02/95	10/02/95	09/30/95	10/02/95	09/30/95	10/02/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9				
Units of Measure:	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/KG	UG/L	UG/KG
Compound Description								
4-Chlorophenyl phenyl ether	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Fluorene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
4-Nitroaniline	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
4,6-Dinitro-2-methylphenol	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
N-Nitrosodiphenylamine(1)	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
4-Bromophenyl phenyl ether	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Hexachlorobenzene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Pentachlorophenol	< 25	< 25	< 950	< 940	< 25	< 940	< 25	< 980
Phenanthrene	< 10	< 10	75 J	< 390	< 10	< 390	< 10	140 J
Anthracene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Carbazole	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Di-n-butyl phthalate	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Fluoranthene	< 10	< 10	130 J	70 J	< 10	< 390	< 10	260 J
Pyrene	< 10	< 10	120 J	73 J	< 10	< 390	< 10	210 J
Butyl benzyl phthalate	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
3,3'-Dichlorobenzidine	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Benzo(a)anthracene	< 10	< 10	41 J	< 390	< 10	< 390	< 10	61 J
Chrysene	< 10	< 10	69 J	44 J	< 10	< 390	< 10	120 J
bis(2-Ethylhexyl)phthalate	1 B	1 B	120 B	45 B	< 10	62 B	< 10	76 B
Di-n-octyl phthalate	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Benzo(b)fluoranthene	< 10	< 10	110 J	76 J	< 10	< 390	< 10	210 J
Benzo(k)fluoranthene	< 10	< 10	99 J	68 J	< 10	< 390	< 10	180 J
Benzo(a)pyrene	< 10	< 10	52 J	< 390	< 10	< 390	< 10	62 J
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Dibenzo(a,h)anthracene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410
Benzo(g,h,i)perylene	< 10	< 10	< 390	< 390	< 10	< 390	< 10	< 410

A-2.50

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761340	760129	760133
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Extraction Date:	10/03/95	09/29/95	09/29/95
Analysis Date:	10/05/95	09/30/95	10/01/95
Remarks:	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	UG/L	UG/L	UG/L

Compound Description	WFF9-SW18	WFF9-SW19	WFF9-SW20
Phenol	< 10	< 10	< 10
bis(2-Chloroethyl)ether	< 10	< 10	< 10
2-Chlorophenol	< 10	< 10	< 10
1,3-Dichlorobenzene	< 10	< 10	< 10
1,4-Dichlorobenzene	< 10	< 10	< 10
1,2-Dichlorobenzene	< 10	< 10	< 10
2-Methylphenol	< 10	< 10	< 10
2,2'-Oxybis(1-chloropropane)	< 10	< 10	< 10
4-Methylphenol	< 10	< 10	< 10
N-Nitroso-di-n-propylamine	< 10	< 10	< 10
Hexachloroethane	< 10	< 10	< 10
Nitrobenzene	< 10	< 10	< 10
Isophorone	< 10	< 10	< 10
2-Nitrophenol	< 10	< 10	< 10
2,4-Dimethylphenol	< 10	< 10	< 10
bis(2-Chloroethoxy)methane	< 10	< 10	< 10
2,4-Dichlorophenol	< 10	< 10	< 10
1,2,4-Trichlorobenzene	< 10	< 10	< 10
Naphthalene	< 10	< 10	< 10
4-Chloroaniline	< 10	< 10	< 10
Hexachlorobutadiene	< 10	< 10	< 10
4-Chloro-3-methylphenol	< 10	< 10	< 10
2-Methylnaphthalene	< 10	< 10	< 10
Hexachlorocyclopentadiene	< 10	< 10	< 10
2,4,6-Trichlorophenol	< 10	< 10	< 10
2,4,5-Trichlorophenol	< 25	< 25	< 25
2-Chloronaphthalene	< 10	< 10	< 10
2-Nitroaniline	< 25	< 25	< 25
Dimethyl phthalate	< 10	< 10	< 10
Acenaphthylene	< 10	< 10	< 10
2,6-Dinitrotoluene	< 10	< 10	< 10
3-Nitroaniline	< 25	< 25	< 25
Acenaphthene	< 10	< 10	< 10
2,4-Dinitrophenol	< 25	UJ < 25	< 25
4-Nitrophenol	< 25	< 25	< 25
Dibenzofuran	< 10	< 10	< 10
2,4-Dinitrotoluene	< 10	< 10	< 10
Diethyl phthalate	< 10	< 10	< 10

Semivolatile Analysis

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761340	760129	760133
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Extraction Date:	10/03/95	09/29/95	09/29/95
Analysis Date:	10/05/95	09/30/95	10/01/95
Remarks:	Field	Equipment	Equipment
	Blank	Blank	Blank
Units of Measure:	UG/L	UG/L	UG/L

Compound Description			
4-Chlorophenyl phenyl ether	< 10	< 10	< 10
Fluorene	< 10	< 10	< 10
4-Nitroaniline	< 25	< 25	< 25
4,6-Dinitro-2-methylphenol	< 25	< 25	< 25
N-Nitrosodiphenylamine(1)	< 10	< 10	< 10
4-Bromophenyl phenyl ether	< 10	< 10	< 10
Hexachlorobenzene	< 10	< 10	< 10
Pentachlorophenol	< 25	< 25	< 25
Phenanthrene	< 10	< 10	< 10
Anthracene	< 10	< 10	< 10
Carbazole	< 10	< 10	< 10
Di-n-butyl phthalate	< 10	< 10	< 10
Fluoranthene	< 10	< 10	< 10
Pyrene	< 10	< 10	< 10
Butyl benzyl phthalate	< 10	< 10	< 10
3,3'-Dichlorobenzidine	< 10	< 10	< 10
Benzo(a)anthracene	< 10	< 10	< 10
Chrysene	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	< 10	1 J	2 J
Di-n-octyl phthalate	< 10	< 10	< 10
Benzo(b)fluoranthene	< 10	< 10	< 10
Benzo(k)fluoranthene	< 10	< 10	< 10
Benzo(a)pyrene	< 10	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 10
Dibenzo(a,h)anthracene	< 10	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 10	< 10

A-2.52

Sample ID:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761303	761311	761348	761353	761327
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/27/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95
Remarks:		Duplicate of WFF9-GW1			Equipment Blank

Compound Description	Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Phenol		< 10	< 10	< 10	< 10	< 10
bis(2-Chloroethyl)ether		< 10	< 10	< 10	< 10	< 10
2-Chlorophenol		< 10	< 10	< 10	< 10	< 10
1,3-Dichlorobenzene		< 10	< 10	< 10	< 10	< 10
1,4-Dichlorobenzene		< 10	< 10	< 10	< 10	< 10
1,2-Dichlorobenzene		< 10	< 10	< 10	< 10	< 10
2-Methylphenol		< 10	< 10	< 10	< 10	< 10
2,2'-Oxybis(1-chloropropane)		< 10	< 10	< 10	< 10	< 10
4-Methylphenol		< 10	< 10	< 10	< 10	< 10
N-Nitroso-di-n-propylamine		< 10	< 10	< 10	< 10	< 10
Hexachloroethane		< 10	< 10	< 10	< 10	< 10
Nitrobenzene		< 10	< 10	< 10	< 10	< 10
Isophorone		< 10	< 10	< 10	< 10	< 10
2-Nitrophenol		< 10	< 10	< 10	< 10	< 10
2,4-Dimethylphenol		< 10	< 10	< 10	< 10	< 10
bis(2-Chloroethoxy)methane		< 10	< 10	< 10	< 10	< 10
2,4-Dichlorophenol		< 10	< 10	< 10	< 10	< 10
1,2,4-Trichlorobenzene		< 10	< 10	< 10	< 10	< 10
Naphthalene		< 10	< 10	< 10	< 10	< 10
4-Chloroaniline		< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene		< 10	< 10	< 10	< 10	< 10
4-Chloro-3-methylphenol		< 10	< 10	< 10	< 10	< 10
2-Methylnaphthalene		< 10	< 10	< 10	< 10	< 10
Hexachlorocyclopentadiene		< 10	< 10	< 10	< 10	< 10
2,4,6-Trichlorophenol		< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol		< 25	< 25	< 25	< 25	< 25
2-Chloronaphthalene		< 10	< 10	< 10	< 10	< 10
2-Nitroaniline		< 25	< 25	< 25	< 25	< 25
Dimethyl phthalate		< 10	< 10	< 10	< 10	< 10
Acenaphthylene		< 10	< 10	< 10	< 10	< 10
2,6-Dinitrotoluene		< 10	< 10	< 10	< 10	< 10
3-Nitroaniline		< 25	< 25	< 25	< 25	< 25
Acenaphthene		< 10	< 10	< 10	< 10	< 10
2,4-Dinitrophenol		< 25	UJ < 25	< 25	UJ < 25	UJ < 25
4-Nitrophenol		< 25	< 25	< 25	< 25	< 25
Dibenzofuran		< 10	< 10	< 10	< 10	< 10
2,4-Dinitrotoluene		< 10	< 10	< 10	< 10	< 10
Diethyl phthalate		< 10	< 10	< 10	< 10	< 10

A-2.53

Semi-volatile Analysis

	Sample ID: WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761303	761311	761348	761353	761327
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/27/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95
Remarks:		Duplicate of WFF9-GW1			Equipment Blank
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Compound Description					
4-Chlorophenyl phenyl ether	< 10	< 10	< 10	< 10	< 10
Fluorene	< 10	< 10	< 10	< 10	< 10
4-Nitroaniline	< 25	< 25	< 25	< 25	< 25
4,6-Dinitro-2-methylphenol	< 25	< 25	< 25	< 25	< 25
N-Nitrosodiphenylamine(1)	< 10	< 10	< 10	< 10	< 10
4-Bromophenyl phenyl ether	< 10	< 10	< 10	< 10	< 10
Hexachlorobenzene	< 10	< 10	< 10	< 10	< 10
Pentachlorophenol	< 25	< 25	< 25	< 25	< 25
Phenanthrene	< 10	< 10	< 10	< 10	< 10
Anthracene	< 10	< 10	< 10	< 10	< 10
Carbazole	< 10	< 10	< 10	< 10	< 10
Di-n-butyl phthalate	< 10	< 10	< 10	< 10	< 10
Fluoranthene	< 10	< 10	< 10	< 10	< 10
Pyrene	< 10	< 10	< 10	< 10	< 10
Butyl benzyl phthalate	< 10	< 10	< 10	< 10	< 10
3,3'-Dichlorobenzidine	< 10	< 10	< 10	< 10	< 10
Benzo(a)anthracene	< 10	< 10	< 10	< 10	< 10
Chrysene	< 10	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	< 10	< 10	< 10	< 10	< 10
Di-n-octyl phthalate	< 10	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	< 10	< 10	< 10	< 10	< 10
Benzo(k)fluoranthene	< 10	< 10	< 10	< 10	< 10
Benzo(a)pyrene	< 10	< 10	< 10	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 10	< 10	< 10
Dibenzo(a,h)anthracene	< 10	< 10	< 10	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 10	< 10	< 10	< 10

Semivolatile Analysis

Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761280	761284	761276	761344	761296
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95
Remarks:				Field Blank	

Compound Description	UG/L	UG/L	UG/L	UG/L	UG/L	
Phenol	< 10	< 10	< 10	< 10	< 10	
bis(2-Chloroethyl)ether	< 10	< 10	< 10	< 10	< 10	
2-Chlorophenol	< 10	< 10	< 10	< 10	< 10	
1,3-Dichlorobenzene	< 10	< 10	< 10	< 10	< 10	
1,4-Dichlorobenzene	< 10	< 10	< 10	< 10	< 10	
1,2-Dichlorobenzene	< 10	< 10	< 10	< 10	< 10	
2-Methylphenol	< 10	< 10	< 10	< 10	< 10	
2,2'-Oxybis(1-chloropropane)	< 10	< 10	< 10	< 10	< 10	
4-Methylphenol	< 10	< 10	< 10	< 10	< 10	
N-Nitroso-di-n-propylamine	< 10	< 10	< 10	< 10	< 10	
Hexachloroethane	< 10	< 10	< 10	< 10	< 10	
Nitrobenzene	< 10	< 10	< 10	< 10	< 10	
Isophorone	< 10	< 10	< 10	< 10	< 10	
2-Nitrophenol	< 10	< 10	< 10	< 10	< 10	
2,4-Dimethylphenol	< 10	< 10	< 10	< 10	< 10	
bis(2-Chloroethoxy)methane	< 10	< 10	< 10	< 10	< 10	
2,4-Dichlorophenol	< 10	< 10	< 10	< 10	< 10	
1,2,4-Trichlorobenzene	< 10	< 10	< 10	< 10	< 10	
Naphthalene	< 10	< 10	< 10	< 10	< 10	
4-Chloroaniline	< 10	< 10	< 10	< 10	< 10	
Hexachlorobutadiene	< 10	< 10	< 10	< 10	< 10	
4-Chloro-3-methylphenol	< 10	< 10	< 10	< 10	< 10	
2-Methylnaphthalene	< 10	< 10	< 10	< 10	< 10	
Hexachlorocyclopentadiene	< 10	< 10	< 10	< 10	< 10	
2,4,6-Trichlorophenol	< 10	< 10	< 10	< 10	< 10	
2,4,5-Trichlorophenol	< 25	< 25	< 25	< 25	< 25	
2-Chloronaphthalene	< 10	< 10	< 10	< 10	< 10	
2-Nitroaniline	< 25	< 25	< 25	< 25	< 25	
Dimethyl phthalate	< 10	< 10	< 10	< 10	< 10	
Acenaphthylene	< 10	< 10	< 10	< 10	< 10	
2,6-Dinitrotoluene	< 10	< 10	< 10	< 10	< 10	
3-Nitroaniline	< 25	< 25	< 25	< 25	< 25	
Acenaphthene	< 10	< 10	< 10	< 10	< 10	
2,4-Dinitrophenol	< 25	UJ	< 25	UJ	< 25	UJ
4-Nitrophenol	< 25	< 25	< 25	< 25	< 25	< 25
Dibenzofuran	< 10	< 10	< 10	< 10	< 10	< 10
2,4-Dinitrotoluene	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	< 10	< 10	< 10	< 10	< 10	< 10

A-2.55

Semivolatile Analysis

Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761280	761284	761276	761344	761296
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95

Remarks:

Field
Blank

Compound Description	UG/L	UG/L	UG/L	UG/L	UG/L
4-Chlorophenyl phenyl ether	< 10	< 10	< 10	< 10	< 10
Fluorene	< 10	< 10	< 10	< 10	< 10
4-Nitroaniline	< 25	< 25	< 25	< 25	< 25
4,6-Dinitro-2-methylphenol	< 25	< 25	< 25	< 25	< 25
N-Nitrosodiphenylamine(1)	< 10	< 10	< 10	< 10	< 10
4-Bromophenyl phenyl ether	< 10	< 10	< 10	< 10	< 10
Hexachlorobenzene	< 10	< 10	< 10	< 10	< 10
Pentachlorophenol	< 25	< 25	< 25	< 25	< 25
Phenanthrene	< 10	< 10	< 10	< 10	< 10
Anthracene	< 10	< 10	< 10	< 10	< 10
Carbazole	< 10	< 10	< 10	< 10	< 10
Di-n-butyl phthalate	< 10	< 10	< 10	< 10	< 10
Fluoranthene	< 10	< 10	< 10	< 10	< 10
Pyrene	< 10	< 10	< 10	< 10	< 10
Butyl benzyl phthalate	< 10	< 10	< 10	< 10	< 10
3,3'-Dichlorobenzidine	< 10	< 10	< 10	< 10	< 10
Benzo(a)anthracene	< 10	< 10	< 10	< 10	< 10
Chrysene	< 10	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	< 10	< 10	1	< 10	8
Di-n-octyl phthalate	< 10	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	< 10	< 10	< 10	< 10	< 10
Benzo(k)fluoranthene	< 10	< 10	< 10	< 10	< 10
Benzo(a)pyrene	< 10	< 10	< 10	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 10	< 10	< 10
Dibenzo(a,h)anthracene	< 10	< 10	< 10	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 10	< 10	< 10	< 10

A-2.56

APPENDIX A-3

PESTICIDE/PCB RESULTS

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF10-SW1	WFF10-SW2	WFF9-SW13	WFF4-SW7	WFF9-SB1	WFF9-SB2
MATRIX:	WATER	WATER	WATER	WATER	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/KG	UG/KG
% MOISTURE:	NA	NA	NA	NA	4.2	5.6

COMPOUND

alpha-BHC					UJ	UJ
beta-BHC					UJ	UJ
delta-BHC					UJ	UJ
gamma-BHC(Lindane)					UJ	UJ
Heptachlor					UJ	UJ
Aldrin					UJ	UJ
Heptachlor Epoxide					UJ	UJ
Endosulfan I					UJ	UJ
Dieldrin					UJ	UJ
4,4'-DDE					UJ	UJ
Endrin					UJ	UJ
Endosulfan II					UJ	UJ
4,4'-DDD					UJ	UJ
Endosulfan Sulfate					UJ	UJ
4,4'-DDT					UJ	UJ
Methoxychlor					UJ	UJ
Endrin Ketone					UJ	UJ
Endrin Aldehyde					UJ	UJ
alpha-Chlordane					UJ	UJ
gamma-Chlordane					UJ	UJ
Toxaphene					UJ	UJ
Aroclor-10					UJ	UJ
Aroclor-1221					UJ	UJ
Aroclor-1232					UJ	UJ
Aroclor-1242					UJ	UJ
Aroclor-1248					UJ	UJ
Aroclor-1254					UJ	UJ
Aroclor-1260					UJ	UJ
	6.5 J					

REMARK:

EQUIPMENT BLK

FIELD BLK

EQUIPMENT BLK

EQUIPMENT BLK

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SOG NO 2

CLIENT SAMPLE ID:	WFF9-SB3	WFF9-SB4	WFF9-SB5	WFF4-SB2	WFF4-SB3	WFF9-SB6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	10	10	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	6	3.2	11	18	38.5	10

COMPOUND

alpha-BHC	UJ		UJ	UL	UL
beta-BHC	UJ		UJ	UL	UL
delta-BHC	UJ		UJ	UL	UL
gamma-BHC(Lindane)	UJ		UJ	UL	UL
Heptachlor	UJ		UJ	UL	UL
Aldrin	UJ		UJ	UL	UL
Heptachlor Epoxide	UJ		UJ	UL	UL
Endosulfan I	UJ		UJ	UL	UL
Dieldrin	UJ		UJ	UL	UL
4,4'-DDE	UJ		UJ	UL	UL
Endrin	UJ		UJ	UL	UL
Endosulfan II	UJ		UJ	UL	UL
4,4'-DDD	UJ		UJ	UL	UL
Endosulfan Sulfate	UJ		UJ	UL	UL
4,4'-DDT	UJ		UJ	UL	UL
Methoxychlor	UJ		UJ	UL	UL
Endrin Ketone	UJ		UJ	UL	UL
Endrin Aldehyde	UJ		UJ	UL	UL
alpha-Chlordane	UJ		UJ	UL	UL
gamma-Chlordane	UJ		UJ	UL	UL
Toxaphene	UJ		UJ	UL	UL
Aroclor-10	UJ		UJ	UL	UL
Aroclor-1221	UJ		UJ	UL	UL
Aroclor-1232	UJ		UJ	UL	UL
Aroclor-1242	UJ		UJ	UL	UL
Aroclor-1248	UJ		UJ	UL	UL
Aroclor-1254	UJ		UJ	UL	UL
Aroclor-1260	UJ		UJ	UL	UL

REMARK:

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF9-DC1	WFF10-SB2	WFF10-SB3	WFF10-SB4	WFF10-SB5	WFF10-SB6
MATRIX:	DRUM	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	10	10	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	5.4	9.6	13.7	20.1	6	10.6

COMPOUND

alpha-BHC	UL	UL	UL	UL	UL	UJ
beta-BHC	UL	UL	UL	UL	UL	UJ
delta-BHC	4100.0 L	UL	UL	UL	UL	UJ
gamma-BHC(Lindane)	UL	UL	UL	UL	UL	UJ
Heptachlor	UL	UL	UL	UL	UL	UJ
Aldrin	UL	UL	UL	UL	UL	UJ
Heptachlor Epoxide	1300.0 L	UL	UL	UL	UL	UJ
Endosulfan I	UL	UL	UL	UL	UL	UJ
Dieldrin	UL	UL	UL	UL	UL	UJ
4,4'-DDE	1200.0 L	UL	37.0 L	150.0 L	UL	6.1 J
Endrin	UL	UL	UL	UL	UL	UJ
Endosulfan II	UL	UL	UL	UL	UL	UJ
4,4'-DDD	UL	UL	43.0 L	210.0 L	UL	5.3 J
Endosulfan Sulfate	UL	UL	UL	UL	UL	UJ
4,4'-DDT	6400.0 L	UL	UL	14.0 L	UL	UJ
Methoxychlor	UL	UL	UL	UL	UL	UJ
Endrin Ketone	UL	UL	UL	UL	UL	UJ
Endrin Aldehyde	UL	UL	UL	UL	UL	UJ
alpha-Chlordane	UL	UL	UL	UL	UL	UJ
gamma-Chlordane	UL	UL	UL	UL	UL	UJ
Toxaphene	UL	UL	UL	UL	UL	UJ
Aroclor-10	UL	UL	UL	UL	UL	UJ
Aroclor-1221	UL	UL	UL	UL	UL	UJ
Aroclor-1232	UL	UL	UL	UL	UL	UJ
Aroclor-1242	UL	UL	UL	UL	UL	UJ
Aroclor-1248	UL	UL	UL	UL	UL	UJ
Aroclor-1254	UL	UL	UL	UL	UL	UJ
Aroclor-1260	UL	UL	UL	UL	UL	UJ

REMARK:

A-3.3

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7882, 7888, 7892 SDG NO 2

CLIENT SAMPLE ID:	WFF10-SB1	WFF4-SB1
MATRIX:	SOIL	SOIL
DILUTION FACTOR:	1	10
UNITS:	UG/KG	UG/KG
% MOISTURE:	13.7	15.6

COMPOUND

alpha-BHC	UJ	UL
beta-BHC	UJ	UL
delta-BHC	UJ	UL
gamma-BHC(Lindane)	UJ	UL
Heptachlor	UJ	UL
Aldrin	UJ	UL
Heptachlor Epoxide	UJ	UL
Endosulfan I	UJ	UL
Dieldrin	7.1 J	UL
4,4'-DDE	9.8 J	UL
Endrin	UJ	UL
Endosulfan II	UJ	UL
4,4'-DDD	24.0 J	UL
Endosulfan Sulfate	UJ	UL
4,4'-DDT	UJ	UL
Methoxychlor	UJ	UL
Endrin Ketone	UJ	56.0 L
Endrin Aldehyde	UJ	UL
alpha-Chlordane	UJ	UL
gamma-Chlordane	UJ	UL
Toxaphene	UJ	UL
Aroclor-10	UJ	UL
Aroclor-1221	UJ	UL
Aroclor-1232	UJ	UL
Aroclor-1242	UJ	UL
Aroclor-1248	UJ	UL
Aroclor-1254	UJ	UL
Aroclor-1260	UJ	UL

.....
REMARK:

A-3.4

PCB Wipe Analysis
 Total ug
 SW 846, METHOD 8080

CLIENT : METCALF & EDDY
 SITE : WALLOPS ISLAND
 BATCH NO.: 6 SDG NO.: 7897

TRAFFIC REPORT NUMBER:	WFF7/F10-WIPE1	WFF7/F10-WIPE2	WFF7/F10-WIPE3	WFF7/F10-WIPE4	WFF7/F10-WIPE5	WFF7/F10-WIPE6
COMPOUND	CRQL					
Aroclor-1016	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	0.50	UJ	UJ	UJ	UJ	UJ
Aroclor-1260	0.50	1.6 JB	0.73 JB	8.20 J	0.54 JB	0.55 J

DILUTION FACTOR:	1	1	1	1	1	1

PCB Wipe Analysis
 Total ug
 SW 846, METHOD 8080

CLIENT : METCALF & EDDY
 SITE : ALLOPS ISLAND
 BATCH NO.: 7897 SDG NO.:

TRAFFIC REPORT NUMBER: WFF7/A41-WIPE1 WFF7/A41-WIPE2 WFF7/A41-WIPE3 WFF7/E105-WIPE1 WFF7/E105-WIPE2 WFF7/E105-WIPE3

COMPOUND	CRQL	WFF7/A41-WIPE1	WFF7/A41-WIPE2	WFF7/A41-WIPE3	WFF7/E105-WIPE1	WFF7/E105-WIPE2	WFF7/E105-WIPE3
Aroclor-1016	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	0.25	UJ	12.00 J	UJ	UJ	UJ	UJ
Aroclor-1248	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	0.50	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1260	0.50	UJ	7.20 J	16.00 J	450000.00 J	UJ	24.00 J

 DILUTION FACTOR: 1 1 1 1000 100 10

PCB Wipe Analysis
 Total ug
 SW 846, METHOD 8080

CLIENT : METCALF & EDDY
 SITE : WALLOPS ISLAND
 BATCH NO.: 7897 SDG NO.:

TRAFFIC REPORT NUMBER:

WFF7/E105-WIPE4

WFF7/E106-WIPE1

WFF7/E106-WIPE2

WFF7/E106-WIPE3

WFF7/E107-WIPE1

WFF7/E107-WIPE2

COMPOUND	CRQL	WFF7/E105-WIPE4	WFF7/E106-WIPE1	WFF7/E106-WIPE2	WFF7/E106-WIPE3	WFF7/E107-WIPE1	WFF7/E107-WIPE2
Aroclor-1016	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	0.25	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	0.50	UJ	UJ	UJ	22000.00 J	UJ	UJ
Aroclor-1260	0.50	UJ	19.00 J	UJ	UJ	25.00 J	11.00 J

DILUTION FACTOR:

10

10

10

10

1

1

PCB Wipe Analysis
 Total ug
 SW 846, METHOD 8080

CLIENT : METCALF & EDDY
 SITE : WALLOPS ISLAND
 BATCH NO.: 7897 SDG NO.:

TRAFFIC REPORT NUMBER:

WFF7/E107-WIPE3 WFF7/E108-WIPE1 WFF7/E108-WIPE2 WFF7/E108-WIPE3 WFF7/E108-WIPE4

COMPOUND	CRQL					
Aroclor-1016	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	0.25	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	0.50	UJ	UJ	UJ	UJ	UJ
Aroclor-1260	0.50	20.00 J	210.00 J	10.00 J	8.80 J	UJ

DILUTION FACTOR:		1	10	1	1	1

A-3.8

PCB Soil Analysis
 ug/kg
 SW 846, METHOD 8080

CLIENT: METCALF & EDDY
 SITE: WALLOPS ISLAND
 CASE NO.: 7912

SDG NO.: 7

TRAFFIC REPORT NUMBER:	WFF7-U40ASS1	WFF7-U40ASS2	WFF7-U40ASS3	WFF7-U40ASS4	WFF7-U40ASS5	WFF7-V65SS1
COMPOUND	CRQL					
Aroclor-1016	50.0					
Aroclor-1221	50.0					
Aroclor-1232	50.0					
Aroclor-1242	50.0					
Aroclor-1248	50.0		UJ		230.0 J	
Aroclor-1254	100.0					
Aroclor-1260	100.0					

DILUTION FACTOR:	$\frac{1}{17.5}$	$\frac{1}{15}$	$\frac{1}{14.8}$	$\frac{1}{13.3}$	$\frac{1}{15.2}$	$\frac{1}{13.7}$
% MOISTURE:	17.5	15	14.8	13.3	15.2	13.7

A-3.10

PCB Soil Analysis
ug/kg
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CASE NO.: 7912

SDG NO.: 7

TRAFFIC REPORT NUMBER:

WFF7-V65SS2

WFF7-V65SS3

WFF7-V65SS4

WFF7-V81SS1

WFF7-V81SS2

WFF7-V81SS3

COMPOUND	CRQL
Aroclor-1016	50.0
Aroclor-1221	50.0
Aroclor-1232	50.0
Aroclor-1242	50.0
Aroclor-1248	50.0
Aroclor-1254	100.0
Aroclor-1260	100.0

DILUTION FACTOR:
% MOISTURE:

¹
11.7

¹
20.9

¹
7.3

¹
21.7

¹
10

¹
15.4

PCB Soil Analysis
ug/kg
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CASE NO.: 7912

SDG NO.: 7

TRAFFIC REPORT NUMBER:

WFF7-V81SS4

WFF7-Z26SS1

WFF7-Z26SS2

WFF7-Z26SS3

WFF7-Z26SS4

WFF7-U5SS1

COMPOUND	CRQL
Aroclor-1016	50.0
Aroclor-1221	50.0
Aroclor-1232	50.0
Aroclor-1242	50.0
Aroclor-1248	50.0
Aroclor-1254	100.0
Aroclor-1260	100.0

DILUTION FACTOR:
% MOISTURE:

$\frac{1}{22.6}$

$\frac{1}{10.6}$

$\frac{1}{10.6}$

$\frac{1}{13.4}$

$\frac{1}{11.7}$

$\frac{1}{27}$

CLIENT: METCALF & EDDY
SITE: WALLEPS ISLAND
CASE NO.: 7912

SDG NO.: 7

TRAFFIC REPORT NUMBER:

WFF7-U5SS2

COMPOUND	CRQL
Aroclor-1016	50.0
Aroclor-1221	50.0
Aroclor-1232	50.0
Aroclor-1242	50.0
Aroclor-1248	50.0
Aroclor-1254	100.0
Aroclor-1260	100.0

DILUTION FACTOR:
% MOISTURE:

1
24.3

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 7940, 7945 BATCH NO.: 8, 9

CLIENT SAMPLE ID:	WFF14-SW1	WFF14-SB1	WFF14-SB14
MATRIX:	WATER	SOIL	SOIL
DILUTION FACTOR:	1	1	1
UNITS:	UG/L	UG/KG	UG/KG
% MOISTURE:	NA	16	5

COMPOUND

alpha-BHC			
beta-BHC			
delta-BHC			
gamma-BHC(Lindane)			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
Dieldrin			
4,4'-DDE	UJ		4.3 J
Endrin			
Endosulfan II			
4,4'-DDD			
Endosulfan Sulfate			
4,4'-DDT	UJ		4.5 J
Methoxychlor			
Endrin Ketone			
Endrin Aldehyde			
alpha-Chlordane			
gamma-Chlordane			
Toxaphene			
Aroclor-10			
Aroclor-1221			
Aroclor-1232			
Aroclor-1242			
Aroclor-1248			
Aroclor-1254			
Aroclor-1260			

A-3.14

=====

REMARK:	FIELD BLANK	FIELD DUP	FIELD DUP
---------	-------------	-----------	-----------

PCB Analysis

SW 846, METHOD 8080

CLIENT: Metcalf & Eddy
 SITE : Wallops Island
 CONTROL NO.: 7951

Batch No.: 10

CLIENT SAMPLE ID: MATRIX: DILUTION FACTOR: UNITS:	WFF7/N222-SS1 SOIL 1 UG/KG	WFF7/N222-SS2 SOIL 1 UG/KG	WFF7/N222-SS3 SOIL 1 UG/KG	WFF7/N222-SS4 SOIL 1 UG/KG	WFF7/N222-SW1 WATER 1 UG/L	WFF7/V50-WIPE1 WIPE 100 UG
COMPOUND						
Aroclor-1016	UJ	UJ	UJ	UJ		UJ
Aroclor-1221	UJ	UJ	UJ	UJ		UJ
Aroclor-1232	UJ	UJ	UJ	UJ		UJ
Aroclor-1242	UJ	UJ	UJ	UJ		UJ
Aroclor-1248	UJ	UJ	UJ	UJ		UJ
Aroclor-1254	UJ	UJ	UJ	UJ		UJ
Aroclor-1260	UJ	UJ	UJ	UJ		74.0 J

REMARKS:

PCB Analysis

SW 846, METHOD 8080

CLIENT: Metcalf & Eddy
SITE : Wallops Island
CONTROL NO.: 7951

Batch No.: 1

CLIENT SAMPLE ID: MATRIX: DILUTION FACTOR: UNITS:	WFF7/V50-WIPE2 WIPE 100 UG	WFF7/V50-WIPE3 WIPE 1000 UG	WFF7/V50-WIPE4 WIPE 100 UG	WFF7/V50-WIPE5 WIPE 100 UG	WF11/V30-WIPE1 WIPE 1 UG	WF11/V30-WIPE2 WIPE 1 UG
COMPOUND						
Aroclor-1016	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1260	49.0 J	190000 J	1600.0 J	150.0 J	1.5	0.55

REMARKS:

FIELD DUP

FIELD DUP

A-3.16

PCB Analysis

SW 846, METHOD 8080

CLIENT: Metcalf & Eddy
SITE : Wallops Island
CONTROL NO.: 7951

Batch No.: 1

CLIENT SAMPLE ID:
MATRIX:
DILUTION FACTOR:
UNITS:

WFF11/V30-WIPE3
WIPE 1
UG

WFF11/V30-WIPE4
WIPE 1
UG

WFF11/V30-WIPE5
WIPE 1
UG

WFF11/V30-WIPE6
WIPE 1
UG

WFF7/X115A-WIPE1
WIPE 1000
UG

WFF7/X115A-WIPE2
WIPE 100
UG

COMPOUND

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

0.85

0.57

230000.0 J

1800.0 J

UJ
UJ
UJ
UJ
UJ
UJ
UJ

UJ
UJ
UJ
UJ
UJ
UJ
UJ

REMARKS:

FIELD BLANK

PCB Analysis

SW 846, METHOD 8080

CLIENT: Metcalf & Eddy
 SITE : Wallops Island
 CONTROL NO.: 7951

Batch No.: 1

CLIENT SAMPLE ID: MATRIX: DILUTION FACTOR: UNITS:	WFF7/X115A-WIPE3 WIPE 100 UG	WFF7/Y75-WIPE1 WIPE 100 UG	WFF7/Y75-WIPE2 WIPE 100 UG	WFF7/Y75-WIPE3 WIPE 100 UG	WFF7/Y75-WIPE4 WIPE 100 UG	WFF7/Y75-WIPE5 WIPE 100 UG
COMPOUND						
Aroclor-1016	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	UJ	UJ	UJ	UJ	UJ	UJ
Aroclor-1260	140.0 J	160.0 JB	61.0 JB	52.0 JB	370.0 J	66.0

REMARKS:

EQUIPMENT BLANK

FIELD BLANK

A-3.18

PCB Analysis

SW 846, METHOD 8080

CLIENT: Metcalf & Eddy
 SITE : Wallops Island
 CONTROL NO.: 7962, 7966

Batch No.: 11,12

CLIENT SAMPLE ID:	WFF4-SS1	WFF4-SS2	WFF4-SS3	WFF4-SS4
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG

COMPOUND	CRQL			
Aroclor-1016	17.0			
Aroclor-1221	17.0			
Aroclor-1232	17.0			
Aroclor-1242	17.0			
Aroclor-1248	17.0			
Aroclor-1254	33.0			1000.0
Aroclor-1260	33.0	350.0		

REMARKS:

A-3.19

PCB Soil
ug
SW 846, M

CLIENT: METCALF & EDDY
SITE: WALLEPS ISLAND
CONTROL NO.: 7962, 7966 BATCH NO.: 1

TRAFFIC REPORT NUMBER: WFF7/241-WIPE2 WFF7/244-WIPE1

COMPOUND	CRQL
Aroclor-1016	0.25
Aroclor-1221	0.25
Aroclor-1232	0.25
Aroclor-1242	0.25
Aroclor-1248	0.25
Aroclor-1254	0.5
Aroclor-1260	0.5

=====

DILUTION FACTOR:	1	1
------------------	---	---

A-3.21

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978

SDG NO.: 13

CLIENT SAMPLE ID:	WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB5	WFF14-SB6	WFF14-SB7
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	20	13	14	16	7	11
COMPOUND	CRQL					
alpha-BHC	1.7	UL	UL	UL	UJ	UL
beta-BHC	1.7	UL	UL	UL	UJ	UL
delta-BHC	1.7	UL	UL	UL	UJ	UL
gamma-BHC(Lindane)	1.7	UL	UL	UL	UJ	UL
Heptachlor	1.7	UL	UL	UL	UJ	UL
Aldrin	1.7	UL	UL	UL	UJ	UL
Heptachlor Epoxide	1.7	UL	UL	UL	UJ	UL
Endosulfan I	1.7	UL	UL	UL	UJ	UL
Dieldrin	3.3	UL	UL	UL	UJ	UL
4,4'-DDE	3.3	UL	UL	UL	UJ	UL
Endrin	3.3	UL	UL	UL	UJ	UL
Endosulfan II	3.3	UL	UL	UL	UJ	UL
4,4'-DDD	3.3	UL	UL	UL	UJ	UL
Endosulfan Sulfate	3.3	UL	UL	UL	UJ	UL
4,4'-DDT	3.3	UL	UL	UL	UJ	UL
Methoxychlor	17.0	UL	UL	UL	UJ	UL
Endrin Ketone	3.3	UL	UL	UL	UJ	UL
Endrin Aldehyde	3.3	UL	UL	UL	UJ	UL
alpha-Chlordane	1.7	UL	UL	UL	UJ	UL
gamma-Chlordane	1.7	UL	UL	UL	UJ	UL
Toxaphene	170.0	UL	UL	UL	UJ	UL
Aroclor-1016	33.0	UL	UL	UL	UJ	UL
Aroclor-1221	67.0	UL	UL	UL	UJ	UL
Aroclor-1232	33.0	UL	UL	UL	UJ	UL
Aroclor-1242	33.0	UL	UL	UL	UJ	UL
Aroclor-1248	33.0	UL	UL	UL	UJ	UL
Aroclor-1254	33.0	UL	UL	UL	UJ	UL
Aroclor-1260	33.0	UL	UL	UL	UJ	UL

4.1 J

A-3.22

=====

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
CASE NO.: 7978

SDG NO.: 13

CLIENT SAMPLE ID:	WFF14-SB9	WFF14-SB11	WFF14-SB12	WFF14-SB13
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
X MOISTURE:	17	17	17	12

COMPOUND	CRQL			
alpha-BHC	1.7	UJ	UL	UL
beta-BHC	1.7	UJ	UL	UL
delta-BHC	1.7	UJ	UL	UL
gamma-BHC(Lindane)	1.7	UJ	UL	UL
Heptachlor	1.7	UJ	UL	UL
Aldrin	1.7	UJ	UL	UL
Heptachlor Epoxide	1.7	UJ	UL	UL
Endosulfan I	1.7	UJ	UL	UL
Dieldrin	3.3	UJ	UL	UL
4,4'-DDE	3.3	UJ	UL	UL
Endrin	3.3	UJ	UL	4.0 L
Endosulfan II	3.3	UJ	UL	UL
4,4'-DDD	3.3	UJ	UL	UL
Endosulfan Sulfate	3.3	UJ	UL	UL
4,4'-DDT	3.3	4.5 J	UL	25.5 L
Methoxychlor	17.0	UJ	UL	UL
Endrin Ketone	3.3	UJ	UL	UL
Endrin Aldehyde	3.3	UJ	UL	UL
alpha-Chlordane	1.7	UJ	UL	UL
gamma-Chlordane	1.7	UJ	UL	UL
Toxaphene	170.0	UJ	UL	UL
Aroclor-1016	33.0	UJ	UL	UL
Aroclor-1221	67.0	UJ	UL	UL
Aroclor-1232	33.0	UJ	UL	UL
Aroclor-1242	33.0	UJ	UL	UL
Aroclor-1248	33.0	UJ	UL	UL
Aroclor-1254	33.0	UJ	UL	UL
Aroclor-1260	33.0	UJ	UL	68.0 L

A-3.23

.....

PCB Wipe Analysis
Total ug
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CONTROL NO.: 8005

BATCH NO.: 17

TRAFFIC REPORT NUMBER:

WFF7/N169-WIPE2

COMPOUND	CRQL	
Aroclor-1016	0.25	UJ
Aroclor-1221	0.25	UJ
Aroclor-1232	0.25	UJ
Aroclor-1242	0.25	13.0 J
Aroclor-1248	0.25	UJ
Aroclor-1254	0.5	UJ
Aroclor-1260	0.5	UJ

=====

DILUTION FACTOR:

1

Pesticide/PCB Analysis

(SOW:OLN01.8)

CLIENT: Metcalf & Eddy
 SITE: WALLEPS ISLAND
 CASE NO.: 8005, 8011 BATCH NO.:17,18

CLIENT SAMPLE ID:	WFF15-SB9	WFF15-SB10	WFF6-SB1	WFF6-SB2	WFF8-SB6
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	10	9	18	25	13

COMPOUND

alpha-BHC	UJ	UJ	UL	UJ	UJ
beta-BHC	UJ	UJ	UL	UJ	UJ
delta-BHC	UJ	UJ	UL	UJ	UJ
gamma-BHC(Lindane)	UJ	UJ	UL	UJ	UJ
Heptachlor	UJ	UJ	UL	UJ	UJ
Aldrin	UJ	UJ	UL	UJ	UJ
Heptachlor Epoxide	UJ	UJ	UL	UJ	UJ
Endosulfan I	UJ	UJ	UL	UJ	UJ
Dieldrin	UJ	UJ	UL	UJ	UJ
4,4'-DDE	UJ	UJ	UL	UJ	UJ
Endrin	UJ	UJ	UL	UJ	UJ
Endosulfan II	UJ	UJ	UL	UJ	UJ
4,4'-DDD	UJ	UJ	9.0 NJ	UJ	UJ
Endosulfan Sulfate	UJ	UJ	UL	UJ	UJ
4,4'-DDT	UJ	UJ	R	UJ	UJ
Methoxychlor	UJ	UJ	UL	UJ	UJ
Endrin Ketone	UJ	UJ	UL	UJ	UJ
Endrin Aldehyde	UJ	UJ	UL	UJ	UJ
alpha-Chlordane	UJ	UJ	UL	UJ	UJ
gamma-Chlordane	UJ	UJ	UL	UJ	UJ
Toxaphene	UJ	UJ	UL	UJ	UJ
Aroclor-10	UJ	UJ	UL	UJ	UJ
Aroclor-1221	UJ	UJ	UL	UJ	UJ
Aroclor-1232	UJ	UJ	UL	UJ	UJ
Aroclor-1242	UJ	UJ	UL	UJ	UJ
Aroclor-1248	UJ	UJ	UL	UJ	UJ
Aroclor-1254	UJ	UJ	UL	UJ	UJ
Aroclor-1260	UJ	UJ	UL	UJ	UJ

A-3.25

REMARK:

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
SITE: WALLOPS ISLAND
CASE NO.: 8005, 8011

BATCH NO.: 17,18

CLIENT SAMPLE ID: WFF2-SB3
MATRIX: SOIL
DILUTION FACTOR: 1
UNITS: ug/kg
X MOISTURE: 3

COMPOUND

alpha-BHC	UJ
beta-BHC	UJ
delta-BHC	UJ
gamma-BHC(Lindane)	UJ
Heptachlor	UJ
Aldrin	UJ
Heptachlor Epoxide	UJ
Endosulfan I	UJ
Dieldrin	UJ
4,4'-DDE	UJ
Endrin	UJ
Endosulfan II	UJ
4,4'-DDD	UJ
Endosulfan Sulfate	UJ
4,4'-DDT	UJ
Methoxychlor	UJ
Endrin Ketone	UJ
Endrin Aldehyde	UJ
alpha-Chlordane	UJ
gamma-Chlordane	UJ
Toxaphene	UJ
Aroclor-10	UJ
Aroclor-1221	UJ
Aroclor-1232	UJ
Aroclor-1242	UJ
Aroclor-1248	UJ
Aroclor-1254	UJ
Aroclor-1260	UJ

REMARK:

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
SITE: WALLOPS ISLAND
CASE NO.: 8017, 8023 BATCH NO.:19,20

CLIENT SAMPLE ID:	WFF2-SW1	WFF2-SW2
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	UG/L	UG/L
% MOISTURE:	NA	NA

COMPOUND

alpha-BHC
beta-BHC
delta-BHC
gamma-BHC(Lindane)
Heptachlor
Aldrin
Heptachlor Epoxide
Endosulfan I
Dieldrin
4,4'-DDE
Endrin
Endosulfan II
4,4'-DDD
Endosulfan Sulfate
4,4'-DDT
Methoxychlor
Endrin Ketone
Endrin Aldehyde
alpha-Chlordane
gamma-Chlordane
Toxaphene
Aroclor-10
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

A-3.27

REMARK:

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 8038

BATCH NO.: 2

CLIENT SAMPLE ID:	WFF10-SS5	WFF10-SS6	WFF9-SD1	WFF9-SD11
MATRIX:	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	4	6	78	68

COMPOUND

alpha-BHC	UJ	UL		
beta-BHC	2.0 L	11 L		9.1 J
delta-BHC	UJ	UL		
gamma-BHC(Lindane)	UJ	UL		
Heptachlor	UJ	UL		
Aldrin	UJ	UL		
Heptachlor Epoxide	UJ	UL		
Endosulfan I	UJ	UL		
Dieldrin	UJ	UL		
4,4'-DDE	UJ	180 L		100
Endrin	UJ	UL		
Endosulfan II	UJ	UL		
4,4'-DDD	UJ	UL		
Endosulfan Sulfate	UJ	UL		
4,4'-DDT	UJ	50 L		UJ
Methoxychlor	UJ	UL		
Endrin Ketone	UJ	UL		
Endrin Aldehyde	UJ	UL		
alpha-Chlordane	UJ	12 L		6.1 J
gamma-Chlordane	UJ	UL		
Toxaphene	UJ	UL		
Aroclor-10	UJ	UL		
Aroclor-1221	UJ	UL		
Aroclor-1232	UJ	UL		
Aroclor-1242	UJ	UL		
Aroclor-1248	UJ	UL		
Aroclor-1254	UJ	UL		
Aroclor-1260	UJ	UL		

REMARK:

A-3.30

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE : WALLOPS ISLAND
 CONTROL NO.: 8041

BATCH NO.: 23

CLIENT SAMPLE ID:	WFF9-SW2	WFF9-SW3	WFF9-SW4	WFF9-SW5	WFF9-SW6	WFF9-SW7
MATRIX:	WATER	WATER	WATER	WATER	WATER	WATER
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
% MOISTURE:	NA	NA	NA	NA	NA	NA
COMPOUND						
alpha-BHC	UJ			UJ		UJ
beta-BHC	UJ			UJ		UJ
delta-BHC	UJ			UJ		UJ
gamma-BHC(Lindane)	UJ			UJ		UJ
Heptachlor	UJ			UJ		UJ
Aldrin	UJ			UJ		UJ
Heptachlor Epoxide	UJ			UJ		UJ
Endosulfan I	UJ			UJ		UJ
Dieldrin	UJ			UJ		UJ
4,4'-DDE	0.22 J			UJ	0.15 J	UJ
Endrin	UJ			UJ		UJ
Endosulfan II	UJ			UJ		UJ
4,4'-DDD	0.58 J	UJ		UJ	0.25 J	0.28 J
Endosulfan Sulfate	UJ			UJ		UJ
4,4'-DDT	0.16 J			UJ	0.11 J	0.19
Methoxychlor	UJ			UJ		UJ
Endrin Ketone	UJ			UJ		UJ
Endrin Aldehyde	UJ			UJ		UJ
alpha-Chlordane	UJ			UJ		UJ
gamma-Chlordane	UJ			UJ		UJ
Toxaphene	UJ			UJ		UJ
Aroclor-10	UJ			UJ		UJ
Aroclor-1221	UJ			UJ		UJ
Aroclor-1232	UJ			UJ		UJ
Aroclor-1242	UJ			UJ		UJ
Aroclor-1248	UJ			UJ		UJ
Aroclor-1254	UJ			UJ		UJ
Aroclor-1260	UJ			UJ		UJ

REMARK:

A-3.31

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 CONTROL NO.: 8195, 8208 BATCH NO.: 2

CLIENT SAMPLE ID:	WFF14SB80	WFF2SB20	WFF2SB1D	WFF2SB11D	WFF2SB100	WFF2SB5D
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	8	11	14	14	20	10

COMPOUND

alpha-BHC	UJ					
beta-BHC	UJ					
delta-BHC	UJ					
gamma-BHC(Lindane)	UJ					
Heptachlor	UJ					
Aldrin	UJ					
Heptachlor Epoxide	UJ					
Endosulfan I	UJ					
Dieldrin	UJ					
4,4'-DDE	UJ				140	110.0
Endrin	UJ					
Endosulfan II	UJ					
4,4'-DDD	UJ					
Endosulfan Sulfate	UJ					
4,4'-DDT	UJ				47	9.7
Methoxychlor	UJ					
Endrin Ketone	UJ					
Endrin Aldehyde	UJ					
alpha-Chlordane	UJ				7.1 J	
gamma-Chlordane	UJ				20.0 J	4.7 J
Toxaphene	UJ					
Aroclor-10	UJ					
Aroclor-1221	UJ					
Aroclor-1232	UJ					
Aroclor-1242	UJ					
Aroclor-1248	UJ					
Aroclor-1254	UJ					
Aroclor-1260	UJ					

A-3.34

REMARK:

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
SITE: Wallops Island
CONTROL NO.: 8195, 8208 BATCH NO.: 2

CLIENT SAMPLE ID:	WFF2SB4D	WFF2SB6D
MATRIX:	SOIL	SOIL
DILUTION FACTOR:	1	1
UNITS:	UG/KG	UG/KG
% MOISTURE:	22	7

COMPOUND

alpha-BHC		
beta-BHC		
delta-BHC		
gamma-BHC(Lindane)		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
Dieldrin		
4,4'-DDE		
Endrin		
Endosulfan II		
4,4'-DDD		
Endosulfan Sulfate		
4,4'-DDT	13.0	7.3
Methoxychlor		
Endrin Ketone		
Endrin Aldehyde		
alpha-Chlordane		
gamma-Chlordane		
Toxaphene		
Aroclor-10		
Aroclor-1221		
Aroclor-1232		
Aroclor-1242		
Aroclor-1248		
Aroclor-1254		
Aroclor-1260		

REMARK:

A-3.35

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: WALLOPS ISLAND
 CASE NO.: 8210

BATCH NO.: 26

CLIENT SAMPLE ID: MATRIX: DILUTION FACTOR: UNITS: X MOISTURE:	WFF2-SB7D SOIL 1 UG/KG 13	WFF2-SB9D SOIL 1 UG/KG 11	WFF2-SS1DL SOIL 10 UG/KG 2	WFF2-SS2DDL SOIL 100 UG/KG 13	WFF2-SS5DDL SOIL 100 UG/KG 3	WFF2-SS6D SOIL 1.0 UG/KG 2
COMPOUND						
alpha-BHC			UL	UL	UL	
beta-BHC			UL	UL	UL	
delta-BHC	330.0 J		UL	UL	UL	
gamma-BHC(Lindane)			UL	UL	UL	
Heptachlor			UL	UL	UL	UJ
Aldrin			UL	UL	UL	UJ
Heptachlor Epoxide			UL	UL	UL	
Endosulfan I			UL	UL	UL	
Dieldrin			UL	UL	UL	UJ
4,4'-DDE	14.0	53.0	69.0 L	2000.0 L	1700.0 L	31.0 K
Endrin			UL	UL	UL	UJ
Endosulfan II			UL	UL	UL	
4,4'-DDD	74.0	18.0 J	63.0 L	36000.0 L	3600.0 L	63.0 K
Endosulfan Sulfate			UL	UL	UL	
4,4'-DDT	9.4	33.0	UL	3500.0 L	31000.0 L	40.0 K
Methoxychlor			UL	UL	UL	
Endrin Ketone			UL	UL	UL	
Endrin Aldehyde			UL	UL	UL	4.5 K
alpha-Chlordane			UL	260.0 L	UL	
gamma-Chlordane			UL	UL	UL	
Toxaphene			UL	UL	UL	
Aroclor-10			UL	UL	UL	
Aroclor-1221			UL	UL	UL	
Aroclor-1232			UL	UL	UL	
Aroclor-1242			UL	UL	UL	
Aroclor-1248			UL	UL	UL	
Aroclor-1254			UL	UL	UL	
Aroclor-1260			UL	UL	UL	

REMARK:

A-3.36

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CONTROL NO.: 8210

BATCH NO.: 26

TRAFFIC REPORT NUMBER: WFF4-SS2(D)
MATRIX: SOIL
UNITS: ug/kg

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

DILUTION FACTOR:

1

PCB Wipe Analysis
 Total ug
 SW 846, METHOD 8080

CLIENT: METCALF & EDDY
 SITE: WALLOPS ISLAND
 CONTROL NO.: 8216, 8224 BATCH NO.: 27, 28

TRAFFIC REPORT NUMBER: MATRIX: UNIT:	WFF7/W20-WIPE1 WIPE ug	WFF7/W20-WIPE2 WIPE ug	WFF7/W32-WIPE1 WIPE ug	WFF7/W32-WIPE2 DL WIPE ug	WFF7/X85-WIPE1 WIPE ug	WFF7/X85-WIPE2 WIPE ug
COMPOUND						
Aroclor-1016				UL		
Aroclor-1221				UL		
Aroclor-1232				UL		
Aroclor-1242	4.5	13.0	2.3	19 L	4.5	
Aroclor-1248				UL		
Aroclor-1254			1.5	UL		
Aroclor-1260	2.1	2.0		870 L		1.0
=====						
DILUTION FACTOR:	1	1	1	10	1	1
REMARKS:						

A-3.38

PCB Soil Analysis
ug/kg
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CONTROL NO.: 8216, 8224 BATCH NO.: 2

TRAFFIC REPORT NUMBER:	UFF7/X85-WIPE3	UFF7/X85-WIPE4	UFF7/244-WIPE2	UFF7/241-WIPE3	UFF7/241-WIPE4	UFF7/242-WIPE1
MATRIX:	WIPE	WIPE	WIPE	WIPE	WIPE	WIPE
UNIT:	ug	ug	ug	ug	ug	ug

COMPOUND

Aroclor-1016						
Aroclor-1221						
Aroclor-1232						
Aroclor-1242						
Aroclor-1248						
Aroclor-1254						
Aroclor-1260	2.8			4.0	2.8	4.4

=====

DILUTION FACTOR:	1	1	1	1	1	1
REMARKS:						

PCB Soil Analysis
ug/kg
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLOPS ISLAND
CONTROL NO.: 8216, 8224 BATCH NO.: 2

TRAFFIC REPORT NUMBER: MATRIX: UNIT:	WFF7/Z42-WIPE2 WIPE ug	WFF7/Z42-WIPE3 WIPE ug	WFF7/Z42-WIPE4 WIPE ug	WFF7/N169-WIPE1 WIPE ug	WFF7/N169-WIPE3 WIPE ug	WFF7/N169-WIPE4 WIPE ug
COMPOUND						
Aroclor-1016						
Aroclor-1221						
Aroclor-1232						
Aroclor-1242						
Aroclor-1248						
Aroclor-1254	8.1	3.9	2.6	5.8	13.0 K	9.3
Aroclor-1260						

DILUTION FACTOR:	1	1	1	1	1	1
REMARKS:						

A-3.40

PCB Soil Analysis
 ug/kg
 SW 846, METHOD 8080

CLIENT: METCALF & EDDY
 SITE: WALLOPS ISLAND
 CONTROL NO.: 8216, 8224 BATCH NO.: 2

TRAFFIC REPORT NUMBER:	WFF7/N169-WIPE5	WFF7/N1590-WIPE1	WFF7/N1590-WIPE2	WFF7/N1590-WIPE3	WFF7/N1590-WIPE4DL	WFF7/N167A-WIPE3
MATRIX:	WIPE	WIPE	WIPE	WIPE	WIPE	WIPE
UNIT:	ug	ug	ug	ug	ug	ug

COMPOUND

Aroclor-1016
 Aroclor-1221
 Aroclor-1232
 Aroclor-1242
 Aroclor-1248
 Aroclor-1254
 Aroclor-1260

47.0

8.8 K

7.4 K

1500 *

1.5 J

DILUTION FACTOR:	1	1	1	1	10/100*	1
REMARKS:	FIELD BLANK					FIELD DUP

A-3.41

CLIENT: METCALF & EDDY
SITE: WOLLOPS ISLAND
CONTROL NO.: 8216, 8224 BATCH NO.: 2

TRAFFIC REPORT NUMBER:	WFF7/N167A-WIPE4	WFF7/N167A-WIPE5	WFF7/N167A-WIPE6	WFF7/N167A-WIPE7	WFF7/N167A-WIPE9	WFF7/N175-WIPE1
MATRIX:	WIPE	WIPE	WIPE	WIPE	WIPE	WIPE
UNIT:	ug	ug	ug	ug	ug	ug

COMPOUND

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

UJ

DILUTION FACTOR:	1	1	1	1	1	1
REMARKS:					FIELD DUP	

A.3-42

CLIENT: METCALF & EDDY
SITE: WALLEPS ISLAND
CONTROL NO.: 8216, 8224 BATCH NO.: 2

TRAFFIC REPORT NUMBER:	WFF7/N175-WIPE2	WFF7/N175-WIPE3	WFF7/N175-WIPE4	WFF7/N175-WIPE5	WFF7/F18-WIPE1	WFF7/F18-WIPE2
MATRIX:	WIPE	WIPE	WIPE	WIPE	WIPE	WIPE
UNIT:	ug	ug	ug	ug	ug	ug

COMPOUND

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

34.0

DILUTION FACTOR:	1	1	1	1	1	1
REMARKS:				EQUIPMENT BLANK		

A-3.43

Pesticide/PCB Analysis

(SOW:OLM01.8)

CLIENT: Metcalf & Eddy
 SITE: WALLOPS ISLAND
 CASE NO.: 8230, 8233

BATCH NO.: 29, 30

CLIENT SAMPLE ID:	WFF14-SW2	WFF14-SW3	WFF14-SW4	WFF14-SW5	WFF6-SS1	WFF12-SS1
MATRIX:	WATER	WATER	WATER	WATER	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/KG	UG/KG
% MOISTURE:	NA	NA	NA	NA	16	10

COMPOUND

alpha-BHC	UL	UL	UJ	UJ	UJ	UJ
beta-BHC	UL	UL	UJ	UJ	UJ	UJ
delta-BHC	UL	UL	UJ	UJ	UJ	UJ
gamma-BHC(Lindane)	UL	UL	UJ	UJ	UJ	UJ
Heptachlor	UL	UL	UJ	UJ	UJ	UJ
Aldrin	UL	UL	UJ	UJ	UJ	UJ
Heptachlor Epoxide	UL	UL	UJ	UJ	UJ	UJ
Endosulfan I	UL	UL	UJ	UJ	UJ	UJ
Dieldrin	UL	UL	UJ	UJ	UJ	UJ
4,4'-DDE	1.10 L	UL	UJ	UJ	77.0 J	240.0 J
Endrin	UL	UL	UJ	UJ	8.9 J	UJ
Endosulfan II	UL	UL	UJ	UJ	UJ	UJ
4,4'-DDD	0.12 L	UL	UJ	UJ	110.0 J	12.0 J
Endosulfan Sulfate	UL	UL	UJ	UJ	UJ	UJ
4,4'-DDT	2.10 L	UL	UJ	UJ	150.0 J	120.0 J
Methoxychlor	UL	UL	UJ	UJ	UJ	UJ
Endrin Ketone	UL	UL	UJ	UJ	UJ	UJ
Endrin Aldehyde	UL	UL	UJ	UJ	67.0 J	UJ
alpha-Chlordane	0.24 L	UL	UJ	UJ	UJ	UJ
gamma-Chlordane	0.35 L	UL	UJ	UJ	4.9 J	UJ
Toxaphene	UL	UL	UJ	UJ	UJ	380.0 J
Aroclor-10	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1221	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1232	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1242	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1248	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1254	UL	UL	UJ	UJ	UJ	UJ
Aroclor-1260	UL	UL	UJ	UJ	710.0 J	UJ

REMARK:

FIELD BLANK

EQUIPMENT BLANK

A-3.47

Endosulfan II	UJ	UJ	UJ	UJ	UJ
Dieldrin	UJ	UJ	UJ	UJ	UJ
4,4'-DDE	180.0 J	330.0 J	110.0 J	69.0 J	190.0 J
Endrin	UJ	UJ	UJ	UJ	UJ
Endosulfan II	UJ	UJ	UJ	UJ	UJ
4,4'-DDD	17.0 J	24.0 J	120.0 J	UJ	19.0 J
Endosulfan Sulfate	UJ	UJ	UJ	UJ	8.8 J
4,4'-DDT	250.0 J	390.0 J	60.0 J	26.0 J	350.0 J
Methoxychlor	UJ	UJ	UJ	UJ	UJ
Endrin Ketone	UJ	UJ	UJ	UJ	UJ
Endrin Aldehyde	UJ	11.0 J	30.0 J	UJ	UJ
alpha-Chlordane	UJ	UJ	UJ	UJ	UJ
gamma-Chlordane	UJ	14.0 J	UJ	UJ	7.9 J
Toxaphene	UJ	UJ	UJ	UJ	UJ
Aroclor-10	UJ	UJ	UJ	UJ	UJ
Aroclor-1221	UJ	UJ	UJ	UJ	UJ
Aroclor-1232	UJ	UJ	UJ	UJ	UJ
Aroclor-1242	UJ	UJ	UJ	UJ	UJ
Aroclor-1248	UJ	UJ	UJ	UJ	UJ
Aroclor-1254	330.0 J	550.0 J	390.0 J	580.0 J	760.0 J
Aroclor-1260	UJ	UJ	UJ	UJ	UJ

REMARK:

CLIENT: Metcalf & Eddy
SITE: WALLEPS ISLAND
CASE NO.: 8419 BATCH NO.:33

CLIENT SAMPLE ID:	WFF15-SW1	WFF15-SW2	WFF15-SB5V	WFF15-SB6V	WFF15-SB7V	WFF15-SB8
MATRIX:	WATER	WATER	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	1	1	1	1	1	1
UNITS:	UG/L	UG/L	UG/KG	UG/KG	UG/KG	UG/KG
% MOISTURE:	NA	NA	6	7	9	6

COMPOUND

alpha-BHC	R
beta-BHC	R
delta-BHC	R
gamma-BHC(Lindane)	R
Heptachlor	R
Aldrin	R
Heptachlor Epoxide	R
Endosulfan I	R
Dieldrin	R
4,4'-DDE	R
Endrin	R
Endosulfan II	R
4,4'-DDD	R
Endosulfan Sulfate	R
4,4'-DDT	R
Methoxychlor	R
Endrin Ketone	R
Endrin Aldehyde	R
alpha-Chlordane	R
gamma-Chlordane	R
Toxaphene	R
Aroclor-10	R
Aroclor-1221	R
Aroclor-1232	R
Aroclor-1242	R
Aroclor-1248	R
Aroclor-1254	R
Aroclor-1260	R

A-3.50

REMARK:

EQUIP BLANK

FIELD BLANK

PCB Wipe Analysis
Total ug
SW 846, METHOD 8080

CLIENT: METCALF & EDDY
SITE: WALLEPS ISLAND
CONTROL NO.: 7966

BATCH NO.: 12

TRAFFIC REPORT NUMBER:	WFF11/M3M4-WIPE4	WFF11/M3M4-WIPE8	WFF11/M3M4-WIPE10
MATRIX:	WIPE	WIPE	WIPE
UNITS:	UG	UG	UG

COMPOUND

Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

=====

DILUTION FACTOR:

1

1

1

Pesticide/PCB Analysis

Client Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample:	760792	760796
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Extraction Date:	09/29/95	10/04/95
Analysis Date:	10/03/95	10/05/95
Remarks:		Duplicate of WFF4-SB6
Units of Measure:	UG/KG	UG/KG

Compound Description

Alpha-BHC	< 1.9	< 1.9		
Beta-BHC	< 1.9	< 1.9		
Delta-BHC	< 1.9	< 1.9		
Gamma-BHC (Lindane)	< 1.9	< 1.9		
Heptachlor	< 1.9	< 1.9		
Aldrin	< 1.9	< 1.9		
Heptachlor epoxide	< 1.9	< 1.9		
Endosulfan I	< 1.9	< 1.9		
Dieldrin	0.14	J	< 3.7	
4,4'-DDE	< 3.6		0.10	J
Endrin	0.52		0.26	J
Endosulfan II	0.076	J	0.15	J
4,4'-DDD	0.24	B	0.35	B
Endosulfan sulfate	< 3.6		< 3.7	
4,4'-DDT	2.4		3.3	J
p,p'-Methoxychlor	0.99	B	< 19	
Endrin ketone	< 3.6		< 3.7	
Endrin aldehyde	< 3.6		< 3.7	
Alpha-chlordane	0.047	J	< 1.9	
Gamma-chlordane	0.39	J	0.17	
Toxaphene	< 190		< 190	
PCB-1016	< 36		< 37	
PCB-1221	< 74		< 75	
PCB-1232	< 36		< 37	
PCB-1242	< 36		< 37	
PCB-1248	< 36		< 37	
PCB-1254	< 36		< 37	
PCB-1260	< 36		< 37	

A-3.52

Client Sample ID: WFF5-SB5
 Lab Sample: 760818
 Matrix: SOIL
 Collection Date: 09/27/95
 Receipt Date: 09/28/95
 Extraction Date: 09/29/95
 Analysis Date: 10/04/95
 Remarks:

Units of Measure: UG/KG

Compound Description

Alpha-BHC	< 2.5	
Beta-BHC	< 2.5	
Delta-BHC	< 2.5	
Gamma-BHC (Lindane)	0.38	J
Heptachlor	< 2.5	
Aldrin	< 2.5	
Heptachlor epoxide	< 2.5	
Endosulfan I	< 2.5	
Dieldrin	< 4.9	
4,4'-DDE	1.2	J
Endrin	< 4.9	
Endosulfan II	< 4.9	
4,4'-DDD	0.90	J
Endosulfan sulfate	< 4.9	
4,4'-DDT	0.24	B
p,p'-Methoxychlor	0.24	B
Endrin ketone	< 4.9	
Endrin aldehyde	0.16	J
Alpha-chlordane	< 2.5	
Gamma-chlordane	< 2.5	
Toxaphene	< 250	
PCB-1016	< 49	
PCB-1221	< 99	
PCB-1232	< 49	
PCB-1242	< 49	
PCB-1248	< 49	
PCB-1254	< 49	
PCB-1260	5.0	J

Pesticide/PCB Analysis

Client Sample:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample:	760093	760137	760702	760743	760822	760829	760721	760735	760768	760783
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/28/95	09/27/95	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Extraction Date:	10/05/95	09/29/95	10/05/95	09/29/95	09/29/95	09/29/95	10/05/95	10/05/95	09/29/95	09/29/95
Analysis Date:	10/02/95	10/03/95	10/06/95	10/03/95	10/04/95	10/04/95	10/03/95	10/03/95	10/03/95	10/03/95

Remarks:

Duplicate of
WFF5-SW3

Duplicate of
WFF5-SD3

Equipment
Blank (Soils)

Field
Blank

Equipment
Blank (SW)

Equipment
Blank (SD)

Compound Description	Units of Measure:	UG/L	UG/KG	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
Alpha-BHC		< 0.050 UJ	< 3.8	< 0.050 R	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Beta-BHC		< 0.050 UJ	< 3.8	< 0.050 R	< 0.050 R	0.55	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Delta-BHC		< 0.050 UJ	< 3.8	< 0.050 R	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Gamma-BHC (Lindane)		< 0.050 UJ	0.74 J	1.600 J	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Heptachlor		< 0.050 UJ	0.21 B	0.030 J	< 0.050 R	0.081 B	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Aldrin		< 0.050 UJ	< 3.8	< 0.050 R	< 0.050 R	0.21 J	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Heptachlor epoxide		< 0.050 UJ	0.24	< 0.050 R	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Endosulfan I		0.014 J	< 3.8	< 0.050 R	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Dieldrin		0.018 J	< 7.4	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDE		0.11 B	< 7.4	< 0.10 R	0.06 B	1.1 J	0.12	< 0.10	< 0.10	0.049 J	0.039 J
Endrin		< 0.10 UJ	< 7.4	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan II		0.015 J	0.76 J	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDD		0.068 J	3.9	< 0.10 R	< 0.10 R	0.17 B	0.21 B	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan sulfate		< 0.10 UJ	< 7.4	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDT		0.045 J	0.65 J	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
p,p'-Methoxychlor		< 0.50 UJ	21	< 0.50 R	< 0.50 R	0.73 B	0.11 B	< 0.50	< 0.50	< 0.50	< 0.50
Endrin ketone		0.89 J	< 7.4	0.21 J	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
Endrin aldehyde		0.043 J	< 7.4	< 0.10 R	< 0.10 R	< 4.9	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10
Alpha-chlordane		< 0.050 UJ	< 3.8	< 0.050 R	< 0.050 R	0.42 J	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Gamma-chlordane		< 0.050 UJ	1.4 J	< 0.050 R	< 0.050 R	< 2.5	< 2.1	< 0.050	< 0.050	< 0.050	< 0.050
Toxaphene		< 5.0 UJ	< 380	< 5.0 R	< 5.0 R	< 250	< 210	< 5.0	< 5.0	< 5.0	< 5.0
PCB-1016		< 1.0 UJ	< 74	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1221		< 2.0 UJ	< 150	< 2.0 R	< 2.0 R	< 100.0	< 83	< 2.0	< 2.0	< 2.0	< 2.0
PCB-1232		< 1.0 UJ	< 74	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1242		< 1.0 UJ	< 74	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1248		< 1.0 UJ	< 74	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1254		< 1.0 UJ	< 74	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1260		0.57 J	0.52	< 1.0 R	< 1.0 R	< 49	< 41	< 1.0	< 1.0	< 1.0	< 1.0

A-3.54

Pesticide/PCB Analysis

Client Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample:	760112	760124	760158	760171	760116	760162	760120	760167
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/28/95	09/28/95	09/26/95	09/26/95	09/28/95	09/26/95	09/28/95	09/26/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Extraction Date:	10/05/95	10/05/95	09/29/95	09/29/95	10/05/95	09/29/95	10/05/95	09/29/95
Analysis Date:	10/03/95	10/02/95	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9				

Units of Measure:	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/KG	UG/L	UG/KG
-------------------	------	------	-------	-------	------	-------	------	-------

Compound Description	UG/L	UG/L	UG/KG	UG/KG	UG/L	UG/KG	UG/L	UG/KG	UL
Alpha-BHC	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 2.0	< 0.050	< 2.1	UL
Beta-BHC	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 2.0	< 0.050	< 2.1	UL
Delta-BHC	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 2.0	< 0.050	< 2.1	UL
Gamma-BHC (Lindane)	< 0.050	< 0.050	< 2.0	0.97 J	< 0.050	0.10 J	< 0.050	< 2.1	UL
Heptachlor	< 0.050	< 0.050	< 2.0	0.60 J	< 0.050	< 2.0	< 0.050	0.23	B
Aldrin	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 2.0	< 0.050	< 2.1	UL
Heptachlor epoxide	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	0.052 J	< 0.050	< 2.1	UL
Endosulfan I	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 2.0	< 0.050	< 2.1	UL
Dieldrin	0.96 J	< 0.10	0.44 J	0.10 J	< 0.10	< 3.9	0.005 J	< 4.1	UL
4,4'-DDE	0.010 B	0.010 B	7.5	4.6 J	< 0.10	0.35	< 0.023	7.3	L
Endrin	< 0.10	< 0.10	< 3.9	< 3.9	< 0.10	< 3.9	< 0.10	< 4.1	UL
Endosulfan II	< 0.10	< 0.10	< 3.9	0.23	< 0.10	< 3.9	< 0.10	< 4.1	UL
4,4'-DDD	0.015 J	0.016 J	28 J	8.5 J	< 0.10	0.17 B	0.071	21	L
Endosulfan sulfate	< 0.10	< 0.10	< 3.9	< 3.9	< 0.10	< 3.9	< 0.10	< 4.1	UL
4,4'-DDT	0.050	0.044	27 J	18 J	< 0.10	0.12 B	0.023	9.8	L
p,p'-Methoxychlor	< 0.50	< 0.50	1.3 B	< 2.0	< 0.50	1.1 B	< 0.50	1.1	B
Endrin ketone	< 0.10	< 0.10	0.074	< 3.9	< 0.10	< 3.9	< 0.10	0.42	J
Endrin aldehyde	< 0.10	< 0.10	0.13 J	0.23 J	< 0.10	< 3.9	< 0.10	0.32	J
Alpha-chlordane	< 0.050	< 0.050	0.20 J	< 2.0	< 0.050	< 2.0	< 0.050	0.21	J
Gamma-chlordane	< 0.050	< 0.050	1.2 J	0.98 J	< 0.050	< 2.0	< 0.050	0.60	L
Toxaphene	< 5.0	< 5.0	< 200.0	< 200.0	< 5.0	< 200.0	< 5.0	< 210	UL
PCB-1016	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL
PCB-1221	< 2.0	< 2.0	< 80.0	< 79	< 2.0	< 79	< 2.0	< 82	UL
PCB-1232	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL
PCB-1242	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL
PCB-1248	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL
PCB-1254	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL
PCB-1260	< 1.0	< 1.0	< 39	< 39	< 1.0	< 39	< 1.0	< 41	UL

A-3.55

Pesticide/PCB Analysis

Client Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample:	761340	760129	760133
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Extraction Date:	10/03/95	10/05/95	10/05/95
Analysis Date:	10/04/95	10/03/95	10/03/95
Remarks:	Field Blank	Equipment Blank (SW)	Equipment Blank (SD)
Units of Measure:	UG/L	UG/L	UG/L

Compound Description	WFF9-SW18	WFF9-SW19	WFF9-SW20
Alpha-BHC	< 0.050	< 0.050	< 0.050
Beta-BHC	< 0.050	< 0.050	< 0.050
Delta-BHC	< 0.050	< 0.050	< 0.050
Gamma-BHC (Lindane)	< 0.050	0.025 J	< 0.050
Heptachlor	< 0.050	< 0.050	< 0.050
Aldrin	< 0.050	< 0.050	< 0.050
Heptachlor epoxide	< 0.050	< 0.050	< 0.050
Endosulfan I	< 0.050	< 0.050	< 0.050
Dieldrin	< 0.10	< 0.10	< 0.10
4,4'-DDE	< 0.10	< 0.10	< 0.10
Endrin	< 0.10	< 0.10	< 0.10
Endosulfan II	< 0.10	< 0.10	< 0.10
4,4'-DDD	< 0.10	< 0.10	< 0.10
Endosulfan sulfate	< 0.10	< 0.10	< 0.10
4,4'-DDT	< 0.10	< 0.10	< 0.10
p,p'-Methoxychlor	< 0.50	< 0.50	< 0.50
Endrin ketone	< 0.10	< 0.10	< 0.10
Endrin aldehyde	< 0.10	< 0.10	< 0.10
Alpha-chlordane	< 0.050	< 0.050	< 0.050
Gamma-chlordane	< 0.050	< 0.050	< 0.050
Toxaphene	< 5.0	< 5.0	< 5.0
PCB-1016	< 1.0	< 1.0	< 1.0
PCB-1221	< 2.0	< 2.0	< 2.0
PCB-1232	< 1.0	< 1.0	< 1.0
PCB-1242	< 1.0	< 1.0	< 1.0
PCB-1248	< 1.0	< 1.0	< 1.0
PCB-1254	< 1.0	< 1.0	< 1.0
PCB-1260	< 1.0	< 1.0	< 1.0

A-3.56

Pesticide Analysis

Client Sample:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample:	761303	761311	761348	761353	761327
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/04/95	10/04/95	10/05/95
Remarks:		Duplicate of WFF9-GW1			Equipment Blank (GW)
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Compound Description					
Alpha-BHC	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Beta-BHC	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Delta-BHC	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Gamma-BHC (Lindane)	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Heptachlor	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Aldrin	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Heptachlor epoxide	0.027 J	< 0.050	< 0.050	< 0.050	< 0.050
Endosulfan I	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Dieldrin	0.01 J	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDE	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
Endrin	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan II	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDD	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
Endosulfan sulfate	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
4,4'-DDT	0.026 J	< 0.10	< 0.10	< 0.10	< 0.10
p,p'-Methoxychlor	< 0.50 UJ	< 0.50	< 0.50	< 0.50	< 0.50
Endrin ketone	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
Endrin aldehyde	< 0.10 UJ	< 0.10	< 0.10	< 0.10	< 0.10
Alpha-chlordane	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Gamma-chlordane	< 0.050 UJ	< 0.050	< 0.050	< 0.050	< 0.050
Toxaphene	< 5.0 UJ	< 5.0	< 5.0	< 5.0	< 5.0
PCB-1016	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1221	< 2.0 UJ	< 2.0	< 2.0	< 2.0	< 2.0
PCB-1232	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1242	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1248	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1254	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0
PCB-1260	< 1.0 UJ	< 1.0	< 1.0	< 1.0	< 1.0

A-3-57

Pesticide/PCB Analysis

Client Sample:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample:	761280	761284	761276	761344	761296
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/05/95	10/05/95	10/05/95	10/04/95	10/05/95

Remarks:

Field
Blank

Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Compound Description						
Alpha-BHC	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Beta-BHC	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Delta-BHC	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Gamma-BHC (Lindane)	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Heptachlor	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Aldrin	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Heptachlor epoxide	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Endosulfan I	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Dieldrin	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
4,4'-DDE	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
Endrin	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
Endosulfan II	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
4,4'-DDD	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
Endosulfan sulfate	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
4,4'-DDT	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
p,p'-Methoxychlor	< 0.50	< 0.50 UJ	< 0.50	< 0.50	< 0.50	UJ
Endrin ketone	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
Endrin aldehyde	< 0.10	< 0.10 UJ	< 0.10	< 0.10	< 0.10	UJ
Alpha-chlordane	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Gamma-chlordane	< 0.050	< 0.050 UJ	< 0.050	< 0.050	< 0.050	UJ
Toxaphene	< 5.0	< 5.0 UJ	< 5.0	< 5.0	< 5.0	UJ
PCB-1016	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ
PCB-1221	< 2.0	< 2.0 UJ	< 2.0	< 2.0	< 2.0	UJ
PCB-1232	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ
PCB-1242	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ
PCB-1248	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ
PCB-1254	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ
PCB-1260	< 1.0	< 1.0 UJ	< 1.0	< 1.0	< 1.0	UJ

A-3.58

APPENDIX A-4

PETROLEUM HYDROCARBON RESULTS

GC Volatile Analysis
 BTEX and Gasoline
 (Method 602/8020 and Calif. LUFT)

CLIENT: Metcalf & Eddy
 SITE: Wallope Island
 BATCH NO.: 1, 2 CONTROL NO.: 7874, 7880

CLIENT SAMPLE ID:	WFF6SB3	WFF6SB4	WFF6SB5	WFF6SB6	WFF6SB7	WFF6SB8
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	100	100	500	500	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB	PPB
X SOLID:	NA	NA	NA	NA	NA	NA
COMPOUND						
Benzene	0.72 J	UJ	49 J	10 J		
Toluene	15 J	44 J	960 J	120 J		
Ethylbenzene	160 J	74 J	4200 J	2400 J	1.8	4.5
Total Xylene	920 J	170 J	13000 J	4700 J		13
Gasoline	3800 J	UJ	7000 J	1200 J		

CLIENT SAMPLE ID:	WFF8SB7	WFF8SB8	WFF8SB1	WFF8SB2	WFF8SB3	WFF8SB4
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:	100	100	1	1	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB	PPB
X SOLID:	NA	NA	NA	NA	NA	NA
COMPOUND						
Benzene	6.9 J	UJ				
Toluene	210 J	UJ	3.7	2.4	1.8	
Ethylbenzene	1100 J	UJ		20	6.8	
Total Xylene	5200 J	14 J		5.9	7.9	
Gasoline	5200 J	UJ				

A-4.1

GC Volatile Analysis
 BTEX and Gasoline
 (Method 602/8020 and Calif. LUFT)

CLIENT: Metcalf & Eddy
 SITE: Wallops Island
 BATCH NO.: 1, 2 CONTROL NO.: 7874, 7880

CLIENT SAMPLE ID:	WFF8SB5	WFF6SB9	WFF6SB10	WFF16SW21	WFF8SW1
MATRIX:	SOIL	SOIL	SOIL	WATER	WATER
DILUTION FACTOR:	1	1	10	1	1
UNITS:	PPB	PPB	PPB	PPB	PPB
% SOLID:	NA	NA	NA	NA	NA

COMPOUND

Benzene					UJ
Toluene					UJ
Ethylbenzene					UJ
Total Xylene		UJ		11 J	
Gasoline					UJ

CLIENT SAMPLE ID:	WFF6SW1	WFF16SW20
MATRIX:	WATER	WATER
DILUTION FACTOR:	1	1
UNITS:	PPB	PPB
% SOLID:	NA	NA

COMPOUND

Benzene
Toluene
Ethylbenzene
Total Xylene
Gasoline

2-4-82



Control No.: 7882

**DATA SUMMARY
GASOLINE (TPH) PURGEABLE (VOLATILE)**

SAMPLE ID	RESULT	QC
WFF9SB1	ND	UJ
WFF9SB2	ND	UJ
WFF9SB3	ND	UJ
WFF9SB4	ND	UJ
WFF9SB5	ND	UJ
WFF9SB6	ND	UJ
WFF9DC1	ND	UJ

The chromatogram was clean and there was not any evidence of the target compound. However since the surrogate recovery was not reported and matrix spike/spike duplicate analysis were not performed the accuracy and precision of the data are questionable.



Control No.: 7888

DATA SUMMARY
"TPH"
GASOLINE

SAMPLE ID	RESULT	QC*
WFF10SW1	ND	
WFF10SW2	ND	
WFF9SW13	ND	
WFF10SB1	ND	
WFF10SB2	ND	
WFF10SB3	ND	
WFF10SB4	ND	
WFF10SB5	ND	
WFF10SB6	ND	

* QC = qualifier code

The samples were analyzed under an acceptable calibration and the data are considered acceptable.



Control No.: 7892

**DATA SUMMARY
GASOLINE (TPH) PURGEABLE (VOLATILE)**

SAMPLE ID	RESULT	QC*
WFF4SW7	ND	
WFF4SB1	ND	
WFF4SB2	ND	
WFF4SB3	ND	
WFF4SB4	ND	
WFF4SB5	ND	

* QC = qualifier code

Data could be accepted without the qualifier codes.

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 7940, 7945

BATCH #: 8, 9

CLIENT SAMPLE ID:	WFF14-SW1	WFF5-SB4	WFF14-SB1	WFF14-SB14
DILUTION FACTOR:	1	1	1	1
MATRIX:	WATER	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

A-4.6

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 7978, 7985

BATCH #: 13,14

CLIENT SAMPLE ID:	WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB11	WFF14-SB12	WFF14-SB13
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	WATER	WATER	WATER	WATER	WATER	WATER
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

A-4.7

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 7978, 7985

BATCH NO.: 13,14

CLIENT SAMPLE ID:	WFF14-SB5	WFF14-SB6	WFF14-SB7	WFF14-SB9
DILUTION FACTOR:	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 7996

BATCH #:15

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF14-SB8
1
SOIL
PPM

WFF14-SB10
1
SOIL
PPM

WFF15-SB1
1
SOIL
PPM

WFF15-SB2
1
SOIL
PPM

WFF15-SB3
1
SOIL
PPM

ANALYTES

Gasoline

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 7996

BATCH #:15

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF15-SB4
1
SOIL
PPM

WFF15-SB11
1
SOIL
PPM

ANALYTES

Gasoline

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8005,8011 BATCH #: 17,18

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF15-SB5
1
SOIL
PPM

WFF15-SB6
1
SOIL
PPM

WFF15-SB7
1
SOIL
PPM

WFF15-SB8
1
SOIL
PPM

WFF15-SB9
1
SOIL
PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8005,8011 BATCH #: 17,18

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF6-SB2
1
SOIL
PPM

WFF8-SB6
1
SOIL
PPM

WFF2-SB1
1
SOIL
PPM

WFF2-SB2
1
SOIL
PPM

WFF2-SB3
1
SOIL
PPM

ANALYTES

Gasoline

A-4.10

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8005,8011 BATCH #: 17,18

CLIENT SAMPLE ID:	WFF15-SB10	WFF6-SB1
DILUTION FACTOR:	1	1
MATRIX:	SOIL	SOIL
UNITS:	PPM	PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8005,8011 BATCH #: 17,18

CLIENT SAMPLE ID:	WFF2-SB4	WFF2-SB11
DILUTION FACTOR:	1	1
MATRIX:	SOIL	SOIL
UNITS:	PPM	PPM

ANALYTES

Gasoline

A-4.11

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8017, 8023 BATCH #: 19, 20

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF2-SW1
1
WATER
PPM

WFF2-SW2
1
WATER
PPM

WFF2-SB5
1
SOIL
PPM

WFF2-SB6
1
SOIL
PPM

WFF2-SB7
1
SOIL
PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
PROJECT NO.: 8017, 8023 BATCH #: 19, 20

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF2-SB10
1
SOIL
PPM

WFF2-SS1
1
SOIL
PPM

WFF2-SS2
1
SOIL
PPM

WFF2-SS3
1
SOIL
PPM

WFF2-SS4
1
SOIL
PPM

ANALYTES

Gasoline

A-4.12

Gasoline Analysis
Soil

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8017, 8023 BATCH #: 19, 20

CLIENT SAMPLE ID:	WFF2-SB8	WFF2-SB9
DILUTION FACTOR:	1	1
MATRIX:	SOIL	SOIL
UNITS:	PPM	PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
PROJECT NO.: 8017, 8023 BATCH #: 19, 20

CLIENT SAMPLE ID:	WFF2-SS5	WFF2-SS6
DILUTION FACTOR:	1	1
MATRIX:	SOIL	SOIL
UNITS:	PPM	PPM

ANALYTES

Gasoline

A-4.13

Gasoline Analysis
Soil/Water

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CASE NO.: 8038

BATCH #: 22

CLIENT SAMPLE ID:	WFF9-SW1	WFF9-SW11	WFF10-SS2	WFF10-SS6	WFF10-SS1
DILUTION FACTOR:	1	1	1	1	1
MATRIX:	WATER	WATER	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CASE NO.: 8038

BATCH NO.: 22

CLIENT SAMPLE ID:	WFF10-SS3	WFF10-SS4	WFF10-SS5	WFF9-SD1	WFF9-SD11
DILUTION FACTOR:	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

Gasoline Analysis
Soil/Water

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8041

BATCH #: 23

CLIENT SAMPLE ID:	WFF9-SW2	WFF9-SW3	WFF9-SW4	WFF9-SW5	WFF9-SW6	WFF9-SW7
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	WATER	WATER	WATER	WATER	WATER	WATER
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

CLIENT: Metcalf & Eddy
Site ID: Wallops Island
CONTROL NO.: 8041

BATCH NO.: 23

CLIENT SAMPLE ID:	WFF9-SD2	WFF9-SD3	WFF9-SD4	WFF9-SD5	WFF9-SD6	WFF9-SD7
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline

A-4.15

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLEPS ISLAND
CONTROL NO.: 8230, 8233

BATCH #: 29, 30

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF14-SW2
1
LEACHATE
PPM

WFF14-SW3
1
LEACHATE
PPM

WFF14-SW4
1
WATER
PPM

WFF14-SW5
1
WATER
PPM

WFF6-S81
1
SOIL
PPM

WFF5-S84
1
SOIL
PPM

ANALYTES

Gasoline:

Remarks:

FIELD BLK

FIELD BLK

Date Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8230, 8233

BATCH #: 29, 30

CLIENT SAMPLE ID:	WFF12-SS1	WFF12-SS2	WFF12-SS3	WFF12-SD1	WFF12-SD2	WFF14-SD2	WFF14-SD3
DILUTION FACTOR:	1	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Gasoline:

Remarks:

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8230, 8233

BATCH #: 29, 30

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF14-S04
1
SOIL
PPM

WFF14-S05
1
SOIL
PPM

ANALYTES

Gasoline:

Remarks:

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8242 BATCH NO.: 31

CLIENT SAMPLE ID:	WFF15-SB5	WFF15-SB6	WFF15-SB7	WFF15-SB8
DILUTION FACTOR:	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM

COMPOUND

Gasoline:

Diesel Fuel Analysis
Soil

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 7874

BATCH #: 1

CLIENT SAMPLE ID:	WFF6-SB3	WFF6-SB4	WFF6-SB5	WFF6-SB6	WFF6-SB7	WFF6-SB8
DILUTION FACTOR:	100	10	1	100	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM
ANALYTES						
Diesel:	5600 J	780 J	46 J	5600 J	UJ	220 J

Diesel Fuel Analysis
Soil

CLIENT: MEYCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.:

7880 BATCH #: 2

CLIENT SAMPLE ID:	WFF8-SW1	WFF6-SW1	WFF8-SB7	WFF8-SB8	WFF8-SB1	WFF8-SB2	WFF8-SB3
DILUTION FACTOR:	1	1	1	1	1	1	1
MATRIX:	WATER	WATER	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel			32				570
Gasoline			880 J				

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.:

7880 BATCH #: 2

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFFB-SB4
1
SOIL
PPM

WFFB-SB5
1
SOIL
PPM

WFF6-SB9
1
SOIL
PPM

WFF6-SB10
1
SOIL
PPM

ANALYTES

Diesel
Gasoline

210

130

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 7882, 7888, 7892 BATCH #: 3, 4, 5

CLIENT SAMPLE ID:	WFF9-DC10L	WFF10-SB1	WFF10-SB2	WFF10-SB3	WFF10-SB4	WFF9-SB1
DILUTION FACTOR:	100	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel: UJ

A-4.23

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 7882, 7888, 7892 BATCH #: 3, 4, 5

CLIENT SAMPLE ID:	WFF4-SB2	WFF4-SB3	WFF4-SB4	WFF4-SB5	WFF4-SW7	WFF10-SB5
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel: 40.17 1.59

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 7882, 7888, 7892 BATCH #: 3, 4, 5

	CLIENT SAMPLE ID:	WFF9-SB2	WFF9-SB3	WFF9-SB4	WFF9-SB5	WFF9-SB6
	DILUTION FACTOR:	1	1	1	1	1
	MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
	UNITS:	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel:

A-4.24

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 7882, 7888, 7892 BATCH #: 3, 4, 5

	CLIENT SAMPLE ID:	WFF10-SB6	WFF10-SW1	WFF10-SW2	WFF9-SW13	WFF4-SB1
	DILUTION FACTOR:	1	1	1	1	1
	MATRIX:	SOIL	WATER	WATER	WATER	SOIL
	UNITS:	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel:

38.18

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
Control No.: 7940, 7945

BATCH NO.: 8, 9

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF5-SB4
1
SOIL
PPM

WFF14-SW1
1
WATER
PPM

WFF14-SB1
1
SOIL
PPM

WFF14-SB14
1
SOIL
PPM

ANALYTES

Diesel Fuel:

Diesel Fuel Analysis
Soil

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 7978, 7985, 7996 BATCH #: 13,14,15

CLIENT SAMPLE ID:	WFF14-SB2	WFF14-SB3	WFF14-SB4	WFF14-SB11	WFF14-SB12	WFF14-SB13	WFF14-SB5
DILUTION FACTOR:	1	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 7978, 7985, 7996 BATCH #: 13,14,15

CLIENT SAMPLE ID:	WFF14-SB6	WFF14-SB7	WFF14-SB8	WFF14-SB9	WFF14-SB10	WFF15-SB1	WFF15-SB2
DILUTION FACTOR:	1	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 7978, 7985, 7996 BATCH #: 13,14,15

CLIENT SAMPLE ID:	WFF15-SB3	WFF15-SB4	WFF15-SB11
DILUTION FACTOR:	1	1	1
MATRIX:	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM

ANALYTES

Diesel

Diesel Fuel Analysis
Soil

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8005, 8011 BATCH #: 17,18

CLIENT SAMPLE ID:	WFF15-SB5	WFF15-SB6	WFF15-SB7	WFF15-SB8	WFF15-SB9	WFF15-SB10
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel Fuel

Diesel Fuel Analysis
Soil

CLIENT: MEYCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8005, 8011 BATCH #: 17,18

	WFF6-SB1	WFF6-SB2	WFF8-SB6	WFF2-SB1	WFF2-SB11	WFF2-SB2	WFF2-SB3
CLIENT SAMPLE ID:	1	1	1	1	1	1	1
DILUTION FACTOR:							
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM
ANALYTES							
Diesel Fuel	UJ	UL					

Diesel Fuel Analysis
Soil

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8005, 8011 BATCH #: 17,18

CLIENT SAMPLE ID: WFF2-SB4
DILUTION FACTOR: 1
MATRIX: SOIL
UNITS: PPM

ANALYTES

Diesel Fuel

A-4.31

Diesel Fuel Analysis
Soil/Water

.....
.....

.....

A-4.33

WFF2-SW1
WATER 1
PPM

WFF2-SW2
WATER 1
PPM

.....
.....

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: IRON HORSE PARK
CASE NO.: 8038

BATCH NO.2

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF10-SS1
100
SOIL
PPM

WFF10-SS2
10
SOIL
PPM

WFF10-SS3
10
SOIL
PPM

WFF10-SS4
100
SOIL
PPM

WFF10-SS5
100
SOIL
PPM

ANALYTES

Diesel Fuel

UJ

UJ

UJ

UJ

UJ

A-4.34

CLIENT:
Site ID:
CASE NO.:

SDG NO.: 2

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF10-SS6
10
SOIL
PPM

WFF9-SD1
1
SOIL
PPM

WFF9-SD11
1
SOIL
PPM

WFF9-SW1
1
WATER
PPM

WFF9-SW11
1
WATER
PPM

ANALYTES

Diesel Fuel

UJ

22.84 J

81.95 J

Diesel Fuel Analysis
Soil/Water

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 8041

BATCH #: 23

CLIENT SAMPLE ID:	WFF9-SD2	WFF9-SD3	WFF9-SD4	WFF9-SD5	WFF9-SD6	WFF9-SD7
DILUTION FACTOR:	1	1	1	100	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel UJ UJ

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CASE NO.: 8041

BATCH NO.: 23

CLIENT SAMPLE ID:	WFF9-SW2	WFF9-SW3	WFF9-SW4	WFF9-SW5	WFF9-SW6	WFF9-SW7
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	WATER	WATER	WATER	WATER	WATER	WATER
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM

ANALYTES

Diesel

A-4.35

Data Summary
Petroleum Hydrocarbon
Diesel Fuel

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8230, 8233 BATCH NO.: 29, 30

CLIENT SAMPLE ID:	WFF6-SS1	WFF5-SS4	WFF12-SS1	WFF12-SS2	WFF12-SS3	WFF12-SD1
DILUTION FACTOR:	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM
COMPOUND						

Diesel Fuel	14	36 L				

Remarks:						

Data Summary
Petroleum Hydrocarbon
Diesel Fuel

CLIENT: METCALF & EDDY
Site ID: WALLEPS ISLAND
CONTROL NO.: 8230, 8233 BATCH NO.: 29, 30

CLIENT SAMPLE ID:	WFF12-SD2	WFF14-SD2	WFF14-SD3	WFF14-SD4	WFF14-SD5	WFF14-SW2	WFF14-SW3
DILUTION FACTOR:	1	1	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
UNITS:	PPM	PPM	PPM	PPM	PPM	PPM	PPM

COMPOUND

.....
Diesel Fuel

UL

.....
Remarks:

Data Summary
Petroleum Hydrocarbon
Diesel Fuel

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8230, 8233 BATCH NO.: 29, 30

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF14-SW4
1
WATER
PPM

WFF14-SW5
1
WATER
PPM

COMPOUND

Diesel Fuel

2.37 L

Remarks:

FIELD BLK

FIELD BLK

Data Summary
Petroleum Hydrocarbon
Diesel Fuel

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8242 BATCH NO.: 31

CLIENT SAMPLE ID:	WFF15-SB5	WFF15-SB6	WFF15-SB7	WFF15-SB8
DILUTION FACTOR:	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL
UNITS:	PPM	PPM	PPM	PPM

COMPOUND

Diesel Fuel

30

27

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLOPS ISLAND
CONTROL NO.: 8419, 8411

BATCH #: 32, 33

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF6SB3V
1
SOIL
mg/kg

WFF6SB4V RE
1
SOIL
mg/kg

WFF6SB5V
1
SOIL
mg/kg

WFF6SB6V
1
SOIL
mg/kg

WFF9SB5V RE
1
SOIL
mg/kg

WFF9SB4V
1
SOIL
mg/kg

ANALYTES

Gasoline:

Remarks:

IF THE FIELD IS LEFT BLANK, GASOLINE WAS NOT DETECTED ABOVE 2.5 MG/KG

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLEPS ISLAND
CONTROL NO.: 8419, 8411

BATCH #: 32, 33

CLIENT SAMPLE ID:	WFF9SB3V	WFF9SB2V	WFF9DC1V	WFF9SB1V	WFF9SB6V
DILUTION FACTOR:	1	1	1	1	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

ANALYTES

Gasoline:

Remarks:

IF THE FIELD IS LEFT BLANK, GASOLINE WAS NOT DETECTED ABOVE 2.5 MG/KG

Data Summary
Petroleum Hydrocarbon
Gasoline

CLIENT: METCALF & EDDY
Site ID: WALLEPS ISLAND
CONTROL NO.: 8419, 8411

BATCH #: 32, 33

CLIENT SAMPLE ID:
DILUTION FACTOR:
MATRIX:
UNITS:

WFF15SW1
1
WATER
mg/L

WFF15SW2
1
WATER
mg/L

ANALYTES

Gasoline:

Remarks:

EQUIP BLANK

FIELD BLANK

IF THE FIELD IS LEFT BLANK, GASOLINE WAS NOT DETECTED ABOVE 0.5 MG/L.

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760794	760810
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Analysis Date:	10/07/95	10/07/95
Remarks:		Duplicate of WFF4-SB6

Units of Measure:	MG/KG	MG/KG
-------------------	-------	-------

Compound Description
TPH-Purgeable as Gasoline

0.21	R	0.31	R
------	---	------	---

Gasoline Analysis

Sample ID: WFF5-SB5
Lab Sample ID: 760820
Matrix: SOIL
Collection Date: 09/27/95
Receipt Date: 09/28/95
Analysis Date: 10/07/95
Remarks:

Units of Measure: MG/KG

Compound Description
TPH-Purgeable as Gasoline

0.29 R

A-4,44

Gasoline Analysis

Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760101	760150	760715	760747	760824	760831	760730	760737	760778	760788
Matrix:	WATER	SOIL	WATER	09/27/95	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/28/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	10/06/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Analysis Date:	10/05/95	10/07/95	10/05/95	Duplicate of	10/07/95	10/07/95	10/05/95	10/05/95	10/06/95	10/06/95
Remarks:				WFF5-SW3		Duplicate of	Equipment	Field	Equipment	Equipment
				WATER		WFF3-SD3	Blank	Blank	Blank	Blank
Units of Measure:	MG/L	MG/KG	MGL	MGL	MG/KG	MG/KG	MG/L	MG/L	MG/L	MG/L
Compound Description										
TPH-Purgeable as Gasoline	0.28 R	0.37 R	0.30 R	0.31 R	0.32 R	0.27 R	0.29 R	0.30 R	0.30 R	0.29 R

A-4.45

Gasoline Analysis

Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760114	760126	760160	760173	760118	760164	760122	760169
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Analysis Date:	10/05/95	10/05/95	10/07/95	10/07/95	10/05/95	10/07/95	10/05/95	10/07/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9				
Units of Measure:	MG/L	MG/L	MG/KG	MG/KG	MG/L	MG/KG	MG/L	MG/KG
Compound Description TPH-Purgeable as Gasoline	0.28 R	0.31 R	0.26 R	0.25 R	0.29 R	0.25 R	0.30 R	0.26 R

Gasoline Analysis

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761342	760131	760135
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Analysis Date:	10/06/95	10/05/95	10/05/95
Remarks:	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	MG/L	MG/L	MG/L
Compound Description			
TPH-Purgeable as Gasoline	0.30 R	0.31 R	0.31 R

Gasoline Analysis

Sample ID:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761306	761319	761350	761355	761329
Matrix:	WATER	WATER	09/27/95	09/27/95	WATER
Collection Date:	09/28/95	09/28/95	09/29/95	09/29/95	09/28/95
Receipt Date:	09/29/95	09/29/95	10/06/95	10/06/95	09/29/95
Analysis Date:	10/06/95	10/06/95			10/06/95
Remarks:		Duplicate of			Equipment
	WATER	WFF9-GW1	WATER	WATER	Blank
Units of Measure:	MG/L	MG/L	MG/L	MG/L	MG/L
Compound Description	0.29 R	0.30 R	0.30 R	0.31 R	0.29 R
TPH-Purgeable as Gasoline					

A-4.48

Gasoline Analysis

Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761282	761286	761278	761346	761299
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Analysis Date:	10/06/95	10/06/95	10/06/95	10/06/95	10/06/95
Remarks:				Field Blank	
Units of Measure:	MG/L	MG/L	MG/L	MG/L	MG/L
Compound Description	0.30 R	0.30 R	0.30 R	0.28 R	0.30 R
TPH-Purgeable as Gasoline					

Diesel Fuel Analysis

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760795	760814
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Extraction Date:	09/28/95	10/04/95
Analysis Date:	10/05/95	10/06/95
Remarks:		Duplicate of WFF4-SB6
Units of Measure:	MG/KG	MG/KG
	11 R	10 R

Compound Description
TPH-Extractable as Diesel

A-4.50

Sample ID: WFF5-SB5
Lab Sample ID: 760821
Matrix: SOIL
Collection Date: 09/27/95
Receipt Date: 09/28/95
Extraction Date: 10/04/95
Analysis Date: 10/07/95
Remarks:

Units of Measure: MG/KG

Compound Description
TPH-Extractable as Diesel

< 14

Diesel Fuel Analysis

	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760105	760146	760716	760752	760824	760832	760731	760738	760781	760790
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Extraction Date:	09/29/95	09/28/95	09/30/95	09/30/95	10/04/95	10/04/95	09/30/95	09/30/95	09/30/95	09/30/95
Analysis Date:	10/07/95	10/05/95	10/09/95	10/04/95	10/06/95	10/07/95	10/09/95	10/09/95	10/09/95	10/09/95
Remarks:				Duplicate of WFF5-SW3		Duplicate of WFF5-SD3	Equipment Blank	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	MG/L	MG/KG	MG/L	MG/L	MG/KG	MG/KG	MG/L	MG/L	MG/L	MG/L
Compound Description										
Diesel	0.64 R	38	0.37 R	0.42 R	3.3 R	< 12	< 0.5	< 0.5	< 0.5	< 0.5

A-4.52

Diesel Fuel Analysis

	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760115	760127	760159	760172	760119	760163	760123	760168
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL
Collection Date:	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95	09/25/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Extraction Date:	09/29/95	09/29/95	09/28/95	09/28/95	09/29/95	09/28/95	09/29/95	09/28/95
Analysis Date:	10/07/95	10/07/95	10/05/95	10/05/95	10/07/95	10/05/95	10/07/95	10/05/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9				
Units of Measure:	MG/L	MG/L	MG/KG	MG/KG	MG/L	MG/KG	MG/L	MG/KG
Compound Description TPH-Extractable as Diesel	< 0.5	< 0.5	< 12	< 12	< 0.5	< 12	< 0.5	1.3 R

Diesel Fuel Analysis

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761343	760132	760136
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Extraction Date:	10/03/95	09/29/95	09/29/95
Analysis Date:	10/06/95	10/07/95	10/07/95
Remarks:	Field	Equipment	Equipment
	Blank	Blank	Blank
Units of Measure:	MG/L	MG/L	MG/L

Compound Description
TPH-Extractable as Diesel

< 0.5 < 0.5 < 0.5

Diesel Fuel Analysis

	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Sample ID:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761308	761326	761351	761356	761336
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/27/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/06/95	10/06/95	10/05/95	10/05/95	10/06/95
Remarks:		Duplicate of WFF9-GW1			Equipment Blank
Units of Measure:	MG/L	MG/L	MG/L	MG/L	MG/L
Compound Description	< 0.5	< 0.50	0.023 R	0.05 R	< 0.5
TPH-Extractable as Diesel					

A-4.55

Diesel Fuel Analysis

	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761283	761287	761279	761347	761300
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/06/95	10/06/95	10/06/95	10/06/95	10/06/95
Remarks:				Field Blank	
Units of Measure:	MG/L	MG/L	MG/L	MG/L	MG/L
Compound Description					
TPH-Extractable as Diesel	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

APPENDIX A-5

INORGANIC RESULTS

**DATA SUMMARY
LEAD ANALYSIS**

WESTON
LABORATORY

Client ID: Metcalf & Eddy
Site ID: Wallops Island

Control No.: 7874, 7880

ANALYTE	SAMPLE ID MATRIX UNIT % SOLID	WFF6-SB10 SOIL MG/KG 84.5 QC	WFF6-SB3 SOIL MG/KG 90.6 QC	WFF6-SB4 SOIL MG/KG 87 QC	WFF6-SB5 SOIL MG/KG 88.6 QC	WFF6-SB6 SOIL MG/KG 73.8 QC
LEAD		12.9 J	9.7	6.9	7.9	3.7
ANALYTE	SAMPLE ID MATRIX UNIT % SOLID	WFF6-SB7 SOIL MG/KG 84 QC	WFF6-SB8 SOIL MG/KG 81.5 QC	WFF6-SB9 SOIL MG/KG 84.2 QC	WFF6-SW1 WATER UG/L NA QC	WFF8-SB1 SOIL MG/KG 77.5 QC
LEAD		5.4	20.9	7.5 J	ND	2.6
ANALYTE	SAMPLE ID MATRIX UNIT % SOLID	WFF8-SB2 SOIL MG/KG 91.7 QC	WFF8-SB3 SOIL MG/KG 90.2 QC	WFF8-SB4 SOIL MG/KG 77.5 QC	WFF8-SB5 SOIL MG/KG 84.5 QC	WFF8-SB7 SOIL MG/KG 89.4 QC
LEAD		2.9	31.7	2.7	7.0	13.5
ANALYTE	SAMPLE ID MATRIX UNIT % SOLID	WFF8-SB8 SOIL MG/KG 85.7 QC	WFF8-SW1 WATER UG/L N/A QC			
		8.9	ND			

A-5.1

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CASE NO.: 7882, 7888, 7892 SDG NO.: 2

Inorganic Analysis
 SOIL
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF90C1 SOIL MG/KG 99.3	WFF9SB1 SOIL MG/KG 96.4	WFF9SB2 SOIL MG/KG 96	WFF9SB3 SOIL MG/KG 94.9	WFF9SB4 SOIL MG/KG 96.3
----------------------------------	----------------------------------	--------------------------------	----------------------------------	----------------------------------

ANALYTES		CRDL (UG/L)	WFF90C1	WFF9SB1	WFF9SB2	WFF9SB3	WFF9SB4
Aluminum	P	200	213 J	1540 J	3630 J	3730 J	1100 J
Antimony	P	60					
Arsenic	F	10	4	0.28	0.43	0.33	
Barium	P	200	5	7.7	10.4	12.3	3
Beryllium	P	5					
Cadmium	P	5					
Calcium	P	5,000	1080 J	53.5 BJ	103 J	119 J	80.4 BJ
Chromium	P	10	35.8	2.2	4.3	3.7	1.7
Cobalt	P	50	14.9	0.47	1	0.93	0.41
Copper	P	25	120	0.41	0.81	0.75	
Iron	P	100	111000	933	2100	2350	464
Lead	F	3	16.9	1.7	1.3	2.2	0.57
Magnesium	P	5,000	2860	107	285	304	48.8 B
Manganese	P	15	320	10	18.3	12.8	5.4
Mercury	CV	0.2					
Nickel	P	40	77.2				
Potassium	P	5,000			249 B		
Selenium	F	5		0.22 B		0.22 B	
Silver	P	10					
Sodium	P	5,000	118 B	22 B	36.4 B	39.5 B	33.3 B
Thallium	F	10					
Vanadium	P	50	42.2	1.6	5.3	5.2	0.98
Zinc	P	20	300	1.8 B	4.3 B	4.5 B	0.95 B
Cyanide	AS	10		0.6	0.91	0.77	

A-5.2

SAMPLE RECEIVE DATE:	6-2-93	6-2-93	6-2-93	6-2-93	6-2-93
REMARKS:					

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
CASE NO.: 7882, 7888, 7892 SDG NO.: 2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF9SB5
SOIL
MG/KG
87.7

WFF9SB6
SOIL
MG/KG
93.4

WFF10SB1
SOIL
MG/KG
88.5

WF10SB2
SOIL
MG/KG
90

WF10SB3
SOIL
MG/KG
84.4

ANALYTES		CRDL (UG/L)	WFF9SB5	WFF9SB6	WFF10SB1	WF10SB2	WF10SB3
Aluminum	P	200	4100 J	7520 J	13100 J	8200 J	12000 J
Antimony	P	60					
Arsenic	F	10	0.91	1.1	2.6	2.1	2.3
Barium	P	200	12.6	16	47.5	20	42.8
Beryllium	P	5			0.36		0.31
Cadmium	P	5					
Calcium	P	5,000	144 J	189 J	583 J	397 J	2040 J
Chromium	P	10	3.9	5.7	11.1	7.8	8.9
Cobalt	P	50	0.91	1.2	3.4	1.9	5.4
Copper	P	25		1.6	4.2	2.7	27.8
Iron	P	100	2180	3040	8780	5430	10800
Lead	F	3	2.2	1.7	8.8	3	9.7
Magnesium	P	5,000	257	279	1100	511	1870
Manganese	P	15	17.2	18.4	95.6	40.9	159
Mercury	CV	0.2					
Nickel	P	40		3.4	7.4	6.2	8.5
Potassium	P	5,000			586 B	574 B	629 B
Selenium	F	5	0.24	0.23	0.38		
Silver	P	10					
Sodium	P	5,000	34.6 B	37.8 B	30.5 B	24.6 B	246 B
Thallium	F	10			UL	UL	UL
Vanadium	P	50	5.1	6.2	19.7	12.6	33.4
Zinc	P	20	5.9 B	4.4 B	20.3	11	34.8
Cyanide	AS	10					

=====

SAMPLE RECEIVE DATE:	6-2-93	6-2-93	6-2-93	6-3-93	6-3-93
REMARKS:					

A-5.3

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
CASE NO.: 7882, 7888, 7892 SDG NO.: 2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WF10SB4 SOIL MG/KG	WF10SB5 SOIL MG/KG	WF10SB6 SOIL MG/KG
82	85.9	93.2

ANALYTES		CRDL (UG/L)			
Aluminum	P	200	8130 J	18800 J	9600 J
Antimony	P	60		5.4	
Arsenic	F	10	1.4	3.8	1.8
Barium	P	200	49.8	47	14.4
Beryllium	P	5	0.39	0.31	
Cadmium	P	5			
Calcium	P	5,000	665 J	311 J	127 J
Chromium	P	10	6.2	17.2	7.6
Cobalt	P	50	2.2	4.5	1.8
Copper	P	25	3.4	6	3
Iron	P	100	4410	14200	5560
Lead	F	3	11.9	17.2	3.1
Magnesium	P	5,000	677	1670	386
Manganese	P	15	120	121	28.3
Mercury	CV	0.2			
Nickel	P	40	5.1	10	6
Potassium	P	5,000	487 B	1020 B	479 B
Selenium	F	5		0.39	
Silver	P	10		0.85	
Sodium	P	5,000	26.5 B	52.5 B	10.9 B
Thallium	F	10	UL	UL	UL
Vanadium	P	50	11	31.1	10.9
Zinc	P	20	15	22.6	5.8 B
Cyanide	AS	10			

SAMPLE RECEIVE DATE:
REMARKS:

6-3-93

6-3-93

6-3-93

A-5.4

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
CASE NO.: 7882, 7888, 7892 SDG NO.: 2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF4SB1
SOIL
MG/KG
77.6

WFF4SB2
SOIL
MG/KG
84.4

WFF4SB3
SOIL
MG/KG
66.1

WFF4SB4
SOIL
MG/KG
77.1

WFF4SB5
SOIL
MG/KG
82.6

ANALYTES		CRDL (UG/L)	WFF4SB1	WFF4SB2	WFF4SB3	WFF4SB4	WFF4SB5
Aluminum	P	200	1390 J	2320 J	4120 J	1330 J	1000 J
Antimony	P	60			111		
Arsenic	F	10	1.5	1.7	10.5	1.9	2
Barium	P	200	4.7	10.7	31.3	2.3	1.6
Beryllium	P	5					
Cadmium	P	5			33		
Calcium	P	5,000	1030 J	2820 J	7160 J	340 J	157 J
Chromium	P	10	3.5	5.2	28.7	3.1	2.6
Cobalt	P	50	0.82	1.4	9.6	0.74	
Copper	P	25	3.3	5.4	215	0.66	0.97
Iron	P	100	2360	6050	69900	2490	2290
Lead	F	3	7.9	25	182	2.4	6.5
Magnesium	P	5,000	363	446	980	370	288
Manganese	P	15	16	51.7	665	16	11
Mercury	CV	0.2			0.37		
Nickel	P	40		6.4	58.2	4.3	
Potassium	P	5,000	490 B	299 B		331 B	514 B
Selenium	F	5					
Silver	P	10			10.4		
Sodium	P	5,000	156 B	26.1 B	164 B	73.7 B	54.1 B
Thallium	F	10	UL	UL	UL		
Vanadium	P	50	5.7	6.8	15.5	5.2	4.5
Zinc	P	20	28.6	60.2	866	6.7 B	5.2 B
Cyanide	AS	10			3.4		

=====

SAMPLE RECEIVE DATE: 6-4-93 6-4-93 6-4-93 6-4-93 6-4-93

REMARKS:

A-5.5

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CASE NO.: 7882, 7888, 7892 SDG NO.: 2

Inorganic Analysis
 WATER
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF4SW7
 WATER
 UG/L
 NA

F10SW1
 WATER
 UG/L
 NA

WF10SW2
 WATER
 UG/L
 NA

WF9SW13
 WATER
 UG/L
 NA

ANALYTES		CRDL (UG/L)	WFF4SW7 WATER UG/L NA	F10SW1 WATER UG/L NA	WF10SW2 WATER UG/L NA	WF9SW13 WATER UG/L NA
Aluminum	P	200	73.2 B	166 B	28 B	24.7 B
Antimony	P	60				
Arsenic	F	10				
Barium	P	200	2.4	2.6		
Beryllium	P	5				
Cadmium	P	5				
Calcium	P	5,000	51.3 B	38.3 B	18.8 B	23.4 B
Chromium	P	10				
Cobalt	P	50				
Copper	P	25				
Iron	P	100	120	123	6.6 B	6.8 B
Lead	F	3				
Magnesium	P	5,000				
Manganese	P	15	2.1	2.9		
Mercury	CV	0.2				
Nickel	P	40				
Potassium	P	5,000				
Selenium	F	5				
Silver	P	10				
Sodium	P	5,000	243 B	114 B		133 B
Thallium	F	10				
Vanadium	P	50				
Zinc	P	20	11.3	5.8		
Cyanide	AS	10				2.2

SAMPLE RECEIVE DATE:
 REMARKS:

6-4-93
 EQUIPMENT BLK

6-3-93
 EQUIPMENT BLK

6-3-93
 FIELD BLK

6-3-93
 EQUIPMENT BLK

Inorganic Analysis

(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CASE NO.: 7940, 7945 SDG NO.: WFF5S8

CLIENT SAMPLE ID:	WFF5S81	WFF5S82	WFF5S83	WFF5S84	WFF14S81
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
% SOLIDS:	84.5	93.4	89	84.5	87.6

ANALYTES		CRDL (UG/L)	WFF5S81	WFF5S82	WFF5S83	WFF5S84	WFF14S81
Aluminum	P	200	2780	1800	12400	1900	10400
Antimony	P	60					
Arsenic	F	10	3.1	1.4	2.6	0.94	1.2
Barium	P	200	9.6	13.8	40.9	4.6	15.4
Beryllium	P	5			0.31		
Cadmium	P	5					
Calcium	P	5,000	3600	856	594	512	472
Chromium	P	10	10.6	13.7	15.6	5.4	6.8
Cobalt	P	50	2.5	2	3.6	1.9	
Copper	P	25	3.3	3.4	4.9	0.73	1.7
Iron	P	100	5430 J	5370 J	10900 J	2970 J	2730 J
Lead	F	3	28.6	99.1	38	4.8	5
Magnesium	P	5,000	1970	859	1060	654	320
Manganese	P	15	71.7	57.2	73.6	25.3	11.4
Mercury	CV	0.2			0.17		
Nickel	P	40		3.1	4.2		
Potassium	P	5,000	536	737	607	339	
Selenium	F	5			0.25		
Silver	P	10					
Sodium	P	5,000	207	33 B	60.3 B	69.7 B	16.8 B
Thallium	F	10					
Vanadium	P	50	10.6	7.7	21.2	5.9	10.6
Zinc	P	20	63.4	123	44	12.1	3 B
Cyanide	AS	10					

 SAMPLE RECEIVE DATE:

A-5.7

Inorganic Analysis

(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CASE NO.: 7940, 7945

SDG NO.: WFF55B

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF14SW1
 WATER
 UG/L
 NA

WFF14SB14
 SOIL
 MG/KG
 83.9

ANALYTES		CRDL (UG/L)		
Aluminum	P	200		14400
Antimony	P	60		UL
Arsenic	F	10		2
Barium	P	200		23.4
Beryllium	P	5		
Cadmium	P	5		
Calcium	P	5,000	42 B	771
Chromium	P	10		10.2
Cobalt	P	50		0.91
Copper	P	25		2.8
Iron	P	100		4420 J
Lead	F	3		5.5
Magnesium	P	5,000		503
Manganese	P	15		12
Mercury	CV	0.2		
Nickel	P	40		3.6
Potassium	P	5,000		360
Selenium	F	5		
Silver	P	10		
Sodium	P	5,000	63.7	24.3 B
Thallium	F	10		
Vanadium	P	50		15.8
Zinc	P	20	4.6	5.1 B
Cyanide	AS	10		

 SAMPLE RECEIVE DATE:

A-5.8

Inorganic Analysis

(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CASE NO.: 7978, 7986, 7998 SDG NO.: WFF14SB2

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF14SB2
 SOIL
 MG/KG
 78.3

WFF14SB3
 SOIL
 MG/KG
 85.3

WFF14SB4
 SOIL
 MG/KG
 86.8

WFF14SB5
 SOIL
 MG/KG
 77.7

WFF14SB6
 SOIL
 MG/KG
 92.6

ANALYTES

CRDL (UG/L)

ANALYTES		CRDL (UG/L)	WFF14SB2 SOIL MG/KG	WFF14SB3 SOIL MG/KG	WFF14SB4 SOIL MG/KG	WFF14SB5 SOIL MG/KG	WFF14SB6 SOIL MG/KG
Aluminum	P	27	4530	14600	2290	5210	2300
Antimony	P	41	UL	UL	UL	UL	UL
Arsenic	F	1	1.1 J	3.3 J	0.62 J	0.76 J	1 J
Barium	P	1	14.4	36.1	12.2	10.9	7.6
Beryllium	P	1		0.3			
Cadmium	P	5					
Calcium	P	4	434	920	347	308	69.2
Chromium	P	4	5.6	11.4	3.7	5	2.6
Cobalt	P	3	1	3.1			
Copper	P	3	2.9	6	1.5	2.7	0.69
Iron	P	3	2490	10600	1280	2280	1420
Lead	F	1	22.1 K	6.3 K	1 K	3.1 K	0.93 K
Magnesium	P	38	271	812	144	245	65.4
Manganese	P	1	37 L	79.8 L	10.4 L	25.9 L	7.4 L
Mercury	CV	1.0	0.19				
Nickel	P	15	3.7	8.6			
Potassium	P	1,088	306	534			
Selenium	F	1	UL	UL		UL	UL
Silver	P	4					
Sodium	P	53	29.3 B	74.9 B	22.3 B	37.9 B	25.1 B
Thallium	F	1	UJ	UJ	UL	UJ	UJ
Vanadium	P	3	7.5	22.3	3.9	5.8	2.6
Zinc	P	2	22.4	16.5	21.3	4.6	1.5 B
Cyanide	AS	10					

.....
 SAMPLE RECEIVE DATE:

A-5.9

Inorganic Analysis

(SOW:OLM02.1)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7996 SOG NO.: WFF14SB2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

		WFF14SB7 SOIL mg/kg 87.7	WFF14SB8 SOIL mg/kg 93.8	WFF14SB9 SOIL mg/kg 86.7	WFF14SB10 SOIL mg/kg 88.6
	UG/L IDL				
Aluminum	P	11800	2530	1880	4080
Antimony	P				
Arsenic	F	5.5 J	0.34 J	0.73 J	0.94 J
Barium	P	37.2	8.9	6	11.3
Beryllium	P	0.35			
Cadmium	P	5.0			
Calcium	P	4.0			
Chromium	P	4.0			
Cobalt	P	3.0			
Copper	P	3.0			
Iron	P	3.0			
Lead	F	1.0			
Magnesium	P	38			
Manganese	P	1.0			
Mercury	CV	1.0			
Nickel	P	15			
Potassium	P	1088			
Selenium	F	1.0			
Silver	P	4.0			
Sodium	P	53			
Thallium	F	1.0			
Vanadium	P	3.0			
Zinc	P	2.0			
Cyanide	AS	10			

A-5.10

Inorganic Analysis

(SOM:OLM02.1)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7986, 7996 SDG NO.: WFF14SB2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF14SB11
SOIL
mg/kg
89.4

WFF14SB12
SOIL
mg/kg
84.3

WFF14SB13
SOIL
mg/kg
86.8

WFF15SB1
SOIL
mg/kg
95.6

ANALYTES		UG/L IDL	WFF14SB11	WFF14SB12	WFF14SB13	WFF15SB1
Aluminum	P	27	2680	13300	6110	3650
Antimony	P	41	UL	UL	UL	UL
Arsenic	F	1.0	0.87 J	0.93 J	1.6 J	1.4 J
Barium	P	1.0	14.1	30.7	19.8	10.4
Beryllium	P	1.0				
Cadmium	P	5.0				
Calcium	P	4.0	557	85.5	91.4	50.1
Chromium	P	4.0	3.2	12.4	6.1	3.9
Cobalt	P	3.0		1.2		2.2
Copper	P	3.0	1.8	4.2	1.8	1.6
Iron	P	3.0	1620	4760	5440	3550
Lead	F	1.0	5.7 K	4.7 K	4.4 K	2.4 K
Magnesium	P	38	231	564	417	171
Manganese	P	1.0	27.2 L	11.7 L	10.5 L	17.4 L
Mercury	CV	1.0				
Nickel	P	15		5.1		
Potassium	P	1088		558	275	
Selenium	F	1.0		UL	UL	UL
Silver	P	4.0				
Sodium	P	53	24.8 B	54.3 B	43.6 B	17.5 B
Thallium	F	1.0	UL	UJ	UJ	UJ
Vanadium	P	3.0	5.3	23.5	10.6	6
Zinc	P	2.0	18.2	8.3	7.2	5.7
Cyanide	AS	10				

A-5.11

=====

Inorganic Analysis

(SOW:OLM02.1)

CLIENT: Metcalf & Eddy
CASE NO.: 7978, 7985, 7998 SDG NO.: WFF14SB2

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF15SB2
SOIL
mg/kg
91.4

WFF15SB3
SOIL
mg/kg
89.4

WFF15SB4
SOIL
mg/kg
87.2

WFF15SB11
SOIL
mg/kg
83.6

ANALYTES		UG/L IDL	WFF15SB2	WFF15SB3	WFF15SB4	WFF15SB11
Aluminum	P	27	6020	7530	4820	4970
Antimony	P	41	UL	UL	UL	UL
Arsenic	F	1.0	1.8 J	1.6 J	1.9 J	1.6 J
Barium	P	1.0	9.8	18.4	34.2	13.8
Beryllium	P	1.0		0.24		
Cadmium	P	5.0				
Calcium	P	4.0	62.6	670	1030	202
Chromium	P	4.0	6.2	7	4.7	5.2
Cobalt	P	3.0	1.3	1.2		5.6
Copper	P	3.0	1.9	2.3	2.6	2.4
Iron	P	3.0	4570	4920	3820	3980
Lead	F	1.0	2.7 K	4.3 K	19.3 K	5.1 K
Magnesium	P	38	320	505	297	293
Manganese	P	1.0	17 L	24.7 L	72.2 L	69.7 L
Mercury	CV	1.0				
Nickel	P	15		4.3	3.7	4.3
Potassium	P	1088				282
Selenium	F	1.0		UL		UL
Silver	P	4.0				
Sodium	P	53	37.1 B	37.6 B	35.5 B	21.7 B
Thallium	F	1.0	UL	UJ	UJ	UJ
Vanadium	P	3.0	9.5	11.5	9.2	8.6
Zinc	P	2.0	6.9	9.8	13.3	8.1
Cyanide	AS	10				

A-5.12

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
CONTROL NO.: 8005/8011 BATCH NO.: 17,18

CLIENT SAMPLE ID:	WFF2SB1	WFF2SB2	WFF2SB3	WFF2SB4	WFF6SB1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
X SOLIDS:	81.9	86.3	96.6	92.3	83.5

ANALYTES		CRDL (UG/L)	WFF2SB1	WFF2SB2	WFF2SB3	WFF2SB4	WFF6SB1
Aluminum	P	200	18700	16800	4140	6440	1490
Antimony	P	60	UL	UL	UL	UL	UL
Arsenic	F	10	2.9	2.8	0.95	1.9	1.1
Barium	P	200	61.7	97.6	7.6	12.5	5.4
Beryllium	P	5	0.41	0.46			
Cadmium	P	5					
Calcium	P	5,000	515	23800	70.6 B	215 B	424
Chromium	P	10	16.1	15	3.5	6.2	4.7
Cobalt	P	50	4.2	4.8	0.73	0.94	1.2
Copper	P	25	6.4	7.2	1.9	1.9	2
Iron	P	100	13800	14100	1310	3040	2470
Lead	F	3	6.9	9	1.8	2	4.5
Magnesium	P	5,000	1480	4610	158 B	451	404
Manganese	P	15	187	287	16.4	20.5	21.2
Mercury	CV	0.2					
Nickel	P	40	8.1	8.5			
Potassium	P	5,000	991 B	913 B	237 B	539 B	536 B
Selenium	F	5	0.28	0.26			
Silver	P	10					
Sodium	P	5,000	138 J	49.4 J	UL	UL	61.1 J
Thallium	F	10		UL			
Vanadium	P	50	29.8	27	3.2	9	5.6
Zinc	P	20	20.4	25.7	2.2 B	4.7	12.4
Cyanide	AS	10					

SAMPLE RECEIVE DATE:	06/30/93	06/30/93	06/30/93	06/30/93	06/29/93
REMARKS:					

A-5.13

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CONTROL NO.: 8005/8011 BATCH NO.: 17,18

Inorganic Analysis
 SOIL
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF6SB2
 SOIL
 MG/KG
 78.1

WFF8SB6
 SOIL
 MG/KG
 86.9

WFF16SB9
 SOIL
 MG/KG
 88.4

WFF2SB11
 SOIL
 MG/KG
 86.3

WFF6SB10
 SOIL
 MG/KG
 88.9

A-5.14

ANALYTES		CRDL (UG/L)	WFF6SB2	WFF8SB6	WFF16SB9	WFF2SB11	WFF6SB10
			SOIL	SOIL	SOIL	SOIL	SOIL
			MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	P	200	1030	20100	10100	14800	15400
Antimony	P	60					
Arsenic	F	10	2.1 UL	3.2 UL	2.8 UL	2.8 UL	4.8 UL
Barium	P	200	13.4	47.8	25.5	64	29.2
Beryllium	P	5		0.34	0.29	0.51	0.32
Cadmium	P	5					
Calcium	P	5,000	443	438	129 B	383	295
Chromium	P	10	3.8	18.1	10.7	13.3	14.2
Cobalt	P	50	1.3	4.6	1.7	5.2	2.9
Copper	P	25	1.5	8.8	2.6	5.5	2.8
Iron	P	100	2300	13100	8340	12000	9830
Lead	F	3	3	7.2	3.8	6.7	4.1
Magnesium	P	5,000	373	1250	668	1430	690
Manganese	P	15	20	111	50.7	209	26.2
Mercury	CV	0.2					
Nickel	P	40		9.9	3.7	8	4.4
Potassium	P	5,000	333 B	1030 B	493 B	746 B	743 B
Selenium	F	5				0.27	
Silver	P	10					
Sodium	P	5,000	18.2 J	UJ	UJ	23.5 J	UJ
Thallium	F	10					
Vanadium	P	50	4.7	28.2	17	23.7	22.6
Zinc	P	20	9.9	19.8	11.6	20.1	10.5
Cyanide	AS	10					

 SAMPLE RECEIVE DATE:
 REMARKS:

06/29/93

06/29/93

06/29/93

06/29/93

6/29/93

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
PROJECT NO.: 8017, 8023
BATCH NO.: 19,20

SDG NO.: WFF2SB5

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF2SB5
SOIL
MG/KG
89.6

WFF2SB6
SOIL
MG/KG
93.2

WFF2SB7
SOIL
MG/KG
86.5

WFF2SB8
SOIL
MG/KG
96

WFF2SB9
SOIL
MG/KG
86.5

ANALYTES

CRDL (UG/L)

ANALYTES		CRDL (UG/L)	WFF2SB5	WFF2SB6	WFF2SB7	WFF2SB8	WFF2SB9
Aluminum	P	200	13000	3030	14500	5180	6270
Antimony	P	60	UL	UL	UL	UL	UL
Arsenic	F	10	2.7	0.47	3	0.85	
Barium	P	200	52.8 L	5.2 L	65.6 L	11.7 L	110 L
Beryllium	P	5	0.41		0.51		0.65
Cadmium	P	5					
Calcium	P	5,000	1030	91.7 B	487	36.2 B	906
Chromium	P	10	12.7	3	13.5	4.2	6.3
Cobalt	P	50	4.1	1.2	5.4	1.3	3.4
Copper	P	25	5.5 B	1.6 B	5.5 B	1.7 B	7.7
Iron	P	100	10900 J	741 J	11800 J	1330 J	4870 J
Lead	F	3	18.6	1.4	7.3	2.1	5.7
Magnesium	P	5,000	1120	113	1360	187	548
Manganese	P	15	144 K	6.3 K	175 K	5.3 K	166 K
Mercury	CV	0.2	UL	UL	UL	UL	UL
Nickel	P	40	7.9		7.7		6
Potassium	P	5,000	636	245	599		371
Selenium	F	5					
Silver	P	10					
Sodium	P	5,000	36.6 B	47.5 B	69.4 B	14.9 B	84.4 B
Thallium	F	10					
Vanadium	P	50	20.3	2.3	23.1	5.3	11.4
Zinc	P	20	33.9 J	2.3 BJ	20.3 BJ	2 BJ	14.9 BJ
Cyanide	AS	10					

SAMPLE RECEIVE DATE:

07-01-93

07-01-93

07-01-93

07-01-93

07-02-93

A-5.15

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8017, 8023
 BATCH NO.: 19,20

Inorganic Analysis
 SOIL
 (SOM:ILM02.1)

SDG NO.: WFF2S85

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF2SS1
 SOIL
 MG/KG
 94.5

WFF2SS2
 SOIL
 MG/KG
 87.3

WFF2SS3
 SOIL
 MG/KG
 97.9

WFF2SS4
 SOIL
 MG/KG
 94

WFF2SS5
 SOIL
 MG/KG
 90.7

ANALYTES

CRDL (UG/L)

ANALYTES	CRDL (UG/L)	WFF2SS1 SOIL MG/KG 94.5	WFF2SS2 SOIL MG/KG 87.3	WFF2SS3 SOIL MG/KG 97.9	WFF2SS4 SOIL MG/KG 94	WFF2SS5 SOIL MG/KG 90.7
Aluminum	P 200	7060	5350	5140	3390	3660
Antimony	P 60	UL	UL	UL	UL	14.6 L
Arsenic	F 10	2.4	25	1.4	3.5	19.2
Barium	P 200	47.8 L	30.4 L	455 L	508 L	22.9 L
Beryllium	P 5					0.23
Cadmium	P 5		1.2	1.3		2.4
Calcium	P 5,000	1250	1210	3860	2450	1270
Chromium	P 10	12.7	24.7	14.2	77.9	47.5
Cobalt	P 50	2.6	4.7	3.9	4.9	7.1
Copper	P 25	47.1	55.4	21.3	52.8	55
Iron	P 100	9430 J	15000 J	8460 J	9690 J	71200 J
Lead	F 3	64.4	61.3	33	81.1	2430
Magnesium	P 5,000	1090	2360	2660	1510	863
Manganese	P 15	98 K	198 K	207 K	137 K	448 K
Mercury	CV 0.2	UL	UL	UL	UL	UL
Nickel	P 40	7.9	7.1	6.4	909	30.2
Potassium	P 5,000	656	966	1070	801	431
Selenium	F 5				UJ	
Silver	P 10					
Sodium	P 5,000	24.9 B	51.2 B	71.3 B	82.7	32.4 B
Thallium	F 10					
Vanadium	P 50	13	20.3	17.1	14.3	36
Zinc	P 20	171 J	149 J	74.5 J	131 J	1550 J
Cyanide	AS 10					

 SAMPLE RECEIVE DATE:

07-02-93

07-02-93

07-02-93

07-02-93

07-02-93

A-5.16

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8017, 8023
 BATCH NO.: 19,20

SDG NO.: WFF2SB5

Inorganic Analysis
 SOIL
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF2SS6
 SOIL
 MG/KG
 98.3

WFF2SW1
 WATER
 UG/L
 NA

WFF2SW2
 WATER
 UG/L
 NA

WFF2SB10
 SOIL
 MG/KG
 80.2

ANALYTES		CRDL (UG/L)	WFF2SS6	WFF2SW1	WFF2SW2	WFF2SB10
Aluminum	P	200	4020			4540
Antimony	P	60				UL
Arsenic	F	10	1.5			2.5
Barium	P	200	759 L			99.1 L
Beryllium	P	5				0.42
Cadmium	P	5	1.4			
Calcium	P	5,000	3750	54.3 B	57.6 B	752
Chromium	P	10	11			7.1
Cobalt	P	50	4.2			4
Copper	P	25	14.6	4		9.2
Iron	P	100	6840 J	6.6		4680 J
Lead	F	3	28.6	UJ	UJ	3.4
Magnesium	P	5,000	2140			473
Manganese	P	15	171 K			96.2 K
Mercury	CV	0.2				UL
Nickel	P	40	7.7			7.4
Potassium	P	5,000	685			435
Selenium	F	5				UJ
Silver	P	10				
Sodium	P	5,000	66.7 B			82.3 B
Thallium	F	10				
Vanadium	P	50	14.5			11.9
Zinc	P	20	80.9 J	3.1	3.1	11.1 BJ
Cyanide	AS	10				

A-5.17

=====

SAMPLE RECEIVE DATE:	07-02-93	07-02-93	07-02-93	07-02-93
----------------------	----------	----------	----------	----------

Inorganic Analysis
SOIL
(SOW:ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
PROJECT NO.: 8038
BATCH NO.: 22

SDG NO.: WFF9SD1

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF9SD1
SOIL
MG/KG
64.4

WFF9SW1
WATER
UG/L
NA

WFF10SS1
SOIL
MG/KG
96.6

WFF10SS2
SOIL
MG/KG
99.3

WFF10SS3
SOIL
MG/KG
87

ANALYTES

CRDL (UG/L)

ANALYTES		CRDL (UG/L)	WFF9SD1 SOIL MG/KG 64.4	WFF9SW1 WATER UG/L NA	WFF10SS1 SOIL MG/KG 96.6	WFF10SS2 SOIL MG/KG 99.3	WFF10SS3 SOIL MG/KG 87
Aluminum	P	200	20100 J		8450	3680	17800
Antimony	P	60	UL		UL	UL	UL
Arsenic	F	10	5.3 J	UJ	1.2	1.4	65.5
Barium	P	200	54.8	12.7	62	18.6	24.1
Beryllium	P	5	0.6		0.41		
Cadmium	P	5			10.6 K	1.5 K	2.5 K
Calcium	P	5,000	505	6400	6500	1520	9590
Chromium	P	10	18.1 J		24.9	5.4	4.8
Cobalt	P	50	4.6		6.5	3.9	21.4
Copper	P	25	13.4 J		21.8	6.5	154
Iron	P	100	8340 J	431 J	9850	6400	33300
Lead	F	3	65.4 J	UJ	235	12.8	24
Magnesium	P	5,000	1760 J	3430	2770	1790	8020
Manganese	P	15	43.4 J	43.6	126	94.5	421
Mercury	CV	0.2	0.12		0.11		
Nickel	P	40	11.4		13.1	4.9	19.7
Potassium	P	5,000	858	1560	1220	1590	1120
Selenium	F	5	UL		UL	UL	UL
Silver	P	10					
Sodium	P	5,000	577	8520	132	29.9	1330
Thallium	F	10	UL	14.9 L	UL	UL	UL
Vanadium	P	50	26.3 J		20.3	12.4	95.2
Zinc	P	20	69.1 J	22.2	350	95	154
Cyanide	AS	10					

SAMPLE RECEIVE DATE:
REMARKS:

07-08-93

07-08-93

07-08-93

07-08-93

07-08-93

A-5.18

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8038
 BATCH NO.: 22

SDG NO.: WFF9SD1

Inorganic Analysis
 SOIL
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF10SS4
 SOIL
 MG/KG
 98.2

WFF10SS5
 SOIL
 MG/KG
 94.7

WFF10SS6
 SOIL
 MG/KG
 95.6

WFF9SW11
 WATER
 UG/L
 NA

WFF9SD11
 SOIL
 MG/KG
 20.6

ANALYTES

CRDL (UG/L)

ANALYTES	CRDL (UG/L)	WFF10SS4 SOIL MG/KG	WFF10SS5 SOIL MG/KG	WFF10SS6 SOIL MG/KG	WFF9SW11 WATER UG/L	WFF9SD11 SOIL MG/KG
Aluminum P	200	9310	14800	16200		68400 J
Antimony P	60	UL	UL	UL		UL
Arsenic F	10	2.1	3	3.3	UJ	14.6 J
Barium P	200	38	29.8	28.2	12.4	188
Beryllium P	5	0.28	0.25			2
Cadmium P	5	3.7 K				
Calcium P	5,000	5580	7630	9360	6440	1680
Chromium P	10	19.8	7.5	4		62.2 J
Cobalt P	50	9.3	11.8	21.7		16.8
Copper P	25	67.2	66	167		42.4 J
Iron P	100	13000	20500	34400	125 J	31200 J
Lead F	3	38.7	8.4	10	UJ	230 J
Magnesium P	5,000	3600	4240	6720	3480	5840 J
Manganese P	15	301	246	490	36.3	147 J
Mercury CV	0.2					
Nickel P	40	16	13.8	20.1		38 J
Potassium P	5,000	1020	571	1100	1440	3020
Selenium F	5	UL	UL	UL		UL
Silver P	10					
Sodium P	5,000	320	689	1180	8380	1780
Thallium F	10	UL	UL	UL	UL	UL
Vanadium P	50	39.6	55.8	134		106 J
Zinc P	20	288	52.7	230	30	222 J
Cyanide AS	10					

SAMPLE RECEIVE DATE:
 REMARKS:

07-08-93

07-08-93

07-08-93

07-08-93

07-08-93

A-5.19

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CONTROL NO.: 8041 BATCH NO.: 23

Inorganic Analysis
 SOIL/WATER
 (SOM:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF9SD2
 SOIL
 MG/KG
 69

WFF9SD3
 SOIL
 MG/KG
 79.1

WFF9SD4
 SOIL
 MG/KG
 79.3

WFF9SD5
 SOIL
 MG/KG
 74.7

ANALYTES

CRDL (UG/L)

ANALYTES	CRDL (UG/L)	WFF9SD2 SOIL MG/KG	WFF9SD3 SOIL MG/KG	WFF9SD4 SOIL MG/KG	WFF9SD5 SOIL MG/KG
Aluminum	200	1990	1200	611	2400
Antimony	60				
Arsenic	10	0.86	0.74		0.85
Barium	200	7.9	5.4	2.5	17.2
Beryllium	5				
Cadmium	5				
Calcium	5,000	159	155	56.3	248
Chromium	10	3	2.1	1	6.1
Cobalt	50				0.86 B
Copper	25	2.2	9.5		17.3
Iron	100	1240	1720	601	3030
Lead	3	3.4	4.1	1.8 B	5.4
Magnesium	5,000	160	106	51.1	281
Manganese	15	7.6	57.7	4.7	21.7
Mercury	0.2				
Nickel	40				8
Potassium	5,000		280		
Selenium	5				
Silver	10				
Sodium	5,000	48.4 B			
Thallium	10				
Vanadium	50	7	4.4	2	32.2
Zinc	20	10.4	6.5 B	3.4 B	27.1
Cyanide	10				

A-5.20

=====

SAMPLE RECEIVE DATE:

07/09/93

07/09/93

07/09/93

07/09/93

REMARKS:

Inorganic Analysis
SOIL/WATER
(SOW:1LW02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallope Island
CONTROL NO.: 8041

BATCH NO.: 23

CLIENT SAMPLE ID:
MATRIX:
UNITS:
% SOLIDS:

WFF9SD6
SOIL
MG/KG
44

WFF9SD7
SOIL
MG/KG
77.2

WFF9SD8
SOIL
MG/KG
79.6

WFF9SW2
WATER
UG/L
N/A

WFF9SW3
WATER
UG/L
N/A

ANALYTES

CRDL (UG/L)

ANALYTES		CRDL (UG/L)	WFF9SD6 SOIL MG/KG	WFF9SD7 SOIL MG/KG	WFF9SD8 SOIL MG/KG	WFF9SW2 WATER UG/L	WFF9SW3 WATER UG/L
Aluminum	P	200	5490	705	1240		
Antimony	P	60					
Arsenic	F	10	4	0.33	0.6		
Barium	P	200	35.7	2.7	4.7	16.4	16.7
Beryllium	P	5					
Cadmium	P	5					
Calcium	P	5,000	1070	46.8 B	90.5	7540 UJ	8400 UJ
Chromium	P	10	9.3	1.4	1.8		
Cobalt	P	50	2.3				
Copper	P	25	13.9				
Iron	P	100	7190	405	1440	138	108
Lead	F	3	40.9	1.3 B	1.5 B		
Magnesium	P	5,000	838	42.9 B	82.2	4640	5320
Manganese	P	15	40.6	5.9	6.9	139	128
Mercury	CV	0.2					
Nickel	P	40	13.7				
Potassium	P	5,000				1350	1190
Selenium	F	5	0.76	0.31		1.7	
Silver	P	10					
Sodium	P	5,000	28.4 B			10800 UJ	10700 UJ
Thallium	F	10	0.67				
Vanadium	P	50	54.2	1	2	3.6	
Zinc	P	20	63.5	2 B	4 B	15.7 B	17.4 B
Cyanide	AS	10					

SAMPLE RECEIVE DATE:
REMARKS:

07/09/93

07/09/93

07/09/93

07/09/93

07/09/93

A-5.21

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 CONTROL NO.: 8041 BATCH NO.: 23

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF9SW4
 WATER
 UG/L
 N/A

WFF9SW5
 WATER
 UG/L
 N/A

WFF9SW6
 WATER
 UG/L
 N/A

WFF9SW7
 WATER
 UG/L
 N/A

WF9SW8
 WATER
 UG/L
 N/A

ANALYTES CRDL (UG/L)

ANALYTES	CRDL (UG/L)	WFF9SW4 WATER UG/L N/A	WFF9SW5 WATER UG/L N/A	WFF9SW6 WATER UG/L N/A	WFF9SW7 WATER UG/L N/A	WF9SW8 WATER UG/L N/A
Aluminum P	200			32.1		
Antimony P	60					
Arsenic F	10					
Barium P	200	16.9	20.2	26.7	20.8	22.1
Beryllium P	5					
Cadmium P	5					
Calcium P	5,000	8710 UJ	8240 UJ	8040 UJ	9280 UJ	12300 UJ
Chromium P	10					
Cobalt P	50					
Copper P	25					
Iron P	100	274	183	5260	141	2400
Lead F	3		1.1	1.5	1.9	
Magnesium P	5,000	5470	5240	3050	4960	4270
Manganese P	15	138	80.6	304	46	118
Mercury CV	0.2					
Nickel P	40					
Potassium P	5,000					
Selenium F	5	1.2	1.2			
Silver P	10					
Sodium P	5,000	10100 UJ	11900 UJ	14100 UJ	11300 UJ	9460 UJ
Thallium F	10					
Vanadium P	50					
Zinc P	20	9 B	9 B	10.4 B	15 B	21.3 B
Cyanide AS	10					

A-5.22

SAMPLE RECEIVE DATE:
 REMARKS:

07/09/93

07/09/93

07/09/93

07/09/93

07/09/93

CLIENT: Metcalf & Eddy
 SITE ID: Wallopa Island
 CONTROL NO.: 8041

BATCH NO.: 23

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF9SW14
 WATER
 UG/L
 N/A

WFF9SW15
 WATER
 UG/L
 N/A

WFF9SW16
 WATER
 UG/L
 N/A

ANALYTES

CRDL (UG/L)

ANALYTES	CRDL (UG/L)	WFF9SW14	WFF9SW15	WFF9SW16
Aluminum P	200			
Antimony P	60			
Arsenic F	10			
Barium P	200			
Beryllium P	5			
Cadmium P	5			
Calcium P	5,000	54 UJ	40.3 UJ	46.8 UJ
Chromium P	10			
Cobalt P	50			
Copper P	25			
Iron P	100	7.8	6.4	
Lead F	3	1.9		
Magnesium P	5,000			
Manganese P	15			
Mercury CV	0.2			
Nickel P	40			
Potassium P	5,000			
Selenium F	5			
Silver P	10			
Sodium P	5,000	218 UJ	239 UJ	186 UJ
Thallium F	10			
Vanadium P	50			
Zinc P	20	8.7	8.7	4.1
Cyanide AS	10			

A-5.23

SAMPLE RECEIVE DATE:
 REMARKS:

07/09/93

07/09/93

07/09/93

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8230.8233
 BATCH NO.: 29,30

SDG NO.: WFF5-S

Inorganic Analysis
 SOIL
 (SOW:ILM02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF12-SD1
 SOIL
 MG/KG
 52.5

WFF12-SD2
 SOIL
 MG/KG
 70.7

WFF12-SS1
 SOIL
 MG/KG
 85.9

WFF12-SS2
 SOIL
 MG/KG
 64.9

WFF12-SS3
 SOIL
 MG/KG
 87.3

ANALYTES		CRDL (UG/L)	WFF12-SD1	WFF12-SD2	WFF12-SS1	WFF12-SS2	WFF12-SS3
Aluminum	P	40	2000	1690	1200	2470	2030
Antimony	P	12					
Arsenic	F	2	2 J	1.8	1.7 L	2.4	2.1
Barium	P	40	6.6	14	11.9	35.8	56.7
Beryllium	P	1				0.33	
Cadmium	P	1		1.4 K			2.4 K
Calcium	P	1,000	1390 J	879 J	1070 J	822 J	2970 J
Chromium	P	2	11.5	22	11.1	51.8	50.4
Cobalt	P	10	1.4	1.9	1.6	1.9	2.7
Copper	P	5	10.2 J	23.7 J	9.4 J	124 J	74.1 J
Iron	P	20	3600	7210	5640	10100	7970
Lead	F	0.6	62.8 K	59.4	222 K	322 K	149 K
Magnesium	P	1,000	542	725	417	466	609
Manganese	P	3	21.4	278	46.6	74	86.5
Mercury	CV	0.1	0.28 L	0.11 L	0.52 L	2.9 L	UL
Nickel	P	8	7.5	4	6.9	5.5	52.6
Potassium	P	1,000	499	387	283		461
Selenium	F	1					
Silver	P	2	174 U				
Sodium	P	1,000		366 U	34.3 U	30.8 U	407 U
Thallium	F	2					
Vanadium	P	10	9.1	7.5	5	6.3	7.5
Zinc	P	4	113	387	153	960	223
Cyanide	AS	0.5				0.11	

A-5.24

CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8230, 8233
 BATCH NO.: 29,30

SDG NO.: WFF5-S

Inorganic Analysis
 SOIL
 (SOW:ILN02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF5-SS1 SOIL MG/KG	WFF5-SS2 SOIL MG/KG	WFF5-SS3 SOIL MG/KG	WFF5-SS4 SOIL MG/KG	WFF6-SS1 SOIL MG/KG
82.9	76.2	99	88.6	74.8

ANALYTES		CRDL (UG/L)	WFF5-SS1	WFF5-SS2	WFF5-SS3	WFF5-SS4	WFF6-SS1
Aluminum	P	40	2200	99.8	169	1250	3950
Antimony	P	12					
Arsenic	F	2	2.7	0.38 L	0.36 L	1.3	2.4
Barium	P	40	67.8	12.1	20.3	3	47.2
Beryllium	P	1					
Cadmium	P	1					
Calcium	P	1,000	1340 J	110 J	140 J	465 J	4980 J
Chromium	P	2	63.3	37.6	10.3	5.7	7.5
Cobalt	P	10	4.1	0.91	0.78	1.5	1.8
Copper	P	5	10.9 J	17.3 J	2.3 J	0.67 J	7.3 J
Iron	P	20	5360	997	922	2320	4320
Lead	F	0.6	560 K	127 K	166 K	11.4 K	62.8 K
Magnesium	P	1,000	1040	66.1	58.4	424	1200
Manganese	P	3	66.5	8.6	9.5	17.4	43.9
Mercury	CV	0.1	UL	UL	UL	UL	UL
Nickel	P	8					
Potassium	P	1,000	473			302	506
Selenium	F	1					0.4
Silver	P	2	1.9				
Sodium	P	1,000	57.6 U			32.8 U	68.6 U
Thallium	F	2					
Vanadium	P	10	7.9			3.8	7.8
Zinc	P	4	298	119	56.7	32.5	68.4
Cyanide	AS	0.5	1 U				

A-5.25



CLIENT: Metcalf & Eddy
 SITE ID: Wallops Island
 PROJECT NO.: 8230, 8233
 BATCH NO.: 29,30

SDG NO.: WFF5-S

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 % SOLIDS:

WFF14-SD2
 SOIL
 MG/KG
 69.7

WFF14-SD3
 SOIL
 MG/KG
 40.1

WFF14-SD4
 SOIL
 MG/KG
 47

WFF14-SD5
 SOIL
 MG/KG
 67.8

ANALYTES		CRDL (UG/L)	WFF14-SD2	WFF14-SD3	WFF14-SD4	WFF14-SD5
Aluminum	P	40	2340	15800	11500	2670
Antimony	P	12	31.7			
Arsenic	F	2	0.01	0.02	0.02	0.01
Barium	P	40	23.3	51.8	46.1	12.6
Beryllium	P	1				
Cadmium	P	1				
Calcium	P	1,000	1090 J	693 J	659 J	380 J
Chromium	P	2	6.8	14.7	12.5	4.7
Cobalt	P	10	2.3	3.5	3.1	0.96
Copper	P	5	8.7 J	6 J	7.6 J	0.94 J
Iron	P	20	14500	9250	9550	1900
Lead	F	0.6	23.6 K	23.7 K	22.8 K	4.3 K
Magnesium	P	1,000	757	1040	951	195
Manganese	P	3	97	82.6	89.5	20.2
Mercury	CV	0.1				
Nickel	P	8	5.3 UL	10.2 UL	10.6 UL	1.3 L
Potassium	P	1,000		784	609	423
Selenium	F	1		0.51	0.55	
Silver	P	2				
Sodium	P	1,000	238 U	69.7 U	59 U	24.8 U
Thallium	F	2				
Vanadium	P	10	8.2	23.1	20.1	16.9
Zinc	P	4	142	27.4	35.9	37.8
Cyanide	AS	0.5				

A-5.26

Inorganic Analyses
Water
(ILM02.1)

CLIENT: Metcalf & Eddy
SITE ID: Wallops Island
PROJECT NO.: 8230, 8233 SOG NO.: WFF5-S
BATCH NO.: 29,30

CLIENT SAMPLE ID:
MATRIX:
UNITS:
X SOLIDS:

WFF5-SW1
WATER
UG/L

WFF14-SW2
WATER
UG/L

WFF14-SW3
WATER
UG/L

WFF14-SW4
WATER
UG/L

WFF14-SW5
WATER
UG/L

ANALYTES		CRDL (UG/L)	WFF5-SW1 WATER UG/L	WFF14-SW2 WATER UG/L	WFF14-SW3 WATER UG/L	WFF14-SW4 WATER UG/L	WFF14-SW5 WATER UG/L
Aluminum	P	200		58.8			
Antimony	P	60					
Arsenic	F	10					
Barium	P	200		27.3	37		
Beryllium	P	5					
Cadmium	P	5					
Calcium	P	5000	57.8 U	33000	22200	60.1 U	32.1 U
Chromium	P	10					
Cobalt	P	50					
Copper	P	25					
Iron	P	100	7.1 U	164	1010	9.3 U	10.4 U
Lead	F	3		1.9			
Magnesium	P	5000		9450	9780		
Manganese	P	15		40.1	2150		
Mercury	CV	0.2					
Nickel	P	40					
Potassium	P	5000		2490	5380		
Selenium	F	5		1.3	1.1		
Silver	P	10					
Sodium	P	5000	243	7350	10400	85.3	
Thallium	F	10					
Vanadium	P	50					
Zinc	P	20		84.7	30.2	5.2	5.6
Cyanide	AS	10	R	265 L	UL K R	K R	K R

A-5.27

CLIENT:
 SITE ID:
 PROJECT NO.:8242
 BATCH NO.:31

Metcalf & Eddy
 Wallops Island

INORGANIC ANALYSIS
 SOIL
 (SOW:ILN02.1)

CLIENT SAMPLE ID:
 MATRIX:
 UNITS:
 X SOLIDS:

WFF15-SB5
 SOIL
 MG/KG

WFF15-SB6
 SOIL
 MG/KG

WFF15-SB7
 SOIL
 MG/KG

WFF15-SB8
 SOIL
 MG/KG

ANALYTES

CRDL (MG/KG)

ANALYTES	MATRIX	UNITS	WFF15-SB5 SOIL MG/KG	WFF15-SB6 SOIL MG/KG	WFF15-SB7 SOIL MG/KG	WFF15-SB8 SOIL MG/KG
			91.8	96	96.2	88.6
Aluminum	P	40	4470	2740	2080	12500
Antimony	P	12				
Arsenic	F	2	2.1 UL	1.5 UL	1.2 UL	2.1 UL
Barium	P	40	13	6.6	4.1	38.1
Beryllium	P	1				0.33
Cadmium	P	1				
Calcium	P	1000	73.4	36.9	46.2	144
Chromium	P	2	5	3.6 U	4.4	8.5
Cobalt	P	10	1.3	0.72	0.92	2.3
Copper	P	5	1.3	1	0.82	3.6
Iron	P	20	4180	1710	2530	4690
Lead	F	0.6	4.5	1	0.96	4
Magnesium	P	1000	245	97.2	84.6	506
Manganese	P	3	28.2	11.3	16.6	55.7
Mercury	CV	0.1				
Nickel	P	8				5.2
Potassium	P	1000	309	271	291	515
Selenium	F	1				
Silver	P	2				
Sodium	P	1000		16.7	17.1	35.3
Thallium	F	2				
Vanadium	P	10	9.2	3.3	3.4	10.8
Zinc	P	4	4.8 J	1.4 J	1.6 J	6.7 J
Cyanide	AS	0.5				

A-5.28

Sample ID:	WFF4-SB6	WFF4-SB7
Lab Sample ID:	760793	760803
Matrix:	SOIL	SOIL
Collection Date:	09/27/95	09/27/95
Receipt Date:	09/28/95	09/28/95
Extraction Date:	10/05/95	10/05/95
Analysis Date:	10/06/95	10/06/95
Remarks:		Duplicate of WFF4-SB6
Units of Measure:	MG/KG	MG/KG

Analyte Description

Aluminum	3170	3080	J
Antimony	< 0.42	< 0.43	UL
Arsenic	< 0.60	< 0.60	
Barium	8.0 J	8.1	J
Beryllium	0.08 B	0.08	B
Cadmium	< 0.11	< 0.11	
Calcium	59.6 J	61.9	
Chromium	3.2	3.0	
Cobalt	0.74 B	0.91	B
Copper	3.4 J	4.5	
Iron	2580	2900	
Lead	12.4 J	14.8	
Magnesium	234	222	J
Manganese	36.3 J	85.9	J
Mercury	< 0.11	< 0.11	
Nickel	2.0	2.2	
Potassium	117	124	
Selenium	< 0.75	< 0.76	UL
Silver	< 0.13 UL	< 0.13	UL
Sodium	255 B	303	B
Thallium	< 0.79	< 0.81	
Vanadium	4.2	3.7	
Zinc	18.9	14.7	J
Cyanide	< 0.55	< 0.56	

A-5.29

Inorganic Analysis

Sample ID: WFF5-SB5
Lab Sample ID: 760819
Matrix: SOIL
Collection Date: 09/27/95
Receipt Date: 09/28/95
Extraction Date: 10/05/95
Analysis Date: 10/06/95
Remarks:

Units of Measure: MG/KG

Analyte Description

Aluminum	3960	
Antimony	< 0.56	
Arsenic	5.3	
Barium	8.4	J
Beryllium	0.22	B
Cadmium	< 0.15	
Calcium	673	J
Chromium	9.9	
Cobalt	1.9	
Copper	3.9	J
Iron	11600	
Lead	9.0	J
Magnesium	1140	
Manganese	32.9	
Mercury	< 0.14	
Nickel	3.6	
Potassium	875	
Selenium	1.1	K
Silver	< 0.18	UL
Sodium	600	B
Thallium	< 1.1	
Vanadium	13.3	
Zinc	25.3	
Cyanide	< 0.73	

A-5.30

Inorganic Analysis

Sample ID:	WFF5-SW2	WFF5-SD2	WFF5-SW3	WFF5-SW6	WFF5-SD3	WFF5-SD6	WFF5-SW4	WFF5-SW5	WFF5-SW7	WFF5-SW8
Lab Sample ID:	760094	760154	760711	760745	760823	760830	760722	760736	760776	760785
Matrix:	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
Collection Date:	09/26/95	09/26/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Receipt Date:	09/27/95	09/27/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Extraction Date:	10/03/95	10/05/95	10/03/95	10/06/95	10/05/95	10/05/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/04/95	10/06/95	10/04/95	10/07/95	10/06/95	10/06/95	10/04/95	10/04/95	10/04/95	10/04/95
Remarks:				Duplicate of WFF5-SW3		Duplicate of WFF5-SD3	Equipment Blank	Field Blank	Equipment Blank	Equipment Blank

Units of Measure:

UG/L MG/KG UG/L UG/L MG/KG MG/KG UG/L UG/L UG/L UG/L

Analyte Description

Aluminum	798	1220	220	B	384	B	2890	J	1060	J	99	88.2	82.6	88.9	
Antimony	14.6	< 0.86	4.0	B	< 1.9	< 0.57	< 0.47	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	
Arsenic	4.3	B	< 1.2	B	6.4	B	4.4	L	1.7	< 0.67	< 2.7	< 2.7	< 2.7	< 2.7	
Barium	10.7	J	4.8	J	22.8	J	24.3	J	4.2	J	1.9	J	1.1	J	
Beryllium	< 0.10	0.05	B	< 0.10	0.49	B	0.25	B	0.05	B	< 0.10	< 0.10	< 0.10	< 0.10	
Cadmium	< 0.50	0.29	B	< 0.50	< 0.50	< 0.15	< 0.12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Calcium	93800	5150	J	211,000	194000	698	J	283	J	< 14.5	< 14.5	23.1	< 14.5	< 14.5	
Chromium	4.7	30.5		1.6	B	1.8	B	5.9	2.8	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	
Cobalt	0.53	B	0.60	B	0.60	B	0.59	L	2.5	1.0	B	< 0.50	< 0.50	< 0.50	
Copper	3.7	B	6.3	B	1.7	B	1.9	B	2.9	B	0.94	B	1.2	2.5	
Iron	3930	3270		563	488	J	5590	J	2130	J	< 9.7	17.4	13.5	12.2	
Lead	16.5	121	J	< 1.6	< 1.6	5.0	J	2.0	B	< 1.6	1.6	K	< 1.6	< 1.6	
Magnesium	20800	582		528,000	475000	661		311		41.5	17.4		110	9.7	
Manganese	243	30.5		135	125	28.5	J	15.8	J	0.24	0.34		0.56	0.43	
Mercury	< 0.20	< 0.23		< 0.20	< 0.20	< 0.15		< 0.12		< 0.20	< 0.20		< 0.20	< 0.20	
Nickel	< 2.4	1.8		< 2.4	< 2.4	4.2		1.5		< 2.4	< 2.4		< 2.4	< 2.4	
Potassium	16500	198		298000	277000	411		184		62.2	68.8		98.8	49.2	
Selenium	< 3.4	UL	< 1.5	< 3.4	UL	< 3.4		1.9	K	0.88	K	< 3.4	UL	< 3.4	UL
Silver	< 0.60	UL	< 0.27	UL	< 0.60	UL	< 0.18	UL	< 0.15	UL	< 0.60	UL	< 0.60	UL	
Sodium	316000	J	1350	B	3,960,000	J	3600000	1020	B	505	B	829	J	792	J
Thallium	< 3.6	< 1.6		< 3.6	UL	< 3.6	UL	< 1.1		< 0.90	< 3.6	< 3.6	< 3.6	< 3.6	
Vanadium	3.2	7.4		0.82	L	1.7	L	7.9		3.5	< 0.60	< 0.60	< 0.60	< 0.60	
Zinc	73.6	89.6		21	B	30.0	B	21.1		9.3	L	< 1.2	UL	< 1.2	UL
Cyanide	< 10.0	< 1.1		< 10.0	< 10.0	UL	< 0.75	< 0.62		< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	

A-5.31

Inorganic Analysis

	Sample ID:	WFF9-SW9	WFF9-SW17	WFF9-SD9	WFF9-SD17	WFF9-SW10	WFF9-SD10	WFF9-SW12	WFF9-SD12
Lab Sample ID:	760113	760125	760161	760174	760117	760166	760121	760170	
Matrix:	WATER	WATER	SOIL	SOIL	WATER	SOIL	WATER	SOIL	
Collection Date:	09/26/95	09/26/95	09/26/95	09/26/95	09/26/95	09/26/95	09/26/95	09/26/95	09/26/95
Receipt Date:	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95	09/27/95
Extraction Date:	10/03/95	10/03/95	10/05/95	10/05/95	10/03/95	10/05/95	10/03/95	10/05/95	10/05/95
Analysis Date:	10/04/95	10/04/95	10/06/95	10/06/95	10/04/95	10/06/95	10/04/95	10/06/95	10/06/95
Remarks:		Duplicate of WFF9-SW9		Duplicate of WFF9-SD9					
Units of Measure:	UG/L	UG/L	MG/KG	MG/KG	UG/L	MG/KG	UG/L	MG/KG	
Analyte Description									
Aluminum	107 B	105 B	1690	1460	109 B	635	149 B	3600	
Antimony	< 1.9	5.1 B	< 0.45	< 0.45	2.8 B	< 0.45	2.2 B	< 0.47	
Arsenic	3.6 B	3.4 B	< 0.64	< 0.65	4.0 B	< 0.64	< 2.7	< 0.67	
Barium	20.8 J	22.6 J	8.8 J	7.6 J	29.6 J	2.8 J	17.3 J	7.0 J	
Beryllium	< 0.10	0.18 B	0.04 B	0.06 B	< 0.10	< 0.02	< 0.10	0.06 B	
Cadmium	< 0.50	< 0.50	< 0.12	< 0.12	< 0.50	< 0.12	< 0.50	0.14 B	
Calcium	10300	10100	99.6 J	303 J	13900	49.0 J	8420	1140 J	
Chromium	< 0.70	< 0.70	3.0	4.5	< 0.70	1.4 B	< 0.70	3.2	
Cobalt	1.7 B	2.1 B	0.92 B	0.58 B	< 0.50	0.13 B	< 0.50	0.32 B	
Copper	0.73 B	1.0 B	7.6 J	8.4 J	0.90 B	0.88 B	2.9 B	25.3 J	
Iron	2890	2730	2790 J	1680 J	4000	1170	343	1410	
Lead	< 1.6	1.7 B	3.1 J	11.7 J	2.6 B	1.6 B	< 1.6	4.6 J	
Magnesium	5630	5540	176	185	3340	43.8 B	5080	439	
Manganese	468	457	105 J	50.2 J	215	7.6	67.6	17.4	
Mercury	< 0.20	< 0.20	< 0.12	< 0.12	< 0.20	< 0.12	< 0.20	< 0.12	
Nickel	< 2.4	< 2.4	1.4	1.1	< 2.4	< 0.57	3.3	1.7	
Potassium	1530	1530	86.3	70.4 B	2020	36.6 B	1410	86.2	
Selenium	< 3.4	< 3.4	< 0.81	< 0.81	< 3.4	< 0.81	< 3.4	< 0.84	
Silver	< 0.60	< 0.60	< 0.14	< 0.14	< 0.60	< 0.14	< 0.60	< 0.15	
Sodium	8760 J	8540 J	253 B	285 B	8580 J	261 B	9340 J	271 B	
Thallium	< 3.6	< 3.6	< 0.86	< 0.86	< 3.6	< 0.86	< 3.6	< 0.89	
Vanadium	< 0.60	< 0.60	4.1	3.5	< 0.60	1.6	0.95	5.1	
Zinc	24.3 B	24.8 B	9.2 L	5.6 L	64.0	4.5 L	18.8 B	10.4	
Cyanide	< 10.0	< 10.0	< 0.59	< 0.60	< 10.0	< 0.60	< 10.0	< 0.62	

A-5.32

Inorganic Analysis

Sample ID:	WFF9-SW18	WFF9-SW19	WFF9-SW20
Lab Sample ID:	761341	760130	760134
Matrix:	WATER	WATER	WATER
Collection Date:	09/28/95	09/26/95	09/26/95
Receipt Date:	09/29/95	09/27/95	09/27/95
Extraction Date:	10/03/95	10/03/95	10/03/95
Analysis Date:	10/04/95	10/04/95	10/04/95
Remarks:	Field Blank	Equipment Blank	Equipment Blank
Units of Measure:	UG/L	UG/L	UG/L

Analyte Description

Analyte Description	WFF9-SW18	WFF9-SW19	WFF9-SW20
Aluminum	74.5	116	91.3
Antimony	< 1.9	2.8	< 1.9
Arsenic	< 2.7	< 2.7	< 2.7
Barium	1.1 J	1.7 J	1.4 J
Beryllium	< 0.10	0.21	< 0.10
Cadmium	< 0.50	< 0.50	< 0.50
Calcium	< 14.5	< 14.5	< 14.5
Chromium	< 0.70	0.81	< 0.70
Cobalt	< 0.50	< 0.50	< 0.50
Copper	0.53	2.4	3.8
Iron	10.2	18.3	10.3
Lead	< 1.6	< 1.6	< 1.6
Magnesium	< 5.4	16.4	8.7
Manganese	0.20	1.4	0.63
Mercury	< 0.20	< 0.20	< 0.20
Nickel	< 2.4	< 2.4	< 2.4
Potassium	55.7	80.1	66.3
Selenium	< 3.4 UL	< 3.4 UL	< 3.4 UL
Silver	< 0.60 UL	< 0.60 UL	< 0.60 UL
Sodium	685 J	695 J	673 J
Thallium	< 3.6	< 3.6	< 3.6
Vanadium	< 0.60	< 0.60	< 0.60
Zinc	< 1.2 UL	11.1 L	< 1.2 UL
Cyanide	< 10.0	< 10.0	< 10.0

A-5.33

Inorganic Analysis

Sample ID:	WFF9-GW1	WFF9-GW4	WFF9-GW2	WFF9-GW3	WFF9-GW5
Lab Sample ID:	761305	761316	761349	761354	761328
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/27/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/06/95	10/06/95	10/06/95	10/03/95
Analysis Date:	10/04/95	10/07/95	10/07/95	10/07/95	10/04/95

Remarks:		Duplicate of WFF9-GW1			Equipment Blank
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L

Analyte Description

Aluminum	121	B	260	B	673		224	B	78.9	
Antimony	< 1.9		< 1.9		< 1.9		< 1.9		2.4	
Arsenic	< 2.7		< 2.7		< 2.7		< 2.7		< 2.7	
Barium	6.1	B	11.5	J	11.5	J	12.6	J	1.3	J
Beryllium	< 0.10		0.29	B	0.25	B	0.22	B	< 0.10	
Cadmium	< 0.50		< 0.50		< 0.50		< 0.50		< 0.50	
Calcium	6660		6230		4150		11600		< 14.5	
Chromium	< 0.70		0.78		0.84		0.89		< 0.70	
Cobalt	< 0.50		< 0.50		< 0.50		< 0.50		< 0.50	
Copper	1.7	B	2.9	B	1.8	B	1.6	B	< 0.50	
Iron	22.6	B	20.9	B	171	J	51.3	B	< 9.7	
Lead	< 1.6		< 1.6		2.2	B	2.1	B	2.1	K
Magnesium	2390		2190		1270		1570		8.3	
Manganese	7.9		8.0		4.4	B	6.6		0.99	
Mercury	< 0.20		< 0.20		< 0.20		< 0.20		< 0.20	
Nickel	< 2.4		< 2.4		< 2.4		< 2.4		< 2.4	
Potassium	676		731		1740		953		64.2	
Selenium	< 3.4	UL	< 3.4		< 3.4		< 3.4		< 3.4	UL
Silver	< 0.60	UL	< 0.60	UL	< 0.60	UL	< 0.60	UL	< 0.60	UL
Sodium	5730	J	5560		4670		5680		618	J
Thallium	< 3.6		< 3.6	UL	< 3.6		< 3.6		< 3.6	
Vanadium	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60	
Zinc	8.6	J	46.3	J	24.3	J	10.8	J	< 1.2	UL
Cyanide	< 10.0		< 10.0		< 10.0	UL	< 10.0	UL	< 10.0	

A-5.34

Inorganic Analysis

Sample ID:	WFF10-GW1	WFF10-GW2	WFF10-GW3	WFF10-GW5	WFF10-GW43
Lab Sample ID:	761281	761285	761277	761345	761298
Matrix:	WATER	WATER	WATER	WATER	WATER
Collection Date:	09/28/95	09/28/95	09/28/95	09/28/95	09/28/95
Receipt Date:	09/29/95	09/29/95	09/29/95	09/29/95	09/29/95
Extraction Date:	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Analysis Date:	10/04/95	10/04/95	10/04/95	10/04/95	10/04/95
Remarks:				Field Blank	

Analyte Description	Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L
Aluminum		129 B	87.6 B	140 B	90.8	117 B
Antimony		2.4 B	3.1 B	2.6 B	< 1.9	< 1.9
Arsenic		< 2.7	< 2.7	< 2.7	< 2.7	< 2.7
Barium		14.9 J	10.4 J	12.7 J	1.1 J	11.3 J
Beryllium		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cadmium		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Calcium		6330	5900	4270	< 14.5	3290
Chromium		< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Cobalt		< 0.50	< 0.50	0.91 B	< 0.50	0.68 B
Copper		2.8 B	0.98 B	2.3 B	0.71	1.6 B
Iron		14.2 B	< 9.7	14.1 B	< 9.7	18.4 B
Lead		< 1.6	< 1.6	2.7 B	< 1.6	< 1.6
Magnesium		2960	3270	3200	5.4	3880
Manganese		12.6	6.7	13.9	< 0.20	5.1
Mercury		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Nickel		< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
Potassium		938	1370	1190	52.6	1370
Selenium		< 3.4 UL	< 3.4 UL	< 3.4 UL	< 3.4 UL	< 3.4 UL
Silver		< 0.60 UL	< 0.60 UL	< 0.60 UL	< 0.60 UL	< 0.60 UL
Sodium		8000 J	6250 J	8820 J	559 J	8620 J
Thallium		< 3.6	< 3.6	< 3.6	< 3.6	< 3.6
Vanadium		< 0.60	< 0.60	< 0.60	< 0.60	< 0.60
Zinc		65.5	26.8 L	11.8 L	< 1.2 UL	6.6 L
Cyanide		< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

A-5.35

APPENDIX A-6

ASBESTOS RESULTS

AMERICAN MEDICAL LABORATORIES, INC.*

P.O. Box 10841 • 14225 Newbrook Drive
 Chantilly, VA 22021-0841
 Telephone: (703) 802-6900

INDUSTRIAL HYGIENE DEPARTMENT

PAGE 1

X

RECEIVED : 03/17/93 7137 NASA/GODDARD SPACE FLIGHT CTR.
 RELEASED : 03/23/93 ATTN: THEODORE M. UNITE
 REPORTED : 03/24/93 EHG-NHS, INC. CODE 205.9
 WORK ORDER: 73218 GREENBELT, MD
 20771

PROJECT NAME/JOB ID: RUNWAY 35, END 17

AML NUMBER-----VALUE-----UNITS-----

8334979 WFF 93-1735 (RW) 136 BULK SAMPLE WFF15-DP1
 1530 ASBESTOS BULK ANALYSIS
 SAMPLE DESCRIPTION
 SITE/LOCATION: PILE OF DERRIS
 DESCRIPTION: COLOR- GRAY/TAN
 TEXTURE- ROUGH
 HOMOGENOUS- YES
 LAYERED- NO
 FIBROUS- YES
 TOTAL % ASBESTOS: 45-50 %
 CHRYSOTILE: 45-50 %
 FIBROUS NON-ASBEST: <1 %
 CELLULOSE: TRACE %
 NON-FIBROUS: 45-50 %
 UNSPECIFIED: 45-50 %
 ANALYST: John Solejack

8334980 WFF 93-1735 (RW) 135 BULK SAMPLE WFF15-DP2
 1530 ASBESTOS BULK ANALYSIS
 SAMPLE DESCRIPTION
 SITE/LOCATION: PILE OF DEBRIS
 DESCRIPTION: COLOR- DK BROWN
 TEXTURE- ROUGH
 HOMOGENOUS- YES
 LAYERED- NO
 FIBROUS- YES
 TOTAL % ASBESTOS: 45-50 %
 CHRYSOTILE: 45-50 %
 FIBROUS NON-ASBEST: <1 %
 CELLULOSE: TRACE %
 NON-FIBROUS: 45-50 %
 UNSPECIFIED: 45-50 %
 ANALYST: John Solejack

NOTATIONS

Analysis performed by trained asbestos analyst using polarized light microscopy with dispersion staining following "Interim Method for the Determination of Asbestos in Bulk Insulation Samples", U.S.E.P.A., EPA-600/M4-82-020, December 1982.

CONTINUED ON NEXT PAGE

A-6.1

WKS = 8152/00004

VERIFICATION COPY
INDUSTRIAL HYGIENE DEPARTMENT

PAGE 1

RECEIVED : 08/26/93
RELEASED : 09/01/93
REPORTED : 09/01/93
WORK ORDER: 81007

7137 NASA/GODDARD SPACE FLIGHT CTR.
ATTN: THEODORE M. UNITE
EHG-NHS, INC. CODE 205.9
GREENBELT, MD
20771

PROJECT NAME/JOB ID: WFF DEBRIS PILE

AML NUMBER-----VALUE-----UNITS-----

8360169	930816 WFF	BULK SAMPLE
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION	
	SITE/LOCATION:	DEBRIS PILE - NORTH END
	DESCRIPTION: COLOR-	TAN
	TEXTURE-	ROUGH
	HOMOGENOUS-	YES
	LAYERED-	NO
	FIBROUS-	YES
	DATE COLLECTED:	8/16/93
	TOTAL % ASBESTOS:	40-45 %
	CHRYSOTILE:	40-45 %
	NON-FIBROUS:	50-55 %
	UNSPECIFIED:	50-55 %
	ANALYST:	Elsie O. Sharon

NOTATIONS

Analysis performed by trained asbestos analyst using polarized light microscopy with dispersion staining following "Interim Method for the Determination of Asbestos in Bulk Insulation Samples", U.S.E.P.A., EPA-600/M4-82-020, December 1982.

Results shown are for the sample as received by the laboratory.

The percentages quoted are visually determined and therefore subject to significant numerical uncertainty.

BRYAN MASON
ACTING DIRECTOR, IND. HYGIENE

APPENDIX B

ANALYTICAL METHODS AND DETECTION LIMITS

APPENDIX B-1

ANALYTICAL METHODS

APPENDIX B-1

ANALYTICAL METHODS

PARAMETER	METHOD
TCL Volatiles	OLMO 1.8
TCL Volatiles with low detection limits	SAM 10/92
TCL Semivolatiles	OLMO 1.8, OLMO 1.9
TCL Pesticides/PCBs	OLMO 1.8, OLMO 1.9
TAL Inorganics	ILMO 2.1, ILMO 3.0
TCL PCBs (Wipes and Soils)	SW846 M8080
TPH	SW846 M8015M
BTEX	SW846 M8020
Lead	SW846 M7421

- NOTES: TCL = Target Compound List
(125 organics)
TAL = Target Analyte List
(23 Metals and Cyanide)
TPH = Total Petroleum Hydrocarbons
OLMO 1.0 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.0
SAM 10/92 =
OLMO 1.8 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.8
OLMO 1.9 = Organic Analysis Multi-Media Multi-Concentration, Revision 1.9
ILMO 2.1 = Inorganic Analysis, Multi-Media Multi-Concentration, Revision 2.1
ILMO 3.0 = Inorganic Analysis, Multi-Media Multi-Concentration, Revision 3.0
SW846 M8080 = Solid Waste 846 Method 8080 for analysis of PCBs
SW846 M8015M = Solid Waste 846 Method 8015 for analysis of total petroleum hydrocarbons, modified.
SW846 M8020 = Solid Waste 846 Method 8020 for BTEX
SW846 M7421 = Solid Waste 846 Method 7421 for lead
BTEX = Benzene, Toluene, Ethyl Benzene, Xylene
PCB = Polychlorinated Biphenyl

APPENDIX B-2

ANALYTES AND DETECTION LIMITS

Target Compound List, Volatiles
Contract Required Detection Limits, OLMO 1.8

Analyte	Water ug/l	Low Soil ug/kg	Medium Soil ug/kg
Chloromethane	10	10	1,200
Bromomethane	10	10	1,200
Vinyl Chloride	10	10	1,200
Chloroethane	10	10	1,200
Methylene Chloride	10	10	1,200
Acetone	10	10	1,200
Carbon Disulfide	10	10	1,200
1,1-Dichloroethene	10	10	1,200
1,1-Dichloroethane	10	10	1,200
1,2-Dichloroethene(total)	10	10	1,200
Chloroform	10	10	1,200
1,2-Dichloroethane	10	10	1,200
2-Butanone	10	10	1,200
1,1,1-Trichloroethane	10	10	1,200
Carbon Tetrachloride	10	10	1,200
Bromodichloromethane	10	10	1,200
1,2-Dichloropropane	10	10	1,200
cis-1,3-Dichloropropene	10	10	1,200
Trichloroethene	10	10	1,200
Dibromochloromethane	10	10	1,200
1,1,2-Trichloroethane	10	10	1,200
Benzene	10	10	1,200
trans-1,3-Dichloropro	10	10	1,200
Bromoform	10	10	1,200
4-Methyl-2-pentanone	10	10	1,200
2-Hexanone	10	10	1,200
Tetrachloroethene	10	10	1,200
Toluene	10	10	1,200
1,1,2,2-Tetrachloroethane	10	10	1,200
Chlorobenzene	10	10	1,200
Ethylbenzene	10	10	1,200
Styrene	10	10	1,200
Total Xylenes	10	10	1,200

**Target Compound List, Base-Neutral Acids (Semivolatiles)
Contract Required Detection Limits, OLMO 1.8**

Analyte	Water ug/l	Low Soil ug/kg	Medium Soil ug/kg
Phenol	10	330	10,000
Bis(2-chloroethyl)ether	10	330	10,000
2-Chlorophenol	10	330	10,000
1,3-Dichlorobenzene	10	330	10,000
1,4-Dichlorobenzene	10	330	10,000
1,2-Dichlorobenzene	10	330	10,000
2-Methylphenol	10	330	10,000
2,2'-Oxybis(1-chloropropane)	10	330	10,000
4-Methylphenol	10	330	10,000
N-Nitroso-di-n-propylamine	10	330	10,000
Hexachloroethane	10	330	10,000
Nitrobenzene	10	330	10,000
Isophorone	10	330	10,000
2-Nitrophenol	10	330	10,000
2,4-Dimethylphenol	10	330	10,000
Bis(2-chloroethoxy)methane	10	330	10,000
2,4-Dichlorophenol	10	330	10,000
1,2,4-Trichlorobenzene	10	330	10,000
Naphthalene	10	330	10,000
4-Chloroaniline	10	330	10,000
Hexachlorobutadiene	10	330	10,000
4-Chloro-3-methylphenol	10	330	10,000
2-Methylnaphthalene	10	330	10,000
Hexachlorocyclopentadiene	10	330	10,000
2,4,6-Trichlorophenol	10	330	10,000
2,4,5-Trichlorophenol	25	800	25,000
2-Chloronaphthalene	10	330	10,000
2-Nitroaniline	25	800	25,000
Dimethylphthalate	10	330	10,000
Acenaphthylene	10	330	10,000
2,6-Dinitrotoluene	10	330	10,000
3-Nitroaniline	25	800	25,000
Acenaphthene	10	330	10,000

Target Compound List, Base-Neutral Acids (Semivolatiles), continued
Contract Required Detection Limits, OLMO 1.8

Analyte	Water ug/l	Low Soil ug/kg	Medium Soil ug/kg
2,4-Dinitrophenol	25	800	25,000
4-Nitrophenol	25	800	25,000
Dibenzofuran	10	330	10,000
2,4-Dinitrotoluene	10	330	10,000
Diethylphthalate	10	330	10,000
4-Chlorophenyl-phenylether	10	330	10,000
Fluorene	10	330	10,000
4-Nitroaniline	25	800	25,000
4,6-Dinitro-2-methylphenol	25	800	25,000
N-Nitrosodiphenylamine	10	330	10,000
4-Bromophenyl-phenylether	10	330	10,000
Hexachlorobenzene	10	330	10,000
Pentachlorophenol	25	800	25,000
Phenanthrene	10	330	10,000
Anthracene	10	330	10,000
Carbazole	10	330	10,000
Di-n-butylphthalate	10	330	10,000
Fluoranthene	10	330	10,000
Pyrene	10	330	10,000
Butylbenzylphthalate	10	330	10,000
3,3'-Dichlorobenzidine	10	330	10,000
Benzo(a)anthracene	10	330	10,000
Chrysene	10	330	10,000
Bis(2-ethylhexyl)phthalate	10	330	10,000
Di-n-octylphthalate	10	330	10,000
Benzo(b)fluoranthene	10	330	10,000
Benzo(k)fluoranthene	10	330	10,000
Benzo(a)pyrene	10	330	10,000
Indeno(1,2,3-cd)pyrene	10	330	10,000
Dibenz(a,h)anthracene	10	330	10,000
Benzo(g,h,i)perylene	10	330	10,000

Target Compound List, Pesticides and PCBs
Contract Required Detection Limits, OLMO 1.8

Analyte	Water ug/l	Low Soil ug/kg
alpha-BHC	0.05	1.7
beta-BHC	0.05	1.7
delta-BHC	0.05	1.7
gamma-BHC(Lindane)	0.05	1.7
Heptachlor	0.05	1.7
Aldrin	0.05	1.7
Heptachlor Epoxide	0.05	1.7
Endosulfan I	0.05	1.7
Dieldrin	0.10	3.3
4,4'-DDE	0.10	3.3
Endrin	0.10	3.3
Endosulfan II	0.10	3.3
4,4'-DDD	0.10	3.3
Endosulfan Sulfate	0.10	3.3
4,4'-DDT	0.10	3.3
Methoxychlor	0.50	17.0
Endrin Ketone	0.10	3.3
Endrin Aldehyde	0.10	3.3
alpha-Chlordane	0.05	1.7
gamma-Chlordane	0.05	1.7
Toxaphene	5.0	170
Aroclor-1016	1.0	33
Aroclor-1221	2.0	67
Aroclor-1232	1.0	33
Aroclor-1242	1.0	33
Aroclor-1248	1.0	33
Aroclor-1254	1.0	33
Aroclor-1260	1.0	33

Target Analyte List, Metals and Cyanide (Inorganics)
Contract Required Quantitation Limits, IEMO 2.1

Analyte	Water ug/l
Aluminum	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5,000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	3
Magnesium	5,000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5,000
Selenium	5
Silver	10
Sodium	5,000
Thallium	10
Vanadium	50
Zinc	20
Cyanide	10

PCBs by SW846 Method 8080
Method Detection Limits

Analyte	Wipes Total ug
Aroclor-1016	0.25
Aroclor-1221	0.25
Aroclor-1232	0.25
Aroclor-1242	0.25
Aroclor-1248	0.25
Aroclor-1254	0.50
Aroclor-1260	0.50

Total Petroleum Hydrocarbons by SW846 Method 8015 (modified)
Method Detection Limits

Analyte	Soil ppm	Water ppm
Fuel Oil #4	10	10
Gasoline	10	10
Kerosene	10	10
Diesel Fuel	10	10

BTEX by SW846 Method 8020
Method Detection Limits

Analyte	Soil ppb	Water ppb
Benzene	1.0	0.20
Toluene	1.0	0.20
Ethylbenzene	1.0	0.20
Total Xylenes	3.0	0.60

Lead by SW846 Method 7421
Method Detection Limit

Analyte	Soil mg/kg	Water ug/l
Lead	2.6	1.0

APPENDIX C

BACKGROUND DATA

APPENDIX C

DESCRIPTION OF BACKGROUND DATA USED FOR SITE INSPECTIONS

Appendix A of the Code of Federal Regulations, Section 40, Part 300 (40 CFR 300, 1992) defines an observed release as a contaminant detection in a site sample that exceeds three times the background level for that compound. If the contaminant was not detected in a background sample, then an observed release occurs when a sample detection exceeds the background detection limit. All data used in this report have been evaluated using this criteria. The tables included in this Appendix summarize all of the background data, including site-specific background data for Sites 4, 5, 9, and 10, used for evaluation of Site Inspection data.

Background samples have been separated by location (i.e., Wallops Island versus Mainbase) and matrix (i.e., soil versus water). Site-specific background samples were collected in September 1995 for Sites 4,5,9, and10 and were also separated by matrix. If data for more than one background sample exists for a particular matrix, then the average of the data was calculated, and an observed release was recognized if it exceeded three times the average. Exceptions to this method are defined on the data tables. For example, if a compound was detected in some but not all of the background samples in a group, then a combination of detections and detection limits may have been used. If a compound has never been detected in a background sample, an observed release is recognized if a site detection exceeds the average detection limit for all background samples collected for that group (40 CFR 300, 1992). Background data from Site 5 was compared to the adjacent Site 12 site data because of their proximity to each other, as discussed in Section 3.10 of this report.

Other exceptions include one sample of drum contents that was collected at Site 9. For this sample, background was considered to be zero for all parameters, as described by Appendix A of 40 CFR 300. The final exception was made for organic compounds. If an organic compound was never detected in a any background samples collected, that organic compound was considered an observed release whenever it was detected on a site. This exception was made because organic compounds are generally not naturally occurring. Conversely, many inorganic compounds do occur naturally in soil and water at varying concentrations.

For the purposes of Hazard Ranking System (HRS) scoring, site related contaminants detected during Phases IV (May-September, 1993) were removed from consideration according to the HRS Guidance Manual (EPA, 1992(b)). Site related contaminants detected in September 1995 during Phase V field investigations were removed from consideration according to the EPA document, Using Qualified Data to Document an Observed Release (EPA, 1994). M&E compared Phase V results to this different document because it was the EPA's most current publication on HRS scoring guidance.

(This Page is Intentionally Blank)

APPENDIX C
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAIN BASE BACKGROUND SAMPLES - SUBSURFACE SOILS

SAMPLE ID:	ME-1SS	ME-2SS	ME-3SS	WFF2-SB1B	WFF2-SB1BD	WFF2-SB1C	WFF2-SB1D	WFF2-SB1E	WFF2-SB1F	WFF2-SB2B	WFF2-SB2BD	WFF2-SB2C	WFF2-SB2D	WFF2-SB2E	WFF9-SB6	AVG.	MOR	NOTE
DEPTH (ft):	3-6	3-6	3-6	2-4	2-4	4-6	6-8	8-10	10-12	2-4	2-4	4-6	6-8	8-10	1.5-2.5			
DATE:	11/91	11/91	11/91	9/91	9/91	9/91	9/91	9/91	9/91	9/91	9/91	9/91	9/91	9/91	6/93			
SOURCE:	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	App, A-5			
ANALYTE:																		
Aluminum	9,748	5,499	3,357	5,880	6,490	3,430	3,680	5,840	7,040	13,300	19,000	9,350	5,570	4,690	7,520 J	7,360	22,079	1
Antimony	<0.02	<0.02	<0.02	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<5.0	9.14	9.14	4
Arsenic	<0.03	<0.03	<0.03	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	1.1	1.10	3.30	2
Barium	17.75	8.96	4.3	<40	<40	<40	<40	<40	<40	<40	49	<40	<40	<40	16	19.2	57.6	2
Beryllium	0.1	0.04	0.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	0.05	0.14	2
Cadmium	<0.009	<0.009	<0.009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.83	0.79	0.79	4
Calcium	227	148	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	189 J	165	495	1
Chromium	8.06	10.85	3.82	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	5.7	7.11	21.33	2
Cobalt	2.35	1.46	0.62	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1.2	1.41	4.23	2
Copper	0.07	<0.007	<0.007	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.6	0.84	2.51	2
Iron	8529	4091	1425	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3040	4,271	12,814	1
Lead	<0.05	<0.05	<0.05	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	1.7	1.70	5.10	2
Magnesium	68	256	144	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	279	186.8	560.3	1
Manganese	63.79	37.22	11.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.4	32.64	97.92	1
Mercury	<0.01	<0.01	<0.01	<0.04	0.14	0.08	0.13	0.14	<0.04	0.13	<0.04	<0.04	0.08	0.15	<0.11	0.12	0.36	2
Nickel	1.69	4.45	1.17	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	3.4	2.68	8.04	2
Potassium	456	196	105	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<223	252.3	757.0	2
Selenium	<0.03	<0.03	<0.03	<20	<20	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.23	0.23	0.69	2
Silver	<0.01	<0.01	<0.01	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.83	1.52	1.52	4
Sodium	14.11	12.61	10.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.8 B	12.33	37.0	1
Thallium	12.44	3.3	1.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.4	5.85	17.54	2
Vanadium	16.78	9.13	4.78	<10	<10	<10	<10	<10	<10	20	27	<10	<10	<10	6.2	13.98	41.85	2
Zinc	11.61	5.63	2.72	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.56	<4.0	<4.0	<4.0	4.4 B	6.13	18.39	2
Cyanide	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	NA	NA	3

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- MOR = Minimum Observed Release

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x average.
- 2 Some data above dl, detections only used in average. MOR = 3 x average.
- 3 Background = 0. Compound not naturally occurring.
- 4 All data below detection limit, average calculated from all dls. MOR = average.
- 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = average.
- NA =Not Applicable.

C-2

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAINBASE BACKGROUND SAMPLES - SUBSURFACE SOILS
ORGANIC DATA (ug/kg)

Sample ID:	WFF2.1- SB1B	WFF2.1- SB1Bdup	WFF2.1- SB1C	WFF2.1- SB1D	WFF2.1- SB1E	WFF2.1- SB1F
DEPTH (ft)	2-4	2-4	4-6	6-8	8-10	10-12
DATE:	9/91	9/91	9/91	9/91	9/91	9/91
SOURCE:	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)
Acetone	1,880	962	3,000	1,040	911	465
Methylene chloride	61	29	54	79	29	43
Carbon Disulfide	<5	<5	<5	22 J	<5	11
1,1,1-Trichloroethane	<5	<5	<5	6 J	<5	<5
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
bis(2-ethylhexyl)phthalate	<360	<360	<370	<370	<360	110

MAINBASE BACKGROUND SAMPLES - SUBSURFACE SOILS
ORGANIC DATA, continued (ug/kg)

Sample ID:	WFF2.1- SB2B	WFF2.1- SB2Bdup	WFF2.1- SB2C	WFF2.1- SB2D	WFF2.1- SB2E	AVERAGE	MINIMUM OBSERVED RELEASE
DEPTH (ft)	2-4	2-4	4-6	6-8	8-10		
DATE:	9/91	9/91	9/91	9/91	9/91		
SOURCE:	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)	NASA, 1992(b)		
Acetone	54	22	131	606	236	750.7	2,252
Methylene chloride	16	21	19	30	32	26.8	80.5
Carbon Disulfide	3	4	3 J	5 J	5 J	4.7	14.1
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	6	18
Trichlorofluoromethane	6	10	7	15	12	10	30
bis(2-ethylhexyl)phthalate	<390	<380	<370	<390	<420	110	330

NOTES:

J Bias Unknown - datum w/in range, used in average

MOR = 3 x average detections. Detection limits were not included in MOR for organic data.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAIN BASE BACKGROUND SAMPLES - SURFACE SOILS (0 - 2 FT)

SAMPLE ID:	ME-1S	ME-2S	ME-3S	WFF2-SB1A	WFF2-SB2A	AVG.	MOR	NOTE
DATE:	11/91	11/91	11/91	9/91	9/91			
SOURCE:	NASA 1992(b)	NASA 1992(b)	NASA 1992(b)	NASA 1992(b)	NASA 1992(b)			
ANALYTE:								
Aluminum	11,815	5,838	2,974	17,700	16,700	11,005	33,016	1
Antimony	<0.02	<0.02	<0.02	<12	<12	4.81	4.81	4
Arsenic	<0.03	<0.03	<0.03	<20	<20	0.03	0.03	5
Barium	37.73	9.17	3.24	<40	68	29.54	88.62	2
Beryllium	0.37	0.05	0.0	<1.0	<1.0	0.14	0.42	2
Cadmium	<0.009	<0.009	<0.009	<1.0	<1.0	0.41	0.41	4
Calcium	424	187	68	NA	NA	226.3	679.0	1
Chromium	12.55	4.17	9.31	<20	<20	8.68	26.04	2
Cobalt	3.75	1.27	0.53	<10	<10	1.85	5.55	2
Copper	0.217	<0.007	<0.007	<5.0	<5.0	0.22	0.65	2
Iron	11,893	3,410	1,585	NA	NA	5,629	16,888	1
Lead	0.571	<0.05	<0.05	<20	<20	0.57	1.71	2
Magnesium	1,157	261	120	NA	NA	512.7	1,538	1
Manganese	237.5	40.16	13.19	NA	NA	96.95	290.85	1
Mercury	<0.01	<0.01	<0.01	<0.04	0.15	0.15	0.45	2
Nickel	5.01	0.94	1.25	<8.0	<8.0	2.4	7.2	2
Potassium	481	152	98.2	NA	NA	243.7	731.2	1
Selenium	<0.03	<0.03	<0.03	<20	<20	0.03	0.03	4
Silver	<0.01	<0.01	<0.01	<2.0	<2.0	0.81	0.81	4
Sodium	25.05	12	8.78	NA	NA	15.28	45.84	1
Thallium	17.77	5.6	1.21	<2.0	<2.0	8.19	24.58	2
Vanadium	23.41	7.8	4.27	16	22	14.70	44.10	1
Zinc	20.85	2.66	2.42	<4.0	5.99	7.98	23.94	2
Cyanide	<1.0	<1.0	<1.0	<2.0	<2.0	NA	NA	3

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 MOR = Minimum Observed Release

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x average.
 2 Some data above dl, detections only used in average. MOR = 3 x average.
 3 Background = 0. Compound not naturally occurring.
 4 All data below detection limit, average calculated from all dls. MOR = average.
 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = average.
 NA =Not Applicable.

C4

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAINBASE BACKGROUND SAMPLES - SURFACE SOILS (0 - 2 ft)					
ORGANIC DATA (ug/kg)					
Sample ID:	WFFZ1- SB1A	WFFZ1- SB2A	ME-25		
DATE:	9/91	9/91	11/91		MINIMUM
SOURCE:	NASA	NASA	NASA	AVERAGE	OBSERVED
	1992(b)	1992(b)	1992(b)		RELEASE
Acetone	<10	26	NA	26	78
Methylene chloride	6	7	NA	6.5	19.5
bis(2-ethylhexyl)phthalate	<360	<380	390	390	1170
4,4-DDE	38	<8.7	<40	38	114
4,4-DDT	11	<8.7	<40	11	33

NOTES:

MCR = 3 x average detections. Detection limits were not included in MOR for organic data.

NA = not applicable

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAINBASE BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITES 0 AND 14)

SAMPLE ID:	SURFACE WATER			SEDIMENT		
	WFF9-SW8	MOR	NOTE	WFF9-SD8	MOR	NOTE
DATE:	7/03			7/03		
SOURCE:	App A-5			App A-5		
ANALYTE:						
Aluminum	<27	27	4	1,240	3,720	1
Antimony	<41	41	4	<10.3	10.3	4
Arsenic	<1.0	1.0	4	0.6	1.8	1
Barium	22.1	66.3	1	4.7	14.1	1
Beryllium	<1.0	1.0	4	<0.25	0.25	4
Cadmium	<5.0 UJ	5.0	4	<1.3	1.3	4
Calcium	12,300	36,900	1	90.5	272	1
Chromium	<4.0	4.0	4	1.8	5.4	1
Cobalt	<3.0	3.0	4	<0.75	0.75	4
Copper	<3.0	3.0	4	<0.75	0.75	4
Iron	2,400	7,200	1	1,440	4,320	1
Lead	<1.0	1.0	4	<3	3	4
Magnesium	4,270	12,810	1	82.2	246.6	1
Manganese	118	354	1	6.9	20.7	1
Mercury	<0.1	0.1	4	<0.06	0.06	4
Nickel	<15	15	4	<3.8	3.8	4
Potassium	<1,090	1,090	4	<273	273	4
Selenium	<1.0	1.0	4	<0.25	0.25	4
Silver	<4.0 UJ	4.0	4	<1.0	1.0	4
Sodium	9,460	28,380	1	<13.3	13.3	4
Thallium	<1.0	1.0	4	<0.25	0.25	4
Vanadium	<3.0	3.0	4	2.0	6.0	1
Zinc	<20	20	4	<20	20	4
Cyanide	<0.5	NA	3	<10	NA	3

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- MOR = Minimum Observed Release

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x AVG.
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 Background = 0. Compound not naturally occurring.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = AVG.
- NA = Not Applicable

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

MAINBASE BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 15)

SAMPLE ID:	SURFACE WATER			SEDIMENT		
	WFF9-SW5	MOR	NOTE	WFF9-SD5	MOR	NOTE
DATE:	7/93			7/93		
SOURCE:	App A-5			App A-5		
ANALYTE:						
Aluminum	<27	27	4	2,400	7,200	1
Antimony	<41	41	4	<10.9	10.9	4
Arsenic	<1.0	1.0	4	0.85	2.55	1
Barium	20.2	60.6	1	17.2	51.6	1
Beryllium	<1.0	1.0	4	<0.27	0.27	4
Cadmium	<5.0 UJ	5.0	4	<1.3	1.3	4
Calcium	8,240	24,720	1	248	744	1
Chromium	<4.0	4.0	4	6.1	18.3	1
Cobalt	<3.0	3.0	4	<50	50	4
Copper	<3.0	3.0	4	17.3	51.9	1
Iron	183	549	1	3,030	9,090	1
Lead	1.1	3.3	1	5.4	16.2	1
Magnesium	5,240	15,720	1	281	843	1
Manganese	80.6	241.8	1	21.7	65.1	1
Mercury	<0.1	0.1	4	<0.06	0.06	4
Nickel	<15	15	4	8	24	1
Potassium	<1,090	1,090	4	<288	288	4
Selenium	1.2	3.8	1	<0.27	0.27	4
Silver	<4.0 UJ	4.0	4	<1.1	1.1	4
Sodium	11,900	35,700	1	<14	14	4
Thallium	<1.0	1.0	4	<0.27	0.27	4
Vanadium	<3.0	3.0	4	32.2	96.6	1
Zinc	<20	20.0	4	27.1	81.3	1
Cyanide	<0.5	NA	3	<10	NA	3

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 MOR - Minimum Observed Release

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x AVG.
 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 3 Background = 0. Compound not naturally occurring.
 4 All data below detection limit, average calculated from all dls. MOR = AVG.
 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = AVG.
 NA = Not Applicable.

C-7

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

**MAINBASE BACKGROUND SAMPLES
SURFACE WATER (Site 15 only)
ORGANIC DATA (ug/l)**

Sample ID:	WFF9- SWS	MINIMUM OBSERVED RELEASE
DATE:	6/93	
SOURCE:	App. A-5	
Chloromethane	10	30

**MAINBASE BACKGROUND SAMPLES
SEDIMENT (Site 15 only)
ORGANIC DATA (ug/kg)**

Sample ID:	WFF9 - SDS	MINIMUM OBSERVED RELEASE
DATE:	6/93	
SOURCE:	App. A-5	
Fluoroanthene	130 J	390 J
Pyrene	110 J	330 J
4,4'-DDE	13	39
4,4'-DDD	18 J	54 J
4,4'-DDT	15	45

NOTES:

J Bias Unknown - datum w/in range, used in average
MOR = 3 x average detections. Detection limits were not included in MOR
for organic data.
There is no organic data available for surface water background at
Sites 9 or 14.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

WALLOPS ISI AND BACKGROUND SAMPLES - SUBSURFACE SOILS

SAMPLE ID:	WFF5-SB4	WFF4-SB4	WFF4-SB5	AVG	MOR	NOTE
DEPTH(ft)	1	2	15			
DATE	8/93	8/93	6/93			
SOURCE:	App A-5	App A-5	App A-5			

ANALYTE:

Aluminum	1,900	1,330 J*	1,000 J*	1,900	5,700	1
Antimony	<8.9	<5.8	<5.6	6.77	6.77	4
Arsenic	0.94	1.9	2	1.61	4.83	1
Barium	4.6	2.3	1.6	2.83	8.49	1
Beryllium	<0.22	<0.24	<0.24	0.23	0.23	4
Cadmium	<1.1	<0.97	<0.94	1.0	1.00	4
Calcium	512	340 J*	157 J*	512.0	1,536	1
Chromium	5.4	3.1	2.6	3.7	11.1	1
Cobalt	1.9	0.74	<0.47	3.70	3.96	2
Copper	0.73	0.66	0.97	0.79	2.37	1
Iron	2,970 J*	2,490	2,290	0	7,750	1
Lead	4.8	2.4	6.5	4.57	13.71	1
Magnesium	654	370	288	437.33	1,312	1
Manganese	25.3	16	11	17.43	52.29	1
Mercury	<0.11	<0.12	<0.12	0.12	0.12	4
Nickel	<3.3	4.3	<3.1	4.30	12.90	2
Potassium	339	331 B	514 B	339.00	1,017	1
Selenium	<0.22	<0.25	<0.22	0.23	0.23	4
Silver	<0.87	<0.97	<0.94	0.93	0.93	4
Sodium	<5000	<5000	<5000	5,000	5,000	1
Thallium	<0.44	<0.5	<0.45	0.46	0.46	4
Vanadium	5.9	5.2	4.5	5.2	15.6	1
Zinc	12.1	6.7 B	5.2 B	12.1	36.3	1
Cyanide	<10	<10	<10	NA	NA	

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 MOR = Minimum Observed Value

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x AVG.
 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 3 Background = 0. Compound not naturally occurring.
 4 All data below detection limit, average calculated from all dls. MOR = AVG.
 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = AVG.
 NA = Not Applicable.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

WALLOPS ISLAND BACKGROUND - SURFACE SOILS (0 - 2 FT)

SAMPLE ID:	WFF5-SS4	WFF6R-SS1	WFF6R-SS2	WFF6R-SS3	AVG.	MOR	NOTE
DATE:	8/93	12/92	12/92	12/92			
SOURCE:	App A-5	M&E 1993(c)	M&E 1993(c)	M&E 1993(c)			
ANALYTE:							
Aluminum	1,250	16,200	14,600	2,950	8,750	26,250	1
Antimony	<9.2	<4.4	12.5	<4.06	12.50	37.50	2
Arsenic	1.3	1.78	2.04	<0.782	1.71	5.12	2
Barium	3	61.8	50.1	4.84	29.93	89.81	1
Beryllium	<0.22	0.483	0.361	<0.169	0.55	1.64	2
Cadmium	<1.1	<0.55	<0.541	<0.517	0.55	0.55	4
Calcium	465 J*	277	235	75.6	263.1	789.5	1
Chromium	5.7	14.3	12.4	3.47	8.97	26.9	1
Cobalt	1.5	<5.22	<5.14	<4.82	1.4	4.2	2
Copper	0.67 J	<3.94	<3.88	<3.64	0.67	2.01	J 2
Iron	2,320	12,100	10,400	2,930	6,938	20,813	1
Lead	11.4 K	5.67	4.97	15.6	9.41	28.23	K 1
Magnesium	424	1,380	1,110	236	787.5	2,363	1
Manganese	17.4	143	112	44.7	79.28	237.8	1
Mercury	<0.05 UL	<0.114	<0.112	<0.105	0.10	0.10	4
Nickel	<3.4	11.2	7.69	<6.11	9.45	28.34	2
Potassium	302	812	528	80.4	430.6	1,292	1
Selenium	<0.23	<.985	<0.97	<0.909	0.77	0.77	4
Silver	<0.89	<0.16	<0.158	<0.148	0.34	0.34	4
Sodium	32.8 U	267	<42.8	<40.1	267.00	801.0	2
Thallium	<0.45	<0.527	<0.519	<0.486	0.50	0.50	4
Vanadium	3.8	22.8	19.2	5.28	12.77	38.31	1
Zinc	32.5	23.2	18.2	10.1	21	63	1
Cyanide	<10	NA	NA	NA	NA	NA	

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- MOR = Minimum Observed Release

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3 x average.
- 2 Some data above dl, detections only used in average. MOR = 3 x average.
- 3 Background = 0. Compound not naturally occurring.
- 4 All data below detection limit, average calculated from all dls. MOR = average.
- 5 All data below detection limit, average calculated from dls, high dls (>1) excluded. MOR = average.
- NA =Not Applicable.

C-10

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

WALLOPS ISLAND BACKGROUND SAMPLES
SURFACE SOILS (0 - 0.5 ft)
ORGANIC DATA (ug/kg)

Sample ID:	WFF5- SS4	WFF6R- SS1	WFF6R- SS2	MINIMUM OBSERVED RELEASE
DATE:	6/93	11/91	11/91	
SOURCE:	App. A-5	NASA 1992(b)	NASA 1992(b)	
Chlorobenzene	<10	<5.72	1.13 J	3.39 J
Chloroform	<10	1.49 J	<5.64	4.47 J
Diesel (ppm)	36 L	NA	NA	108 L

WALLOPS ISLAND BACKGROUND SAMPLES
SUBSURFACE SOILS
ORGANIC DATA (ppm)

Sample ID:	WFF4- SB4	MINIMUM OBSERVED RELEASE
DEPTH (ft)	2	
DATE:	6/93	
SOURCE:	App. A-5	
Diesel	1.59	4.77

NOTES:

J Bias Unknown - datum w/in range, used in average

L Bias low, but datum used in average

NA = not applicable

MCR = 3 x average detections. Detection limits were not included in MCR for organic data.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 4)

Sample ID:	WFF4-SB6	SITE 4	SITE 4
Lab Sample ID:	760792	AVE	MOR
Matrix:	SOIL		
Collection Date:	09/27/95		
Receipt Date:	09/28/95		
Analysis Date:	10/01/95		
Remarks:			
Source:	App A-1		
Units of Measure:	UG/KG	UG/KG	UG/KG

Compound Description				NOTE
Chloromethane	< 11	11	11	4
Methylene chloride	5	B	11	3
Acetone	< 11	11	11	4
Carbon disulfide	< 11	11	11	4
Cis-1,2-Dichloroethene	N/A	N/A	N/A	
1,2-Dichloroethene(Total)	< 11	11	11	4
Chloroform	< 11	11	11	4
2-Butanone	< 11	11	11	4
1,1,1-Trichloroethane	< 11	11	11	4
Trichloroethene	< 11	11	11	4
Trichlorofluoromethane	N/A	N/A	N/A	
Benzene	< 11	11	11	4
4-Methyl-2-pentanone	< 11	11	11	4
2-Hexanone	< 11	11	11	4
Tetrachloroethene	< 11	11	11	4
Toluene	< 11	11	11	4
Chlorobenzene	< 11	11	11	4
Ethylbenzene	< 11	11	11	4
Styrene	< 11	11	11	4
Xylenes (Total)	< 11	11	11	4

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 4)

Sample ID:	WFF4-SB6	SITE 4	SITE 4	
Lab Sample ID:	760792	AVE	MOR	
Matrix:	SOIL			
Collection Date:	09/27/95			
Receipt Date:	09/28/95			
Extraction Date:	09/29/95			
Analysis Date:	10/02/95			
Remarks:				
Source:	App A-2			
Units of Measure:	UG/KG	UG/KG	UG/KG	NOTE
Compound Description				
Phenol	< 360	360	360	4
Naphthalene	< 360	360	360	4
2-Methylnaphthalene	< 360	360	360	4
Acenaphthylene	< 360	360	360	4
Dibenzofuran	< 360	360	360	4
Diethyl phthalate	< 360	360	360	4
Fluorene	< 360	360	360	4
Phenanthrene	< 360	360	360	4
Anthracene	< 360	360	360	4
Carbazole	< 360	360	360	4
Fluoranthene	< 360	360	360	4
Pyrene	< 360	360	360	4
Buryl benzyl phthalate	< 360	360	360	4
Benzo(a)anthracene	< 360	360	360	4
Chrysene	< 360	360	360	4
bis(2-Ethylhexyl)phthalate	36 B	360	360	3
Di-n-octyl phthalate	< 360	360	360	4
Benzo(b)fluoranthene	< 360	360	360	4
Benzo(k)fluoranthene	< 360	360	360	4
Benzo(a)pyrene	< 360	360	360	4
Indeno(1,2,3-cd)pyrene	< 360	360	360	4
Dibenzo(a,h)anthracene	< 360	360	360	4
Benzo(g,h,i)perylene	< 360	360	360	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 4)

Compound Description	Sample ID:	WFF4-SB6	SITE 4	SITE 4	
	LabSample:	760792	AVE	MOR	
	Matrix:	SOIL			
	Collection Date:	09/27/95			
	Receipt Date:	09/28/95			
	Extraction Date:	09/29/95			
	Analysis Date:	10/03/95			
	Remarks:				
	Source:	App A-3			
	Units of Measure:	UG/KG	UG/KG	UG/KG	NOTE
Beta-BHC	< 1.9		1.9	1.9	4
Delta-BHC	< 1.9		1.9	1.9	4
Gamma-BHC (Lindane)	< 1.9		1.9	1.9	4
Heptachlor	< 1.9		1.9	1.9	4
Aldrin	< 1.9		1.9	1.9	4
Heptachlor epoxide	< 1.9		1.9	1.9	4
Endosulfan I	< 1.9		1.9	1.9	4
Dieldrin	0.14	J	0.14	J 0.42	J 1
4,4'-DDE	< 3.6		3.6	3.6	4
Endrin	0.52		0.52	1.56	1
Endosulfan II	0.076	J	0.076	J 0.228	J 1
4,4'-DDD	0.24	B	3.6	3.6	3
Endosulfan sulfate	< 3.6		3.6	3.6	4
4,4'-DDT	2.4		2.4	7.2	1
p,p'-Methoxychlor	0.99	B	3.6	3.6	3
Endrin ketone	< 3.6		3.6	3.6	4
Endrin aldehyde	< 3.6		3.6	3.6	4
Alpha-chlordane	0.047	J	0.047	J 0.141	J 1
Gamma-chlordane	0.39	J	0.39	J 1.17	J 1
Toxaphene	< 190		190	190	4
PCB-1242	< 36		36	36	4
PCB-1254	< 36		36	36	4
PCB-1260	< 36		36	36	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 4)

Sample ID:	WFF4-SB4	WFF4-SB5	WFF4-SB6	SITE 4	SITE 4	NOTE
Lab Sample ID:	old data	old data	760793	AVE	MOR	
Matrix:	SOIL	SOIL	SOIL			
Collection Date:	6/93	6/93	09/27/95			
Receipt Date:			09/28/95			
Extraction Date:			10/05/95			
Analysis Date:			10/06/95			
Remarks:	2' Depth	1.5' Depth				
Source:	App A-5	App A-5	App A-5			
Units of Measure:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	
Analyte Description						
Aluminum	1,330 J*	1,000 J*	3170	3170	9510	1
Antimony	< 5.8	< 5.6	< 0.42	3.94	3.94	4
Arsenic	1.9	2	< 0.60	1.95	5.85	2
Barium	2.3	1.6	8.0 J*	1.95	5.85	1
Beryllium	< 0.24	< 0.24	0.08 B	0.24	0.24	3
Cadmium	< 0.97	< 0.94	< 0.11	0.67	0.67	4
Calcium	340 J	157 J	59.6 J	185.53 J	556.6 J	2
Chromium	3.1	2.6	3.2	2.97	8.9	1
Cobalt	0.74	< 0.47	0.74 B	0.74	2.22	2
Copper	0.66	0.97	3.4 J*	0.815	2.445	1
Iron	2,490	2,290	2580	2453.33	7360	1
Lead	2.4	6.5	12.4 J*	4.45	13.35	1
Magnesium	370	288	234	297.33	892	1
Manganese	16	11	36.3 J*	13.5	40.5	1
Mercury	< 0.12	< 0.12	< 0.11	0.12	0.12	4
Nickel	4.3	< 3.1	2.0	3.15	9.45	2
Potassium	331 B	514 B	117	117	351	1
Selenium	< 0.25	< 0.22	< 0.75	0.41	0.41	4
Silver	< 0.97	< 0.94	< 0.13 UL*	0.955	0.955	4
Sodium	< 5000	< 5000	255 B	5000	5000	3
Thallium	< 0.5	< 0.45	< 0.79	0.58	0.58	4
Vanadium	5.2	4.5	4.2	4.63	13.9	1
Zinc	6.7 B	5.2 B	18.9	18.9	56.7	1
Cyanide	< 10	< 10	< 0.55	6.85	6.85	4

NOTES:

J Bias Unknown - datum w/in range, used in average

J* Bias Unknown - datum not w/in range, not used in average

K Bias High

L Bias Low

U Undetected

UL* - Undetected and biased low, not used in average

B Detected in blank, not used in average

R Rejected data, not used in average

MOR = Minimum Observed Release

NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B or J). MOR = 3xAVE

2 Some data above dl, detections only used in average. MOR = 3 x AVG.

3 All detections qualified with "B", detection limit used instead. MOR = AVG.

4 All data below detection limit, average calculated from all dls. MOR = AVG.

5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 5)

Sample ID:	WFF5-SB5	WFF5-SS4	WFF6R-SS1	WFF6R-SS2	SITE 5	SITE 5		
Lab Sample ID:	760818	old data	old data	old data	AVE	MOR		
Matrix:	SOIL	SOIL	SOIL	SOIL				
Collection Date:	09/27/95	06/93	11/91	11/91				
Receipt Date:	09/28/95							
Analysis Date:	09/30/95							
Remarks:			0.5' Depth	0.5' Depth				
Source:	App A-1	App A-1	M&E 1993(c)	M&E 1993(c)				
Units of Measure:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description								
Chloromethane	< 15	N/A	N/A	N/A	15	15		4
Methylene chloride	11 B	N/A	N/A	N/A	15	15		3
Acetone	10 B	N/A	N/A	N/A	15	15		3
Carbon disulfide	< 15	N/A	N/A	N/A	15	15		4
Cis-1,2-Dichloroethene	N/A	N/A	N/A	N/A	N/A	N/A		
1,2-Dichloroethene(Total)	< 15	N/A	N/A	N/A	15	15		4
Chloroform	< 15	< 10	1.49 J	< 5.64	1.49 J	4.47 J		2
2-Butanone	< 15	N/A	N/A	N/A	15	15		4
1,1,1-Trichloroethane	< 15	N/A	N/A	N/A	15	15		4
Trichloroethene	< 15	N/A	N/A	N/A	15	15		4
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A	N/A		
Benzene	< 15	N/A	N/A	N/A	15	15		4
4-Methyl-2-pentanone	< 15	N/A	N/A	N/A	15	15		4
2-Hexanone	< 15	N/A	N/A	N/A	15	15		4
Tetrachloroethene	< 15	N/A	N/A	N/A	15	15		4
Toluene	< 15	N/A	N/A	N/A	15	15		4
Chlorobenzene	< 15	< 10	< 5.72	1.13 J	1.13 J	3.39 J		2
Ethylbenzene	< 15	N/A	N/A	N/A	15	15		4
Styrene	< 15	N/A	N/A	N/A	15	15		4
Xylenes (Total)	< 15	N/A	N/A	N/A	15	15		4

NOTES:

J Bias Unknown - datum w/in range, used in average

J* Bias Unknown - datum not w/in range, not used in average

K Bias High

L Bias Low

U Undetected

B Detected in blank, not used in average

R Rejected data, not used in average

MOR = Minimum Observed Release

NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE

2 Some data above dl, detections only used in average. MOR = 3 x AVG.

3 All detections qualified with "B", detection limit used instead. MOR = AVG.

4 All data below detection limit, average calculated from all dls. MOR = AVG.

5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 5)

Sample ID:	WFF5-SB5	SITE 5	SITE 5
Lab Sample ID:	760818	AVE	MOR
Matrix:	SOIL		
Collection Date:	09/27/95		
Receipt Date:	09/28/95		
Extraction Date:	09/29/95		
Analysis Date:	10/02/95		
Remarks:			
Source:	App A-2		
Units of Measure:	UG/KG	UG/KG	UG/KG

Compound Description	UG/KG	UG/KG	UG/KG	NOTE
Phenol	< 480	480	480	4
Naphthalene	< 480	480	480	4
2-Methylnaphthalene	< 480	480	480	4
Acenaphthylene	< 480	480	480	4
Acenaphthene	< 480	480	480	4
Dibenzofuran	< 480	480	480	4
Diethyl phthalate	< 480	480	480	4
Fluorene	< 480	480	480	4
Phenanthrene	< 480	480	480	4
Anthracene	< 480	480	480	4
Carbazole	< 480	480	480	4
Fluoranthene	< 480	480	480	4
Pyrene	< 480	480	480	4
Butyl benzyl phthalate	< 480	480	480	4
Benzo(a)anthracene	< 480	480	480	4
Chrysene	< 480	480	480	4
bis(2-Ethylhexyl)phthalate	< 480	480	480	4
Di-n-octyl phthalate	< 480	480	480	4
Benzo(b)fluoranthene	< 480	480	480	4
Benzo(k)fluoranthene	< 480	480	480	4
Benzo(a)pyrene	< 480	480	480	4
Indeno(1,2,3-cd)pyrene	< 480	480	480	4
Dibenzo(a,h)anthracene	< 480	480	480	4
Benzo(g,h,i)perylene	< 480	480	480	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 5)

Sample ID:	WFF5-SB5	SITE 5	SITE 5	SITE 5	
Lab Sample:	760818	AVG	AVG	MOR	
Matrix:	SOIL				
Collection Date:	09/27/95				
Receipt Date:	09/28/95				
Extraction Date:	09/29/95				
Analysis Date:	10/04/95				
Remarks:					
Source:	App A-3				
Units of Measure:	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description					
Beta-BHC	< 2.5		2.5	2.5	4
Delta-BHC	< 2.5		2.5	2.5	4
Gamma-BHC (Lindane)	0.38 J		0.38 J	1.14 J	1
Heptachlor	< 2.5		2.5	2.5	4
Aldrin	< 2.5		2.5	2.5	4
Heptachlor epoxide	< 2.5		2.5	2.5	4
Endosulfan I	< 2.5		2.5	2.5	4
Dieldrin	< 4.9		4.9	4.9	4
4,4'-DDE	1.2 J		1.2 J	3.6 J	1
Endrin	< 4.9		4.9	4.9	4
Endosulfan II	< 4.9		4.9	4.9	4
4,4'-DDD	0.90 J		0.90 J	2.7 J	1
Endosulfan sulfate	< 4.9		4.9	4.9	4
4,4'-DDT	0.24 B		4.9	4.9	3
p,p'-Methoxychlor	0.24 B		4.9	4.9	3
Endrin ketone	< 4.9		4.9	4.9	4
Endrin aldehyde	0.16 J		0.16 J	0.48 J	1
Alpha-chlordane	< 2.5		2.5	2.5	4
Gamma-chlordane	< 2.5		2.5	2.5	4
Toxaphene	< 250		250	250	4
PCB-1242	< 49		49	49	4
PCB-1254	< 49		49	49	4
PCB-1260	5.0 J		5.0 J	15 J	1

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR - Minimum Observed Release
- NA - Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B or J). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE SOIL (SITE 5)

Sample ID:	WFF5-SB5	WFF5-SS4	WFF6R-SS2	WFF6R-SS3	WFF6R-SS4	SITE 5	SITE 5	NOTE
Lab Sample ID:	760819	old data	old data	old data	old data	AVE.	MOR	
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL			
Collection Date:	09/27/95	8/93	12/92	12/92	12/92			
Receipt Date:	09/28/95							
Extraction Date:	10/05/95							
Analysis Date:	10/06/95							
Remarks:	0.5' Depth	0.5' Depth	0.5' Depth	0.5' Depth	0.5' Depth			
Source:	App A-5	App A-5	M&E 1993(c)	M&E 1993(c)	M&E 1993(c)			
Units of Measure:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	
Analyte Description								
Aluminum	3960	1250	14,600	2,950	16,200	7792	23376	1
Antimony	< 0.56	< 9.2	12.5	< 4.06	< 4.4	12.5	37.5	2
Arsenic	5.3	1.3	2.04	< 0.782	1.78	2.61	7.82	2
Barium	8.4 J	3	50.1	4.84	61.8	25.63 J	76.88 J	1
Beryllium	0.22 B	< 0.22	0.361	< 0.169	0.483	0.42	1.27	2
Cadmium	< 0.15	< 1.1	< 0.541	< 0.517	< 0.55	0.57	0.57	4
Calcium	673 J*	465 J*	235	75.6	277	195.87	587.60	1
Chromium	9.9	5.7	12.4	3.47	14.3	9.15	27.46	1
Cobalt	1.9	1.5	< 5.14	< 4.82	< 5.22	1.7	5.1	2
Copper	3.9 J	0.67 J	< 3.88	< 3.64	< 3.94	2.285 J	6.855 J	2
Iron	11600	2320	10,400	2,930	12,100	7870	23610	1
Lead	9.0 J	11.4 K	4.97	15.6	5.67	9.33 JK	27.98 JK	1
Magnesium	1140	424	1,110	236	1,380	858	2574	1
Manganese	32.9	17.4	112	44.7	143	70	210	1
Mercury	< 0.14	< 0.05	< 0.112	< 0.105	< 0.114	0.10	0.10	4
Nickel	3.6	< 3.4	7.69	< 6.11	11.2	7.50	22.49	2
Potassium	875	302	528	80.4	812	519.48	1558.44	1
Selenium	1.1 K	< 0.23	< 0.97	< 0.909	< 0.985	1.1 K	3.3 K	2
Silver	< 0.18 UL	< 0.89	< 0.158	< 0.148	< 0.16	0.34	0.34	4
Sodium	600 B	< 32.8	< 42.8	< 40.1	267	267	801	2
Thallium	< 1.1	< 0.45	< 0.519	< 0.486	< 0.527	0.62	0.62	4
Vanadium	13.3	3.8	19.2	5.28	22.8	12.88	38.63	1
Zinc	25.3	32.5	18.2	10.1	23.2	21.86	65.58	1
Cyanide	< 0.73	< 10	NA	NA	NA	5.4	5.4	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- UL* - Undetected and biased low, not used in average
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B or J). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SUBSURFACE SOIL (SITE 5)

Sample ID:	WFF5-SB4	SITE 5	SITE 5	NOTE
Lab Sample ID:	old data	AVE.	MOR	
Matrix:	SOIL			
Collection Date:	6/93			
Receipt Date:				
Extraction Date:				
Analysis Date:				
Remarks:	1' Depth			
Source:	App A-5			
Units of Measure:	MG/KG	MG/KG	MG/KG	
Analyte Description				
Aluminum	1,900	1900	5700	1
Antimony	< 8.9	8.9	8.9	4
Arsenic	0.94	0.94	2.82	1
Barium	4.6	4.6	13.8	1
Beryllium	< 0.22	0.22	0.22	4
Cadmium	< 1.1	1.1	1.1	4
Calcium	512	512	1536	1
Chromium	5.4	5.4	16.2	1
Cobalt	1.9	1.9	5.7	1
Copper	0.73	0.73	2.19	1
Iron	2,970 J	2970 J	8910 J	1
Lead	4.8	4.8	14.4	1
Magnesium	654	654	1962	1
Manganese	25.3	25.3	75.9	1
Mercury	< 0.11	0.11	0.11	4
Nickel	< 3.3	3.3	3.3	4
Potassium	339	339	1017	1
Selenium	< 0.22	0.22	0.22	4
Silver	< 0.87	0.87	0.87	4
Sodium	< 5000	5000	5000	4
Thallium	< 0.44	0.44	0.44	4
Vanadium	5.9	5.9	17.7	1
Zinc	12.1	12.1	36.3	1
Cyanide	< 10	10	10	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

Compound Description	Sample ID:	WFF5-SW3	SITE 5 SW	SITE 5 SW		WFF5-SD3	SITE 5 SD	SITE 5 SD	
	Lab Sample ID:	760702	AVE	MOR		760822	AVE	MOR	
	Matrix:	WATER				SOIL			
	Collection Date:	09/27/95				09/27/95			
	Receipt Date:	09/28/95				09/28/95			
	Analysis Date:	10/01/95				09/30/95			
	Remarks:								
	Source:	App A-1				App A-1			
Units of Measure:		UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	NOTE
Chloromethane	< 1	1	1	4		< 15	15	15	4
Methylene chloride	< 2	2	2	4		15 B	15	15	3
Acetone	< 5 R	10	10	5		23 B	15	15	3
Carbon disulfide	< 1 UJ	1 J	1 J	4		< 15	15	15	4
Cis-1,2-Dichloroethene	< 1	1	1	4		N/A	N/A	N/A	
1,2-Dichloroethene(Total)	N/A	N/A	N/A			< 15	15	15	4
Chloroform	< 1	1	1	4		< 15	15	15	4
2-Butanone	< 5 R	10	10	5		< 15	15	15	4
1,1,1-Trichloroethane	< 1	1	1	4		< 15	15	15	4
Trichloroethene	< 1	1	1	4		< 15	15	15	4
Trichlorofluoromethane	N/A	N/A	N/A			N/A	N/A	N/A	
Benzene	< 1	1	1	4		< 15	15	15	4
4-Methyl-2-pentanone	< 5	5	5	4		< 15	15	15	4
2-Hexanone	< 5 R	10	10	5		< 15	15	15	4
Tetrachloroethene	< 1	1	1	4		< 15	15	15	4
Toluene	< 1	1	1	4		< 15	15	15	4
Chlorobenzene	< 1	1	1	4		< 15	15	15	4
Ethylbenzene	< 1	1	1	4		< 15	15	15	4
Styrene	< 1	1	1	4		< 15	15	15	4
Xylenes (Total)	< 1	1	1	4		< 15	15	15	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

Sample ID:	WFF5-SW3	SITE 5 SW	SITE 5 SW		WFF5-SD3	SITE 5 SD	SITE 5 SD	
Lab Sample ID:	760702	MOR	MOR		760822	AVE	MOR	
Matrix:	WATER				SOIL			
Collection Date:	09/27/95				09/27/95			
Receipt Date:	09/28/95				09/28/95			
Extraction Date:	10/02/95				09/29/95			
Analysis Date:	10/03/95				10/02/95			
Remarks:								
Source:	App A-2				App A-2			
Units of Measure:	UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	NOTE
Compound Description								
Phenol	< 10	10	10	4	< 490	490	490	4
Naphthalene	< 10	10	10	4	< 490	490	490	4
2-Methylnaphthalene	< 10	10	10	4	< 490	490	490	4
Acenaphthylene	< 10	10	10	4	< 490	490	490	4
Acenaphthene	< 10	10	10	4	< 490	490	490	4
Dibenzofuran	< 10	10	10	4	< 490	490	490	4
Diethyl phthalate	1	B	10	3	< 490	490	490	4
Fluorene	< 10	10	10	4	< 490	490	490	4
Phenanthrene	< 10	10	10	4	< 490	490	490	4
Anthracene	< 10	10	10	4	< 490	490	490	4
Carbazole	< 10	10	10	4	< 490	490	490	4
Fluoranthene	< 10	10	10	4	< 490	490	490	4
Pyrene	< 10	10	10	4	< 490	490	490	4
Butyl benzyl phthalate	< 10	10	10	4	< 490	490	490	4
Benzo(a)anthracene	< 10	10	10	4	< 490	490	490	4
Chrysene	< 10	10	10	4	< 490	490	490	4
bis(2-Ethylhexyl)phthalate	< 10	10	10	4	58	B	490	3
Di-n-octyl phthalate	< 10	10	10	4	< 490	490	490	4
Benzo(b)fluoranthene	< 10	10	10	4	< 490	490	490	4
Benzo(k)fluoranthene	< 10	10	10	4	< 490	490	490	4
Benzo(a)pyrene	< 10	10	10	4	< 490	490	490	4
Indeno(1,2,3-cd)pyrene	< 10	10	10	4	< 490	490	490	4
Dibenzo(a,h)anthracene	< 10	10	10	4	< 490	490	490	4
Benzo(g,h,i)perylene	< 10	10	10	4	< 490	490	490	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

Sample ID:	WFF5-SW3	SITE 5 SW		SITE 5 SW		WFF5-SD3	SITE 5 SD		SITE 5 SD	
Lab Sample:	760702	AVE		MOR		760822	AVE		MOR	
Matrix:	WATER				SOIL					
Collection Date:	09/28/95				09/27/95					
Receipt Date:	09/28/95				09/28/95					
Extraction Date:	10/05/95				09/29/95					
Analysis Date:	10/06/95				10/04/95					
Remarks:										
Source:	App A-3				App A-3					
Units of Measure:	UG/L	UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description										
Beta-BHC	< 0.050	R	0.05	0.05	5	0.55	0.55	1.65		1
Delta-BHC	< 0.050	R	0.05	0.05	5	< 2.5	2.5	2.5		4
Gamma-BHC (Lindane)	1.600	J	1.6	J	4.8	J	1	2.5		4
Heptachlor	0.030	J	0.03	J	0.09	J	1	2.5		3
Aldrin	< 0.050	R	0.05	0.05	5	0.21	J	0.21	J	0.63
Heptachlor epoxide	< 0.050	R	0.05	0.05	5	< 2.5	2.5	2.5		4
Endosulfan I	< 0.050	R	0.05	0.05	5	< 2.5	2.5	2.5		4
Dieldrin	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
4,4'-DDE	< 0.10	R	0.1	0.1	5	1.1	J	1.1	J	3.3
Endrin	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
Endosulfan II	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
4,4'-DDD	< 0.10	R	0.1	0.1	5	0.17	B	4.9		4.9
Endosulfan sulfate	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
4,4'-DDT	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
p,p'-Methoxychlor	< 0.50	R	0.5	0.5	5	0.73	B	17		17
Endrin ketone	0.21	J	0.21	0.63	1	< 4.9	4.9	4.9		4
Endrin aldehyde	< 0.10	R	0.1	0.1	5	< 4.9	4.9	4.9		4
Alpha-chlordane	< 0.050	R	0.05	0.05	5	0.42	J	0.42	J	1.26
Gamma-chlordane	< 0.050	R	0.05	0.05	5	< 2.5	2.5	2.5		4
Toxaphene	< 5.0	R	5	5	5	< 250	250	250		4
PCB-1242	< 1.0	R	1	1	5	< 49	49	49		4
PCB-1254	< 1.0	R	1	1	5	< 49	49	49		4
PCB-1260	< 1.0	R	1	1	5	< 49	49	49		4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

Analyte Description	Sample ID:	WFF5-SW3	SITE 5 SW	SITE 5 SW		WFF5-SD3	SITE 5 SD	SITE 5 SD				
	Lab Sample ID:	760711	AVE	MOR		760823	AVE	MOR				
	Matrix:	WATER				SOIL						
	Collection Date:	09/27/95				09/27/95						
	Receipt Date:	09/28/95				09/28/95						
	Extraction Date:	10/03/95				10/05/95						
	Analysis Date:	10/04/95				10/06/95						
	Remarks:											
	Source:	App A-5				App A-5						
	Units of Measure:	UG/L	UG/L	UG/L	NOTE	MG/KG	MG/KG	MG/KG	NOTE			
Aluminum	220	B	200	200	3	2890	J	2890	J	8670	J	1
Antimony	4.0	B	60	60	3	< 0.57		0.57		0.57		4
Arsenic	6.4	B	10	10	3	1.7		1.7		5.1		1
Barium	22.8	J	22.8	68.4	J	4.2	J	4.2	J	12.6	J	1
Beryllium	< 0.10		0.1	0.1	4	0.25	B	0.005		0.005		3
Cadmium	< 0.50		0.5	0.5	4	< 0.15		0.15		0.15		4
Calcium	211,000		211000	633000	1	698	J	698	J	2094	J	1
Chromium	1.6	B	10	10	3	5.9		5.9		17.7		1
Cobalt	0.60	B	50	50	3	2.5		2.5		7.5		1
Copper	1.7	B	25	25	3	2.9	B	0.02		0.02		3
Iron	563		563	1689	1	5590	J	5590	J	16770	J	1
Lead	< 1.6		1.6	1.6	4	5.0	J	5	J	15	J	1
Magnesium	528,000		528000	1584000	1	661		661		1983		1
Manganese	135		135	405	1	28.5	J	28.5	J	85.5	J	1
Mercury	< 0.20		0.2	0.2	4	< 0.15		0.15		0.15		4
Nickel	< 2.4		2.4	2.4	4	4.2		4.2		12.6		1
Potassium	298000		298000	894000	1	411		411		1233		1
Selenium	< 3.4	UL	3.4	3.4	4	1.9	K	1.9	K	5.7	K	1
Silver	< 0.60	UL	0.6	0.6	4	< 0.18	UL	0.18		0.18		4
Sodium	3,960,000	J	3960000	11880000	J	1020	B	5		5		3
Thallium	< 3.6	UL	3.6	3.6	4	< 1.1		1.1		1.1		4
Vanadium	0.82	L	0.82	2.46	L	7.9		7.9		23.7		1
Zinc	21	B	20	20	3	21.1		21.1		63.3		1
Cyanide	< 10.0		10	10	4	< 0.75		0.75		0.75		3

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL. used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

Compound Description	Sample ID:	WFF5-SW3	SITE 5 SW			SITE 5 SD	WFF5-SD3	SITE 5 SD			
	Lab Sample ID:	760716	AVE	MOR			760824	AVE	MOR		
	Matrix:	WATER					SOIL				
	Collection Date:	09/27/95					09/27/95				
	Receipt Date:	09/28/95					09/28/95				
	Extraction Date:	09/30/95					10/04/95				
	Analysis Date:	10/09/95					10/06/95				
	Remarks:										
	Source:	App A-4					App A-4				
	Units of Measure:	MG/L	MG/L	MG/L	NOTE		MG/KG	MG/L	MG/L	NOTE	
Diesel		0.37	R	10	10	5	3.3	R	10	10	5

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 5)

	Sample ID:	WFF5-SW3	SITE 5 SW SITE 5 SW			WFF5-SD3	SITE 5 SD SITE 5 SD		
	Lab Sample ID:	760715	AVE	MOR		760824	AVE	MOR	
	Matrix:	WATER				SOIL			
	Collection Date:	09/27/95				09/27/95			
	Receipt Date:	09/28/95				09/28/95			
	Analysis Date:	10/05/95				10/07/95			
	Remarks:								
	Source:	App A-4				App A-4			
	Units of Measure:	MG/L	MG/L	MG/L	NOTE	MG/KG	MG/L	MG/L	NOTE
Compound Description									
TPH-Purgeable as Gasoline		0.30 R	10	10	5	0.32 R	10	10	5

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 9)

Sample ID:	WFF9-SW8	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD8	WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Lab Sample ID:	old data	760112	760116	AVE	MOR		old data	760158	760162	AVE	MOR	
Matrix:	WATER	WATER	WATER				WATER	SOIL	SOIL			
Collection Date:	6/93	09/25/95	09/25/95				6/93	09/25/95	09/25/95			
Receipt Date:		09/27/95	09/27/95					09/27/95	09/27/95			
Analysis Date:		09/30/95	09/30/95					10/02/95	10/02/95			
Remarks:												
Source:	App A-1	pp A-1	pp A-1				App A-1	pp A-1	pp A-1			
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description												
Chloromethane	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Methylene chloride	N/A	1 B	0.9 B	10	10	3	N/A	11 B	6 B	10	10	3
Acetone	N/A	< 5 R	< 5 R	10	10	4	N/A	8 B	6 B	10	10	3
Carbon disulfide	N/A	< 1 UJ	< 1 UJ	1	1	4	N/A	< 12	< 12	12	12	4
Cis-1,2-Dichloroethene	N/A	< 1	< 1	1	1	4	N/A	N/A	N/A	N/A	N/A	
1,2-Dichloroethene(Total)	N/A	N/A	N/A	N/A	N/A		N/A	< 12	< 12	12	12	4
Chloroform	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
2-Butanone	N/A	< 5 R	< 5 R	10	10	4	N/A	< 12	< 12	12	12	4
1,1,1-Trichloroethane	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Trichloroethene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
Benzene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
4-Methyl-2-pentanone	N/A	< 5	< 5	5	5	4	N/A	< 12	< 12	12	12	4
2-Hexanone	N/A	< 5 R	< 5 R	10	10	4	N/A	< 12	< 12	12	12	4
Tetrachloroethene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Toluene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Chlorobenzene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Ethylbenzene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Styrene	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4
Xylenes (Total)	N/A	< 1	< 1	1	1	4	N/A	< 12	< 12	12	12	4

NOTES:

J Bias Unknown - datum w/in range, used in average

J* Bias Unknown - datum not w/in range, not used in average

K Bias High

L Bias Low

U Undetected

B Detected in blank, not used in average

R Rejected data, not used in average

MOR = Minimum Observed Release

NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE

2 Some data above dl, detections only used in average. MOR = 3 x AVG.

3 All detections qualified with "B", detection limit used instead. MOR = AVG.

4 All data below detection limit, average calculated from all dls. MOR = AVG.

5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 9)

Sample ID:	WFF9-SW8	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD8	WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Lab Sample ID:	old data	760112	760116	AVE	MOR		old data	760158	760162	AVE	MOR	
Matrix:	WATER	WATER	WATER				SOIL	SOIL	SOIL			
Collection Date:	6/93	09/25/95	09/25/95				6/93	09/25/95	09/25/95			
Receipt Date:		09/27/95	09/27/95					09/27/95	09/27/95			
Extraction Date:		09/29/95	09/29/95					09/29/95	09/29/95			
Analysis Date:		09/30/95	09/30/95					10/02/95	10/02/95			
Remarks:												
Source:	App A-2	App A-2	App A-2				App A-2	App A-2	App A-2			
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description												
Phenol	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Naphthalene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
2-Methylnaphthalene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Acenaphthylene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Acenaphthene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Dibenzofuran	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Diethyl phthalate	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Fluorene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Phenanthrene	N/A	< 10	< 10	10	10	4	N/A	75	J < 390	75	J	225 J 2
Anthracene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Carbazole	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Fluoranthene	N/A	< 10	< 10	10	10	4	N/A	130	J < 390	130	J	390 J 2
Pyrene	N/A	< 10	< 10	10	10	4	N/A	120	J < 390	120	J	360 J 2
Butyl benzyl phthalate	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Benzo(a)anthracene	N/A	< 10	< 10	10	10	4	N/A	41	J < 390	41	J	123 J 2
Chrysene	N/A	< 10	< 10	10	10	4	N/A	69	J < 390	69	J	207 J 2
bis(2-Ethylhexyl)phthalate	N/A	1	B < 10	10	10	3	N/A	120	B 62	B 390	390	3
Di-n-octyl phthalate	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Benzo(b)fluoranthene	N/A	< 10	< 10	10	10	4	N/A	110	J < 390	110	J	330 J 2
Benzo(k)fluoranthene	N/A	< 10	< 10	10	10	4	N/A	99	J < 390	99	J	297 J 2
Benzo(a)pyrene	N/A	< 10	< 10	10	10	4	N/A	52	J < 390	52	J	156 J 2
Indeno(1,2,3-cd)pyrene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Dibenzo(a,h)anthracene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4
Benzo(g,h,i)perylene	N/A	< 10	< 10	10	10	4	N/A	< 390	< 390	390	390	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 9)

Sample ID:	WFF9-SW8	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD8	WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Lab Sample:	old data	760112	760116	AVE	MOR		old data	760158	760162	AVE	MOR	
Matrix:	WATER	WATER	WATER				SOIL	SOIL	SOIL			
Collection Date:	6/93	09/28/95	09/28/95				6/93	09/26/95	09/26/95			
Receipt Date:		09/27/95	09/27/95					09/27/95	09/27/95			
Extraction Date:		10/05/95	10/05/95					09/29/95	09/29/95			
Analysis Date:		10/03/95	10/03/95					10/03/95	10/03/95			
Remarks:												
Source:	App A-3	App A-3	App A-3				App A-3	App A-3	App A-3			
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L	NOTE	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	NOTE
Compound Description												
Beta-BHC	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2.0	< 2.0	2	2	4
Delta-BHC	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2.0	< 2.0	2	2	4
Gamma-BHC (Lindane)	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2	0.099 J	0.099 J	0.297 J	4
Heptachlor	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2	< 2	2	2	4
Aldrin	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2	< 2	2	2	4
Heptachlor epoxide	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2	0.052 J	0.052 J	0.156 J	4
Endosulfan I	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	< 2	< 2	2	2	4
Dieldrin	N/A	0.96 J	< 0.10	0.96 J	2.88 J	2	N/A	0.44 J	< 3.9	0.44 J	1.32 J	4
4,4'-DDE	N/A	0.010 B	< 0.10	0.100	0.100	3	N/A	7.5	0.35	3.925	11.775	1
Endrin	N/A	< 0.10	< 0.10	0.1	0.1	4	N/A	< 3.9	< 3.9	3.9	3.9	4
Endosulfan II	N/A	< 0.10	< 0.10	0.1	0.1	4	N/A	< 3.9	< 3.9	3.9	3.9	4
4,4'-DDD	N/A	0.015 J	< 0.10	0.015 J	0.045 J	2	N/A	28 J	0.17 B	28 J	84 J	2
Endosulfan sulfate	N/A	< 0.10	< 0.10	0.1	0.1	4	N/A	< 3.9	< 3.9	3.9	3.9	4
4,4'-DDT	N/A	0.050	< 0.10	0.050	0.15	2	N/A	27 J	0.12 B	27 J	81 J	2
p,p'-Methoxychlor	N/A	< 0.50	< 0.50	0.5	0.5	4	N/A	1.3 B	1.1 B	3.9	3.9	3
Endrin ketone	N/A	< 0.10	< 0.10	0.1	0.1	4	N/A	0.074	< 3.9	0.074	0.222	2
Endrin aldehyde	N/A	< 0.10	< 0.10	0.1	0.1	4	N/A	0.13 J	< 3.9	0.13 J	0.39 J	4
Alpha-chlordane	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	0.2 J	< 2	0.2 J	0.6 J	4
Gamma-chlordane	N/A	< 0.050	< 0.050	0.05	0.05	4	N/A	1.2 J	< 2	1.2 J	3.6 J	4
Toxaphene	N/A	< 5.0	< 5.0	5.0	5.0	4	N/A	< 200	< 200	200	200	4
PCB-1242	N/A	< 1.0	< 1.0	1.0	1.0	4	N/A	< 39	< 39	39	39	4
PCB-1254	N/A	< 1.0	< 1.0	1.0	1.0	4	N/A	< 39	< 39	39	39	4
PCB-1260	N/A	< 1.0	< 1.0	1.0	1.0	4	N/A	< 39	< 39	39	39	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- I. Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = No: Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

C-29

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER (SITE 9)

Sample ID:	WFF9-SW8	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW			
Lab Sample ID:	old data	760113	760117	AVE	MOR			
Matrix:	WATER	WATER	WATER					
Collection Date:	7/93	09/26/95	09/26/95					
Receipt Date:		09/27/95	09/27/95					
Extraction Date:		10/03/95	10/03/95					
Analysis Date:		10/04/95	10/04/95					
Remarks:								
Source:	App A-5	App A-5	App A-5					
Units of Measure:	UG/L	UG/L	UG/L	UG/L	UG/L		NOTE	
Analyte Description								
Aluminum	< 27	107 B	109 B	27	27		3	
Antimony	< 41	< 1.9	2.8 B	21	21		3	
Arsenic	< 1	3.6 B	4.0 B	1	1		3	
Barium	22.1	20.8 J	29.6 J	24.2 J	72.5 J		1	
Beryllium	< 1	< 0.10	< 0.10	0.4	0.4		4	
Cadmium	< 5	UJ* < 0.50	< 0.50	0.5	0.5		4	
Calcium	12300	10300	13900	12167	36500		1	
Chromium	< 4	< 0.70	< 0.70	1.8	1.8		4	
Cobalt	< 3	1.7 B	< 0.50	1.75	1.75		3	
Copper	< 3	0.73 B	0.90 B	3	3		3	
Iron	2400	2890	4000	3097	9290		1	
Lead	< 1	< 1.6	2.6 B	1.3	3.9		1	
Magnesium	4270	5630	3340	4413	13240		1	
Manganese	118	468	215	267	801		1	
Mercury	< 0.1	< 0.20	< 0.20	0.17	0.17		4	
Nickel	< 15	< 2.4	< 2.4	6.6	6.6		4	
Potassium	< 1090	1530	2020	1775	5325		1	
Selenium	< 1	< 3.4 UL	< 3.4 UL	2.6	7.8		1	
Silver	< 4	UJ < 0.60	< 0.60 UL	1.73	1.73		4	
Sodium	9460	8760 J	8580 J	8933.33 J	26800 J		1	
Thallium	< 1	< 3.6	< 3.6	2.73	2.73		4	
Vanadium	< 3	< 0.60	< 0.60	1.4	1.4		4	
Zinc	< 20	24.3 B	64.0	64	192		1	
Cyanide	< 0.5	< 10.0	< 10.0	6.83	6.83		4	

NOTES:

J Bias Unknown - datum w/in range, used in average

J* Bias Unknown - datum not w/in range, not used in average

K Bias High

L Bias Low

U Undetected

B Detected in blank, not used in average

R Rejected data, not used in average

MOR = Minimum Observed Release

NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B AND J*). MOR = 3xAVE

2 Some data above dl, detections only used in average. MOR = 3 x AVG.

3 All detections qualified with "B", detection limit used instead. MOR = AVG.

4 All data below detection limit, average calculated from all dis. MOR = AVG.

5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SEDIMENT (SITE 9)

	Sample ID: WFF9-SD8	WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Lab Sample ID:	old data	760161	760166	AVE	MOR	
Matrix:	SOIL	SOIL	SOIL			
Collection Date:	7/93	09/26/95	09/26/95			
Receipt Date:		09/27/95	09/27/95			
Extraction Date:		10/05/95	10/05/95			
Analysis Date:		10/06/95	10/06/95			
Remarks:						
Source:	App A-5	App A-5	App A-5			
Units of Measure:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	NOTE
Analyte Description						
Aluminum	1240	1690	635	1188	3565	1
Antimony	< 10.3	< 0.45	< 0.45	3.73	3.73	4
Arsenic	0.6	< 0.64	< 0.64	0.6	1.8	2
Barium	4.7	8.8 J	2.8 J	5.43 J	16.3 J	1
Beryllium	< 0.25	0.04 B	< 0.02	0.135	0.135	3
Cadmium	< 1.3	< 0.12	< 0.12	0.51	0.51	4
Calcium	90.5	99.6 J	49.0 J	79.7 J	239.1 J	1
Chromium	1.8	3.0	1.4 B	2.4	7.2	1
Cobalt	< 0.75	0.92 B	0.13 B	0.75	0.75	3
Copper	< 0.75	7.6 J	0.88 B	7.6 J	22.8 J	2
Iron	1440	2790 J	1170	1800 J	5400 J	1
Lead	< 3	3.1 J	1.6 B	3.1 J	9.3 J	2
Magnesium	82.2	176	43.8 B	129.1	387.3	1
Manganese	6.9	105 J*	7.6	7.25	21.75	1
Mercury	< 0.06	< 0.12	< 0.12	0.1	0.1	4
Nickel	< 3.8	1.4	< 0.57	1.4	4.2	2
Potassium	< 273	86.3	36.6 B	86.3	258.9	2
Selenium	< 0.25	< 0.81	< 0.81	0.62	0.62	4
Silver	< 1	< 0.14 UL	< 0.14 UL	0.43	0.43	4
Sodium	< 13.3	253 B	261 B	13.3	13.3	3
Thallium	< 0.25	< 0.86	< 0.86	0.66	0.66	4
Vanadium	2.0	4.1	1.6	2.57	7.7	1
Zinc	< 20	9.2 L	4.5 L	6.9 L	20.6 L	2
Cyanide	< 10	< 0.59	< 0.60	3.73	3.73	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
 - J* Bias Unknown - datum not w/in range, not used in average
 - K Bias High
 - L Bias Low
 - U Undetected
 - B Detected in blank, not used in average
 - R Rejected data, not used in average
 - MOR = Minimum Observed Release
 - NA = Not Applicable or Not Analyzed.
- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
 - 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 - 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
 - 4 All data below detection limit, average calculated from all dls. MOR = AVG.
 - 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX continued
BACKGROUND DATA USE FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 9)

	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Sample ID:	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD	
Lab Sample ID:	760115	760119	AVE	MOR		760159	760163	AVE	MOR	
Matrix:	WATER	WATER				SOIL	SOIL			
Collection Date:	09/25/95	09/25/95				09/25/95	09/25/95			
Receipt Date:	09/27/95	09/27/95				09/27/95	09/27/95			
Extraction Date:	09/29/95	09/29/95				09/28/95	09/28/95			
Analysis Date:	10/07/95	10/07/95				10/05/95	10/05/95			
Remarks:										
Source:	App A-4	App A-4				App A-4	App A-4			
Units of Measure:	MGL	MGL	MGL	MGL	NOTE	MG/KG	MG/KG	MG/KG	MG/KG	NOTE
Compound Description										
Diesel	< 0.5	< 0.5	0.5	0.5	4	< 12	< 12	12	12	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - SURFACE WATER/SEDIMENT (SITE 9)

	WFF9-SW9	WFF9-SW10	SITE 9 SW	SITE 9 SW		WFF9-SD9	WFF9-SD10	SITE 9 SD	SITE 9 SD					
Sample ID:	760114	760118	AVE	MOR		760160	760164	AVE	MOR					
Lab Sample ID:	WATER	WATER				SOIL	SOIL							
Matrix:	09/25/95	09/25/95				09/25/95	09/25/95							
Collection Date:	09/27/95	09/27/95				09/27/95	09/27/95							
Receipt Date:	09/29/95	09/29/95				09/28/95	09/28/95							
Analysis Date:	10/07/95	10/07/95				10/05/95	10/05/95							
Remarks:	App A-4	App A-4				App A-4	App A-4							
Source:	MGL	MGL	MGL	MGL	NOTE	MG/KG	MG/KG	MG/KG	MG/KG	NOTE				
Units of Measure:	Compound Description													
TPH-Purgeable as Gasoline	0.28	R	0.29	R	10	10	5	0.26	R	0.25	R	10	10	5

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Sample ID:	WFF9-GW1	SITE 9	SITE 9
Lab Sample ID:	761303	AVE	MOR
Matrix:	WATER		
Collection Date:	09/28/95		
Receipt Date:	09/29/95		
Analysis Date:	10/03/95		
Remarks:			
Source:	App A-		
Units of Measure:	UG/L	UG/KG	UG/KG

Compound Description				NOTE
Chloromethane	< 1	1	1	4
Methylene chloride	< 2	2	2	4
Acetone	< 5 R	10	10	5
Carbon disulfide	< 1	1	1	4
Cis-1,2-Dichloroethene	< 1	1	1	4
Chloroform	< 1	1	1	4
2-Butanone	< 5 R	10	10	5
1,1,1-Trichloroethane	< 1	1	1	4
Trichloroethene	< 1	1	1	4
Trichlorofluoroethane	N/A	N/A	N/A	
Benzene	< 1	1	1	4
4-Methyl-2-pentanone	< 5	5	5	4
2-Hexanone	< 5 R	10	10	5
Tetrachloroethene	10	10	30	1
Toluene	< 1	1	1	4
Chlorobenzene	< 1	1	1	4
Ethylbenzene	< 1	1	1	4
Styrene	< 1	1	1	4
Xylenes (Total)	< 1	1	1	4

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
 4 All data below detection limit, average calculated from all dls. MOR = AVG.
 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Sample ID: WFF9-GW1 SITE 9 SITE 9
 Lab Sample ID: 761303 AVE MOR
 Matrix: WATER
 Collection Date: 09/28/95
 Receipt Date: 09/29/95
 Extraction Date: 10/03/95
 Analysis Date: 10/05/95

Remarks:
 Source: App A-2
 Units of Measure: UG/L UG/L UG/L NOTE

Compound Description	UG/L	UG/L	UG/L	NOTE
Phenol	< 10	10	10	4
Naphthalene	< 10	10	10	4
2-Methylnaphthalene	< 10	10	10	4
Acenaphthylene	< 10	10	10	4
Acenaphthene	< 10	10	10	4
Dibenzofuran	< 10	10	10	4
Diethyl phthalate	< 10	10	10	4
Fluorene	< 10	10	10	4
Phenanthrene	< 10	10	10	4
Anthracene	< 10	10	10	4
Carbazole	< 10	10	10	4
Fluoranthene	< 10	10	10	4
Pyrene	< 10	10	10	4
Butyl benzyl phthalate	< 10	10	10	4
Benzo(a)anthracene	< 10	10	10	4
Chrysene	< 10	10	10	4
bis(2-Ethylhexyl)phthalate	< 10	10	10	4
Di-n-octyl phthalate	< 10	10	10	4
Benzo(b)fluoranthene	< 10	10	10	4
Benzo(k)fluoranthene	< 10	10	10	4
Benzo(a)pyrene	< 10	10	10	4
Indeno(1,2,3-cd)pyrene	< 10	10	10	4
Dibenzo(a,h)anthracene	< 10	10	10	4
Benzo(g,h,i)perylene	< 10	10	10	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Client Sample: WFF9-GW1 SITE 9 SITE 9
 Lab Sample: 761303 AVE MOR
 Matrix: WATER
 Collection Date: 09/28/95
 Receipt Date: 09/29/95
 Extraction Date: 10/03/95
 Analysis Date: 10/05/95
 Remarks:

Compound Description	Source:	Units of Measure:	UG/L	UG/KG	UG/KG	NOTE
Beta-BHC	App A-3	UJ	< 0.050	0.05	0.05	4
Delta-BHC		UJ	< 0.050	0.05	0.05	4
Gamma-BHC (Lindane)		UJ	< 0.050	0.05	0.05	4
Heptachlor		UJ	< 0.050	0.05	0.05	4
Aldrin		UJ	< 0.050	0.05	0.05	4
Heptachlor epoxide		J	0.027	0.027	0.081	J 1
Endosulfan I		UJ	< 0.050	0.05	0.05	4
Dieldrin		J	0.0067	0.0067	0.0201	J 1
4,4'-DDE		UJ	< 0.10	0.1	0.1	4
Endrin		UJ	< 0.10	0.1	0.1	4
Endosulfan II		UJ	< 0.10	0.1	0.1	4
4,4'-DDD		UJ	< 0.10	0.1	0.1	4
Endosulfan sulfate		UJ	< 0.10	0.1	0.1	4
4,4'-DDT		J	0.026	0.026	0.078	J 1
p,p'-Methoxychlor		UJ	< 0.50	0.5	0.5	4
Endrin ketone		UJ	< 0.10	0.1	0.1	4
Endrin aldehyde		UJ	< 0.10	0.1	0.1	4
Alpha-chlordane		UJ	< 0.050	0.05	0.05	4
Gamma-chlordane		UJ	< 0.050	0.05	0.05	4
Toxaphene		UJ	< 5.0	5	5	4
PCB-1242		UJ	< 1.0	1	1	4
PCB-1254		UJ	< 1.0	1	1	4
PCB-1260		UJ	< 1.0	1	1	4

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
 4 All data below detection limit, average calculated from all dis. MOR = AVG.
 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Sample ID:	WFF9-GW1	SITE 9	SITE 9	NOTE
Lab Sample ID:	761305	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Extraction Date:	10/03/95			
Analysis Date:	10/04/95			
Remarks:				
Source:	App A-5			
Units of Measure:	UG/L	UG/L	UG/L	
Analyte Description				
Aluminum	121 B	200	200	3
Antimony	< 1.9	1.9	1.9	4
Arsenic	< 2.7	2.7	2.7	4
Barium	6.1 B	200	200	3
Beryllium	< 0.10	0.1	0.1	4
Cadmium	< 0.50	0.5	0.5	4
Calcium	6660	6660	19980	1
Chromium	< 0.70	0.7	0.7	4
Cobalt	< 0.50	0.5	0.5	4
Copper	1.7 B	25	25	3
Iron	22.6 B	100	100	3
Lead	< 1.6	1.6	1.6	4
Magnesium	2390	2390	7170	1
Manganese	7.9	7.9	23.7	1
Mercury	< 0.20	0.2	0.2	4
Nickel	< 2.4	2.4	7.2	1
Potassium	676	676	2028	1
Selenium	< 3.4	3.4	3.4	4
Silver	< 0.60	0.6	1.8	4
Sodium	5730 J	5730 J	17190 J	1
Thallium	< 3.6	3.6	3.6	4
Vanadium	< 0.60	0.6	0.6	4
Zinc	8.6 J	8.6 J	25.8 J	1
Cyanide	< 10.0	10	10	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
 BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Sample ID:	WFF9-GW1	SITE 9	SITE 9	
Lab Sample ID:	761308	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Extraction Date:	10/03/95			
Analysis Date:	10/06/95			
Remarks:				
Source:	App A-4			
Units of Measure:	MG/L	MG/L	MG/L	NOTE

Compound Description				
TPH-Extractable as Diesel	< 0.5	0.5	0.5	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 9)

Sample ID:	WFF9-GW1	SITE 9	SITE 9	
Lab Sample ID:	761306	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Analysis Date:	10/06/95			
Remarks:				
Source:	App A-4			
Units of Measure:	MG/L	MG/L	MG/L	NOTE
Compound Description				
TPH-Purgeable as Gasoline	0.29 R	10	10	5

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Sample ID:	WFF10-GW1	SITE 10	SITE 10
Lab Sample ID:	761280	AVE	MOR
Matrix:	WATER		
Collection Date:	09/28/95		
Receipt Date:	09/29/95		
Analysis Date:	10/03/95		
Remarks:			
Source:	App A-1		
Units of Measure:	UG/L	UG/KG	UG/KG

Compound Description			UG/KG	UG/KG	NOTE
Chloromethane	< 1		1	1	4
Methylene chloride	< 2		2	2	4
Acetone	< 5	R	10	10	5
Carbon disulfide	< 1		1	1	4
Cis-1,2-Dichloroethene	< 1		1	1	4
Chloroform	3	B	10	10	3
2-Butanone	< 5	R	10	10	5
1,1,1-Trichloroethane	< 1		1	1	4
Trichloroethene	< 1		1	1	4
Trichlorofluoromethane	N/A		N/A	N/A	
Benzene	< 1		1	1	4
4-Methyl-2-pentanone	< 5		5	5	4
2-Hexanone	< 5	R	10	10	5
Tetrachloroethene	< 1		1	1	4
Toluene	< 1		1	1	4
Chlorobenzene	< 1		1	1	4
Ethylbenzene	< 1		1	1	4
Styrene	< 1		1	1	4
Xylenes (Total)	< 1		1	1	4

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
 4 All data below detection limit, average calculated from all dls. MOR = AVG.
 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Sample ID:	WFF10-GW1	SITE 10	SITE 10
Lab Sample ID:	761280	AVE	MOR
Matrix:	WATER		
Collection Date:	09/28/95		
Receipt Date:	09/29/95		
Extraction Date:	10/03/95		
Analysis Date:	10/05/95		
Remarks:			
Source:	App A-2		
Units of Measure:	UG/L	UG/KG	UG/KG

Compound Description	UG/L	UG/KG	UG/KG	NOTE
Phenol	< 10	10	10	4
Naphthalene	< 10	10	10	4
2-Methylnaphthalene	< 10	10	10	4
Acenaphthylene	< 10	10	10	4
Acenaphthene	< 10	10	10	4
Dibenzofuran	< 10	10	10	4
Diethyl phthalate	< 10	10	10	4
Fluorene	< 10	10	10	4
Phenanthrene	< 10	10	10	4
Anthracene	< 10	10	10	4
Carbazole	< 10	10	10	4
Fluoranthene	< 10	10	10	4
Pyrene	< 10	10	10	4
Butyl benzyl phthalate	< 10	10	10	4
Benzo(a)anthracene	< 10	10	10	4
Chrysene	< 10	10	10	4
bis(2-Ethylhexyl)phthalate	< 10	10	10	4
Di-n-octyl phthalate	< 10	10	10	4
Benzo(b)fluoranthene	< 10	10	10	4
Benzo(k)fluoranthene	< 10	10	10	4
Benzo(a)pyrene	< 10	10	10	4
Indeno(1,2,3-cd)pyrene	< 10	10	10	4
Dibenzo(a,h)anthracene	< 10	10	10	4
Benzo(g,h,i)perylene	< 10	10	10	4

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Client Sample:	WFF10-GWI	SITE 10	SITE 10	
Lab Sample:	761280	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Extraction Date:	10/03/95			
Analysis Date:	10/05/95			
Remarks:				
Source:	App A-3			
Units of Measure:	UG/L	UG/KG	UG/KG	NOTE
Compound Description				
Beta-BHC	< 0.050	0.05	0.05	4
Delta-BHC	< 0.050	0.05	0.05	4
Gamma-BHC (Lindane)	< 0.050	0.05	0.05	4
Heptachlor	< 0.050	0.05	0.05	4
Aldrin	< 0.050	0.05	0.05	4
Heptachlor epoxide	< 0.050	0.05	0.05	4
Endosulfan I	< 0.050	0.05	0.05	4
Dieldrin	< 0.10	0.1	0.1	4
4,4'-DDE	< 0.10	0.1	0.1	4
Endrin	< 0.10	0.1	0.1	4
Endosulfan II	< 0.10	0.1	0.1	4
4,4'-DDD	< 0.10	0.1	0.1	4
Endosulfan sulfate	< 0.10	0.1	0.1	4
4,4'-DDT	< 0.10	0.1	0.1	4
p,p'-Methoxychlor	< 0.50	0.5	0.5	4
Endrin ketone	< 0.10	0.1	0.1	4
Endrin aldehyde	< 0.10	0.1	0.1	4
Alpha-chlordane	< 0.050	0.05	0.05	4
Gamma-chlordane	< 0.050	0.05	0.05	4
Toxaphene	< 5.0	5	5	4
PCB-1242	< 1.0	1	1	4
PCB-1254	< 1.0	1	1	4
PCB-1260	< 1.0	1	1	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Sample ID:	WFF10-GW1	SITE 10	SITE 10	NOTE
Lab Sample ID:	761281	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Extraction Date:	10/03/95			
Analysis Date:	10/04/95			
Remarks:				
Source:	App A-5			
Units of Measure:	UG/L	UG/L	UG/L	

Analyte Description	Value	Qualifier	Value	Qualifier	Value	Qualifier
Aluminum	129	B	200		200	3
Antimony	2.4	B	60		60	3
Arsenic	< 2.7		2.7		2.7	4
Barium	14.9	J	14.9	J	44.7	J 1
Beryllium	< 0.10		0.1		0.1	4
Cadmium	< 0.50		0.5		0.5	4
Calcium	6330		6330		18990	1
Chromium	< 0.70		0.7		0.7	4
Cobalt	< 0.50		0.5		0.5	4
Copper	2.8	B	25		25	3
Iron	14.2	B	100		100	3
Lead	< 1.6		1.6		1.6	4
Magnesium	2960		2960		8880	1
Manganese	12.6		12.6		37.8	1
Mercury	< 0.20		0.2		0.2	4
Nickel	< 2.4		2.4		2.4	4
Potassium	938		938		2814	1
Selenium	< 3.4	UL	3.4		3.4	4
Silver	< 0.60	UL	0.6		0.6	4
Sodium	8000	J	8000	J	24000	J 1
Thallium	< 3.6		3.6		3.6	4
Vanadium	< 0.60		0.6		0.6	4
Zinc	65.5		65.5		196.5	1
Cyanide	< 10.0		10		10	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Sample ID:	WFF10-GWI	SITE 10	SITE 10	
Lab Sample ID:	761283	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Extraction Date:	10/03/95			
Analysis Date:	10/06/95			
Remarks:				
Source:	App A-4			
Units of Measure:	MG/L	MG/L	MG/L	NOTE

Compound Description				
TPH-Extractable as Diesel	< 0.5	0.5	0.5	4

NOTES:

- J Bias Unknown - datum w/in range, used in average
- J* Bias Unknown - datum not w/in range, not used in average
- K Bias High
- L Bias Low
- U Undetected
- B Detected in blank, not used in average
- R Rejected data, not used in average
- MOR = Minimum Observed Release
- NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.

APPENDIX C, continued
BACKGROUND DATA USED FOR SITE INSPECTIONS

SITE-SPECIFIC BACKGROUND SAMPLES - GROUNDWATER (SITE 10)

Sample ID:	WFF10-GW1	SITE 10	SITE 10	
Lab Sample ID:	761282	AVE	MOR	
Matrix:	WATER			
Collection Date:	09/28/95			
Receipt Date:	09/29/95			
Analysis Date:	10/06/95			
Remarks:				
Source:	App A-4			
Units of Measure:	MG/L	MG/L	MG/L	NOTE
Compound Description				
TPH-Purgeable as Gasoline	0.30 R	10	10	5

NOTES:

J Bias Unknown - datum w/in range, used in average
 J* Bias Unknown - datum not w/in range, not used in average
 K Bias High
 L Bias Low
 U Undetected
 B Detected in blank, not used in average
 R Rejected data, not used in average
 MOR = Minimum Observed Release
 NA = Not Applicable or Not Analyzed.

- 1 All data above detection limit (dl), all data used in average (except for data qualified B). MOR = 3xAVE
- 2 Some data above dl, detections only used in average. MOR = 3 x AVG.
- 3 All detections qualified with "B", detection limit used instead. MOR = AVG.
- 4 All data below detection limit, average calculated from all dls. MOR = AVG.
- 5 Data or dl qualified with "R", CRDL used instead. MOR = AVG.