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TECHNICAL MEMORANDUM FOR NO FURTHER ACTION FOR STORM SEWER  
EXCAVATION NORTH OF TAXIWAYS DELTA AND ALPHA NAS CECIL FIELD FL  
1/1/2005  
TETRA TECH NUS INC

**Technical Memorandum  
for  
No Further Action**

**Storm Sewer Excavation  
North of Taxiways Delta and Alpha**

**Naval Air Station Cecil Field**  
Jacksonville, Florida



**Southern Division  
Naval Facilities Engineering Command  
Contract Number N62467-94-D-0888  
Contract Task Order 0078**

January 2005

**TECHNICAL MEMORANDUM  
FOR NO FURTHER ACTION**

**STORM SEWER EXCAVATION  
NORTH OF TAXIWAYS DELTA AND ALPHA**

**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:  
Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive  
North Charleston, South Carolina 29406**

**Submitted by:  
Tetra Tech NUS, Inc.  
661 Andersen Drive  
Foster Plaza 7  
Pittsburgh, Pennsylvania 15220**

**CONTRACT NUMBER N62467-94-D-0888  
CONTRACT TASK ORDER 0078**

**JANUARY 2005**

**PREPARED UNDER THE SUPERVISION OF:**

**APPROVED FOR SUBMITTAL BY:**



**MARK SPERANZA, P.E.  
TASK ORDER MANAGER  
TETRA TECH NUS, INC.  
PITTSBURGH, PENNSYLVANIA**



**DEBRA M. HUMBERT  
PROGRAM MANAGER  
TETRA TECH NUS, INC.  
PITTSBURGH, PENNSYLVANIA**



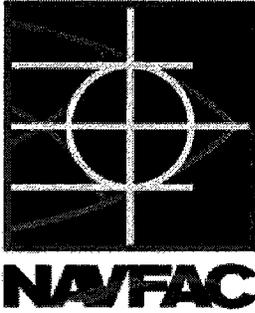
CERTIFICATION OF TECHNICAL  
DATA CONFORMITY

The Contractor, Tetra Tech NUS, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-94-D-0888 are complete and accurate and comply with all requirements of this contract.

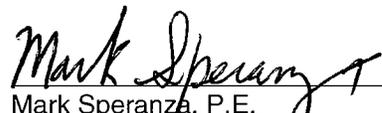
DATE: January 3, 2005

NAME AND TITLE OF CERTIFYING OFFICIAL:

Mark Speranza, P.E.  
Task Order Manager



The professional opinions rendered in this decision document identified as Technical Memorandum for No Further Action, Storm Sewer Excavation North of Taxiways Delta and Alpha, Naval Air Station Cecil Field, Jacksonville, Florida were developed in accordance with commonly accepted procedures consistent with applicable standards of practice. Decision documents are based on information obtained from others and under the supervision of the signing engineer. If conditions are determined to exist differently than those described in this document, then the undersigned professional engineer should be notified to evaluate the effects of any additional information on this project described in this report.

  
\_\_\_\_\_  
Mark Speranza, P.E.  
Professional Engineer No. PE0050304

Date: 11/3/05



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## ACRONYMS

ABB-ES	ABB Environmental Services, Inc.
AST	Aboveground Storage Tank
BCT	BRAC Cleanup Team
bgs	Below ground surface
BRAC	Base Realignment and Closure
CLEAN	Comprehensive Long-Term Environmental Action Navy
CTO	Contract Task Order
CWA	Chemical War Agent
EBS	Environmental Baseline Survey
FDEP	Florida Department of Environmental Protection
FL-PRO	Florida – Petroleum Residual Organics
JAA	Jacksonville Airport Authority
JETC	Jet Engine Test Cell
NAS	Naval Air Station
NFA	No Further Action
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PID	Photoionization Detector
PQL	Practical Quantitation Limit
PRE	Preliminary risk evaluation
PSC	Potential Source of Contamination
QC	Quality control
SAO	Sampling and Analysis Outline
SAR	Sampling and Analysis Report
SCTL	Soil Cleanup Target Level
SVOC	Semivolatle organic compound
TCL	Target Compound List
TRPH	Total recoverable petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile organic compound

## **1.0 INTRODUCTION**

This Technical Memorandum for the Storm Sewer Excavation North of Taxiways Delta and Alpha at Naval Air Station (NAS) Cecil Field has been prepared by Tetra Tech NUS, Inc. (TtNUS) for the Department of the Navy, Naval Facilities Engineering Field Division South. The work was conducted under the Navy's Comprehensive Long-Term Environmental Action Navy (CLEAN) III Program, Contract Number N62467-94-D-0888, Contract Task Order (CTO) 0078. The Base Realignment and Closure (BRAC) Cleanup Team (BCT) agreed to investigate soils and surface waters located within the excavation when it was identified that workers within the excavation exhibited signs of contact dermatitis.

This Technical Memorandum presents information about the site and related field operations, results, conclusions, and recommendations pertaining to the storm sewer excavation and subsequent reports of contact dermatitis. The results of the investigations indicate that no further action is needed at this site.

## **2.0 SITE DESCRIPTION**

### **2.1 PHYSICAL SETTING**

The Storm Sewer Excavation North of Taxiways Delta and Alpha (Storm Sewer Excavation Site) refers to the area excavated by a subcontractor (John Carlos Construction, Inc.) of the Jacksonville Airport Authority (JAA) to install a concrete junction box along the existing storm sewer the week of September 10, 2004. The excavation was located on the northern side of the north-south flightline and taxiways Delta and Alpha (see Figures 2-1 and 2-2). Photos of the site are provided in Appendix A. The 48-inch storm sewer runs along the edge of the concrete taxiway in the grassy area. The storm sewer begins approximately 425 feet west of the excavation. The trench, approximately 56 feet long by 75 feet wide by 8 to 12 feet deep, was excavated to install the concrete junction box. A heavy rain prior to and after the trench was excavated created standing water and saturated soil conditions within the excavation.

### **2.2 SITE HISTORY**

There are no buildings in the immediate area (100-foot radius) of this location, and no signs of stressed vegetation were observed; therefore, this area was not investigated in the Environmental Baseline Survey (EBS) Report (ABB-ES, 1994). The storm sewer is adjacent to the concrete pavement associated with the taxiways, which is prone to surface water runoff. No stained soil, odors, or stressed vegetation was observed at any point along the storm sewer or around the edges of the excavation. No incidents, prior to this event, were reported in this area, and Station personnel did not identify any operations being conducted in this area.

The closest sanitary sewer that had the potential to impact the storm sewer is located approximately 350 feet from the beginning of the storm sewer (750 feet from the excavation). Building 361 is a pump station located approximately 1,250 feet west of the excavation and is associated with this sanitary sewer. It was reported in the EBS that chlorine was used at the pump station to treat the water. There is no evidence that the historical use of chlorine at the pump station or the sanitary sewer has impacted the storm sewer. The storm sewer and sanitary sewer are not connected.

The history of the buildings located upgradient of this site were evaluated to determine potential impacts to the storm sewer. Table 2-1 presents information, as reported in the EBS, regarding buildings located upgradient of the site. The locations of the buildings are shown on Figure 2-2. There is no historical information in the EBS that indicates activities that would have impacted the storm sewer or the Storm Sewer Excavation Site. Several investigations were conducted upgradient of the Storm Sewer Site.

They included the Jet Engine Test Cell (JETC) located 1,100 feet to the southwest (TtNUS, 2001), the North Fuel Farm located approximately 1,800 feet to the northwest (TtNUS, 2003), and the newly identified Site 59 located approximately 750 feet to the southwest (TtNUS, 2004). Investigations of these sites did not indicate any potential impacts to the storm sewer or the Storm Sewer Excavation Site.

The area downgradient of the Storm Sewer Excavation Site was investigated as Potential Source of Contamination (PSC) 39. Under this investigation the outfall of the storm sewer associated with the Storm Sewer Excavation site, located approximately 1,800 feet from the excavation, was sampled for volatiles, semivolatiles, pesticides, polychlorinated biphenyls (PCBs), Total Recoverable Petroleum Hydrocarbons (TRPH), and inorganics. It was identified in the Technical Memorandum (TtNUS, 2002) that low levels of contamination, primarily polynuclear aromatic hydrocarbons (PAHs) and metals, typical of outfalls at operating airports, was observed. No further action was recommended and approved for PSC 39.

### **2.3 SITE GEOLOGY AND HYDROGEOLOGY**

The area where the trench was excavated is located between the North Fuel Farm area to the north and Site 16 within Operable Unit 7 to the south. The geological and hydrogeological characteristics of the site are therefore similar to those described in the Contamination Assessment Plan North Fuel Farm Area Sites (ABB, 1995a) and the Remedial Investigation for Operable Unit 7 (ABB, 1995b).

The soils identified in the excavation were primarily well draining silty to fine sand. The observed standing water indicated that the groundwater table was approximately 11 feet below ground surface (bgs).

TABLE 2-1

BUILDINGS LOCATED UPGRADIENT OF SITE  
 STORM SEWER EXCAVATION  
 TECHNICAL MEMORANDUM FOR NFA  
 NAVAL AIR STATION CECIL FIELD  
 JACKSONVILLE, FLORIDA  
 PAGE 1 OF 2

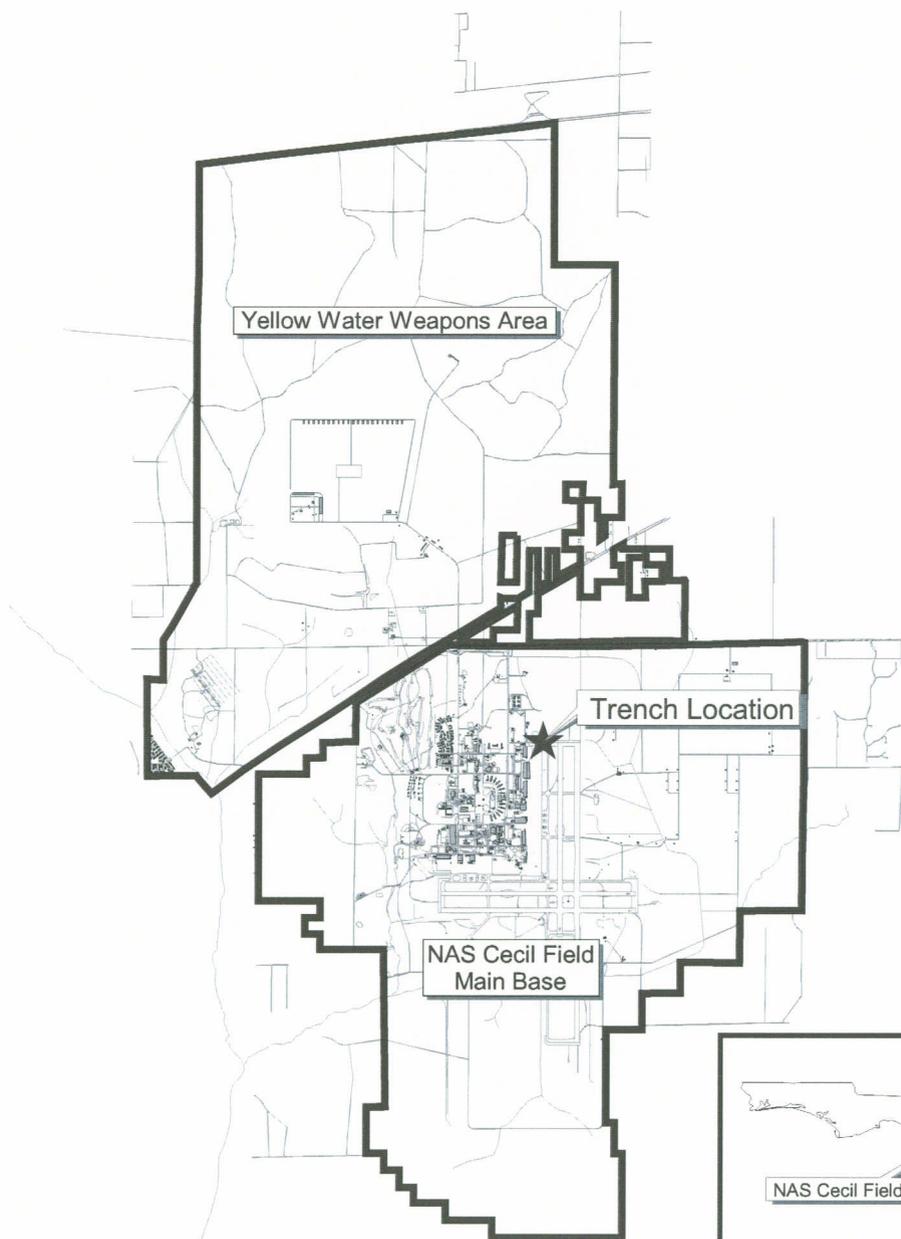
Building	Description	Construction Date	EBS Color	Evaluation
348	Standby Generator for Runway Lights	1981	7/Grey	EBS identified this area as Building 59, which was incorrect. SAO (ABB, 1995) recommended color change to 1/White  This area is now 1/White based on approval of recommendations in the SAO.
366	Spill Recovery Equipment Storage	1958	1/White	No action required.
365	Ready Magazine	1957	1/White	No action required.
324	Engine Maintenance Shack	1989	7/Grey	Dielectric fluid (PCBs) and asbestos identified as possible in EBS.  No PCBs or asbestos detected in soil during SAR investigation (ABB, 1997). Color changed to 3/Light Green based on SAR recommendation and subsequent approval.
104	Ready Magazine	1945 Reconstructed 1983	1/White	No action required.
373	Inert Missile Storage	1993	1/White	No action required.
818	Aircraft Acoustical Enclosure	1989	2/Blue	Storage of hazardous materials.  Arsenic soil contamination was delineated, excavated, and disposed off site as part of SAR investigation (ABB, 2000). Color changed to 4/Dark Green based on approved SAR.
1847	Fire Pump House	Unknown	7/Grey	Adjoins Building 361 7/Grey due to observed leakage from batteries inside building near floor drain  SAR (ABB, 1996) recommended color change to 3/Light Green and the CSR (ABB, 2000) proposed NFA for the three ASTs removed.

**TABLE 2-1**

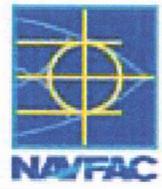
**BUILDINGS LOCATED UPGRADIENT OF SITE  
STORM SEWER EXCAVATION  
TECHNICAL MEMORANDUM FOR NFA  
NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA  
PAGE 2 OF 2**

<b>Building</b>	<b>Description</b>	<b>Construction Date</b>	<b>EBS Color</b>	<b>Evaluation</b>
361	Wastewater Pump Station	1957	2/Blue	Chlorine reported as being used for water treatment.  U.S. EPA letter (02/03/98) indicated color change from 2/Blue to 1/White.
330	Liquid Oxygen Farm	1967	2/Blue	2/Blue based on observation, inquiries, and file review,  U.S. EPA letter (12/09/98) indicated color change from 2/Blue to 1/White,

- 1/White: Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
  
- 2/Blue: Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred).
  
- 3/Light Green: Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a remedial action.
  
- 4/Dark Green: Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
  
- 5/Yellow: Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and removal and/or remedial actions are under way, but all required remedial actions have not yet been taken.
  
- 6/Red: Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented.
  
- 7:Grey: Areas that have not been evaluated or require additional evaluation.

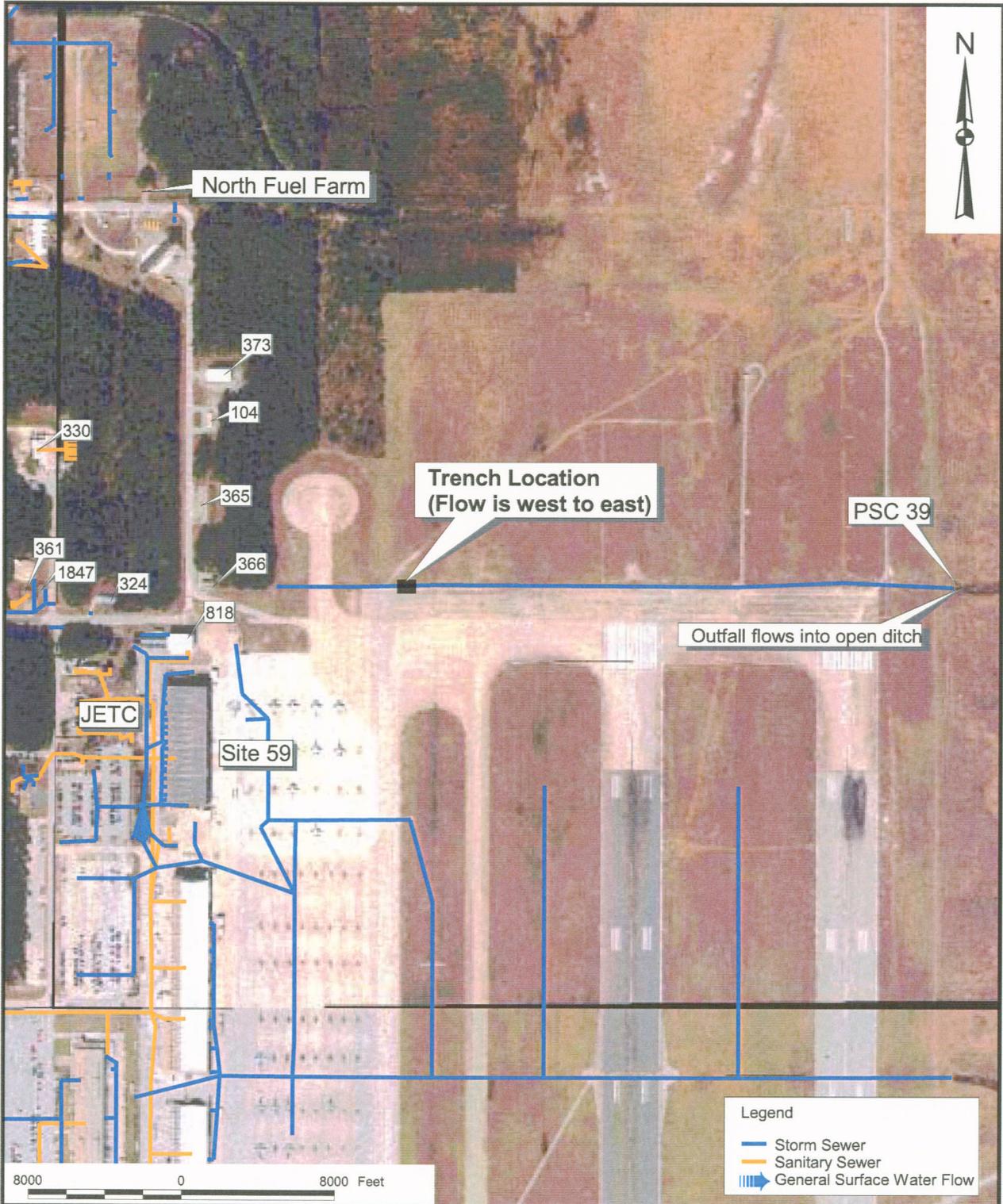


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MJJ	20Nov04
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE	AS NOTED



GENERAL LOCATION MAP  
STORM SEWER EXCAVATION SITE  
NAS CECIL FIELD  
JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0039	
APPROVED BY <i>[Signature]</i>	DATE <i>11/26/04</i>
APPROVED BY	DATE
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COST/SCHEDULE-AREA	
SCALE AS NOTED	



SITE LOCATION MAP  
 STORM SEWER EXCAVATION SITE  
 NAS CECIL FIELD  
 JACKSONVILLE, FLORIDA

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APPROVED BY	DATE
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### **3.0 INVESTIGATION SUMMARY**

The Storm Sewer Excavation North of Taxiways Delta and Alpha was first identified on September 10, 2004 when a subcontractor for JAA, who was installing a concrete junction vault along the existing storm sewer as well as conducting other work in the area, reported eight of the nine workers in the excavation as developing a rash on various parts of their bodies. The affected areas included their hands, arms, and legs. The workers installing the catch basin wore rubber boots, long pants, short-sleeved shirts, hardhats, and safety vests. The conditions in the excavation were reported as being wet and muddy. The clothing worn did not prevent contact with the water or soils in the excavation. The exposed men conducted work in the excavation on September 9, 2004 and reported noticing the rash the following morning. After the potential problem was identified, work within the excavation was halted, and the exposed workers were sent to the local hospital for evaluation. Contact dermatitis was diagnosed and the workers were released with reportedly only minor treatment with an oral non-steroidal anti-inflammatory drug.

Upon notification of the incident, JAA immediately restricted access to the excavation site, and the situation was reported to the BRAC Closure Team (BCT) on September 15, 2004. The BCT, consisting of representatives from the Navy, (U.S. EPA), (FDEP), and specialized subcontractors (TtNUS and CH2MHill), discussed the situation, and a work plan to investigate the site was prepared by TtNUS. The Work Plan was reviewed and accepted by the BCT, and the field effort was conducted on September 17, 2004.

#### **3.1 SITE INVESTIGATION**

The objective of the field investigation was to evaluate the area where the workers developed a rash to determine if contamination that has the potential to cause contact dermatitis existed within the excavation. This evaluation was conducted in three phases. Phase I was a records review to determine if the area was previously used in a manner that would have the potential to cause skin irritation. Phase II was the field sampling event to test for fuel oils, chlorinated hydrocarbons, pesticides and herbicides, PCBs, and sewage that could have the potential to exist in this area and also have the potential to cause skin irritation if dermal exposure occurs. Phase III was conducted to test for Chemical War Agents (CWA). Although CWAs were not identified as being used or stored in this area, testing to evaluate if they are present was conducted. Other exposures more commonly associated with contact dermatitis, such as poisonous plants (urushiol-producing plants), harsh detergents, and other cleaning agents, were not evaluated during this investigation.

### **3.1.1 Phase I - Records Review**

Upon notification of the impact to workers, a review of existing records and documents was conducted. The operations within the potential impact area (surface drainage area and upgradient of the storm sewer) were evaluated to determine if chemicals that could cause contact dermatitis were used. As presented in Section 2.2, the documents reviewed did not identify any operations that would have caused the situation identified. Chlorine was reportedly used at Building 361, located 1,250 feet west of the excavation; however, no spills were reported, and it is unlikely that the quantities used could have impacted a site this far away.

### **3.1.2 Phase II - Field Sampling**

The field sampling investigation conducted by TiNUS on September 17, 2004 consisted of field measurements for pH and volatile organic compounds (VOCs), and fixed-base laboratory analysis for a wide range of contaminants. The investigation was conducted in accordance with the work plan approved by the BCT. Photoionization detector (PID) readings were collected to evaluate the breathing zone within the excavation and to determine if detectable levels of organic vapors existed. Field pH strips were then used to evaluate the standing water and moist soils. Results did not differ from typical background results. The work plan identified a total of 12 soil samples, as shown on Figure 3-1, and three surface water samples to be collected and submitted for fixed-base laboratory analysis as identified in Table 3-1. Based on field conditions, this sampling plan was modified slightly. A sample was not collected at location CEF-TNDA-008 because a load of gravel was placed in that area to serve as a weep well, and the closest location to collect the sample would be within 5 feet of the other sample (CEF-TNDA-SB-007). Only one of the three proposed surface water samples was collected. The surface water sample was collected from the pit; however, the upgradient surface water locations had no water, and therefore the samples could not be collected.

The soil samples collected consisted of one soil sample from the top (0 to 1 foot bgs) of each of the excavation side walls, one soil sample from the middle (5 to 6 feet bgs) of each of the excavation side walls, and two soil samples from the bottom of the excavation (9 feet bgs). One surface water samples was collected from the bottom of the excavation near the southwestern corner of the vault. The chain of custody forms, sample log sheet, field logbook, and equipment calibration sheet documenting the collection and submission of these samples to the laboratory are provided in Appendix B.

Analytical results for soil samples collected during the field investigation were either non-detect or less than the FDEP Soil Cleanup Target Levels (SCTLs) for residential direct exposure and leachability to groundwater. Complete laboratory data are included in Appendix C.

### **3.1.3 Phase III - Chemical War Agent (CWA) Investigation**

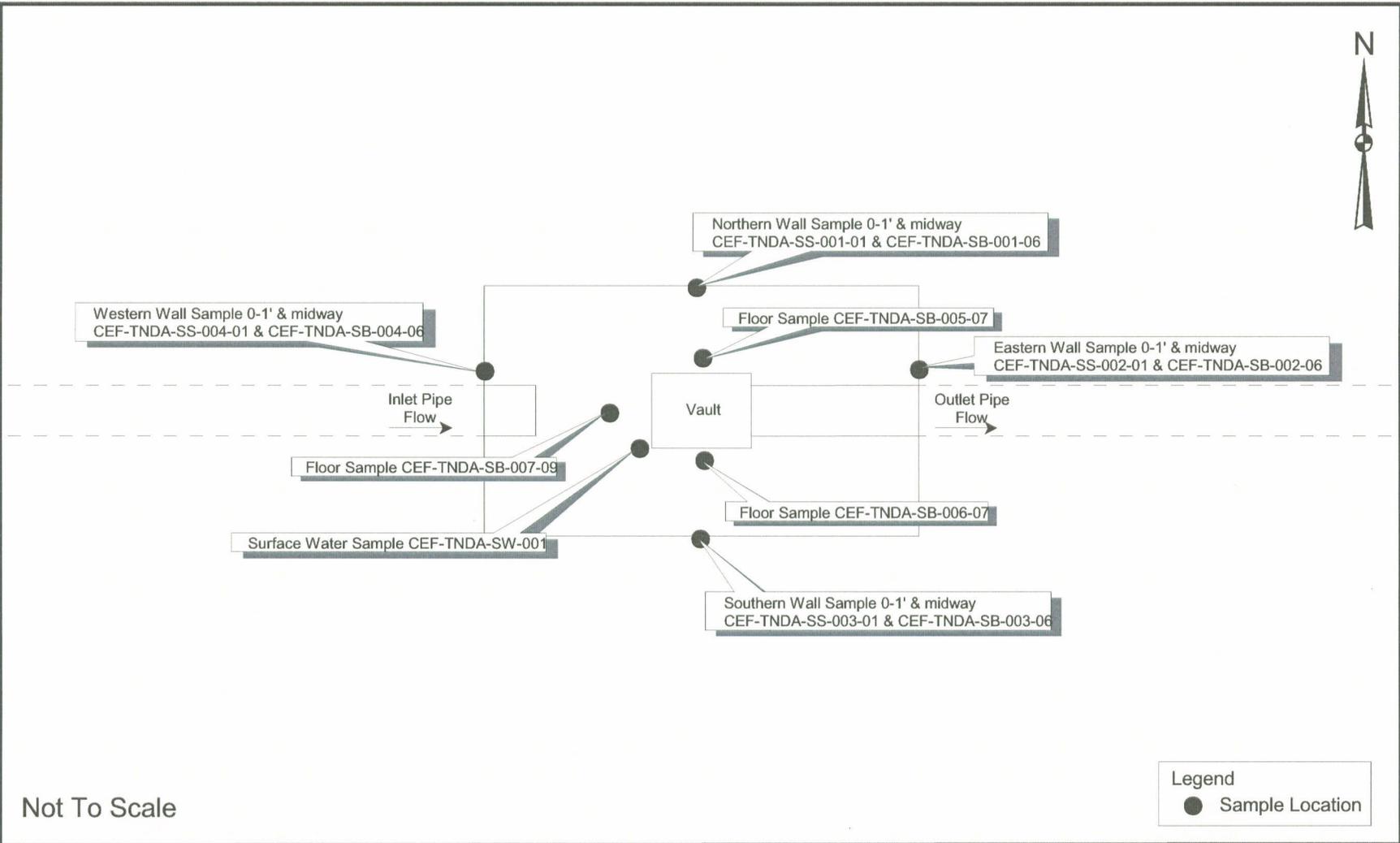
Evaluation for CWAs was conducted by the United States Army Edgewood Chemical Biological Center (ECBC) Monitoring Branch on October 15, 2004. The CWA investigation consisted of collecting 28 soil samples, two water samples, and associated quality control (QC) samples. The samples were collected and analyzed as specified in IOP MT-8 Revision 2 for the following CWAs and breakdown products: Lewisite (L), vesicant mustard (HD), 1,4-Dithiane, and 1,4-Thioxane.

Laboratory results were all reported as non-detect, indicating the specified constituent was not detected at or above the Practical Quantitation Limit (PQL). All QC criteria were met for the reported matrix spike/matrix spike duplicate (MS/MSD) except for sample S001-101504, in which the relative percent difference was exceeded. This exceedance does not invalidate the results obtained.

TABLE 3-1

**FIXED-BASE LABORATORY ANALYSIS  
STORM SEWER EXCAVATION TECHNICAL MEMORANDUM FOR NFA  
NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**

Parameter	Method
<b>SOIL ANALYSIS</b>	
Appendix IX TCL VOC	SW-846 8260B
Appendix IX TCL SVOC	SW-846 8270C
Appendix IX Pesticides	SW-846 8081A
PCBs	SW-846 8082
Herbicides	SW-846 8151A
Organo-phosphorus Pesticides	SW-846 8141A
Appendix IX Metals	SW-846 6010B/7471A
Total Residual Petroleum Hydrocarbons (TRPH)	FEDP FL-PRO
Cyanide	SW-846 9012A
pH	SW-846 9040A
<b>AQUEOUS ANALYSIS</b>	
Appendix IX VOC	SW-846 8260B
Appendix IX SVOC	SW-846 8270C
Appendix IX Pesticides	SW-846 8081A
PCBs	SW-846 8082
Herbicides	SW-846 8151A
Organo-phosphorus Pesticides	SW-846 8141A
Dissolved Sulfide	EPA 376.1
Appendix IX Metals	6010B/7440A
Total Residual Petroleum Hydrocarbons (TRPH)	FDEP FL-PRO
Nitrate as Nitrogen, Nitrite as Nitrogen, Sulfate, Ortho-Phosphate, and Chloride	EPA 300.0
Cyanide	EPA 335.3
pH	EPA 150.1
Total Kjeldahl Nitrogen	EPA 351.2
Ammonia	EPA 350.1
Alkalinity	EPA 310.1
Fecal Coliform	909A



Not To Scale

Legend  
 ● Sample Location

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COST/SCHEDULE-AREA	
SCALE AS NOTED	



SOIL AND SURFACE WATER SAMPLE LOCATIONS  
 STORM SEWER EXCAVATION SITE  
 NAS CECIL FIELD  
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0039	
APPROVED BY <i>[Signature]</i>	DATE 11/3/05
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## **4.0 CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 CONCLUSIONS**

Conclusions pertaining to the Storm Sewer Excavation are as follows:

- A rash (contact dermatitis) developed on workers who conducted activities at the Storm Sewer Excavation Site. These workers also conducted other activities in addition to the installation of the vault, both inside and outside of the excavation, including clearing and grubbing activities.
- The vegetation cleared from the work area was stockpiled along the upgradient edge of the excavation.
- The junction vault was not completed and was acting as a containment pond for area drainage at the time of the investigation.
- The EPA Appendix IX analytical scan, commonly requested by EPA when evaluating a site with limited information, was conducted. In addition to the Appendix IX analyses, additional field tests were included to provide a comprehensive evaluation of soil and water within the trench.
- A significant number of soil samples were collected to assure that potential points of contact were evaluated, and the only location at which surface water was present was sampled. The number of samples collected is adequate to evaluate an area of this size.
- The analytical results from both the environmental and CWA sampling efforts did not identify any contamination that would be expected to cause contact dermatitis.
- The lack of identified contamination in the excavation, the relatively minor exposure (minor rash), and the rate at which the rash appeared and disappeared, indicates that whatever is, or was, in the excavation is of limited concern and can be addressed through proper use of dermal protection during future operations in the excavation.

### **4.2 RECOMMENDATIONS**

The investigation conducted at the Storm Sewer Excavation did not identify any contamination, and therefore the site does not represent a risk to human health and the environment. The final recommendation for the Storm Sewer Excavation North of Taxiways Delta and Alpha is no further action.

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TtNUS, 2002. Technical Memorandum for No Further Action, Potential Source of Contamination 39, Flight Line Outfalls, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. July.

TtNUS, 2003. Site Assessment Report Addendum for North Fuel Farm, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. October.

TtNUS, 2004.

**APPENDIX A**

**SITE PHOTOS**

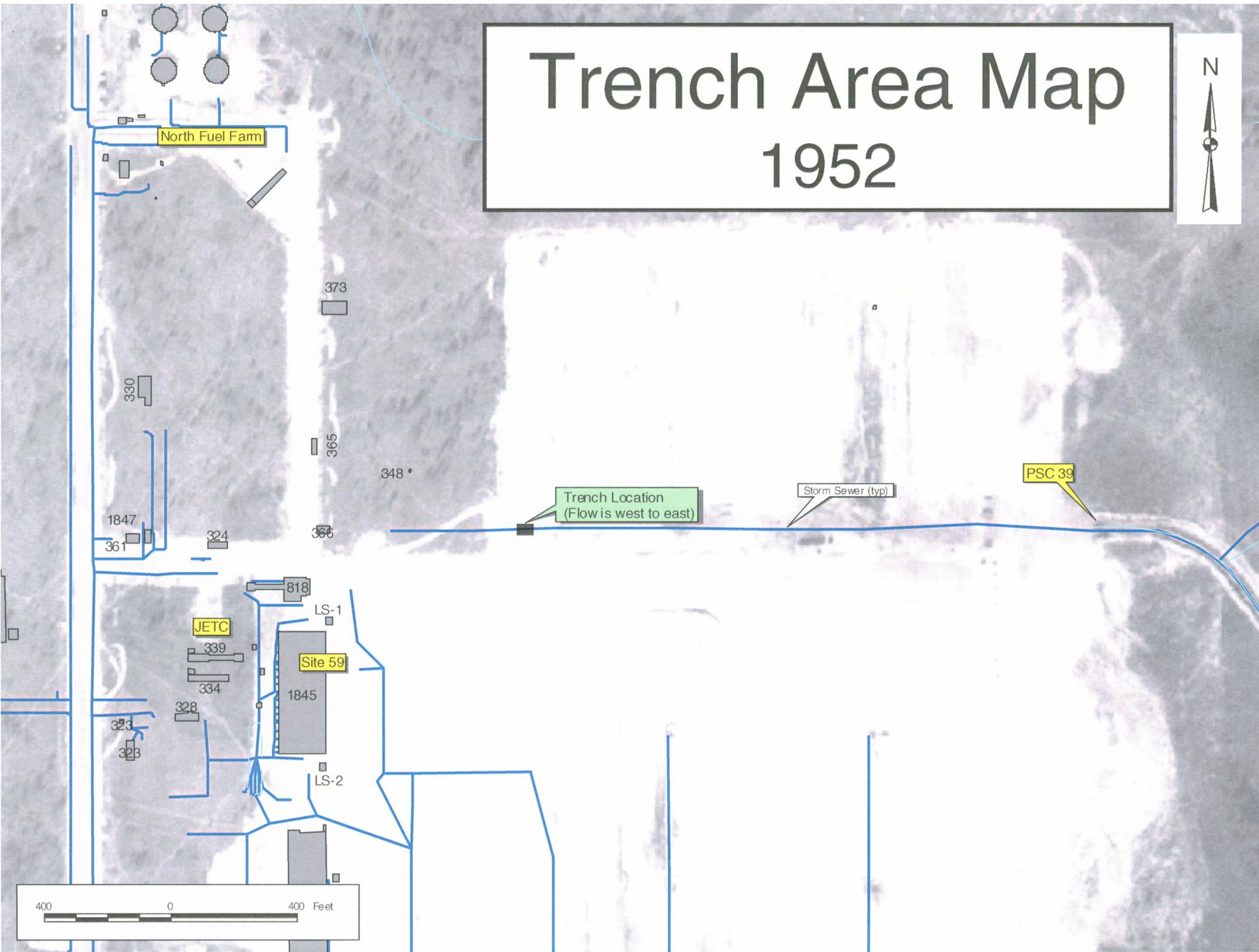
# Photos of trench



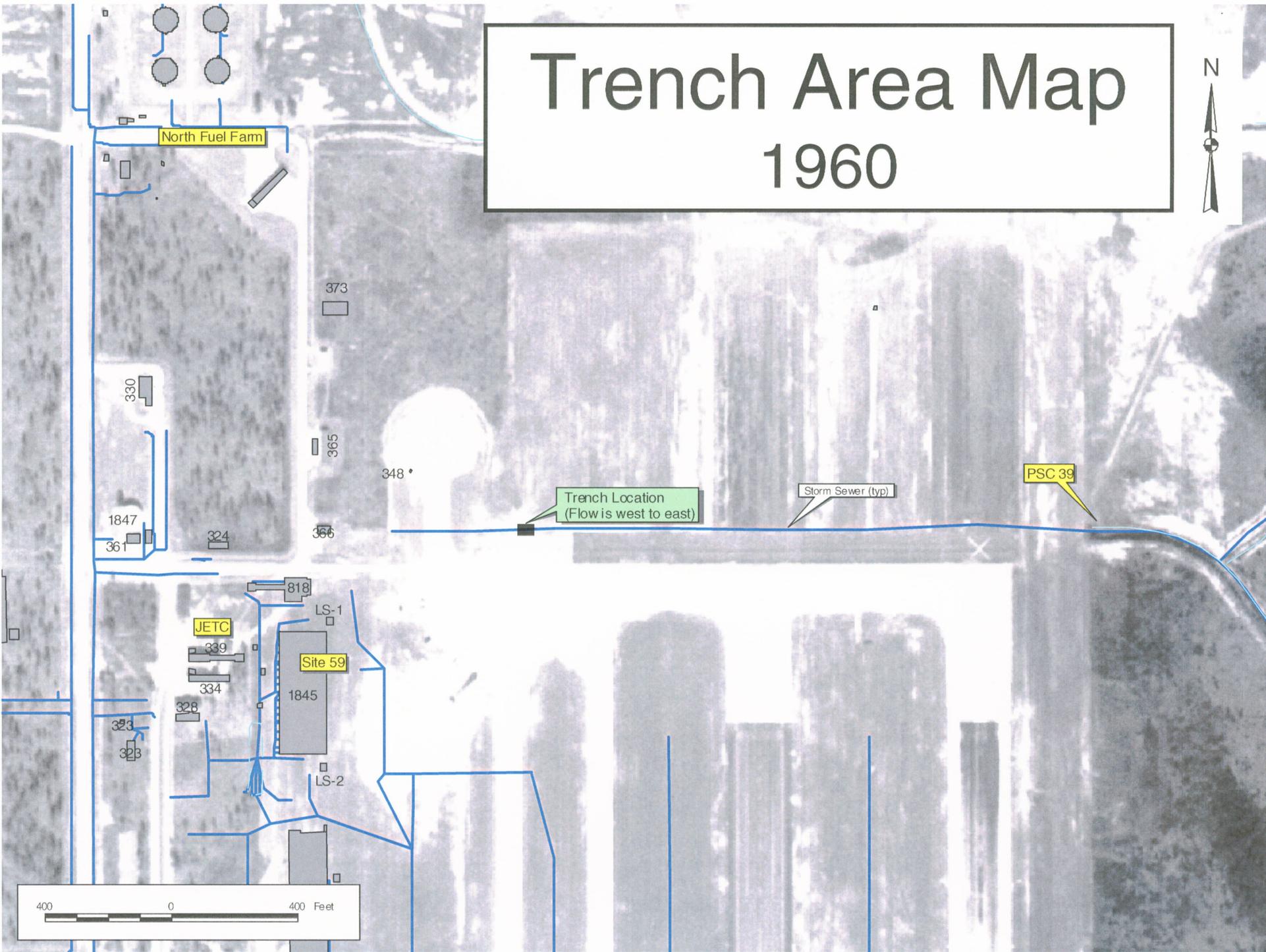
# Photo of trench looking west



# Trench Area Map 1952



# Trench Area Map 1960



North Fuel Farm

Trench Location  
(Flow is west to east)

Storm Sewer (typ)

PSC 39

JETC

Site 59

373

365

348

330

1847

361

324

366

LS-1

339

334

328

323

323

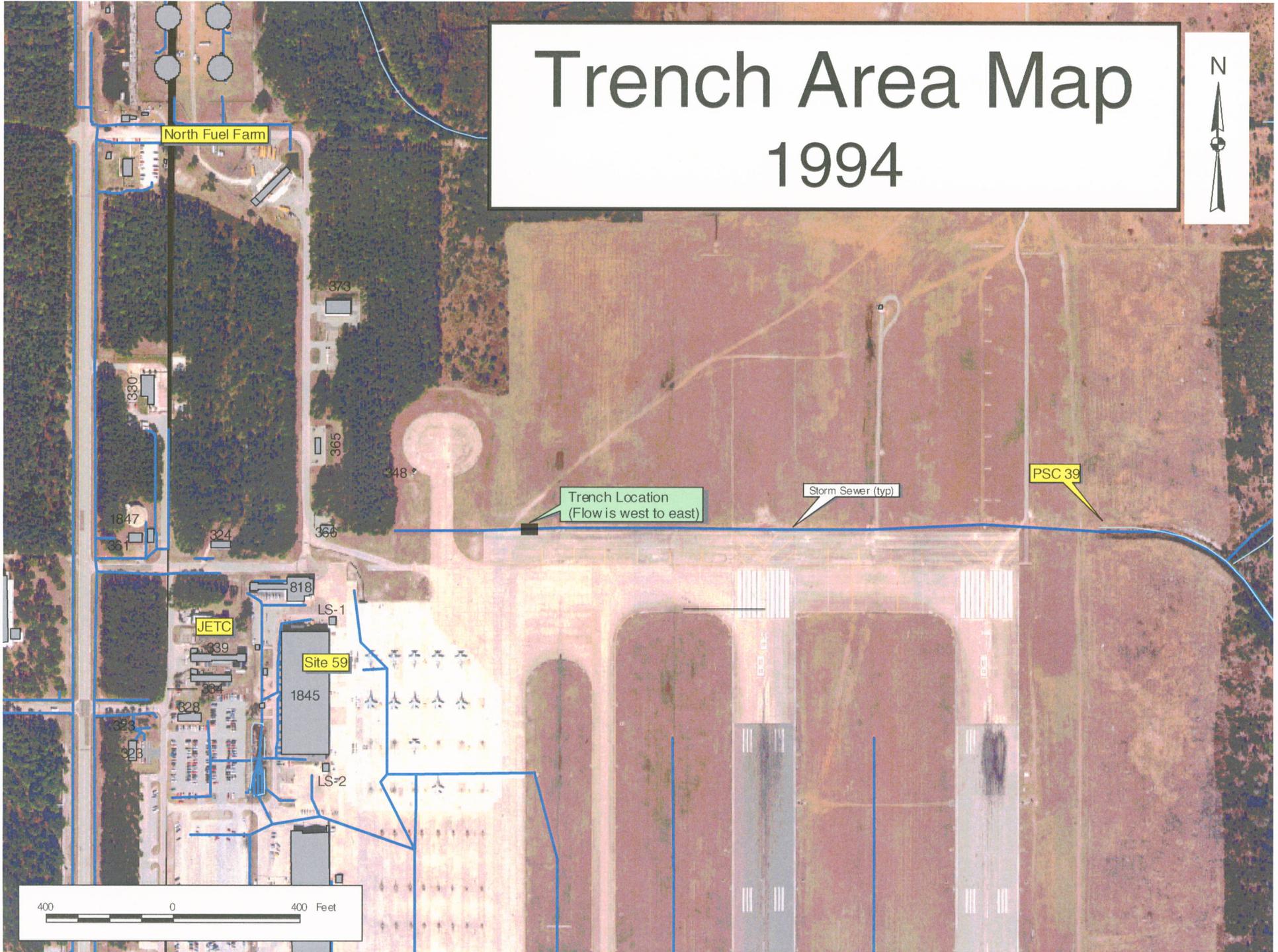
1845

LS-2

818

400 0 400 Feet

# Trench Area Map 1994



**APPENDIX B**

**CHAIN OF CUSTODY, SAMPLE LOG SHEETS, FIELD LOG BOOK  
AND EQUIPMENT CALIBRATION SHEET**



PROJECT NO: <b>N0039</b>		FACILITY: <b>TNDA CECIL Fld</b>		PROJECT MANAGER: <b>MARK SPRANHA</b>		PHONE NUMBER: <b>412 921 8916</b>		LABORATORY NAME AND CONTACT: <b>Accutest</b>						
SAMPLERS (SIGNATURE) <b>M.W. Dade</b> <b>P. [Signature]</b> <b>Tom Dickson</b>				FIELD OPERATIONS LEADER: <b>Mark Dade</b>		PHONE NUMBER: <b>904 666 6125</b>		ADDRESS: <b>4405 Vineland Rd C-15</b>						
				CARRIER/WAYBILL NUMBER: <b>Fedex 8234 9077</b>		CITY, STATE: <b>ORLANDO, FL 32811</b>		CONTAINER TYPE: <b>PLASTIC (P) or GLASS (G)</b>		PRESERVATIVE USED: <b>None G G G G G G G G</b>				
STANDARD TAT <input type="checkbox"/> RUSH TAT <input checked="" type="checkbox"/>		40 DAY		MATRIX (GW, SO, SW, SD, QC):		COLLECTION METHOD: <b>GRAP (G) COMP (C)</b>		TYPE OF ANALYSIS:		COMMENTS:				
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day								<b>R2608 * VOCs</b> <b>R270C * VOCs/TICS H2O G</b> <b>S081A * VOCs/PAHs</b> <b>S092 * Pest.</b> <b>S151A * Pests</b> <b>S141A * Herbs</b> <b>W102/471A * OPP.</b> <b>FL-PRO * Metab</b> <b>TRAH</b>						
DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC) ETC.	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS				COMMENTS	
<del>9/17</del>	<del>1053</del>	<del>CEF-TNDA-SW-001</del>				<del>SW</del>	<del>G</del>	<del>4</del>	<del>move to TNDA-003/4 MWS</del>				<del>Cool to 4°C</del>	
9/17	1112	CEF-TNDA-SS-003-01		0	1	SO	G	4	2	✓	✓	✓	✓	
9/17	1120	CEF-TNDA-SB-003-06		5	6	SO	G	4	2	✓	✓	✓	✓	N0039-WR 457 Mod 1
9/17	1127	CEF-TNDA-SS-002-01		0	1	SO	G	4	2	✓	✓	✓	✓	
9/17	1136	CEF-TNDA-SB-002-06		5	6	SO	G	4	2	✓	✓	✓	✓	
9/17	1207	CEF-TNDA-SS-001-01		0	1	SO	G	4	2	✓	✓	✓	✓	* See work
9/17	1215	CEF-TNDA-SB-001-06		5	6	SO	G	4	2	✓	✓	✓	✓	release for
9/17	1228	CEF-TNDA-SS-004-01		0	1	SO	G	4	2	✓	✓	✓	✓	analyze list &
9/17	1238	CEF-TNDA-SB-004-06		5	6	SO	G	4	2	✓	✓	✓	✓	methods required.
9/17	1305	CEF-TNDA-SB-007-09		8	9	SO	G	4	2	✓	✓	✓	✓	
9/17	1320	CEF-TNDA-SB-005-07		6	7	SO	G	4	2	✓	✓	✓	✓	
9/17	1327	CEF-TNDA-SB-006-07		6	7	SO	G	4	2	✓	✓	✓	✓	
1. RELINQUISHED BY: <b>M.W. Dade</b>				DATE: <b>9/17/04</b>	TIME: <b>1800</b>	1. RECEIVED BY: <b>Fedex</b>				DATE: <b>9/17/04</b>	TIME:			
2. RELINQUISHED BY:				DATE:	TIME:	2. RECEIVED BY:				DATE:	TIME:			
3. RELINQUISHED BY:				DATE:	TIME:	3. RECEIVED BY:				DATE:	TIME:			
COMMENTS														



PROJECT NO: <b>N0039</b>	FACILITY: <b>TNDA Cecil Field</b>	PROJECT MANAGER: <b>MARK SPERANZA</b>	PHONE NUMBER: <b>412 921 8916</b>	LABORATORY NAME AND CONTACT: <b>AccuTest</b>
SAMPLERS (SIGNATURE): <i>M. Dale</i>		FIELD OPERATIONS LEADER: <i>Mary Dale</i>	PHONE NUMBER: <b>904 636 6125</b>	ADDRESS: <b>4405 Vineland Rd. C-15</b>
CARRIER/WAYBILL NUMBER: <b>Fedex 8434 9077 6041,6127,6133,6144</b>		CITY, STATE: <b>ORLANDO, FL</b>		

STANDARD TAT <input type="checkbox"/>	<b>4 DAY</b>
RUSH TAT <input checked="" type="checkbox"/>	
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day	

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS			COMMENTS
									9012A	CYANIDE	PH	
9/17	1112	CEF-TNDA-SS-003-01		0	1	SO	G	1	✓	✓	1	Cool to 4°C
	1120	CEF-TNDA-SB-003-06		5	6			1	✓	✓	1	
	1127	CEF-TNDA-SS-002-01		0	1			1	✓	✓	1	N0039 WR
	1136	CEF-TNDA-SB-002-06		5	6			1	✓	✓	1	457 Mod 1
	1207	CEF-TNDA-SS-001-01		0	1			1	✓	✓	1	
	1215	CEF-TNDA-SB-001-06		5	6			1	✓	✓	1	* See work
	1228	CEF-TNDA-SS-004-01		0	1			1	✓	✓	1	release for
	1238	CEF-TNDA-SB-004-06		5	6			1	✓	✓	1	Analyte list &
	1305	CEF-TNDA-SB-007-09		8	9			1	✓	✓	1	methods req'd.
	1320	CEF-TNDA-SB-005-07		6	7			1	✓	✓	1	
	1327	CEF-TNDA-SB-006-07		6	7			1	✓	✓	1	

1. RELINQUISHED BY: <i>M. Dale</i>	DATE: <b>9/17/04</b>	TIME: <b>1800</b>	1. RECEIVED BY: <i>Fedex</i>	DATE: <b>9/17/04</b>	TIME:
2. RELINQUISHED BY:	DATE:	TIME:	2. RECEIVED BY:	DATE:	TIME:
3. RELINQUISHED BY:	DATE:	TIME:	3. RECEIVED BY:	DATE:	TIME:

COMMENTS





PROJECT NO: <b>NO059</b>		FACILITY: <b>CEM FIELD/TNDA</b>		PROJECT MANAGER <b>MARK SPERANZA</b>		PHONE NUMBER <b>412 921 8916</b>		LABORATORY NAME AND CONTACT: <b>ACCUTEST / SUE BELL</b>									
SAMPLERS (SIGNATURE) <i>[Signature]</i>		FIELD OPERATIONS LEADER <b>MERV DALE</b>		PHONE NUMBER <b>(904) 636-6125</b>		ADDRESS <b>4405 VINELAND Rd C-15</b>				CITY, STATE <b>ORLANDO FL 32811</b>							
STANDARD TAT <input type="checkbox"/> RUSH TAT <input checked="" type="checkbox"/>		CARRIER/WAYBILL NUMBER <b>Fedex (see TNDA001 for list of #'s)</b>		CONTAINER TYPE PLASTIC (P) or GLASS (G)		PRESERVATIVE USED		TYPE OF ANALYSIS 8260B * HCL G 8270C * None G 8081 * None G 8082 * None G 8151A * None G 8141A * None G EPA 376.1 * None G 6010B/7440A * None G 201/202 P 203 P									
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input checked="" type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day <b>4 DAY</b>																	
DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	COMMENTS								
9/17	1053	CEM-TNDA-SW-001	-	-	-	SW	G	17	3	2	2	2	2	2	3	1	Corl to 4'  No039-WR 457-Mod 1  X See work release for list of Analytes & Methods.
1. RELINQUISHED BY <i>[Signature]</i>				DATE 9/17/04	TIME 1800	1. RECEIVED BY <i>[Signature]</i>				DATE 9/17/04	TIME						
2. RELINQUISHED BY				DATE	TIME	2. RECEIVED BY				DATE	TIME						
3. RELINQUISHED BY				DATE	TIME	3. RECEIVED BY				DATE	TIME						
COMMENTS																	



Project Site Name: TNDA NAS Cecil Field  
Project No.: N0039, CTO 78

Sample ID No.: CEF-TNDA-SW- 001

Sample Location: CEF-TNDA-SW- 001

Sampled By: TD/PL/MD

C.O.C. No.: TNDA - COT 003/001

Laboratory: Accutest

Type of Sample:

Low Concentration

High Concentration

Stream

Spring

Pond

Lake

Other:

QA Sample Type:

**SAMPLING DATA:**

Date: <u>9/17/04</u>	Color	pH	Cond.	Temp.	Turbidity	DO	ORP
Time: <u>1053</u>	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV
Depth: <u>0-6 inches</u>	<u>H. brown</u>	<u>N/R</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Method: <u>Teflon cup</u>							

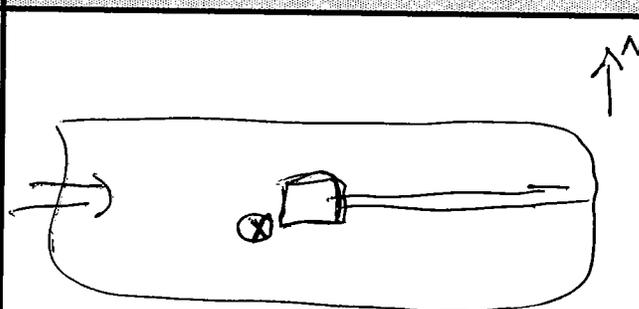
**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
AppIX VOCs w/TICs 8260B	<u>HCL</u>	3 - 40 ml vials (methanol and h2o)	<input checked="" type="checkbox"/>
AppIX SVOCs w/TICs 8270C	<u>NONE</u>	<u>1-4 oz jar 2-1L Amber</u>	<input checked="" type="checkbox"/>
AppIX Pesticides 8081A (w/Kepona)	<u>NONE</u>	<u>1-4 oz jar 2-1L Amber</u>	<input checked="" type="checkbox"/>
PCBs 8082	<u>NONE</u>	<u>2-1L Amber</u>	<input checked="" type="checkbox"/>
Herbicides, select 8151A	<u>NONE</u>	<u>2-1L Amber</u>	<input checked="" type="checkbox"/>
Organo-phosphorus Pesticides 8141A	<u>NONE</u>	<u>2-1L Amber</u>	<input checked="" type="checkbox"/>
Dissolved sulfide 376.1	<u>NaOH/ZnAc</u>	<u>3- 250ml HDPE</u>	<input checked="" type="checkbox"/>
AppIX Metals 6010B/7440A	<u>HNO3</u>	<u>1- 500 ml HDPE</u>	<input checked="" type="checkbox"/>
TRPH FL-PRO	<u>H2SO4</u>	<u>2- 1L Amber</u>	<input checked="" type="checkbox"/>
Select ions 300	<u>NONE</u>	<u>1- 1L HDPE</u>	<input checked="" type="checkbox"/>
CN 335.3	<u>NaOH</u>	<u>1- 500ml HDPE</u>	<input checked="" type="checkbox"/>
TKN, Ammonia, Alkalinity 351.2, 350.1, 310.1	<u>H2SO4</u>	<u>1- 1L HDPE *</u>	<input checked="" type="checkbox"/>
pH 150.1	<u>NONE</u>	<u>*</u>	<input checked="" type="checkbox"/>
Fecal Coliform 909A	<u>NONE</u>	<u>1- 100 ml plastic</u>	<input checked="" type="checkbox"/>

**OBSERVATIONS / NOTES:**

**MAP:**

\* Alkalinity & pH will be analyzed by lab from 1L HDPE non-preserved HDPE also for select ions.



pH N/R - not recorded since lab is analyzing for ~~total~~ total ions.

⊗ surface water sample location.

**Circle if Applicable:**

**Signature(s):**

MS/MSD  
none

Duplicate ID No.:  
none

M. Edwin W. Dale



Project Site Name: NAS Cecil Field TND  
Project No.: N0039, CTO 78

Sample ID No.: CEF-TNDA-518-003-01  
Sample Location: CEF-TNDA-003  
Sampled By: TD/PLMD  
C.O.C. No.: TNDA 001/002  
Work Release No. N0039-WR457 Mod 1  
Type of Sample:  
 Low Concentration  
 High Concentration

- Surface Soil
- Subsurface Soil
- Sediment
- Other:
- QA Sample Type:

GRAB SAMPLE DATA:

Date: <u>9/17/04</u>	Depth: <u>0-1 1/2 ft</u>	Color: <u>brown w/blk</u>	Description (Sand, Silt, Clay, Moisture, etc.): <u>silty v. fine sand damp (black in clots in soil)</u>
Time: <u>1112</u>			
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	1 - 4 oz jar		accutest
AppIX Pesticides 8081A (w/Kepona)	1 - 4 oz jar		accutest
PCBs 8082			accutest
Herbicides, select 8151A	} 2 - 8oz jar →	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			
AppIX Metals 6010B/7471A	1 - 4 oz jar		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

OBSERVATIONS / NOTES:

Depth (ft bis)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

MAP:  
Location per workplan.

Check if Applicable:

ID No.:  MSMSD  DUPLICATE

None collected.

Signature(s):  
Merrin H. & de



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: CEF-TNDA- SB-003-06  
 Sample Location: CEF-TNDA- 003  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA 001/002  
 Work Release No. N0039-WR457/Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1120</u>	<u>5-6' bls</u>	<u>black</u>	<u>silky v. fine sand, wet</u>
Method: <u>Disposable Trowel</u>			
Monitor Reading (ppm): <u>0.0</u>			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	1 - 4 oz jar		accutest
AppIX Pesticides 8081A (w/Kepon)	1 - 4 oz jar		accutest
PCBs 8082			accutest
Herbicides, select 8151A	} <u>2-8oz jars</u> →	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	1 - 4 oz jar		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

OBSERVATIONS / NOTES:

Depth (ft bls)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

MAP:  
Location per workplan.

Check if Applicable:

ID No.:  MSMSD  DUPLICATE

None collected.

Signature(s)  
M. W. Dale



Project Site Name: NAS Cecil Field TND  
Project No.: N0039, CTO 78

Sample ID No.: CEF-TNDA-SS-002-01  
Sample Location: CEF-TNDA-002  
Sampled By: TD/PL/MD  
C.O.C. No.: TNDA 001/002  
Work Release No. N0039-WR457 Mod 1

- Surface Soil
- Subsurface Soil
- Sediment
- Other: \_\_\_\_\_
- QA Sample Type: \_\_\_\_\_

- Type of Sample:
- Low Concentration
- High Concentration

**GRAB SAMPLE DATA:**

Date: <u>9/17/04</u>	Depth: <u>0-1' b/s</u>	Color: <u>brown w/ blk</u>	Description (Sand, Silt, Clay, Moisture, etc.): <u>silty, fine sand damp (black in specs in soil)</u>
Time: <u>1127</u>			
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

PID

**COMPOSITE SAMPLE DATA:**

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

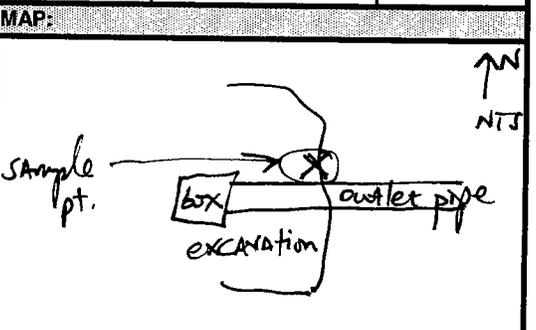
**SAMPLE COLLECTION INFORMATION:**

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<del>1 - 4 oz jar</del>		accutest
AppIX Pesticides 8081A (w/Kepon)	<del>1 - 4 oz jar</del>		accutest
PCBs 8082			accutest
Herbicides, select 8151A	} 2 - 8 oz jars →	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	<del>1 - 4 oz jar</del>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

**OBSERVATIONS / NOTES:**

Depth (ft bls)    Unfilter (ppm)    Filtered (ppm)    Net (ppm)

*moved sample pt. adjacent to pipe*



**Check if Applicable:**

ID No.:  MSMSD     DUPLICATE

None collected.

Signature(s): *Merrin W. De*



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: CEF-TNDA-*SB-002-06*  
 Sample Location: CEF-TNDA-*002*  
 Sampled By: *TD/PL/MD*  
 C.O.C. No.: *TNDA-001/002*  
 Work Release No. N0039-WR457 Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
<u>9/17/04</u>	<u>5-6' b/s</u>	<u>black</u>	<u>silty v. fine sand wet</u>
Time: <u>1136</u>			
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<del>4 - 4 oz jar</del>		accutest
AppIX Pesticides 8081A (w/Kepon)	<del>1 - 4 oz jar</del>		accutest
PCBs 8082			accutest
Herbicides, select 8151A	<u>2- 8oz. jars</u> →	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	<del>4 - 4 oz jar</del>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

OBSERVATIONS / NOTES:

Depth (ft b/s)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

MAP:

*located in same area*

*AS*

*sample pt.* [box] → *outlet pipe*

*N*

*CP*

Check if Applicable:

ID No.:  MSMSD  DUPLICATE

None collected.

Signature(s):

*Merrin W. De*



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: CEF-TNDA-51-001-01  
 Sample Location: CEF-TNDA-001  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA-09/002  
 Work Release No. N0039-WR457 Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
9/17/04	0-1' b/s	dk. brown w/ blk spots	silty v. fine sand moist some limestone pieces (pebble size)
Time: 1207			
Method: Disposable Trowel			
Monitor Reading (ppm): 0.0			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<del>1 - 4 oz jar</del>		accutest
AppIX Pesticides 8081A (w/Kepona)	<del>1 - 4 oz jar</del>		accutest
PCBs 8082			accutest
Herbicides, select 8151A			accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	<del>1 - 4 oz jar</del>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

*2-8oz jars ->*

OBSERVATIONS / NOTES:

Depth (ft bis)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

MAP:

located sample pt. per workplan map.

Check if Applicable:

ID No.:  MSMSD  DUPLICATE

None collected.

Signature(s):

*Merwin W. Sde*



Project Site Name: NAS Cecil Field TND  
Project No.: N0039, CTO 78

Sample ID No.: CEF-TNDA-SB-001-06  
Sample Location: CEF-TNDA-001  
Sampled By: TD/PL/MD  
C.O.C. No.: TNDA-001/002  
Work Release No. N0039-WR457 Mod 1  
Type of Sample:  
 Low Concentration  
 High Concentration

- Surface Soil
- Subsurface Soil
- Sediment
- Other:
- QA Sample Type:

**GRAB SAMPLE DATA:**

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1215</u>	<u>5-6' b/s</u>	<u>dk. brown</u>	<u>silty v. fine sand cemented (aka hardpan) damp</u>
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

PCD

**COMPOSITE SAMPLE DATA:**

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

**SAMPLE COLLECTION INFORMATION:**

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	1 - 4 oz jar		accutest
AppIX Pesticides 8081A (w/Kepona)	1 - 4 oz jar		accutest
PCBs 8082			accutest
Herbicides, select 8151A	} <u>2 - 8oz jars</u> →	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	1 - 4 oz jar		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

**OBSERVATIONS / NOTES:**

Depth (ft bis)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

**MAP:**

*located sample pt. per workplan map*

**Check if Applicable:**

ID No.:  MSMSD  DUPLICATE

**Signature(s):**

*Merrin L. Dole*

None collected.



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: CEF-TNDA-SS-004-01  
 Sample Location: CEF-TNDA-004  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA-001/002  
 Work Release No. N0039-WR457 Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1228</u>	<u>0-1' b/s</u>	<u>dk. brown</u>	<u>partly friable silty, v. fine sand damp</u>
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

P10

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

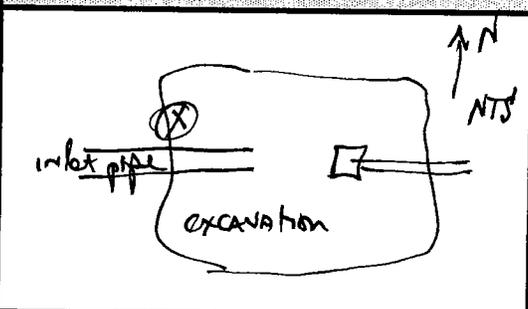
Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<u>1 - 4 oz jar</u>	<input type="checkbox"/>	accutest
AppIX Pesticides 8081A (w/Kepon)	<u>1 - 4 oz jar</u>	<input type="checkbox"/>	accutest
PCBs 8082		<input type="checkbox"/>	accutest
Herbicides, select 8151A	<u>2 - 8 oz. jars</u>	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			
AppIX Metals 6010B/7471A	<u>1 - 4 oz jar</u>	<input type="checkbox"/>	accutest
TRPH FL-PRO		<input type="checkbox"/>	accutest
Cyanide 9012A		<input type="checkbox"/>	accutest
pH 9040A		<input type="checkbox"/>	accutest
		<input type="checkbox"/>	accutest
		<input type="checkbox"/>	accutest

OBSERVATIONS / NOTES:

Depth (ft bis)    Unfilter (ppm)    Filtered (ppm)    Net (ppm)

Moved sample pt. beside pipe

MAP:



Check if Applicable:

ID No.:  MSMSD     DUPLICATE

None collected.

Signature(s):

Mawon H. de



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78  
 Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:  
 Sample ID No.: CEF-TNDA- SB-004-06  
 Sample Location: CEF-TNDA- 004  
 Sampled By: TDF/UMD  
 C.O.C. No.: TNDA- 001/002  
 Work Release No. N0039-WR457 Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

**GRAB SAMPLE DATA:**

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1230</u>	<u>5-6' bls</u>	<u>black</u>	<u>silty v. fine sand moist</u> <u>some line rock pebbles</u>
Method: Disposable Trowel			
Monitor Reading (ppm): <u>0.0</u>			

P10

**COMPOSITE SAMPLE DATA:**

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

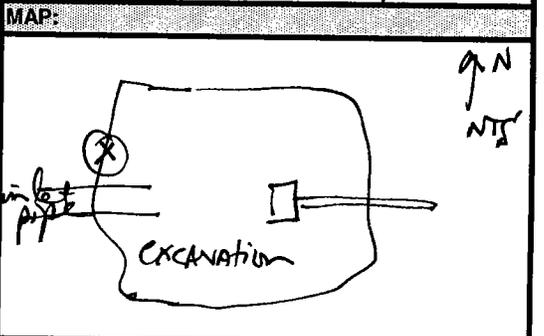
**SAMPLE COLLECTION INFORMATION:**

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	1 - 4 oz jar	} <u>2-8 oz. jars</u> → <input checked="" type="checkbox"/>	accutest
AppIX Pesticides 8081A (w/Kepon)	1 - 4 oz jar		accutest
PCBs 8082			accutest
Herbicides, select 8151A			accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	1 - 4 oz jar		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

**OBSERVATIONS / NOTES:**

Depth (ft bls)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

*moved sample pt. beside pipe.*



Check if Applicable:  
 ID No.:  MSMSD  DUPLICATE  
 None collected.

Signature(s):  
Merrin V. Dale



Project Site Name: NAS Cecil Field TND A  
 Project No.: N0039, CTO 78  
 Sample ID No.: CEF-TNDA-SB-007-09  
 Sample Location: CEF-TNDA-007  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA-001/602  
 Work Release No.: N0039-WR457 Mod 1  
 Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:  
 Low Concentration  
 High Concentration

**GRAB SAMPLE DATA:**

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1305</u>	<u>8-9' b/s</u>	<u>black</u>	<u>silty v. fine sand wet</u>
Method: <u>Disposable Trowel SS HA</u>			
Monitor Reading (ppm): <u>0.0</u>			

**COMPOSITE SAMPLE DATA:**

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

**SAMPLE COLLECTION INFORMATION:**

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<u>1 - 4 oz jar</u>		accutest
AppIX Pesticides 8081A (w/Kepona)	<u>1 - 4 oz jar</u>		accutest
PCBs 8082			accutest
Herbicides, select 8151A	<u>2 - 8 oz jars</u>	<input checked="" type="checkbox"/>	accutest
Organo-phosphorus Pesticides 8141A			accutest
AppIX Metals 6010B/7471A	<u>1 - 4 oz jar</u>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

**OBSERVATIONS / NOTES:**

Depth (ft b/s)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)	MAP:
				<u>located sample pt. per workplan figure.</u>
<u>SSHA - stainless steel handpans</u>				

Check if Applicable:  
 ID No.:  MSMSD  DUPLICATE  
 Signature(s): Mewin W. S. de  
 None collected.



Project Site Name: NAS Cecil Field TND A  
 Project No.: N0039, CTO 78  
 Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:  
 Sample ID No.: CEF-TNDA- SB-005-07  
 Sample Location: CEF-TNDA- 005  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA- 001/002  
 Work Release No. N0039-WR457 Mpd 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

**GRAB SAMPLE DATA:**

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1320</u>	<u>6-7' bls</u>	<u>black</u>	<u>silty v. fine sand wet</u>
Method: <u>Disposable Trowel SSS</u>			
Monitor Reading (ppm):			

**COMPOSITE SAMPLE DATA:**

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

**SAMPLE COLLECTION INFORMATION:**

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<del>1 - 4 oz jar</del>		accutest
AppIX Pesticides 8081A (w/Kepona)	<del>1 - 4 oz jar</del>		accutest
PCBs 8082			accutest
Herbicides, select 8151A			accutest
Organo-phosphorus Pesticides 8141A	<u>2-8oz. jars</u> →	<input checked="" type="checkbox"/>	accutest
AppIX Metals 6010B/7471A	<del>1 - 4 oz jar</del>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

**OBSERVATIONS / NOTES:**

Depth (ft bls)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)	MAP:
				<u>Sample pt. located per workplan figure.</u>
<u>SSS- stainless steel shovel</u>				

**Check if Applicable:**

ID No.:  MSMSD  DUPLICATE

Signature(s): M. Cunniff

None collected.



Project Site Name: NAS Cecil Field TND  
 Project No.: N0039, CTO 78

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: CEF-TNDA-SB-006-07  
 Sample Location: CEF-TNDA-006  
 Sampled By: TD/PL/MD  
 C.O.C. No.: TNDA-001/002  
 Work Release No. N0039-WR457 Mod 1  
 Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date: <u>9/17/04</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1327</u>	<u>6-7' bbs</u>	<u>black</u>	<u>silty v. fine sand wet</u>
Method: <u>Disposable Trower SSHA</u>			
Monitor Reading (ppm): <u>0.0</u>			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
AppIX VOCs w/TICs 8260B	3 - 40 ml vials (methanol and h20)	<input checked="" type="checkbox"/>	accutest
AppIX SVOCs w/TICs 8270C	<del>1 - 4 oz jar</del>		accutest
AppIX Pesticides 8081A (w/Kepone)	<del>1 - 4 oz jar</del>		accutest
PCBs 8082			accutest
Herbicides, select 8151A			accutest
Organo-phosphorus Pesticides 8141A	<u>2 - 8 oz jars</u>	<input checked="" type="checkbox"/>	accutest
AppIX Metals 6010B/7471A	<del>1 - 4 oz jar</del>		accutest
TRPH FL-PRO			accutest
Cyanide 9012A			accutest
pH 9040A			accutest
			accutest
			accutest

OBSERVATIONS / NOTES:

Depth (ft bls)	Unfilter (ppm)	Filtered (ppm)	Net (ppm)

SSHA - stainless steel hand auger.

MAP:

Sample pt. located per workplan map

Check if Applicable:

ID No.:  MSMSD  DUPLICATE

None collected.

Signature(s):

Merrin H. Dale

9/17/04

CT078

NO089

TMDA, CECIL Field U.S.N.

0637 M. Dike (no) (in F250, call 545-7048) depart office.  
 P. Lavarrette (PL) (in F250, call 813-5431) left @ 0615.  
 0645 M.D. called Tom Dickey (TD) (cell 412 726 3006) to tell him we'll  
 be there by 0715.

WEAX: High 86°F Low 74°F winds from NE @ 13 mph.  
 Scattered T-storms expected. Humidity 77%.  
 Sunrise 7:16pm sunset 7:20 pm.

0715 M.D. @ Bldg 1. ID check w/ PL.  
 0720 PL calibration FID (PINE #10620) AND PID # 00660. Col: sheet  
 Micro FID (Photovac 2020)

records, Mfg. serial #'s. See id sheet.

LUDLUM RAD SURVEY METER #1935 (Note: calibrated by PINE ENV)

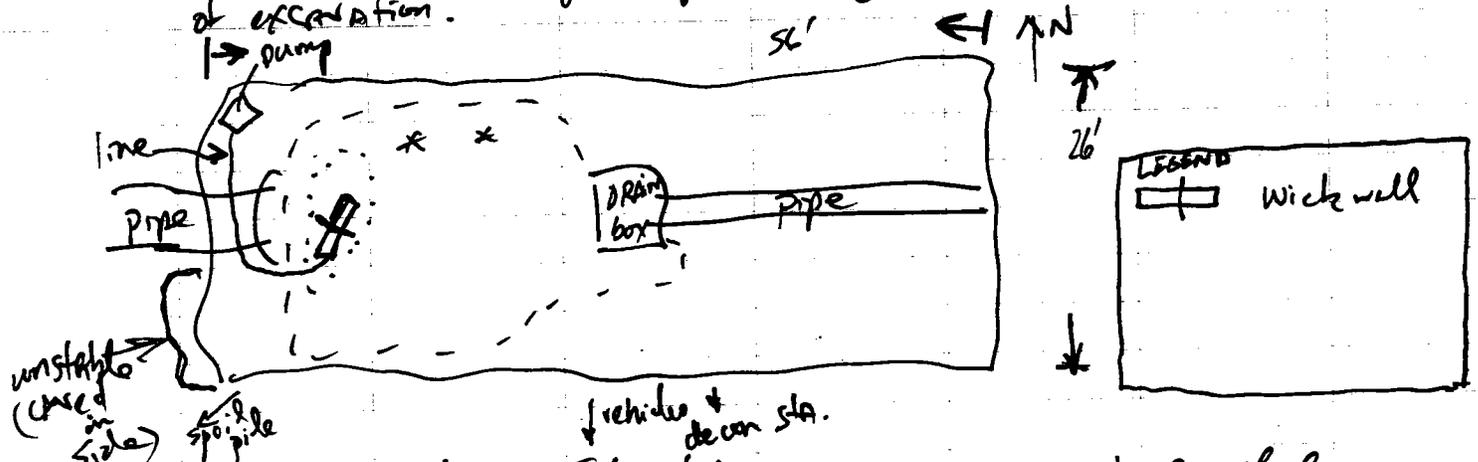
Begin load out for check sheet.

0800 MWA Pete L. going to Fedex for coolers/bottles from Accutest  
 WORK release for this event in NO089 - WR 457 Mod 1.

0920 M. Dike called DIANA Stone (DIA) (759-1213) to gain access.  
 We'll meet her & John Oliver (CARLO) AT GATE 32.

0927 At. GATE 32. John reports on his condition.  
 He was setting a wick well to dewater. His hands have  
 peeled (not really blistered) & are red. He said his back  
 has red dots all over (similar under his right under arm). He  
 only got soil (waxer moist) on his hands. He wasn't sure if he  
 fell & got material on his back ~~at~~ <sup>MO</sup>  
 DIANA at Gate 32.

0930 0931 Pass through G 32 & lock up.  
 on site. water 2.3 ft\* deep according to John on S north side  
 of excavation.



0940 DIANA & John leave. John left me a key to a lock that  
 DIANA will put in place for us to have  
 1005 Deem set up (2 stations) per SOP SA 7.1. HASP.  
 H&S meeting. See signed safe work permits 09/17/04-001 for  
 deem & multi media sampling.  
 alw de

9/17/04

TNOA

CECIL Field

USN.

1005 (cont'd) Collect 2 soil jars for back ground from spoil pile set by Carlo from ~~the~~ pit. soil background  
 H. brown v. fine silty sand, damp.

FID

UNFIL (ppm) 3.1

filter (ppm) 10.3

Net

Indeterminate.

1010  
 1015 Jnt PL to get hydrogen, FID already low on gas. He'll bring H<sub>2</sub> tank. here

1030 Screen spoil pile. Note: TD suited up in SARANEX. He collected these soils.

1031 No reading (0 ppm) on FID.

1032 Excavation checklist complete. All work to be done from (adobe or hard concrete surface). Restricted areas shown by ear line figure near well wall & either <sup>SW</sup> side.

1050 Ladder (16) into hole. TD suited per work plan <sup>HASP</sup> with safety harness. PL on site to assist TD. PL decan teflon collection cup per SOP SA 7.1. Bottom is muddy. Using mud tab to get better footing for surface water collection.

1053 collect 'CEF-TNOA-SW-001' near SW corner of Drain box.

See chart "TNOA-001" for record. (pg. 16)  
 (Note: <sup>SW</sup> area <sup>SW</sup> dimensions on fig (26' x 56') About 8' (to 12' @ deepest)). See surface water sample sheet for details. Samples for SW & soils will be placed on ice while on site.

1112 TD using stainless steel shovel (decan'd per SOP SA 7.1) by PL to clear about 1 or 2 inches off surface then collect "CEF-TNOA-SW-002-01" using sterile plastic disposable trowel. Depth about 1' bls. See soil sample log sheet for details. Record on COC, TNOA 001 & 002.

South well

Note: PL is also tending line to TD's safety harness while assisting in sample collection.

Note: PL using nitrile gloves & filling VOA vials for soils per method 5035 He's also filling 1-gallon ziploc's and x-ferrying those to Mercede for filling the appropriate soil jars for the other analytical. We will keep on ziploc (~1/3 full) on ice to later do pH, rad, survey and soil screening tasks.

1120 TD moved down slope to collect mid pt. soil. Same procedure as before. "CEF-TNOA-SW-003-06" at 6' bls. Record on TNOA 001 & 002. See soil sample log sheet for details.

1123 TD moving ladder to east well. Since slope is more inclined & accessible he's using the 48" pipe to get to the next location.

9/17/04

TNDA CECIL FIELD

CR078 U.S.A.

- 1123 P.L. still holding safety rope to T.D.'s harness.
- 1124 T.D. collecting soil with P.L.'s assist "CEF-TNDA-SS-002-01" at 1' b/s. Using same procedure w/ shovel / trowel. Also note that T.D. is only one inside of excavation. P.L. is at top while T.D. hands up soil-filled syringes or ziplocs. See soil sample log sheet for details.
- 1136 T.D. moved down beside the 48" pipe (on north side of it) to collect "CEF-TNDA-SB-002-06" at 6' b/s.  
Still recording soils on TNDA 001 & 002 (COCs).
- 1141 T.D. out of excavation and over to do decan per HASP, Table S-1.
- 1150 Following cleanup, T.D. to take break, rehydrate + assist P.L. to suit up. NOTE: T.D. reported slight PAH/creosote-like odor.  
Note: PPE for person(s) going in excavation.  
Hardhat, safety glasses, SARANEX suit, steel toe boots, chemical resistant overboots, nitrile gloves and latex gloves. Tape up boots + gloves w/ duct tape. Use extra gloves to collect sample + exchange for fresh pair w/ each new sample collected. Also wear safety harness attached to rope and held by Assistant.
- 1202 P.L. going into pit on north wall. NOTE: after T.D. opened/sampled mid-pt. @ location 002, groundwater began seeping in more from that exposure. Note: wetted surface measured at ~ 5' b/s and saturated surface estimated @ 6' b/s.  
Note: NAVY JETS and P-3's periodically taxiing on Alpha to take off on Runway 18B. We have a ground MODID from John Oliver to monitor Cecil Ground. We are to return it to him via Diana Stone of JAA.
- 1207 P.L. collecting "CEF-TNDA-SS-001-01" at 1' b/s. NOTE: There is built-up fill on this side of the excavation but Pate can see the grass surface sticking out of side of excavation so he could measure where to face the sample. Using same procedure for sample collection with cleaned shovel and deep trowel. See soil sample log sheet for details.
- 1215 P.L. collecting "CEF-TNDA-SB-001-06" @ 6' b/s. using same methodology. See soil sample log sheet for details. Record on COCs TNDA 001/002.
- 1220 P.L. moving to west wall. Coming into pit below de-water pump on north side of pump pipe. He'll be standing in about 3-6 inches of water on a bed of gravel left by Carlo's company to set the wick wall.
- 1228 P.L. collecting "CEF-TNDA-SS-004-01" at 1' b/s. using same method. See soil sample sheet for details. Record on COCs TNDA 001/002.
- x M.A. Dale

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TNDA

CECIL Field

CT078

U.S.N.

- 1238 P.L. collecting "CEF-TNDA-SB-004-06" using same method @ 6' b/c. See soil sample log sheet for details. Record on COC TNDA 001/002.
- 1242 P.L. out of pit, and over to decon to clean up and get out of the suit. T.O. assisting him to shed his gear per HASP. A.D. decon shovel per SOP SA 7.1. Note: gloves / travels going into trash bag for eventual disposal. Ladder brought around to south wall for last three samples. ~~Decided to collect from 007, then 005 & 006.~~  
Note change from work plan - insufficient space between inlet pipe and drain box for 2 distinct samples (007 & 008). Especially with gravel installed around inlet pipe so we will not collect TNDA-008.
- 1250 P.L. out of decon, getting a drink. No odors noted while in the pit. T.O. suiting up in smocked suit with harness.
- 1302 T.O. descending into pit north of inlet pipe. Note: we've decontaminated the stainless steel hand auger per SOP SA 7.1 for this event and we will collect directly from its bucket.
- 1305 T.O. collected "CEF-TNDA-SB-007-09" @ about 9' b/c. Noted the hand auger was extended about 3' under water to collect this sample. See soil sample log sheet for details. Record on COC TNDA 001/002.
- 1312 M.O. decon stainless steel shovel per SOP SA 7.1 for next location.
- 1313 T.O. & P.L. moving to south wall w/ ladder.
- 1320 T.O. collecting "CEF-TNDA-SB-005-07" from floor next to pool of water per in location shown by plans. See soil sample log sheet for details. Record on TNDA 001/002.
- 1325 Move to last location 006.
- 1327 T.O. collect "CEF-TNDA-SB-006-07" using decontaminated s.s. hand auger. See soil sample log sheet for details. Record in TNDA 001/002.
- 1330-1400 Filled 4 coolers w/ samples/ice & moved to F250 S.O. for P.L. to take back to office & place in sample frig under lock. Breakdown equipment, decon, place remaining trash in bag for disposal back at receptacle at B.I. All ppe (gloves, suits, rope, tape) going in trash. Cleaning chem. boots to retain for other work. Also decon ladder and tools (hand auger, shovel).  
Put decon water into 18-gal poly and record ~9 gallons of decon water.  
Note: Final rinse used <sup>no</sup> on sample eq. used analyte-free water from NERL (Lot # 0111207 exp 01/05; 1209163 exp 12/04).  
P.L. to office. M.O. & T.O. looking for upstream grate at end of inlet

1401  
M.W. Dale

9/17/04

TNDA

CTD 78

LECU Field

U.S.A.

01  
mtdl pipe (~300' west of excavation) from which to collect 2<sup>nd</sup> SW.

110 T.O. found lowest spot in line with pipe & used spud bar to locate stormwater drain. Apparently, Carlo company did not cordon off the drain with any hay bales or silt fence. We found under about 4-6 inches of the gravel they'd brought in mixed with bits of drift wood from their nearby spoil piles.

Note: we took pics of our work and this drain.  
1430 Drain uncovered - NO visible water in bottom of basin. So, no second surface water sample collected.

1432 P.L. back and we're departing the site.

1437 Back at B.I. I called DIANA Stone & got Ms. Carole Smith of JAA. I asked her to tell DIANA that we'd left the flight line & inform the tower since the radio was dead (out of power).

1440- Unload equipment, put trash in receptacle, P.L. taking  
1500 IDW decon water to dump in L.S. @ Bldg. 18.

1500- Lunch - P.L. staying to begin labeling sample jars.  
1540 M.O. and T.O. off site.

541 MD & T.O. back at B.I. Begin preparing 4 fresh coolers with ice for X-port to Lab (Accentest in Orlando, FL). Note: Lab work release N0039 - WR 457 Mod 1. Coolers & samples packed per SOP SA 6.1.

MD transpr surface water sample record to chains #1ed TNDA 003 & 004 to keep the two media separate.

Prepare Fedex airbills for coolers as follows:

- 8434 9077 6041
- 8434 9077 6122
- 8434 9077 6133
- 8434 9077 6144

600 Also packing rad meter & P10 - note: T.O. just ran the rad meter on each sample with the following results:

Sample I.D. (CEF-TNDA-)	MR/hr	Sample I.D. (CEF-TNDA-)	MR/hr
001-01	0.0	003-06	0.01
001-06	0.0	004-01	0.01
002-01	0.0	004-06	0.0
002-06	0.0	005-07	0.0
003-01	0.1	006-07	0.0
		007-09	0.0

M.W. Dale

9/17/04

TNDA

CECIL Field

C7078

U.S.N.

1700 P.L. released from duty - going back to office in F250 S.D.  
 M.D. & P.D. conducting soil screen of soils in ziplocs using FID.  
 Note: ziplocs have been laid out (they were in the sample jig) to get them back to temp for measurement. Also taking pH of soils.

FID measurement

<u>Sample I.D. (CEF-TNDA-)</u>	<u>ppm</u>
002-01	0.0
003-01	0.2
006-07	0.0

1710 FID exhibiting overload from moisture. Elevated readings in ambient air.

1720 FID still overloaded. Suspend use of FID for this screening. Begin checking pH with Jumbo full range (1-13) pH paper.

<u>Sample I.D. (CEF-TNDA)</u>	<u>pH (S.U.)</u>	<u>free H<sub>2</sub>O</u>
001-01	7	✓
001-06	5	
002-01	7	
002-06	7	✓
003-01	6	
003-06	6	✓
004-01	6	
004-06	6	✓
005-07	7	✓
006-07	7	✓
007-09	7	✓

Note: we checked free standing water when available, on the others we used SW846 9045C method to prep the samples to check it (used NERL H<sub>2</sub>O).

1730 Place soils/ziplocs in bucket for later disposal once results are known. Also put decon/pH water in baggie for similar disposal.

1740 office locked. T.D. leaving for hotel. M.D. taking pax to FedEx on Solisbury Rd.

1815 At FedEx.

1830 Leaving FedEx for office.

1842 At office. Unload some equipment.

Heavin W. Dale



**APPENDIX C**

**FIXED BASE LABORATORY  
ANALYSIS RESULTS**

location depth	SS-001-01 0-1'	SB-001-06 5-6'	SS-002-01 0-1'	SB-002-06 5-6'	SS-003-01 0-1'	SB-003-06 5-6'	SS-004-01 0-1'	SB-004-06 5-6'	SB-005-07 6-7'	SB-006-07 6-7'	SB-007-09 8-9'
<b>Herbicides (ug/kg)</b>											
2,4,5-T	8.6 U	8.2 U	7.8 U	8.9 U	7.4 U	9.4 U	7.7 U	8.4 U	8.9 U	8.8 U	9 U
2,4,5-TP (SILVEX)	8.6 U	8.2 U	7.8 U	8.9 U	7.4 U	9.4 U	7.7 U	8.4 U	8.9 U	8.8 U	9 U
2,4-D	8.6 U	8.2 U	7.8 U	8.9 U	7.4 U	9.4 U	7.7 U	8.4 U	8.9 U	8.8 U	9 U
DINOSEB	8.6 U	8.2 U	7.8 U	8.9 U	7.4 U	9.4 U	7.7 U	8.4 U	8.9 U	8.8 U	9 U
<b>Inorganics (ug/kg)</b>											
ANTIMONY	0.36 U	0.36 U	0.35 U	0.39 U	0.94 I	0.4 U	0.33 U	0.36 U	0.38 U	0.37 U	0.38 U
ARSENIC	0.44 U	0.43 U	0.42 U	0.48 U	0.38 U	0.48 U	0.4 U	0.43 U	0.46 U	0.44 U	0.46 U
BARIUM	3.2 I	3.8 I	1.6 I	2.6 I	1.5 I	1.9 I	2.9 I	2.9 I	15.4 I	2.1 I	1.7 I
BERYLLIUM	0.05 U	0.049 U	0.048 U	0.054 U	0.043 U	0.055 U	0.045 U	0.049 U	0.053 U	0.051 U	0.053 U
CADMIUM	0.05 U	0.049 U	0.048 U	0.054 U	0.043 U	0.055 U	0.045 U	0.049 U	0.053 U	0.051 U	0.053 U
CHROMIUM	5.2	4.2	3.1	3.4	2.8	8.8	4.8	5.3	1.4	1.9	3.1
COBALT	0.11 U	0.11 U	0.11 U	0.12 U	0.098 U	0.12 U	0.1 U	0.11 U	0.12 U	0.11 U	0.12 U
COPPER	2.4 I	0.46 I	1.5 I	3.5	0.67 I	2.3 I	1.4 I	2.1 I	0.67 I	1.6 I	1.1 I
LEAD	6 I	4 I	5.1 I	3.6 I	2.5 I	7.2 I	5.1 I	5.1 I	2.6 I	3.6 I	3.3 I
MERCURY	0.031 I	0.02 I	0.015 I	0.049 I	0.021 I	0.057 I	0.034 I	0.047 I	0.017 I	0.01 I	0.027 I
NICKEL	0.63 I	1.4 I	0.46 U	0.52 U	0.41 U	0.53 U	0.47 I	0.66 I	0.5 U	0.48 U	0.5 U
SELENIUM	0.4 I	0.79 I	0.66 I	0.31 U	0.69 I	2.2 I	0.27 I	0.28 U	0.3 U	0.29 U	0.31 U
SILVER	0.18 U	0.17 U	0.17 U	0.19 U	0.15 U	0.19 U	0.16 U	0.17 U	0.18 U	0.18 U	0.19 U
THALLIUM	0.38 U	0.37 U	0.36 U	0.41 U	0.33 U	0.42 U	0.34 U	1.5 U	2 U	0.38 U	0.4 U
TIN	0.77 U	0.75 U	0.73 U	0.83 U	0.66 U	0.84 U	0.69 U	0.75 U	0.8 U	0.77 U	0.81 U
VANADIUM	3 I	3.3 I	1.8 I	2.1 I	3 I	4.9 I	2.5 I	3.1 I	1.1 I	1.4 I	1.9 I
ZINC	3.5	0.65 U	0.64 U	1.3 I	0.58 U	0.73 U	0.99 I	1.7 I	1.9 I	3.7	1.3 I
<b>Miscellaneous Parameters</b>											
CYANIDE (mg/kg)	1.3 U	1.2 U	1.2 U	1.3 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U	1.3 U	1.4 U
SOLIDS (%)	77.9	81.6	85.1	75.1	90.3	70.8	86.3	79.4	74.5	75.7	73.9
PH	7.7	6	7.7	7.7	7.6	6.5	7.9	7.7	8.1	7.8	7.7
<b>Organo-phosphorus Pesticides (ug/kg)</b>											
DIMETHOATE	200 U	200 U	200 U	200 U	100 U	200 U					
DISULFOTON	100 U										
ETHYLPARATHION	100 U										
METHYLPARATHION	100 U										
PHORATE	100 U										
<b>Semivolatiles (ug/kg)</b>											
1,1-BIPHENYL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,2,4,5-TETRACHLOROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,2,4-TRICHLOROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,2-DICHLOROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,2-DIPHENYLHYDRAZINE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,3-DICHLOROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,4-DICHLOROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1,4-DIOXANE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
1-METHYLNAPHTHALENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,2'-OXYBIS(1-CHLOROPROPANE)	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,3,4,6-TETRACHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,4,5-TRICHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,4,6-TRICHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,4-DICHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,4-DIMETHYLPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,4-DINITROPHENOL	420 U	410 U	390 U	430 U	360 U	460 U	380 U	420 U	440 U	440 U	440 U
2,4-DINITROTOLUENE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
2,6-DICHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2,6-DINITROTOLUENE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
2-CHLORONAPHTHALENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2-CHLOROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2-METHYLNAPHTHALENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2-METHYLPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
2-NITROANILINE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
2-NITROPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
3&4-METHYLPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
3,3'-DICHLOROBENZIDINE	210 U	200 U	190 U	220 U	180 U	230 U	190 U	210 U	220 U	220 U	220 U
3-NITROANILINE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
4,6-DINITRO-2-METHYLPHENOL	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
4-BROMOPHENYL PHENYL ETHER	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
4-CHLORO-3-METHYLPHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
4-CHLOROANILINE	320 U	310 U	290 U	330 U	270 U	350 U	280 U	310 U	330 U	330 U	330 U
4-CHLOROPHENYL PHENYL ETHER	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
4-HYDROXY-4-METHYL-2-PENTANONE	33000 JN	36000 JN	30000 JN	35000 JN	24000 JN	36000 JN	30000 JN	34000 JN	36000 JN	34000 JN	37000 JN
4-NITROANILINE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
4-NITROPHENOL	420 U	410 U	390 U	430 U	360 U	460 U	380 U	420 U	440 U	440 U	440 U
ACENAPHTHENE	42 U	41 U	44 I	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
ACENAPHTHYLENE	42 U	41 U	39 U	135 I	36 U	46 U	38 U	42 U	44 U	44 U	44 U
ACETOPHENONE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
ANILINE	320 U	310 U	290 U	330 U	270 U	350 U	280 U	310 U	330 U	330 U	330 U
ANTHRACENE	42 U	41 U	85.8 I	72.7 I	36 U	46 U	38 U	42 U	44 U	44 U	44 U
ATRAZINE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BENZALDEHYDE	850 U	820 U	770 U	870 U	720 U	930 U	760 U	830 U	880 U	870 U	880 U
BENZIDINE	1100 U	1000 U	960 U	1100 U	900 U	1200 U	950 U	1000 U	1100 U	1100 U	1100 U
BENZO(A)ANTHRACENE	42 U	41 U	261	421	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BENZO(A)PYRENE	42 U	41 U	242	395	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BENZO(B)FLUORANTHENE	42 U	41 U	238	291	36 U	46 U	38 U	42 U	44 U	44 U	44 U

BENZO(G,H,I)PERYLENE	85 U	82 U	146 I	220	72 U	93 U	76 U	83 U	88 U	87 U	88 U
BENZO(K)FLUORANTHENE	42 U	41 U	210	351	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BENZOICACID	640 U	610 U	580 U	650 U	540 U	690 U	570 U	620 U	660 U	650 U	660 U
BENZYLALCOHOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BIS(2-CHLOROETHOXY)METHANE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
BIS(2-CHLOROETHYL)ETHER	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
BIS(2-ETHYLHEXYL)PHTHALATE	210 U	200 U	190 U	220 U	180 U	230 U	190 U	210 U	220 U	220 U	220 U
BUTYL BENZYL PHTHALATE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
CAPROLACTAM	210 U	200 U	190 U	220 U	180 U	230 U	190 U	210 U	220 U	220 U	220 U
CARBAZOLE	42 U	41 U	48.8 I	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
CHRYSENE	42 U	41 U	279	540	36 U	46 U	38 U	42 U	44 U	44 U	44 U
DI-N-BUTYL PHTHALATE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
DI-N-OCTYL PHTHALATE	210 U	200 U	190 U	220 U	180 U	230 U	190 U	210 U	220 U	220 U	220 U
DIBENZO(A,H)ANTHRACENE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
DIBENZOFURAN	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
DIETHYL PHTHALATE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
DIMETHYL PHTHALATE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
FLUORANTHENE	64.1 I	41 U	652	704	36 U	46 U	38 U	76.4 I	44 U	44 U	44 U
FLUORENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
HEXACHLOROENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
HEXACHLOROBUTADIENE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
HEXACHLOROCYCLOPENTADIENE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
HEXACHLOROETHANE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
INDENO(1,2,3-CD)PYRENE	85 U	82 U	155 I	219 I	72 U	93 U	76 U	83 U	88 U	87 U	88 U
ISOPHORONE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
N-NITROSO-DI-N-PROPYLAMINE	85 U	82 U	77 U	87 U	72 U	93 U	76 U	83 U	88 U	87 U	88 U
N-NITROSODIMETHYLAMINE	110 U	100 U	96 U	110 U	90 U	120 U	95 U	100 U	110 U	110 U	110 U
N-NITROSODIPHENYLAMINE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
NAPHTHALENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
NITROBENZENE	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
PENTACHLOROPHENOL	420 U	410 U	390 U	430 U	360 U	460 U	380 U	420 U	440 U	440 U	440 U
PHENANTHRENE	42 U	41 U	462	119 I	36 U	46 U	38 U	44.7 I	44 U	44 U	44 U
PHENOL	42 U	41 U	39 U	43 U	36 U	46 U	38 U	42 U	44 U	44 U	44 U
PYRENE	85 U	82 U	550	849	72 U	93 U	76 U	83 U	88 U	87 U	88 U
PYRIDINE	210 U	200 U	190 U	220 U	180 U	230 U	190 U	210 U	220 U	220 U	220 U
TICS-SEMIVOLATILE	34560 J	39320 J	31390 J	36650 J	25380 J	37200 J	32130 J	36270 J	37780 J	35200 J	38800 J
<b>Volatile (ug/kg)</b>											
1,1,1,2-TETRACHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1,1-TRICHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1,2,2-TETRACHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1,2-TRICHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1,2-TRICHLOROETHANOL	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1,3-TRIMETHYLCYCLOHEXANE											16 JN
1,1-DICHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,1-DICHLOROETHENE	3.7 U	3.4 U	3.4 U	3.7 U	3.7 U	3.9 U	4 U	4.1 U	4 U	4.2 U	4.1 U
1,1-DICHLOROPROPENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2,3-TRICHLOROENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2,3-TRICHLOROPROPANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2,4-TRICHLOROENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2,4-TRIMETHYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DIBROMO-3-CHLOROPROPANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DIBROMOETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DICHLORO-1,1,2-TRIFLUOROET	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DICHLOROENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DICHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,2-DICHLOROPROPANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,3,5-TRIMETHYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,3-DICHLOROENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,3-DICHLOROPROPANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,4-DICHLOROENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
1,4-DIOXANE	120 U	110 U	110 U	120 U	120 U	130 U	130 U	140 U	130 U	140 U	140 U
1-CHLOROHEXANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
2,2-DICHLOROPROPANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
2-BUTANONE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
2-CHLOROETHYL VINYL ETHER	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
2-CHLOROTOLUENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
2-HEXANONE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
2-NITROPROPANE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
3-CHLOROPROPENE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
4-CHLOROTOLUENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
4-ISOPROPYLTOLUENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
4-METHYL-2-PENTANONE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
ACETONE	31 U	28 U	29 U	31 U	31 U	32 U	33 U	34 U	34 U	35 U	34 U
ACETONITRILE	25 U	23 U	23 U	25 U	25 U	26 U	26 U	28 U	27 U	28 U	27 U
ACROLEIN	16 U	14 U	14 U	16 U	15 U	16 U	16 U	17 U	17 U	17 U	17 U
ACRYLONITRILE	16 U	14 U	14 U	16 U	15 U	16 U	16 U	17 U	17 U	17 U	17 U
BENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BENZYL CHLORIDE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BROMOBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BROMOCHLOROMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BROMODICHLOROMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BROMOFORM	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
BROMOMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U

CARBONDISULFIDE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CARBON TETRACHLORIDE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLOROBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLORODIBROMOMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLOROETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLOROFORM	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLOROMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CHLOROPRENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CIS-1,2-DICHLOROETHENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CIS-1,3-DICHLOROPROPENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CYCLOHEXANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
CYCLOHEXANONE	31 U	28 U	29 U	31 U	31 U	32 U	33 U	34 U	34 U	35 U	34 U
DIBROMOMETHANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
DICHLORODIFLUOROMETHANE	3.7 U	3.4 U	3.4 U	3.7 U	3.7 U	3.9 U	4 U	4.1 U	4 U	4.2 U	4.1 U
DIETHYLETHER	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
DIISOPROPYL ETHER	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
ETHANOL	120 U	110 U	110 U	120 U	120 U	130 U	130 U	140 U	130 U	140 U	140 U
ETHYL ACETATE	31 U	28 U	29 U	31 U	31 U	32 U	33 U	34 U	34 U	35 U	34 U
ETHYL METHACRYLATE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
ETHYL TERT-BUTYL ETHER	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
ETHYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
HEXACHLOROBUTADIENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
HEXANE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
ISOBUTANOL	62 U	57 U	57 U	62 U	62 U	65 U	66 U	69 U	67 U	70 U	68 U
ISOPROPYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
M+P-XYLENES	3.1 U	2.8 U	2.9 U	3.1 U	3.1 U	3.2 U	3.3 U	3.4 U	3.4 U	3.5 U	3.4 U
METHACRYLONITRILE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
METHYL ACETATE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
METHYL CYCLOHEXANE	3.1 U	2.8 U	2.9 U	3.1 U	3.1 U	3.2 U	3.3 U	3.4 U	3.4 U	3.5 U	3.4 U
METHYL IODIDE	3.1 U	2.8 U	2.9 U	3.1 U	3.1 U	3.2 U	3.3 U	3.4 U	3.4 U	3.5 U	3.4 U
METHYL METHACRYLATE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
METHYL TERT-BUTYL ETHER	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
METHYLENE CHLORIDE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
N-BUTYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
N-PROPYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
NAPHTHALENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
O-XYLENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
PENTACHLOROETHANE	6.2 U	5.7 U	5.7 U	6.2 U	6.2 U	6.5 U	6.6 U	6.9 U	6.7 U	7 U	6.8 U
PROPIONITRILE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
SEC-BUTYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
STYRENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TERT-AMYL METHYL ETHER	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TERT-BUTYLBENZENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TERTIARY-BUTYL ALCOHOL	25 U	23 U	23 U	25 U	25 U	26 U	26 U	28 U	27 U	28 U	27 U
TETRACHLOROETHENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TETRAHYDROFURAN	5 U	4.5 U	4.6 U	5 U	4.9 U	5.2 U	5.3 U	5.5 U	5.4 U	5.6 U	5.5 U
TIC-VOLATILE	0	0	0	0	0	0	0	0	17 J	0	46 J
TOLUENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TOTAL 1,2-DICHLOROETHENE	5 U	4.5 U	4.6 U	5 U	4.9 U	5.2 U	5.3 U	5.5 U	5.4 U	5.6 U	5.5 U
TOTAL XYLENES	5.6 U	5.1 U	5.2 U	5.6 U	5.6 U	5.8 U	5.9 U	6.2 U	6.1 U	6.3 U	6.2 U
TRANS-1,2-DICHLOROETHENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TRANS-1,3-DICHLOROPROPENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TRANS-1,4-DICHLORO-2-BUTENE	12 U	11 U	11 U	12 U	12 U	13 U	13 U	14 U	13 U	14 U	14 U
TRICHLOROETHENE	2.5 U	2.3 U	2.3 U	2.5 U	2.5 U	2.6 U	2.6 U	2.8 U	2.7 U	2.8 U	2.7 U
TRICHLOROFLUOROMETHANE	3.1 U	2.8 U	2.9 U	3.1 U	3.1 U	3.2 U	3.3 U	3.4 U	3.4 U	3.5 U	3.4 U
VINYL ACETATE	31 U	28 U	29 U	31 U	31 U	32 U	33 U	34 U	34 U	35 U	34 U
VINYL CHLORIDE	3.1 U	2.8 U	2.9 U	3.1 U	3.1 U	3.2 U	3.3 U	3.4 U	3.4 U	3.5 U	3.4 U
<b>Pesticides/PCBs (ug/l)</b>											
4,4'-DDD	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
4,4'-DDE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
4,4'-DDT	1.3 U	1.2 U	9.3 U	1.3 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U	2.6 U	1.3 U
ALDRIN	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ALPHA-BHC	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ALPHA-CHLORDANE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
AROCLOR-1016	11 U	10 U	9.7 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	11 U	11 U
AROCLOR-1221	17 U	16 U	16 U	18 U	15 U	19 U	15 U	17 U	18 U	17 U	18 U
AROCLOR-1232	17 U	16 U	16 U	18 U	15 U	19 U	15 U	17 U	18 U	17 U	18 U
AROCLOR-1242	11 U	10 U	9.7 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	11 U	11 U
AROCLOR-1248	11 U	10 U	9.7 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	11 U	11 U
AROCLOR-1254	11 U	10 U	9.7 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	11 U	11 U
AROCLOR-1260	11 U	10 U	9.7 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	11 U	11 U
BETA-BHC	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
CHLORDANE (TECHNICAL)	11 U	10 U	78 U	11 U	9.2 U	12 U	9.6 U	10 U	11 U	22 U	11 U
DELTA-BHC	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
DIELDRIN	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ENDOSULFAN I	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ENDOSULFAN II	0.85 U	0.81 U	31 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ENDOSULFAN SULFATE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ENDRIN	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
ENDRIN ALDEHYDE	1.7 U	1.6 U	12 U	1.8 U	1.5 U	1.9 U	1.5 U	1.7 U	1.8 U	3.4 U	1.8 U
ENDRIN KETONE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
GAMMA-BHC (LINDANE)	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
GAMMA-CHLORDANE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U

HEPTACHLOR	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
HEPTACHLOR EPOXIDE	0.85 U	0.81 U	6.2 U	0.88 U	0.74 U	0.93 U	0.77 U	0.83 U	0.88 U	1.7 U	0.89 U
METHOXYCHLOR	1.7 U	1.6 U	12 U	1.8 U	1.5 U	1.9 U	1.5 U	1.7 U	1.8 U	3.4 U	1.8 U
TOXAPHENE	110 U	100 U	780 U	110 U	92 U	120 U	96 U	100 U	110 U	220 U	110 U
<b>Petroleum (mg/kg)</b>											
TRPH	15.3	6.8 U	11.3	11.5	6.61 I	57.2	50	12.1	12.8	14.8	10.9 I

**APPENDIX D**

**LABORATORY ANALYSES RESULTS  
CHEMICAL WAR AGENTS**





## ECBC Monitoring Branch Analytical Narrative

### REVISED

<b>Client/Project:</b> Cecil Fld/Jacksonville FL/Tetra Tech	<b>Date Received:</b> 10/18/2004
<b>Extraction Analyst:</b> James J. Fackett	<b>Date Extracted:</b> 10/18/2004
<b>Analyst:</b> Jennifer Wolfe-Pupa	<b>Batch No:</b> 04101801, 02, 03
<b>Reviewer:</b> Gail Soubie	<b>ECBC Sample No:</b> EML050018-APG through EML050047-APG

### Sample Summary

Thirty soil samples, two water samples, and associated quality control were extracted on 10/18/2004, as specified in IOP MT-8 Revision 2 for the following CWAs and breakdown products: L, HD, 1,4-Dithiane, and 1,4-Thioxane.

### Sample & Method Performance

**Tune:** All tuning criteria were met and all reported samples were analyzed within the twelve-hour tune limit.

**Calibration:** All calibration criteria were met for the reported samples.

**Surrogates:** All surrogate criteria were met for the reported samples.

**LCS/LCSDUP:** All quality control criteria were met for the reported LCS/LCSD.

**Method Blank(s):** All reported blanks were clear of target agents.

**MS/MSD:** All quality control criteria were met for the reported MS/MSD except for sample S001-S001-101504. The relative percent difference for Lewisite was 20, the upper limit is 19.



# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050018-APG S001-S001-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004  
**Headspace Clearance #** **Remarks**

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050018-APG	04101801	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/04	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				100%	
HD			100	ND	
L			100	ND	

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050018-APGMS	04101801	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane MS	10/18/2004	10/19/2004		114%	Matrix Spike
1,4-Thioxane				111%	
BFB (Surrogate)				99%	
HD				114%	
L				123%	

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050018-APGMSD	04101801	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane MSD	10/18/2004	10/19/2004		118%	Matrix spike Duplicate
1,4-Thioxane				114%	
BFB (Surrogate)				103%	
HD				116%	
L				100%	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

Wednesday, October 20, 2004

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**Environmental Monitoring Laboratory**

**CLEARANCE REPORT**

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050019-APG S001-S002-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

Headspace Clearance #		Remarks				
<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>				
EML050019-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				100%		
HD			100	ND		
L			100	ND		

**Sample #/Name** EML050020-APG S001-S003-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

Headspace Clearance #		Remarks				
<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>				
EML050020-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				99%		
HD			100	ND		
L			100	ND		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL

**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040

**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050021-APG S001-S004-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**
**Remarks**
Extraction Number(s)
Batch Number
IOP Number

EML050021-APG

04101801

MT8

Analyte
Extraction Date
Analysis Date
PQL
Result
Remarks

1,4-Dithiane

10/18/2004

10/19/2004

100

ND

1,4-Thioxane

100

ND

BFB (Surrogate)

99%

HD

100

ND

L

100

ND

Sample

**Sample #/Name** EML050022-APG S001-S005-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**
**Remarks**
Extraction Number(s)
Batch Number
IOP Number

EML050022-APG

04101801

MT8

Analyte
Extraction Date
Analysis Date
PQL
Result
Remarks

1,4-Dithiane

10/18/2004

10/19/2004

100

ND

1,4-Thioxane

100

ND

BFB (Surrogate)

106%

HD

100

ND

L

100

ND

Sample

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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**CLEARANCE REPORT**

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050023-APG S001-S006-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050023-APG	04101801	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				98%	
HD			100	ND	
L			100	ND	

Sample #/Name EML050024-APG S001-S007-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050024-APG	04101801	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				98%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050025-APG S001-S008-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**

**Remarks**

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050025-APG	04101801	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				98%	
HD			100	ND	
L			100	ND	

**Sample #/Name** EML050026-APG S001-S009-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**

**Remarks**

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050026-APG	04101801	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				96%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050027-APG S001-S010-101504/51N  
 Sample Matrix Soil Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #		Remarks				
<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050027-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				98%		
HD			100	ND		
L			100	ND		

Sample #/Name EML050028-APG S001-S011-101504/51N  
 Sample Matrix Soil Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #		Remarks				
<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050028-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				102%		
HD			100	ND		
L			100	ND		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050029-APG S001-S012-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050029-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				100%		
HD			100	ND		
L			100	ND		

Sample #/Name EML050030-APG S001-S013-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050030-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				101%		
HD			100	ND		
L			100	ND		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
 above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an  
 estimated value.

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**Environmental Monitoring Laboratory**

**CLEARANCE REPORT**

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**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050031-APG S001-S014-101504/51N  
 Sample Matrix Soil Date Rec'd 10/18/2004 Sample Date 10/15/2004  
 Headspace Clearance # Remarks

Extraction Number(s)	Batch Number	IOP Number				Remarks
EML050031-APG	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				115%		
HD			100	ND		
L			100	ND		

Sample #/Name EML050048-APG 04101801-LCS  
 Sample Matrix Soil Date Rec'd 10/18/2004 Sample Date 10/15/2004  
 Headspace Clearance # Remarks

Extraction Number(s)	Batch Number	IOP Number				Remarks
EML050048-APGLCS	04101801	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004		107%	QC Sample	
1,4-Thioxane				106%		
BFB (Surrogate)				102%		
HD				106%		
L				98%		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050049-APG 04101801-LCSD

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050049-APGLCSD	04101801	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004		108%	QC Sample
1,4-Thioxane				106%	
BFB (Surrogate)				96%	
HD				108%	
L				94%	

Sample #/Name EML050050-APG 04101801-MB

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050050-APGMB	04101801	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Method Blank
1,4-Thioxane			100	ND	
BFB (Surrogate)				101%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
 above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an  
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## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050032-APG S001-S015-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>			
EML050032-APG	04101802	MT8			
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				99%	
HD			100	ND	
L			100	ND	
EML050032-APGMS	04101802	MT8			
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane MS	10/18/2004	10/19/2004		110%	Matrix Spike
1,4-Thioxane				107%	
BFB (Surrogate)				100%	
HD				111%	
L				101%	
EML050032-APGMSD	04101802	MT8			
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane MSD	10/18/2004	10/19/2004		107%	Matrix Spike Duplicate
1,4-Thioxane				104%	
BFB (Surrogate)				97%	
HD				107%	
L				106%	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
 above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an  
 estimated value.

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# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050033-APG S001-S016-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050033-APG	04101802	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				99%	
HD			100	ND	
L			100	ND	

Sample #/Name EML050034-APG S001-S017-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050034-APG	04101802	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				97%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL

**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040

**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050035-APG S001-S018-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**
**Remarks**
Extraction Number(s)
Batch Number
IOP Number

EML050035-APG

04101802

MT8

**Analyte**
**Extraction Date**
**Analysis Date**
**PQL**
**Result**
**Remarks**

1,4-Dithiane

10/18/2004

10/19/2004

100

ND

Sample

1,4-Thioxane

100

ND

BFB (Surrogate)

98%

HD

100

ND

L

100

ND

**Sample #/Name** EML050036-APG S001-S019-101504/51N

**Sample Matrix** Soil

**Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #**
**Remarks**
Extraction Number(s)
Batch Number
IOP Number

EML050036-APG

04101802

MT8

**Analyte**
**Extraction Date**
**Analysis Date**
**PQL**
**Result**
**Remarks**

1,4-Dithiane

10/18/2004

10/19/2004

100

ND

Sample

1,4-Thioxane

100

ND

BFB (Surrogate)

99%

HD

100

ND

L

100

ND

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

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**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050037-APG S001-S020-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004  
**Headspace Clearance #** **Remarks**

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>			
EML050037-APG	04101802	MT8			
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				100%	
HD			100	ND	
L			100	ND	

**Sample #/Name** EML050038-APG S001-S021-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004  
**Headspace Clearance #** **Remarks**

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>			
EML050038-APG	04101802	MT8			
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				98%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



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**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050039-APG S001-S022-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050039-APG	04101802	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				97%	
HD			100	ND	
L			100	ND	

Sample #/Name EML050040-APG S001-S023-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050040-APG	04101802	MT8

<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				99%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TBU: Bruce K. Griffin

**Sample #/Name** EML050041-APG S001-S024-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004  
**Headspace Clearance #** **Remarks**

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050041-APG	04101802	MT8				
<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				98%		
HD			100	ND		
L			100	ND		

**Sample #/Name** EML050042-APG S001-S025-101504/51N  
**Sample Matrix** Soil **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004  
**Headspace Clearance #** **Remarks**

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050042-APG	04101802	MT8				
<u>Analyte</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>PQL</u>	<u>Result</u>	<u>Remarks</u>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				98%		
HD			100	ND		
L			100	ND		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



# Environmental Monitoring Laboratory

## CLEARANCE REPORT

MB-FORM 41 Revision 10 July 2003

**Report To:** Mark Speranza of Tetra Tech, for PROJECT: Cecil Field/Jacksonville, FL  
**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050043-APG S001-S026-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050043-APG	04101802	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				99%	
HD			100	ND	
L			100	ND	

Sample #/Name EML050044-APG S001-S027-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<i>Extraction Number(s)</i>	<i>Batch Number</i>	<i>IOP Number</i>
EML050044-APG	04101802	MT8

<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				100%	
HD			100	ND	
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
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 estimated value.

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## CLEARANCE REPORT

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**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050045-APG S001-S028-101504/51N

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050045-APG	04101802	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				102%		
HD			100	ND		
L			100	ND		

Sample #/Name EML050051-APG 04101802-LCS

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050051-APGLCS	04101802	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004		114%	QC Sample	
1,4-Thioxane				111%		
BFB (Surrogate)				98%		
HD				114%		
L				107%		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.

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**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050052-APG 04101802-LCSD

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

Extraction Number(s)	Batch Number	IOP Number
EML050052-APGLCSD	04101802	MT8

Analyte	Extraction Date	Analysis Date	PQL	Result	Remarks
1,4-Dithiane	10/18/2004	10/19/2004		111%	QC Sample
1,4-Thioxane				107%	
BFB (Surrogate)				98%	
HD				112%	
L				156%	

Sample #/Name EML050053-APG 04101802-MB

Sample Matrix Soil

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

Extraction Number(s)	Batch Number	IOP Number
EML050053-APGMB	04101802	MT8

Analyte	Extraction Date	Analysis Date	PQL	Result	Remarks
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Method
1,4-Thioxane			100	ND	
BFB (Surrogate)			101%		
HD			100	ND	Blank
L			100	ND	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



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## CLEARANCE REPORT

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**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

**Sample #/Name** EML050046-APG S001-W001-101504/51N  
**Sample Matrix** Water **Date Rec'd** 10/18/2004 **Sample Date** 10/15/2004

**Headspace Clearance #** **Remarks**

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050046-APG	04101803	MT8

Analyte	Extraction Date	Analysis Date	PQL	Result	Remarks
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample
1,4-Thioxane			100	ND	
BFB (Surrogate)				98%	
HD			100	ND	
L			150	ND	

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050046-APGMS	04101803	MT8

Analyte	Extraction Date	Analysis Date	PQL	Result	Remarks
1,4-Dithiane MS	10/18/2004	10/19/2004		117%	Matrix Spike
1,4-Thioxane				112%	
BFB (Surrogate)				102%	
HD				118%	
L				101%	

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>
EML050046-APGMSD	04101803	MT8

Analyte	Extraction Date	Analysis Date	PQL	Result	Remarks
1,4-Dithiane MSD	10/18/2004	10/19/2004		122%	Matrix Spike Duplicate
1,4-Thioxane				116%	
BFB (Surrogate)				105%	
HD				122%	
L				105%	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate; Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the PQL. Result is an estimated value.



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## CLEARANCE REPORT

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**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050047-APG S001-W002-101504/51N

Sample Matrix Water

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050047-APG	04101803	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004	100	ND	Sample	
1,4-Thioxane			100	ND		
BFB (Surrogate)				100%		
HD			100	ND		
L			150	ND		

Sample #/Name EML050054-APG 04101803-LCS

Sample Matrix Water

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

<u>Extraction Number(s)</u>	<u>Batch Number</u>	<u>IOP Number</u>				
EML050054-APGLCS	04101803	MT8				
<i>Analyte</i>	<i>Extraction Date</i>	<i>Analysis Date</i>	<i>PQL</i>	<i>Result</i>	<i>Remarks</i>	
1,4-Dithiane	10/18/2004	10/19/2004		117%	QC Sample	
1,4-Thioxane				112%		
BFB (Surrogate)				101%		
HD				118%		
L				112%		

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
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**Phone/Fax:** W: (412) 921-8916 F: (412) 921-4040  
**Govt Org/Poc:** TEU: Bruce K. Griffin

Sample #/Name EML050055-APG 04101803-LCSD

Sample Matrix Water

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

Extraction Number(s)Batch NumberIOP Number

EML050055-APGLCSD

04101803

MT8

AnalyteExtraction DateAnalysis DatePQLResultRemarks

1,4-Dithiane

10/18/2004

10/19/2004

119%

1,4-Thioxane

112%

BFB (Surrogate)

101%

HD

119%

L

124%

QC Sample

Sample #/Name EML050056-APG 04101803-MB

Sample Matrix Water

Date Rec'd 10/18/2004 Sample Date 10/15/2004

Headspace Clearance #

Remarks

Extraction Number(s)Batch NumberIOP Number

EML050056-APGMB

04101803

MT8

AnalyteExtraction DateAnalysis DatePQLResultRemarks

1,4-Dithiane

10/18/2004

10/19/2004

100

ND

1,4-Thioxane

100

ND

BFB (Surrogate)

99%

HD

100

ND

L

150

ND

Method Blank

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Lab Control Spike; LCSD = Lab Control Spike Duplicate;  
 Dup = Duplicate; ND = Not Detected at or above the Practical Quantitation Limit (PQL); PQLs and sample results  
 are ppb. MS/MSD and LCS/LCSD results are in % recovery. D = Sample was diluted. E = Estimated value; result  
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 estimated value.

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