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SITE MANAGEMENT PLAN THIRD QUARTER UPDATE FOR FISCAL YEAR 2009 NAS CECIL FIELD FL

8/1/2009

TETRA TECH NUS INC

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62470-08-D-1001

Site Management Plan
Third Quarter Update
for
Fiscal Year 2009

Naval Air Station Cecil Field
Jacksonville, Florida

Contract Task Order JM09

August 2009

BRAC Program Management Office Southeast
4130 Faber Place Drive, Suite 202
North Charleston, South Carolina 29405

TETRA TECH NUS, Inc.

SITE MANAGEMENT PLAN
THIRD QUARTER UPDATE
FOR
FISCAL YEAR 2009

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
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North Charleston, South Carolina 29405

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CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER JM09

AUGUST 2009

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ACRONYMS

ABB-ES	ABB Environmental Services, Inc.
AIMD	Aircraft Intermediate Maintenance Division
APR	Alternate Procedures Request
AS	Air sparging
AST	Aboveground storage tank
AVORD	Aviation Ordnance
BCT	BRAC Cleanup Team
BRA	Baseline risk assessment
BRAC	Base Realignment and Closure
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CA	Contamination Assessment
CAR	Contamination Assessment Report
CARA	CAR Addendum
COC	Contaminant of concern
CSR	Confirmation Sampling Report
DPT	Direct-push technology
DRMO	Defense Reutilization and Marketing Office
EE/CA	Engineering Evaluation/Cost Analysis
EMT	Earth-mounded tank
ESD	Explanation of Significant Difference
FDEP	Florida Department of Environmental Protection
FFA	Federal Facility Agreement
FS	Feasibility Study
FY	Fiscal Year
GCTL	Groundwater Cleanup Target Level
IR	Installation Restoration
IRA	Interim Remedial Action
iSOC	In-situ oxygen curtain
JETC	Jet Engine Test Cell
KAG	Kerosene Analytical Group
LUC	Land use control
MIP	Membrane interface probe
MNA	Monitored natural attenuation
NAMP	Natural Attenuation Monitoring Plan
NAMPAO	Natural Attenuation Monitoring Plan Approval Order

NAS	Naval Air Station
NELAC	National Environmental Laboratory Accreditation Conference
NDI	Non-Destructive Inspection
NFA	No Further Action
NFF	North Fuel Farm
NSAP	North-South Apron Plume
OGC	Old Golf Course
O&M	Operation and Maintenance
OPS	Operating Properly and Successfully
OU	Operable Unit
PAH	Polynuclear aromatic hydrocarbon
PARM	Post Active Remediation Monitoring
PP	Proposed Plan
PRG	Preliminary Remediation Goal
PSC	Potential Source of Contamination
QPR	Quarterly Progress Report
RA	Remedial Action
RAB	Restoration Advisory Board
RAC	Remedial Action Contractor
RAP	Remedial Action Plan
RBCA	Risk Based Corrective Action
RD	Remedial Design
RI	Remedial Investigation
RMO	Risk Management Option
ROD	Record of Decision
SAR	Sampling and Analysis Report (BRAC Program) or Site Assessment Report (Petroleum Program)
SAOR	Sampling and Analysis Outline Report
SARA	Site Assessment Report Addendum
SCTL	Soil Cleanup Target Level
SFF	South Fuel Farm
SMP	Site Management Plan
SRCO	Site Rehabilitation Completion Order
SRR	Source Removal Report
SVE	Soil vapor extraction
TCE	Trichloroethene
TRPH	Total recoverable petroleum hydrocarbons

TtNUS	Tetra Tech NUS, Inc.
U.S. COE	United States Army Corps of Engineers
U.S. EPA	United States Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

1.1 BACKGROUND

The United States Navy, the United States Environmental Protection Agency (U.S. EPA), and the State of Florida via the Florida Department of Environmental Protection (FDEP) signed the Federal Facility Agreement (FFA) for Naval Air Station (NAS) Cecil Field, Jacksonville, Florida in October 1990. The purpose of the FFA was to provide the legal mechanism for the Navy to investigate and undertake appropriate remedial actions for past hazardous waste releases at NAS Cecil Field. As part of the FFA, the Navy prepares Quarterly Progress Reports (QPRs) for submittal to the other FFA parties.

1.2 SCOPE

In accordance with the FFA, Part XII, the QPRs identify and briefly describe actions the Navy has taken to implement FFA requirements in the previous quarter and those actions scheduled for the upcoming quarter. The activity narrative includes a statement on the manner and extent to which the Navy is meeting the schedules established by the FFA through the Site Management Plan (SMP) and Work Plans. In addition to the activity descriptions, problems that caused delays or anticipated problems that might cause delays are identified, and the actions the Navy plans to take to manage the delays are discussed.

1.3 SCHEDULE

The QPR is scheduled to be submitted by the Navy within 30 days from the end of the previous quarter.

2.0 FEDERAL FACILITY AGREEMENT ACTIVITIES

2.1 SITE MANAGEMENT PLAN

The Navy provided FFA parties with a Fiscal Year (FY) 2009 SMP on February 25, 2009. The SMP included schedules to accomplish Installation Restoration (IR), Petroleum underground storage tank (UST), and aboveground storage tank (AST) activities at NAS Cecil Field. Base Realignment and Closure (BRAC) Program activities were completed as of November 9, 2006. SMP schedule revisions are recommended for approval as needed. Reasons for revisions may include new information obtained during field investigations and remediation initiatives under consideration. This third quarter report for FY 2009 presents revisions to the SMP schedule.

2.2 ADMINISTRATION

The Navy has continued administering the IR and Petroleum Programs and is implementing field activities in accordance with previously submitted and approved planning documents.

2.3 SCHEDULE ADHERENCE

The Navy has primary responsibility for developing and implementing the SMP and for administration and schedule adherence of the NAS Cecil Field Remedial Investigation (RI) and Feasibility Study (FS) program through execution of the Department of Defense IR Program. The following information has been provided to the NAS Cecil Field partnering team and the regulatory agencies concerning schedule adherence during the third quarter of FY 2009 (April 1, 2009 to June 30, 2009).

Installation Restoration Program

The following changes to the schedule presented in the SMP for FY 2009 are anticipated at this time:

- The schedules for the draft Risk Management Option (RMO) No Further Action (NFA) Technical Memoranda for Sites 1 and 2, 5, 17, and 21 will be extended due to regulatory discussions.

- The schedule for the draft and final Technical Memorandum for the Pilot Study at Site 16 has been extended to incorporate information from the DPT investigation and remedial system restart.

Petroleum Program

The following changes to the schedule presented in the SMP for FY 2009 are anticipated at this time:

- Excavation at Building 502 and Tank 290A sites has been delayed by approximately 17 months due to required revisions to the excavation work plan and access limitations.

BRAC Program

The BRAC Program was completed at NAS Cecil Field as of November 2006. No BRAC schedule was included in the SMP for FY 2009.

2.4 INITIATIVES

The Navy has continued with planning efforts and initiated new processes designed to improve the execution and efficiency of the program. These items include the following:

- Onboard review of major deliverables.
- Identification and implementation of site screening methods designed to accelerate the investigative process.
- Evaluation of remedial alternatives to incorporate data needs into the initial RI process.
- Coordination of assessment and cleanup activities with the Remedial Action Contractor (RAC).
- Adoption of NAS Cecil Field background screening concentrations for inorganics in groundwater, surface water, sediment, and surface soil at the site.
- Completion of preliminary risk evaluations to identify problem sites.
- Implementation of interim actions to eliminate threats to human health.
- Use of immunoassay kits for contamination delineation followed by confirmatory sampling to reduce analytical costs and obtain quicker results.
- Implementation of Pilot Tests to evaluate effectiveness and remedial technologies for full scale remedial efforts.

- Evaluation of sites for potential implementation of RMOs as identified under Risk Based Corrective Action (RBCA) for Site Closeout with land use restrictions.

- Utilization of National Environmental Laboratory Accreditation Conference (NELAC) certified onsite laboratory to analyze groundwater samples to expedite plume delineation.

3.0 ACTIVITIES PERFORMED THIS QUARTER

3.1 COMMUNITY RELATIONS

The Cecil Field Restoration Advisory Board (RAB) did not meet during the third quarter of FY 2009. No RAB meetings have been tentatively scheduled at this time.

3.2 FIELD WORK

The following field activities were conducted during the third quarter of FY 2009. Table 3-1 presents site descriptions of the current investigative status for IR sites. Similarly, site descriptions for petroleum sites are presented in Table 3-2.

IR Program

- OU 3, Site 8 – groundwater monitoring, intermediate depth wells only.
- OU 5, Site 15 – groundwater monitoring, MW-17S.
- OU 9, Site 36 & 37 – air sparging (AS) system operation.
- OU 9, Site 59 – long-term groundwater monitoring event, first quarter, Year 2; continued operation of bioaugmentation/recirculation system.

Petroleum Program

- Tank 81 ABC – groundwater monitoring event, fourth quarter Year 3.
- Building 82, Tank G82 – groundwater monitoring event, fourth quarter Year 1.
- Jet Engine Test Cell (JETC) – groundwater monitoring event, second quarter 2009.
- Building 271 – groundwater monitoring event, first quarter 2009.
- Building 46 – groundwater monitoring event, second quarter 2009.
- North Fuel Farm (NFF) – groundwater monitoring event, second quarter 2009; system operation.

BRAC Program

No field work was performed in conjunction with the BRAC Program during the third quarter of FY 2009.

3.3 DELIVERABLES

The following deliverables were submitted during the third quarter of FY 2009.

IR Program

- OU 9, Site 37 – draft Hot Spot No. 3 Additional Direct-Push Technology (DPT) Investigation and System Expansion Technical Memorandum.

- OU 9, Site 57 – draft long-term monitoring report, annual Year 6.

- OU 9, Site 58 – draft groundwater monitoring report, annual Year 6.

- OU 10, Site 21 – final groundwater monitoring report, annual Year 6; draft groundwater monitoring report, annual Year 7.

- Sitewide – Administrative Record April 2009 Update CD; Health and Safety Plan for IR and Petroleum Sites.

Petroleum Program

- Building 82, Tank G82 – final groundwater monitoring report, third quarter Year 1.
- Building 271 – final groundwater monitoring report, third quarter Year 2.
- Building 46 – final groundwater monitoring report and system O&M status report, fourth quarter 2008.
- NFF – final groundwater monitoring report, fourth quarter 2008.
- JETC – final groundwater monitoring report, fourth quarter 2008.
- Sitewide – Administrative Record April 2009 Update CD; Health and Safety Plan for IR and Petroleum Sites.

BRAC Program

No deliverables in conjunction with the BRAC Program during the third quarter of FY 2009.

3.4 MEETINGS

The following meetings were held during the third quarter of FY 2009:

- Partnering Meeting May 12, 2009

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
1	OU 1	Old Landfill (9 acres)	1950s-1965	Solid waste, oils, fuels, paints, paint stripper, solvents, municipal solid waste	Municipal solid waste, industrial operations	Trench and fill landfill for commercial and residential wastes (solid and liquid).
	The Record of Decision (ROD) was submitted on September 26, 1995. The selected remedial alternative, site closure, included landfill gas, radiological and unexploded ordnance surveys, surface debris removal, groundwater monitoring, post-closure care, and a 5-year review. The final design was submitted in April 1996. Bechtel and the Navy conducted an unexploded ordnance survey in 1997, and Bechtel completed a radiological survey in 1998. Tetra Tech NUS, Inc. (TtNUS) initiated monitoring activities in May 1997. The four quarterly sampling events were completed and reports presenting the analytical results were submitted for each sampling event. Sampling has been reduced to an annual event. The April 1999 annual sampling event was conducted, and the report summarizing the results was completed. Monitoring wells CEF-BK-4S and CEF-1-5S were resampled in December 1999. The April 2000 annual sampling event was conducted, and the report recommended continuing the monitoring program. The April 2001 annual sampling event was conducted, and the report was submitted in November 2001. The report recommended that the annual sampling be reduced to surface water and sediments collected at three locations and that toxicity testing be eliminated. The May 2002 annual sampling event was conducted, and the report recommended continuing the current monitoring program. In May 2004, the annual event was expanded to 11 surface water and 11 sediment locations for the purpose of including the data in the Base-Wide 5-Year Review Report. This expanded program will be used once every 5 years to correspond to the issuance of that document. In April 2005, May 2006, and May 2007, the sampling sequence was reduced to the 2002 and 2003 levels of three surface water and three sediment sampling locations. The April 2008 annual sampling event was conducted and the final report was submitted on March 31, 2009. The final EPA acceptance letter is pending. A final Land Use Control (LUC) Remedial Design (RD) was submitted on March 29, 2005 and approved by U.S. EPA on April 15, 2005. A final Operating Properly and Successfully (OPS) Demonstration Report was submitted on April 21, 2005 and approved by U.S. EPA on June 16, 2005. Annual monitoring is ongoing. The Year 12 annual event is scheduled for July 21, 2009. A five-year review will also be prepared.					
2	OU 1	Recent Landfill (5 acres)	1965-1975	Solid waste, oils, fuels, paints, paint stripper, solvents	Industrial operations and shops	Trench and fill landfill for commercial and residential wastes (solid and liquid).
	The ROD was submitted in September 1995. The selected remedial alternative included site closure and biomonitoring in the wetland area. Final design was submitted in April 1996. Bechtel and the Navy conducted an unexploded ordnance survey in 1997 and Bechtel completed a radiological survey in 1998. TtNUS initiated monitoring activities in May 1997. The four quarterly sampling events have been completed and reports presenting the analytical results were submitted for each sampling event. Sampling has been reduced to an annual event. The April 1999 annual sampling event was conducted, and the report summarizing the results was completed. Monitoring wells CEF-BK-4S and CEF-1-5S were resampled in December 1999. The April 2000 annual sampling event was conducted, and the report recommended continuing the monitoring program. The April 2001 annual sampling event was conducted, and the report was submitted in November 2001. The report recommended that the annual sampling be reduced to surface water and sediments collected at three locations and that toxicity testing be eliminated. The May 2002 annual sampling event was conducted, and the report recommended continuing the current monitoring program. In May 2004 the annual event was expanded to eleven surface water and eleven sediment locations for the purpose of including the data in the Base-Wide 5-Year Review Report. This expanded program will be used once every 5 years to correspond to the issuance of that document. In April 2005, May 2006, and May 2007, the sampling sequence was reduced to the 2002 and 2003 levels of three surface water and three sediment sampling locations. The April 2008 annual sampling event was conducted and the final report was submitted on March 31, 2009. The final EPA acceptance letter is pending. A final LUC RD was submitted on March 29, 2005, and approved by U.S. EPA on April 15, 2005. A final OPS Demonstration Report was submitted on April 21, 2005, and approved by U.S. EPA on June 16, 2005. Annual monitoring is ongoing. The Year 12 annual event is schedule for July 21, 2009. A five-year review will also be prepared.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
3	OU 8	Oil/Sludge Disposal Pit (50-100 ft in diameter and 3-5 ft deep)	1950s-1975	Waste fuels, oils, paints, paint strippers, solvents	Fuel farm, Aircraft Intermediate Maintenance Division (AIMD), squadrons, public works shops	At least four shallow pits were used to dispose of liquid wastes and sludge. Groundwater was the only medium identified in the baseline risk assessment (BRA) as having an unacceptable human health risk. No ecological risk was identified for any medium.
	The ROD was signed in September 1998. The final groundwater remedial design was submitted in October 1998 and identified air sparging (AS) of the source, natural attenuation monitoring of the plume, LUCs to prevent use of groundwater, and 5-year reviews. The baseline sampling event for natural attenuation was conducted in December 1998. The annual summary report for the Year 1 Quarterly Monitoring Program was completed in January 2000. The Year 1 annual report recommended quarterly sampling in the source area and the wells near Rowell Creek and semi-annual sampling of the wells in the plume. The installation of the AS system was completed in the 3rd quarter of Fiscal Year 1999, the system began operation in late May 1999, and the system was shut down in May 2000. The Year 2 annual report recommended that the AS system remain off, and the groundwater monitoring program was optimized (reduced analyses and number of monitoring wells). The November 2000 groundwater sampling event (source area only) showed a rebound of the contaminants of concern (COCs) in the source area. The Base Realignment and Closure (BRAC) Cleanup Team (BCT) decided to restart the AS system. The AS system was turned on December 22, 2000. A groundwater sampling event was conducted in January 2001, and the results were presented at the February 2001 BCT meeting. Based on the results, the AS system was shut down in February 2001, and the sampling frequency was revised to semi-annual. An Interim Remedial Action (IRA) report was submitted in June 2001. The annual Year 3 groundwater sampling event was conducted in July 2001, and the report was completed in March 2002. During the January 2002 sampling event, the maximum trichloroethane (TCE) concentration in one well at the site exceeded the AS system goal of 1,255 ppb and as a result the BCT decided to monitor this well quarterly until a peak concentration was reached. However, after the April sampling data was evaluated, it was decided that this well should be monitored monthly until the July 2002 sampling event to more quickly determine the TCE peak and hopefully avoid returning the AS system to operation. The Year 5 semi-annual sampling events were completed in February 2003 and July 2003, and the final annual monitoring report was submitted on March 10, 2005. The Year 5 annual report recommended that the AS system be turned off and the monitoring program continue. The Year 6 semi-annual sampling events were completed in January 2004 and July 2004, and the final annual monitoring report was submitted on February 22, 2007. The Year 7 semi-annual sampling events were completed in January 2005 and July 2005, and the final annual monitoring report was submitted on February 22, 2007. The Year 8 semi-annual sampling events were performed in January 2006 and July 2006, and the draft monitoring report was submitted January 29, 2007. The Year 9 semi-annul sampling event was performed in January 2007. A final LUC RD was submitted on April 21, 2005 and approved by U.S. EPA on June 1, 2005. A final OPS Demonstration Report was submitted on April 22, 2005 and approved by U.S. EPA on June 16, 2005. Monitoring frequency was reduced to annual at the November 2007 BCT meeting, and the most recent monitoring event was conducted in October 2008. Three wells were not sampled during this event, which the EPA identified as acceptable at the February 2009 BCT meeting, but the wells must be sampled during the Year 11 event. The Year 11 sampling event is scheduled for October 2009.						
4	--	Grease Pits (9 acres)	1950s-1983	Waste oils, mess greases	Installation dining facilities and facility oil/water separators	Multiple shallow pits were excavated to dispose of liquid wastes (grease from dining facilities and waste oils from oil/water separators) and then covered with fill.
	Field investigation work plan was submitted in March 1995. Field screening activities (includes surface and subsurface soil sampling and monitoring well installation) were completed in June 1997. Groundwater sampling was completed in August 1997. The final Technical Memorandum for No Further Action (NFA) was submitted in September 1998.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
5	OU 2	Oil Disposal Area Northwest (100 ft in diameter)	1950s	Oil, fuel	Fuel farms	Shallow, unlined pit where liquid wastes were disposed (petroleum products present)
	Interim Action: An Interim ROD was signed in September 1994. An IRA was initiated in March 1995 for source removal. The IRA included removal and disposal of free petroleum product and removal and treatment of contaminated soil using bioremediation. Per BCT recommendation, the IRA (bioremediation) activities were discontinued in June 1996. Remedial Action (RA) reports were submitted in May 1995. Final ROD was submitted in September 1995. The remedial alternative included excavation and treatment of sediment in drainage ditch, on-site treatment of contaminated groundwater, and a restriction on all use of groundwater from the surficial aquifer. Due to discontinuation of the interim action, the ROD was amended. The Amended ROD was issued in January 2000. A Technical Memorandum letter report about the free-product investigation was submitted in September 2000. The remedial actions for soil and sediment were initiated in April 1998. For this effort, approximately 2,100 cubic yards of soil were excavated from Site 5 and disposed off site. Approximately 330 cubic yards of sediment were excavated from the adjacent drainage ditch and backfilled in the excavated soil area. Previously treated Site 5 soil was used to backfill the remainder of the soil excavation. This effort was completed in July 1998. The final groundwater remedial design for AS was submitted in May 1998. Two groundwater sampling events were conducted to assess the potential of natural attenuation as a remedial alternative. Based on data collected during these sampling events, natural attenuation appeared to be a viable remedial alternative at Site 5. The annual summary report for the Year 1 Monitoring Program was completed in September 1999. Recommendations included reducing monitoring to semi-annual events. The Year 2 annual sampling event was conducted in February 2000 and recommended continuation of the semi-annual sampling. The Year 3 semi-annual groundwater monitoring events were completed in August 2000 and January 2001. The final IRA and Year 3 Groundwater Report were submitted in March 2002. The Year 4 semi-annual groundwater sampling events were conducted in July 2001 and February 2002. The final Year 4 Groundwater Report was submitted in December 2002 and recommended no changes to the semi-annual monitoring program. The Year 8 sampling events occurred in July 2005 and January 2006. The Year 8 final annual monitoring report was submitted February 22, 2007. The Year 9 semi-annual sampling events were conducted in July 2006 and January 2007. The Year 9 groundwater monitoring report is being prepared. A final LUC RD was submitted on May 5, 2006 and approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on July 28, 2006 and was approved by U.S. EPA on August 30, 2006. Monitoring frequency was reduced to annual at the November 2007 BCT meeting, and the most recent monitoring event was conducted in October 2008. The next full sampling event is scheduled for September 2009, but according to the February 2009 BCT meeting minutes, sampling was to take place in March 2009 to determine the accurate groundwater flow direction.					
6	--	Lake Fretwell Rubble Disposal Area (3.5 acres)	1950s-1984	Inert rubble	Concrete/asphalt from demolition of runway, construction debris, lumber, scrap metal, cut foliage	Rubble was disposed along banks of a low-lying marsh area by public works; some of the rubble has been overlain with soil and sod; additional rubble is uncovered.
	A Field Investigation Plan was submitted in March 1995. Field screening activities (geophysical surveys, monitoring well installation, surface and subsurface soil sampling, surface water and sediment sampling) were conducted in June 1997. Groundwater sampling was completed in August 1997. The draft Technical Memorandum presenting investigation findings was submitted in May 1998. However, the BCT decided that additional sampling was required. Three additional soil sampling events were conducted between April and July 1999 to delineate soil contaminated with arsenic, total recoverable petroleum hydrocarbons (TRPH), and benzo(a)pyrene. A dig and haul package was completed in August 1999. The Navy excavated and disposed of the contaminated soil in August 1999. The final Technical Memorandum for NFA was issued in July 2000.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
7	OU 3	Old Fire Fighting Training Area (1/3 acre)	1950s-1975	Waste fuels, oil, solvents, paint, paint strippers	Fuel farm, AIMD, squadrons, public works shops	Burnable liquid wastes were poured onto metal objects (jets) in shallow, unlined pits and ignited for fire fighting training
	The ROD was submitted in March 1998. A draft soil and groundwater design package was submitted in May 1998. In September 1998, surface soil sampling in support of the RA was conducted to further delineate TRPH, polynuclear aromatic hydrocarbons (PAHs), and inorganic contamination. The RA for soil was conducted in December 1998 and the Construction Completion Report indicated NFA for the soil. The groundwater portion of the design package was implemented in August 1998 and consists of annual groundwater monitoring. Annual groundwater monitoring reports were issued in October 1998 and October 1999. Results from the groundwater sampling conducted in July 2000 indicated the concentration of benzene had decreased to less than the detection limit and Florida cleanup criterion. The annual report (Year 3) recommended that sampling occur in November 2000. The November 2000 sampling event showed a rebound in the benzene concentration in one well. The BCT decided to sample the one well (8S) quarterly. An AS pilot test was conducted at Well 8S in April 2001 after the quarterly sampling event. The Year 4 annual groundwater sampling event was conducted in July 2001, and again the benzene concentration slightly exceeded the target cleanup goal. Another sample was collected in October 2001, and the result was also greater than the target cleanup goal. Therefore, it was decided to continue the annual monitoring program for well 8S. The final Year 4 Groundwater Monitoring report was submitted in January 2002. The annual Year 5 sampling event was completed in July 2002 and the final report was submitted in February 2003. A closeout sampling event was completed in February 2003, and a final closeout confirmation event occurred in May 2003. The benzene concentrations during the final confirmation closeout sampling were less than the benzene target cleanup level for Wells 8S and 12S and therefore, a final Remedial Action Report recommending NFA was submitted on September 15, 2003 and was approved by the BCT.					
8	OU 3	Boresite Range/ Hazardous Waste Storage Area/Fire Fighting Training (6 acres)	1975-1984	Waste fuels, oil, solvents, paint, paint strippers, lead	Fuel farm, AIMD, squadrons, public works shops	Burnable liquid wastes were poured onto metal objects (jets) in shallow, unlined pits and ignited for fire fighting training. Boresite range was used for machine gun and small arms practice. 55-gallon drums of waste were stored at the site and used as targets for practice.
	The ROD was submitted in March 1998. The groundwater remedial design work plan was submitted in June 1998. In August 1998, surface soil sampling was conducted to further delineate TRPH contamination. The draft soil remedial design, submitted in November 1998, identified excavation of the three pits to the groundwater table, removal of soil exceeding residential criteria to depth of 1 foot, and collection of confirmation samples. Additional sampling was conducted in April 1999 to identify a site-specific protection of groundwater value for TRPH in soil. A dig and haul package was submitted, and soil excavation and disposal related to the TRPH contamination was completed in August 1999. The Source Removal Report was issued in April 2000 and indicated NFA for soil. The Baseline Sampling Event for natural attenuation was conducted in August 1998. The annual summary report for the Year 1 Monitoring Program was completed in July 1999. Recommendations included reducing monitoring to semi-annual events. The second semi-annual sampling event was conducted in February 2000 and recommended continuation of the semi-annual sampling. The first Year 3 semi-annual groundwater sampling event was completed in July 2000. A fifth monitoring well was added to the sampling program. The second Year 3 semi-annual groundwater sampling event was conducted in January 2001. The final IRA and Year 3 Groundwater Monitoring report was submitted in February 2002. The Year 4 semi-annual groundwater sampling events were completed in July 2001 and January 2002. The final Year 4 Groundwater Monitoring report, submitted in December 2002, recommended no changes to the current monitoring program. The Year 5 semi-annual sampling events were conducted in July 2002 and January 2003. The final report, submitted in February 2004, recommended no further changes to the monitoring program. The Year 6 semi-annual sampling events occurred in August 2003 and January 2004 and the final annual report was submitted on May 10, 2005. The BCT determined that the monitoring frequency should be reduced from semi-annual to annual beginning with the Year 7 monitoring event in August 2004, and if GCTLs are met during that event, site closure sampling could occur within 6 months (February 2005). However, the Year 7 annual report indicated that some GCTLs were not achieved and therefore no changes to the current monitoring program were recommended. The Year 8 annual report, submitted on December 30, 2005, indicated that only three compounds at one well (CEF-8-MW10S) were detected at concentrations greater than Groundwater Cleanup Target Levels (GCTLs), and therefore recommended several monitored natural attenuation (MNA) parameters be removed from the sampling program. The Year 9 sampling event was conducted in July 2006, the draft report was submitted on November 15, 2006. The Year 10 annual sampling event was conducted and the final report was submitted April 6, 2009. A final LUC RD was submitted on April 21, 2005 and was approved by U.S. EPA on June 1, 2005. A final OPS Demonstration report was submitted on April 22, 2005 and was approved by U.S. EPA on June 16, 2005. Annual monitoring is ongoing. The Year 11 draft report recommending No Further Action was submitted March 30, 2009, and has been reviewed by the regulatory agencies. Two samples were collected June 22, 2009 to support NFA recommendation. The final document and approval of NFA recommendation are pending. Year 12 sampling is scheduled for October 2009 if it is needed.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
9	--	Recent Grease Pits (0.5 acre)	1983-1984	Grease mixed with water	Installation messes	Three shallow pits were used to dispose of kitchen grease; each pit was used until full and then a new pit was excavated
	Field investigation work plan was submitted in March 1995. Field screening activities, except for groundwater sampling, were completed in June 1997 (including geophysical survey, hydrological assessment, monitoring well installation, surface and subsurface soil, surface water and sediment sampling). Groundwater sampling was completed in July 1997. A draft Technical Memorandum presenting investigation results and conclusions was submitted in December 1997. The final technical memorandum for NFA was submitted in July 1998.					
10	OU 4	Rubble Disposal Area (6.5 acres)	1950s-1960s	Inert Rubble	Building demolition debris, runway debris	Surface disposal area with debris (demolition, roadway, metal); information is limited
	The final Remedial Investigation (RI) report was submitted in November 1996. The RI report presented an NFA recommendation with a proposal to prepare an NFA ROD. The Proposed Plan (PP) was submitted in July 1997. Final ROD was submitted in August 1997. One detection of arsenic was observed greater than its background criterion, and in December 1998, soil sampling was conducted to delineate this area. A dig and haul package was submitted, and soil excavation and disposal related to arsenic contamination were completed in August 1999. An Explanation of Significant Difference (ESD) was prepared in June 1999. Soil excavation and disposal was completed in September 1999. The Remedial Action Report was issued in April 2000 and indicated NFA for the soil.					
11	OU 6	Golf Course Pesticide Disposal Area	1970s-1978	Pesticide, fungicide, and herbicide containers, vehicles, metal debris	Golf course maintenance area	Reportedly, between 200 and 400 empty 5-gallon cans that had contained pesticides were buried at the site; a limited number of full containers of pesticides were buried in 1978.
	Interim Actions: Final Interim ROD was submitted to the regulatory agencies in August 1994. The IRA was completed in January 1996. The pit was lined with plastic and a fence was placed around the open pit. The remedial action completion report was submitted on October 18, 1996. Revisions to the Remedial Action Report were submitted on May 16, 1997. The ROD was finalized and signed in September 1998. The draft design for soil treatment was submitted in August 1998. A soil removal in accordance with the final remedial action occurred in December 1998. During the removal action, pesticide containers were discovered and disposed accordingly. A geophysical investigation was conducted in February 1999 to assess whether additional buried containers remained on site. Based on the anomalies found during this investigation, test pitting was conducted in the second quarter of FY 2000 (January to March 2000). A Soil Remedial Action Report Addendum was issued in August 2000 and indicated NFA for soil. The remedial design for groundwater was submitted in November 1998. The baseline groundwater sampling event was conducted in December 1998. The annual summary report for the Year 1 Quarterly Monitoring Program was completed in November 1999. Recommendations included reducing monitoring to semi-annual events. The Year 2 sampling events were conducted in January and August 2000. The Year 2 Annual Groundwater Monitoring Report was completed in December 2000 and recommended that no changes be made in the program. The Year 3 semi-annual sampling events were conducted in January and July 2001, and the final Year 3 Annual Groundwater Monitoring report was submitted in January 2002. The Year 4 semi-annual sampling events were completed in January and July 2002. A final IRA report was completed in August 2002. A site close-out sampling event was conducted in October 2002, and the results of that sampling indicated that target cleanup levels were being met. A Final Remedial Action and Year 4 Annual Groundwater Monitoring Report recommending NFA at this site was submitted in June 2003 and was approved by the BCT.					
12	--	Public Works Rubble Disposal Area (0.5 acre)	1970s-1984	Inert rubble, lumber, concrete, wire, cable, scrap metal, drums	Public works	Majority of rubble has been buried approximately 3 feet below land surface, some rubble is above ground.
	Field investigation work plan was submitted March 1995. Field screening activities (geophysical survey, hydrological assessment, monitoring well installation, surface and subsurface soil sampling, groundwater sampling and surface water and sediment sampling) were completed in August 1997. The Technical Memorandum for NFA was submitted in September 1998 and regulatory concurrence was received in October 1998.					
13	--	Day Tank 1-Fuel Spill (1.5 acres)	1981	JP-5 fuel	Day tank	Location of fuel spill in 1981; approximately 500,000 gallons of JP-5 fuel were spilled; approximately 250,000 gallons were recovered.
	Transferred to the petroleum program.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
14	OU 5	Blue 5 Ordnance Disposal Area (4.5 acres)	1967-1977	Fuses, 100-pound bombs, large munitions, lulu fuses, other explosive materials	Installation ordnance disposal operations	Ordnance disposal by open detonation or burning
	The final RI report was submitted in October 1997. The final Feasibility Study (FS) report and the PP were submitted in March 1998. The ROD was submitted in July 1998. The ROD selected the NFA remedy.					
15	OU 5	Blue 10 Ordnance Disposal Area (10 acres)	1960s-1977	Small arms, parachute/distress flares, Mark IV signal cartridges, rocket igniters, CADS, 5- and 2.75-inch rockets	Installation ordnance disposal operations	Ordnance disposal by combustion in a chamber with ashes being spread over the site.
	The final FS was submitted in March 1998. An ecological study was conducted in September 1998. Additional sampling was conducted in FY 1999 to fill in data gaps for lead and PAH contamination. A sampling and analysis program of soil and soil invertebrates was conducted in June 2001 to assist in the development of Preliminary Remediation Goals (PRGs) for the site. Remedial goals were identified and agreed upon by the BCT. A final Technical Memorandum for NFA for groundwater (no additional monitoring) at Site 15 was submitted in August 2001 and monitoring wells were abandoned. However, an FDEP rule change lowered the GCTL for arsenic from 50 ppb to 10 ppb; therefore, the previous arsenic detection of 13.7 ppb exceeded the revised GCTL and Maximum Contaminant Level (MCL). Various rounds of groundwater sampling were conducted to evaluate arsenic exceedances and associated high turbidities. A final FS was submitted in December 2006 and presented alternatives for remediation of soil and groundwater. Regulatory review and comments were discussed at January 2007 BCT meeting, and it was determined that arsenic exceedances were the results of elevated groundwater turbidity and not related to site activities. A revised Final FS and draft PP were submitted in April 2007, and a final PP was submitted in May 2007 based on the revised FS indicating that groundwater was not a medium of concern. The revised draft ROD was submitted in June 2007. Preliminary pre-excavation sampling in August 2007 resulted in significant revisions to the amount of lead-contaminated soil that would require disposal as hazardous waste and to the associated costs. Changes necessitated preparation of an Amended FS, Amended PP, and revised ROD. Final Amended FS was submitted on April 30, 2008, and the public comment period for the final Amended PP was from May 1 to May 31, 2008. The ROD based on the Amended FS was signed on June 6, 2008. The final Remedial Design was submitted in June 2008. The final LUC RD was submitted in August 2008, and minor comments were received from the EPA. Excavation activities were conducted from July 7, 2008 to March 27, 2009. Groundwater monitoring (MW-17S) is scheduled for June 2009.					

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SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
16	OU 7	AIMD Seepage Pit (40x3x10 ft)	1960-1980	Solvents, heavy metals, acids, blasting grit, paint residue, photo wastes	Building 313, jet engine maintenance shop	Seepage pit used to drain wastewater (containing solvents, paint, grease, metals) generated from Building 313 operations into area soils; holding tank for wastewater is also located at Site 16; glass bead separator and associated piping also present.
	Interim Remedial Action: Focused FS and remedial design for the removal of holding tank and impacted soils were issued. Final responsiveness summary and Interim ROD were submitted in March 1994. The removal and closure of the Non-Destructive Inspection (NDI) Holding Tank was completed in June 1994. Final NDI Holding Tank Closure Certification and Report was submitted in September 1994. The ROD was submitted in August 1996. The remedial design for Site 16 was revised and consisted of remedial actions proposed for the source area and storm sewer system as identified below. An Amended PP and Amended ROD were submitted in the second quarter of fiscal year (FY) 1999. Storm Sewer System: A pilot-scale treatability study work plan for the storm sewer system was submitted in April 1998. The pilot study for the storm sewer system was completed in April/May 1998 and a pilot-scale treatability study report was submitted in June 1998. The draft Storm Sewer Remedial Design was submitted in August 1998. A storm sewer investigation was conducted in August 1998 to evaluate the remaining portions of the Storm Sewer System near Site 16. The storm sewer system was repaired in June 1999. Source Area: A decision was made based on new information to revise the remedial action to AS of the source and natural attenuation of the plume in the Amended ROD. The pilot-scale soil vapor extraction (SVE) work plan was finalized and implemented in September 1998. The baseline groundwater sampling event was conducted in September 1998. The annual summary report for the Year 1 Monitoring Program was completed in September 1999. The annual report recommended quarterly sampling in the source area and semi-annual sampling of the wells in the plume. The AS/SVE system installation was completed in June 1999, the operation of the system began in late June 1999, and the system was shut down in May 2000. The Year 2 annual sampling event was conducted in April 2000. The Year 2 annual report recommended that the groundwater monitoring program be optimized (reduced analyses and number of monitoring wells). The November 2000 quarterly sampling event showed a rebound of the COC concentrations in the source area. The BCT decided to restart the AS/SVE system. The AS/SVE system was restarted on December 22, 2000. A groundwater sampling event was conducted in January 2001. Based on the results, the AS system was shut down in February 2001, and the sampling frequency was revised to semi-annual. The second semi-annual Year 3 sampling event was conducted in July 2001, and the final report was submitted in April 2002. An IRA/SVE report was completed in June 2001 and recommended the continued monitoring of groundwater to determine if further operation of AS/SVE system is necessary. Monitoring, LUCs, and 5-Year Reviews will continue until FDEP GCTLs are achieved. A groundwater sampling event was conducted in February 2002, and the results were presented at the March 2002 BCT meeting. Results showed that the TCE source area concentrations remain less than the target of 1,000 ppb and therefore the AS system will remain off. The Year 4 semi-annual sampling events were completed during February and July 2002. The final Year 4 groundwater monitoring report was submitted in August 2003. No changes to the existing monitoring program were recommended. The Year 5 semi-annual sampling events were conducted in February and July 2003. The final monitoring report was submitted on March 10, 2005 and recommended no changes to the existing program. The Year 8 semi-annual sampling events were conducted in January and July 2006, and the draft monitoring report was submitted January 29, 2007 and is currently in regulatory review. The Year 9 semi-annual sampling events were conducted in January 2007 and July 2007. The Year 10 semi-annual sampling events were conducted in January and October 2008. A final LUC RD was submitted on April 21, 2005 and was approved by U.S. EPA on June 1, 2005. A final OPS Demonstration Report was submitted on April 22, 2005 and was approved by U.S. EPA on June 16, 2005. Semi-annual monitoring is ongoing. The final work plan for a pilot study to evaluate bioagumentation was submitted in April 2008. Pilot study activities were conducted in April and May 2008, and the draft Pilot Study Report was scheduled to be submitted in January 2009. At the BCT meeting in February 2009, TCE levels exceeding the remedial action level were reported from the Pilot Test. The first Year 11 semi-annual sampling event was conducted in March 2009, and the second semi-annual event is scheduled for September 9, 2009.					

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INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
17	OU 2	Oil/Sludge Disposal Pit Southwest (2 acres)	Late 1960s - early 1970s	Waste fuels/oils	Fuel farm	Unlined shallow disposal pit
	Interim Remedial Action: Interim ROD was signed in September 1994. An IRA was initiated in February 1995 for source removal and on-site treatment of contaminated soil. A remedial action completion report was submitted in September 1996. The ROD was submitted September 1995. The remedial alternative is intrinsic bioremediation with an aggressive monitoring program. The final remedial design work plan was submitted in January 1997. The first year (4 quarters) of natural attenuation monitoring was completed in June 1998. An annual report was submitted in June 1998 recommending semi-annual monitoring. The Year 2 annual report was issued in June 1999, and recommended discontinuing the analysis of several COCs and several natural attenuation parameters. The Year 3 annual sampling event was conducted in February 2000 and recommended decreasing the number of wells to be sampled. The Year 4 semi-annual groundwater sampling events were completed in July 2000 and January 2001. The Year 4 annual monitoring report was submitted in March 2002 and recommended no changes in the monitoring program. The Year 5 semi-annual groundwater sampling events were completed in July 2001 and January 2002. The final Year 5 Groundwater Monitoring report was completed in October 2002 and also recommended no changes to the monitoring program. The Year 6 semi-annual sampling events were completed in July 2002 and February 2003. The final Year 7 monitoring report was submitted on December 30, 2005 and recommended no changes to the current monitoring program. The Year 9 sampling events occurred in July 2005 and January 2006, and the final monitoring report was submitted on February 22, 2007. The Year 10 semi-annual sampling events were conducted in July 2006 and January 2007, the draft monitoring report is being prepared. The Year 11 annual sampling event was conducted July 20, 2007. The Year 12 sampling event was in October 2008, and the associated report is being prepared. A final LUC RD was submitted on April 21, 2005 and was approved by U.S. EPA on June 1, 2005. A final OPS Demonstration Report was submitted on April 22, 2005 and was approved by U.S. EPA on June 16, 2005. Annual monitoring is ongoing. The Year 13 sampling event is scheduled for September 10, 2009.					
18	--	Ammunition Disposal Area (0.1 acre)	1940s – 1950	Ammunition crates, miscellaneous ordnance	Magazine area	Waste material from a nearby magazine area was trucked in and dumped over the site during the 1940s until 1950. Reportedly, all munitions were removed.
	Field investigation work plan was submitted in March 1995. Field screening activities (monitoring well installation, surface and subsurface soil, surface water, and sediment sampling) were completed in August 1997. The draft Technical Memorandum for NFA was submitted in March 1998. The final Technical Memorandum for NFA was submitted in October 1998.					
19	--	Rowell Creek Rubble Disposal Area (3 acres)	Section until 1991	Concrete, construction debris, asphalt, wood debris, trash	Construction and operations	Limited information on disposal practices
	Field investigation work plan was submitted in March 1995. Field screening activities (records and document search, geophysical surveys, monitoring well installation, surface and subsurface soil, surface water and sediment sampling) were completed in August 1997. The draft Technical Memorandum for NFA was submitted in January 1998. The BCT recommended that the report be finalized after completion of the test pitting activities at the site. A letter report identifying test pit locations was submitted in May 1998. The Technical Memorandum for NFA was submitted in November 1998.					

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NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
21	OU 10	Golf Course Pesticide Mixing Area	1950s to present	Pesticides, TRPH, and arsenic	Golf course maintenance area	Site activities included the storage and maintenance of golf course maintenance equipment, cleaning and rinsing of chemical-dispensing equipment, and preparation of chemical solutions. Empty containers at one time were disposed in a pile on the northwest side of the site. Rinsing took place at one of two places: on the east side of Building 238, and on a concrete pad on the north side of the site. At both locations, rinse water discharged into the ditch along the east side of the site.
	Initial investigation began in 1991. Beginning in 1998, field investigations were conducted to delineate soil and groundwater contamination. Soil contamination has been delineated and a final Action Memorandum for soil removal to meet industrial criteria was issued in April 2001. The soil remedial action was completed during June 2001. A draft Action Memorandum Addendum for removal of soil to residential risk levels was submitted in May 2002, and the remedial action was completed in September 2002. The groundwater contamination is being addressed in the RI/FS process. The RI was submitted in October 2001, and the final FS was submitted in September 2002. A final revised FS reflecting industrial land use was submitted in October 2003, and a revised final PP was submitted in early July 2005. A revised final ROD reflecting finalized LUC language was submitted in September 2005. A work plan for long-term groundwater monitoring (the selected alternative) was submitted in June 2002, and the two semi-annual sampling events for the first year occurred in July 2002 and February 2003. The Year 1 final annual monitoring report was completed in June 2004 and recommended no changes to the monitoring program. The Year 2 semi-annual sampling events were performed during August 2003 and January 2004. The Year 2 final annual monitoring report was submitted on October 14, 2004 and recommended changes to the monitoring program. The BCT agreed that for the third year of monitoring, a second downgradient well would be added to the monitoring program and the frequency would be reduced to annual. The Year 3 annual sampling event occurred in July 2004 and the final monitoring report was submitted on January 26, 2005. The Year 3 annual monitoring report indicated that the chlordane plume has migrated beyond the source area and recommended that an additional downgradient well be installed southwest of the existing downgradient well. This well along with one other new well were installed and sampled in July 2005. The Year 4 annual sampling event occurred in July 2005 and the final monitoring report was submitted on December 20, 2005. The Year 4 annual monitoring report indicated that although the chlordane concentrations in the source wells were higher than previous sampling events, there is still no indication of migration to the downgradient well. Therefore, no changes to the current monitoring program were recommended. The Year 5 annual sampling event occurred in July 2006 and the draft monitoring report was submitted on November 17, 2006. A final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2005. A final OPS Demonstration Report was submitted on July 28, 2006 and was approved by U.S. EPA on August 30, 2006. A final Interim RA report was submitted on October 13, 2006 and was approved by U.S. EPA on October 31, 2006. Annual monitoring is ongoing. Year 6 sampling was in July 2007, and the final report was submitted April 6, 2009. Year 7 sampling was in July 2008, and the associated draft report was submitted April 6,2009. Regulatory comments have been received and the final report is pending. The most recent sampling event took place in October 2008 for Year 8, and the associated report is being prepared. Year 9 sampling is scheduled for October 14, 2009.					

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SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
25	OU 10	Former Transformer Storage Yard	1953 to 1999	Pesticides, polychlorinated biphenyls (PCBs), and benzo(a)pyrene	Storage of pesticides and the storage of old transformers	Limited information on practices. Site activities included the storage of pesticides and old transformers, operation of the wash rack, and service of equipment.
	Initial investigation began in 1997. Beginning in 1998, field investigations were conducted to delineate soil and groundwater contamination. The soil contamination was delineated and a final Action Memorandum for soil removal was issued in April 2001. A soil remedial action was completed during May 2001. The groundwater contamination is being addressed in the RI/FS process. The RI and FS reports were submitted in October 2001. A final PP was submitted in July 2003, and a final ROD was signed in September 2004. A work plan for long-term groundwater monitoring (the selected alternative) was submitted in June 2002, and the two semi-annual sampling events for the first year occurred in July 2002 and February 2003. The Year 1 final annual monitoring report was completed in June 2004 and recommended no changes to the monitoring program. The Year 2 semi-annual sampling events were performed during August 2003 and January 2004. The Year 2 final annual monitoring report was submitted on October 14, 2004 and recommended changes to the monitoring program. The BCT agreed that for the third year of monitoring, the frequency would be reduced to annual. The Year 3 annual sampling event occurred in July 2004. The final monitoring report was submitted on January 26, 2005 and recommended no changes to the existing program. The Year 4 annual sampling event occurred in July 2005 and the final annual report was submitted on December 20, 2005. The Year 4 monitoring report recommended no changes to the existing program. The Year 5 annual sampling event occurred in July 2006 and the associated draft monitoring report was submitted November 17, 2006 and is currently in regulatory review. The Year 5 sampling results were below GCTLs, the BCT decided to have the Year 6 sampling event occur in January 2007, if the results were also below GCTLs the Year 6 report would recommend NFA for the site. The Year 6 draft monitoring report was submitted May 28, 2007 recommending NFA. A final Interim RA report was issued on September 14, 2005 and was approved by U.S. EPA on November 3, 2005. A final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on July 28, 2006 and was approved by U.S. EPA on September 13, 2006. Groundwater concentrations were less than cleanup goals for two consecutive sampling events, and the draft Remedial Action Completion Report was submitted on November 26, 2008.					
32	OU 12	Defense Reutilization and Marketing Office (DRMO) Asphalt Storage Yard		Polynuclear Aromatic Hydrocarbons and metals	Hazardous materials storage	Site was used for unpermitted storage of hazardous materials in drums.
	Initial investigation began in 1993. A Sampling and Analysis Report (SAR), issued in 1996, indicated that metals detected in surface soil at the site may represent a hazard. Field investigations were conducted between May 1999 and April 2000 to delineate soil contamination. A final Action Memorandum for soil removal was prepared in May 2000, and 140 tons of soil were excavated and disposed in August 2000. Because contaminated soil remains at the site beneath a paved storage area, an Engineering Evaluation/Cost Analysis (EE/CA) was prepared and submitted in August 2002. The EE/CA recommended groundwater monitoring with LUCs as the preferred remedial action alternative at the site. A final PP was submitted in mid-September 2003, and a final ROD was signed in October 2004. A final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on July 28, 2006 and was approved by U.S. EPA on August 30, 2006. Groundwater sampling to be conducted every 5 years per the ROD is scheduled for July 2009, and results will be evaluated as part of the Third Five-Year Review Report.					

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NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
36	OU 9	Control Tower TCE Plume		Chlorinated solvent, benzene, toluene, ethylbenzene, and xylene (BTEX) plume.	Groundwater plume located south of Building 82, the control tower.	The plume was discovered during the Day Tank 2 groundwater plume investigation. The plume's major contaminants are TCE and BTEX
	An RI for Site 36 (performed in conjunction with Site 37) was initiated in November 1998 and concluded in January 1999. The draft RI and FS reports were issued in the third quarter of FY 1999. The final RI Report was completed in August 1999. The remediation of Day Tank 2 groundwater contamination is included in the Site 36 groundwater remediation. The FS and PP were issued in September 2000. The ROD was finalized and signed in June 2001. The final remedial design for the AS system was submitted in September 2001, and the remedial action construction began in December 2001. The AS system began operation at one hot spot in March 2002. The construction for the entire system was completed in July 2002. Also, a long-term monitoring plan for groundwater was submitted in January 2001. The first year of quarterly sampling activities concluded in October 2001. The final Year 1 Groundwater Monitoring report was submitted in March 2003 and recommended no changes to the monitoring program. The second year of quarterly sampling activities concluded in October 2002. The final Year 2 Annual Groundwater Monitoring report was submitted in October 2003 and recommended decreasing the monitoring frequency to semi-annual. The BCT determined that monitoring should remain on a quarterly basis for the first two quarters of Year 3 and then decrease to semi-annual beginning with the October/November 2003 sampling event. The third year of monitoring concluded in November 2003, and the final Year 3 Annual Groundwater Monitoring Report was submitted on January 31, 2005. The report recommended no changes to the monitoring program and the continued operation of AS systems at Hot Spots 2 and 3. The Year 4 sampling events occurred in May and November 2004, and the final annual report was submitted on February 10, 2006. The report recommended the elimination of two wells (CEF-36-24I and CEF-43-45) from the monitoring program. The Year 5 final annual monitoring report was submitted on June 1, 2007, recommended that the AS system at Hot Spot 2 be shut down. The Year 6 sampling events occurred in April and November 2006, the associated monitoring report is currently in preparation. The Year 7 semi-annual sampling events occurred in April and October 2007 and the report was submitted in June 2008. The Year 8 sampling events were conducted in April and October 2008 and the draft report was submitted in April 2009. Regulatory comments are pending. The final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on August 1, 2006 and was approved by U.S. EPA on August 30, 2006. Semi-annual monitoring is ongoing. The Year 9 first semi-annual sampling event was conducted in March 2009, and the second semi-annual sampling event is scheduled for September 2009.					

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NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
37	OU 9	Hangars 13 and 14 DCE Plume		Chlorinated solvent and BTEX plume	Groundwater plume located southeast of Hangars 13 and 14	The plume was discovered as part of the flightline groundwater investigation. Its major contaminants are dichloroethene and BTEX
	An RI for Site 37 (performed in conjunction with Site 36) was initiated in November 1998 and concluded in January 1999. The draft RI and FS reports were issued in the third quarter of FY 1999. The final RI Report was completed in August 1999. The FS and PP were issued in September 2000. The ROD was finalized and signed in June 2001. The final Remedial Design for the AS system was submitted in September 2001, and the remedial action construction began in December 2001. The AS system began operation at one Hot Spot in March 2002. Also, a long-term monitoring plan for groundwater and the storm sewer was submitted in January 2001. Excavation of contaminated soil occurred during the last quarter of FY 2001 under the Petroleum Program. The first year of quarterly sampling activities concluded in October 2001. The final Year 1 Groundwater Monitoring report was submitted in March 2003 and recommended no changes to the monitoring program. The second year of quarterly sampling activities concluded in October 2002. The final Year 2 Annual Groundwater Monitoring report was submitted in October 2003 and recommended decreasing the monitoring frequency to semi-annual. The BCT determined that monitoring should remain on a quarterly basis for the first two quarters of Year 3, and then sampling frequency will decrease to semi-annual beginning with the October/November 2003 sampling event. The third year of monitoring concluded in November 2003 and the final Year 3 Annual Groundwater Monitoring Report was submitted on January 31, 2005. The report recommended no changes to the monitoring program and the continued operation of AS systems at Hot Spots 2 and 3. The Year 4 sampling events occurred in May and November 2004, and the final annual report was submitted on February 10, 2006. The report recommended the elimination of two wells (CEF-13-13I and CEF-36-30I) from the monitoring program. The Year 5 draft annual monitoring report was submitted on June 7, 2006, recommended that the AS system at Hot Spot 2 be shut down and is currently under regulatory review. The latest sampling events occurred in April and November 2006. The associated monitoring report is currently in preparation. The Year 7 semi-annual sampling events occurred in April and October 2007 and the report was submitted in June 2008. The Year 8 sampling events were conducted in April and October 2008 and the draft report was submitted in April 2009. Regulatory comments are pending. The final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on August 1, 2006 and was approved by U.S. EPA on August 30, 2006. Semi-annual monitoring is ongoing. A DPT investigation to support site optimization conducted June 2007, and the associated Technical Memorandum is scheduled for submittal in May 2009. Semi-annual monitoring is ongoing. The Year 9 first semi-annual sampling event was conducted in March 2009, and the second semi-annual sampling event is scheduled for September 2009.					
42	OU 12	Former Boiler House / Steam Plant and General Storehouse	1940s to 1960s	PAHs, TRPH, and metals	Steam generation	Limited information on practices since the buildings were all demolished in the late 1950s and early 1960s.
	Initial investigation began in 1994. In 1999, a Sampling and Analysis Outline Report (SAOR) for the Yellow Water Weapons Area indicated that arsenic, barium, and benzo(a)pyrene at Site 42 exceeded FDEP Soil Contaminant Target Levels (SCTLs). Further field investigations were conducted between April 1999 and April 2000 to delineate soil contamination. A final Action Memorandum for soil removal was submitted in January 2001, and 2,420 tons of soil were excavated and disposed in February and March 2001. A Technical Memorandum for NFA was submitted in March 2002. An NFA PP was issued in June 2002, and an NFA ROD was signed in October 2002.					

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Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
44	OU 12	Ditch from DRMO to Wastewater Treatment Plant	1942 to 1999	PAHs, PCBs, TRPH, pesticides and metals	Drainage Ditch	USTs were present in the area of the Wastewater Treatment Plant (WWTP). Sewage discharges from WWTP occurred. Wash water containing solvents accidentally discharged to ditch at least once.
	Initial investigation began in 1993. Field investigations were conducted between June 1999 and April 2000 to delineate soil contamination and evaluate ecological risks from sediment and surface water pathways. An Action Memorandum for soil removal was submitted in June 2000, and 290 tons of soil were excavated and disposed in September 2000. A Technical Memorandum for NFA was submitted in January 2002. It was determined that post-excavation ecological risks at the site are negligible. An NFA PP was issued in June 2002, and an NFA ROD was signed in October 2002.					
45	OU 11	Facility 11, Steam Generating Plant	1941 to 1999	Benzo(a)pyrene, arsenic, and vanadium	Activities related to steam generation	Limited information on practices at the site. Activities are related to steam generation for the base.
	Initial investigation began in 1995. Beginning in 1998, field investigations were conducted to delineate soil and groundwater contamination. The soil contamination has been delineated, and a final Action Memorandum for soil removal was issued in May 2000. A soil remedial action was conducted in August 2000. The groundwater contamination (vanadium) is being addressed under the RI/FS process. The RI was submitted in June 2001, the FS was submitted in August 2001, the PP was submitted in July 2003, and the final ROD was submitted in December 2003. Annual long-term groundwater monitoring (the selected alternative) began in early August 2002. The final Annual Year 1 Groundwater Monitoring report was submitted in February 2003 and recommended no changes to the current program. The Year 2 annual sampling event was performed during August 2003 and the final Annual Year 2 report, submitted on February 8, 2005, recommended no changes to the monitoring program. The Year 3 annual sampling event was moved up from July 2004 to May 2004 so that the data could be used in the 5-Year Review Report. The final Annual Year 3 report was also submitted on February 8, 2005 and recommended that beginning with the July 2005 sampling event, annual sampling be reduced to only two downgradient wells. A comprehensive sampling event involving the original seven monitoring wells will be sampled every five years in conjunction with the regularly scheduled five-year review. The final Annual Year 4 report was submitted on December 20, 2005. It recommended no further changes to the monitoring program. The Year 5 sampling event occurred in July 2006 and the corresponding final annual report was submitted on March 9, 2007. A final LUC RD was submitted in April 2004 and was approved by U.S. EPA on May 11, 2004. A final Interim RA report was submitted on December 28, 2004 and was approved by U.S. EPA on February 8, 2005. A final OPS Demonstration Report was submitted on November 10, 2005 and was approved by U.S. EPA on August 30, 2006. Annual monitoring is ongoing. Year 7 annual sampling was conducted in July 2008, and the final report was submitted March 31, 2009. Year 8 annual sampling is scheduled for July 2009.					
49	OU 5	Skeet Range	1965 to 1998	PAHs and metals	Clay pigeons and lead shot	Recreational skeet shooting
	Initial investigation began in 1999. Soil sampling indicated PAH and lead soil contamination. Additional soil sampling from 1999 to 2001 was conducted to delineate the extent of contamination. A draft EE/CA was prepared in August 2001 to evaluate alternatives for site remediation. The final EE/CA was submitted in February 2002. An Action Memorandum for soil removal was submitted in May 2002 and the remedial excavation, which began in August 2002, was completed at the end of December 2003. The delay was due to flooding over parts of the site. A final PP for NFA was submitted on March 6, 2006 and was approved by the BCT. A NFA ROD was signed on September 26, 2006.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
57	OU 9	Flight Line Building 824A & Day Tank 1 Area	1957 to 1999	BTEX and chlorinated solvents	BTEX from Day Tank 1 Area	Aircraft ground support
	Initial investigation began in 1997. In 1999, as part of the MB-18 SAOR, contamination of groundwater with PAHs and chlorinated compounds was reported. Additional well installation and groundwater sampling activities to delineate the extent of contamination were conducted in 2000. Because of the proximity to existing Day Tank 1 wells (Petroleum Program), and because of the presence of some common groundwater contaminants (petroleum-related components), it was decided in April 2001 that a comprehensive evaluation of groundwater in the entire area was required under the Installation Restoration Program (IRP). The RI work plan for this investigation was submitted in August 2001, and the RI field investigation occurred from September to December 2001. The final RI Report was submitted in August 2002, the final FS report was submitted in October 2002, and the final PP recommending long-term monitoring with LUCs as the remedial action for this site was submitted in July 2003. A final ROD was submitted on September 14, 2005. A final Remedial Design Work Plan for Long-Term Monitoring was submitted in April 2003, and the Year 1 quarterly groundwater monitoring events occurred in May 2003, July 2003, October 2003, and January 2004. A final Year 1 groundwater monitoring report was submitted on June 17, 2005. Beginning with the Year 2 monitoring events in July 2004 and January 2005, samples are being collected semi-annually. A final Year 2 groundwater monitoring report was submitted on August 19, 2005 and recommended no further changes to the monitoring program. The Year 3 sampling events occurred in July 2005 and January 2006, the final annual monitoring report was submitted on February 21, 2007. The Year 4 sampling events occurred in August 2006 and January 2007, the annual monitoring report was submitted in January 2008. A final Interim RA report was submitted May 4, 2007. A final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on August 1, 2006 and was approved by U.S. EPA on August 30, 2006. Year 5 sampling was conducted in August 2007 and January 2008, and the associated report was submitted on December 30, 2008. Year 6 sampling was conducted in July 2008 and February 2009, and the report was submitted in April 2009. Regulatory comments have been received and the final report is being prepared. Sampling frequency to be reduced to annual, and next sampling date is pending. The next sampling event is not currently scheduled.					
58	OU 9	Flight Line Building 312	1957 to 1999	BTEX and chlorinated solvents	UST, oil/water separator, wash rack and paint booth	Aircraft maintenance
	Initial investigation began in 1996 as part of the Petroleum Program. The Site Assessment Report (SAR) reported naphthalene and metals in groundwater and arsenic in sediment in excess of criteria. Resampling of an existing well in 1999 showed naphthalene and dissolved iron in excess of criteria. A SAR Addendum issued in 1999 recommended evaluation of groundwater under the Petroleum Program. Phase I and Phase II groundwater investigations conducted in 2000 included sampling of new and existing wells and reported exceedances of chlorinated compounds and PAHs. Based on these results, it was decided that the site would be addressed under the IR Program. The RI work plan for this investigation was submitted in August 2001, and the RI field investigation occurred in September 2001. The final RI report was submitted in August 2002, the final FS report was submitted in October 2002, and the final PP recommending long-term monitoring with LUCs as the remedial action was submitted in July 2003. A final ROD was submitted on September 14, 2005. A final Remedial Design Work Plan for Long-Term Monitoring was submitted in April 2003, and the Year 1 quarterly groundwater monitoring events occurred in May 2003, July 2003, October 2003, and January 2004. A final Year 1 groundwater monitoring report was submitted on August 8, 2005. Beginning with the Year 2 monitoring events in July 2004 and January 2005, sampling was conducted semi-annually. The final Year 2 groundwater monitoring report was submitted on October 13, 2006 and recommended reducing the semi-annual monitoring to include only 9 wells. The Year 3 sampling events occurred in July 2005 and February 2006, the final annual monitoring report was submitted on April 13, 2007. The Year 4 annual sampling event was conducted in February 2007 and the draft monitoring report is being prepared. A final Interim RA report was submitted on October 13, 2006 and was approved by U.S. EPA on October 31, 2006. A final LUC RD was submitted on May 5, 2006 and was approved by U.S. EPA on May 9, 2006. A final OPS Demonstration Report was submitted on August 1, 2006 and was approved by U.S. EPA on August 30, 2006. After the February 2006 (Second Semi-Annual, Year 4) event, monitoring frequency was reduced to annual. Year 5 annual sampling was completed in January 2008, and the associated report was submitted as final on December 17, 2008. Year 6 sampling was conducted in January 2009, and the associated report was is being prepared. Year 7 sampling is scheduled for January 2010.					

TABLE 3-1

SITE DESCRIPTION CHART
INSTALLATION RESTORATION PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site No.	Operable Unit (OU)	Site Name/Size	Period of Operation	Waste Type	Sources	Description of Activity
59	OU 9	Buildings 324/1845 Areas	1989 to present	Chlorinated solvents in groundwater	No source determined	Engine Maintenance Shack used primarily by a Naval subcontractor.
	Initial investigation began in January 2004 as part of the BRAC program. Field investigations revealed the presence of TCE in groundwater beneath Buildings 324 and 1845 although no source for the contamination could be determined. The area was designated Site 59 under OU 9 to be investigated under the IR program. A Remedial Investigation Work Plan was submitted in August 2004. The RI field investigation was initiated in September 2004 and completed in September 2005. A final Pilot Study Work plan for bioremediation was submitted on January 11, 2006, and the pilot study was initiated the following month. The pilot study is scheduled for completion during April 2007. The final RI Report was submitted on November 9, 2006. The final FS report was submitted on April 6, 2007. The final PP was submitted on May 31, 2007, no public comments were obtained during the review period from June 4 to July 3, 2007. The draft LUC RD was submitted April 5, 2007, and is currently in regulatory review. At issue is the Restrictive Covenant required for the previously transferred areas. The final Remedial Design was submitted on March 24, 2008, and the ROD was signed on April 29, 2008. The Fourth Quarter, Year 1 event was completed in February 2009 and the associated report is being prepared. Quarterly monitoring is ongoing. The Year 2, First Quarter sampling event was conducted in May 2009, and the Second Quarter sampling event is scheduled for August 2009.					
PSC 51	--	Golf Course	1950s to present	Pesticides and metals	Golf course	Limited information on practices. Site activities are an active golf course.
	Initial investigation began in April 1999. Field investigations were conducted to delineate soil contamination. The groundwater, surface water, and sediment in the streams and ponds were investigated and a Technical Memorandum for NFA was submitted in November 1999. A revised Technical Memorandum recommending NFA at this site was submitted in September 2003 and approved by the BCT.					
OGC	OU 12	Old Golf Course	1940s to 1950s	Pesticides and arsenic	Golf course	Limited information on practices. Site activities were an active golf course until the 1950s.
	Initial investigation began in 1993. Field investigations were conducted between November 1999 and May 2000 to delineate soil contamination at the former tee boxes and greens. A final Action Memorandum for soil removal was submitted in July 2000, and 480 tons of soil were excavated and disposed in August 2000. A Technical Memorandum for NFA was submitted in August 2001. An NFA PP was issued in June 2002, and a NFA ROD was signed in October 2002.					

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Jet Engine Test Cell (JETC)/ Building 334	Adjacent to Building 339	JP-5 Jet Fuel	Two 20,000-gallon asphalt-coated, steel tanks with corrosion-resistant metal piping with cathodic protection installed in 1953 (Tanks 339-TC1 and 339-TC2). One 5,000-gallon steel aboveground storage tank (AST) (339-TC3) (removed in 1995).	Past releases have occurred due to tank overfilling. In October 1989, efforts to leak test Tanks TC1 and TC2 failed when inadequate seals were discovered between the manway covers and tank walls.
Current Investigative Status: A Preliminary Contamination Assessment (CA) was initiated in December 1990 by ABB Environmental Services, Inc. (ABB-ES). United States Corps of Engineers (U.S. COE) conducted a soil investigation in January 1991. The CA was completed in 1993 and a Contamination Assessment Report (CAR) Addendum (CARA) was submitted in March 1994. A CARA II was submitted in November 1994. Subsequently, an Alternate Procedures Request (APR) for free-product recovery was submitted on August 4, 1995. The Remedial Action Plan (RAP) submitted on November 22, 1996 was approved by Florida Department of Environmental Protection (FDEP) in February 1997. Monitoring wells and piezometers within the soil excavation area were abandoned in June 1997. A letter report identifying a variation in soil treatment from thermal treatment to biopiles was submitted in July 1997. Interim Remedial Action (IRA) for soil excavation was completed in September 1997. Soil removal activities took place during the first quarter of FY 1999. Quarterly natural attenuation sampling has been temporarily suspended pending completion of an additional investigation. Additional assessment activities were conducted in May and June 2001 using direct push technology (DPT) / mobile laboratory followed by installation of permanent monitoring wells to further delineate the dissolved hydrocarbon plume. The Site Assessment Report (SAR) Addendum (SARA) was prepared and concluded that two plumes exist on site and that some additional soil removal is required on the southern side of Building 334. Two other areas where contaminated soil could not be excavated were recommended for institutional controls to prevent exposure. A RAP was recommended to address the contaminated (accessible) soil and groundwater on the site. The RAP was submitted on September 27, 2002. FDEP issued a response on November 30, 2002 requesting additional information and clarification. A RAP Addendum was submitted on January 20, 2003 and approved by FDEP on February 18, 2003. The sparge system was started on November 17, 2003. The O&M Report covering August 1 to October 31, 2006, indicated that concentrations in monitored wells were less than GCTLs. Based on these results, the system was turned off on April 15, 2007. Quarterly groundwater monitoring is ongoing. The third quarter 2008 sampling event was conducted in October 2008, and the associated report was submitted on December 22, 2008. Fourth quarter 2008 sampling took place in December 2008 and the Annual Long-Term Monitoring Report was submitted in April 2009. The first and second quarter sampling events for 2009 took place in March 2009 and June 2009. The third quarter 2009 sampling event is scheduled for September 2009. Other Information: Part of Building 339 was demolished and rebuilt in June 1991. About 137.6 tons of soil was sent to Anderson Columbia for incineration. A 200-gallon spill occurred adjacent to Building 339 in July 1995. Soil was excavated and placed in 55-gallon drums.				
Sal Taylor Creek Containment Areas (Dam Sites)	Along Sal Taylor Creek	JP-5 Jet Fuel	JP-5 fuel spill from the North Fuel Farm (NFF) Tank 76E that occurred on February 10, 1991.	The seven dam sites are located along Sal Taylor Creek and emergency response actions were conducted at these sites after the February 10, 1991 spill. Heavy equipment and vacuum trucks were used to recover the fuel from Sal Taylor Creek.
Current Investigative Status: This site covers a total of 7 areas and includes the Aviation Ordnance (AVORD) Dam Site, the North Containment Pond Site, the AVORD Perimeter Road Site, the Gate 10 Dam Site, the Alpha Dam Site, the Possum Dam Site, and the Gate 14 Dam Site. A CA was conducted in 1991 and 1994. The field investigation included soil borings, surface water and sediment sampling, and monitoring well installation. A CAR was submitted in July 1994. Based on FDEP comments, further investigations were conducted in 1995. The investigations included toxicity assessment and surface water and sediment sampling. A CARA was submitted in March 1996 and approved by FDEP in May 1996. Per Base Realignment and Closure (BRAC) Cleanup Team (BCT) recommendations, sediment samples were collected for toxicity testing in December 1996. Samples were collected from the dam sites where biomonitoring or remediation was recommended in the CARA. Toxicity testing results were submitted in February 1997. A CARA recommending NFA at all dam sites, except Possum Dam, was submitted on May 19, 1997. An additional sample was collected at the Possum Dam site in December 1997. A CARA recommending no further action (NFA) at Possum Dam was submitted in February 1998.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
103rd Street Pipeline	Intersection of 103rd and Ave. A	Type JP-5 Jet fuel	A "pinhole" leak in the 8-inch pipeline conveying fuel from NAS Jacksonville to NAS Cecil Field was discovered and repaired in the Spring of 1997.	Following discovery of the release, an IRA was performed to remove petroleum impacted soils and to repair the pipeline. The pipeline was then taken out of service. In the spring of 1998, a site assessment was initiated.
Current Investigative Status: Investigation activities were conducted from September to December 1998 to delineate free product and a SAR was submitted in February 1999. A RAP was submitted in August 1999 recommending Air Sparging (AS)/ Soil Vapor Extraction (SVE) to address soil and groundwater plumes. The installation of the AS/SVE system was completed in the third quarter of FY 2000. It began operation in June 2000 and continued to operate until May 2005, at which time a Site Rehabilitation Completion Order (SRCO) stipulating NFA at the site was issued by FDEP.				
JP-5 Spill Area	Adjacent to Tank 76-E, northeast corner of NFF	JP-5 Jet Fuel	February 10, 1991 JP-5 fuel spill	On February 10, 1991, JP-5 fuel overflowed from Tank 76-E. The fuel flowed down the slope on the east side of the earth-mounded tank into a small ditch that discharges into Sal Taylor Creek.
Current Investigative Status: A preliminary CA was conducted in 1991 and a CA was conducted from May 27 through June 5, 1992. The investigation included soil borings and monitoring well installation and the CAR was submitted in July 1994. Based on FDEP comments on the CAR, further investigations were conducted in 1995. A CARA, submitted in March 1996, was approved by FDEP in May 1996. Recommendations for remedial actions were included in the RAP for the North Fuel Farm (NFF) site. Supplemental samples were collected in September 1997, and a CAR letter report was submitted in November 1997. Other Information: From September 1995 through January 1996, an IRA was conducted by Bechtel. The IRA included removal of about 2,750 cubic yards of contaminated soil (greater than 1000 ppm) from the site. Additional soil removal activities were performed in July and August 1999.				
South Fuel Farm	Facility 43, south of intersection of 2nd Street and "A" Avenue	JP-5 Jet Fuel	Several tanks that were removed in the 1990s.	Location of several ASTs, underground storage tanks (USTs), and earth-mounted tanks (EMTs). All ASTs were removed in 1995 and all USTs and EMTs (except Tank 342-DT) were removed in July 1994.
Current Investigative Status: CA was completed in December 1991 and CAR was submitted in July 1992. Upon review of CAR, FDEP requested additional investigation at this site. Supplemental investigation was completed in July 1995 and CARA was submitted in January 1996. The CARA was approved in April 1996. A RAP addendum submitted on October 28, 1996 was approved by FDEP in February 1997. The remedial system (biosparging) was installed in February 1998 and system start-up activities were completed in March 1998. The remedial system was operating, but not to the satisfaction of the Navy. A supplemental site investigation and system evaluation were completed in November 2002. Additional soil sampling was performed in May and October 2003 to better define the extent of soil contamination. A RAP Addendum documenting the results of the supplemental assessment and system evaluation and recommending modifications to improve the performance of the system was submitted to FDEP on July 1, 2004. A final Technical Memorandum submitted on June 6, 2006, recommended shutting down the biosparge system and adding bioventing wells to address soil contamination. FDEP responded on July 3, 2006, and agreed with collection of soil samples based on Tech Memo recommendation, that monitoring wells 2N and 6N continue to exceed GCTLs and require monitoring, and reduction in active sparge points. Soil sampling as recommended in the Tech Memo was conducted on August 3, 2006, and the associated Supplemental Soil Sampling Report was submitted in January 2007. A post-active remediation monitoring (PARM) work plan was submitted in January 2008, and PARM soil and groundwater sampling is ongoing.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Truck Stand Site	Loop road south of NFF	JP-5 Jet Fuel	Used as loading station for the flightline refueling tank trucks. The site consists of a control building, a pumping station, asphalt and concrete parking area, and a retention pond.	Probable spills and soil staining
Current Investigative Status: A preliminary CA was conducted in 1990. A CA was completed in 1991 and CAR was submitted in May 1992. Subsequently, CARA was submitted in July 1994. Upon review of CARA, FDEP recommended additional investigation that included monitoring well installation, collection of groundwater samples, and advancement of soil borings. CARA was submitted to FDEP in March 1996. The CARA II was approved by FDEP in April 1996. The Monitoring Only Plan, submitted on December 6, 1996, was approved in February 1997. The four quarterly sampling events were completed. A letter report presenting the sampling results for the first, second, and third quarter sampling was submitted. The annual monitoring report was submitted in June 1998. Monitoring activities have been changed to semi-annual events. The first semi-annual event was conducted and associated report was submitted in October 1998. Additional contaminated soil was removed in August 2000 and a sampling event was performed in March 2000. The September 2000 semi-annual groundwater sampling event was postponed because several monitoring wells were destroyed during the source removal activities. The monitoring wells were replaced and the sampling resumed in February 2001, and a report was submitted in April 2001. The April 2001 sampling report recommended that a RAP be prepared. The FDEP concurred with the recommendation. Prior to preparation of the RAP, the BCT agreed to a supplemental assessment to better delineate the groundwater plume. The fieldwork began during the fourth quarter of FY 2002, and it was completed in January 2003. A letter report describing the results of the supplemental work was submitted in June 2003 and approved on March 24, 2004. A remedial strategy and remedial system design were prepared for the site as part of the RAP prepared for the North Fuel Farm (NFF) Site. The RAP, which recommended AS and SVE, was submitted to FDEP in late March 2004 and was approved on June 2, 2004. The Truck Stand has been incorporated into the NFF site. Other Information: An IRA to remove soils saturated with free product was completed in May 1996. Approximately 1,000 cubic yards of soil were excavated. A Remedial Action report was submitted in June 1996.				
Sal Taylor Creek Bank Sites	Along Sal Taylor Creek	JP-5 Jet Fuel	February 1991 JP-5 fuel spill	Activities were conducted after the fuel spill.
Current Investigative Status: Nine locations along the banks of Sal Taylor Creek were investigated to determine extent of soil and groundwater contamination due to the 1991 fuel spill. Results of the 1992-93 investigation were presented in the July 1994 CAR. Per FDEP recommendations, additional investigations were completed in September 1995. The CARA submitted in March 1996 was approved by FDEP in April 1996. The CARA recommended natural biodegradation for the remedial action at these sites. Temporary wells were installed in December 1996 at the two locations recommended by FDEP. Groundwater samples were collected from these wells in January 1997. A CARA presenting the groundwater sampling results from the temporary wells, along with a recommendation for NFA, was submitted on June 16, 1997. The NFA recommendation was approved by FDEP.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Day Tank 1	Northeast of Jet Road	JP-5 Jet Fuel	200,000-gallon interior-lined asphalt-coated steel tank containing JP-5. Tank was installed in 1956.	Location of fuel spill in 1981; approximately 497,000 gallons of JP-5 fuel were spilled due to overfill; approximately 250,000 gallons were recovered.

Current Investigative Status: Geraghty and Miller conducted a preliminary CA in 1981. CA was initiated by ABB-ES in December 1990. The CA was completed in 1993 and a CARA was submitted to FDEP in December 1993. A RAP was submitted to FDEP in May 1994. The RAP was not approved by FDEP. Consequently, an APR was submitted to FDEP in August 1995 to recover free product. The APR was approved in September 1995. Per FDEP recommendation, five additional wells were installed and sampled in September 1995. The revised RAP was submitted in January 1997. During the June 3, 1997 BCT meeting, the partnering team requested a letter memorandum presenting a phased approach for the RA. The letter memorandum was submitted in July 1997. Natural attenuation sampling took place during the 2nd quarter of FY 1999. Natural attenuation sampling was subsequently discontinued. Day Tank 1 was removed in December 1999 and the excavation of the soil mound occurred in December 1999 and January 2000. Semi-annual groundwater monitoring was conducted in July 2000 and January 2001. Shortly afterward, it was determined that the petroleum plume from Day Tank 1 was co-mingling with a chlorinated solvent plume under investigation near Building 824A. The BCT decided to postpone further groundwater monitoring at Day Tank 1 and expand the scope of the Building 824A (Site 57) to include the Day Tank 1 plume area. The Site 57 investigation also included some free product delineation. At the June 2002 BCT meeting, it was agreed to conduct additional soil delineation outside the original source removal area to address soil contamination encountered by the RAC. In August 2002, a flame ionization detector (FID) was used to delineate soil contamination based on headspace measurements. In October and November 2002, soil samples were collected from approximately 80 locations to delineate the extent of contamination. Additional temporary monitoring wells were installed to confirm the extent of free product. Additional delineation of soil contamination was completed in early September 2003, and excavation of the remaining contaminated soil and the free product was completed during the 1st quarter of FY 2004. A SARA was submitted in November 2003, resulting in a removal action being performed during the 1st Quarter of FY 2004. An additional soil investigation began in April 2004 resulting in an additional excavation of soil, which was completed in September 2004. The final SARA No. 2 for Day Tank 1, recommending no further action for soil, was submitted on January 30, 2006 and approved by on September 26, 2006. FDEP issued a Natural Attenuation Monitoring Plan Approval Order (NAMPAO) on October 19, 2006. An LTM Work Plan for Day Tank 1 and Building 46 was submitted on February 1, 2008, and semi-annual groundwater sampling is ongoing. The 2008 second semi-annual sampling event was conducted in October 2008, and the associated report was submitted in on December 22, 2008. The 2009 first annual sampling event was conducted in March 2009. The second semi-annual 2009 sampling event is scheduled for September 2009.

Other information: An AS/SVE system was installed by JA Jones/CH2M Hill in 2000, and continues to operate. In February 2002, JA Jones began work to locate and close the pipeline that exists between Day Tank 1 and the North-South High Speed Refuelers. The system is set to be shut down, disassembled, and removed in April 2009.

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
North Fuel Farm Area	Northeast corner of A Avenue and Loop road	JP-5 Fuel	Six 595,000-gallon, interior-lined, asphalt-coated, steel, EMTs (76, 76A through 76E). Tanks 76 and 76A were installed in 1952 and remaining tanks were installed in 1954. In 1987, all tanks were relined and overfill protection was installed. In addition, tank 76 was equipped with automatic shut-off system. Tank 76E was taken out of service in 1991.	22,772-gallon spill on August 3, 1987; 913,000-gallon spill on February 10, 1991; and 1,800-gallon spill on November 28, 1993
Initial Remedial Action: Completed installation of a catalytic oxidizer at the NFF site. Also installed 15 extraction wells. Nine of these extraction wells were connected to the bioslurper unit. Quarterly groundwater sampling was completed during this reporting period. Continued free-product recovery activities. The bioslurper system was shut down in April 1998, but the groundwater sumps are being operated. Current Investigative Status: CA was completed in 1991. The CAR was submitted in June 1992. Supplemental investigation was completed in 1993/94. Field work was conducted in April 1994 to investigate the 1,800-gallon spill. In July 1994, FDEP recommended additional investigation that was completed in 1995. A CARA was submitted in April 1996. Subsequently, the CARA was approved by FDEP. Supplemental assessment recommended by the BCT was completed in November 1996. The RAP and the revised CARA were submitted in January 1997. FDEP comments for the NFF remedial action plan were reviewed at the June 1997 BCT meeting. Supplemental soil samples were collected in September 1997 and the results were presented in a RAP letter memorandum submitted in November 1997. Additional soil samples for Kerosene Analytical Group (KAG) parameters were collected in April 1998. The BCT recommended that a pilot study be conducted to evaluate recirculation wells as a viable alternative for groundwater treatment. The 1999 recirculation well pilot-scale study showed difficulties in operation of the system. The technology was eliminated in favor of air sparging. A RAP Addendum was submitted in August 1999. This addendum also describes the removal of the tanks, earth mound, and soil beneath the tanks. Natural attenuation sampling took place during the second quarter of FY 1999. Natural attenuation sampling was subsequently discontinued. Semi-annual contaminant monitoring was only conducted until July 2000. This monitoring has been suspended until the source removal action has been completed. The source removal action began in the 3rd quarter of FY 2000 and were completed in mid-February 2001. Supplemental assessment activities were initiated in July 2001. These activities included the use of DPT/membrane interface probes (MIPs) followed by installation of permanent monitoring wells to evaluate the current conditions and impact of the source removal activities recently conducted at the site. Monitoring well installation and sampling was completed in February 2003, and the results indicated the need for additional wells. The additional well installation was completed in July 2003. The draft Supplemental SAR was submitted to the Navy in September 2003. The final Supplemental SAR was submitted to the FDEP in October 2003 and was approved by FDEP on March 5, 2004. A RAP Addendum recommending AS/SVE was submitted to the FDEP in late March 2004 and was approved on June 2, 2004. FDEP issued a directive to discontinue AS/SVE system operation on October 24, 2005. System continues to operate, site-wide groundwater sampling event conducted in May 2007 indicated a significant reduction in the size of the groundwater plume. Sampling event conducted during November 2007 confirmed findings of the May 2007 event. An Optimization Study was conducted to evaluate the path forward, the Optimization Report was submitted in June 2008. The recommendations were approved by FDEP on August 20, 2008. The AS system was restarted in November 2008 with a reduced number of wells operating (based on Optimization Report recommendations). Quarterly monitoring is ongoing. The 2008 third and fourth quarter sampling events were conducted in October 2008 and December 2008, and the Annual Long-Term Monitoring Report was submitted in April 2009. The 2009 first quarter and second quarter sampling events were conducted in March and June 2009. The next sampling event is scheduled for September 2009. Other information: The soil source removal, conducted by JA Jones/CH2M Hill involved the excavation 140,957.03 tons of petroleum-contaminated soil and the recycling of 19,550 gallons of free product and petroleum contact water. The Source Removal Report (SRR) was approved on February 22, 2002.				
Tank 199	Building 199, Southeast corner of C Avenue and 6th Street	Heating oil	2,000-gallon underground heating oil tank	Leaking UST
Current Investigative Status: A CA plan was prepared in August 1996. The CA was initiated in September 1996 and the field program was completed in December 1996. The field program included soil borings, well installation, groundwater sampling, aquifer testing, and elevation survey. The CAR was submitted in March 1997. Additional soil samples were collected in September 1997, and the results were presented in a CAR memorandum submitted in November 1997. Soil samples for KAG analysis were collected in March 1998. Soil removal activities took place during the 1st quarter of FY 1999. Natural attenuation monitoring began in July 1999 on a semi-annual basis and was changed to annual after the February 2000 event. Monitoring was performed in January 2001 and January 2002. Continued annual monitoring was recommended. The latest annual sampling event occurred during January 2007, and the associated Supplemental Assessment Letter Report was submitted on February 28, 2007. A Site Rehabilitation Completion Letter Report was submitted to the FDEP on April 26, 2007, and the SRCO for this site was issued on September 6, 2007.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Day Tank 2	Facility 342-DT, south of intersection of 2nd street and "A" Avenue	JP-5 fuel	200,000-gallon earth mounded, interior-lined, asphalt-coated, steel tank.	Several USTs and ASTs were located adjacent to the Day Tank 2 facility. In October 1996, free petroleum product was observed in a piezometer located south of Day Tank 2. The release was believed to have been from the tank or associated piping. Approximately 29,000 gallons of free product were recovered. Day Tank 2 was taken out of operation in October 1996 and removed in 1997.
Initial Remedial Action: Day Tank 2 was decommissioned in 1996 and was removed in August 1997 Current Investigative Status: A CA plan was submitted in June 1997. The field investigation at Day Tank 2 included installation of several monitoring wells, DPT groundwater screening points, soil borings, and soil sampling in March 1998. SAR was completed in July 1998. A source removal plan was submitted in October 1998, and the removal action was conducted in November 1998. Monitoring wells that were destroyed during the IRA were replaced and sampled in April 1999. A report describing the analytical results was completed in May 1999. Groundwater contamination will be addressed as part of OU 9, Sites 36/37 (see Table 3-1).				
Tank 46 (Includes 46R, 46D, 46SUL, and 46UL)	Building 46 across D Avenue from the Bachelor Officers Quarters	Regular and unleaded gasoline and diesel fuel	A total of eight tanks: - four 2,000-gallon tanks - two 10,000-gallon tanks - two 6,000-gallon tanks	Leaking USTs
Current Investigative Status: A RAP was submitted in March 1999. This RAP included the design of an AS/SVE System for the remediation of contaminated soil and groundwater. The RAP was revised to use a nutrient-enhanced biosparging system to remediate the source area and plume in June 2000. Installation of the remediation system was completed in January 2001, and the system is in operation. The RAC has reported contaminated groundwater exceeding GCTLs in a perimeter well. A supplemental assessment to delineate this contamination began during the fourth quarter of FY 2002 and was completed in January 2003. A letter report describing the results of the investigation was submitted on May 28, 2003. The report was approved by FDEP in July 2003. A RAP modification was issued in March 2004 to extend the current system to adequately remediate that part of the groundwater plume that is not currently being affected. The two PHOSter systems (east and west) were removed and are being replaced by one biosparging system in the eastern portion of the site. A Remedial Action Optimization Report was submitted in May 2007 to address path forward for two small hotspots with exceedances of FDEP NADCs for naphthalene and MTBE. The Optimization Report recommended redirecting flows to these two hotspots and bringing the west side biosparging system offline. In January 2008, FDEP approved discontinuing use of the west system. Both systems were removed from the site on January 31, 2008. A new AS system was installed on the eastern side of the site on September 17, 2008. Quarterly monitoring is ongoing. Third Quarter 2008 sampling was conducted in September 2008, and the associated report was submitted on December 22, 2008. The first and second quarter 2008 reports had been submitted in May and August 2008, respectively. The fourth quarter event was conducted on December 16 2008. The first and second 2009 sampling events were conducted in March and June 2009, and the next sampling event is scheduled for September 2009.				
Tank 9L1 and 9L2	Building 9 near the corner of B Avenue and 3rd Street	Gasoline	Two tanks, each 1,250 gallons	Leaking USTs
Current Investigative Status: A RAP was submitted in February 1999. This RAP included the design of an AS/SVE system for the remediation of contaminated soil and groundwater. The RAP was revised to use a nutrient-enhanced biosparging system to remediate the source area and plume in June 2000. Installation of the remediation system was completed in January 2001, and the system was in operation through the end of 2005. FDEP has declared this a no further action site with orders to abandon the wells.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
312 O/W	North side of Building 312 (Corrosion Control Hangar)	Used oil group constituents	One 900-gallon oil/water separator tank	Leaking UST and/or piping
Current Investigative Status: A confirmatory sampling investigation of soil and groundwater was initiated in July 1998. A Confirmation Sampling Report (CSR) was submitted in 1999. The CSR indicated that the site had been impacted by used oil group constituents. A site assessment using DPT/mobile laboratory screening followed by installation of permanent monitoring wells was conducted. An SAR recommending a source removal and follow-up groundwater monitoring was submitted to FDEP in April 2002. FDEP issued a letter indicating that additional assessment was required. The additional assessment activities were completed in mid-July 2003. A Supplemental SAR was issued on September 5, 2003. A source removal was performed by WRS in October 2003 to remove petroleum impacted soil. A SRR was submitted to FDEP in December 2003 indicating that stained soil was observed in one location during the excavation. This area was subsequently sampled, and the laboratory results indicated that concentrations of contaminants of concern (COCs) were less than Soil Cleanup Target Levels (SCTLs). An NFA recommendation was subsequently submitted to FDEP.				
824 O/W	South side of Building 824 (Avionics Shop)	Used oil group constituents	Oil/water separator (capacity unknown)	Leaking UST and/or piping
Current Investigative Status: A confirmatory sampling investigation was initiated in September 1998. A CSR was submitted in 1999. The CSR indicated that the site had been impacted by used oil group constituents. A site assessment using DPT/mobile laboratory screening, followed by the installation of permanent monitoring wells was conducted. The SAR recommended NFA for the site. At the August 2002 BCT meeting, FDEP indicated that the review was complete, and an NFA letter was issued by FDEP on August 29, 2002. Other information: An SRR was submitted by the RAC on December 16, 2000.				
North-South Apron Plume	East of Building 815 on eastern edge of north-south flightline apron	Unknown	Possible leakage from storm sewers or downward migration of an upgradient plume from an unknown site.	
Current Investigative Status: Earlier investigations indicated that volatile organic compounds (VOCs) were present in the groundwater at concentrations that exceeded FDEP GCTLs. Additional assessment activities conducted between November 1999 and November 2000 confirmed that VOCs were present in the groundwater at concentrations that exceeded GCTLs. A SAR was submitted recommending implementation of natural attenuation monitoring. FDEP issued a Natural Attenuation Monitoring Plan Approval Order in March 2001. The first three quarterly events indicate that groundwater VOC concentrations continue to exceed GCTLs, and the plume appears to be static. A fourth quarterly groundwater-monitoring event was conducted in February 2002. Based on results that indicated the plume is static and still exceeds GCTLs, a supplemental assessment was recommended. The additional assessment began during the fourth quarter of FY 2002. Monitoring was postponed during the supplemental assessment, which was completed in November 2002. A letter report describing the supplemental assessment work and recommending natural attenuation monitoring was submitted for FDEP review on January 14, 2003. An FDEP response, issued on May 2, 2003, requested additional assessment to delineate the vertical extent of contamination. The installation and sampling of additional wells was completed in July 2003, and a second supplemental assessment letter report was submitted to FDEP in December 2003. FDEP issued a response on January 30, 2004 requesting additional sampling. The Navy issued a Scope of Work (SOW) for the additional sampling on July 20, 2004 and the sampling was completed on March 24, 2005. A Supplemental Assessment Letter Report was issued in August 2005 and approved by FDEP in September 2005. A new groundwater monitoring program began on July 7, 2006. Quarterly sampling was conducted from July 2006 to May 2007 (Year 1 quarters 1 through 4), and monitoring frequency was reduced to semi-annual starting with the November 2007 (First Semi-Annual, Year 3) event. The First Semi-Annual, Year 4 event was conducted in November 2008, and the associated report was submitted on December 30, 2008. Semi-annual groundwater monitoring is ongoing. The Second Semi-Annual Year 4 was conducted in May 2009. The next sampling event is scheduled for November 2009.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Building 82/ Tank G82	Eastern side of Building 82 on western edge of north-south flight line apron			
Current Investigative Status: A site investigation was conducted from October 1999 to July 2000. Petroleum contaminates were detected in the soil and groundwater. A total of 148.1 tons of contaminated soil were removed and approximately 49 yards of contaminated soil were left in place due to physical obstructions. A groundwater Monitoring Only Natural Attenuation (MONA) proposal was recommended to begin after the excavation was completed. On April 18, 2002, additional subsurface soil samples were collected for TRPH Subclassification Evaluation to determine if the contaminated soil left in place required excavation. All results were less than FDEP Industrial SCTLs, therefore they were left in place and Land Use Controls were put in place. A pilot project was proposed to address the contaminated groundwater at G82 and BP Wells. The project was placed on hold while system technical evaluations were conducted to determine the best path forward. An MNA Work Plan was submitted in May 2008, MNA monitoring began in July 2008, and is ongoing quarterly. The Second Quarter, Year 1 event was conducted in October 2008, and the associated report is scheduled for submittal in March 2009. The Third and Fourth Quarter sampling events for Year 1 were conducted in January and April 2009 and the corresponding reports were projected to be submitted in June and July 2009, respectively. Sampling frequency was changed from quarterly to semi-annual. The Year 2 First Semi-Annual sampling event is scheduled for October 2009.				
BP Wells	Southeast of Building 880 on western edge of the north-south flightline apron			
Current Investigative Status: A groundwater investigation was conducted in 1999. The results from the 1999 investigation indicated that COCs in groundwater exceeded GCTLs in two monitoring wells. Additional assessment activities were conducted in February 2000. The SAR submitted in August 2000 indicated that groundwater had been impacted by VOCs. In response to the SAR, FDEP issued a Natural Attenuation Monitoring Plan Approval Order (NAMPAO). The first semi-annual monitoring event was conducted in April 2001, and the report noted increasing contaminant concentrations and recommended additional monitoring. The second semi-annual monitoring event was conducted, and the subsequent report noted a continuing increase in contaminant concentrations and recommended preparation of a RAP. FDEP concurred with that recommendation. The Navy has given approval to conduct a treatability study at this site using in-situ oxygen curtain (iSOC) technology. The iSOC system was installed and began operation in October 2002 after a baseline groundwater sampling event was conducted. The first Quarter Monitoring Report was submitted in April 2003. The Second Quarter Monitoring Report was submitted in August 2003. The third Quarter Monitoring Report was submitted in November 2003. The fourth Quarter Monitoring and Annual Treatability Study Evaluation Report, recommending that the treatability study be discontinued, was submitted to FDEP on April 9, 2004 and approved by FDEP in June 2004. The monitoring program was temporarily placed on hold. Another Treatability Study Work Plan, which recommended quarterly monitoring in conjunction with the treatment system at Building 82, was submitted on December 16, 2005. Groundwater sampling was conducted in November/December 2006, and no results exceeding GCTLs. A Technical Memorandum recommending a path forward for site closure was issued on April 27, 2007. The NAMP and an MNA Work Plan were submitted in May 2008, MNA monitoring began in July 2008, and is ongoing semi-annually. The First semi-Annual, Year 1 event was conducted in July 2008, and the associated report was submitted in November 2008. The second semi-annual, Year 1 event was conducted in January 2009 and the report was submitted May 25, 2009. The First Semi-Annual, Year 2 event is scheduled for July 2009.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Building 502, Tank 502	West of Building 502, south of the perimeter road	Fuel oil	1,000-gallon fuel oil tank	Leaking UST was removed in 1997
Current Investigative Status: Tank 502 was removed in 1997, and a subsequent site assessment was performed by Harding Lawson Associates (HLA) in 1998 that recommended a soil source removal. The source removal was conducted in January 1999, and the contaminated soil associated with Tank 502 was removed; no free product was encountered in the excavation; and three monitoring wells were abandoned because they were within the limits of the excavation. In April 1999, a follow-up SAR (HLA, 1999) recommended that no further action be conducted with regard to soils at the site. The SAR recommended that groundwater monitoring only for natural attenuation (MONA) take place as benzene, ethyl benzene, xylenes, naphthalene, and TRPH were previously detected in excess of FDEP GCTLs. The FDEP responded in July 1999 with a Monitoring Only Plan (MOP) approval letter that required the semi-annual sampling of various monitoring wells at the site. The Supplemental SAR, which involved the re-installation of the source well (CEF-502-1SR) and sampling of the other existing monitoring wells, recommended several modifications to the monitoring program including the installation and sampling of an additional well (CEF-502-8S) and sampling of an additional existing well (CEF-502-3S). The recommendations were approved by the FDEP on August 3, 2001, and were implemented during the next semi-annual sampling event in December 2001. Because the concentrations of COCs at the source well continued to exceed the GCTLs, TtNUS recommended that semi-annual monitoring of existing wells be continued and also recommended additional characterization of the source of contamination contributing to CEF-502-1SR. This recommendation was discussed and approved at the December 2005 NAS BCT meeting. In response to the letter, TtNUS installed a total of 10 step-out soil borings in the vicinity of the source well in November 2006 for additional site characterization. During the November 2006 sampling event, TPH was detected in excess of its Soil Cleanup Target Level (SCTL) at soil borings CEF-502-SB06, CEF-502-SB07, CEF-502-SB09, and CEF-502-SB10. According to the Site Assessment Report Addendum, excavation in the vicinity of these soil borings was recommended. Exceedances continued to appear in the laboratory results in samples taken from the source well. The first quarter, 6th year groundwater monitoring report was submitted to the FDEP on June 21, 2007. A Dig and Haul Package was submitted on September 11, 2007, and a revised Work Plan addressing building shoring issues is scheduled for submission on January 30, 2009. Excavation is pending. One source area monitoring well will be reinstalled after excavation to verify absence of groundwater contamination.				
Ocala F-18 Crash Site	In Ocala National Forest approx. 82 miles south of Cecil Field and approx. 22 miles southeast of Ocala, Florida	Jet Fuel	Crashed f-18 Jet	Past releases due to crashed F-18 jet.
Current Investigative Status: In June 1994, a Navy F-18 jet crashed in the Ocala National Forest. A site assessment and initial remedial action were conducted by Bechtel Environmental, Inc. In September 1997, HLA sampled monitoring wells to evaluate the groundwater quality at the site. Following approval of MONA, HLA recommended semi-annual monitoring. HLA submitted a MONA plan to FDEP dated January 20, 1998. The MONA plan was subsequently revised and approved in April 1998. HLA performed quarterly groundwater monitoring from May 4, 1998, through February 22, 1999. TtNUS resumed sampling after the February 1999 sampling event. During the third year of monitoring in October 2002, TtNUS recommended preparation of a treatability study to use an innovative technology to remediate the site because the concentrations of COCs had not decreased. Instead, during a BCT meeting, members decided to continue with the monitoring instead of the treatability study, so the treatability study was not initiated at the site. Monitoring continued in April 2003, and the COCs appeared to be within milestones set by the MONA order. Therefore, continued monitoring was recommended. However, FDEP reviewed the Monitoring Only Plan Report and stated that 5 years had transpired without a decrease in COCs to concentrations less than GCTLs. The response from FDEP required an additional well directly downgradient of the source well and also required sampling, reporting, and recommendations. Considering the remoteness of the site and the need for a more refined delineation of the plume centered on well CEF-CS1A, TtNUS mobilized to the site to install three perimeter wells. Based on the new sampling data, a revised MONA was proposed with new milestone objectives for different COCs and different wells. FDEP approved the recommendation for an NAMPAO in October 2005, and semi-annual groundwater monitoring was conducted until February 2008. Based on data from this event, monitoring frequency was reduced to annual beginning with the February 2009 (Year 4) event. A supplemental soil sampling event, scheduled for February/March 2009, will be conducted in the area around the source well because February 2008 concentrations of benzene, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene exceeded end of Year 3 action levels specified in the NAMPAO. The Year 4 sampling event was conducted in March 2009 and the report is projected to be submitted in July 2009. The Year 5 sampling event is scheduled for March 2010.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Tanks 81 A,B,C	Next to former locations of Building 81, near PCA 25	Gasoline	Tanks 81 A, B, C	Removal of tanks
Current Investigative Status: The 2002 SAR identified shallow groundwater contamination and concluded that soil contamination was adequately addressed by previous source removals in the area. The SAR recommended implementation of a groundwater monitoring program and groundwater use restrictions. A NAMP was signed by FDEP on October 1, 2002. The first quarterly monitoring event was conducted in January 2003, and concentrations of COCs in the intermediate well exceeded GCTLs. The associated report recommended discontinuation of the monitoring program and performance of a supplemental site assessment to determine current site groundwater conditions. FDEP approved this recommendation in February 2004, and four intermediate wells and one deep well were installed in February 2005 and included in the February 2005 quarterly sampling event. The Supplemental Site Assessment Letter Report, submitted in August 2005, recommended that additional wells be installed to delineate shallow and intermediate groundwater contamination. FDEP approved this recommendation in December 2005. Three shallow and three intermediate wells were installed and sampled in November 2006. Quarterly sampling was also conducted in February 2007 (first quarter, Year 2). Based on discussions at the May 2007 BCT Meeting, two additional shallow wells were installed and sampled as part of the second quarter, Year 2 event in June 2007. Based on sampling results from this event, preparation of a revised NAMP and continuation of the quarterly monitoring program was recommended. The revised NAMP was submitted on November 21, 2007, and quarterly monitoring is ongoing. The Third Quarter, Year 3, sampling event was conducted in October 2008, and the associated report was submitted in December 2008. The Fourth Quarter, Year 3, sampling event was conducted in April 2009. Year 1, First Quarter sampling under the new MNAO is scheduled for October 2009.				
Building 271	To the west and east of Bldg 271.	Gasoline	Four USTs and 2 Oil-Water Separators (OWSs)	In O&M
Current Investigative Status: Building 271 was a former retail gasoline facility that contained four USTs and 2 OWSs. The USTs were grouped in a tank pit on the west side of Building 271 and the 2 OWSs were located on the east side of the building. In July 1999, HLA compiled a Confirmatory Sampling Report (CSR) for the USTs and the two OWSs that indicated petroleum-impacted soil was encountered at 2 locations relative to the USTs. The CSR concluded that the soil and groundwater was not impacted as a result of past OWS operations. Following completion of the SA Plan, CH2M Hill removed the three remaining three USTs, associated piping, and distribution systems. Groundwater samples collected following UST and soil removal indicated the presence of VOCs in the site groundwater. CH2M Hill also removed both OWSs and submitted separate Limited Closure Assessment Reports (LCAR) for each OWS in April 2001to the FDEP. Both LCARs for the OWSs indicated that no petroleum contamination of the soil or groundwater existed in the immediate areas surrounding the former OWSs. On May 23, 2001, FDEP issued letters agreeing the CH2M Hill's findings. A RAP was submitted in September 2002 to the FDEP and a RAP Addendum was submitted to the FDEP in January 2003. Air Sparge (AS) was selected as the remedial alternative. FDEP approved the RAP and RAPA in February 2003. CH2M Hill installed an AS system in accordance with the RAP from September to November 2003. The AS system commenced operation on November 17, 2003. On May 24, 2005, management of on-going remedial activities at the Building 271 site was transferred from CH2M Hill to ESA. According to the Year 1, 4th quarter O&M report submitted to on May 30, 2007, groundwater concentrations continue to decrease or remain non-detect. Troubleshooting was conducted and repairs were completed in February and March 2008. The system is back online, and quarterly sampling is ongoing. As stated at the February 2009 BCT meeting, the system is currently off at the site pending the results from quarterly monitoring results. The Third and Fourth Quarter, Year 1, sampling events were conducted in December 2008 and May 2009. The Year 2 Second Quarter Groundwater Monitoring Report was submitted in December 2008. First Quarter, Year 2 sampling was conducted in June 2009, and Second Quarter sampling is scheduled for September 2009.				

TABLE 3-2

SITE DESCRIPTION CHART
PETROLEUM PROGRAM
NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Site Name	Site Location	Waste Type	Sources	Description of Activity
Building 290A	located north of Building 290A, southeast of intersection of north-south and east-west runways	Diesel	250-gallon AST used for Standby Generator	
Current Investigative Status: A CSR Addendum recommending SRR submitted December 31, 2002. FDEP requested resubmittal in August 2003. FDEP approved proposed soil excavation for NFA on November 30, 2006. Excavation is pending. Assuming groundwater concentrations after excavation are less than GCTLs, site will be NFA. Draft Dig and Haul Package submitted May 14, 2007, and FDEP provided comments on August 31, 2007. The site was discussed during the September 2007 BCT Meeting, and additional sampling was recommended. Sampling was conducted on September 14, 2007, and a revised Dig and Haul Package was submitted on October 13, 2007. Excavation is planned for June 2008. Monitoring well will be reinstalled after excavation to verify lack of groundwater contamination. The results of confirmatory soil screening in 1998 indicated that contaminated soil was not present at the site. However, because the tank could not be taken out of service at that time, it was agreed that supplemental confirmatory sampling would be conducted when the tank was taken out of service or transferred to confirm that no releases had occurred subsequent to the original investigation. A soil investigation was conducted by TtNUS in June 2000. Replacement well CEF-290A-2SR was installed and sampled in September 2000. During the soil investigation, a soil boring located directly under the secondary containment drain had an OVA reading of approximately 100 ppm at the 0- to 1-foot interval. The 1- to 3- and 3- to 5-foot sample intervals both had OVA readings of 20 ppm. Laboratory analytical results from the groundwater sample at this location were less than detection limits. Based on these and previous findings, TtNUS recommended No Further Action for the site. An April 5, 2002, FDEP comment letter stated that the Department could not concur with the recommendation for No Further Action because an elevated OVA-FID response was detected, possibly indicating petroleum-impacted soil. According to a Supplemental Site Assessment Letter Report dated November 9, 2006, excavation of a 10- by 13-foot area north of the tank to a depth of 2 feet was recommended. The tank was removed by Jacksonville Aviation Authority in June 2007. A Dig and Haul Package was submitted on November 16, 2007, and a revised Work Plan addressing Building 502 shoring issues is scheduled for submission on January 30, 2009. Excavation is pending. One source area monitoring well will be reinstalled after excavation to verify absence of groundwater contamination.				
Building 815 Wash Rack	North of Building 815, South of Building 1845		Wash Rack	
Current Investigative Status: Naphthalene contamination of groundwater was identified during the 1999 SAR for Hangar 815. A SAR for the site, now designated building 815 Wash Rack Area, was submitted in August 2000 and identified TRPH and naphthalene groundwater contamination at the site. MONA was recommended based on the results of the SAR. Semi-annual monitoring began in January 2001. Based on the results of the July 2003 sampling event and continuation of COC concentrations greater than milestone objectives, the monitoring program was discontinued and a supplemental soil assessment was conducted in January 2005. Soil contamination was not detected, and the Supplemental Soil Assessment Letter Report recommended one groundwater monitoring event and then preparation of a RAP. The site was transferred to the IR Program to be addressed with Site 59, but was then transferred back to the Petroleum Program based on discussions at the September 2007 BCT Meeting. A SAR Addendum was recommended during the September 2007 BCT meeting and was submitted to FDEP on May 20, 2008. . A NAMPAO was issued on November 16, 2008. One year of quarterly monitoring as proposed in the NAMP was conducted in 2008 and 2009. . Fourth Quarter, year 1 sampling is scheduled for July 2009.				

4.0 UPCOMING QUARTER SITE ACTIVITIES

4.1 COMMUNITY RELATIONS

No RAB meetings are scheduled for the fourth quarter of FY 2009. The following community relations activities will be conducted during the upcoming quarter:

- Continue to implement the Community Relations Plan
- Conduct public meetings as needed
- Prepare and distribute fact sheets as needed

4.2 FIELD WORK

The following field activities are planned for the fourth quarter of FY 2009:

IR Program

- OU 1, Sites 1&2 – long-term groundwater monitoring event, annual Year 12.
- OU 2, Site 5 – long-term groundwater monitoring event, annual Year 12.
- OU 2, Site 17 – long-term groundwater monitoring event, annual Year 13.
- OU 7, Site 16 – long-term groundwater monitoring event, annual Year 11.
- OU 9, Site 59 – long-term groundwater monitoring event, second quarter, Year 2; bioaugmentation/recirculation system operation.
- OU 9, Sites 36 & 37 – long-term groundwater monitoring event, second semi-annual, Year 9.
- OU 11, Site 45 – long-term groundwater monitoring event, Year 8, soil sampling for 5-Year Review.
- OU 12, Site 32 – long-term groundwater monitoring event, second 5-year event Year 6.

Petroleum Program

- North-South Apron Plume (NSAP) – groundwater monitoring event, second semi-annual Year 4.
- BP Wells – groundwater monitoring event, first semi-annual Year 2.
- Building 815 Wash Rack – groundwater monitoring event, fourth quarter Year 1.
- JETC – groundwater monitoring event, third quarter 2009.
- Building 271 – groundwater monitoring event, second quarter 2009.
- Building 46 – groundwater monitoring event, third quarter 2009.
- Day Tank 1 – groundwater monitoring event, second semi-annual 2009.
- NFF – groundwater monitoring event, third quarter 2009; system operation.

BRAC Program

No field work is anticipated in support of the BRAC Program during the fourth quarter of FY 2009.

4.3 DELIVERABLES

The following deliverables are scheduled for submittal during the fourth quarter of FY 2009:

IR Program

- OU 1, Site 1&2 draft long-term monitoring report, annual Year 12.
- OU 3, Site 8 – draft Remedial Action Completion Report.
- OU 5, Site 15 – draft and final Remedial Action Completion Report.
- OU 7, Site 16 – draft Pilot Study Technical Memorandum.
- OU 9, Site 36&37 – final long-term monitoring report, Year 8.
- OU 9, Site 58 – final long-term monitoring report, annual Year 6.
- OU 9, Site 59 – draft long-term monitoring report, annual Year 1.
- OU 9. Site 59 – draft Operating Properly and Successfully Demonstration Report.
- OU 9, Site 59 – draft and final Remedial Action Completion Report.
- OU 11, Site 45 – draft long-term monitoring report, Year 8.
- OU 12, Site 32 – draft long-term monitoring report, Year 6.
- Sitewide – Site Management Plan, 3rd Quarter FY09 Update.
- Sitewide – draft 5-year Review
- Sitewide – Administrative Record September 2009 Update.

Petroleum Program

- Ocala Crash Site – 4th year and Supplemental Soil Sampling Report
- Tank 81 ABC – Monitoring Only Natural Attenuation Report.
- North-South Apron Plume – draft groundwater monitoring report, second semi-annual Year 4.
- Hangar 815 Wash Rack – draft groundwater monitoring report, fourth quarter Year 2.
- BP Wells – draft groundwater monitoring report, first semi-annual Year 2.

BRAC Program

No deliverables in conjunction with the BRAC Program during the fourth quarter of FY 2009.

4.4 MEETINGS

The following meetings are tentatively scheduled for the fourth quarter of FY 2009:

- Partnering Meeting August 12 - 14, 2009