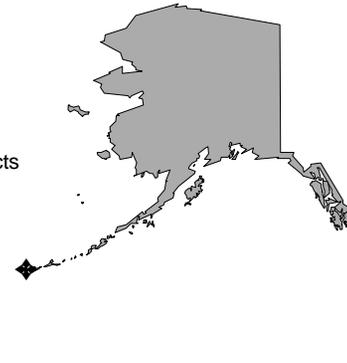


FFID: AK017002432300
Size: 76,800 acres
Mission: Provided services and materials to support aviation activities and operating forces of the Navy
HRS Score: 51.37; placed on NPL in May 1994
IAG Status: Federal Facility Agreement signed in November 1993
Contaminants: UXO, heavy metals, PCBs, VOCs, pesticides, and petroleum products
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$161.0 million
Estimated Cost to Completion (Completion Year): \$49.2 million (FY2006)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Adak, Alaska

Restoration Background

In September 1995, the BRAC Commission recommended closure of Adak Naval Air Facility. Operational Naval forces departed the island on April 1, 1997, and command functions were assumed by the Engineering Field Activity Northwest. The installation closed in September 1997.

In FY86, a study identified 32 sites at the installation, including landfills, unexploded ordnance (UXO) areas, and polychlorinated biphenyl (PCB) spill sites that have released contaminants into groundwater, soil, surface water, and sediment. Twenty sites were recommended for further investigation. In FY88, RCRA Facility Assessments identified 76 solid waste management units (SWMUs), 73 of which are managed as CERCLA sites under the Federal Facility Agreement signed in 1993.

From FY90 to FY95, Interim Actions included disposal of PCB-contaminated water and sludge; bioremediation of 4,500 tons of petroleum-contaminated soil; removal of approximately 30 underground and aboveground storage tanks and associated pipelines; and excavation, removal, and disposal of leaking incendiary (napalm) and cluster bombs.

An interim Record of Decision (ROD) was signed in FY95 for two landfills. In FY96, the installation completed fieldwork for the basewide Remedial Investigation and Feasibility Study and final evaluation reports for 10 SWMUs. Removal Actions and Interim Remedial Actions (IRAs) were completed for a number of SWMUs.

In FY97, the installation completed a Tier Assessment to Risk Assessment at petroleum sites and performed petroleum recovery at SWMU 17. Remedial Design (RD) work began for the areas

around SWMU 17. SWMUs 19 and 25 were closed, and a Non-Time-Critical Removal Action at SWMUs 16, 16A, and 67 was completed. Corrective actions at abandoned landfill sites were completed.

In FY98, the Navy received letters from EPA confirming that no further action is required at SWMU 4, the South Davis Road Landfill, and at SWMU 27, the Lake Leonne Drum Disposal Area. Additional sampling to determine the volume of contaminated sediment was performed at SWMU 17. Operable Unit (OU) B was formed to address UXO issues. The installation completed clearing a World War II minefield at SWMU 2. Investigations concerning UXO in downtown Adak were completed, while investigations of other potential minefield locations began.

The installation completed a Community Relations Plan in FY90 and revised the plan in FY95. In FY92, it formed a Technical Review Committee, which was converted to a Restoration Advisory Board (RAB) in FY96. During FY97, a Local Redevelopment Authority and a BRAC cleanup team (BCT) were established. In FY98, the BCT developed a Proposed Plan and a draft ROD for OU A.

FY99 Restoration Progress

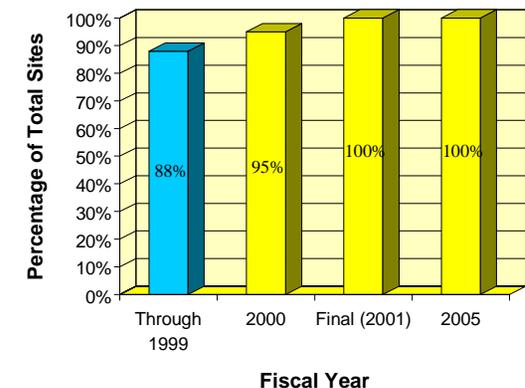
The Navy completed the latest version of its BRAC Cleanup Plan. The RD and Remedial Action (RA) at Sweeper Creek estuary, the RD and RA at SWMU 17, and investigations at potential minefields were completed. The ROD for OU A was approved by the Navy and is awaiting regulatory agency signatures. The Navy began developing the monitoring plan for OU A.

Dispute resolution was initiated for UXO issues (OU B). The Navy has not obtained regulatory (EPA and State of Alaska) approval for DoD's investigative approach to 1999 UXO investigations on Adak, but the Navy and regulators are working together toward that end.

Plan of Action

- Complete and implement a comprehensive monitoring plan for OU A in FY00
- Receive regulatory agency signatures for OU A ROD in FY00
- Obtain regulatory (EPA and State of Alaska) review and approval of DoD's investigative approach to UXO investigations on Adak in FY00
- Initiate UXO investigations for remaining OU B sites in FY00
- Complete RD and RA at OU B sites in FY00
- Close landfill in FY00
- Complete petroleum cleanups in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: GU917002755700
Size: 2,083 acres
Mission: Provided services and material support for transition of aircraft and tenant commands
HRS Score: NA
IAG Status: None
Contaminants: Asbestos, paint, solvents, petroleum/oil/lubricant liquids and sludges, and heavy metals
Media Affected: Groundwater and soil
Funding to Date: \$39.2 million
Estimated Cost to Completion (Completion Year): \$14.6 million (FY2005)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Agana, Guam

Restoration Background

In July 1993, the BRAC Commission recommended that the Agana Naval Air Station be closed. The station was closed on March 31, 1995.

In FY84, an Initial Assessment Study (IAS) identified two potentially contaminated sites. In FY93, a Preliminary Assessment identified an additional 13 potentially contaminated sites, later identified as points of interest (POIs). After the Environmental Baseline Survey was completed and updated, additional POIs were identified, bringing the total number of sites identified to 29.

In FY94, the final Site Inspection (SI) report revealed contamination in soil and groundwater at Sites 1 and 2, the two sites identified in the original IAS. An aggressive groundwater investigation was initiated for Site 29. Fast-track actions were also initiated to investigate soil contamination at 17 other sites.

In FY95, one SI was completed for Site 10 and another started for Sites 3 through 9, 11 through 16, and 28. Perimeter fencing was installed at Sites 1 through 5, 7 through 23, and 26, to limit access. As part of the groundwater Remedial Investigation (RI), groundwater monitoring wells, heat pulse flow meters, and pumps were installed. Initial data from the groundwater monitoring wells showed trichloroethene and dichloroethane contamination. An Environmental Condition of Property assessment identified four parcels as suitable for reuse. Findings of Suitability to Lease were completed for three of these parcels with an interim lease and joint use agreement with the Guam International Airport Authority.

In FY96, a Non-Time-Critical Removal Action (NTCRA) was initiated for Sites 1 and 2. RI fieldwork began for Sites 20, 21, and 23. During FY97, an RI for the remaining sites was initiated. The Navy and the regulatory agencies agreed that Sites 3, 5, 6, 8, 9, 11, 20, and 21 required no further action (NFA), but some sites require use restrictions. All aboveground and underground storage tanks were closed and removed.

In FY98, soil RIs were completed at Sites 2, 19, 20, and 23. At Site 29, the installation completed a Time-Critical Removal Action (TCRA), conducted a limited dye trace study, and completed a regional groundwater RI. A groundwater activated-carbon treatment system at an on-site production well began operation. The Navy and regulatory agencies agreed that Sites 2, 10, 12, 13, 14, 15, 25, 27, and 28 require NFA, but some sites require use restrictions.

A BRAC cleanup team (BCT) was established in FY93. The BRAC Cleanup Plan was completed in FY94 and updated in FY98. A Community Relations Plan was published in FY92, and three information repositories were established. The installation formed a Restoration Advisory Board in FY93.

FY99 Restoration Progress

A NTCRA for Site 1 was initiated, and the Removal Site Evaluation was completed. The soil RI for the remaining six sites (Sites 13, 14, 15, 18, 20, and 22) was completed. An expanded Ecological Risk Assessment was continued for Site 7 because of a lack of standing water in the wetland area. A TCRA for Sites 16 and 23 was completed, the regional groundwater RI and Feasibility

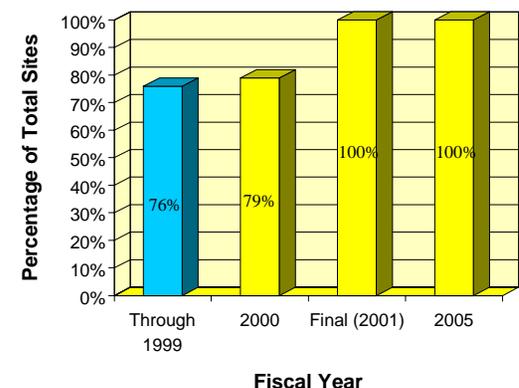
Study report was initiated, and the Proposed Plan (PP) is under way. The groundwater activated-carbon treatment system is in operation.

The Navy and the regulatory agencies agreed that seven additional sites (Sites 17, 18, 19, 22, 23, 24, and 26) require NFA, but that some sites require use restrictions. Additional samples were taken at Site 29, and the RI/FS was completed. The PP is undergoing public review. A final remedy was proposed but was not selected by the BCT because the public comment period is still ongoing. Site 22 was accepted by the BCT as a No Further Remedial Action site. The Engineering Evaluation and Cost Analysis for Site 22 was not prepared as planned because the site required No Further Remedial Action. Long-term monitoring (LTM) at Site 29 was delayed due to public acceptance of the proposed Remedial Action.

Plan of Action

- Prepare Record of Decision and implement final remedy for Site 29 in FY00
- Conduct NTCRA for landfill using presumptive remedy for Site 1 in FY00
- Select and implement final remedy for the regional groundwater problem at Site 29 in FY00
- Implement LTM at the on-site production well for Site 29 in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA917002323600
Size: 2,675 acres, including about 1,000 offshore acres
Mission: Maintained and operated facilities and provided services and material support for naval aviation activities and operating forces
HRS Score: 50.0; placed on NPL July 22, 1999
IAG Status: Federal Facility Agreement under negotiation
Contaminants: BTEX, chlorinated solvents, radium, heavy metals, herbicides, pesticides, methylene chloride, petroleum hydrocarbons, PAHs, PCBs, VOCs, and SVOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$84.5 million
Estimated Cost to Completion (Completion Year): \$148.1 million (FY2012)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2003



Alameda, California

Restoration Background

In September 1993, the BRAC Commission recommended closure of Alameda Naval Air Station. The installation was closed in April 1997. Cleanup activities at this installation relate to 25 sites. Prominent site types are landfills, offshore sediment areas, plating and cleaning shops, pesticide control areas, transformer storage areas, and a former oil refinery.

In FY94, the installation removed lead- and acid-contaminated soil from Site 13. In FY95, 4 underground storage tanks (USTs) and associated contaminated soil were removed at Site 7, debris removal began for catch basins at Site 18, and 60 abandoned USTs and associated contaminated soil were removed. The installation completed Phase I of an Environmental Baseline Survey (EBS) for all sites in FY94 and Phase I of an Ecological Risk Assessment (ERA) for all sites in FY95. A community Land Reuse Plan was approved in FY96. The installation began Treatability Studies (TSs) at Sites 1, 2, 3, 5, 13, and 17.

In FY97, the installation began Phase II of the ERA for all sites, completed the EBS for 208 parcels with Environmental Condition of Property (ECP) categories assigned, conducted EBS sampling and risk screening, implemented ECP recategorization, and removed sediment from storm sewer lines at Site 18. TSs were completed for Sites 3 and 13. The installation also completed the final Community Relations Plan and performed early actions at Sites 15, 16, and 18.

In FY98, the installation completed the early removal of polychlorinated biphenyl (PCB)- and lead-contaminated soil at Sites 15 and 16 and began additional TSs at Sites 4, 5, and 13. The Removal Action at Site 18 was completed, and TSs were completed at Sites 1 and 17. A draft and a revised draft Remedial

Investigation (RI) for Operable Unit (OU) 1 were completed and issued. The installation also began a project to remove or close 11 miles of abandoned fuel lines; a project to remove contamination from radium paint at Sites 1, 2, 5, and 10; and a project to abate lead-based paint and asbestos.

The installation formed a Technical Review Committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY93. A BRAC cleanup team was formed in FY93. A BRAC Cleanup Plan was completed in FY94. In FY98, the first Technical Assistance for Public Participation grant in the United States was issued to the RAB to help with the OU1 RI review.

FY99 Restoration Progress

The planned agreement on ECP recategorization of parcels was not completed because of a failure to reach consensus on 209 parcels. All remaining USTs were removed, but one possible UST has been discovered and is being reviewed. Abatement of asbestos in all industrial facilities was completed, and lead-based paint and asbestos were abated in all pre-1960 housing units. The removal of all active and inactive fuel lines was completed. This installation was placed on the NPL on July 22, 1999.

The project to remove radium paint contamination at Sites 1, 2, 5, and 10 has exhausted its funding because the contamination was much more extensive than expected. These sites are being temporarily closed.

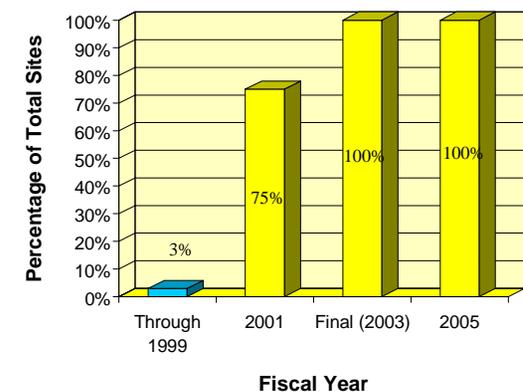
Sensitive technologies have delayed TSs at Sites 4, 5, and 13, and the fieldwork at Site 5 was completed for two projects. The final RIs for OU1 and OU3 and the draft Feasibility Study (FS) for OU3 were completed. The final FS for OU1 and the final RI and

draft FS for OU2 were delayed because of extensive comments from the RAB and the regulatory community.

Plan of Action

- Obtain agreement from the regulatory agencies on ECP recategorization of parcels in FY00
- Resolve possible UST issue at Building 7 in FY00
- Complete TSs at Sites 4, 5, and 13 in FY00
- Complete removal of radium paint contamination at Site 10 in FY00 and at Sites 1, 2, and 5 in FY01
- Complete final FS and Record of Decision (ROD) at OU1 and complete Remedial Design and Remedial Action (RD/RA) in FY01
- Complete the final RI and the draft and final FS for OU2 in FY01
- Complete the final FS and the ROD for OU3 in FY00; complete RD/RA in FY01
- Complete draft RI for OU4 in FY00; complete final RI and draft FS in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: GA417302369400
Size: 3,579 acres
Mission: Acquire, supply, and dispose of materials needed to sustain combat readiness of Marine Corps forces worldwide; acquire, maintain, repair, rebuild, distribute, and store supplies and equipment; conduct training
HRS Score: 44.65; placed on NPL in December 1989
IAG Status: Federal Facility Agreement signed in July 1991
Contaminants: VOCs, PCBs, heavy metals, pesticides, and PAHs
Media Affected: Groundwater, soil, and sediment
Funding to Date: \$26.5 million
Estimated Cost to Completion (Completion Year): \$17.3 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2002



Albany, Georgia

Restoration Background

Environmental studies identified 23 CERCLA sites and 6 RCRA sites at this base. These sites were grouped in six operable units (OUs), including basewide groundwater (OU6) and a site screening group. Sites include disposal areas, storage areas, and landfills. Contaminants include trichloroethene, polychlorinated biphenyls (PCBs), and heavy metals.

In the 1980s an Initial Assessment Study was completed for eight sites, a confirmation study was completed for nine sites, a groundwater recovery system was installed, and a quarterly groundwater monitoring program began for the Industrial Wastewater Treatment Plant (IWTP) area. The installation completed a RCRA Facility Investigation (RFI) for nine sites, a Corrective Measures Study (CMS) for one site, and an Interim Remedial Action (IRA) for capping the IWTP sludge beds. The installation completed a Preliminary Assessment for one site in FY91 and a Remedial Investigation and Feasibility Study (RI/FS) in FY92. In FY93, Remedial Design (RD) was completed for both sites at OU3; in FY94, OU3 Removal Actions and cleanup were completed.

In FY95, the RI/FS for all four sites at OU1 was submitted to the regulators; an IRA was completed for one site at OU1; the RI/FS for OU2 was submitted; and an Engineering Evaluation and Cost Analysis was completed for one site at OU4. The installation also completed a focused FS, signed an interim Record of Decision (ROD), completed the RD for a site at OU5, and finished RCRA closure of the Domestic Wastewater Treatment Plant sludge beds at Solid Waste Management Unit (SWMU) 3. During FY96, the installation completed a Removal Action for another site at OU1. A final no further action (NFA) ROD was signed for OU2,

and the site was closed. An IRA was completed for one site at OU5.

In FY97, the installation completed the RI/Baseline Risk Assessment (RI/BRA) and signed a final ROD for the four sites at OU1 and the two sites at OU3. The potential-sources-of-contamination (PSC) screening technical memorandum was completed for nine sites; seven are listed as no further remedial action planned (NFRAP) in the RCRA permit. The RI/BRA and the NFRAP Proposed Plan for two sites at OU5 were completed. The RFI, the CMS, and corrective measures implementation were finished for two SWMUs. Removal Actions were conducted for two sites listed as NFRAP in the RCRA permit. In FY98, the installation completed a RI/BRA for OU4. A final ROD was signed for two sites at OU5 declaring NFRAP for all soil, surface water, and sediment.

A Technical Review Committee was formed in FY89. In FY92, a Community Relations Plan was completed.

FY99 Restoration Progress

A final ROD was signed for OU4, specifying institutional controls for one site and NFRAP for four sites.

A Land Use Controls Assurance Plan (LUCAP) agreement was finalized between the base and EPA Region 4, and an alternative water supply was provided to 55 residents north of the base whose private wells may have been affected by contamination from the base. The RFI report was submitted to the regulators. Only minimal soil contamination was found in the investigation, and the project team agreed to obtain groundwater samples before determining whether Remedial Action (RA) was required. RAs for PSC 4 will be addressed in the OU6 ROD.

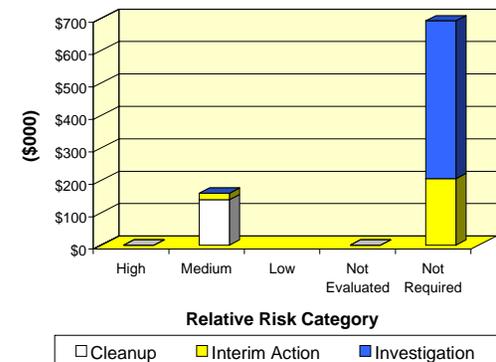
No investigation was performed at PSC 21 because the team considered other sites to have higher priority.

Additional monitoring wells were installed and sampled at OU6. The project team agreed that the results from the additional wells needed to be incorporated into the RI/BRA. The draft FS was submitted to the regulators in August 1999.

Plan of Action

- Initiate pilot studies for enhanced bioremediation in FY00
- Complete final ROD for OU6 in FY00
- Complete RD for OU6 in FY01
- Initiate construction for OU6 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: WV317002369100
Size: 1,628 acres (1,572 acres owned by the Navy)
Mission: Research, develop, and produce solid propellant rocket motors for DoD and NASA
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Federal Facility Agreement signed January 1998
Contaminants: VOCs, RDX, HMX, and silver
Media Affected: Groundwater and soil
Funding to Date: \$16.2 million
Estimated Cost to Completion (Completion Year): \$59.0 million (FY2024)
Final Remedy in Place or Response Complete Date for All Sites: FY2010



Mineral County, West Virginia

Restoration Background

Environmental studies in FY83 identified 11 sites at this government-owned, contractor-operated installation. A confirmation study recommended further study at eight of these sites. In FY92, Remedial Investigation and Feasibility Study (RI/FS) activities began at six sites. In FY93, 119 solid waste management units (SWMUs) and 12 areas of concern (AOCs) were identified, with 61 recommended for further action. Site 1 consists of six waste disposal units, including ordnance burning grounds, inactive solvent and acid pits, a drum storage area, a former open-burn area, and an ash landfill.

During FY95, the installation began sampling off-site residential wells, completed the focused RI for Site 1, and initiated a Phase I RCRA Facility Investigation (RFI) for SWMUs and AOCs. Baseline Risk Assessments were completed for Sites 1 through 5 and Site 10. During FY96, the installation completed a Focused Feasibility Study (FFS) for groundwater and began an FFS for soil. It also completed an Engineering Evaluation and Cost Analysis (EE/CA) for Site 7, completed a Site Inspection, and began an RI/FS for Site 11.

In FY97, the Record of Decision (ROD) for Site 1 was signed, and the Remedial Design (RD) for a water treatment plant (WTP) was implemented to achieve hydraulic containment. Remedial Action (RA) was initiated for groundwater at Site 1. A ROD was signed, completing the FFS for Site 5, and an RD was implemented for a landfill cap. Negotiation of waste disposal options concluded, and the Removal Action for Site 7 was completed. Eight SWMUs were targeted for cleanup.

In FY98, the installation's Federal Facility Agreement was signed. The RI was implemented for Site 11. For Site 10, an FFS for groundwater was completed, the ROD was signed, the RD was completed, and the RA contract was awarded. The Site 1 WTP was used for hot-spot extraction of groundwater at Site 10.

The installation established a Technical Review Committee in FY89 and converted it to a Restoration Advisory Board (RAB) in FY95. In FY94, an administrative record and two information repositories were established.

FY99 Restoration Progress

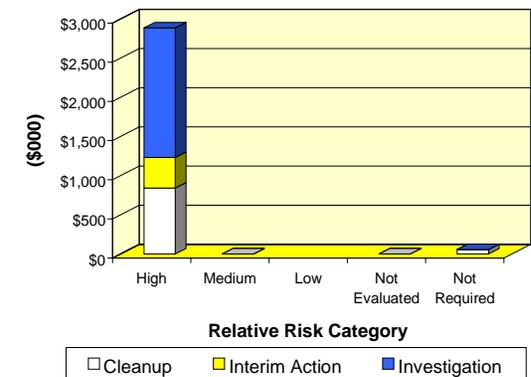
A final decision document for no further action (NFA) was signed for SWMUs 37H, 37K, 37M, 37O, 50, and 51. Closeout packages were submitted for SWMUs 22A, 22B, 22C, 22D, 23, 24B, 32, 37A, 37C, 37D, 37P, and 49. An SWMU/AOC investigation work plan was issued for several locations at the base. The Site 10 RA was completed and an interim long-term monitoring plan was issued. Phase I and II aquifer testing reports were issued for Site 1.

An institutional control plan was issued for Sites 1, 5, and 10. The Site 11 RI was completed with only one round of seasonal monitoring required. A draft Community Relations Plan was issued. The Site 5 natural attenuation assessment project plan was issued and the final deed notation was recorded in the Mineral County Courthouse. The Site 7 NFA plan was submitted. Because of changes in the EPA Region 3 risk-based concentrations, the RODs for Sites 2, 3, 4, and 7 will be moved to FY00, and new risk assessments must be performed on each site. The Site 1 FS for soil is being reevaluated to coincide with a RCRA Subpart X permit action at the facility.

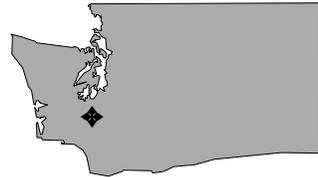
Plan of Action

- Complete a focused RI for groundwater and soil investigation at Site 10 in FY00
- Complete natural attenuation study for groundwater at Site 5 in FY00
- Complete RODs for Sites 2, 3, 4, and 7 in FY00
- Complete SWMU/AOC investigation in FY00
- Complete EE/CA for soil at Site 1 in FY00
- Complete Proposed Remedial Action Plan and ROD for Site 11 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: WA017002729100
Size: 7,001 acres
Mission: Provide support base for Trident submarines
HRS Score: 30.42 (Bangor Ordnance Disposal); placed on NPL in July 1987
 55.91 (Bangor Naval Submarine Base); placed on NPL in August 1990
IAG Status: Federal Facility Agreement signed in January 1990
Contaminants: Residual TNT, RDX, Otto fuel, dinitrotoluene, benzene, PCBs, pesticides, and chlorinated organic compounds
Media Affected: Groundwater, soil, and sediment
Funding to Date: \$74.4 million
Estimated Cost to Completion (Completion Year): \$28.0 million (FY2031)
Final Remedy in Place or Response Complete Date for All Sites: FY2001



Silverdale, Washington

Restoration Background

From the early 1940s until it was commissioned as a submarine base in 1977, Bangor Naval Submarine Base was used to store, process, and ship munitions. Past environmental chemical releases at the installation are primarily related to the detonation, demilitarization, and disposal of explosive ordnance and associated activities. The Navy conducted an Initial Assessment Study in FY83 to identify sites requiring further investigation because of suspected soil and groundwater contamination.

In FY90, the Navy, EPA, and the State of Washington signed a Federal Facility Agreement (FFA) for the installation. Investigation of 22 sites was recommended. These sites were grouped into eight operable units (OUs) for the Remedial Investigation and Feasibility Study (RI/FS). A Record of Decision (ROD) was required for each OU. Between FY91 and FY97, seven RODs were completed and five expedited response actions were performed. By the end of FY97, 17 sites required no further action, and groundwater cleanup was initiated at two sites.

The installation removed underground storage tanks (USTs) from four sites and removed drums and reconstructed a bermed area at OU7. In FY95, the installation worked to provide alternate drinking water supplies to nearby residences. In FY96, Remedial Designs (RDs) were completed for OU2 and for soil at OU6. Remedial Actions (RAs) were started at OU2, OU6, and UST 1. An Interim Remedial Action (IRA) at OU8 began, consisting of construction of a pump-and-treat groundwater treatment system. The installation began long-term monitoring at Sites 10 and 26 in OU7, signed a ROD for OU7, and developed an RD for OU7. During FY97, the installation completed the RA for soil and began one for groundwater at OU2. Five-year monitoring was

performed at OU3. The RA for soil and groundwater and off-site disposal of soil began at OU7. An investigation was completed and an RA began at UST 4. An RA at OU1 and the RI for OU8 were completed. The pump-and-treat system began operation at OU8.

In FY98, construction completion documents for OUs 1, 2, and 7 were submitted to EPA and Washington State. RAs were completed for OUs 6 and 7. Five-year reviews were prepared for OUs 1, 2, and 3. A Removal Action was completed at Camp Wesley Harris. The RA construction for UST 4 was completed, and the remediation system began operation. Cleanup levels were met for all media at all OUs, except those for groundwater at OUs 1, 2, and 8.

The installation completed a Community Relations Plan in FY91 and updates it biannually. A Technical Review Committee was formed in FY87 and converted to a Restoration Advisory Board (RAB) in FY96.

FY99 Restoration Progress

Compliance and performance monitoring and operation and maintenance continued at OUs 1, 2, 7, and 8 and USTs 1 and 4. Monitored natural attenuation (NA) is under evaluation for OU8. Data gathering and modeling delayed the ROD process for OU8 until FY00. The RA for UST 1 was completed after evaluation against newly promulgated Washington State risk-based interim total petroleum hydrocarbon guidance. The RA for UST 4 will continue to operate through December 1999.

OU1's surface water and groundwater RA objectives were reevaluated, and steps were taken to amend the ROD. The groundwater reevaluation was delayed because of staffing

limitations. An explanation of significant differences was completed, allowing closure of the soil leach basin and direct discharge to surface water of the leachate. The leach basin was reconfigured to allow the discharge. The planned 5-year review was not conducted because the OU8 ROD was not signed.

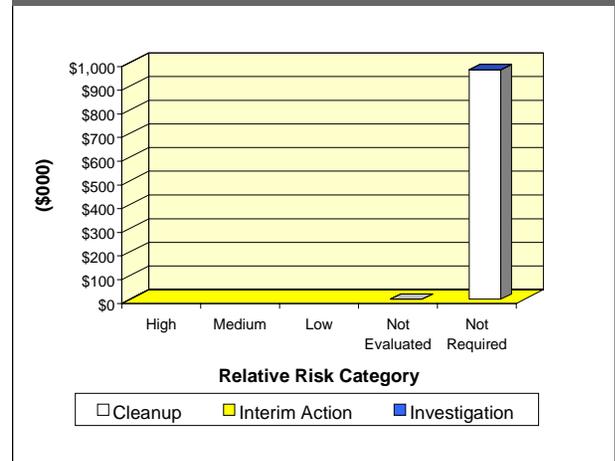
The installation has employed NA monitoring as the remedy at OU8. It also uses three-dimensional fate-and-transport modeling including biological and chemical degradation of the contaminants. The FS and Proposed Plan were drafted and briefed to EPA, with verbal approval of the NA remedy. Progress on OU8 was put on hold at midyear due to staffing limitations.

The RAB meets monthly.

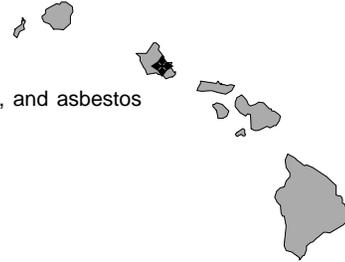
Plan of Action

- Sign OU8 and amend OU1 ROD in FY00
- Conduct 5-year review for all OUs except OU3 in FY00
- Complete RA at UST 4 and RD for OU8 in FY00
- Investigate NA of ordnance compounds in FY00
- Complete OU8 construction in FY01
- Amend OU2 ROD in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: HI917002432600
Size: 3,816 acres
Mission: Maintain and operate facilities and provide services and material support to aviation activities and units of the operating forces
HRS Score: NA
IAG Status: None
Contaminants: PCBs, heavy metals, petroleum hydrocarbons, pesticides, solvents, and asbestos
Media Affected: Groundwater and soil
Funding to Date: \$27.6 million
Estimated Cost to Completion (Completion Year): \$18.8 million (FY2012)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2002
Final Remedy in Place or Response Complete Date for Non-BRAC Sites: FY2012



Barbers Point, Hawaii

Restoration Background

In July 1993, the BRAC Commission recommended closure of Barbers Point Naval Air Station. The installation was closed on July 2, 1999.

In the early 1980s, a Preliminary Assessment identified nine sites at the installation. Contamination sources include disposal pits, a pesticide shop, a landfill, and transformer sites. In FY93, an Expanded Site Inspection determined that only one site required further investigation. Primary contaminants include polychlorinated biphenyls (PCBs) and heavy metals.

In FY94, the installation began Remedial Investigation and Feasibility Study (RI/FS) activities for 17 areas identified for further investigation. After an initial site characterization, two groups of underground storage tanks (USTs) were added to the sites already identified. Other USTs had been removed in FY92 and FY93. The installation completed an Environmental Baseline Survey in FY94.

A Restoration Advisory Board and a BRAC cleanup team (BCT) were formed in FY94. The installation also maintains an information repository. A Community Relations Plan was prepared in FY95. The BCT decided to conduct Interim Remedial Actions (IRAs) at all sites requiring cleanup.

During FY96, the installation removed waste from one UST site and completed a Corrective Action Plan (CAP) for another UST site. In FY97, Engineering Evaluations and Cost Analyses (EE/CAs) were started for Sites 1, 2, and 20. A CAP was completed for UST 6. Relative Risk Site Evaluations have been completed at all sites where required. The latest version of the BRAC Cleanup

Plan was completed. Regulatory agencies approved 1,700 acres as uncontaminated. A Land Reuse Plan was approved.

During FY98, further investigations were conducted at Sites 1 (groundwater monitoring), 2 (groundwater, surface water, and sediment monitoring), 15 (groundwater sampling), 18 (Removal Site Evaluation [RSE]), and 19 (groundwater monitoring) and at USTs 6 and 7 (groundwater monitoring). UST 2 was closed. The EE/CA for Site 2 and the EE/CA and Remedial Design (RD) for Site 20 were completed. The IRA for Site 20 began. Further investigations at Sites 14 (RI/FS) and 15 (RD), an IRA at Site 1, and an EE/CA for Site 22 began.

FY99 Restoration Progress

An RSE was conducted at Site 18 as part of the RI/FS phase. EE/CAs were prepared for Sites 1 and 18, and RDs were completed for Sites 15 and 18. IRAs were conducted at Sites 1, 15, 18, and 20 and began at Site 22, UST 3, and aboveground storage tank (AST) 4. Sites 5, 8 through 13, and 19 were closed. Records of Decision (RODs) were signed for all of these sites and for Sites 15 and 20. Monitoring continued as part of the RI/FS at Sites 1, 2, and 19. An EE/CA and an IRA were conducted and a ROD was prepared under the RI/FS phase.

Of the 2,650 acres to be transferred, 2,386 were deemed uncontaminated. Findings of Suitability to Transfer were prepared for nine parcels of land, totaling 1,565 acres.

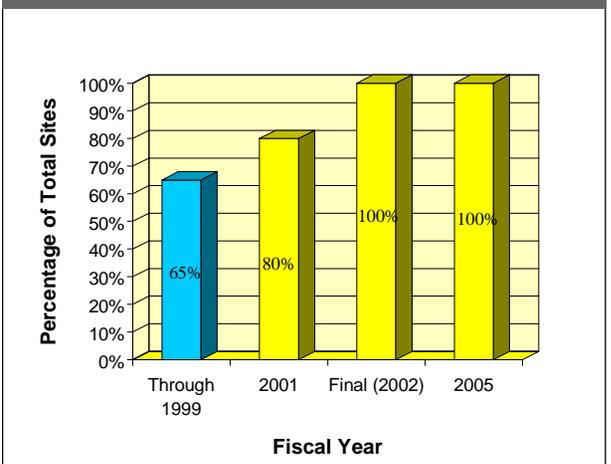
The EE/CA for Site 14 was not conducted, because lack of funds delayed the RI. An IRA at Site 2 was not conducted because no action was necessary. This IRA may be conducted in the future if monitoring results indicate that one is necessary.

Fencing was installed around three of the five firing ranges at the site, and bullet removal began at three of the five ranges. An IRA contract was awarded for soil removal at two of the five ranges.

Plan of Action

- Complete RI and prepare EE/CA for Site 14 in FY00
- Complete RI for Site 2 in FY00
- Continue implementation phase at AST 4 and UST 3 in FY00 and FY01
- Continue long-term monitoring for Site 19 in FY00
- Initiate RD for Site 1 in FY00
- Conduct IRA at Site 18 in FY00
- Award IRA contract at third range in FY01
- Conduct IRA at Sites 1, 2, 14, 15, 18, 20, and 22 in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA917302426100
Size: 5,688 acres
Mission: Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations
HRS Score: 37.93; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in October 1990
Contaminants: Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$87.0 million
Estimated Cost to Completion (Completion Year): \$54.0 million (FY2029)
Final Remedy in Place or Response Complete Date for All Sites: FY2010



Barstow, California

Restoration Background

Marine Corps Logistics Base Barstow consists of Yermo Annex, Nebo Main Base, and the Rifle Range. Operations that contributed to contamination are vehicle maintenance, repair and maintenance of weapons and missile systems, and storage of petroleum and chemical products. The installation was placed on the National Priorities List (NPL) after high concentrations of trichloroethene were detected in groundwater monitoring wells.

Initial Assessment Studies and other investigations conducted between FY83 and FY90 identified 38 CERCLA sites and 2 underground storage tank (UST) sites. Site types include sludge disposal areas, plating waste disposal areas, low-level radioactive waste storage areas, spill sites, and evaporation ponds. To facilitate cleanup efforts, in accordance with the Federal Facility Agreement, the sites were grouped into seven operable units (OUs). OUs 1 and 2 address groundwater contamination at Yermo Annex and Nebo Main Base, respectively. OUs 3, 4, 5, and 6 address contaminated soil at 36 sites. OU7 was established for new sites.

After an Action Memorandum was completed in FY89, the Navy installed an activated carbon groundwater treatment system to address volatile organic compounds (VOCs) in the Yermo drinking water system. During FY92, the installation removed 41 abandoned USTs from UST Area 1. In FY93, an Interim Remedial Action at OU2 provided potable water to nearby residents. The installation removed industrial waste sludge from the Oil Storage/Spillage and Industrial Wastewater Treatment Plant. The percolation ponds at Site 35 were aerated, and a filter was installed to remove solvents from water before it was discharged into ponds.

In FY94, the installation excavated and disposed of contaminated soil from two sites. Carbon filtration systems were installed in wells at private residences near Yermo Annex. The installation completed an investigation of UST Area 2 and conducted Remedial Investigation and Feasibility Study (RI/FS) activities at all 38 sites.

During FY96, the installation completed construction of the groundwater treatment system at OU1. EPA Region 9 initiated a RCRA Facility Assessment (RFA), and EPA completed the RFA for 61 sites. In FY97, the installation completed the RI/FSs for OUs 5 and 6, signed a Record of Decision (ROD) for OUs 3 and 4, finished a remedial site evaluation and a Removal Action at Site 21, and completed corrective actions at UST Area 2.

In FY98, the installation completed RODs for OUs 1, 2, 5, and 6. Groundwater cleanup (OU 1 and 2, CERCLA Areas of Concern [CAOC] 37 and 38) is estimated to take 30 years. Investigations were completed at three USTs, under UST 2. The RFA report, recommending 15 solid waste management units (SWMUs) for further investigation was finalized. The Remedial Design (RD) and Remedial Action (RA) work plan for the OU1 and OU2 off-base groundwater extraction (GWE) system was started.

In FY91, the installation formed a Technical Review Committee, prepared a Community Relations Plan, and established an information repository and an administrative record.

FY99 Restoration Progress

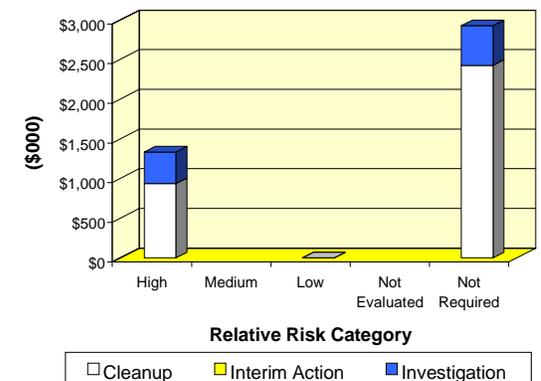
RAs at CAOCs 20 and 23 were completed. RD finalization and RA construction began for the OU1 and OU2 (including CAOCs 37 and 38) off-base GWE systems. The RD is on hold, pending further plume delineation. RA construction started at CAOC 7.

RA construction at CAOC 35 is awaiting funding. Thirty UST sites were submitted for closure. An Extended RFA investigation for 15 SWMUs began. Long-term operations and long-term monitoring continued at Yermo and Nebo and are expected to continue for approximately 30 years.

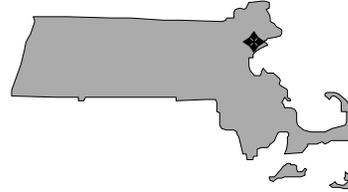
Plan of Action

- Finalize OU 1/2 off-base GWE system designs and RA work plans in FY00
- Replace dry monitoring wells and optimize treatment systems at Yermo, OU1, in FY00
- Conduct an FS for Nebo North air-sparging and soil vapor extraction in FY00
- Perform RA at CAOC 35, OU5, in FY00
- Complete RA construction and begin closeout of CAOC 7, OU6, in FY00
- Complete extended RFA report in FY00
- Prepare a Proposed Plan and begin FS for Nebo South source cleanup in FY00
- Close out 26 tanks in UST 2 in FY00
- Complete closeout for CAOCs 7 and 35 in FY00
- Prepare FS for Nebo South, CAOC 39, in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: MA117002357000
Size: 46 acres
Mission: Design, fabricate, and test prototype weapons and equipment
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Federal Facility Agreement signed in September 1999
Contaminants: Acids, BTEX, incinerator ash, industrial wastes, paints, petroleum/oil/lubricants, photographic wastes, solvents, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$12.4 million
Estimated Cost to Completion (Completion Year): \$10.8 million (FY2017)
Final Remedy in Place or Response Complete Date for All Sites: FY2002



Bedford, Massachusetts

Restoration Background

This government-owned, contractor-operated plant produces and tests prototype weapons and equipment, such as missile guidance and control systems. Four sites have been identified at the installation: Site 1 (incinerator ash disposal areas), potential soil contamination with ash and heavy metals; Site 2 (components laboratory fuel oil tank), potential soil contamination with low levels of petroleum/oil/lubricants; Site 3 (northwest groundwater plume), groundwater plume contaminated with volatile organic compounds (VOCs); and Site 4 (former fuel pump/tank BTEX area), soil and groundwater contaminated with benzene, toluene, ethylbenzene, and xylene (BTEX). The Navy began to dispose of the plant as excess property in FY97.

Remedial Investigation and Feasibility Study (RI/FS) activities began in FY88, and the Phase II RI began in FY92. RI activities through FY93 and FY94 included further characterization of soil contamination, location of sources of the VOC groundwater plume, and characterization of contaminant migration in groundwater.

In FY95, the draft Phase II RI report was submitted for regulatory review. A fate-and-transport groundwater model was initiated to support the risk assessment. In cooperation with the Massachusetts Department of Environmental Protection (MADEP), the Navy implemented an immediate response action to contain and remediate the VOC groundwater plume. The treatment system is expected to prevent migration of VOCs off site.

During FY96, a baseline Human Health and Ecological Risk Assessment work plan was submitted to EPA for approval, and a fate-and-transport report was completed. The RI Phase II supplemental program was initiated in FY97 for Sites 3 and 4.

The pump-and-treat system at Site 3 began operation in March 1997. Monitoring of the treatment facility and quarterly monitoring of the Site 3 extraction and monitoring wells began in FY97.

In FY98, RI Phase II supplemental work plans for Sites 3 and 4 were completed, and both RI supplemental investigations began. An interim Record of Decision (ROD) was initiated for Site 3.

The installation established a Technical Review Committee in FY89 and converted it to a Restoration Advisory Board (RAB) in FY95. A Community Relations Plan (CRP) was developed in FY89 and updated in FY92. An information repository is maintained at the Town of Bedford Public Library. In FY98, the Technical Assistance for Public Participation (TAPP) program was presented to the RAB.

FY99 Restoration Progress

Federal Facility Agreement negotiations were completed, and the document was signed in September. These negotiations delayed the planned interim ROD for Site 3 until FY00. A Site Management Plan was developed, reviewed, and finalized. The installation also completed the RI Phase II supplemental investigation for Sites 3 and 4, initiated the supplemental reports through the draft document stage, and completed FSs for all four Installation Restoration sites.

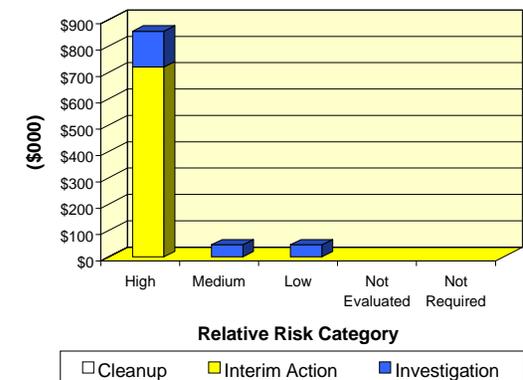
The RI, including Human Health and Ecological Risk Assessments, was not completed because of work required to address the supplemental investigations and the numerous regulatory comments about RI issues. The Installation Restoration Program team agreed that the CRP would be updated in the next fiscal year.

Monthly monitoring at the groundwater treatment facility and quarterly monitoring of the extraction and monitoring wells continued at Site 3. The RAB met four times, and the Navy conducted site tours and continued partnering through FY99.

Plan of Action

- Complete the RI Phase II supplemental reports for Sites 3 and 4 in FY00
- Prepare, review, and implement an accelerated Remedial Action for Site 4 in FY00
- Complete the RI report, including Human Health and Ecological Risk Assessment, for Sites 1 and 2 in FY00
- Continue monthly monitoring of the Site 3 groundwater treatment facility and quarterly monitoring of the extraction and monitoring wells through FY01
- Begin updating the CRP in FY00
- Complete FSs for Sites 1 and 2 in FY00
- Complete the interim ROD for Site 3 in FY00
- Complete No Further Action RODs for Sites 1 and 2 in FY00
- Update the Site Management Plan annually
- Complete the RI report, including Human Health and Ecological Risk Assessment, for Sites 3 and 4 in FY01
- Complete FSs for Sites 3 and 4 in FY01
- Complete RODs for Sites 3 and 4 in FY02
- Begin final RA for Sites 3 and 4 in FY02

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: ME117002201800
Size: 7,259 acres
Mission: Provide facilities, services, materials, and aircraft for submarine warfare
HRS Score: 43.38; placed on NPL in July 1987
IAG Status: Federal Facility Agreement signed in 1989; revised in 1990 to include the State of Maine
Contaminants: DDT, PCBs, PAHs, VOCs, and metals
Media Affected: Groundwater and soil
Funding to Date: \$47.9 million
Estimated Cost to Completion (Completion Year): \$12.1 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2000



Brunswick, Maine

Restoration Background

Studies conducted since FY83 have identified 19 sites at this installation. Site types include landfills, a groundwater plume contaminated with volatile organic compounds (VOCs), and two underground storage tank (UST) sites. Activities that contributed to contamination included intermediate aircraft maintenance, material support for maintenance, aircraft fueling services, storage and disposal of ordnance, and all-weather air station operations. On-site landfills were used to dispose of wastewater treatment sludge, paints, solvents, medical supplies, pesticides, petroleum products, and photographic and industrial chemicals. The installation was placed on the National Priorities List (NPL) because Sites 1 through 4 and 7 through 9 were used to store or dispose of hazardous waste.

The contaminated groundwater plume associated with Sites 4, 11, and 13 (the Eastern Groundwater Plume) probably originates from a former fire training area; three USTs formerly used to store petroleum products and waste solvents; and a waste pit used to dispose of transformer oils, battery acids, caustics, VOCs, solvents, and paint thinners.

The installation completed Site Inspections for 16 sites from FY85 to FY95. It completed Remedial Investigations and Feasibility Studies for 14 of the 17 active sites, Remedial Design (RD) for 10 sites, and a Remedial Action (RA). A Record of Decision (ROD) was signed in FY92 to address the Eastern Groundwater Plume; this Interim Remedial Action was completed in FY94, and operation and maintenance of the groundwater treatment plant and extraction wells began.

In FY93 and FY94, the installation removed USTs from the Fuel Farm UST site, removed or replaced other USTs, and began full-scale operation of an air-sparging system.

During FY95, the installation completed a Removal Action at the former pesticide shop site where DDT was detected in soil and in unfiltered groundwater samples. Long-term monitoring (LTM) of groundwater is being conducted at the site. In FY96, the installation constructed landfill caps at Sites 1 and 3 and developed final RAs at five sites, three of which were designated as Response Complete. The final ROD for the Eastern Groundwater Plume treatment plant was prepared in FY97. The final ROD for Sites 4, 11, and 13 was signed. The air-sparging system at UST 1 was modified, and the air-sparging system at UST 2 was expanded.

In FY87, the installation established an administrative record and an information repository. In FY88, the Community Relations Plan was completed. A Technical Review Committee was formed in FY88 and converted to a Restoration Advisory Board in FY95.

FY99 Restoration Progress

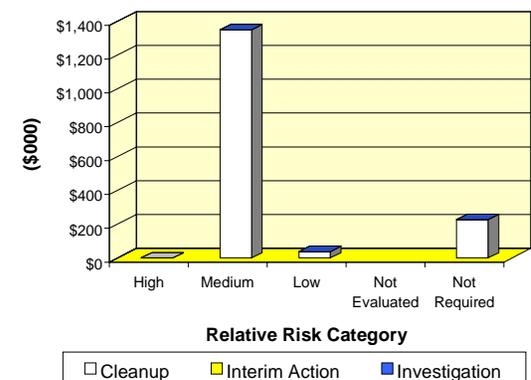
The ROD for LTM with natural attenuation was signed for Site 9. All remaining RODs are expected to recommend No Further Action (NFA). The LTM plans for the majority of Brunswick Naval Air Station were revised, reducing LTM costs. Optimizing of RAs began for Sites 4, 7, 11, and 13, but lengthy planning delayed their completion. An RA was completed at Site 2, and the LTM was initiated. Discovery of buried debris delayed completion of the NFA document for Sites 7, 12, 15, and 16. The statutory

5-year review was initiated. RA operations consisting of air sparging continued at USTs 1 and 2.

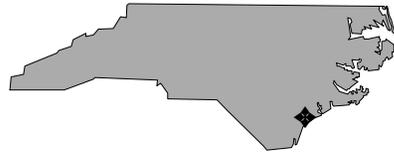
Plan of Action

- Complete 5-year review in FY00
- Investigate RA optimization for USTs 1 and 2 in FY00
- Initiate modification of Eastern Plume treatment plant in FY00 and refine the extraction well system with modifications in FY01
- Complete the NFA document for Sites 7 and 12 in FY00 and Sites 15 and 16 in FY01
- Continue RA for Sites 1, 2, 3, 4, 9, 11, and 13 and USTs 1 and 2 in FY00
- Initiate delisting of Brunswick Naval Air Station from the NPL

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: NC417302258000
Size: 151,000 acres
Mission: Provide housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units; conduct specialized schools and other training as directed
HRS Score: 36.84; placed on NPL in October 1989
IAG Status: Federal Facility Agreement signed in February 1991
Contaminants: Battery acid, fuels and used oils, paints and thinners, PCBs, pesticides, solvents, and metals
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$76.9 million
Estimated Cost to Completion (Completion Year): \$124.3 million (FY2032)
Final Remedy in Place or Response Complete Date for All Sites: FY2004



Jacksonville, North Carolina

Restoration Background

Investigations at Camp Lejeune identified 176 sites, including 86 leaking underground storage tank (UST) sites. Contaminants released from past storage and disposal operations have migrated to a shallow aquifer, several surface water bodies, and a deep aquifer used for drinking water.

In 1991, a Federal Facility Agreement under CERCLA was signed. Since then, 18 operable units (OUs), comprising 42 of the 91 Installation Restoration (IR) sites, have been identified as requiring additional investigation or remediation.

Between FY83 and FY88, the installation completed an initial assessment study for 72 sites and Site Inspections (SIs) for 8 sites, conducted 26 Remedial Investigations and Feasibility Studies (RI/FSs), signed Records of Decision (RODs) for 19 sites, and completed Remedial Design (RD) for 10 sites. Three Interim Remedial Actions at two sites and six Time-Critical Removal Actions (TCRAs) were completed. Remedial Actions (RAs) were completed at four sites. Remediation systems are operating at four sites. Since FY88, the installation's UST program has completed site assessments (SAs) at 76 sites and Corrective Action Plans (CAPs) at 34 sites. Remediation systems were designed and implemented at 23 sites and are operating at 16 sites. The installation has requested closure and no further action (NFA) at 26 sites.

In FY97, Phase I of the RI was completed at 6 sites, RIs were completed at 12 sites, and Treatability Studies (TSs) were completed at 2 sites. Final RODs were signed for four sites. SAs were completed at five UST sites; one was found to require NFA. Designs were completed at four UST sites, and implementation was completed at three others.

In FY98, the installation completed a TCRA for polychlorinated biphenyl (PCB)-contaminated soil at Site 36. It also initiated an Engineering Evaluation and Cost Analysis (EE/CA) for Non-Time-Critical Removal Actions at Sites 84 and 85. Groundwater monitoring ended at Site 24 after it was demonstrated that no contaminants of concern remained on site. Monitoring began at Sites 3, 35, and 69. Remediation was completed at UST Sites 27, 38, 43, and 78. Use of natural attenuation (NA) continues at 14 UST sites. Construction began at UST Sites 9, 50, and 62. Final RODs were prepared for Sites 36, 43, 44, 54, and 86.

The installation formed a Technical Review Committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY95. A Community Relations Plan was completed in FY90.

FY99 Restoration Progress

Negotiations with state and federal regulators concerning the land use control assurance and implementation plans were concluded with the signing of a Memorandum of Agreement on May 24, 1999. Resolution of land use control issues allowed the signing of the Site 3 amended ROD. The 5-year review was completed.

The ROD for OU6 (Sites 36, 43, 44, 54, and 86) is on hold, pending resolution of site-specific land use controls at Site 36. Fieldwork for the surfactant-enhanced aquifer remediation TS at Site 88 was completed. An EE/CA was completed at Site 85 for a Removal Action that is to be completed in FY00. An RI/FS was initiated at Site 84, but the EE/CA was discontinued when contamination at the site could not be adequately addressed by the planned Removal Action.

The conversion of records to CD-ROM was not completed long because of the large volume of records and the unexpectedly long

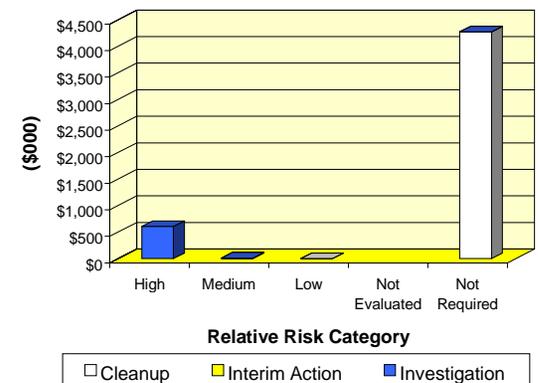
time it took to load the database. Optimization studies were conducted for the site monitoring program and RA operations. Site characterization studies were implemented at the NA UST sites. A limited SA Phase I and request for NFA were conducted for UST Sites 46 and 67. The CAP for UST Site 86 was not completed because chlorinated solvents were found at the site. The site was transferred to the IR section.

Four UST sites attained NFA status, and the remaining sites await state regulator approval. The RA for Site 3 was delayed because high disposal costs require amending of the ROD for different in situ treatment. The RA at UST Site 67 was not required because the site attained NFA status.

Plan of Action

- Implement recommendations from 5-year review in FY00
- Resolve off-site land use control issue at Site 36 and sign final ROD for OU6 in FY00
- Complete RA at Site 3 and Removal Action at Site 85 in FY00
- Finalize No Further Remedial Action Planned documents for Sites 68, 75, 76, and 87 and the ROD for OU17 and Sites 90, 91, and 92 in FY00
- Initiate RI for Site 94 and complete conversion of administrative record to CD-ROM in FY00
- Continue RI/FS at Sites 84, 88, 89, and 93 in FY00-FY01
- Design and implement changes to operations and to the monitoring program according to optimization study recommendations in FY00-FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CA917302353300
Size: 125,000 acres
Mission: Provide housing, training facilities, logistic support, and administrative support to Fleet Marine Force Units
HRS Score: 33.79; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in October 1990
Contaminants: Pesticides, herbicides, heavy metals, PCBs, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$104.9 million
Estimated Cost to Completion (Completion Year): \$97.8 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2012



Oceanside, California

Restoration Background

Environmental contamination at Camp Pendleton Marine Corps Base resulted from maintenance of vehicles; equipment; and support facilities, such as gas stations, hospitals, laundries, pest control services, and hobby shops. Sites at the installation include landfills, surface impoundments, pesticide storage areas, fire training areas, vehicle maintenance areas, and underground storage tanks (USTs). The installation was placed on the National Priorities List (NPL) after the herbicide 2,4,5-TP (Silvex) was detected in two groundwater wells used for drinking water.

Of the 201 sites identified at the installation, 58 are CERCLA sites, 113 are RCRA sites, and 30 are UST program sites. The installation has completed Remedial Investigations and Feasibility Studies (RI/FSs) for 55 CERCLA sites. RI/FSs for five CERCLA sites are under way. The installation has completed Interim Removal Actions at three sites. Three operable unit (OU) Records of Decision (RODs) have been signed.

In FY96, the installation completed RIs for 21 sites and an FS for 13 sites and signed the final ROD for no further action (NFA) at OU1. All parties to the Federal Facility Agreement (FFA) signed the final ROD. The FFA project team identified five Removal Actions and closed six sites. The installation completed an Engineering Evaluation and Cost Analysis and an Action Memorandum at Site 7. It also initiated Interim Remedial Actions (IRAs) for three sites, completed the initial site characterization of 25 UST sites, and completed the investigation phase and prepared a Corrective Action Plan (CAP) for four UST sites.

In FY97, RIs were completed at 34 sites and a ROD was signed for 13 sites. IRAs were completed at the pest control wash rack and scrap yard sites. The OU2 ROD was signed on September 29, 1997.

In FY98, the installation capped 5 acres of the Box Canyon Landfill. A Phase II RI was completed for four sites, and an FS was completed for six sites. Twenty-five sites were proposed for NFA, and six sites were proposed for Remedial Action (RA). The OU3 ROD was issued and reviewed. The installation received regulatory approval for a CAP for seven program sites, and completed the Remedial Design (RD) and RAs for seven UST sites.

The installation formed a Technical Review Committee and prepared a Community Relations Plan in FY92.

FY99 Restoration Progress

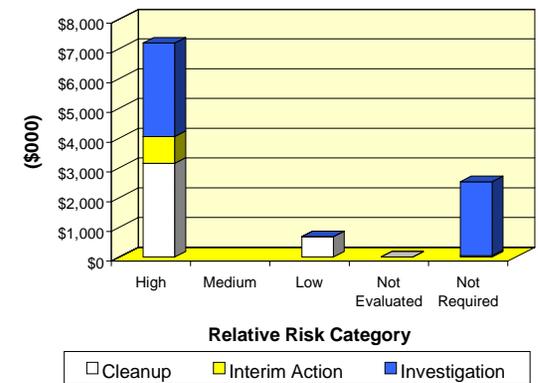
The installation signed the ROD for OU3, calling for the consolidation of wastes from five subsites into the Site 7 Box Canyon landfill under the corrective action management unit designation. RA activities began in June. Site 30, which was originally designated for inclusion in the OU3 ROD, was pulled out because of disagreements about the need to stabilize the high lead levels in the soil. The installation completed CAPs for three program sites, remediated eight sites, installed remediation systems at three sites, and conducted operations and maintenance (O&M) and long-term monitoring (LTM) at an additional seven sites. The RI/FS and Proposed Plans (PPs) for OU4 were not completed because regulatory comments required detailed review and response. A remediation system was installed for USTs 12 and 13 Cleanup and Abatement Order (CAO) 96-49 sites. O&M was not conducted at USTs 12 and 13 because the installation and operation of the remediation system has not reached a point of transition to the O&M phase. At UST 14, evaluation of six sites identified no need for cleanup of soil. Analysis of groundwater revealed the presence of CERCLA constituents not associated with the former USTs. Remediation and the CAP at UST 14 were

not completed because the Regional Water Quality Control Board requested a review to determine which regulatory scheme to use. LTM was performed for four UST 24 and two UST 26 sites, and a CAP was completed for one UST 27 and one UST 53 site. A remediation system was installed for UST 43 and 13 UST 100 sites, and O&M for a UST 43 area gas station was performed. Approximately 40 UST 62 sites applied for closure. O&M and LTM for 10 UST 13 sites and 20 UST 22 sites are ongoing.

Plan of Action

- Complete 5-year review of OU1 ROD and CAP implementation and O&M at UST 14 in FY00
- Complete RA at OU3 sites and Removal Action at Site 30 in FY00
- Complete RI/FS and PP, sign ROD, and initiate RD for OU4 in FY00
- Perform O&M and LTM for 10 UST 13 sites and 20 UST 22 sites in FY00
- Apply for closure of approximately 40 UST 62 sites, 4 UST 24 sites, 2 UST 26 sites, 1 UST 27 site, and 1 UST 53 site in FY00
- Perform O&M for UST 12, 13 CAO 96-49 sites, and UST 43 area gas stations in FY00
- Initiate RA for OU4 and LTM for OU3 (Site 7) in FY01
- Continue LTM at OU2 through FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: FL417002247400
Size: 31,302 acres
Mission: Provide facilities, services, and material support for maintenance of Naval weapons and aircraft
HRS Score: 31.99; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in November 1990
Contaminants: Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, and lead
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$33.4 million
Estimated Cost to Completion (Completion Year): \$20.4 million (FY2009)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Jacksonville, Florida

Restoration Background

In July 1993, the BRAC Commission recommended the FY99 closure of this installation and relocation of its aircraft, personnel, and equipment to other stations.

Since FY84, investigations have identified 20 CERCLA sites; 7 major underground storage tank (UST) sites; 250 BRAC grey sites; 235 USTs for removal and contamination assessment; and 1 RCRA site. Operations that caused contamination at the installation include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. The initial site assessment was completed FY85, and Remedial Investigation and Feasibility Study (RI/FS) activities began in FY93. Fourteen sites have been grouped in nine operable units. Of the six remaining CERCLA sites, one is undergoing investigation and remediation and five are No Further Action (NFA).

Four interim Records of Decision (RODs) were signed and contaminated soil at Site 16 was removed in FY94. In FY95, RODs for four sites were signed and contaminated soil was removed at Sites 11 and 17. During FY96, contaminated soil was removed and a bioslurper installed at the North Fuel Farm (NFF). The ROD for Site 16 was signed.

In FY97, an NFA ROD was signed for Site 10. The RI, Baseline Risk Assessment, and FS documents were completed for Sites 14 and 15. The installation started ROD implementation at Sites 1 and 2. It also completed removal of Day Tank 2 (DT2), Jet Engine Test Cell (JETC) soil, A Avenue soil, Site 18 unexploded ordnance, and 29 miscellaneous tanks. The NFF and DT1 Remedial Action Plans (RAPs) were completed.

In FY98, the installation signed RODs for Sites 3, 11, and 14. The RI/FS for Site 4 was completed, and an NFA document was signed. NFA reports were submitted for Sites 9 and 12. The installation completed soil excavation at Site 5, the NFF, and the JETC. A groundwater remediation system was installed at South Fuel Farm (SFF). The installation completed an FS for Site 11 and RIs for two sites, and began investigating Site 6. It also completed the DT2 contamination assessment report, the RAP, and six designs. Six designs, three Corrective Action Plans for USTs, and four groundwater Remedial Designs also were completed.

In FY94, a BRAC cleanup team was formed, and the Technical Review Committee was converted to a Restoration Advisory Board.

FY99 Restoration Progress

The installation completed Finding of Suitability to Transfer (FOST) documentation for 6,000 acres of flightline-related property and buildings and 640 acres to be transferred to Clay County. The FOST for 7,000 acres in the Yellow Water Weapons Area was not completed because this property will be included in the FOST for the Parks and Recreation (P&R) parcel and the FOST for the economic development conveyance (EDC) parcel, as appropriate.

An air-sparging (AS) system was installed in the Site 3 source area, and natural attenuation (NA) sampling in the downgradient portion of the Site 3 plume continued. An NFA decision document for Sites 18 and 19 was completed, but the planned NFA document for Site 6 was not completed because site conditions required additional delineation and removal of soil. NA monitoring at Sites 5, 8, 16, and 17 and the JETC continued.

The ROD for Site 15 was not submitted due to a significant increase in the size of the site and a need to reevaluate the FS.

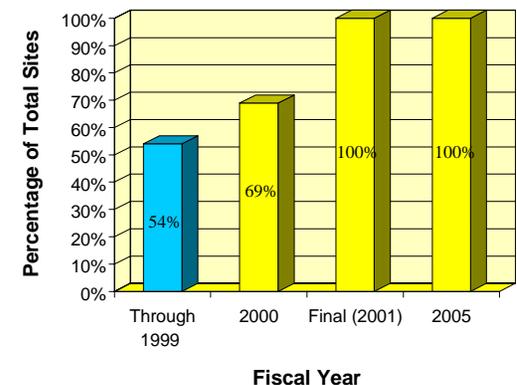
The soil removal design and a work plan for Sites 7 and 8, a groundwater design for Site 11, and an AS and sewer design for Site 16 were submitted. Installation of an AS system and slip-lining of the storm drain at Site 16 were completed. Groundwater sampling began at Site 11. Operation of the AS and soil venting system at SFF continued. A well pilot study at NFF and a radiological survey at Yellow Water Weapons Area bunkers were performed. An investigation of the 103d Street pipeline and removal of asbestos-containing material from six buildings were conducted. Ten other buildings could not be abated because of operational constraints.

Soil removal at Sites 6, 7, and 8, and for seven BRAC grey sites was conducted. Soil removal at three additional sites was not completed because of changed site conditions. Sixteen petroleum tanks were removed.

Plan of Action

- Complete FOST documentation for two parcels in FY00
- Conduct Remedial Actions for Sites 11 and 36/37, DT1, Building 9, Building 46, and A Avenue in FY00
- Complete RI/FS for Site 36/37, revised FS and ROD for Site 15, ROD amendment for Site 5, and NFA for Site 6 in FY00
- Remove asbestos-containing material from 10 buildings and remove 28 tanks in FY00
- Complete soil removals at 20 BRAC grey sites in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFIDs: SC417002434300, SC417002757100, SC417002267000, SC417002425800, and SC417002256000
Size: 2,965 acres
Mission: Repaired, maintained, and overhauled Navy ships
HRS Score: NA
IAG Status: None
Contaminants: Asbestos, cyanide, decontaminating agents, heavy metals, paints, PCBs, pesticides, petroleum/oil/lubricants, solvents, and petroleum hydrocarbons
Media Affected: Groundwater, sediment, and soil
Funding to Date: \$25.4 million
Estimated Cost to Completion (Completion Year): \$20.1 million (FY2004)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Charleston, South Carolina

Restoration Background

The Charleston Naval Complex housed five major naval commands (the Naval Shipyard [NSY], the Naval Station [NS], the Naval Fleet and Industrial Supply Center [FISC], the Fleet and Mine Warfare Training Center [FMWTC], and the Naval Reserve Center [NRC]), as well as several small organizations. In July 1993, the BRAC Commission recommended closure of the property and the majority of the commands. Operational closure of the complex occurred on April 1, 1996.

The primary sites of concern at the installation are areas that were used as landfills or disposal pits without controls for runoff and leachate. For investigative purposes the complex was divided into 12 zones. As of October 1999, 117 RCRA solid waste management units (SWMUs) or areas of concern (AOCs) and 65 underground storage tanks (USTs) or aboveground storage tanks (ASTs) at the complex required some Remedial Action (RA). Zones J and L, which are in the RCRA Facility Investigation (RFI) stage, contain the waterside areas and the sanitary sewer system, respectively.

All cleanup activities are conducted as RCRA corrective actions. Tank removals are accomplished under the BRAC program and not necessarily under the UST program. The installation has completed initial site characterizations for all UST sites and is nearly finished with the site assessments.

In FY94, a BRAC cleanup team was formed. Two reuse groups were formed, one representing the community and the other, a state agency. A Land Reuse Plan was developed and approved. Transfers of property to other federal agencies and leases to private businesses were completed. The installation converted its Technical Review Committee to a Restoration Advisory

Board in FY94. A Community Relations Plan was completed and updated to include all SWMUs.

In FY98, the installation completed RFIs for 70 SWMUs. A Corrective Measures Study (CMS) was initiated for 12 sites; 7 sites were determined to be Response Complete. The asbestos and lead-based paint survey for historical housing was completed. The installation removed all but two petroleum storage tanks. As a result of the tank closures, 61 tank sites must be investigated. Three contamination assessments were completed: one required remediation; the other two resulted in a no further action decision by the state regulator. Other work included cleaning and demolishing a 2.1-million-gallon field-constructed fuel tank at the Chicora Tank Farm.

FY99 Restoration Progress

CMS reports for 12 sites have been submitted to the regulatory agencies and are awaiting review. CMSs have been delayed due to the regulatory emphasis on completion of the RFI and associated documentation. Rapid site assessments were completed for the USTs and ASTs requiring additional action. Asbestos and lead-based paint abatement was completed for the majority of the historical housing. The firm fixed price insured environmental contract (FFPIEC) solicitation incorporates the completion of the CMS activities, initiation of remaining RAs and UST program sites, lead-based paint abatement, and survey of buildings for asbestos to facilitate transfer.

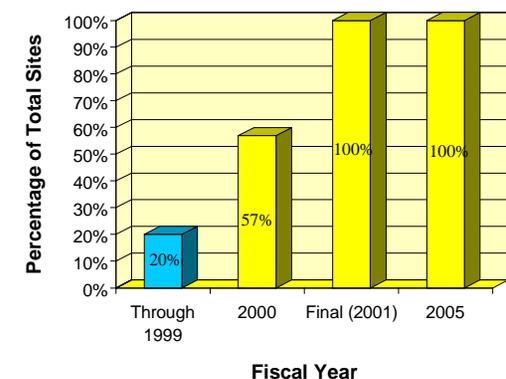
The draft economic development conveyance (EDC) Phase I Finding of Suitability to Transfer/Environmental Baseline Survey for Transfer (FOST/EBST) has been prepared and is under review.

The EDC Phase II FOST/EBST has been included within the scope of the FFPIEC. Corrective measures implementation (CMI) activities are not expected to begin until FY00 because of delays in completing the CMS.

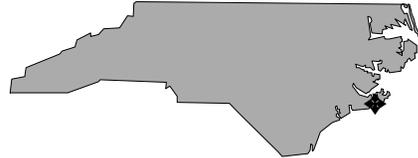
Plan of Action

- Complete FOST/EBST for the marina and transfer parcel to the Parks and Recreation Department in FY00
- Complete FOST/EBST for the Chicora Tank Farm and transfer to the Charleston County School District in FY00
- Close out sites associated with EDC Phase II in FY00
- Complete FOST/EBST for EDC Phase II and transfer parcel to the Redevelopment Authority in FY00
- Initiate CMI at the majority of sites in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: NC417302726100
Size: 27,715 acres
Mission: Maintain and operate support facilities; provide services and materials for marine aircraft
HRS Score: 70.71; placed on NPL in December 1994
IAG Status: Federal Facility Agreement under negotiation
Contaminants: PCBs, petroleum hydrocarbons, and solvents
Media Affected: Groundwater and soil
Funding to Date: \$51.8 million
Estimated Cost to Completion (Completion Year): \$70.5 million (FY2020)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Cherry Point, North Carolina

Restoration Background

The station conducted an Initial Assessment Study in FY83 that identified 32 sites. A RCRA Facility Assessment performed in FY88 identified 114 solid waste management units (SWMUs). The installation and EPA negotiated a Consent Order in FY90 in which the Navy and EPA agreed to perform additional investigations at 32 of the 114 sites.

The installation characterized 22 underground storage tank (UST) sites between FY91 and FY95 and completed Corrective Action Plans (CAPs) for 2 UST sites in FY93 and 1 UST site in FY94. During FY95, a Corrective Measures Study (CMS) was initiated for five sites and completed for one site. The installation completed corrective measures implementation for two sites and a Time-Critical Removal Action (TCRA) for one site. Characterizations were completed for three UST sites, and a CAP was completed for one UST site.

During FY96, the installation completed Remedial Investigations and Feasibility Studies (RI/FSs) for two sites and nine Proposed Remedial Action Plans (PRAPs). CAPs were completed at six UST sites, and designs were completed at three UST sites. A Baseline Risk Assessment is under way for all sites.

In FY97, the RI/FS was initiated for two sites and completed for four additional sites. PRAPs were prepared for two sites and completed at three additional sites. Remedial Action (RA) was initiated for eight sites and completed for four additional sites. An Engineering Evaluation and Cost Analysis was completed for one site. Three Records of Decision (RODs) were completed.

In FY98, a TCRA and a corresponding Action Memorandum were completed for a new site. Interim Remedial Actions were

completed for Operable Unit (OU) 1, which contains seven sites, and for Sites 16 and 85. An RI/FS was initiated for OU6, which consists of two sites. Data gap work plans were completed for OUs 2, 4, and 13, which contain a total of eight sites. A comprehensive RI/FS work plan was initiated for OU1, a highly contaminated area consisting of over 100 sites, SWMUs, and areas of concern (AOCs). A CMS was completed for Sites 7 through 9, and negotiations began on a Federal Facility Agreement (FFA).

A Technical Review Committee was established in FY91, and two information repositories were established in FY93. The installation's Restoration Advisory Board was established, and a Community Relations Plan was completed, in FY95.

FY99 Restoration Progress

A ROD for OU2, covering four sites, and a Land Use Control Implementation Plan with the State of North Carolina and EPA were signed. An FFA will be signed by the end of the calendar year. The installation won the Marine Corps Environmental Award for Excellence.

RI work plans were finalized and fieldwork was conducted for OUs 4, 6, and 13, covering five sites. The draft RI for OUs 4, 6, and 13 were not completed as planned because more information was needed to satisfy regulatory interest. RI findings for OU6 (two sites) were presented. The fieldwork for the OU1 RI was delayed due to the complexity of the site. The planned RA for OU3 was delayed because of ROD and construction issues, but RAs for OUs 1 and 2 (seven sites) were completed. An optimization evaluation of four remediation systems covering eight sites was performed, including evaluation of an innovative fuel recovery system, an

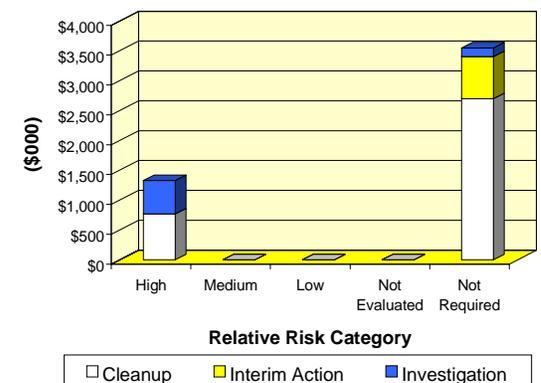
air-sparging system, a soil vapor extraction system, and a groundwater containment system. An RA operation plan was developed for operations and monitoring of the OUs 1, 2, and 3 treatment systems. Initial construction at an OU1 site was completed. Operations and monitoring for OUs 1, 2, and 3 treatment systems were conducted as planned.

A Treatability Study (TS) using substrate injection to treat a chlorinated solvent groundwater plume was implemented, and an interactive work plan to address a site with over 100 AOCs was created. Modifications of the existing Industrial Wastewater Treatment Plant was completed so that the plant could function as a treatment system for groundwater containment.

Plan of Action

- Sign FFA and ROD for two sites at OU3 in FY00
- Complete RI for five sites at OUs 4, 6, and 13 in FY00
- Complete Ecological Risk Assessment for creek adjacent to OUs 1, 2, and 3 in FY00
- Construct RA system for one site at OU3 in FY00
- Conduct TS for a site at OU1 in FY00
- Complete RA for two sites at OU3 in FY00
- Operate six treatment systems for 10 sites in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CA917002452800
Size: 13,023 acres
Mission: Ship, receive, inspect, and classify munitions (tidal area); serve as munitions storage and weapons maintenance, inspection, and testing facility (inland area)
HRS Score: 50.00; placed on NPL in December 1994
IAG Status: Federal Facility Site Remediation Agreement signed in September 1992
Contaminants: Heavy metals and petroleum hydrocarbons
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$45.6 million
Estimated Cost to Completion (Completion Year): \$14.3 million (FY2009)
Final Remedy in Place or Response Complete Date for All Sites: FY2006



Concord, California

Restoration Background

Since FY83, investigations have identified 58 sites at this installation. Past operations, such as improper disposal of paints and solvents, spent ordnance, treated wood, and household and industrial waste; open burning of munitions; and spills or leaks from fuel storage tanks, have contributed to contamination. The installation was placed on the National Priorities List (NPL) in 1994, primarily because of surface water and sediment contamination at tidal and litigation-area sites. These sites contain sensitive habitat for threatened and endangered species and are interconnected to Suisun Bay.

From FY86 through FY94, the installation completed the Remedial Investigation and Feasibility Study (RI/FS), signed the Record of Decision (ROD), and completed the Remedial Design (RD) for the seven litigation-area sites. By FY94, the installation had completed the Remedial Action (RA) for four of the litigation-area sites. Site Inspections (SIs) were completed and RI began at four tidal area sites and five inland sites; SIs were also performed for six other sites. A RCRA Facility Assessment (RFA) was performed for 49 solid waste management units (SWMUs), 24 of which were proposed for RCRA corrective action. Three tanks were removed from an underground storage tank (UST) site, and initial site characterization was completed for one UST site.

In FY95, three abandoned wells were closed and sealed at one inland site. By FY96, the installation had completed the RA and begun long-term monitoring (LTM) for all litigation-area sites. In FY97, the installation completed corrective actions for 3 of the SWMUs and completed an RFA confirmation study for all SWMUs, recommending 20 for no further action (NFA).

In FY98, the installation completed RIs for five inland sites and a Phase II RI for one of the sites. Four of the inland sites began a no-action Proposed Plan (PP) and ROD, and the fifth inland site was removed from the Installation Restoration Program. An FS for the tidal area landfill site was completed and a PP/ROD was initiated for that site. The installation began an Engineering Evaluation and Cost Analysis (EE/CA) for one tidal area site and an SI for four SWMUs and one inland site (Site 29). A risk-based corrective Removal Action was completed for one inland site.

The installation updated its Community Relations Plan in FY96. An information repository and an administrative record were established in FY89. The installation formed a Technical Review Committee in FY90 and converted it to a Restoration Advisory Board in FY95.

FY99 Restoration Progress

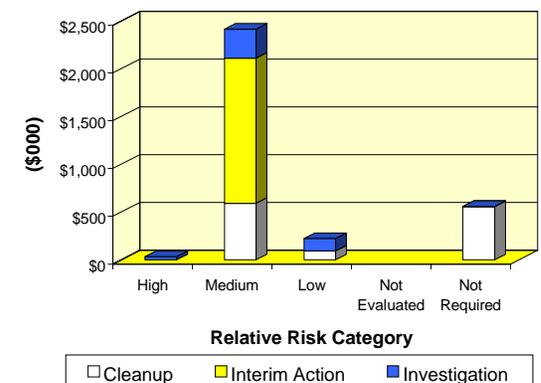
The installation completed an RI for four tidal area sites. The RI demonstrated that NFA was required for three. The planned FS for the three sites and the two planned EE/CAs and Action Memorandums (AMs) for one tidal site were no longer required. An RI/FS was initiated for Site 30 in lieu of the planned Removal Action EE/CA, AM, and design. A ROD for four inland sites was submitted for final regulatory agency review and signature. The Year-4 LTM was completed for the litigation-area sites. The planned EE/CA and AM for one of the sites were canceled because Year-4 LTM results showed no risk at the site warranting a Removal Action. A Preliminary Assessment (PA) for one area of concern (AOC) was completed. The PA results indicated that a

Removal Action, not the planned SI, was the next appropriate phase for the AOC (Site 31).

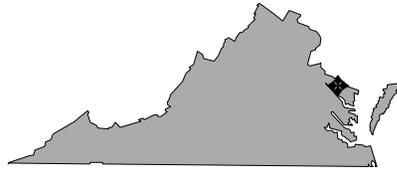
Plan of Action

- Complete RODs for four inland sites and the tidal area landfill in FY00
- Initiate the Year-5 LTM and a 5-year periodic review assessment for seven litigation area sites in FY00
- Complete the SI for four SWMUs and inland Site 29 in FY00
- Initiate an RI for the four SWMUs and an FS for inland Site 29 in FY00
- Initiate PP and ROD for three tidal area sites in FY00
- Initiate RD for the tidal area landfill in FY00 and initiate the RA in FY01
- Initiate and complete a removal AM for AOC Site 31 in FY00 and the Removal Action in FY01
- Complete the RI/FS for one tidal area site in FY01
- Initiate a PP and ROD for Site 29 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: VA317002468500
Size: 2,677 acres main site; 1,614 acres experimental explosive area
Mission: Proof and test ordnance
HRS Score: 50.26; placed on NPL in October 1992
IAG Status: Federal Facility Agreement signed in September 1994
Contaminants: Cleaning solvents, explosives residues, heavy metals, low-level radioactive materials, mercury, PCBs, and pesticides
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$25.2 million
Estimated Cost to Completion (Completion Year): \$21.5 million (FY2011)
Final Remedy in Place or Response Complete Date for All Sites: FY2011



Dahlgren, Virginia

Restoration Background

Dahlgren Naval Surface Warfare Center was placed on the National Priorities List (NPL) because of potential migration of releases from three contaminated sites that could affect the Potomac River, Gambo Creek, associated wetlands, and local groundwater aquifers used for drinking water. Ordnance testing operations have contributed to the contamination. Site types include former landfills, former ordnance burn and disposal areas, underground storage tanks, operating ordnance ranges, and operating ordnance research and development areas. Seventy-four sites are being addressed under CERCLA.

An Initial Assessment Study identified 36 sites in FY83. In FY86, a confirmation study identified one additional site. In FY92, the installation completed a Removal Action. During FY93, a RCRA Facility Assessment identified more than 100 solid waste management units (SWMUs), and a visual site inspection identified 6 areas of concern (AOCs) and 31 SWMUs that required further action. During FY94, the installation completed several Interim Remedial Actions. In FY95, an Engineering Evaluation and Cost Analysis began at two sites, Site Inspections (SIs) were completed at 10 sites, and a Removal Action was completed at 1 site.

In FY96, the installation completed SIs for 10 sites, initiated SIs for 6 sites, and began Remedial Investigations (RIs) for 7 sites. It completed Phase I of the Ecological Risk Assessment (ERA) of Gambo Creek and Phase I of the Ecological and Human Health Risk Assessments for eight sites. Two SWMUs and two AOCs were closed out.

In FY97, the installation completed Removal Actions for seven sites and began Remedial Actions (RAs) for a landfill site and

chemical burn area. RIs for two sites were completed. The installation completed the Feasibility Study (FS) and Remedial Design (RD), and signed two Records of Decision (RODs), for two sites. An SI completed for six sites recommended an RI, Removal Action, further sampling, and a no further action designation.

In FY98, the installation completed the initial testing and confirmed the effectiveness of an air-sparging and soil vapor extraction (AS/SVE) system for groundwater and soil remediation. Two RIs, including Human Health and Ecological Risk Assessments, were completed for Sites 9 and 17. FSs, Proposed Plans (PPs), and RODs also were completed for these two sites. Two RDs were completed for Sites 2 and 12. Ecological data were consolidated into a geographic information system. A bioaccumulation study for Site 25 was submitted for review.

An information repository and an administrative record were established in FY91. A Community Relations Plan was completed in FY92 and updated in FY96. The installation formed a Technical Review Committee in FY92 and converted it to a Restoration Advisory Board in FY95.

FY99 Restoration Progress

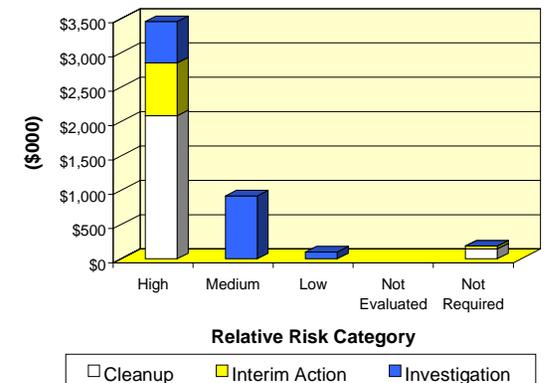
The installation completed Removal Actions for Sites 3 and 44, and Close-out Reports are pending. A landfill cap was completed, the long-term monitoring (LTM) plan was awarded, and a draft plan was submitted for approval at Site 2. Also, the installation completed three RI/FSs, PPs, and RODs for Sites 19, 29, and 25. The AS/SVE system at Site 12 is operating as designed, and sampling results have shown decreases in groundwater and soil contamination. An RD was completed at Site 9, and a 60 percent RD was submitted for Site 17.

Funding cuts in the first quarter of FY99 delayed the awarding of the contract for RD for Site 25. The RA for Site 9, was initiated. The completion date for the Phase II Gambo Creek ERA work plan was shifted to FY00 due to priority and funding changes. Six Appendix B sites were evaluated and closed out with no further action. The administrative record was converted to CD-ROM and placed in a local library. Site 9 landfill cap construction went as scheduled, despite the discovery of ordnance items, a building foundation, and additional contamination.

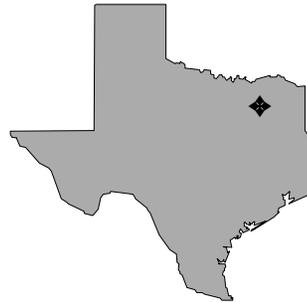
Plan of Action

- Complete two RI/FSs, PPs, and RODs in FY00
- Complete two Remedial Designs and Removal Designs in FY00
- Award one RA contract in FY00
- Complete sampling and Removal Actions for Appendix B sites in FY00
- Finalize the Phase II Gambo Creek study work plan and perform fieldwork in FY00
- Award LTM for one site in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: TX617002278600
Size: 835 acres
Mission: Served as a pilot training center
HRS Score: NA
IAG Status: None
Contaminants: Petroleum/oil/lubricants, solvents, heavy metals, and asbestos
Media Affected: Groundwater and soil
Funding to Date: \$27.1 million
Estimated Cost to Completion (Completion Year): \$21.2 million (FY2003)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Dallas, Texas

Restoration Background

In July 1993, the BRAC Commission recommended closure of the Dallas Naval Air Station (NAS Dallas). Operations were transferred to the Fort Worth Naval Air Station. The installation closed September 30, 1998.

A number of the industrial operations that supported the installation's military mission contributed to contamination. For investigation of environmental conditions, the installation was divided into six areas: Categories A through F. Thirteen sites were identified. The installation completed a confirmation study for six of these sites. Later, it completed a RCRA Facility Assessment, which identified 135 solid waste management units (SWMUs) and 44 areas of concern (AOCs).

During FY94, an Environmental Baseline Survey (EBS) identified 118 additional AOCs. The installation formed a Restoration Advisory Board (RAB), and established an information repository. In addition, a BRAC cleanup team (BCT) was formed, and a BRAC Cleanup Plan (BCP) was completed.

During FY95, the installation initiated fieldwork for Categories B and C, initiated the design for removal of underground storage tanks (USTs), and completed surveys of asbestos and polychlorinated biphenyls (PCBs). A Local Redevelopment Authority (LRA) was established. The LRA has adopted a Land Reuse Plan.

During FY96, the installation completed a Community Relations Plan, finished a draft interim RCRA Facility Investigation (RFI) report for Category B, finished an interim RFI report for Category C, remediated asbestos in all buildings, and completed a background study of soil. Ten SWMUs in Category C were found to require additional sampling.

In FY97, the EBS for transfer and the Finding of Suitability to Transfer for Duncanville housing were approved by EPA, the Texas Natural Resource Conservation Commission, and the BCT. The installation began to delineate a contaminant plume in the Fuel Farm. The BCP was updated.

In FY98, NAS Dallas was operationally closed and transferred to NAVFAC. A caretaker site office was established and manned, but not all tenants had left the station. Fifteen USTs and one oil-water separator were removed, and draft interim RFI reports were completed for Categories A, D, E, and F. The draft final RFI report for Category C was completed. Ninety-eight wells and 210 soil borings were installed across the base. Interim Remedial Action (IRA) work plans were developed and finalized for two SWMUs (the Northern Fuel Farm Area and the PCB Spill Area). Interim source containment measures were implemented at the PCB Spill Area (SWMU 85).

FY99 Restoration Progress

Final draft RFI reports were submitted for Categories A, B, D, E, and F. Comments were negotiated and final RFI reports were submitted for Categories C, E, and F. Final RFI reports for Categories A, B, and D were delayed because of regulatory review. Fourteen oil-water separators and associated contaminated soil were removed, and 12 soil Removal Actions were completed as interim remedial measures. A source Removal Action, consisting of the excavation and off-site disposal of dry-well structures and adjacent soil, was completed at the Fuel Farm to address groundwater impacted by chlorinated solvents. A risk assessment and a Corrective Measures Study (CMS) were completed for the Duncanville Housing site. Property transfer documents were completed, allowing the original landowners to have custody of

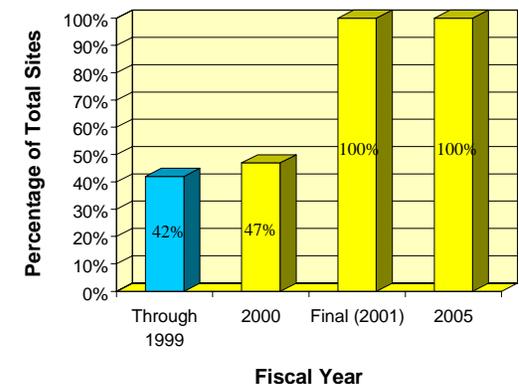
the property. Twelve sites were earmarked for Interim Action, and Removal Action is under way. All USTs were removed and closure was achieved as planned.

An interim Corrective Action Evaluation Report was completed for the Texas Air National Guard Ponds. The remaining two planned risk assessment/CMS reports were not completed due to ongoing negotiations between the Navy and the City of Dallas about cleanup standards.

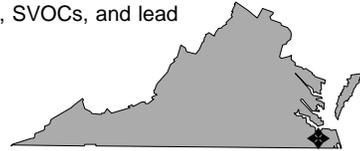
Plan of Action

- Complete final RFI reports for Categories A, B, and D in FY00
- In FY00, select remedies for the eight SWMU groups, with emphasis on monitored natural attenuation and off-site migration control
- Complete interim corrective actions to address impacted soil at five sites in FY00
- Complete corrective measures implementation (CMI) at three of eight SWMU groupings in FY00
- Complete CMI at the remaining five SWMU groups in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: VA317002251600
Size: 600 acres
Mission: Provided radio transmitting facilities and services to support Naval ships, submarines, and aircraft
HRS Score: NA
IAG Status: None
Contaminants: Dichlorobenzene, PCBs, petroleum/oil/lubricants, trichlorobenzene, SVOCs, and lead
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$6.8 million
Estimated Cost to Completion (Completion Year): \$0 (FY2001)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY1996



Suffolk, Virginia

Restoration Background

This facility was established as a Naval Air Station to train pilots during World War II and was then converted to a transmitter facility after the war. In July 1993, the BRAC Commission recommended closure of the installation. Installation operations ceased on March 31, 1994.

Studies since FY84 have identified 11 sites at the installation, including a former service station, two polychlorinated biphenyl (PCB) spill areas, and a number of landfills and other areas used to dispose of solvents, acids, bases, and general refuse.

In FY87, a confirmation study for Sites 1, 5, and 8 detected semivolatile organic compounds (SVOCs) in groundwater at Site 1, a former landfill. In FY92, the installation completed baseline Ecological and Human Health Risk Assessments for Site 5. In FY93, PCB-contaminated soil was removed from that site. In FY94, a Remedial Investigation and Feasibility Study (RI/FS) was completed, and a Record of Decision (ROD) was signed, for Site 5. Also in FY94, cleanup was completed at Site 8, a former gas station. An Environmental Baseline Survey (EBS) was completed.

During FY95, the installation completed a Site Inspection (SI) for Sites 2, 3, 4, 6, 9, 10, and 11 and recommended no further action (NFA) for the sites. The installation also completed the RI/FS at Site 1 and began long-term monitoring (LTM) at the site. The Remedial Design and the Remedial Action (RD/RA) were completed for Site 5. Cleanup consisted of removing and disposing of 2,200 cubic yards of PCB-contaminated soil. The installation also constructed a soil cap for creosote-contaminated soil at Site 7. At Site 8, contaminated soil was excavated and incinerated off site. The installation removed PCB-contaminated

soil from the storage area near Building D-10. The installation was divided into five parcels to facilitate transfer of property.

During FY96, the installation completed a Preliminary Assessment, an SI, and an RA for Site 7 and completed an RA for Building D-10. Hydraulic and ecological LTM began at Sites 1, 5, and 7. The installation also completed its Land Reuse Plan. In FY97, the installation amended the EBS, and the Site 1 ROD was completed and signed. In FY98, a draft Finding of Suitability to Transfer (FOST) was completed.

The installation formed a Technical Review Committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY94. In FY92, the installation completed a Community Relations Plan and an administrative record and established an information repository. A BRAC cleanup team (BCT) was formed in FY94, and in FY97 a BRAC Cleanup Plan was completed. The RAB was discontinued in FY97.

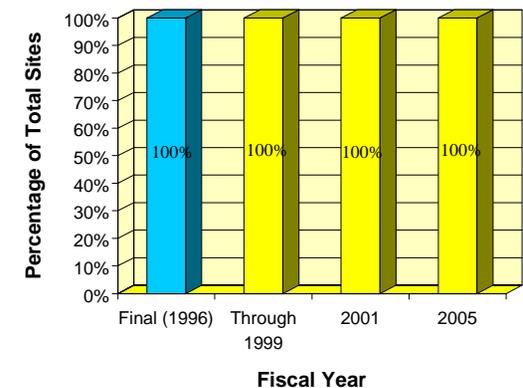
FY99 Restoration Progress

The Land Reuse Plan was finalized, and the facility was divided into five major parcels of land. The EBS was updated to reflect the current conditions of the property, and three FOSTs were signed, one for each parcel slated for transfer. The property was transferred to three agencies: Fish & Wildlife (two parcels), Department of Interior (two parcels), and Department of Education (one parcel). LTM continued for Sites 1, 5, 7, and 10.

Plan of Action

- Continue LTM for Sites 1, 5, 7, and 10 in FY00
- Complete 5-year review in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: NJ217002217200
Size: 11,134 acres: 706 acres shoreline; 10,428 acres inland
Mission: Handle, store, renovate, and ship munitions
HRS Score: 37.21; placed on NPL in August 1990
IAG Status: Federal Facility Agreement signed in December 1990
Contaminants: VOCs, SVOCs, heavy metals, hydrocarbons, and petroleum products
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$16.8 million
Estimated Cost to Completion (Completion Year): \$20.7 million (FY2030)
Final Remedy in Place or Response Complete Date for All Sites: FY2008



Colts Neck, New Jersey

Restoration Background

Preliminary Assessments (PAs) completed in FY83 identified 29 sites of concern at this installation, 4 of which required further investigation. The sites include landfills, production areas, storage areas, maintenance areas, and disposal areas. Sixty-seven sites (48 CERCLA and 19 underground storage tank [UST] sites) have been identified. Releases of volatile organic compounds (VOCs) and heavy metals from landfills and production areas have contaminated groundwater and soil at the installation.

In FY87, a Site Inspection (SI) identified 11 contaminated sites. An SI in 1992 examined 16 additional sites. No further action (NFA) was recommended for two sites.

In FY91, the installation began Remedial Investigation and Feasibility Study (RI/FS) activities. An interim draft RI report for the first 11 sites was submitted in FY92, recommending cleanup of all sites, including capping, removal, and long-term monitoring. The first round of the RI/FS was completed in late FY93. Additional data were obtained during the second RI/FS round in FY94.

One UST site was investigated in FY91 and closed in FY92. At several UST sites, soil was excavated and disposed of in FY93. In FY94, the installation completed a work plan, an Action Memorandum, and an Engineering Evaluation and Cost Analysis for a Removal Action at Site 20. The installation also prepared a Corrective Action Plan for UST 8. USTs were removed, and some leaking USTs were identified. In FY95, the installation completed RI fieldwork at 21 sites and removed and recycled soil from Site 20. NFA was recommended for six UST sites.

In FY96, the installation completed the RI for 27 sites, initiated Removal Actions at 5 sites, and began FS activities at 4 sites. During FY97, the installation completed Remedial Actions (RAs) at five sites and an FS at four sites. Remedial Design (RD) began for two landfill caps, surface soil remediation, and four UST sites.

In FY98, landfill caps were designed and built for Sites 4 and 5. RD, removal of contaminated soil, and site restoration were completed at Site 19. The Record of Decision (ROD) was signed for Site 26 and a source area removal was completed. Two additional sites, a former pesticide shop and a battery disposal area, were identified. UST corrective actions were initiated. Monitored natural attenuation was selected as the remedy for two sites. Removal Actions were completed at Sites 13 and 26 and expanded at Site 16F. Lead removal was completed at Site 5.

In FY90, the installation formed a Technical Review Committee (TRC), completed a Community Relations Plan (CRP), and established an information repository containing a copy of the administrative record. In FY95, the TRC was converted to a Restoration Advisory Board. The CRP was updated in FY98.

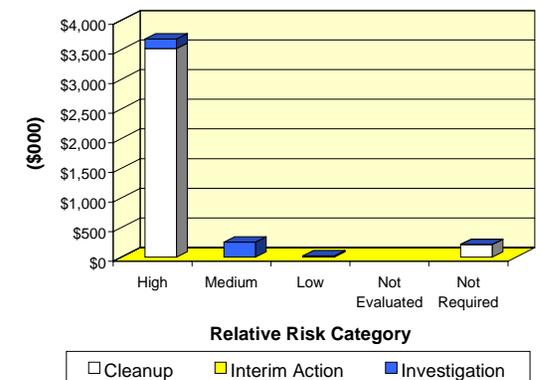
FY99 Restoration Progress

An NFA ROD was signed for eight sites, and a pilot study and RD were completed for an air-sparging system at Site 26. The PA/SI for Sites 47 and 48 was deferred while a removal was completed at Site 47. A removal also was initiated at Site 12. Bank stabilization began at Sites 6 and 17. RD and RA at Sites 3, 10, and 13 were delayed for resolution of regulatory comments on the FS. Natural attenuation started at UST Site 7. RA began for Site 26.

Plan of Action

- Initiate full-scale air sparging at Site 26 in FY00
- Begin RDs for Sites 3, 10, and 13 in FY00
- Begin RAs at Sites 3 and 10 in FY00
- Initiate PA/SI at Sites 47 and 48 in FY00
- Initiate FSs at Sites 1, 7, and 9 in FY00
- Begin RA at Site 13 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CA917302320800
Size: 4,811 acres
Mission: Serve as the primary Marine Corps jet fighter facility on the West Coast; provide materials and support for Marine Corps aviation activities; provide housing for Marine Corps personnel
HRS Score: 40.83; placed on NPL in February 1990
IAG Status: Federal Facility Agreement signed in October 1990
Contaminants: TCE and other VOCs, petroleum hydrocarbons, PCBs, pesticides, and herbicides
Media Affected: Groundwater and soil
Funding to Date: \$65.5 million
Estimated Cost to Completion (Completion Year): \$16.2 million (FY2033)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2007



Irvine, California

Restoration Background

In July 1993, the BRAC Commission recommended that this installation be closed and that its aircraft, personnel, equipment, and support be transferred to Miramar Naval Air Station and Camp Pendleton Marine Corps Base. The installation was placed on the National Priorities List (NPL) in February 1990.

Studies conducted at the Station since FY86 have identified 24 CERCLA sites, 455 areas of concern, and 400 underground storage tanks (USTs). Sites include inactive landfills, storage tanks, oil-water separators, temporary accumulation areas, aerial photograph anomaly sites, and spill sites at which solvents and petroleum hydrocarbons were released into soil and groundwater. The 24 CERCLA sites were grouped into three operable units (OUs): volatile organic compound (VOC)-contaminated regional groundwater (OU1), sites contributing to groundwater contamination (OU2), and all remaining CERCLA sites (OU3). In FY89, a groundwater treatment system was installed. A RCRA Facility Assessment (RFA) and a Phase I Remedial Investigation and Feasibility Study (RI/FS) were completed in FY93.

From FY94 to FY97, the installation began remediation at two landfills. Forty-one inactive USTs were removed in FY95. An Environmental Baseline Survey indicated that approximately 63 percent of the installation property was eligible for designation as uncontaminated under CERFA and approximately 85 percent of the installation property was eligible for transfer by deed.

In FY96, the Local Redevelopment Authority (LRA) approved proposals to convert the installation to a commercial airport. The installation completed the RI for OU1 and OU2. Soil vapor extraction (SVE) systems began operating in two UST areas. During FY97, a No Action Record of Decision (ROD) was signed

for 11 OU3 sites and an interim ROD was completed for the VOC Source Area vadose zone. The FS for OU2 and three early actions, two at OU2 and one at OU3, were completed.

In FY98, regulatory closure letters were received for 285 USTs. The RI/FS for OU3 was completed, and a draft Proposed Plan (PP) was submitted for regulatory agency review. The FS for OU2A gained regulatory concurrence. The FS and the PP for the OU2B and OU2C landfill sites were completed. The CERCLA long-term groundwater monitoring plan was sent to regulatory agencies for review.

The installation's Technical Review Committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) in FY94. In FY94, a BRAC cleanup team was formed and the first BRAC Cleanup Plan (BCP) was developed. The BCP has been updated annually since FY95. In FY96, the installation updated its Community Relations Plan.

FY99 Restoration Progress

The Remedial Design (RD) and construction of the SVE system at Site 24 were completed. The PP and the ROD for Sites 18 and 24 were delayed because of negotiations with the Orange County Water District; the settlement agreement with the two water districts (Orange County and Irvine Ranch) and the Department of Justice is still under negotiation. The draft and the final ROD for Sites 2 and 17 were released, but the ROD was not finalized because additional time was needed for review. The PP for Sites 8, 11, and 12 was issued, and the final ROD for Site 11 was completed. The ROD for Sites 8 and 12 was delayed and CERCLA issues for Sites 3 and 5 were not resolved because of the historical radiological assessment and radiological survey. The draft ROD

for Sites 3 and 5 was issued and submitted. The RI fieldwork for Sites 7 and 14 was delayed because of difficult field conditions. Routine groundwater monitoring was conducted, and an investigation of perchlorates in groundwater began at Site 1. The RI fieldwork for Site 1 was delayed due to Explosive Ordnance Disposal operations.

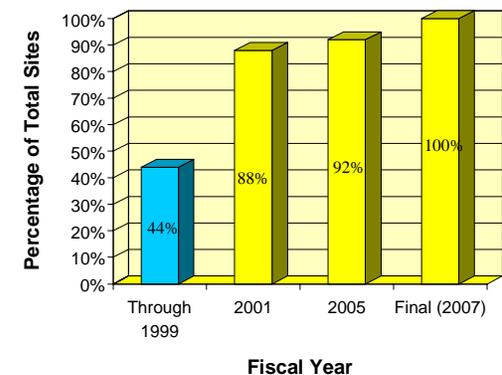
RAB meetings were conducted bimonthly.

All USTs were taken out of service for station closure. Regulatory closure letters have been received for 307 USTs. Thirty-two inactive USTs were removed, and 10 UST sites were investigated. Most oil-water separators were removed.

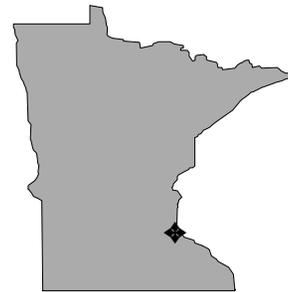
Plan of Action

- Issue final RODs for Sites 3 and 5 and Sites 2 and 17 in FY00
- Initiate RD for Sites 2 and 17 in FY00
- Continue remediation of the vadose zone at Site 24 in FY00
- Complete the RI for Sites 7, 14, and 16 in FY00
- Remove or close 24 inactive USTs in FY00
- Close the JP-5 pipeline in FY00
- Conduct field sampling for 20 RFA sites in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: MN517002291400
Size: 82.6 acres
Mission: Design and manufacture advanced weapons systems
HRS Score: 30.83; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in March 1991
Contaminants: Petroleum/oil/lubricants, VOCs, SVOCs, metals, and cyanide
Media Affected: Groundwater and soil
Funding to Date: \$31.5 million
Estimated Cost to Completion (Completion Year): \$19.7 million (FY2015)
Final Remedy in Place or Response Complete Date for All Sites: FY2006



Fridley, Minnesota

Restoration Background

Investigations conducted at this government-owned, contractor-operated installation between FY83 and FY88 identified trichloroethene (TCE) in groundwater. The facility was placed on the National Priorities List (NPL) in FY90 because of the TCE contamination in the groundwater, which discharges into the Mississippi River upstream from the Minneapolis drinking water plant.

Site types include waste disposal pits and trenches, source areas beneath the main industrial plant, a foundry core butt disposal area, and sitewide groundwater contamination. Wastes and contaminants associated with these site types include petroleum/oil/lubricants, solvents, plating sludge, construction debris, and foundry sands.

Studies in FY83 and FY91 identified five sites at the plant. These were subsequently divided into three operable units (OUs): OU1 (Site 5), sitewide groundwater; OU2 (Sites 1, 2, and 4), source areas outside of the plant buildings; and OU3 (Site 3), source areas under the main industrial plant. Sites 1 and 2 have achieved Response Complete status. OU1 Feasibility Study (FS) activities were completed in FY88, and a Record of Decision (ROD) was signed in FY90. The ROD included a Remedial Action (RA) to provide hydraulic containment and recovery of all future off-site migration of contaminated groundwater. In FY95, the installation initiated a Remedial Design (RD) for the groundwater treatment facility (GWTF). In FY96, it combined OU2 with OU3 to effectively manage cleanup.

In FY97, the installation finished removing drums from Site 4, initiated the Remedial Investigation (RI) work plan for Site 3,

began constructing the groundwater treatment plant, and issued a Site Management Plan.

In FY98, the installation issued the draft RI report, including a Human Health Risk Assessment (HHRA), for Site 3. A 5-year review of the groundwater remedy for Site 5 and GWTF construction were completed. The installation conducted a long-term operations and maintenance optimization study of the groundwater remedy. A screening effort for residual groundwater contamination in Anoka County Park was completed, and recommendations were included in the 5-year review of the groundwater remedy.

The installation formed a Technical Review Committee in FY93 and converted it to a Restoration Advisory Board (RAB) in FY95. It prepared its Community Relations Plan in FY91 and updated the plan in 1997. An administrative record was compiled and an information repository established in FY95. In FY98, the RAB was briefed on Technical Assistance for Public Participation grants.

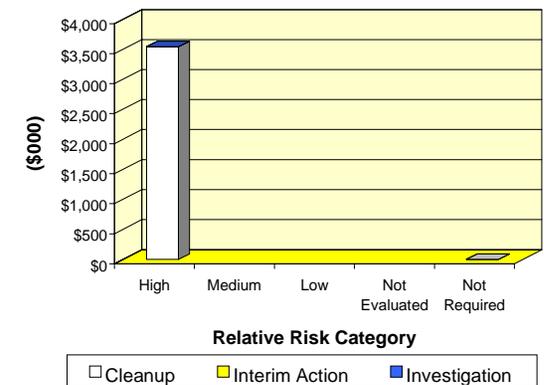
FY99 Restoration Progress

The installation issued the final RI report, including the HHRA for OU2 and Site 3. The installation initiated fieldwork to address data gaps identified in the 5-year review of the groundwater remedy for Site 5. Wells were installed at Anoka City Park and the remedial response will be determined in FY00. The plant began successfully discharging NPDES effluent into the Mississippi River via the GWTF. ATSDR completed a Public Health Assessment in September 1999.

Plan of Action

- Complete RI/FS for OU2 and OU3 in FY00
- Initiate the Proposed Plan, ROD, and RD for OU2 and OU3 in FY00
- Continue evaluation of on-site and residual off-site groundwater contamination and initiate any necessary RAs in FY00
- Continue implementing remedy for discharging NPDES effluent into the Mississippi River from OU1 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFIDs:	IL517002293000 and IL517009999900
Size:	1,285 acres (1,121 acres at Glenview; 164 acres at Libertyville)
Mission:	Provided accommodations for aircraft, conducted flight and general training, and served as a NIKE missile location (Libertyville site)
HRS Score:	NA
IAG Status:	None
Contaminants:	Petroleum hydrocarbons, heavy metals, PCBs, solvents, asbestos, and waste activated sludge
Media Affected:	Groundwater, surface water, sediment, and soil
Funding to Date:	\$25.6 million
Estimated Cost to Completion (Completion Year):	\$0.2 million (FY2000)
Final Remedy in Place or Response Complete Date for BRAC Sites:	FY2000
Final Remedy in Place or Response Complete Date for Non-BRAC Sites:	FY1997



Glenview, Illinois

Restoration Background

Glenview was established in 1937 to provide accommodations for Service aircraft. In World War II, the station was used for flight training. In 1946, it became a Reserve Command training facility. Libertyville was a flight training site and a NIKE missile air defense location. In July 1993, the BRAC Commission recommended closure of Glenview Naval Air Station, except for 93 acres of housing property, and the Libertyville Training Site. Closure occurred in FY95.

Forty-three sites were identified at the two bases: 33 CERCLA sites and 2 underground storage tank (UST) sites at Glenview; 7 CERCLA sites and 1 UST site at Libertyville. The sites that present the greatest risk are fire fighter training areas, landfills, fuel storage areas, and areas where waste was disposed of on the land surface.

Between FY88 and FY92, nine potentially contaminated sites were identified at Glenview. Between FY92 and FY94, the installation completed an Interim Removal Action for five of seven CERCLA sites at Libertyville. An Environmental Baseline Survey was completed for the two bases.

During FY95, a Site Inspection (SI) was completed at Glenview Site 8. The installation initiated SI activities at 16 sites and Remedial Investigation and Feasibility Study (RI/FS) activities at 4 sites. In FY96, it initiated SIs at three sites, and replaced contaminated soil with clean fill in parts of the airfield.

During FY97, the installation began an SI at 7 Libertyville sites, began an RI and conducted an Interim Remedial Action (IRA) at 7 Glenview sites, and completed an SI at 20 Glenview sites and UST removals at 1 Glenview site. Some sites were found to

require no further action (NFA). The Navy transferred a parcel of land at the former Glenview Airfield to the Local Redevelopment Authority (LRA) in FY97.

In FY98, Glenview completed an SI at two sites, an RI at one site, and an IRA at one site. Eight sites at Glenview were designated for NFA. At Libertyville, restoration activities included SIs at five sites, an IRA at one site, and UST removal at another site. Three sites at Libertyville were designated for NFA. The Navy transferred Parcels 2, 3, 4, and the Golf Course Parcel to the Village of Glenview LRA.

Two Restoration Advisory Boards (RABs) were formed. The Navy prepared the Libertyville Community Relations Plan (CRP) in FY93 and the Glenview CRP in FY95. The BRAC cleanup team (BCT), which formed in FY93, works closely with two LRAs. A BRAC Cleanup Plan was completed in FY94, and a Land Reuse Plan was completed in FY95.

FY99 Restoration Progress

The Navy transferred ownership of one parcel at Libertyville for FAA reuse and transferred two segments of Parcel 5 at Glenview for LRA reuse. IRAs at five sites and an Engineering Evaluation and Cost Analysis (EE/CA) for nine sites at Glenview and one site at Libertyville were completed. RIs at 3 Glenview sites and IRAs at 11 Glenview sites and 1 Libertyville site were completed. All fieldwork at Glenview was completed. Documentation for five sites was completed and transferred to the LRA. Documentation for the other sites is in the regulatory review and comment process.

All USTs have been removed from Glenview and Libertyville. Only two UST closure reports remain to be finalized out of 43

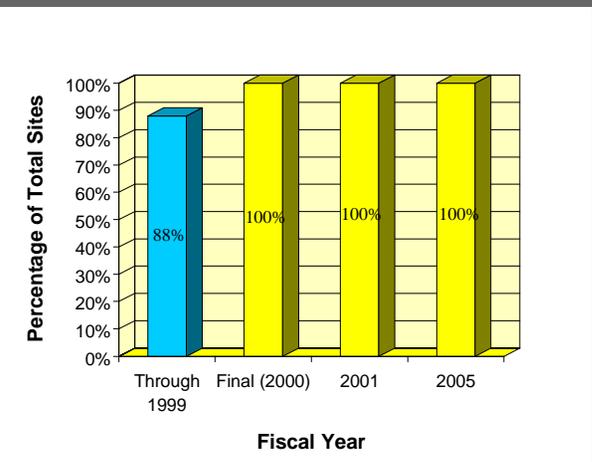
UST removals. SIs at six Glenview sites were completed, and an SI at Libertyville is nearing completion. A planned IRA at one Libertyville site was not initiated because this work was not funded in FY99.

Findings of Suitability to Transfer (FOSTs) for Parcels 5A, 5B, 2 (at Libertyville), and portions of 5C were completed. Parcel 5C once contained all remaining acreage at Glenview. Discussions with the LRA continue on proposed land use controls for two remaining sites. Libertyville Parcel 1 depends on completion of the SI, which was not completed in FY99 because of continuing discussions about the groundwater.

Plan of Action

- Complete IRA for seven Glenview sites in FY00
- Complete SI and IRA at one Libertyville site in FY00
- Complete Remedial Action (RA) at one Libertyville site in FY00
- Complete IRA at Parcel 3 in FY00
- Transfer documentation for remaining Glenview sites to LRA in FY00
- Complete two closure reports on USTs in FY00
- Remove two sites from Parcel 5C and complete separate FOSTs in FY01
- Complete RA at two Glenview sites in FY01
- Complete RA at two Libertyville sites in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFIDs: GU917002753200, GU917002758300, GU917002758500, and GU917002757600
Size: 2,981 acres
Mission: Maintained and operated facilities, provided services and materials, and stored and issued weapons and ordnance in support of the operating forces of the Navy and shore activities; provided dry-dock facilities, repair services, and related services for Guam Naval Activities
HRS Score: NA
IAG Status: IAG signed in 1993
Contaminants: PCBs, petroleum/oil/lubricants, solvents, pesticides, and heavy metals
Media Affected: Groundwater and soil
Funding to Date: \$92.1 million
Estimated Cost to Completion (Completion Year): \$50.3 million (FY2016)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001
Final Remedy in Place or Response Complete Date for Non-BRAC Sites: FY2013



Apra Harbor, Guam

Restoration Background

This facility consists of Navy commands in the Apra Harbor area and the former Naval Magazine (NAVMAG) area southeast of the harbor. Four of the commands [Guam Naval Activities (NAVACTS), Naval Fleet and Industrial Supply Center (FISC), Naval Ship Repair Facility (NSRF), and Public Works Center (PWC)] were recommended for realignment or closure by the BRAC Commission in July 1995. The Naval Ship Repair facility ceased operations in September 1997.

Operations that contributed to contamination were support, photographic and printing shops, a dry cleaning plant, power plants and boilers, pest control operations, and chemical and medical laboratories. Wastes were stored and disposed of in landfills and wastewater treatment plants.

The four commands have 29 CERCLA sites in the Installation Restoration Program, 21 RCRA sites, and 3 BRAC sites. Of the CERCLA sites, 13 are Response Complete (RC), 3 are in the study phase of a Remedial Investigation and Feasibility Study (RI/FS), 1 is in the cleanup phase of Interim Remedial Action (IRA), 1 is in the design phase of IRA, and 1 is in the study phase of IRA. Eight Removal Actions have been completed for CERCLA sites. Of the RCRA sites, 13 are in the RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) phase. Two Removal Actions have been completed and six are in progress. A Human Health Risk Assessment and an Ecological Risk Assessment (ERA) have been prepared for the four commands. One BRAC site is RC and the other two are in the Removal Action phase.

The complex completed a joint Community Relations Plan in FY92. A local information repository was established in FY94. The complex converted its Technical Review Committee (formed Navy

in FY89) to a Restoration Advisory Board in FY95. During FY96, the BRAC cleanup team completed an Environmental Baseline Survey and a BRAC Cleanup Plan. In FY97, regulators and the Navy created a Memorandum of Understanding.

FY99 Restoration Progress

At NAVACTS, corrective measures implementation (CMI) is under way at two sites. The Engineering Evaluation and Cost Analysis (EE/CA) and design for the seawall to stabilize the cliff were completed for Site 1. Construction of the seawall began. A decision document (DD) for no further action (NFA) was signed for Site 14, and the site was determined to be RC. Investigations were completed for Areas of Concerns (AOCs) 2 and 21. EE/CA and RA at AOC 2 were not initiated because lead was found. No further action may be required. Hot spots were discovered at AOC 1 and are being characterized. Completion of RI and beginning of RD at New Apra Heights Disposal Area in AOC 1 are awaiting the results of additional characterization. Additional disposal areas were found during investigations at AOC 3, delaying other planned activities. The Guam Environmental Protection Agency (GEPA) is reviewing the Site 28 RFI recommendation that no further Remedial Action (RA) is necessary. CMI for Site 26 was delayed because of Remedial Design (RD) revisions requested by GEPA. CMI at Sites 16 and 17 was completed, and requests for NFA were submitted.

At FISC, the investigation at Site 33 was completed and no further action was required. At Site 19, RD and Removal Action were not initiated as planned because of a reevaluation of the ERA. GEPA has accepted the closure report for Solid Waste Management Unit (SWMU) 12, the Defense Reutilization and Marketing Office salvage yard, but further cleanup in nearby areas is needed.

At NSRF, the Removal Action at Site 25 was completed. Groundwater sampling and analysis are under way at AOC 1. No Removal Action is required at this time. The EE/CA, RD, and RA for soil were completed at AOC 1.

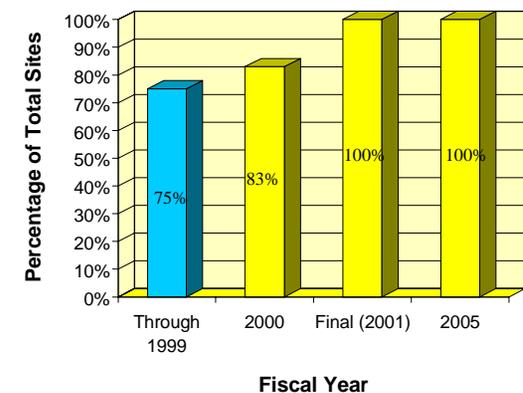
At PWC, the IRA for Site 16 was completed. Corrective Measures Design was completed at SWMUs 1 and 11. Investigations at AOC 1 were completed, and the EE/CA and RD were delayed until evaluation is complete. The CMI for SWMU 1 was completed and a closure report is being prepared. A Screening Ecological Risk Assessment (SRA) for SWMU 11 is being prepared.

Investigations were delayed at Barrigada Disposal Areas because two additional disposal areas were found during the fieldwork. These two sites were added to field investigation.

Plan of Action

- Complete SRA for PWC SWMU 11 and CMI for NAVACTS SWMU 26 in FY00
- Complete investigations at Barrigada Disposal Areas and RA at NAVACTS AOC 2 in FY00
- Begin EE/CA at NAVACTS AOC 3, RA at PWC AOC 1, and IRA at NAVACTS Site 4 in FY00
- Complete construction of the seawall at NAVACTS Site 1 and RD at FISC Site 19 in FY00
- Draft NFA DD for PWC Site 17 in FY01
- Complete closure reports for NAVACTS SWMUs 16 and 17, FISC SWMU 12, and PWC SWMU 1 in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA917002278400
Size: 936 acres, including 493 acres on land and 443 acres submerged
Mission: Repaired and maintained ships
HRS Score: 48.77; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in September 1990 and revised in January 1992
Contaminants: Heavy metals, PCBs, petroleum hydrocarbons, VOCs, and SVOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$152.2 million
Estimated Cost to Completion (Completion Year): \$263.6 million (FY2009)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2009



San Francisco, California

Restoration Background

In July 1991, the BRAC Commission recommended closure of this installation. The station ceased operations on April 1, 1994. It is now in caretaker status and is the responsibility of the Naval Facilities Engineering Command's Engineering Field Activity West. Parts of the installation have been leased to private parties.

The installation divided the property into six geographic areas, Parcels A through F, to facilitate studies, cleanup, and transfer of the property. Environmental studies identified 78 CERCLA sites. Site types include landfills and land disposal areas containing primarily heavy metals and volatile organic compounds (VOCs).

In FY91 and FY93, 36 underground storage tanks were removed, and 10 were closed in place. The installation demonstrated an innovative technology for recycling sand-blasting grit generated by ship-cleaning operations, which contains low levels of copper and lead. A full-scale demonstration was completed in FY93, allowing the Navy to use the technology at other installations.

In FY96, the installation completed a basewide Environmental Baseline Survey. A Record of Decision (ROD) for no further action was signed for Parcel A. The installation has completed nine Interim Removal Actions at sites throughout the shipyard.

In FY98, the installation signed a ROD, completed a Remedial Design (RD), and began a Remedial Action (RA) for Parcel B. Interim Removal Actions were completed for Parcels B, C, D, and E. The installation also completed draft Feasibility Studies for all parcels.

A BRAC cleanup team, formed in FY94, has expedited cleanup. The installation prepared its BRAC Cleanup Plan in FY94 and updates it regularly. The installation also prepared a Community

Relations Plan in FY89 and revised it in FY97. The Technical Review Committee was converted to a Restoration Advisory Board in FY94.

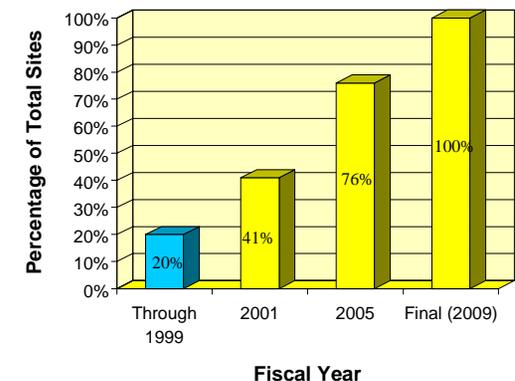
FY99 Restoration Progress

The installation initiated a risk management (RM) analysis at Parcels B through E to evaluate the impact of new EPA risk assessment guidance to the RD/RA for each parcel. The RM analysis at Parcel B enabled the Navy to propose a revised technical approach that would expedite the completion of the RA. The RODs for Parcels C, D, and E will be signed upon completion of the RM analyses. Parcel F is being investigated under a regional approach in which offshore sediments are assessed at multiple Naval facilities on San Francisco Bay. A final agreement with the City of San Francisco to transfer Parcels A and B and execute the lease in furtherance of conveyance (LIFOC) was not completed because of extensive public comment on the joint NEPA/California Environmental Quality Act (CEQA) document.

Plan of Action

- Complete NEPA/CEQA process in FY00
- Transfer Parcel A and part of Parcel B and execute the LIFOC in FY00
- Sign the ROD and start RD for Parcels C, D, and E in FY01
- Prepare the draft ROD for Parcel F in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: MD317002410900
Size: 3,423 acres (923 acres at Stump Neck Annex)
Mission: Conduct research, development, and production of rocket and torpedo propellants and explosives
HRS Score: 50.00; placed on NPL in February 1995
IAG Status: None
Contaminants: Waste propellants, explosives, acids, paints, solvents, heavy metals, low-level radioactive material, TCE, and industrial wastewater
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$9.0 million
Estimated Cost to Completion (Completion Year): \$57.4 million (FY2013)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Indian Head, Maryland

Restoration Background

The Center provides services in energetics for all warfare centers through engineering, fleet and operational support, manufacturing technology, limited production, and industrial base support. It produces and handles complex chemicals to accomplish this mission. Lead, silver, and mercury are the primary contaminants of concern.

In FY83, a Preliminary Assessment (PA) identified 29 potential CERCLA sites. Silver-contaminated soil was removed at the X-Ray Building at Site 5 in FY91. In FY92, a supplemental PA identified 17 additional sites, 2 of which were recommended for no further study. Soil was remediated in one downgradient swale at Site 5, and a Site Inspection (SI) was completed at Site 42.

In FY93, a Site Characterization Report for mercury-contaminated soil was completed at Site 8 for Building 766. An Engineering Evaluation and Cost Analysis for the Removal Action was completed, and a weir was installed at the discharge point to prevent migration of mercury farther downstream. A study of mercury levels in fish from Mattawoman Creek, which receives runoff from a large part of the facility, concluded that the concentration of mercury in fish at the installation was comparable to typical concentrations found in fish throughout Maryland. In FY94, an SI was completed at 14 sites, and 2 more sites were identified.

In FY95, the installation remediated another downgradient swale at Site 5 and published the Removal Action report. Another Removal Action for excavation of the mercury-contaminated soil at Building 766 was completed. Biomonitoring indicated that the mercury from the site had no adverse effect on fish. The installation began removing trichloroethene (TCE)-contaminated soil from Site 57 (Building 292).

In FY96, the installation initiated Remedial Investigation and Feasibility Study (RI/FS) activities at 14 sites, completed fieldwork for removal of lead-contaminated soil, and initiated project closeout reports at Site 56. In FY97, pilot studies indicated that site conditions would inhibit the application of soil vapor extraction for soil at Site 57. A Removal Action was planned to address an immediate threat of groundwater contamination, while an RI/FS was conducted at the site to further evaluate site conditions and means of final Remedial Action (RA).

In FY98, a draft RI report was completed for Sites 12, 39, 41, 42, and 44, and a Removal Action to line and restore several hundred feet of sewer piping was initiated at Site 57. An RI for Site 57 was initiated, and work plans for RIs at Sites 47 and 53 were completed. The administrative record was converted to electronic format.

A Technical Review Committee was formed in FY93 and converted to a Restoration Advisory Board (RAB) in FY95. The installation prepared a Community Relations Plan and established an information repository.

FY99 Restoration Progress

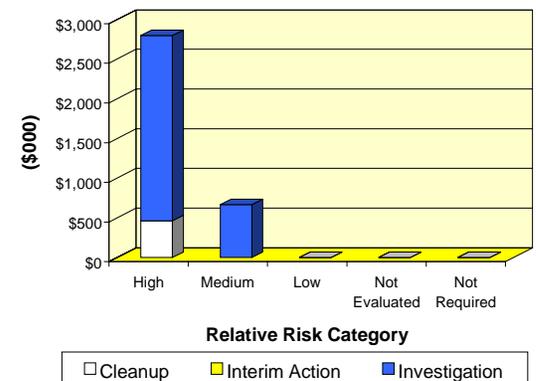
The final RI report for Sites 12, 41, 42, and 44 was completed, and an FS was initiated to evaluate alternatives for final remediation of Sites 12, 41, and 42. A No Further Action Record of Decision (ROD) will be pursued for Site 44. The planned draft RI report for Site 39 was not finalized because further investigation is required. The Removal Action was completed at Site 57. The project used an alternative means of pipe rehabilitation to cut costs. RI fieldwork was completed at Site 47. Severe funding

constraints delayed RIs at Sites 11, 21, 49, and 53. Funding constraints will also delay RAs at Sites 39 and 41 and FSs for Sites 49 and 53, originally scheduled for FY00. Official partnering efforts were initiated with EPA and the Maryland Department of the Environment.

Plan of Action

- Initiate RI fieldwork and report for Sites 15, 16, 49, and 53 in FY00
- Initiate RI at Sites 11, 17, 21, and 25 in FY00
- Initiate ROD and develop Remedial Designs for Sites 12, 41, 42, and 44 in FY00
- Initiate additional investigation at Site 39 in FY00
- Initiate FS for Site 57 in FY00
- Initiate RA at Sites 12 and 42 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: IN517002349900
Size: 185 acres
Mission: Conduct research, development, engineering, and limited manufacturing of aviation electronics and of missile, space-borne, undersea, and surface weapons systems, and related equipment
HRS Score: NA
IAG Status: None
Contaminants: Solvents, degreasers, alcohol, chemical laboratory waste, pesticides, wastewater, heavy metals, acids, petroleum/oil/lubricants, PCBs, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$1.6 million
Estimated Cost to Completion (Completion Year): \$0.2 million (FY2002)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Indianapolis, Indiana

Restoration Background

Indianapolis Naval Air Warfare Center, Aircraft Division (NAWCAD) was commissioned in 1942 as a naval ordnance plant. Its mission was redefined to add space, undersea, and surface weapons. Typical operations conducted at the facility in support of this mission included machining; electroplating; degreasing of metal parts; carpentry; painting; operation of photographic laboratories; testing and evaluation; destruction of documents; and storage of supplies, materials, and fuels. In July 1995, the BRAC Commission recommended closure of NAWCAD. Various functions, along with personnel, equipment, and related support, were to be relocated.

The installation completed a Preliminary Assessment in FY88. In FY90, two underground storage tank (UST) sites were identified. Site assessments for the sites were completed in FY92, and the sites were designated Response Complete. In FY96, the installation delineated Site 1 and began a Remedial Investigation and Feasibility Study (RI/FS). Eighteen areas of concern (AOCs) were identified, and sampling began.

In FY95, the installation initiated an Environmental Baseline Survey (EBS); it completed the fieldwork for the EBS in FY96. Thirty-eight AOCs were found to require further investigation; these were consolidated into 18 AOCs and 16 UST sites. The NAWC Indianapolis Reuse Planning Authority formed and completed a preliminary privatizing business plan. In FY97, the installation completed closure of the hazardous waste transfer facility. Draft baseline Human Health and Ecological Risk Assessments were completed.

In FY98, the Navy prepared an Environmental Baseline Survey for Transfer and a Finding of Suitability to Transfer (FOST) and

submitted the documents for public comment. A Finding of No Significant Impact was executed in FY98 to satisfy National Environmental Policy Act requirements after completion of the Environmental Assessment for Disposal and Reuse of the Naval Air Warfare Center, Indianapolis, Indiana. The Navy also completed five process closures in accordance with state requirements. A closure letter from the state was received for 30 UST sites. Decision documents were prepared for eight AOCs, recommending no further action or use of institutional controls.

A Restoration Advisory Board (RAB) and a BRAC cleanup team were formed in FY96. The installation established an information repository and worked with the RAB to complete a Community Relations Plan. A BRAC Cleanup Plan (BCP) was completed in FY97.

FY99 Restoration Progress

Polychlorinated biphenyls (PCBs), found in construction materials at Building 1000, were in violation of new Toxic Substances Control Act (TSCA) regulations. This is the remaining issue involved in the FOST for Parcel 1B. The FOST for Parcel 1A was finalized and is ready for signature once the timing of institutional controls is resolved. Initial transfer of the property was delayed, pending approval of the economic development conveyance. Remediation began on Site 1, a government radioactive materials survey was conducted, and a draft Remedial Action (RA) report is under review by the regulators for Parcel 2.

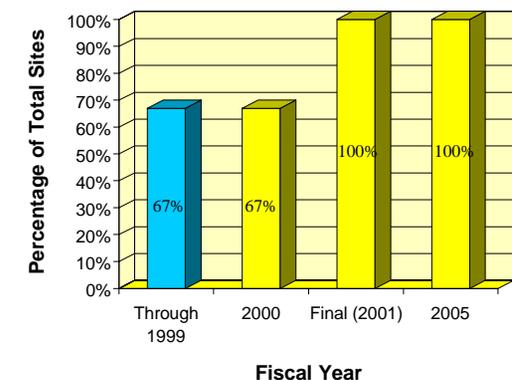
The planned revision of the BCP was delayed so that the installation could focus on higher priority projects. The Environmental Assessment was completed. The Engineering Evaluation and Cost Analysis (EE/CA) was completed and the

Interim Remedial Action is nearing completion. Decision documents for Group 1 were finalized and an RI report was finalized as planned.

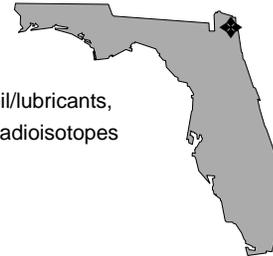
Plan of Action

- Prepare EE/CA Action Memorandum in FY00
- Prepare Final Phase II RI report in FY00
- Prepare FOST (Parcel 1A) in FY00
- Conduct Site 1 RA in FY00
- Conduct final FS and prepare Proposed Plan in FY00
- Revise BCP in FY00
- Complete initial transfer of property in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: FL417002441200
Size: 3,820 acres
Mission: Maintain and operate facilities; provide services and materials to support aviation activities and aircraft overhaul operations
HRS Score: 31.02; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in October 1989
Contaminants: Waste solvents, acids and caustics, cyanide, heavy metals, petroleum/oil/lubricants, low-level radioactive wastes, oil, paint, PCBs, pesticides, phenols, and radioisotopes
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$62.5 million
Estimated Cost to Completion (Completion Year): \$53.6 million (FY2014)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Jacksonville, Florida

Restoration Background

Jacksonville Naval Air Station (NAS) includes the following site types: fire fighting training areas, waste storage and disposal areas, transformer storage areas, radioactive-waste disposal areas, and other miscellaneous support and maintenance areas. Typical operations have generated solvents, sludge (from on-site treatment plants), and low-level radioactive waste, which have migrated into nearby soil and local groundwater supplies.

The installation contains 47 CERCLA sites, 20 underground storage tank (UST) sites, and 3 RCRA solid waste management units (SWMUs). As of FY97, the installation had completed Preliminary Assessments (PAs) for 40 sites and Site Inspections (SIs) for 42 sites. Fifteen sites have proceeded to the Remedial Investigation and Feasibility Study (RI/FS) phase. To expedite cleanup, three operable units (OUs) were defined: OU1, two disposal pits; OU2, the Wastewater Treatment Plant area; and OU3, the Industrial Area.

During three Interim Remedial Actions (IRAs) in FY94, the installation erected fences at five sites and removed soil from one. A Record of Decision (ROD) was signed for two sites. An interim ROD was signed for one site in FY95.

During FY96, the installation continued RI/FS activities at six sites. It completed two IRAs, PA/SIs for three sites, RI/FSs for two sites, and Engineering Evaluations and Cost Analyses (EE/CAs) for six sites. A site assessment, two closure action plans, and an IRA were completed for UST sites. For two UST sites, monitoring-only plans were approved, and corrective measures implementation (CMI) was completed at one SWMU. Five IRAs were initiated.

In FY97, the installation completed the Remedial Design (RD) and Remedial Action for OU1, completed the corrective action and IRA for UST 1, and implemented a monitoring-only plan at UST 10. The installation finished IRAs for Site 18 and SWMU 2 and began long-term monitoring (LTM) for SWMU 2.

In FY98, the installation conducted a Baseline Risk Assessment and completed six RI/FS activities for OU2. The installation completed two PA/SIs for potential sources of contamination (PSCs), one IRA to remove spreading groundwater contamination, one Corrective Action Plan and corrective action, and the CMI and IRA for SWMU 1. UST 13 and Area A at UST 17 received No Further Action designations. LTM was conducted at UST 16. Seven monitoring wells were installed at SWMU 1 and the T-56 Wash Area.

The installation's Technical Review Committee, which formed in FY88, was converted to a Restoration Advisory Board in FY95. In FY91, the installation completed its Community Relations Plan and established an administrative record and an information repository.

FY99 Restoration Progress

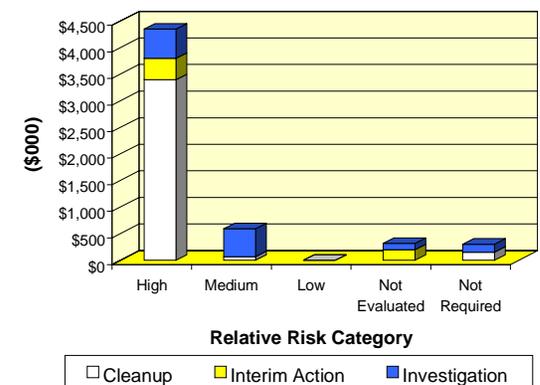
A full Ecological Risk Assessment (ERA) was conducted in response to the results of a screening level ERA. The RI/FS for PSC 51 and Hangar 1000 was started, but the RI/FS for PSC 47 was delayed for performance of an IRA. Six RI/FS activities continued at OU3. The results of the IRA are needed before the RI/FS can be implemented. The completion of the RI/FS for PSC 21 was delayed because of ecological concerns. The ROD for OU2 was signed.

Contracts for a Site Assessment Report (SAR) Addendum and a Remedial Action Plan (RAP) were awarded for UST 4. A SAR and a RAP were approved for UST 15. LTM continued at UST 16, and long-term operations (LTO) continued at USTs 1 and 7.

Plan of Action

- Continue RI/FS and IRA for Hangar 1000 in FY00
- Begin RI/FS for PSCs 46 and 47 and RD for three sites in FY00
- Complete RI/FS for OU3, PSC 16, PSC 21, and PSC 51 in FY00
- Continue to pursue RCRA Closure Permit for Hangar 1000 and T-56 wash area and monitoring at T-56 in FY00
- Implement remedial system at UST 4 in FY00
- Begin SAR/RAP at UST 14 in FY00
- Continue monitoring at the plating shop (Building 101) and seven monitoring wells at SWMU 1 in FY00 and FY01
- Continue O&M at UST 1 and UST 15 in FY00 and FY01
- Continue LTO at Tank Site 119 (UST 7) and UST 16 in FY00 and FY01
- Continue RI/FS for Hangar 1000 in FY01
- Begin operation's and maintenance (O&M) of the UST 4 remedial system in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: WA017002341900
Size: 340 acres
Mission: Test, prove, overhaul, and issue torpedoes
HRS Score: 32.61; placed on NPL in October 1989
IAG Status: Federal Facility Agreement signed in 1990
Contaminants: VOCs, heavy metals, petroleum hydrocarbons, herbicides, fuel, PCBs, and pesticides
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$28.3 million
Estimated Cost to Completion (Completion Year): \$18.5 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY1999



Keyport, Washington

Restoration Background

In September 1995, the BRAC Commission recommended realignment of this installation. The center's responsibility for maintaining combat system consoles and its general industrial workload were moved to Puget Sound Naval Shipyard.

Operations at the installation, including plating, torpedo refurbishing, and disposal, contributed to contamination at the property. Since FY84, environmental investigations at the installation have identified sites such as underground storage tanks, sumps, spill sites, a landfill, and an underground trench. Environmental investigations conducted under CERCLA have identified 12 sites.

In FY92, an underground trench and several sumps were excavated, and chromium-contaminated soil was removed and replaced with clean fill at a chromate spill site.

In FY93, the Navy completed Remedial Investigation and Feasibility Study (RI/FS) activities for Operable Unit (OU) 2. Additional RI activities were initiated at Site 1 (OU1) because of public concern. In FY94, a Record of Decision (ROD) was signed for OU2. In FY95, the Navy began additional groundwater sampling at OU1 and conducted a Phase I Removal Action at Site 8 (OU2). The Navy conducted interim corrective measures and performed a corrective action consisting of removal and closure-in-place for hazardous waste storage tanks and sumps for Site 23.

During FY96, the Navy conducted additional groundwater, sediment, and tissue sampling and analysis at OU1 and began long-term monitoring (LTM) at Sites 2 and 8 (OU2). The Navy completed the confirmational groundwater sampling at Site 5 and sediment sampling at Site 9, making them No Further Action

sites. Work plans for Phase II soil removal were initiated at Site 8. Corrective measures, including removal of tanks and soil and in situ remediation of contaminated soil, were conducted at Site 23. In FY98, the Navy completed a Focused Feasibility Study (FFS), a Proposed Plan (PP), and a ROD for OU1. The Navy also began the Phase II removal of metals-contaminated soil at Area 8 (OU2).

A Technical Review Committee was formed in FY89 and converted to a Restoration Advisory Board (RAB) in FY95. A Community Relations Plan (CRP) was completed in late FY90. The CRP was updated in FY96.

FY99 Restoration Progress

The Navy completed Remedial Design for phytoremediation, sediment removal, and the tide gate upgrade for OU1. The planting for phytoremediation was initiated during a dedication ceremony on Earth Day, April 22, 1999. The Navy, regulators, the RAB, and community members participated. The Navy completed Remedial Action (RA) for sediment removal and started the tide gate upgrade for OU1. The work plans for LTM at OU1 began. The draft Institutional Control Plan (ICP) for OU1 and OU2 was completed.

Metals-contamination removal and site restoration began at Site 8 (OU2). An independent cleanup of total petroleum hydrocarbon (TPH)-contaminated soil was completed at Site 8, and LTM of groundwater was completed at Sites 2 and 8 (OU2).

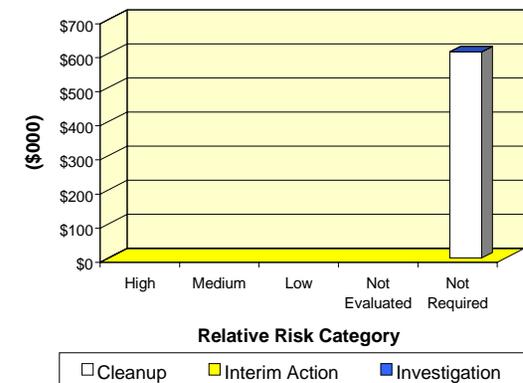
The Navy began implementation of a Time-Critical Removal Action (TCRA) at Building 21 in Site 23 to remove buried drums and associated contaminated soil. The Navy hosted a site visit to a thermal desorption facility for regulators, the RAB, and

community members. The TPH-contaminated soil from Site 8 was treated at this facility and then made available for reuse in highway maintenance projects.

Plan of Action

- Finalize ICP and initiate implementation at OU1 and OU2 in FY00
- Finalize work plans and begin LTM at OU1 in FY00
- Conduct 5-year review in FY00
- Complete RA at Site 8 in FY00
- Complete TCRA at Site 23 in FY00
- Continue operations and maintenance at OU1 in FY00 and FY01
- Continue LTM at OU2 in FY00 and FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: NJ217002727400
Size: 7,382 acres
Mission: Perform technology development and engineering
HRS Score: 50.53; placed on NPL in July 1987
IAG Status: Federal Facility Agreement signed in October 1989
Contaminants: Fuels; PCBs; solvents, including TCE; and waste oils
Media Affected: Groundwater and soil
Funding to Date: \$40.1 million
Estimated Cost to Completion (Completion Year): \$51.5 million (FY2025)
Final Remedy in Place or Response Complete Date for All Sites: FY2000



Lakehurst, New Jersey

Restoration Background

Historical operations at this installation involved handling, storage, and on-site disposal of hazardous substances. Forty-five potentially contaminated sites were identified. Investigations began in FY83 and the Remedial Investigation and Feasibility Study (RI/FS) was completed by the end of FY95.

Contaminated soil, drums, tanks, and debris were removed at 23 sites. Innovative technologies have been implemented, including soil washing, asphalt batching, and solar-powered spray irrigation and sparge treatment systems. In FY93, the installation developed groundwater modeling, which supported, and built consensus for, the use of natural restoration as the selected action for a large trichloroethene (TCE) plume.

A 3-year pilot project for natural restoration at Areas I and J began in FY96. Also in FY96, Remedial Designs were completed for upgrades of the installation's four pump-and-treat systems, and Records of Decisions (RODs) were completed for continued treatment of groundwater and soil in Areas C and H. FSs for Areas A/B, E, and K also were completed. A soil vapor extraction (SVE) system began operating at Site 13, and soil bioventing and vapor extraction systems began operating at Sites 16 and 17.

During FY97, RODs for Areas A/B, E, and K were completed. The installation created an aeration system and a surface water reservoir to treat groundwater and irrigate the station's golf course. In FY98, the groundwater recovery systems at Areas A, C, E, and H were modified to optimize system performance and improve the recovery of contaminated groundwater for treatment. An SVE and groundwater sparge system was installed in Area E, a groundwater sparge wall was installed in Area A, and a free-product recovery trench was installed in Area C to

accelerate groundwater remediation. The installation implemented solar-powered spray irrigation systems in Areas A and D to treat groundwater.

FY99 Restoration Progress

A 3-year pilot project for natural restoration in Areas I and J was completed. Natural restoration and co-metabolism were selected to treat groundwater in this area. A co-metabolic treatment system was installed to treat the high area of groundwater contamination. The final ROD for Area I and J groundwater was signed by EPA on September 27. The installation has final RODs for all sites and is ready to begin the delisting process.

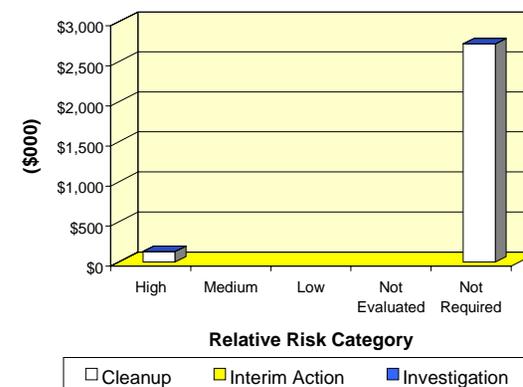
The vapor treatment system blowers at Sites 17 and 29 were upgraded to improve system performance, and contaminated soil at Site 42 was excavated and removed for off-site recycling. Operation and maintenance of four groundwater pump-and-treat systems, six vapor extraction/bioventing/sparging systems, and six spray irrigation systems continued as planned.

The station's Restoration Advisory Board (RAB) met every other month to present the status of the facility's environmental program and address any related questions from the public. The station is located upgradient of Toms River, a community identified with a child cancer cluster. Congress appropriated funding to study the occurrences of cancer in this area. The RAB was an excellent forum for community discussion of this issue. The Lakehurst Environmental Branch assisted the Naval Air Warfare Center, Trenton, with many Installation Restoration projects, including sampling, Remedial Actions, and report preparation.

Plan of Action

- In FY00, prove that remedy for Area I and J groundwater is operating properly and successfully
- Start National Priorities List (NPL) delisting process in FY00
- Complete monitoring at Site 1 in FY00
- Complete removal of free-product and contaminated soil at Site 42 in FY00
- In FY00, continue operations and maintenance, monitoring, data interpretation, and reporting for four pump-and-treat systems (Sites 16, 28, 29, and 32), five SVE/bioventing/sparge systems (Sites 13, 14, 16, 17, and 28), six spray irrigation systems (Sites 4 and 31), and one co-metabolic treatment system with natural restoration (Site 6)

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFIDs: CA917002727200, CA917002755400, CA917002319000, and CA917002726700

Size: 1,563 acres

Mission: Provide logistics support for assigned ships and service craft; perform authorized work in connection with construction, alteration, dry docking, and outfitting of ships and craft assigned; perform manufacturing, research, development, and test work

HRS Score: NA

IAG Status: None

Contaminants: Chlorinated solvents, solvents, acids, blasting grit, paint, heavy metals, industrial wastewater, and industrial liquid waste

Media Affected: Groundwater, surface water, sediment, and soil

Funding to Date: \$49.7 million

Estimated Cost to Completion (Completion Year): \$22.3 million (FY2012)

Final Remedy in Place or Response Complete Date for BRAC Sites: FY2009



Long Beach, California

Restoration Background

The Long Beach Naval Complex consists of the Long Beach Naval Shipyard (NSY), the Naval Station (NS) Long Beach, and the Long Beach Naval Hospital (NAVHOSP). The BRAC Commission recommended closure of the NAVHOSP, the NS, and associated housing areas in FY91, and closure occurred in FY94. Closure of the NSY and associated housing areas was recommended in July 1993 and occurred in September 1997.

NSY and NS operations that contributed to contamination include ship and vehicle repair and maintenance, utility maintenance and operation, support shops, storage of petroleum products and hazardous materials, laundry and dry cleaning, steam plant operations, and air compressor operations. Portions of housing areas associated with the NSY were used to dispose of ship wastes, drilling mud, and construction debris. The primary sites of concern are disposal pits into which a variety of wastes were deposited.

No action was necessary for industrial use of NS Site 6A. Phases I and II of the Remedial Investigation and Feasibility Study (RI/FS) were combined.

In FY94, the installation formed a BRAC cleanup team (BCT), which completed a BRAC Cleanup Plan (BCP) and the Environmental Baseline Survey (EBS) for NS and NAVHOSP. In FY94, the joint NS and NSY Technical Review Committee was converted to a Restoration Advisory Board (RAB).

In FY96, the installation completed the RI for NS Sites 1 through 6A and the Engineering Evaluation and Cost Analysis (EE/CA) and Action Memorandum (AM) for NS Site 3. Removal of arsenic-contaminated soil from Site 3 also was completed. At the

former NS gas station, the installation began operating a soil vapor and liquid extraction and bioremediation system to clean up petroleum contaminants in soil and groundwater.

In FY97, the installation began an Interim Remedial Action (IRA) at Sites 2, 11, and 12 (Palos Verdes housing) and Site 5 (San Pedro housing). The groundwater investigation for Site 6A began, and cleanup of Site 6B NSY was completed. EE/CAs for four sites and an EBS for NSY housing were completed. NSY was closed, and an EBS was written for NS.

In FY98, the installation completed an RI for Sites 8 through 13, an IRA at four sites, a Site Inspection (SI) for Site 14, and the FS for Sites 3 through 6A. The FS for Sites 8, 10, and 11 was drafted. The installation issued a draft Record of Decision (ROD) for Sites 3 through 6A, an EE/CA for Site 14, and a draft FS for Sites 1 and 2. The RI for Site 7 and the Proposed Plan (PP) for Sites 3 through 6A were finalized.

FY99 Restoration Progress

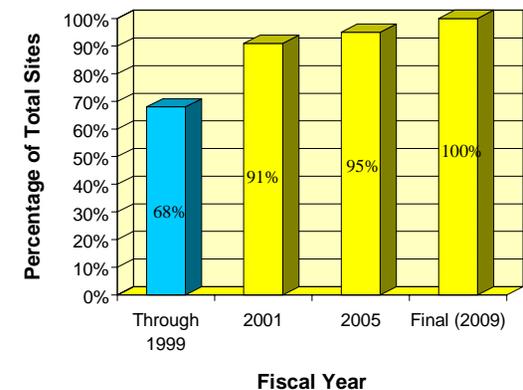
The FS and PP for Sites 1 and 2 were finalized, and the draft ROD was submitted to the regulatory agency for review. The ROD for Sites 3, 4, 5, and 6A was finalized. The draft FS for Site 7 was submitted to the agencies for review. The ROD was not completed, because of regulatory issues on early transfer and regulatory tardiness in review. The FS, PP, and ROD for Sites 8, 10, and 11 were not completed. These sites hold a lower reuse priority than the others, and the regulatory agencies did not have sufficient resources to review documents. Additional fieldwork was also necessary, delaying the previous projects at these sites. The FS and PP planned for the sites are now scheduled for completion in FY00. The AM for Site 14 was not completed as

scheduled because of regulatory comments and California Environmental Quality Act issues. The draft FS for Sites 9, 12 and 13 was submitted for review. The PP, ROD, and Remedial Design (RD) for Sites 9, 12, and 13 have been delayed because the BCT is considering the use of the Local Redevelopment Authority.

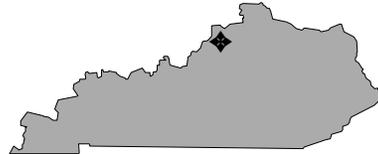
Plan of Action

- Finalize Site 1 and 2 ROD and initiate Site 1 and 2 RD and Remedial Action (RA)
- Finalize Site 7 FS and prepare Site 7 draft PP
- Finalize Site 8, 10, and 11 FS and PP in FY00
- Finalize Site 9, 12, and 13 FS and prepare draft and final PP for the sites in FY00
- Finalize the Site 14 AM and Non-Time-Critical Removal Action in FY00
- Initiate IRA for Site 14 in FY00
- Finalize Site 7 PP and ROD in FY00–FY01
- Finalize Site 9, 12, and 13 ROD, RD, and RA in FY01–FY02

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: KY417002417500
Size: 142 acres
Mission: Overhauls, repairs, and manufactures weapon systems and components used on naval vessels
HRS Score: NA
IAG Status: None
Contaminants: Asbestos, chlorinated solvents, chemical agents, heavy metals, industrial liquid waste, industrial sludge, nonchlorinated solvents, paint, pesticides, petroleum/oil/lubricants (POL) and POL sludge, plating waste, PCBs
Media Affected: Groundwater, sediment, and soil
Funding to Date: \$7.8 million
Estimated Cost to Completion (Completion Year): \$12.1 million (FY2005)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2002



Louisville, Kentucky

Restoration Background

In July 1995, the BRAC Commission recommended closure of the Louisville Naval Surface Warfare Center. In August 1996, 85 percent of the property was leased to the Louisville/Jefferson County Redevelopment Authority (LJCRA) as the Navy’s first privatize-in-place installation. Raytheon and United Defense Louisville Plant contractors currently work on naval ship weapon systems (5-inch guns and Phalanx) using the same facilities, equipment, and personnel previously employed by the Navy.

Operations contributing to contamination at this installation include machining, welding, draining of lubricating fluids, painting, electroplating, degreasing and cleaning of metals, and paint stripping. Site types include waste storage and disposal areas, manufacturing operations and disposal areas, and other miscellaneous support and maintenance activity areas. Contaminants have migrated into nearby soil, sediment, and groundwater.

The installation’s RCRA Part B permit began in FY86. Through pre-BRAC Preliminary Assessment and continuing investigation since FY96, 70 solid waste management units (SWMUs) and 18 areas of concern (AOCs) had been identified. Many of these SWMUs and AOCs have sub-areas, accounting for more than 350 overlapping environmental sites that require investigation within the 144 acres.

A Restoration Advisory Board meets monthly. The restoration program is conducted by a BRAC cleanup team partnering effort with the Navy, EPA Region 4, and the Kentucky Department of Environmental Protection.

FY99 Restoration Progress

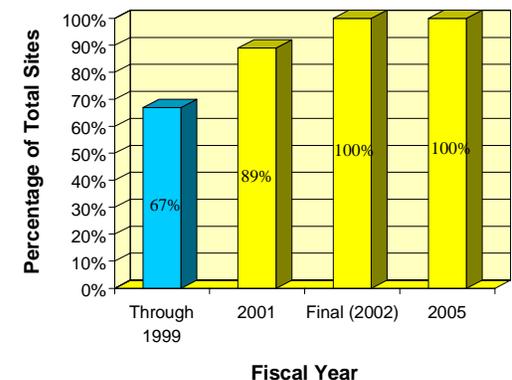
The BRAC program completed asbestos abatement, lead-based paint abatement, operational closure of sumps and pits, sewer system repairs, cleaning of various machines and equipment, removal and repair of oil-water separators, removal and remediation of underground and aboveground tanks, Interim Removal Actions at nine hot spot locations with soil contamination, and field sampling (through Round 2). A RCRA Facility Investigation (RFI) was initiated.

Incomplete actions under BRAC include transfer of property, RFI reports, a Corrective Measures Study (CMS) for SWMUs (which will be initiated after completion of the RFI), and establishment of risk-based cleanup criteria. In response to a request from LJCRA, the Navy began pursuing an early transfer of the property under the CERCLA 120(h) covenant deferral process.

Plan of Action

- Complete final round of sampling in FY00
- Issue draft RFI reports in FY00
- Plan final RFI reports in FY01
- Initiate CMS and corrective measures implementation at several sites in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA917002477500
Size: 5,252 acres
Mission: Maintained and repaired ships and provided logistical support for assigned ship and service craft
HRS Score: NA
IAG Status: Federal Facility Agreement signed in September 1992
Contaminants: Heavy metals, VOCs, PCBs, pesticides, petroleum hydrocarbons, lead oxides, and unexploded ordnance
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$58.8 million
Estimated Cost to Completion (Completion Year): \$73.2 million (FY2005)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2005



Vallejo, California

Restoration Background

In July 1993, the BRAC Commission recommended closure of Mare Island Naval Shipyard and relocation of the Combat Systems Technical School's Command Activity to Dam Neck, Virginia. The installation closed on April 1, 1996.

Studies since FY80 have identified 28 sites and 20 solid waste management units (SWMUs) at this installation. Sites 1 through 24 were divided into three operable units (OUs).

The installation completed a Preliminary Assessment (PA) for 15 sites in FY83. In FY88, it completed a Site Inspection (SI) for one site and initiated Remedial Investigations and Feasibility Studies (RI/FSSs) for 23 sites. In FY90, the installation completed an initial site characterization (ISC) for one underground storage tank (UST) site. In FY91, SIs were completed for 12 sites and PA/SIs were completed for 6 sites. In FY93, the installation completed Interim Remedial Actions for six UST sites and one other site. In FY94, ISCs were completed for seven UST sites and Removal Actions were completed for two sites. The installation also completed a Land Reuse Plan.

In FY95, the installation initiated Removal Actions for five sites and completed a Removal Action for one site. It also began to develop Corrective Action Plans for eight UST sites and completed an Environmental Baseline Survey.

During FY96, the installation's BRAC cleanup team (BCT), which formed in FY94, completed a Removal Action for one site and began Removal Actions for two sites and a no further action (NFA) Record of Decision (ROD) for one site. The team also completed Removal Actions for three sites and the Defense Reutilization and Marketing Office scrap yard. The BCT

negotiated a Memorandum of Understanding with the City of Vallejo, the U.S. Fish and Wildlife Service, and the Navy.

In FY97, a Removal Action was initiated for one site. USTs were removed from sites, which then required NFA. In FY98, the installation completed Removal Actions at Sites 5 and 8. The installation also removed 43,000 lineal feet of fuel line. All radiological work was completed and approved by the regulatory agencies.

An administrative record and an information repository were established in FY90. The installation formed a Technical Review Committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY94. The installation completed its Community Relations Plan in FY92 and updated it in FY94.

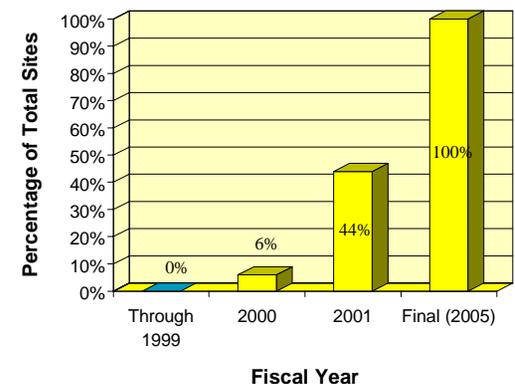
FY99 Restoration Progress

Removal Actions at Sites 13, 16 B-4, and 17 and SWMUs 52 and 54 were completed. Removal of all onshore unexploded ordnance was completed, and all USTs were removed or closed in place. The installation completed polychlorinated biphenyl (PCB) remediation program and field sampling for 20 SWMUs. Transfer of Investigative Area E was delayed by removal of soil contaminated with lead and arsenic. The Roosevelt Terrace transfer is undergoing review by the City of Vallejo. A Technical Assistance for Public Participation grant was completed to train RAB members on the ARCVIEW geographic information system for Installation Restoration data analysis.

Plan of Action

- Issue several RI/FS reports by investigative area in FY00
- Perform transition of cleanup team to Southwest Division from Engineering Field Activity-West in FY00
- Perform early transfer of dredge ponds to private developer in FY00
- Reclassify and transfer uncontaminated parcels in Investigative Area A1 in FY00
- In FY01, issue RODs for RI/FS issued in FY00 and commence Remedial Action design work

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: PA317002210400
Size: 824 acres
Mission: Provide inventory management and supply support for weapons systems
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Federal Facility Agreement under negotiation
Contaminants: PCBs, heavy metals, pesticides, VOCs, SVOCs, and dioxin
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$24.3 million
Estimated Cost to Completion (Completion Year): \$19.3 million (FY2009)
Final Remedy in Place or Response Complete Date for All Sites: FY2009



Mechanicsburg, Pennsylvania

Restoration Background

Historical defense industrial and inventory disposal operations have caused contamination at this installation. Environmental investigations conducted since FY84 have identified 15 CERCLA sites.

In FY89, the installation completed a Remedial Investigation and Feasibility Study (RI/FS) for Site 9, the Storm Water Drainage Ditch. Subsequently, Removal Actions were conducted to remove polychlorinated biphenyl (PCB)-contaminated soil from a portion of the ditch and to install fencing and a gabion dam. In FY92, the installation completed an RI/FS for Site 3. In FY93, it completed an RI at Site 1. The Remedial Design (RD) for Site 9 was also completed in FY93, and additional contaminated soil and sediment were removed in the Remedial Action (RA). The installation also completed RD/RA at Site 10 to remove leaking underground storage tanks and contaminated soil.

In FY93, the installation began removing contaminated soil from Site 3 and treating it through bioremediation. In FY95, a Time-Critical Removal Action was conducted at the Tredegar Industries, Inc., property next to the installation. Approximately 600 tons of PCB-contaminated soil was removed.

In FY96, the installation initiated a basewide Ecological Risk Assessment (ERA). The installation prepared a design for groundwater modeling of a landfill at Site 3 and began the Focused FS (FFS). Additional sampling of the biocell soil was also performed. In FY97, a Human Health Risk Assessment at Site 1

was completed, an Interim Remedial Action was initiated at Site 11, and an on-board review of work plans for Site Inspections (SIs) at Sites 12 through 15 was implemented.

In FY98, a Site Management Plan was completed, and the sediment and groundwater monitoring plans were finalized. An RA began at Site 3, and the installation completed soil modeling, a final FS, and an Action Memorandum for soil removal. The FS, the Proposed Remedial Action Plan, and the Record of Decision (ROD) for Site 1 were completed, as was the sediment control project at Site 11.

A Technical Review Committee (TRC) was formed in FY88. To establish greater community involvement, the installation changed the TRC to a Restoration Advisory Board in FY95.

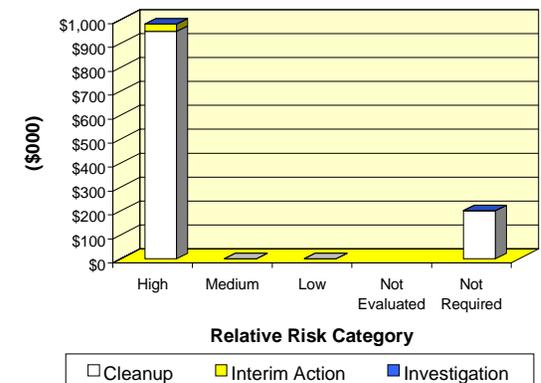
FY99 Restoration Progress

The work plan and fieldwork for the Site 9 ERA were completed. The administrative record was placed on CD-ROM, and the Community Relations Plan, the SI for Sites 12 to 15, the Basewide Quality Assurance Protection Plan, and the basewide background report for soil were finalized. The Site 3 soil removal and closeout report and the Site 15 Action Memorandum were completed. Modification of standard Federal Facility Agreement (FFA) language delayed the completion of this document. RI/FSs were not started for Sites 12 through 15 because soil must be removed from Sites 14 and 15 and a no further action (NFA) document will be signed for 12 and 13.

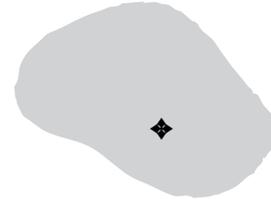
Plan of Action

- Complete FFS and ROD for soil at Site 3 in FY00
- Complete the FFA in FY00
- Complete ERA for Site 9 in FY00
- Complete soil removal at Site 14 in FY00
- Complete Action Memorandum and soil removal at Site 15 in FY00
- Complete SI for four areas of concern in FY00
- Complete NFA report for Site 7 in FY00
- Complete ROD for Site 14 in FY01
- Complete NFA documents for Sites 12 and 13 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: MQ917002758400
Size: 1,535 acres
Mission: Provided aviation support services
HRS Score: NA
IAG Status: None
Contaminants: Heavy metals, pesticides, PCBs, and petroleum/oil/lubricants
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$15.2 million
Estimated Cost to Completion (Completion Year): \$5.3 million (FY2001)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Midway Island

Restoration Background

In 1940, a Naval Station was established at Midway Island. In 1978, the station was redesignated as the Naval Air Facility. The Navy operated and maintained the facility and provided services and materials to support aviation activities. Since FY88, studies at the facility have identified 42 sites, including landfills, disposal and storage areas, a former power plant, a rifle range, and pesticide spill areas.

In FY93, the BRAC Commission recommended closure of the facility as an active Naval Air Facility, and the installation was transferred to the U.S. Fish and Wildlife Service (USFWS) for use as a national wildlife refuge while the BRAC cleanup work was completed. In FY93, the installation formed a BRAC cleanup team (BCT). The installation does not have a Restoration Advisory Board because there are no regulatory agencies with authority over the area and no affected community. An information repository was established at the University of Hawaii at Manoa in FY95.

An Environmental Baseline Survey was completed in FY94, and a Human Health Risk Assessment was completed for all 42 sites in FY95. The Executive Order transferring legal enforcement authority to the USFWS was signed on October 31, 1996. On May 22, 1996, custody of, and accountability for, Midway Island was transferred from the Navy to the USFWS. The BCT also finalized the last BRAC Cleanup Plan.

In FY97, the baseline Ecological Risk Assessment for one site was completed and Remedial Investigations and Feasibility Studies were performed for five sites. Removal Actions were completed, involving removal of contaminated soil from eight sites, capping of landfills at two sites, removal of drums from four sites,

removal of marine debris from four sites, and capping of abandoned outfalls at one site. Full remediation was completed for soil and groundwater at 15 underground storage tank (UST) sites. By the end of FY97, all environmental work at Midway was complete, with the exception of long-term monitoring (LTM) at Sites 1 and 2. Final base closure was completed on June 30, 1997.

In FY98, the final round of LTM was conducted at the Bulky Waste Landfill (Site 1) and the Runway Landfill (Site 2). Preliminary data indicate that no further action is required. An aviation gasoline line was found, properly cleaned, and abandoned in place, and drums of asphalt were removed and properly disposed of off the island.

FY99 Restoration Progress

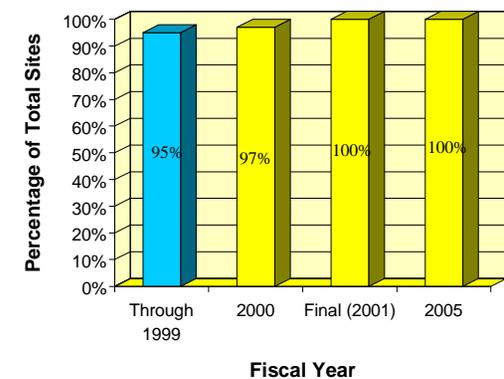
LTM indicated polychlorinated biphenyl (PCB) concentrations of 42 parts per million (ppm) in fish tissue and 27 ppm in the sediment at a local marine area adjacent to the Bulky Waste Landfill. Further PCB testing of a beached tug and barge next to the Bulky Waste Landfill began but was not completed. Beach erosion exposed two USTs on Eastern Island that were missed in previous cleanup efforts. Removal of the USTs is scheduled for December 1999. National Marine Fisheries Service data indicated that Midway seals had blood PCB concentrations above those collected from seals at French Frigate Shoals but still less than 1 mg/kg wet weight.

LTM is expected to indicate whether PCB cleanup goals have been met.

Plan of Action

- Remove beached tug and barge in FY01 if PCB contamination is found

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFIDs: CA917002323800 and CA917002757500
Size: 3,097 acres
Mission: Provided support for antisubmarine warfare training and patrol squadrons and served as Headquarters for Commander Patrol Wings of the Pacific Fleet
HRS Score: 32.90; placed on NPL in July 1987
IAG Status: Federal Facility Agreement signed in September 1990
Contaminants: PCBs, petroleum products, DDT, chlorinated cleaning solvents, and heavy metals
Media Affected: Groundwater and soil
Funding to Date: \$76.1 million
Estimated Cost to Completion (Completion Year): \$76.9 million (FY2032)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2003



Sunnyvale, California

Restoration Background

In July 1991, the BRAC Commission recommended the closure of Moffett Field Naval Air Station. The installation was closed on July 1, 1994, and its activities were transferred to the National Aeronautics and Space Administration (NASA).

Environmental studies since FY84 identified 34 sites at the installation. Site types include landfills, underground storage tanks (USTs), a burn pit, ditches, holding ponds, french drains, maintenance areas, and fuel spill sites. Contaminants include polychlorinated biphenyls (PCBs), petroleum products, DDT, chlorinated solvents, and heavy metals. The installation was divided into seven operable units (OUs). In FY90, initial site characterizations were completed for 3 UST sites, and 14 USTs were removed.

From FY90 to FY94, the installation removed four leaking USTs from one site, removed USTs from a second site, conducted groundwater remediation at three sites, and completed Remedial Investigations (RIs) for OUs 1, 2, and 5 and one other site. The installation also excavated and treated contaminated soil at one site and removed contaminated soil from another.

During FY95, the installation completed a Site Inspection (SI) for one site, RIs for OU6 and three other sites, Feasibility Studies (FSs) for OUs 1 and 5, a Record of Decision (ROD) for no further action (NFA) for seven sites, and a Remedial Action (RA) for one site. The installation designed, constructed, and tested a bioventing treatment system for one site, a soil vapor extraction system for another site, and a recirculating in situ treatment system for a third site.

The installation completed a Phase I Ecological Risk Assessment (ERA) in FY95. In FY96, it initiated FSs for two sites and OU6, signed a ROD and initiated Remedial Design (RD) for one site, initiated RD for one site, and began a ROD for NFA and removed all inactive USTs from one site. RD and groundwater treatment were completed for one site. The installation also completed an Environmental Business Plan.

During FY97, the ROD for OU1 was signed, and the RD and RA for Site 2 were completed. The FS for OU6 was completed along with a Phase II ERA. In FY98, the installation completed construction of one RA at OU5. The facility completed the intensive monitoring portion of the permeable iron cell pilot test and began bench-scale studies of an innovative technology to create in situ reactive zones using the same treatment principles. Transfer of the Naval Air Manor property to a local city was completed.

The installation completed a Community Relations Plan and established an information repository in FY89. In FY94, the installation formed a BRAC cleanup team (BCT) and completed a BRAC Cleanup Plan (BCP). It converted its Technical Review Committee to a Restoration Advisory Board (RAB) in FY95 and updated the BCP in FY97.

FY99 Restoration Progress

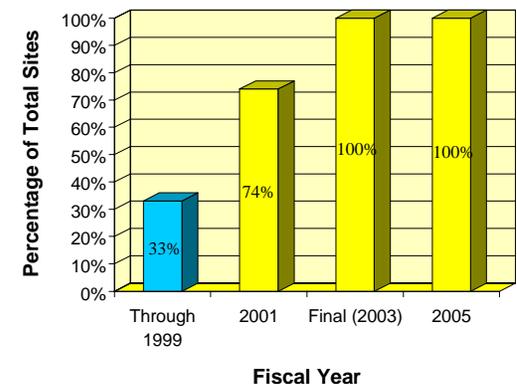
The installation completed landfill consolidation and construction of a cap and completed construction of an RA at the West-side aquifers plume. Pilot studies began for an innovative sodium dithionite, in situ reactive zone technology for groundwater treatment. The FS was completed and the RD has begun on the Site 22 landfill, but the ROD was delayed for negotiation of a less

costly but still protective remedy. The basewide FS was completed, and the basewide ROD has begun. The RA for the ecological areas will be delayed until FY01 due to budgetary constraints and to fill data gaps.

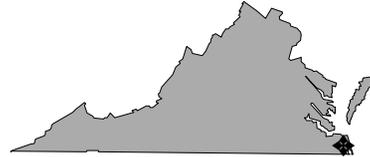
Plan of Action

- Construct RA at Site 22 in FY00
- Sign basewide ROD in FY00
- Begin natural attenuation of commingled plume innovative technology pilot study in FY00
- Complete OU6 FS in FY00
- Complete RD in ecological areas in FY00 and RA in FY01
- Complete UST closure reports in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: VA317002248200
Size: 2,147 acres
Mission: Provide logistics facilities and support services to meet the amphibious warfare training requirements of the Armed Forces
HRS Score: 50; placed on NPL in May 1999
IAG Status: Federal Facility Agreement negotiations to be initiated in FY99
Contaminants: Mixed municipal wastes, VOCs, SVOCs, and heavy metals
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$14.2 million
Estimated Cost to Completion (Completion Year): \$24.4 million (FY2033)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Virginia Beach, Virginia

Restoration Background

Site types at this installation include landfills, a music equipment plating shop, a laundry waste disposal area, a pentachlorophenol (PCP) dip tank, sandblast yards, battery storage areas, and underground storage tanks (USTs). The installation was proposed for the National Priorities List (NPL) mainly because of the potential for contaminants in the soil and groundwater to migrate to surface water and endanger ecological receptors.

An Initial Assessment Study completed in 1984 identified 17 potentially contaminated sites. Sites 7 and 9 through 13 were recommended for confirmation studies. Sites 4, 5, 15, and 16 were recommended for mitigation measures. Sites 1, 2, 6, 8, 14, and 17 were recommended for no further action (NFA). Site 3 was addressed under a separate program. The six sites recommended for further study were sampled for groundwater, surface water, and sediment contamination in 1986. In 1988, a RCRA Facility Assessment (RFA) identified potential solid waste management units (SWMUs).

In 1991, an interim Remedial Investigation (RI) was conducted. A preliminary Site Inspection (SI) for Sites 4, 5, 15, 16, and 17 detected chemical contaminants of concern in groundwater at Site 5 and elevated levels of polychlorinated biphenyls (PCBs) in soil at Site 16. NFA was proposed for Sites 4, 15, and 17.

From 1993 through 1994, an RI was conducted at Sites 7 and 9 through 13 and an SI was performed at Sites 5 and 16. The RI included a Phase I risk assessment and recommended long-term monitoring (LTM) for Sites 9 and 10 and additional evaluation for Sites 7, 12, and 13. The SI recommended monitoring at Site 5 and a Removal Action at Site 16. In 1995, the PCB-contaminated soil was removed from Site 16 and the site was closed. At

Site 11, a source Removal Action was completed. Corrective actions were completed for 10 USTs, and two other UST sites underwent long-term operations.

In FY98, 610 cubic yards of debris was removed from Site 7 and approximately 20 thousand cubic yards of soil was placed over the site landfill. The first round of groundwater sampling for LTM of Site 7 was conducted after the soil cover was constructed. At Site 8 and SWMU 3, field investigations for an SI began. At Site 13, an Engineering Evaluation and Cost Analysis (EE/CA) for removal of PCP-contaminated soil was submitted.

A Community Relations Plan was completed in 1995. A Restoration Advisory Board was established in 1994.

FY99 Restoration Progress

The base was placed on the NPL and began partnering with regulatory agencies. PCP-contaminated soil (442 tons) was removed from Site 13. The EE/CA was finalized for Site 13. The SIs for Site 8 and SWMU 3 were completed, and the SIs for SWMUs 2 and 8 began. Lack of funding and other site priorities delayed SI investigations at SWMUs 1, 4, 5, and 6.

A planned Phase I supplemental RI for Site 11 and a planned Phase II supplemental RI for Sites 12 and 13 were delayed because additional contamination was found and additional work is required. Draft Feasibility Studies (FSs) for Sites 11, 12, and 13 are under way, but were not completed as planned because additional work is required.

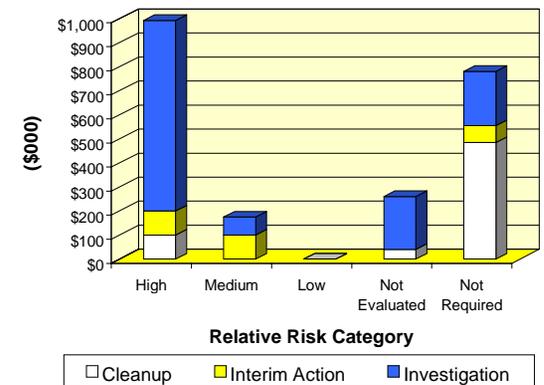
The majority of the SWMUs noted in the RFA were reviewed by the Navy, EPA, and the Virginia Department of Environmental Quality, and categorized in preparation for the Federal Facility Agreement (FFA). Also, ecological investigations were started at

multiple sites. LTM continued at Sites 7, 9, and 10. A Site Management Plan was completed. The 3-year groundwater monitoring report was submitted for Sites 9 and 10, and master project plans to expedite and promote consistency in the development of future project plans were completed as planned.

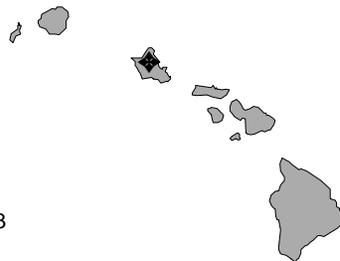
Plan of Action

- Begin base background study in FY00
- Continue ecological investigations of multiple sites in FY00
- Draft FFA in FY00
- Complete EE/CA and soil Removal Action at Site 8 in FY00
- Complete FSs for Sites 11, 12, and 13 in FY00
- Develop EE/CA for SWMU 2 in FY00
- Begin RI/FS for SWMU 3 in FY00
- Begin EE/CA and RI and complete SI for SWMU 8 in FY00
- Continue LTM at Sites 7, 9, and 10 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: HI917002438800
Size: 2,400 acres
Mission: Operate and maintain communications facilities and equipment for Naval shore installations and fleet units in the eastern Pacific
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Draft Federal Facility Agreement was cancelled
Contaminants: PCBs, metals, and petroleum hydrocarbons
Media Affected: Soil
Funding to Date: \$7.4 million
Estimated Cost to Completion (Completion Year): \$39.3 million (FY2013)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Wahiawa, Hawaii

Restoration Background

This installation operates six facilities on the island of Oahu but conducts industrial operations primarily at the main station and receiver site in Wahiawa and the Naval Radio Transmitting Facility in Lualualei. The restoration program has focused on those two facilities, where maintenance and operation of electrical transformers and switches have been the primary sources of contamination. The installation was placed on the National Priorities List (NPL) because polychlorinated biphenyl (PCB)-contaminated soil was detected in work and residential areas. Contamination with metals and petroleum hydrocarbons also resulted from the station's operation and maintenance activities.

Investigations began at the installation in FY86. Twenty-four CERCLA sites and 5 underground storage tank (UST) sites were identified. Site Inspections were conducted for Sites 1, 5, 11, and 14 through 19. Expanded Site Inspections (ESIs) were conducted for Sites 1, 5, and 11.

In FY92, the installation conducted a Removal Action at Site 14 for PCB-contaminated soil in the vicinity of eight transformers. A risk assessment prepared after the Removal Action indicated that no further action (NFA) was required. The ESI identified elevated levels of lead and mercury at the Old Wahiawa Landfill and the Building 6 Disposal Area.

In FY95, the installation completed planning documents for the Remedial Investigation and Feasibility Study (RI/FS) at Sites 1, 5, 6, 10, 12, 13, 17, 18, and 20. RI/FS activities included screening risk assessments to determine whether further action was required. The Navy completed a draft Federal Facility Agreement (FFA). The FFA was never finalized. Both EPA and the Navy agreed that

an FFA was not necessary for the installation because investigation and cleanup are progressing at the installation.

In FY96, the Navy conducted RI/FS activities at Sites 1 and 5 and determined that NFA was required at UST Site 6. Initial site characterization was conducted at UST Site 8.

In FY97, the installation began RI/FS activities at Sites 2 and 22. A draft Engineering Evaluation and Cost Analysis (EE/CA) was prepared for a Removal Action at transformer locations at Sites 17, 18, and 20.

In FY98, an EE/CA, an Action Memorandum (AM), and planning documents were completed for the Removal Actions at transformer locations at Sites 17, 18, and 20. The installation initiated fieldwork for this Removal Action. Petroleum contamination was identified at UST Site 5.

Because the installation consists of two primary facilities, two Restoration Advisory Boards (RABs) were established. Members of the community have been instrumental in discovering sites and have located numerous wells in the vicinity of the installation. The final Community Relations Plan was completed in FY95.

FY99 Restoration Progress

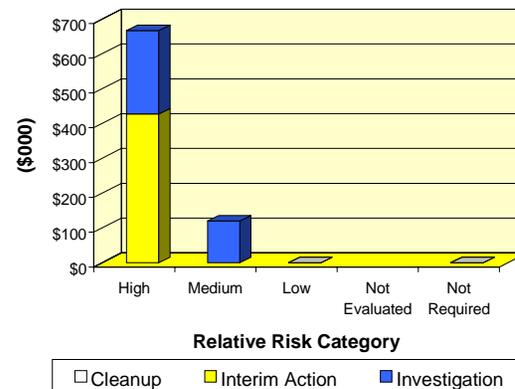
The installation continued RI/FS activities at Sites 1, 2, 5, and 22. The RI/FS required additional work to incorporate new data from Sites 1 and 2 and to comply with updated ecological requirements. Fieldwork for Removal Action at Sites 17, 18, and 20 continued but was not completed because of weather delays and the discovery of additional contamination. The installation completed the work plans for a Removal Site Evaluation (RSE) for a part of Site 18 not addressed in the current Removal Action. The RSE fieldwork, EE/CA, and AM were delayed by lack of

funding. The installation began a technology demonstration that will be used in the EE/CA to treat excavated soil from Sites 17, 18, and 20. Remediation of soil contamination at UST Site 5 was completed. Investigation of a potential UST tank site, UST Site 8, was completed, with no tank located.

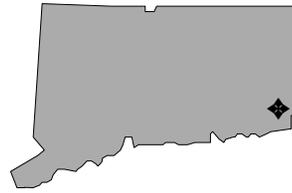
Plan of Action

- Complete RI/FS at Sites 1, 2, 5, and 22 after analytical data for Sites 1 and 2 have been incorporated and ecological assessments have been updated in FY00
- Complete Removal Action at Sites 17, 18, and 20 in FY00
- Initiate RSE fieldwork, EE/CA, and AM at a portion of Site 18 in FY00
- Complete a technology demonstration for treating soil from Sites 17, 18, and 20 in FY00
- Initiate a Removal Action at Sites 17, 18, and 20 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CT117002202000
Size: 547 acres
Mission: Maintain and repair submarines; conduct submarine training and submarine medical research; provide a home port for submarines
HRS Score: 36.53; placed on NPL in August 1990
IAG Status: Federal Facility Agreement signed in January 1995
Contaminants: Dredge spoils, incinerator ash, petroleum/oil/lubricants, PCBs, spent acids, pesticides, solvents, construction debris, metals, and VOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$45.6 million
Estimated Cost to Completion (Completion Year): \$47.7 million (FY2017)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Groton, Connecticut

Restoration Background

Studies began at the New London Naval Submarine Base in FY82. Significant sites include the Area A Landfill (Site 2), a number of smaller disposal areas, and fuel and chemical storage areas. Twenty-two CERCLA sites were identified along with underground storage tanks (USTs), which were grouped into two UST sites.

The installation was placed on the National Priorities List (NPL) because of polychlorinated biphenyl (PCB) contamination at Site 2. The landfill was used to dispose of scrap wood, metal, waste chemicals, waste acid, and drums containing solvents. In FY93, the Navy constructed a fence around the landfill as part of an Interim Remedial Action (IRA).

Several Removal Actions have been implemented. In FY91, 19 gas cylinders were removed from Site 8, the Goss Cove Landfill. In FY94, the installation removed 2,000 cubic yards of soil contaminated with PCBs and lead from Site 6. At Site 15, lead-contaminated soil was removed. At Site 9, the installation removed PCB-contaminated oil, sludge, and water from a waste oil tank; the tank was cleaned and abandoned in place.

At UST Sites 1 and 2, the base began installing air-sparging (AS) and soil vapor extraction (SVE) systems to remove gasoline from the subsurface and to bioremediate less volatile fuels.

In FY95, a Record of Decision (ROD) was signed for Site 2 and the installation agreed to cap the landfill as an IRA. The draft Remedial Investigation and Feasibility Study (RI/FS) report was completed for Sites 1 through 11, 13 through 15, and 20.

In FY96, the installation began the FSs for Sites 3 and 8. The installation completed and began operating the AS/SVE systems

at UST Sites 1 and 2, and initiated a Phase II Site Inspection (SI) at the Fuel Farm (Site 23). During FY97, the RI for Sites 1 through 11, 13 through 15, and 20, and the corrective action design and Phase II SI for Site 23 were completed. The Area A Landfill was capped. Removal Actions were completed at Site 4 and the Over Bank Disposal Area of Site 3.

In FY98, RODs were signed for Sites 3 and 6. After Removal Actions at Sites 4 and 15, no further action RODs were signed for the two sites. An FS was completed at Site 8.

The installation formed a Technical Review Committee in FY89 and converted it to a Restoration Advisory Board (RAB) in FY94. The RAB meets quarterly.

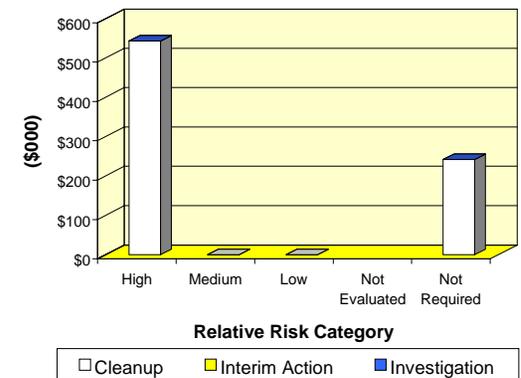
FY99 Restoration Progress

The RI was completed at the lower base, which includes Sites 10, 11, 13, 17, 21, 22, 24, and 25. The RI for the basewide groundwater operable unit (OU) was not completed because the project was not funded. An FS was initiated at the lower base sites and at Site 20. A Proposed Remedial Action Plan (PRAP) was completed and a ROD was signed for Site 8. Remedial Design (RD) began at Site 3, and quarterly groundwater monitoring was conducted at Sites 2 and 6. The AS/SVE system continued to operate at UST Sites 1 and 2. The FS, PRAP, and ROD were not completed at Site 20 because of extensive discussions between the Navy and regulators.

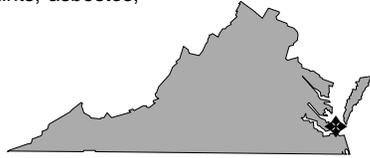
Plan of Action

- Complete FS, PRAP, and ROD for the lower base sites and for Site 20 in FY00
- Continue operation of AS/SVE system at USTs 1 and 2 in FY00
- Continue groundwater monitoring at Sites 2 and 6 in FY00
- Complete RD and Remedial Action (RA) at Site 3 and RD at Site 8 in FY00
- Begin fieldwork for basewide groundwater OU RI in FY00
- Begin RA for Site 8 and RD for the lower base sites in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: VA317002741400
Size: 4,631 acres
Mission: Provide services and materials to support the aviation activities and operating forces of the Navy
HRS Score: 50.00; placed on NPL in April 1997
IAG Status: Federal Facility Agreement was signed February 1999
Contaminants: Petroleum products, PCBs, solvents, heavy metals, acids, paints, asbestos, and pesticides
Media Affected: Surface water and sediment
Funding to Date: \$73.2 million
Estimated Cost to Completion (Completion Year): \$40.0 million (FY2021)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Norfolk, Virginia

Restoration Background

Studies conducted at Norfolk Naval Base since FY83 have identified 22 sites and 173 solid waste management units (SWMUs). Further actions are required at 10 sites, 4 site screening areas, and 8 areas of concern. Contamination has resulted from maintenance operations for the aircraft, equipment, and vehicles used to carry out the base’s mission, and from operation of support facilities, such as hobby shops. Site types at the installation include landfills, ordnance storage areas, waste disposal areas, fire training areas, fuel spill areas, and underground storage tanks. The installation was placed on the National Priorities List (NPL) mainly because of the potential for migration of contaminated surface water into groundwater and soil.

During FY89, the installation completed a Remedial Investigation and Feasibility Study (RI/FS) for Site 4. In FY91, an Expanded Site Inspection was completed for Site 6 and a Remedial Design (RD) was completed for Site 4. During FY94, the installation removed drums and debris at Area B of Site 1 and completed an RI/FS and signed a decision document for the site.

In FY96, a Preliminary Assessment and a Site Inspection were initiated for Site 21, and an RI/FS was initiated for three sites. A baseline Ecological Risk Assessment was completed for Site 3, and construction of an air-sparging (AS) and soil vapor extraction (SVE) system began for the site.

In FY97, the installation completed a draft Federal Facility Agreement (FFA), signed two decision documents, completed an RD, and initiated a Removal Action for Sites 6 and 20. A Remedial Action (RA) was initiated for SWMU 1, the RA for Site

1 was completed, and the pump-and-treat system began operation, and the pump-and-treat system for the Fuel Farms was completed.

In FY98, two AS/SVE systems (Sites 3 and 20) began operation, an RI/FS were completed and an RD was initiated for Site 2, and long-term monitoring and operations and maintenance started at Sites 1, 3, and 20. An Engineering Evaluation and Cost Analysis was completed for Site 5, and a Record of Decision (ROD) was signed for a landfill cap at Site 6. An Interim Remedial Action (IRA) began for Site 22, and IRAs were completed at Site 21 and SWMU 1. Screening began at 15 SWMUs.

The installation formed a Technical Review Committee in FY89 and converted it to a Restoration Advisory Board in FY94. A Community Relations Plan was completed in FY93.

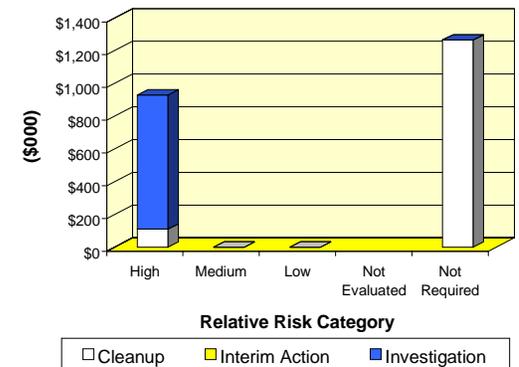
FY99 Restoration Progress

The RI/FS at Site 22 was completed. Because the problem at this site was found to be more extensive than expected, only a portion of the contaminated soil was removed during the IRA. This complicated and delayed the ROD and site cleanup. The site is now being addressed through two RODs. During the IRA at Site 5, initial excavation removed the bulk of the contaminated soil; however, one confirmatory sample showed contamination levels above cleanup goals. An RA and a ROD were initiated at Site 2, and an RA (landfill cap) was initiated at Site 6. An RI/FS was completed at Site 22, and work plans were initiated at SWMUs 9, 10, 14, and 38. The FFA was signed.

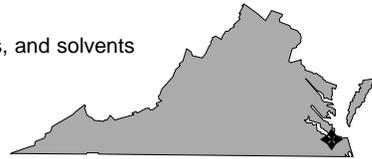
Plan of Action

- Sign ROD and complete RA for Site 2 in FY00
- Complete IRA at Site 5 in FY00
- Complete RA at Site 6 and begin LTM in FY00
- Sign ROD for northern part of Site 22 in FY00
- Sign Closeout Reports for five SWMUs in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: VA317002481300
Size: 795 acres
Mission: Provide logistical support for assigned ships and service craft; perform work in connection with conversion, overhaul, repair, alteration, dry-docking, and outfitting of naval vessels; perform manufacturing, research, development, and test work; and provide services to other activities and units
HRS Score: 50.0; placed on NPL in July 1999
IAG Status: None
Contaminants: Heavy metals, PCBs, VOCs, SVOCs, petroleum/oil/lubricants, and solvents
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$8.2 million
Estimated Cost to Completion (Completion Year): \$26.2 million (FY2038)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Portsmouth, Virginia

Restoration Background

Norfolk Naval Shipyard (NNSY) is located on the western bank of the Southern Branch of the Elizabeth River. It is composed of the main shipyard and three annexes. In 1983, an Initial Assessment Study identified 19 sites at NNSY, 8 of which required further investigation. These sites resulted from past land filling, disposal operations, and the operation of a plating shop. The plating shop site was determined to require no additional action other than monitoring. A RCRA Facility Investigation (RFI) was performed in 1986. An RFI supplement issued in 1987 identified 121 solid waste management units and areas of concern. The installation was placed on the National Priorities List (NPL) in July 1999 because of the potential impact of surface water runoff on Paradise Creek, which is adjacent to the shipyard disposal areas.

Investigations at NNSY have been accelerated by use of such technologies as the Global Positioning System, geoprobe, hydropunch, cone penetrometer, mobile on-site laboratory, and ground-penetrating radar.

An administrative record was established in FY92, and a Community Relations Plan was completed in FY94. The installation formed a Technical Review Committee in FY94 and converted it to a Restoration Advisory Board (RAB) in FY96. The RAB currently convenes three to four times per year.

FY99 Restoration Progress

NNSY initiated a Site Screening Assessment (SSA) to support Federal Facility Agreement (FFA) development. The SSA was revised because of a change in strategy in the NNSY Installation Restoration Program that placed a greater emphasis on use of institutional controls instead of conducting extensive sampling in the Controlled Industrial Area of the shipyard.

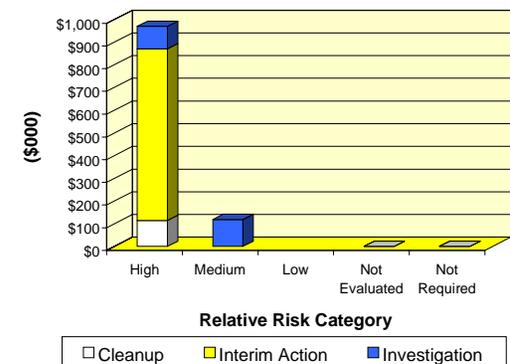
The installation continued working on a Remedial Investigation and Feasibility Study (RI/FS) for Operable Units 1 and 2, which comprise six disposal areas and waste holding and accumulation areas. A Human Health Risk Assessment was performed. An Ecological Risk Assessment (ERA) is under way but was delayed by cooperative development of ERA protocol by the Navy, EPA, and state regulators.

Fieldwork characterizing the nature and extent of dense nonaqueous phase liquid contamination was completed, and operation of a free-product recovery system for light nonaqueous phase liquid contamination began, at the Oil Reclamation Area (Site 5). The RI/FSs for OUs 1 and 2 were delayed because of the delay in the ERA. Regulatory review of the RI for the Plating Shop (Site 17) was completed. NNSY provided technical support to the Department of Justice for settlement of past investigation cost issues at the Atlantic Woods Industries Superfund Site.

Plan of Action

- Perform Removal Action at New Gosport Landfill (Site 1) in FY00
- Complete SSA fieldwork and issue investigation report in FY00
- Initiate RI at St. Helena Annex in FY00
- Sign Records of Decision for the Scott Center Annex Landfill (Site 2) and Site 17 in FY00
- Perform Remedial Design for Site 2 and a Removal Action Engineering Evaluation and Cost Analysis for the Acetylene Waste Lagoon (Site 9) in FY00
- Continue development of the FFA in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: FL417002473600
Size: 2,052 acres
Mission: Serve as Naval Training Center; formerly used as Army Air Force and Air Force bases
HRS Score: NA
IAG Status: None
Contaminants: Asbestos, paint, petroleum/oil/lubricants, photographic chemicals, solvents, and low-level radioactive wastes
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$20.6 million
Estimated Cost to Completion (Completion Year): \$4.8 million (FY2002)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2001



Orlando, Florida

Restoration Background

The Orlando Naval Training Center has four areas: the Main Base, Area C, Herndon Annex, and McCoy Annex. Most of the operational and training facilities are located on the Main Base. Area C, west of the Main Base, contains warehouse and laundry operations. Herndon Annex contains warehouse and research facilities. McCoy Annex contains housing and community facilities. From 1941 to 1968, the installation served as an Army Air Base and an Air Force Base. Since 1968, it has been a Naval Training Center. In July 1993, the BRAC Commission recommended closure of the installation and relocation of its activities. The installation closed on April 30, 1999.

Investigations, beginning in FY85, identified 10 CERCLA sites and 4 underground storage tank (UST) program sites. The installation identified 55 areas of concern (AOCs) and more than 300 tank systems requiring removal or assessment. In FY92, the installation replaced three tanks at a UST site. Corrective Action Plans (CAPs) for the three remaining UST sites were completed in FY93.

In FY94, the installation formed a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT). In FY95, the installation began Remedial Investigation and Feasibility Study (RI/FS) activities at the Main Base Landfill site, completed a CAP for one UST site, and began an Interim Remedial Action (IRA) for groundwater at another UST site. The installation removed 55 tanks and completed 45 UST assessment reports. Also in FY95, the installation completed its Land Reuse Plan, a Community Relations Plan, and an Environmental Baseline Survey.

During FY96, a Preliminary Assessment and Site Inspection (PA/SI) was completed and the RI/FS began at the Laundry Area C site. PA/SI activities at two other sites and a CAP for one UST were completed. In FY97, RI/FS activities began at the McCoy Annex Landfill, the Old Pesticide Shop, and the Groundskeeper Storage Area. An IRA at UST site, McCoy Gas Station, was completed.

By the end of FY98, site screenings had been completed at all AOCs and site screening reports were completed for another 10. The BCT completed a Record of Decision (ROD) and removed and assessed 55 tanks. Soil was removed from Study Areas 27 and 52 and Operable Unit (OU) 3. Fieldwork for the final 13 AOCs began.

FY99 Restoration Progress

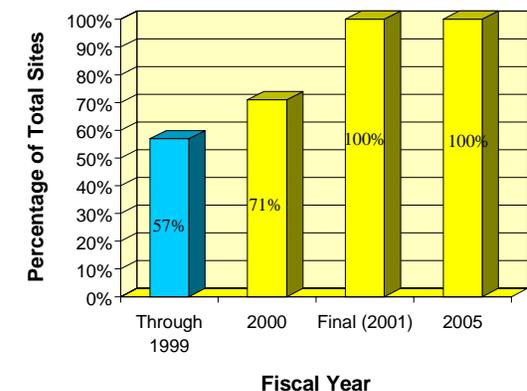
IRAs were completed at 10 RI sites and six tank sites. Fieldwork and reports were completed at 12 AOCs. Thirty-three tanks were removed, and removal reports were completed. The final RI/FS report and the draft ROD were completed for OU3, but the final ROD was not completed because of delays with the IRA.

The draft Finding of Suitability to Lease for McCoy Annex was completed. Draft Findings of Suitability to Transfer (FOSTs) for the public benefit conveyance of Herndon Annex and part of McCoy Annex to the Airport Authority were completed, but the final FOST is still awaiting regulator approval. The design was completed and approved for a pilot study to remediate tetrachloroethene in the source area at the Area C Laundry. The draft RI/FS report was completed for the McCoy Annex Landfill and Area C Laundry.

Plan of Action

- Complete economic development conveyance of 1,425 acres to City of Orlando in FY00
- Complete IRAs at three AOCs, one OU, and one tank site in FY00
- Complete Federal Aviation Administration conveyance of 100 acres and final decision documents for eight AOCs in FY00
- Complete ROD for OUs 3 and 4 and IRAs at two Installation Restoration Program (IRP) sites and four tank sites in FY00
- Close out final three tanks in FY00
- Complete ROD for OU2 in FY01
- Complete final decision documents for nine AOCs and four tank sites in FY01
- Start long-term monitoring at seven IRP sites and four tank sites in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: SC417302276300
Size: 8,043 acres
Mission: Receive, recruit, and combat-train enlisted personnel upon their enlistment in the Marine Corps
HRS Score: 50.00; placed on NPL in December 1994
IAG Status: Federal Facility Agreement under negotiation
Contaminants: Industrial wastes, pesticides, paint, petroleum/oil/lubricants, solvents, ordnance compounds, metals, acids, and electrolytes
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$6.5 million
Estimated Cost to Completion (Completion Year): \$15.2 million (FY2011)
Final Remedy in Place or Response Complete Date for All Sites: FY2009



Parris Island, South Carolina

Restoration Background

The Parris Island Marine Corps Recruit Depot (MCRD) was listed on the National Priorities List (NPL) in December 1994. The listing was due to contamination at two landfill sites. Investigations at that time identified 48 potential CERCLA and RCRA sites. Most of the sites are landfills or spill areas where groundwater and sediment are contaminated with solvents and petroleum/oil/lubricants.

In FY86, an Initial Assessment Study identified 16 sites, 10 of which were designated Response Complete (RC). In FY87, a Site Inspection (SI) was initiated for all sites. EPA prepared a RCRA Facility Assessment (RFA) for the installation in FY90. The RFA identified 44 solid waste management units (SWMUs) and 4 areas of concern (AOCs). All identified CERCLA sites were included as SWMUs or AOCs. Of the originally identified 48 potential sites, the Navy, Marines, and EPA designated 25 as official sites. Ten of these sites were designated RC. All tanks were removed and cleanup was completed at two sites. Five sites required no further action. In FY93, the installation completed an Expanded Site Inspection at the Causeway Landfill.

During FY95, Remedial Actions began involving tank removals, soil removal, free-product recovery, and soil vapor extraction at one underground storage tank (UST) site. Four storage tanks were removed. An Interim Remedial Action (IRA) was conducted at one landfill site. Twelve sites that had been designated RC were reopened, with three reclassified as RC. The Agency for Toxic Substances and Disease Registry performed an initial Public Health Assessment for the installation.

During FY96, the installation began Remedial Investigation and Feasibility Study (RI/FS) activities at four sites and completed Preliminary Assessment and SI activities at three. The installation began an IRA at a spill area and completed an assessment of contamination at UST 2. A draft Federal Facility Agreement (FFA) was prepared.

In FY97, a Corrective Action Plan for UST 2 was completed and the corrective action was implemented. The installation also completed the IRA and began long-term monitoring for UST 1.

In FY98, RI/FS activities began at six sites. Limited additional sampling was conducted at Sites 9 and 15 to clarify conditions. A pump-and-treat system, established at Site 45, began removing contaminated groundwater.

In FY96, the installation began to compile an administrative record and submitted a draft Community Relations Plan (CRP) to the regulatory agencies. The CRP was completed in FY98. There has been no community interest in forming a Restoration Advisory Board.

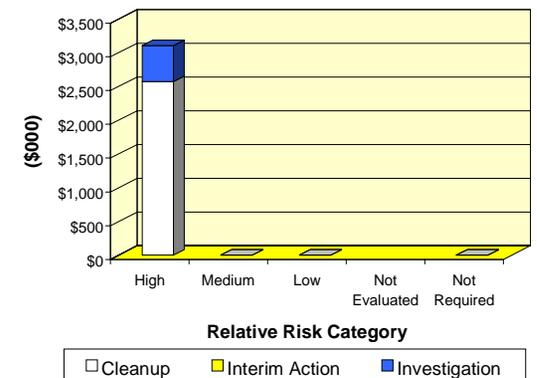
FY99 Restoration Progress

A draft RI/FS was submitted for Site 3. Work continued on the RI/FS for Sites 1, 2, and 12. Work on Site 14 is on hold until the investigations at these other sites are complete. A work plan was approved and sampling was completed at Site 21. An IRA (pump-and-treat system) continued to remove contamination from the groundwater at Site 45. The contract for this IRA runs through FY00. Monitoring continued at USTs 1 and 2, and contracts for contamination assessments were awarded for Building 4022 and the depot gas station. FFA negotiations are on hold.

Plan of Action

- Prepare Records of Decision for Sites 1, 2, and 3 in FY00
- Complete FFA in FY00
- Construct a landfill cap at Sites 1 and 3 in FY00
- Submit RI/FS reports for Sites 1, 2, 3, 12, 21 in FY00
- Continue IRA and begin RI/FS at Site 45 in FY00
- Continue monitoring at USTs 1 and 2 in FY00
- Complete contamination assessment at the gas station and Building 4022 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: MD317002453600
Size: 6,800 acres
Mission: Test and evaluate naval aircraft systems
HRS Score: 36.87; placed on NPL in May 1994
IAG Status: None
Contaminants: Heavy metals, pesticides, organics, petroleum/oil/lubricants, solvents, and UXO
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$20.6 million
Estimated Cost to Completion (Completion Year): \$93.8 million (FY2015)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Lexington Park, Maryland

Restoration Background

Studies beginning in FY84 showed 46 Installation Restoration Program sites at Patuxent. Three sites were placed on the National Priorities List (NPL): a Fishing Point landfill site (Site 1), the Former Sanitary Landfill (Site 11), and the Pest Control Shop (Site 17). Wastes managed at Site 1 included mixed solid wastes, petroleum/oil/lubricants (POL), paints, thinners, solvents, pesticides, and photographic laboratory wastes. Wastes handled at Site 11 include mixed solid wastes, POL, paints, thinners, solvents, and pesticides. Pesticides were handled at Site 17.

Metals and pesticides, semivolatiles, and volatiles were released from landfills and spills, causing contamination of soil, groundwater, surface water, and sediment at the various Installation Restoration (IR) sites. Remedial Investigation and Feasibility Study (RI/FS) activities included installation of shallow and deep monitoring wells and collection of soil borings, groundwater, soil, sediment, and fish. Hydrogeologic testing was conducted. Between FY86 and FY98, the installation completed removal of drums, polychlorinated biphenyl-contaminated soil, pesticide-contaminated soil, and ordnance.

In FY94, Interim Remedial Actions (IRAs) included an ordnance sweep for remaining unexploded ordnance (UXO). Shoreline stabilization prevented erosion of a Fishing Point landfill into the Chesapeake Bay. During FY96, the installation began a five-phase RI/FS for 16 sites. A Record of Decision (ROD) was signed, and the installation completed a Corrective Action Plan (CAP) at Site 11. Dry well and sediment removal was completed at Site 24. The pre-design and design phases began for an IRA at Site 6.

Sixteen underground storage tanks (USTs), identified between FY87 and FY93, were grouped into six areas for further

investigation. Interim Actions (IAs) at two of the areas included groundwater treatment and recovery of free product. Corrective Measures Design at UST 1 and a Removal Action at UST 5 were implemented. The installation prepared a CAP for UST 6. In FY97, one early action was performed and a landfill cap was installed. A corrective action (CA) at UST 4 and two IAs at UST 6 also were implemented. IRAs were completed at Sites 11 and 24.

In FY98, the installation completed a Removal Action at Site 34, began the Remedial Design (RD) for Sites 1 and 12, and initiated a Remedial Action (RA) for Site 17. The draft final Site Inspection (SI) document was submitted for regulatory review, and RD at Site 17 was completed. CAs were completed at UST 5.

The installation formed a Technical Review Committee in FY90 and completed a Community Relations Plan in FY91. A Restoration Advisory Board was established in FY94. The Navy regularly updates an administrative record and two information repositories, both of which were established in FY95.

FY99 Restoration Progress

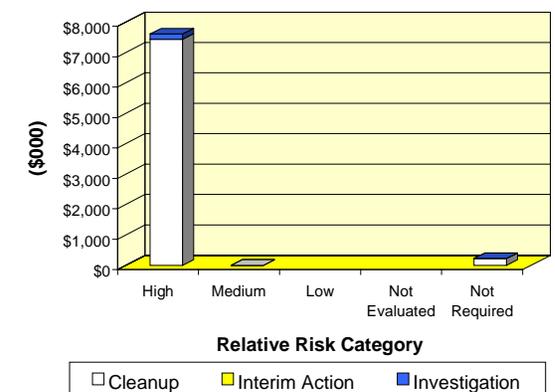
A Proposed Plan (PP) and a ROD were completed. The RA contract for Site 17 was awarded, but the RA was not completed because of lack of funding and increased scope of work. The contract was for a Focused Feasibility Study, PP, ROD, RD, and RA was awarded and completed for Site 6 (Bohneyard). The RA involved installing a soil cover system over unpaved areas and asphalt paving for other vehicle parking and access roads. The RI/FS was awarded and the SI was completed for Sites 3, 31, 39, 41, and 47.

The RD, PP, ROD, and RA planned for Sites 1 and 12 were not completed due to a lack of funding. A contract for RI/FS for Sites 4, 5, and 27 was delayed due to lack of funding. The RI planned for Sites 3, 31, and 39 was not completed because the SI took longer than expected. Sites 41 and 47 were added to the planned RI. A Removal Action for Site 23 was found to be unnecessary. The SI for Sites 48, 49, and 50 was not completed due to lack of funding. Lack of funding delayed the conversion of the administrative record to CD-ROM.

Plan of Action

- Complete RD, PP, ROD, and RA at Sites 1 and 12 in FY00
- Complete additional sampling, and RA at Site 17 in FY00
- Continue partnering efforts and Pax River page updates in FY00
- Begin LTM at Site 11 in FY00
- Complete RI/FS at Sites 4, 5, and 27 and complete SI for Sites 48, 49, and 50 in FY00
- Complete RI for Sites 3, 31, 39, 41, and 47 in FY01
- Begin PP and ROD for Sites 4, 5, and 27 in FY01
- Convert administrative record to CD-ROM in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFIDs: HI917002434200, HI917002477900, HI917002434100, HI917002434000, HI917002433900, and HI917002433400

Size: 2,162 acres

Mission: Provide primary fleet support in the Pearl Harbor area

HRS Score: 70.82; placed on NPL in October 1992

IAG Status: Federal Facility Agreement signed in March 1994

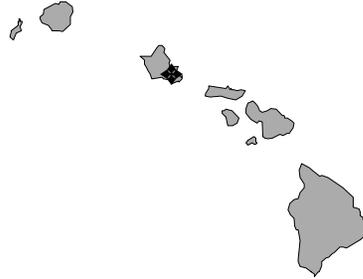
Contaminants: VOCs, SVOCs, heavy metals, PCBs, pesticides, petroleum hydrocarbons, and solvents

Media Affected: Groundwater and soil

Funding to Date: \$88.7 million

Estimated Cost to Completion (Completion Year): \$141.9 million (FY2019)

Final Remedy in Place or Response Complete Date for All Sites: FY2013



Pearl Harbor, Hawaii

Restoration Background

The Pearl Harbor Naval Complex consists of six installations: the Fleet and Industrial Supply Center, the Naval Station, the Naval Magazine, the Naval Shipyard and Intermediate Maintenance Facility, the Public Works Center, and the Inactive Ship Maintenance Facility. Fuel supply activities, landfills, and other support operations have contaminated the soil and groundwater with volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals.

The installation has conducted investigations and cleanups under CERCLA and RCRA at over 30 sites since FY83. Between FY91 and FY93, Interim Remedial Actions (IRAs) included excavation of polychlorinated biphenyl (PCB)- and dieldrin-contaminated soil at the Pearl City Junction and excavation of PCB-contaminated soil at transformer locations at the Armed Services Special Educational Training Services School. Five underground storage tanks and tetrachloroethene-contaminated soil were removed from the Aiea Laundry site (Site 31) in FY94. Approximately 7,000 cubic yards of soil was excavated, removed, treated, and backfilled at Site 22.

During FY97, IRAs were initiated at Sites 37 and 46 and completed at Sites 8 and 36. Long-term monitoring began at one site. Site Inspections (SIs) were initiated for Sites 40 through 42. At Site 34, a solvent extraction technology was used to remove PCBs from concrete. PCB-contaminated sediment was removed from the catch basin in Site 13. The capping of the landfill marked completion of cleanup at Site 8; groundwater monitoring will continue for 5 years. A Removal Site Evaluation (RSE) and a design package were used at Site 45 to address petroleum contamination. A Remedial Investigation and Feasibility Study

(RI/FS) for Site 19, a Removal Action design for Sites 4 and 34, and a Site Summary Process for the complex continued.

In FY98, fieldwork for Sites 22 and 27 was completed. Final Engineering Evaluation and Cost Analysis (EE/CA) and design documents for Site 4 were completed. The construction for Removal Actions at Sites 37 and 46 was completed. The SI was revised and finalized at Sites 40, 41, and 42. The Removal Action was completed at Site 42.

A Technical Review Committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) in FY95. The installation established three information repositories in FY90 and an administrative record in FY92. A Community Relations Plan was completed in FY92 and updated in FY95.

FY99 Restoration Progress

The Waipio Peninsula Site Summary Report (SSR) was initiated, and the Ford Island SSR was completed. An RI/FS for Site 51 began. The Removal Action for diesel fuel at Site 31 was initiated. The soil vapor extraction system for chlorinated solvents at Site 31 was deactivated in early FY99. Soil vapor concentrations along the property line dropped to undetectable levels. The RI/FS for Sites 19 and 31 continued. The EE/CA, Action Memorandum, and design documents were not completed as planned for Site 45 due to an extended demonstration period for the electroheating product removal technology caused by contractor scheduling conflicts and an extended regulatory review period.

Final planning documents for a Removal Action at Sites 20, 21, and 29 were completed, along with the fieldwork for an RSE and a draft EE/CA. The Phase II RI report for Site 22 was completed. Remedial Action Operations (RA-O) continued at Sites 36, 37,

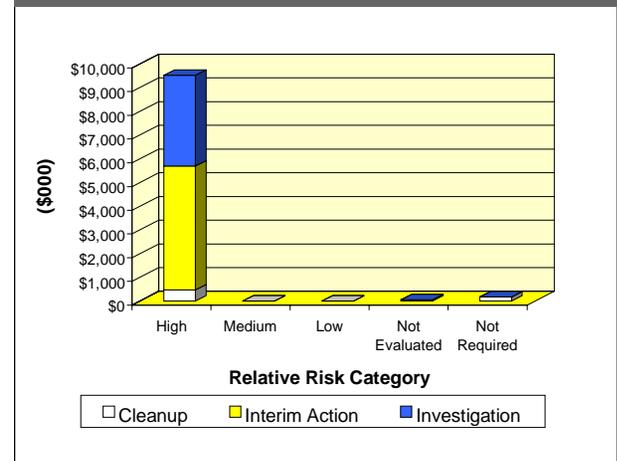
and 46. A Removal Action was completed at Site 39. Groundwater RI planning documents were completed for Sites 33 and 39. A draft EE/CA was prepared to address the product plume at Magazine Loch (Site 25). A Removal Action continued at Sites 10 and 45 with Superfund Innovative Technology Evaluation (SITE) program demonstrations of electrokinetics and product removal technologies. A Removal Action was initiated for Site 41. A Removal Action for PCB-contaminated soil at Site 34 began, and a Treatability Study was completed. Planning for an RSE began for Site 43. A Removal Action for Site 4 was implemented.

Three RAB meetings were held in FY99.

Plan of Action

- Complete Waipio Peninsula, West Loch, Pearl City Peninsula, Inactive Ship Maintenance Facility, and Bishop Point SSRs in FY00
- Begin a No Further Action Record of Decision at Site 22 and a groundwater RI for Sites 33 and 39 in FY00
- Continue the 5-year groundwater monitoring program at Site 8 and the RI/FS at Sites 19, 31, and 51 in FY00
- Finalize the EE/CA and design and begin construction for a Removal Action at Sites 33, 39, and 45 in FY00
- Finalize the EE/CA and design documents for a Removal Action at Site 25 in FY00
- Continue Removal Action with EPA SITE program using electrokinetics at Site 10; Removal Action at Sites 4, 34, 41, and 43; and RA-O at Sites 37 and 46 in FY00-FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: FL417002461000
Size: 5,874 acres
Mission: Serve as a flight training center
HRS Score: 42.40; placed on NPL in December 1989
IAG Status: Federal Facility Agreement signed in October 1990
Contaminants: Ammonia, asbestos, benzene, cyanide, heavy metals, paints, PCBs, pesticides, phenols, plating wastes, and chlorinated and nonchlorinated solvents
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$50.5 million
Estimated Cost to Completion (Completion Year): \$44.0 million (FY2019)
Final Remedy in Place or Response Complete Date for All Sites: FY2013



Pensacola, Florida

Restoration Background

This installation, which now serves as a flight training center, was formerly a naval air rework facility and aviation depot. Operations that have caused contamination at the station include machine shops, a foundry, coating and paint shops, paint stripping and plating shops, various maintenance and support facilities, landfills, and storage facilities. Investigations have identified 38 CERCLA sites, 1 solid waste management unit (SWMU), and 15 underground storage tank (UST) sites. Site types include landfills, disposal sites, polychlorinated biphenyl (PCB) transformer and spill areas, industrial wastewater treatment plant areas, and evaporation ponds. Corrective measures have been taken at two UST sites. Cleanup activities, including installation of a groundwater pump-and-treat system, have been conducted at the SWMU.

In FY94, the installation removed a waste tank. It also removed industrial sludge containing heavy metals from sludge-drying beds and stained soil from various sites. A fence was installed to restrict access to an area containing drums. In FY95, the installation began Interim Remedial Actions (IRAs) at four sites and completed the Remedial Investigation and Feasibility Study (RI/FS) and the Proposed Plan (PP) for an additional site. A Record of Decision (ROD) was signed for no further action (NFA) at Site 39. RI reports were submitted for 10 sites, and RI fieldwork was completed for 2. Five petroleum-contaminated sites were closed.

In FY96, a new CERCLA site was added to the program. The installation completed an RI/FS and IRAs for four sites. The installation submitted an RI report for seven sites, completed an RI for Site 1, completed RI fieldwork for three sites, and initiated

RI for nine other sites. Remedial Design (RD) activities began at Sites 32, 33, and 35.

In FY97, RI/FSs for Sites 4, 16, 28, and 36; an RI for nine sites; and RD for Sites 32, 33, and 35 were completed. An RD and a Remedial Action (RA) began at five sites. Monitoring for UST 17 continued. A hazardous waste permit reissued for SWMU 1 allowed USGS to begin a natural attenuation (NA) evaluation.

In FY98, RIs at Sites 15, 19, 21, and 23; RI/FSs for Sites 7 and 18; and IRAs for Sites 1, 9, 10, 17, 18, and 25 were completed. The FS, RA, PP, ROD, and RD for Site 1, and the FS and PP for Site 2, were completed. The RA for Site 32 was started. The RODs for Sites 17 and 42 were signed by the commanding officer of the installation. USGS continued the NA evaluation, and Fenton's reagent/hydrogen peroxide injection technology was implemented for source removal of contamination at SWMU 1.

The installation formed a Technical Review Committee in FY90 and converted it to a Restoration Advisory Board in FY94.

FY99 Restoration Progress

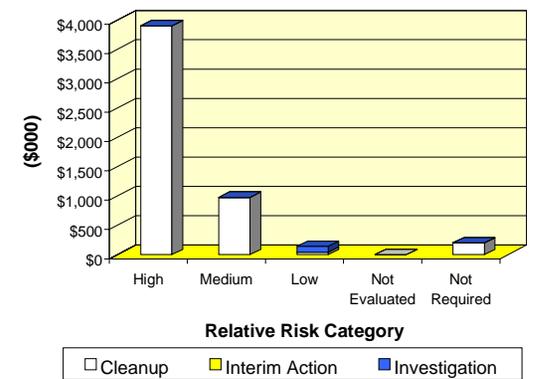
RODs for Sites 9, 17, 29, and 42 were completed, with state concurrence pending for Sites 9, 29, and 42. The RD and ROD for Site 2 were delayed by discussions concerning the impacts of recent hurricanes. The ROD for Site 15 was delayed because of additional discussions on the preferred treatment alternative. The Memorandum of Agreement on land use controls was signed by the commanding officer. The site assessment report (SAR) for UST 14 was started. SARs for USTs 15, 20, 21, 23, and 26 are under way. Funding was not available to start the SAR for UST 24. A monitoring-only plan for Site 1162 and an NFA designation for Site 1140 were approved. The RA and the RD for Site 1

were completed ahead of schedule. The SAR for Site 22 was completed. Site 22 is being transferred to the UST program.

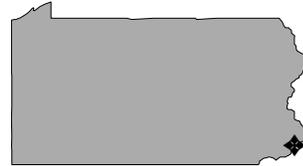
Plan of Action

- Obtain concurrence on RODs for Sites 9, 29, and 42 in FY00
- Complete RODs for Sites 8, 15, 24, 38, and 40; RIs for Sites 40, 41, and 43; and FSs for Sites 11, 12, 25, 26, 27, and 30 in FY00
- Begin RD for Site 15 in FY00
- Complete SARs for UST Sites 14 and 23 in FY00
- Begin SARs for UST Sites 24 and 25 and begin RA for UST Site 18 in FY00
- Complete RODs for Sites 2, 11, 12, 25, 26, 27, 30, and 41 and SARs for UST Sites 15, 20, 21, 24, and 25 in FY01
- Start RD for Sites 8, 24, and 38 in FY01
- Complete Remedial Action Plans for USTs 1107, 1120, and 1159 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFIDs: PA317002775600, PA317002219800, and PA317002241800
Size: 1,492 acres
Mission: Provide logistical support for ships and service craft; overhaul, repair, and outfit ships and craft; conduct research and development; test and evaluate shipboard systems
HRS Score: NA
IAG Status: None
Contaminants: Petroleum/oil/lubricants, heavy metals, PCBs, solvents, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$20.1 million
Estimated Cost to Completion (Completion Year): \$0.8 million (FY2015)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2000



Philadelphia, Pennsylvania

Restoration Background

The Philadelphia Naval Complex comprises the Philadelphia Naval Shipyard (NSY), Naval Station (NS), and Naval Hospital. In December 1988, the BRAC Commission recommended closure of the Philadelphia Naval Hospital. In July 1991, it recommended closure of the Philadelphia NS and the Philadelphia NSY.

Site types at the complex include landfills, oil spill areas, and disposal areas where petroleum/oil/lubricants and heavy metals have been released into groundwater and soil. A Preliminary Assessment and Site Inspection completed in FY88 identified 15 sites.

In FY90, the installation completed Remedial Investigation and Feasibility Study (RI/FS) activities at four sites and began RI/FS activities for eight sites and Remedial Design and Remedial Action (RD/RA) activities for four sites. Removal Actions were conducted at three of four newly identified underground storage tank (UST) sites. In FY92, a RCRA Facility Assessment identified 167 solid waste management units (SWMUs) and 15 areas of concern (AOCs). The Navy began a focused RCRA Facility Investigation (RFI) to address 15 SWMUs and AOCs. The first phase of remediation was completed in FY92, and a Record of Decision (ROD) was signed for four sites. In FY93, two Interim Remedial Actions (IRAs) were completed at six sites.

Environmental Baseline Surveys were completed for the hospital in FY94 and for the shipyard and naval station in FY95. An EBS Phase II investigation required study of 57 areas at the complex. Twenty-one areas required further evaluation. During FY95, the installation signed an amended ROD, completed remediation of four sites, completed an RI and an IRA for Site 4, and initiated Removal Actions at two UST sites at the hospital. During FY96,

the installation completed the RA at four sites, closed out two sites, completed a design and remedy for an RA at one UST site, initiated Removal Actions at four sites, and drafted and submitted an Environmental Impact Statement.

In FY97, the installation began riverbank stabilization at Site 5 and sand blasting grit removal at Site 2. It also completed RDs at one UST site, completed remedial activities at two other UST sites, initiated two RAs, and completed two RAs. The installation closed two sites and completed the corrective measures implementation and the RFI for an SWMU.

In FY98, RODs were signed for Sites 1, 2, and 15, and a decision document was signed to implement institutional controls on naval station property for nonresidential use.

The complex formed a Technical Review Committee in FY89 and established a Restoration Advisory Board. In FY95, an information repository was established and the Community Relations Plan was written. The complex formed a BRAC cleanup team and prepared a BRAC Cleanup Plan (BCP) in FY94. The BCP was revised in FY97.

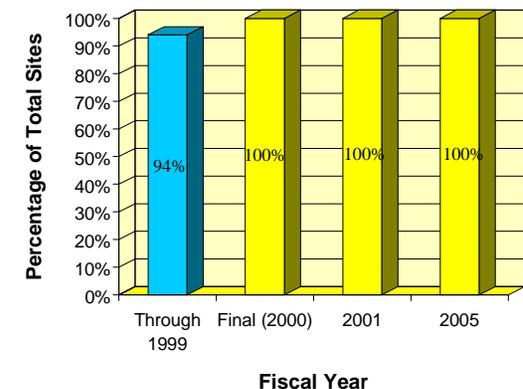
FY99 Restoration Progress

All RAs required for property transfer were completed, and Findings of Suitability to Transfer for two additional parcels were signed.

Plan of Action

- Initiate long-term monitoring in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: NH117002201900
Size: 278 acres
Mission: Maintain, repair, and overhaul nuclear submarines
HRS Score: 67.70; placed on NPL in May 1994
IAG Status: Federal Facility Agreement signed in 1999
Contaminants: Heavy metals, PCBs, pesticides, and VOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$22.4 million
Estimated Cost to Completion (Completion Year): \$83.4 million (FY2022)
Final Remedy in Place or Response Complete Date for All Sites: FY2011



Kittery, Maine

Restoration Background

Portsmouth Naval Shipyard was placed on the National Priorities List (NPL) in May 1994 because of groundwater contamination at sites on the island and because past activities may have adversely impacted sensitive wetland communities around and downstream of the facility.

A Preliminary Assessment in FY83 and a Site Inspection in FY86 identified four potentially contaminated sites. A RCRA Facility Assessment in FY86 identified 28 solid waste management units (SWMUs). Site types at the installation include a landfill, a salvage and storage area, and waste oil tanks. In FY92, the installation completed a RCRA Facility Investigation (RFI).

In FY94, the installation completed an interim measure at the Defense Reutilization and Marketing Office scrap yard, installed a cap on part of the scrap yard, and completed a groundwater and soil gas survey at another SWMU. The installation completed RFI fieldwork, developed onshore media protection standards (MPSs), and completed draft offshore Ecological and Human Health MPSs. Seven underground storage tanks (USTs) were removed during the RFI.

In FY95, the installation prepared final reports on fieldwork conducted in FY94. The installation developed a work plan for monitoring of the Piscataqua River and initiated an Ecological Risk Assessment (ERA) of the Piscataqua River and Great Bay Estuary. A draft Feasibility Study (FS) report for 11 SWMU sites was submitted to regulatory agencies.

In FY96, the installation began negotiating with EPA and the Maine Department of Environmental Protection (MDEP) on a Federal Facility Agreement (FFA). A work plan for investigating

groundwater and seeps was completed. Another work plan was prepared for site characterizations at four SWMUs.

During FY97, the installation completed a work plan for SWMUs 10 and 29 and Phase I groundwater modeling for SWMUs 8, 9, 10, 11, and 27. The installation initiated a Removal Action at SWMU 9 and completed and signed a No Further Action document for SWMUs 12, 13, 16, and 23.

In FY98, the installation completed a work plan for Sites 30, 31, and 32 and finished Phase II groundwater modeling for SWMUs 8, 9, 10, 11, and 27. Fieldwork for SWMU 10 and Sites 29, 30, 31, and 32 was completed. The installation completed a Removal Action at SWMU 9 and initiated cleanup of the tank farm. A work plan and fieldwork for three SWMUs and two sites were completed. The basewide groundwater sampling program also was completed.

The installation's Technical Review Committee, formed in FY87, was converted to a Restoration Advisory Board (RAB) in FY95. The Community Relations Plan, developed in FY93, was updated in FY96 and FY97.

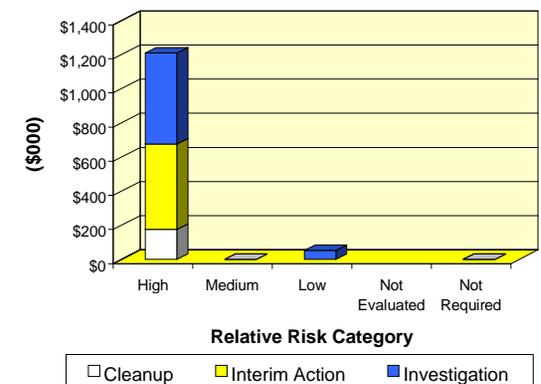
FY99 Restoration Progress

The installation completed negotiations and signed the FFA with EPA. It also completed the survey of Operable Unit (OU) 3 using a state-of-the-art metal-sensing device (MTADS) and the report for basewide groundwater sampling. Completion of the offshore ERA was delayed for completion of an interim Record of Decision (ROD) and Round 1 of interim monitoring for OU4, Offshore Areas of Concern. Phase II onshore/offshore contaminant fate-and-transport modeling was completed.

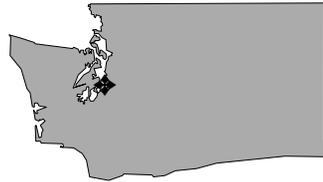
Plan of Action

- Complete ERA in FY00
- Complete Site Screening Report for three sites in FY00
- Complete supplemental Remedial Investigation report for two sites in FY00
- Complete FS for OU3 (Jamaica Island Landfill) in FY00
- Complete ROD for OU3 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID:	WA017002341800
Size:	152 acres
Mission:	Provide logistical support for assigned ships and service craft; perform authorized work in connection with construction, overhaul, and other tasks
HRS Score:	50.00 (Puget Sound Naval Shipyard); placed on NPL in May 1994 50.00 (Jackson Park Housing Complex); placed on NPL in May 1994
IAG Status:	None
Contaminants:	Heavy metals, VOCs, petroleum/oil/lubricants, grit, paint, solvents, construction debris, acids, and silver nitrate
Media Affected:	Groundwater, surface water, sediment, and soil
Funding to Date:	\$73.1 million
Estimated Cost to Completion (Completion Year):	\$73.3 million (FY2031)
Final Remedy in Place or Response Complete Date for All Sites:	FY2001



Bremerton and Kitsap Counties, Washington

Restoration Background

Most of the Bremerton Naval Complex (BNC), which includes the Puget Sound Naval Shipyard (PSNS), is built on contaminated fill material. Metals and petroleum/oil/lubricants are the primary contaminants. The main sources of contamination are past operations, such as cleaning and demilitarization of ordnance, and ship construction, maintenance, and demolition.

In FY83, an Initial Assessment Study (IAS) identified six potentially contaminated sites at BNC. In FY90, a supplemental Preliminary Assessment identified five other potentially contaminated sites. Nine of these 11 sites were recommended for further investigation. A draft IAS, completed in FY83 for the Jackson Park Housing Complex (JPHC), identified eight sites. Two sites were recommended for further investigation, and six for no further action. A Site Inspection report prepared in FY88 recommended further investigation of the two sites first identified in the IAS and divided one site into two parts.

In FY92, an underground storage tank (UST) validation report identified 26 abandoned tanks, and 9 were removed. In FY94, the installation excavated contaminated soil from a site at BNC. Three Removal Actions were conducted at JPHC, and the remaining 17 abandoned tanks were removed or closed. Negotiations with the state regulatory agency revealed a need for further action on five tanks.

In FY95, sampling and analysis of soil and groundwater were conducted at three sites in the JPHC, and a Remedial Investigation (RI) was completed. Soil sampling and analysis were conducted at three other sites in the housing complex.

In FY96, a Human Health Risk Assessment was completed for the terrestrial sites at JPHC, and development of Remedial Action (RA) work plans and decision documents was initiated for an operable unit (OU) at BNC. A corrective action began for five USTs. RI and Feasibility Study (FS) activities were performed at six sites at PSNS and three sites at JPHC. In FY97, a Site Characterization and Analysis Penetrometer System (SCAPS) was used to delineate the extent of petroleum contamination at BNC OU C.

In FY98, a final round of marine data for OU2 was collected at JPHC. The benzene investigation was completed. The FS addressing human health risks and the RI/FS addressing ecological marine risks were finalized. An unexploded ordnance (UXO) sweep and investigation began at Sites 101 and 103, and expended munitions and one item with a small amount of smokeless powder were found. Regulators and stakeholders reviewed a draft Proposed Plan (PP). At BNC, Remedial Designs (RDs) for OUs NSC and A were completed. The steam-sparging system was completed. An Engineering Evaluation and Cost Analysis and an Action Memorandum were prepared, and a Removal Action was started within OU B.

JPHC and BNC formed Technical Review Committees in FY91 and FY92. Both were converted to Restoration Advisory Boards in FY94.

FY99 Restoration Progress

Munitions sweeps were completed at JPHC. The PP was finalized, and a Time-Critical Removal Action to prevent erosion of contaminated soil into the bay was completed. The Record of Decision (ROD) at OUI was delayed because of transfer-of-

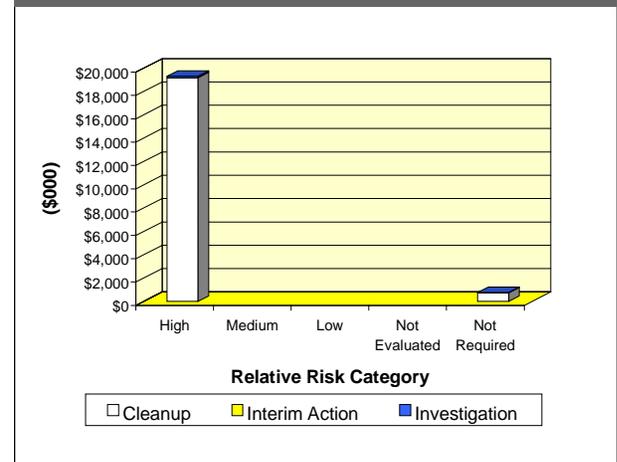
property difficulties. In addition, the UXO investigation was more extensive than anticipated. UXO investigations are on hold pending the resolution of the dispute with EPA.

OUs A and NSC were designated Construction Complete. At the end of FY99, long-term monitoring (LTM) work plans were under development, and LTM was in progress for OUs A and NSC. Development of institutional control methods continued for OUs A and NSC. Development of the OU B RI/FS continued but was not completed due to regulatory concerns about groundwater modeling, and publication of new data concerning human seafood consumption rates. The OU B Removal Action was completed.

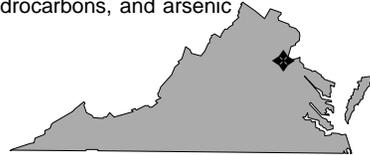
Plan of Action

- Complete public comment period, ROD, and RD for OU1 and conduct benzene investigation at Site 110 in FY00
- Continue steam sparging at OU C in FY00
- Complete the PP, ROD, and RA for the marine IRA in FY00
- Begin the IRA for OU B in FY00
- Complete ROD for OU2 and begin RA for the four sites in FY01
- Complete RI/FS and begin terrestrial RD for OU B in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: VA317302472200
Size: 60,000 acres
Mission: Provide military training and support research, development, testing, and evaluation of military hardware
HRS Score: 50.00; placed on the NPL in June 1994
IAG Status: RCRA FFCA signed December 31, 1991; Federal Facility Agreement signed February 4, 1999
Contaminants: PCBs, pesticides, VOCs, phenols, heavy metals, petroleum hydrocarbons, and arsenic
Media Affected: Surface water, groundwater, sediment, and soil
Funding to Date: \$35.3 million
Estimated Cost to Completion (Completion Year): \$100.7 million (FY2014)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Quantico, Virginia

Restoration Background

Quantico Marine Corps Combat Development Command operated a municipal landfill throughout the 1970s. After the 26-acre landfill closed, the area was used by the Defense Reutilization and Marketing Office as a scrap yard. During that time, polychlorinated biphenyl (PCB)-containing transformers were drained onto the ground so that copper and transformer casings could be recovered. Contamination at the old landfill area was the primary reason for the installation's placement on the National Priorities List (NPL). Other sites at the installation include surface disposal areas, underground storage tanks (USTs), and disposal pits that contain contaminated soil, surface water, and sediment.

Since FY81, 260 solid waste management units (SWMUs) have been identified at Quantico. Naval data show an official count of 28 Installation Restoration sites, 71 SWMUs, and 2 USTs. Between FY81 and FY94, the installation completed Preliminary Assessments (PAs) for 17 sites and 24 SWMUs, Site Inspections (SIs) for 7 sites, RCRA Facility Assessments for 4 SWMUs, and RCRA Facility Investigations for 5 SWMUs. A Corrective Measures Study was completed for one SWMU. In addition, initial site characterizations were completed for two UST sites, and an investigation was completed for one UST site.

The installation has completed several Interim Remedial Actions (IRAs), including in situ soil treatment and long-term monitoring (LTM) for one SWMU; removal of PCB-contaminated soil and scrap metal from two sites; removal and incineration of pesticide- and arsenic-contaminated soil from one site; installation of runoff controls at one site; removal of waste from an embayment and placement of a stone revetment along the shoreline; and

removal of petroleum-contaminated drums, tanks, and bulk containers from a UST site.

During FY95, the installation completed a Corrective Measures Design (CMD), began corrective measures implementation (CMI), and started capping a landfill for one SWMU. CMD, CMI, and final Remedial Action (RA) for removal of contaminated soil also were completed. Operations and maintenance and LTM were initiated for two SWMUs.

During FY96, the installation prepared Remedial Investigation and Feasibility Study (RI/FS) work plans for seven sites. In FY97, the installation signed a Record of Decision (ROD) for one site, began two early actions, and began LTM for one SWMU and RI/FSs for several sites. In FY98, the IRA for capping the landfill was completed. IRAs also were completed at two UST sites.

A Technical Review Committee was formed in FY89. In FY92, the installation established three information repositories, each containing a copy of the administrative record. In FY95, a Community Relations Plan was completed.

FY99 Restoration Progress

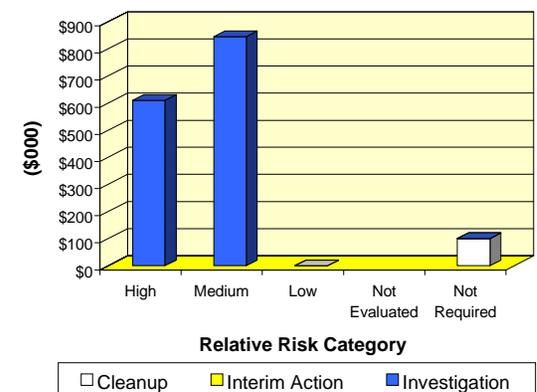
An RI is under way at Site 20, and an FS is nearing completion at Site 4. Two No Further Action (NFA) RODs are being prepared for signature for Sites 1 and 5. The Site 17 ROD was put on hold until the RI/FS is completed. Proposed Remedial Action Plans for Sites 1 and 17 were completed. Site screenings at 15 areas of concern were completed. Based on the results of the screening, all but two of the sites will require further investigation. Two SWMUs were closed. Sampling reports for 20 sites and 5 site screening areas are on hold, pending the completion of the basewide background report. Of the 260 sites identified at

Quantico, 99 are being investigated, 157 are awaiting investigation, and 4 have been recommended for NFA. With the basewide background report nearly finalized, it is possible that many of the 99 sites currently under investigation will be recommended for NFA. A Federal Facility Agreement was signed in February 1999.

Plan of Action

- Finalize and sign NFA RODs at Sites 1 and 5 in FY00
- Update and finalize RI at Site 17 in FY00
- Complete basewide background report in FY00
- Complete SIs at 35 sites in FY00
- Complete PAs at 40 sites in FY00
- Complete site screening process at 10 sites in FY00
- Finalize RI and initiate FS at Site 20 in FY00
- Finalize FS at Site 4 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CA917002320200
Size: 541 acres
Mission: Provided recruit training for enlisted personnel and specialized training for officers and enlisted personnel
HRS Score: NA
IAG Status: None
Contaminants: Paint, pesticides, solvents, and petroleum/oil/lubricants
Media Affected: Soil and groundwater
Funding to Date: \$24.3 million
Estimated Cost to Completion (Completion Year): \$19.3 million (FY2012)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2002
Final Remedy in Place or Response Complete Date for Non-BRAC Sites: FY2012



San Diego, California

Restoration Background

In July 1993, the BRAC Commission recommended closure of this installation and relocation of personnel, equipment, and mission support to other Naval training centers. Certain installation facilities and activities will be retained to support other Naval operations in the San Diego area; 503 acres will be available for transfer. The installation closed in April 1997.

In FY86, an Initial Assessment Study identified 12 sites that might present environmental problems: five sites are being addressed under CERCLA; seven under the underground storage tank (UST) program. Sites include a landfill and petroleum-contaminated areas. In FY91, a Site Inspection (SI) was completed at one UST site and an SI and a Phase I Remedial Investigation (RI) were completed at another. In FY92, free-product removal was completed at a UST site. In FY94, the installation completed an Interim Removal Action at a landfill.

An Environmental Baseline Survey (EBS), completed in FY94, identified 85 points of interest (POIs), later increased to 93. Many POIs were designated for No Further Action (NFA). A revised EBS was completed in FY95, and a Preliminary Assessment (PA) was completed for three sites, one of which requires NFA. Remedial Designs (RDs) were completed for two sites. An Expanded SI (ESI) was completed for one UST site. Petroleum-contaminated soil was removed from three UST sites. Human Health and Ecological Baseline Risk Assessments were completed for one site.

In FY96, the installation completed an ESI and initiated an Engineering Evaluation and Cost Analysis (EE/CA) for one site. SIs were completed for two sites, one of which required NFA. An EBS identified two additional sites under the CERCLA program,

and a PA/SI was completed. The installation completed an investigation at four UST sites, a Corrective Action Plan (CAP) for two UST sites, and excavation of contaminated soil at another UST site. Cleanup began at the two sites covered by the CAP. During FY97, the installation began an RI for one site and groundwater monitoring at a UST site. RD and corrective actions were completed for these UST sites. Cleanup of Sites 7 and 10 was completed.

In FY98, the installation completed site assessments for the remaining 18 POIs. An ESI began at Site 15. At Site 14, an extended site assessment was completed and an EE/CA was initiated. An RI work plan was finalized for Site 12. The long-term operations at Site 11 were completed. Site 10 confirmation sampling began. The Interim Remedial Action (IRA) at Site 1 was completed, and a basewide groundwater study began.

A Community Relations Plan was developed in FY92 and updated in FY95. A Restoration Advisory Board (RAB), a BRAC cleanup team, and an information repository containing the administrative record were established in FY94. The installation completed a BRAC Cleanup Plan (BCP), which was updated in FY98.

FY99 Restoration Progress

The installation signed the Record of Decision for an Environmental Impact Statement, transferred Site 3 to the San Diego Marine Corps Recruit Depot, and closed Site 8. EE/CA was initiated, but was not completed due to complications with the early transfer to the Port of San Diego. An Action Memorandum (AM), a Remedial Action (RA), and subsequent Remedial Action-Operations and long-term operations for Site 1 will be accomplished by the Port of San Diego.

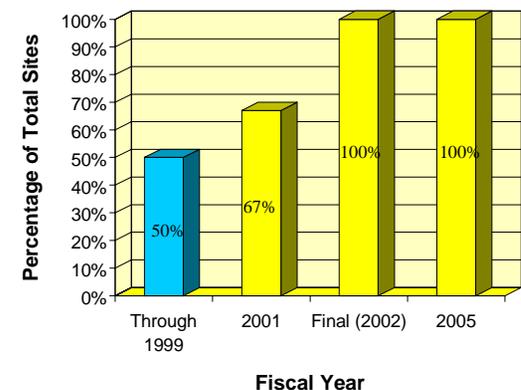
The installation completed confirmatory sampling and a closure report for Site 10 and fieldwork for the RI at Site 12. No IRA for additional soil cleanup was required at Site 11. The draft RI document and the award of the contract for the Feasibility Study (FS) for Site 12 were not completed due to delays in completing the draft RI work plan. The installation completed the EE/CA, AM, and RA for Site 14 and the ESI for Site 15, but the ESI recommended further action.

The installation updated the BCP and completed and received regulatory concurrence for the basewide groundwater study. The planned Finding of Suitability to Transfer (FOST) was not completed for all parcels due to long-term monitoring actions at Sites 8, 11, 14, and 15.

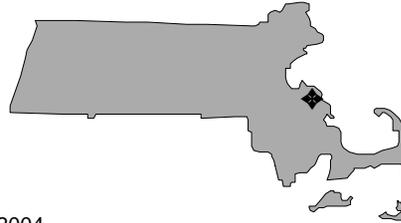
Plan of Action

- Complete EE/CA and Finding of Suitability for Early Transfer for Site 1 in FY00
- Complete RI for Site 12 and initiate FS in FY00
- Complete site closure report for Site 12 and receive approval for No Further Response Action designation in FY00
- Initiate pilot study for Site 15 in FY00
- Complete the FOST for all parcels except the Boat Channel (Site 12) in FY00
- Complete a business plan (in lieu of BCP) in FY00 and FY01
- Complete the FOST for the Boat Channel (Site 12) in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: MA117002202200
Size: 2,174 acres
Mission: Provided administrative coordination and logistical support for Reserve Units; provided logistical support for the Marine Air Reserve Training Detachment South Weymouth
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Federal Facility Agreement under negotiation
Contaminants: Petroleum hydrocarbons, solvents, acids, paints, metals, photographic chemicals, and industrial wastes
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$20.1 million
Estimated Cost to Completion (Completion Year): \$10.6 million (FY2017)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2004



Weymouth, Massachusetts

Restoration Background

In July 1995, the BRAC Commission recommended closure of the South Weymouth Naval Air Station (NAS). Operations were transferred to the Brunswick NAS, and aircraft, personnel, and equipment were relocated. The installation was closed on September 30, 1997.

Initially, eight CERCLA sites and one RCRA underground storage tank (UST) site were identified at the installation. One of the CERCLA sites, Site 6, is being investigated as a UST site. Prominent site types include a landfill, a tank storage area, a tank farm where jet fuel is stored in five USTs, a rubble disposal area, and a fire training area.

The installation completed a Preliminary Assessment for five sites in FY88. The waste oil tank was removed from UST 1 in FY91, and a Site Inspection was completed for eight sites in FY92. Also in FY92, several compressed chlorine gas cylinders and pesticide containers were removed from an old sewage treatment plant (Site 7). In FY93, an initial investigation was completed for the UST site. In FY93, the installation conducted a second Removal Action at Site 7 to remove contaminated soil and liquids.

In FY94, the year NAS South Weymouth was placed on the National Priorities List (NPL), the Agency for Toxic Substances and Disease Registry (ATSDR) completed an abbreviated Public Health Assessment of the installation. No major health hazards were identified. In FY95, the installation identified additional contamination at UST 1. UST 2 was identified at the Squantum Gardens Housing Area. A Removal Action for contaminated soil was completed for the site.

In FY96, the Navy implemented a Remedial Investigation (RI) work plan for seven Installation Restoration (IR) sites. The installation formed a BRAC cleanup team (BCT). A Corrective Action Plan was completed for UST 1.

In FY97, the design for UST 1 and the corrective action for UST 2 were completed. In addition, Phase I of the Environmental Baseline Survey (EBS) was finished and Phase II was initiated. A geographic information system was implemented at the NAS.

In FY98, the draft RI Phase I report was finalized. An RI Phase II work plan was implemented. ATSDR completed a draft Public Health Assessment report for the installation. All seven IR sites were reviewed for possible use of presumptive remedies, and a surface debris Removal Action work plan was initiated for these sites. A Site Management Plan (SMP) was initiated in preparation for Federal Facility Agreement (FFA) negotiations.

The installation established a Technical Review Committee in FY92 and converted it to a Restoration Advisory Board (RAB) in FY94. The installation established an administrative record and four information repositories in FY92 and completed its Community Relations Plan (CRP). The CRP was updated in FY98 and submitted to all participants in the Installation Restoration Program (IRP). A BRAC Cleanup Plan was released. A draft Technical Assistance for Public Participation (TAPP) application was prepared by the RAB in cooperation with the Navy in FY98.

FY99 Restoration Progress

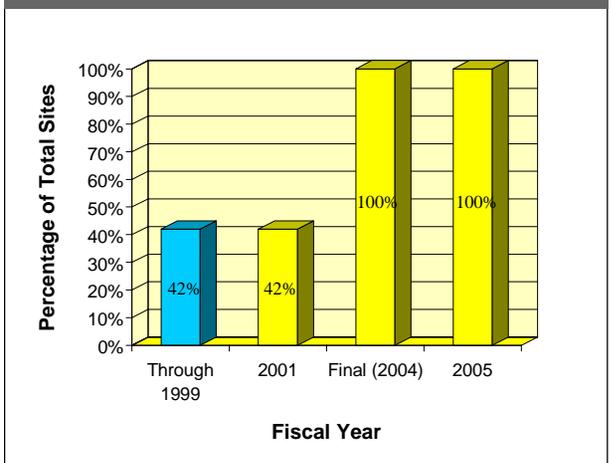
FFA negotiations began, and the SMP was developed and reviewed. The RAB met 10 times, and the BCT met frequently. The Navy conducted site tours. Informal partnering has continued. The EBS Phase II work plan and the surface debris

Removal Action for four IR sites were completed. IRP team review indicated that NAS CERCLA sites did not meet the requirements for application of presumptive remedies and innovative and improved technologies. The TAPP grant was awarded. The RI Phase II work plan was completed, and the field program was initiated for all seven IR sites.

Plan of Action

- Complete the SMP and the FFA in FY00
- Complete Remedial Action for UST 1 in FY00
- Complete RI Phase II risk assessments and reports for all sites in FY00
- Review all seven IR sites as candidates for presumptive remedies and innovative technologies and improved technologies in FY00
- Submit to the Navy a second TAPP application for environmental technical assistance in FY00
- Begin Feasibility Studies for all IR sites in FY00
- Complete No Further Action Records of Decision (RODs) for three IR sites in FY00
- Initiate IRAs for two IR sites in FY00
- Initiate Proposed Plans and RODs for four IR sites in FY01
- Continue partnering with EPA and the Massachusetts Department of Environmental Protection in FY00 and FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA917002333000
Size: 1,080 acres
Mission: Provide services and materials to support units of operating forces and shore activities
HRS Score: NA
IAG Status: Federal Facility Site Remediation Agreement signed in September 1992
Contaminants: Petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, metals, pesticides, and PCBs
Media Affected: Groundwater and soil
Funding to Date: \$25.3 million
Estimated Cost to Completion (Completion Year): \$49.7 million (FY2007)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2003



Treasure Island, California

Restoration Background

In July 1993, the BRAC Commission recommended closure of Treasure Island Naval Station with relocation of the Naval Reserve Center and the Naval Technical Training Center. Operational closure was completed in September 1997.

Twenty-nine sites, including a former fire training area, a landfill, a former dry-cleaning facility, an old bunker area, fuel farms, and a service station, were identified. Contamination is largely the result of migration of petroleum products from fueling operation areas. A Preliminary Assessment and a Site Inspection were completed for 26 sites in FY88.

Remedial Investigation and Feasibility Study (RI/FS) activities were initiated for 22 sites in FY93. In FY94, three additional sites, including the former skeet range and the areas under the bay bridge and on and off ramps, were included in the Installation Restoration Program (IRP). A BRAC cleanup team was established, and the installation completed a BRAC Cleanup Plan. In FY95, the installation began removing floating product from one site and contaminated soil from another. Of the 75 potential underground storage tanks (USTs), 40 were removed, 14 were closed in place, 20 were found to be nonexistent, and 1 was scheduled for removal. An Environmental Baseline Survey was completed for all sites in FY95.

During FY96, the Local Reuse Authority completed a draft reuse plan. The Federal Facility Site Remediation Agreement was amended to include three newly identified sites and to group Sites 13 and 27 into one offshore operable unit (OU). In FY97, nine IRP sites were transferred to the petroleum Corrective Action Plan (CAP) program for fast-track cleanup.

In FY98, the installation completed removal or closure in place of all underground fuel lines, a draft RI report for offshore sediment, and fieldwork for additional characterization of Site 12. The summary report for additional characterization of Site 24 and the draft CAP for nine petroleum IRP sites also were completed. An ecological validation study work plan was developed for Sites 11, 28, and 29.

The installation completed a Community Relations Plan and established two information repositories and an administrative record in FY92. It formed a Technical Review Committee and converted this to a Restoration Advisory Board in FY94.

FY99 Restoration Progress

The installation completed an Interim Removal Action for lead-contaminated soil at Site 12 Building 1207/1209 and initiated a removal at Building 1133. Also at Site 12, the installation completed the OU draft final RI report, initiated and completed Technical Assistance for Public Participation grant for the RAB for review of the RI, and completed fieldwork for additional characterization. The draft final RI report for offshore sediment also was completed. The removal of the remaining UST was not accomplished because funds were transferred to high-risk sites for Interim Remedial Action.

The installation initiated a pilot-scale test to evaluate the viability of bioventing combined with biosparging for remediating petroleum-contaminated soil and groundwater at Site 6.

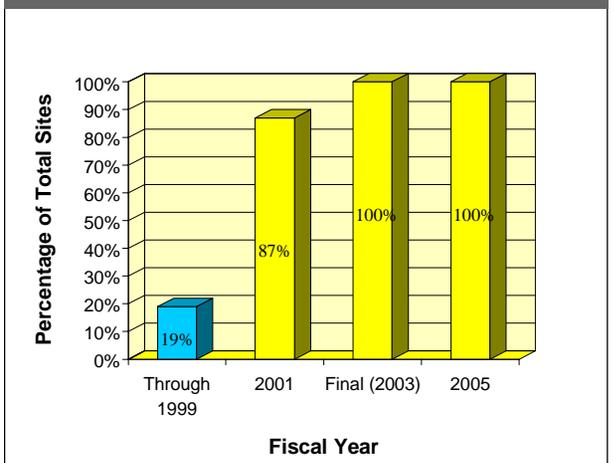
The RI/FS, a draft Remedial Action Plan (RAP), and a Record of Decision (ROD) for onshore and offshore sites were not completed because of lack of regulatory concurrence. Disagreements with regulatory agencies delayed the CAP, design, and initial remediation for petroleum sites. A difference of opinion

among the team members delayed completion of a No Further Action (NFA) RAP and ROD for Sites 1 and 3. CAPs and Remedial Designs (RDs) for UST and fuel-line sites were not completed because funds were reallocated to high-risk sites. Adequate funds were not received for completion of the asbestos abatement and the structure and soil lead abatement for pre-1960 housing. The City's leasing and development priorities for housing and waterfront uses and the ongoing Environmental Impact Statement/Environmental Investigation Report required a revised schedule and parceling for Findings of Suitability to Transfer for the first phase of property disposal.

Plan of Action

- Complete lead removal at Building 1133 and pilot-scale test technology evaluation at Site 6 in FY00
- Conduct pilot phase and main investigation sampling, soil gas sampling, and additional sampling for Site 12 Debris Areas in FY00
- Perform free-product removal at CAP sites in FY00
- Complete RI report for offshore and onshore sites, and RCRA CAPS in FY00
- Remove remaining USTs, complete asbestos abatement, and perform groundwater monitoring and Tidal Study in FY00
- Complete a NFA RAP and ROD for Sites 1 and 3 in FY00
- Complete structure and soil lead abatement for pre-1960 housing in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: NJ217002269500
Size: 529 acres
Mission: Test engine systems and components
HRS Score: NA
IAG Status: None
Contaminants: Trichloroethene, freon, fuels, mercury, and solvents
Media Affected: Groundwater and soil
Funding to Date: \$19.8 million
Estimated Cost to Completion (Completion Year): \$12.9 million (FY2016)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY1999



Trenton, New Jersey

Restoration Background

In July 1993, the BRAC Commission recommended closure of this installation. Operations were transferred to the Arnold Engineering Development Center and the Patuxent River Naval Air Station in December 1998, which was the date of operational closure.

Contamination at the installation resulted from various fuels used to operate engines during tests and from trichloroethene (TCE), ethylene glycol, and freon used to cool the air entering the engines. Residues of fuels and solvents have been detected in groundwater and soil. Site types include underground storage tanks (USTs), disposal areas, and spill sites.

Studies at the installation since FY86 have identified nine CERCLA sites and two UST sites. Removal of a tank and associated contaminated soil was completed for UST 2 in FY92 and for UST 1 in FY93. The two UST sites were then recommended for no further action (NFA).

In FY94, a BRAC cleanup team (BCT) was formed. The BCT prepared a BRAC Cleanup Plan (BCP) in FY95. The installation was divided into four parcels of property, and an Environmental Baseline Survey (EBS) was completed for all parcels.

During FY95, the installation began an Interim Remedial Action for treatment of TCE-contaminated groundwater at Site 1. In FY96, a modified treatment plant was designed, contaminated sludge was removed from Site 3, and the installation completed a Land Reuse Plan.

In FY97, the installation completed construction of the modified treatment plant for groundwater contamination, installation of monitoring wells at Site 1, the Remedial Investigation and

Feasibility Study for Site 2 and Sites 4 through 9, draft Phase II of the EBS, and design and implementation of an iron-filings treatment system for Site 1 groundwater contamination. A decision document for NFA was prepared for Site 3. The BCT prepared updated versions of the BCP and the EBS and conducted the Site 1 groundwater investigation, Site 8 barometric well closure, and preparation of an NFA document for Sites 2, 5, 6, 7, and 9.

In FY98, the installation completed a draft Environmental Impact Study and then changed it to an Environmental Assessment. Decision documents were completed for Sites 1 through 9. The installation also completed a draft decision document for Site 1 groundwater, a revised draft EBS Phase II report, and a Focused Feasibility Study (FSS). The installation completed soil removal at Site 1, a cap for Site 4, and Remedial Actions at 23 EBS areas of concern (AOCs). Six additional USTs were removed, and the groundwater treatment plant was expanded. The installation removed sediment, which contained mercury, from outfalls and catch basins. The source of the mercury was identified, and areas in the outfalls and catch basins were remediated. Leaking lines in the barometric well at Site 8 were investigated and a decision document was completed for this site.

A Technical Review Committee was formed in FY91 and converted to a Restoration Advisory Board in FY93.

FY99 Restoration Progress

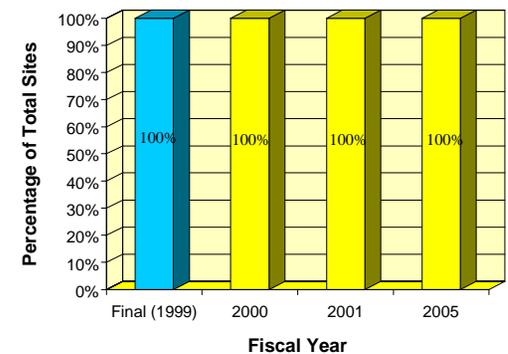
The installation completed the FFS and the decision document for Site 1 groundwater. Work plans were finalized and fieldwork was completed for an off-site Ecological Investigation and a Storm Sewer Infiltration Study. Off-site residential well sampling

also was performed. The EBS Phase II report was finalized, and remediation was completed at the remaining EBS AOCs. The closeout report for mercury was completed, but regulator comments delayed issuance of the final report. The Finding of Suitability to Transfer for Parcels A, B, and D was delayed because the decision document for Site 1 groundwater was not completed until September 1999. The installation of off-site wells furthered progress on delineation of Site 1 groundwater.

Plan of Action

- Complete the off-site Ecological Investigation and the Storm Sewer Infiltration Study in FY00
- Complete off-site well installation in FY00
- Continue operation and maintenance of the Site 1 treatment plant in FY00 and FY01
- Complete the Classification Exception Area Report in FY00
- Perform long-term monitoring for mercury in FY00 and FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID:	CA917302478300
Size:	1,603 acres
Mission:	Provide services and materials to support operations of the Third Marine Aircraft Wing; provide operations training facility support; operate helicopter outlying fields and maintain area landing sites; operate air traffic control facility; provide weather support
HRS Score:	NA
IAG Status:	Federal Facility Site Remediation Agreement signed in August 1999
Contaminants:	VOCs, dichloroethane, dichloroethene, trichloroethene, trichloropropane, BTEX, naphthalene, petroleum hydrocarbons, pentachlorophenol, and MTBE
Media Affected:	Surface water, groundwater, and soil
Funding to Date:	\$42.7 million
Estimated Cost to Completion (Completion Year):	\$0 (FY2031)
Final Remedy in Place or Response Complete Date for BRAC Sites:	FY1999



Tustin, California

Restoration Background

In July 1991, the BRAC Commission recommended closure of Tustin Marine Corps Air Station with retention of the family housing and related personnel facilities to support El Toro Marine Corps Air Station.

Studies since FY85 have identified 16 CERCLA sites, 278 areas of concern (AOCs), 129 underground storage tank (UST) sites, and 25 aboveground storage tank sites.

Two phases of a three-phase RCRA Facility Assessment (RFA) have been completed. Interim Remedial Actions completed at the installation include removal of USTs and construction of a drainage system. In FY92, 39 tanks were removed at the Fuel Farm; 30 more tanks were removed in FY93.

A BRAC cleanup team (BCT) was formed in FY94. In FY95, the installation began Engineering Evaluations and Cost Analyses for three sites. Contaminated soil was removed from the Fuel Farm. The installation began a parcel-specific Environmental Baseline Survey (EBS).

In FY96, Remedial Investigation and Feasibility Study (RI/FS) fieldwork was completed at Operable Unit (OU) 1, OU2, and OU3; a draft RFA was issued for 15 sites; and the final Phase III RFA was issued. Remediation was completed at the Fuel Farm, and a draft Land Reuse Plan was submitted for approval.

During FY97, Removal Actions for AOC MWA-3 and Sites 2, 9, and 13W were finished; the Expanded Site Inspections (ESIs) were completed for five sites; the final RI/FS was issued for OU3; and a landfill containment presumptive remedy was implemented. The BCT reviewed sampling plans and a draft Record of Decision (ROD) for OU3.

In FY98, the BCT accepted the final RI for OUs 1 and 2, and reviewed the draft FS. The latest version of the BRAC Cleanup Plan (BCP) was issued. The installation evaluated alternatives to the proposed improvements to the Peters Canyon Flood Control Channel, which is adjacent to OU3. The Tustin Spur of the JP-5 jet fuel supply line was closed in place.

A Restoration Advisory Board (RAB) was formed in FY94. RAB meetings have been held on a bimonthly basis.

FY99 Restoration Progress

The planned OU1 FS was delayed because regulators requested an indoor air quality risk assessment. The delay of the FS delayed the ROD for this OU. The planned ROD for 23 OU2 sites was delayed because of groundwater concerns. To accelerate site closures and to properly address groundwater concerns, OU2 was reorganized and now consists of 12 soil sites. A new operable unit, OU4, was formed, comprising 11 groundwater sites that were formerly part of OU2. The FS for OU2 was completed, and the draft Proposed Plan (PP) was released. The OU3 (Site 1) ROD is ready to be finalized.

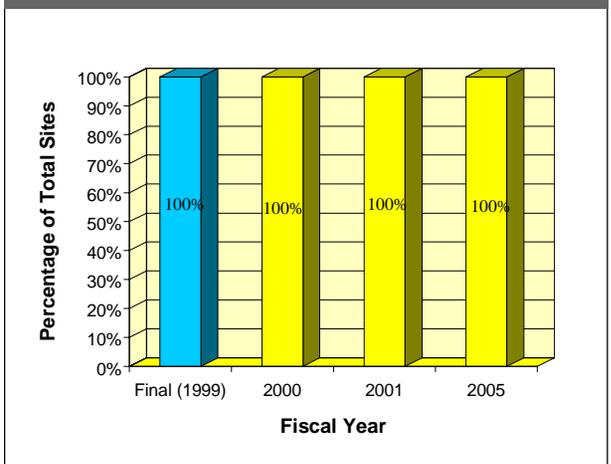
All USTs were removed, and cleanup of 15 RCRA sites (AOCs) was completed. The three RCRA Part B permitted-storage facilities were closed out through the Department of Toxic Substances Control (DTSC). Another 42 AOCs received No Further Action (NFA) concurrence from the BCT. A Business Plan (BP) was issued instead of the BCP, saving funds and streamlining the summary report. A parcel-specific EBS was deemed unnecessary, and a draft CERFA basewide EBS was issued in March.

A Federal Facility Site Remediation Agreement was signed in August 1999 between the Navy and DTSC.

Plan of Action

- Issue a revised draft FS, a final FS, and a draft PP for OU1 in FY00
- Finalize the PP and sign the NFA ROD for OU2 in FY00
- Finalize the ROD and issue a draft Remedial Design for OU3 in FY00
- Release the OU4 Focused FS and pursue a pilot study for Site 6 in FY00
- Issue an amended Action Memorandum and a draft Closure Report for Site 9A/9B in FY00
- Delineate the MTBE plume at UST Site 222 in FY00
- Issue and implement a Corrective Action Plan for the MTBE plume in FY00
- Close out the remaining 167 AOCs in FY00
- Update the BP in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: PA317002454500
Size: 817 acres
Mission: Perform research, development, testing, and evaluation for Naval aircraft systems and antisubmarine warfare systems; perform associated software development
HRS Score: 57.93; placed on NPL in October 1989
IAG Status: Federal Facility Agreement signed in September 1990
Contaminants: VOCs, heavy metals, firing range wastes, fuels, industrial wastewater sludges, nonindustrial solid wastes, paints, PCBs, sewage treatment sludge, and solvents
Media Affected: Groundwater and soil
Funding to Date: \$18.3 million
Estimated Cost to Completion (Completion Year): \$25.3 million (FY2039)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY1999



Warminster Township, Pennsylvania

Restoration Background

In July 1991 and July 1995, the BRAC Commission recommended that Warminster Naval Air Warfare Center Aircraft Division be realigned and closed. The installation closed in March 1997.

In FY79, metals and volatile organic compounds (VOCs), primarily trichloroethene (TCE) and tetrachloroethane, were detected in local groundwater wells. Studies have identified nine sites, eight of which were recommended for further investigation. Site types include waste burn pits, sludge disposal pits, landfills, waste pits, and a fire training area.

One underground storage tank and associated contaminated soil were removed between FY86 and FY90. In FY93, the installation signed a Record of Decision (ROD) for Operable Unit (OU) 1. Remedial Design (RD) activities for the site were completed in FY94.

In FY93 and FY94, the installation completed groundwater Remedial Investigation and Feasibility Study (RI/FS) activities for eight sites. A BRAC cleanup team was established in FY94. In FY95, the installation completed a Remedial Action (RA) for residential wells contaminated with TCE. The installation also completed a BRAC Cleanup Plan (BCP) and a Phase I Environmental Baseline Survey (EBS) and began Phase II EBS.

The Navy installed temporary treatment systems at each affected well and worked with EPA and the local water authority to provide public water service to affected residential areas. In FY96, groundwater RI/FS activities at Site 9 and the RD for Sites 4 and 8 were completed. During FY97, one Removal Action was completed at Site 4 and another was initiated at Site 6. The

installation also completed an RA at OU3 and started long-term monitoring. Groundwater investigations for Area D concluded when an interim ROD was signed.

In FY98, the installation issued a final RI report for Area D sources. Fieldwork was completed and draft reports issued for EBS Phase II work, including risk assessments. The installation initiated a Removal Action at Area A (Site 1) and conducted pump tests at Areas A and D. Supplemental investigations for Site 5 and suspected trenches were initiated. The latest version of the BCP was completed. The draft Phase III RI/FS for media other than groundwater was completed. An interim RD/RA for groundwater at Areas A and D was initiated.

The installation's Technical Review Committee, formed in FY88, was converted to a Restoration Advisory Board in FY94. The installation also completed its Community Relations Plan and established an administrative record in FY94.

FY99 Restoration Progress

The Navy and EPA signed an explanation of significant differences for the groundwater in Area C. The document included a change to the final Area C groundwater ROD, incorporating institutional controls (ICs) that would prevent the use of groundwater that presented an unacceptable risk to human health. These ICs would also protect the integrity and effectiveness of the extraction well network. A Removal Action was completed, and the Navy and EPA signed a No Further Action (NFA) ROD for soil, surface water, and sediment at Site 8. In addition, the Navy completed a source removal at Sites 1, 2, and 3. Groundwater in Areas A and D underwent treatment, with the installation

of extraction wells connected to the wastewater treatment plant. The Navy continued off-base and perimeter monitoring.

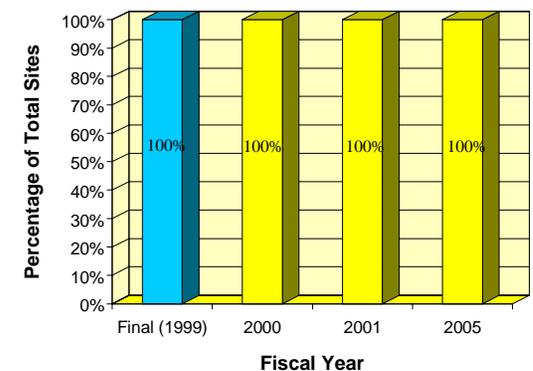
Northern Division signed a Finding of Suitability to Transfer (FOST) for Parcel 4. The Navy issued a final RI for Area D sources.

The preferred alternative for Site 6 was changed. The new action involves installation of 2 feet of soil cover and implementation of ICs. This change, if approved, will result in cost savings of approximately \$1 million. An Environmental Baseline Survey for Transfer (EBST) and draft FOSTs for public benefit conveyance (PBC) and economic development conveyance (EDC) parcels for Phase 1 were prepared.

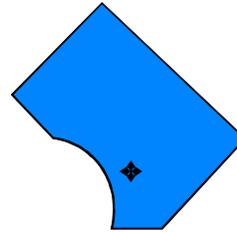
Plan of Action

- Sign an NFA ROD for Site 4; Area D soil, sediment, and surface water; and Area B groundwater in FY00
- Sign a ROD for Area A; Site 6 and 7 soil, sediment, and surface water; and Area A and D groundwater in FY00
- Continue perimeter and off-base monitoring in FY00
- Complete the EBST and FOSTs for the remaining PBC and EDC parcels in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: DC317002431000
Size: 63.3 acres
Mission: As the Navy's Quarterdeck in the Washington area, provide resources, including administrative space, housing, training facilities, logistical support, and supplies, for Washington Navy Yard tenants and other assigned units
HRS Score: 48.57; placed on NPL in July 1998
IAG Status: Federal Facility Agreement signed in June 1999
Contaminants: PCBs, pesticides, solvents, and metals
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$11.3 million
Estimated Cost to Completion (Completion Year): \$40.6 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Washington, D.C.

Restoration Background

Investigations at the Washington Navy Yard (WNY) have identified 15 sites, including 3 leaking underground storage tank (UST) sites. Contaminants released from past storage and disposal operations at the installation may have migrated into shallow and deep aquifers and the Anacostia River. A RCRA Consent Order, signed in July 1997, has been added into WNY's Federal Facility Agreement (FFA), which was signed in June 1999. A Site Management Plan (SMP) for WNY is under review by the regulatory agencies.

WNY's SMP outlines all projects and schedules that are being conducted under the FFA. Each regulatory agency and the Navy will use the SMP to track the progress of investigations and cleanup actions. Both EPA Region 3 and the District of Columbia Environmental Health Administration are reviewing the SMP. Work plans were developed and reviewed for the RCRA Facility Investigation (RFI) of basewide groundwater and Site 16, a former dive shop area where mercury was detected during an unrelated UST investigation. The RFI work plans and other work plans approved while WNY was governed by the Consent Order will be the implementing documents for investigations and actions continued under the FFA.

The WNY Restoration Advisory Board meets bimonthly and has participated in relative risk ranking activities for the facility. The Community Relations Plan (CRP) developed under RCRA will be revised to reflect the FFA status.

FY99 Restoration Progress

To minimize potential for exposure of the Anacostia River to contamination, the installation completed a Time-Critical

Removal Action for Site 16, which contained mercury-contaminated soil. An Engineering Evaluation and Cost Analysis (EE/CA) was not required because the Removal Action was time critical. A final closure report for the site was completed and submitted to EPA.

Cleaning the WNY storm sewer system complied with the requirements of a Consent Decree between the Navy and the Earthjustice legal defense fund. Repairs to portions of the storm sewer, identified in the televising process, have begun.

Additional fieldwork was completed for Removal Site Evaluations at Sites 7, 11, and 13. No EE/CAs began for these sites because the site evaluations indicated that Removal Actions were not necessary. Land use controls are being developed for Site 10 as Interim Actions until a site Remedial Investigation (RI) can be completed. The EE/CA for Site 10 was finalized. The planned Action Memorandum (AM) for Site 10 was not completed because Naval District Washington did not complete the two base instructions that were to be implemented by the AM.

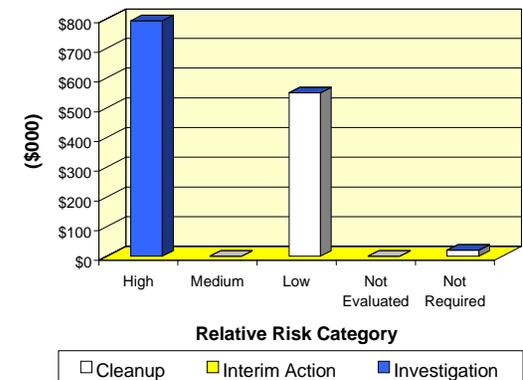
The fieldwork for a basewide groundwater investigation is under way. This fieldwork includes taking sediment samples from the Anacostia River adjacent to WNY, from District of Columbia storm sewer outfalls, and from areas upstream from WNY. Background samples for the basewide investigation are being collected upgrade of the facility. A CERCLA SMP was submitted to EPA, Washington, D.C. (EPA/D.C.) A Corrective Action Plan (CAP) for UST sites WNY 111 and 71 was submitted for approval. Corrective action remediation will begin upon CAP approval.

The WNY FFA was signed in June 1999 and became effective on September 27, 1999.

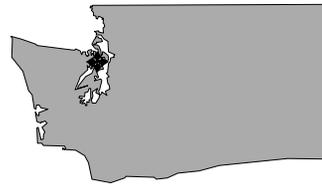
Plan of Action

- Conduct a Human Health Risk Assessment for soil at Site 16 in FY00
- Submit a Removal Site Evaluation report for Sites 7, 11, and 13 in early FY00
- Submit an AM for land use controls at Site 10 in FY00
- Develop a technical memorandum summarizing the river sediment sampling results and submit to EPA/D.C. in FY00
- Begin an RI for soil at Site 5 in FY00
- Conduct follow-up sampling for the basewide investigation, including additional background sampling in FY00
- Submit an RI report for the basewide groundwater investigation and Sites 4, 6, and 14 in FY00
- Submit an RI report for Site 16 to EPA/D.C. in FY00
- Continue repairs and replacements of the base storm sewer system in FY00
- Submit master project plans to EPA/D.C. to expedite the investigation and the start-up of future actions on WNY in FY00
- Revise the RCRA CRP to more closely reflect the requirements of the FFA in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID:	WA017002336100
Size:	7,000 acres
Mission:	Serve as training and operations center for the EP-3 Aries Orion antisubmarine and EA-6B Prowler radar jamming aircraft squadrons; serve as center for U.S. Navy and Marine Corps reserve training in the Pacific Northwest
HRS Score:	39.64 (Seaplane Base); placed on NPL in February 1990; delisted from NPL in 1995 48.48 (Ault Field); placed on NPL in February 1990
IAG Status:	Federal Facility Agreement signed in September 1990
Contaminants:	Chlorinated solvents, PCBs, and PAHs
Media Affected:	Groundwater, surface water, sediment, and soil
Funding to Date:	\$79.3 million
Estimated Cost to Completion (Completion Year):	\$21.0 million (FY2017)
Final Remedy in Place or Response Complete Date for All Sites:	FY2009



Oak Harbor, Washington

Restoration Background

Whidbey Island Naval Air Station occupies four areas on Whidbey Island, Washington: Ault Field, the Seaplane Base, the Coupville Outlying Field, and the Lake Hancock Target Range. The Seaplane Base and Ault Field were placed on the National Priorities List (NPL) in February 1990. Past disposal practices from aircraft maintenance, vehicle maintenance, public works shop activities, and fire fighting training activities have contributed to contamination.

Investigations initially identified 52 sites, which were grouped into five operable units (OUs). Eighteen of the sites, designated as OU4, were later recommended for No Further Action. Between 1993 and 1996, four Records of Decision (RODs) were developed to cover the remaining OUs. No sites were identified at Coupville. Oversight of Lake Hancock was delegated to the State of Washington, and a Phase II Site Hazard Assessment was initiated. Thirty-six underground storage tank (UST) sites were not covered by the RODs.

In FY90, the Navy signed a Federal Facility Agreement (FFA) for Ault Field and the Seaplane Base. The FFA specified that 26 sites would undergo more intensive sampling under a Hazardous Waste Evaluation Study (HWES) for potential inclusion in a Remedial Investigation and Feasibility Study (RI/FS). After the HWES in FY94, two additional sites were recommended for an RI/FS because of soil and groundwater contamination. Removal Actions were recommended for seven sites.

From FY91 to FY95, UST Removal Actions and Interim Remedial Actions, were conducted at the installation. In FY94, the installation conducted corrective actions at 16 UST sites not covered under the RODs. In FY95, the installation completed RI/

FS activities at OU3. A ROD was signed and a Remedial Design (RD) completed for another OU. Remedial Actions (RAs) were completed at two other OUs, and additional USTs were removed. Groundwater contamination from OU1, Area 6, was threatening the water supply of private landowners. A landfill cap, a pump-and-treat system, and a groundwater injection system were constructed to control the contamination. The groundwater contains petroleum hydrocarbons, inorganic compounds, and polyaromatic hydrocarbons (PAHs). The Seaplane Base was delisted from the NPL and from the State of Washington's Hazardous Sites List. Soil excavation activities have sufficiently reduced the threat to human health and the environment.

During FY96, the installation completed an RA for contaminated sediment from OU3 runway ditches. The landfill cap and the pump-and-treat system at OU1 were upgraded. A ROD was signed and RD was initiated for OU5. One UST was closed.

In FY97, the installation completed the RD and the RA for three sites at OU5. The landfill cap also was completed. RODs for three sites were signed, and RDs for two sites were completed.

In FY98, operations and maintenance (O&M) and long-term monitoring (LTM) were conducted at OUs 1 and 5. The 5-year reviews for OUs 1, 2, 3, and 5 were combined and completed.

In FY94, the installation converted its Technical Review Committee to the Navy's first Restoration Advisory Board. The installation completed a Community Relations Plan in FY91 and updated it in FY95 and FY96.

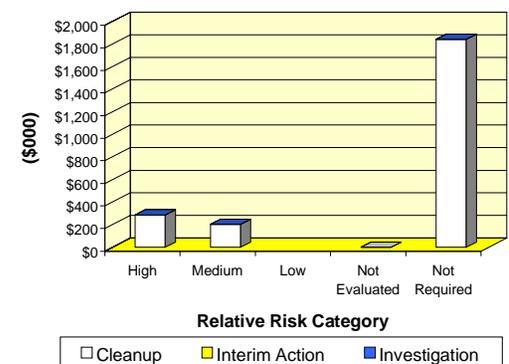
FY99 Restoration Progress

O&M and LTM continued at OUs 1 and 5. Studies to control treatment system biofouling problems and a project to upgrade the pump-and-treat system controls were initiated at OU1, Area 6. The U.S. Geological Survey (USGS) was tasked with evaluating the effectiveness of the pump-and-treat system at OU1 and proposing alternatives.

Plan of Action

- Continue O&M and LTM at OUs 1 and 5 in FY00
- Conduct soil removal at OU2 in FY00
- Evaluate biofouling recommendations and USGS study for OU1 in FY00
- Initiate proposals to suspend some pump-and-treat operations at OU5 in FY00
- Suspend pump-and-treat operation and complete removal operations at OU2 in FY00
- Propose that Ault Field, except for OU1, be delisted from the NPL, and request that the State of Washington provide oversight at OU5 in FY00 as a condition of the delisting.
- Submit a Closure Report to the State of Washington for Lake Hancock, proposing No Further Action in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: MD317002344400
Size: 710 acres
Mission: Research, develop, test, and evaluate ordnance technology
HRS Score: NA
IAG Status: None
Contaminants: Explosive compounds, waste oil, PCBs, heavy metals, VOCs, and SVOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$20.8 million
Estimated Cost to Completion (Completion Year): \$15.9 million (FY2007)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2003



Silver Spring, Maryland

Restoration Background

In July 1995, the BRAC Commission recommended closure of White Oak Naval Surface Warfare Center. The facility closed in July 1997. The General Services Administration and the Local Redevelopment Authority developed a Land Reuse Plan.

Activities at the installation included landfill disposal of oils, polychlorinated biphenyls (PCBs), solvents, paint residue, and other chemicals (including mercury); disposal of chemical research wastewater in dry wells; burning of explosive ordnance; and composting of sludge. Records also indicate that a radium spill occurred. Contaminants of concern are volatile organic compounds (VOCs); PCBs; cadmium; chromium; lead; mercury; nickel; and ordnance compounds, such as RDX and TNT.

Studies identified 14 sites, 7 of which required no further action (NFA) after the Preliminary Assessment in FY84. The remaining sites proceeded to the Site Inspection (SI) phase, which was completed in FY87. Contamination was detected at all seven sites, and further investigation was recommended. A fence was installed around the Apple Orchard Landfill site due to PCB-contaminated surface soil. In FY89, a RCRA Facility Assessment identified 97 solid waste management units (SWMUs) and 19 areas of concern (AOCs). Thirty-eight SWMUs required further investigation.

The installation completed the Remedial Investigation and Feasibility Study (RI/FS) phase for all seven remaining sites in FY93. The Human Health Risk Assessment identified a present risk at the Apple Orchard Landfill site and a potential risk at the remaining six sites. Source removal was recommended for five sites and encapsulation for two sites. The installation began Remedial Design (RD) for six sites in FY94. In FY96, the installation formed a BRAC cleanup team (BCT); completed RDs

Navy

for Sites 8, 9, and 11; and completed an Environmental Baseline Survey. In FY97, the installation finished Interim Remedial Actions (IRAs) for Sites 8, 9, and 11; completed several underground storage tank removals; and initiated RI/FS for Sites 7 and 9.

In FY98, the RCRA 7003 Order was issued. Of the 18 sites (AOC 1) scheduled for RI/FSs, 7 had RI/FSs initiated, 9 were recommended for NFA, and 2 were recommended for Removal Actions. IRAs were initiated at Sites 1, 4, 28, and 46. A new Removal Action was initiated at Site 46, and work was broken into two phases, surface water and groundwater contamination. The installation also completed an SI at the site. A basewide background study and site screenings of Sites 1, 5, 6, 12, 13, 28, 29, 31, 32, and 33 (AOC 1) and AOC 100 were compiled. The installation began a basewide explosives survey, site screening at AOC 2, and basewide storm and sanitary sewer investigations. Removal Actions were planned at Sites 10 and 14.

A Technical Review Committee, formed in FY89, was converted to a Restoration Advisory Board in FY96. The installation established an administrative record, an information repository, and a Community Relations Plan in FY94.

FY99 Restoration Progress

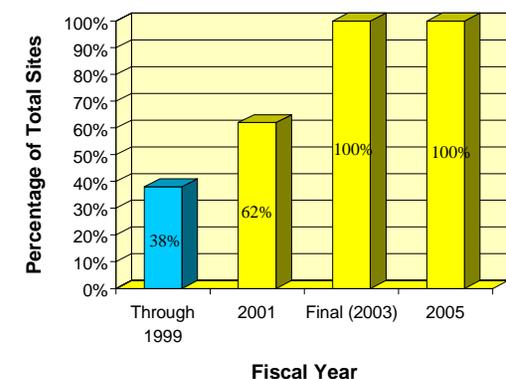
A draft RCRA Facility Investigation of Sites 2, 3, 4, 7, 8, 9, and 11 and a draft Site Screening Report for AOC 2 for initial screening were completed. An NFA report on 50 sites was completed, and an RI for OU1, which includes Site 46, was initiated. Second and third quarter sampling for basewide groundwater monitoring was completed, and explosives survey investigations were initiated. An inflow and infiltration study for SWMUs 46 and 48 and a Removal Action at Site 46 were initiated. Draft Engineering Evaluations and Cost Analyses for

Sites 1, 4, 28, and 33, and a Removal Action at Sites 4 and 33 were completed. The Proposed Plan (PP) and Record of Decision (ROD) for Sites 8, 10, and 14 were postponed due to insufficient data. Clean closure of Site 3 was postponed due to low BRAC funding. The RI for AOC 2 was delayed because of regulatory review of the draft Site Screening Report. Removal Actions were completed at Sites 4 and 33. Site 1 was designated part of Site 2. Sites 10 and 14 were reevaluated and are under risk analysis; they are expected to be NFA. The Site 28 scrap yard was surface cleaned, and an RI report is being prepared that is expected to lead to NFA. The BCT has continued partnering.

Plan of Action

- Prepare Corrective Measures Study and begin interim ROD for Site 11 in FY00
- Complete White Oak Web page and geographic information system in FY00
- Continue partnering efforts in FY00
- Complete PPs and RODs for Sites 8 and 33 in FY00
- Begin Removal Action for Site 3 and basewide explosives remediation in FY01
- Complete RA for OU1 and PPs and RODs for Sites 10 and 14 in FY01
- Begin RD for Sites 1 and 2 in FY00 and begin Remedial Action (RA) for Sites 1 and 2 in FY01
- Conduct, if needed, the RI for AOC 2 in FY00 and the Removal Action for AOC 2 in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: FL417002324400
Size: 3,842 acres
Mission: Train student naval aviators
HRS Score: 50.00; placed on NPL in May 1994
IAG Status: Federal Facility Agreement under negotiation
Contaminants: Pesticides, PCBs, VOCs, heavy metals, and chlorinated hydrocarbons
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$25.7 million
Estimated Cost to Completion (Completion Year): \$33.0 million (FY2031)
Final Remedy in Place or Response Complete Date for All Sites: FY2012



Milton, Florida

Restoration Background

In FY85, a Preliminary Assessment (PA) identified 23 sites at Naval Air Station (NAS) Whiting Field. In FY89, a supplemental PA identified five sites at the Outlying Landing Field (OLF) Barin. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, a maintenance area, underground storage tanks (USTs) and fuel pits, fire training areas, and drainage ditches. There are 39 CERCLA sites.

In FY87, Site 5 was determined to require no further action (NFA). In FY89, Remedial Investigation and Feasibility Study (RI/FS) activities began for most sites. In FY92, soil contaminated with mercury, lead, and methylene chloride was detected at the OLF Barin. RI/FS activities began for the five original sites, five new sites at OLF Barin, and six sites at NAS Whiting Field. In FY94, the installation completed a Baseline Risk Assessment for the OLF Barin and a Baseline Risk Assessment work plan for the NAS. In FY95 and FY96, the installation completed RI/FS activities and closed four sites at OLF Barin.

Chlorinated hydrocarbon contamination was detected, and 19 tanks identified at six UST sites. Between FY92 and FY95, Removal Actions were completed for all USTs and associated soil, two UST sites were closed, and a Corrective Action Plan (CAP) was completed for one UST site.

In FY97, cleanup of five sites was completed, and the sites closed, at OLF Barin: two sites required NFA; two required Interim Removal Actions, then NFA; and one site required a Remedial Action. At the NAS, groundwater was isolated as a separate site, enabling the installation to finish field investigations at 13 sites. Clear Creek and off-base migration received preliminary investigation. A large UST site was investigated and given a

monitoring-only designation because of changes in state regulations and the low risk of migration of contamination. The NAS completed a CAP and began a Remedial Design for one UST site.

In FY98, RI reports were written for nine sites at NAS, FS reports were written for two sites, and a Proposed Plan (PP) and draft Record of Decision (ROD) were written for one site. Field investigations were finished at six sites. The installation completed an RI/FS for Site 122, previously Site 22, at OLF Barin.

The NAS formed a Technical Review Committee (TRC) in FY89. A Community Relations Plan (CRP), completed in FY91, was updated in FY95. NAS formed a TRC for OLF Barin in FY92; the OLF Barin's CRP was completed in FY93. In FY95, both TRCs were converted to Restoration Advisory Boards (RABs). The RABs received training on the Technical Assistance for Public Participation program and the Technical Assistance Grant program.

FY99 Restoration Progress

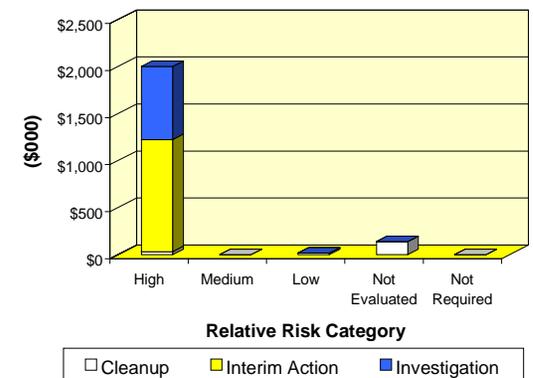
RI reports were completed for 11 sites, draft RI reports were written for 6 sites, Interim Remedial Actions were completed at 4 sites, and FS reports and PPs were completed for three sites. RODs were signed for Sites 1 and 2, and a Memorandum of Agreement for land use controls (LUCs) was signed. NFA letters were completed for Sites 36 and 37, and fieldwork began on seven sites, one being groundwater, at NAS. An instruction for LUCs was signed at OLF Barin. The remaining RI/FS, PPs, and RODs planned for FY99 were not completed due to a change in Florida guidance for cleanup. Long-term monitoring (LTM) for Site 2894

was requested in late FY99, but state approval was not received. Petroleum-contaminated soil cleanup was conducted along an abandoned fuel pipeline. The Federal Facility Agreement (FFA) was not signed as planned and is still in draft form.

Plan of Action

- Complete RODs for six sites at NAS in FY00
- Complete groundwater investigation at NAS in FY00
- Sign FFA in FY00
- Complete RODs for 12 sites at NAS in FY01
- Install remediation system at Site 1438 in FY01
- Start LTM for Site 2894 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: PA317002231200
Size: 1,090 acres
Mission: Serve as Reserve Naval Air Station for aviation training activities
HRS Score: 50.00; placed on NPL in September 1995
IAG Status: Federal Facility Agreement under negotiation
Contaminants: Heavy metals, PCBs, petroleum/oil/lubricants, and solvents
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$5.3 million
Estimated Cost to Completion (Completion Year): \$33.9 million (FY2021)
Final Remedy in Place or Response Complete Date for All Sites: FY2009



Willow Grove, Pennsylvania

Restoration Background

Studies at this installation identified 11 CERCLA sites and 2 RCRA sites. Site types include landfills, underground storage tanks (USTs), and a fire training area. Decision documents recommending no further action (NFA) have been submitted for five sites.

In FY86, Preliminary Assessments were completed for nine sites. Five of these sites were recommended for further investigation because of potential contamination of surface water and groundwater. In FY90, all nine sites were included in a Site Inspection (SI), along with a new site (Navy Fuel Farm [Site 10]). An Expanded SI was recommended for Site 7 because of trace levels of methylene chloride. Remedial Investigations and Feasibility Studies (RI/FSs) were recommended for Sites 1, 2, 3, and 5. Decision documents recommending NFA for Sites 4, 6, 7, 8, and 9 were submitted to EPA Region 3. In FY92, two 210,000-gallon USTs were removed from Site 10.

In FY93, an RI for Sites 1, 2, 3, and 5 recommended a Phase II RI/FS. In FY95, a Phase II RI work plan was issued for these four sites, and 6,000 cubic yards of soil was removed from Site 10. A state-approved plan allowed removed soil from Site 10 to be spread on another area at the installation.

During FY97, a draft Site Management Plan (SMP) and the Phase II RI work plan were completed. Use of vacuum-enhanced recovery of light nonaqueous phase liquids (LNAPL) with full-time water table depression, and immunoassay kits for polychlorinated biphenyl (PCB) screening accelerated characterization and fieldwork. In FY98, a draft Phase II RI report was submitted to regulators for review.

The installation formed a Technical Review Committee in FY90. In FY91, it established an administrative record and an information repository. In FY95, the installation established a Restoration Advisory Board (RAB). A Community Relations Plan was developed in FY97.

FY99 Restoration Progress

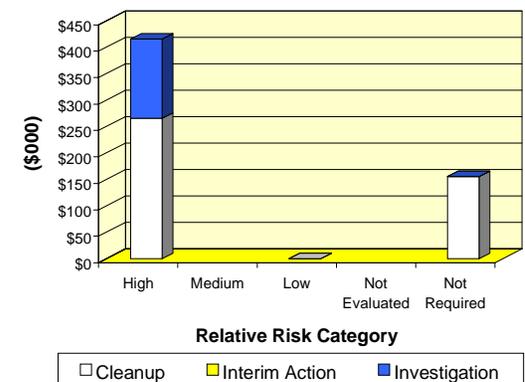
EPA Region 3 did not initiate Federal Facility Agreement negotiations as anticipated. In addition, the draft Phase II RI was not finalized because of complex issues relating to two of the four Installation Restoration (IR) sites. The Navy has decided to split out the IR sites and submit four separate Phase II RI documents. The new RI documents are now being rewritten, beginning with Site 5 the Fire Training Area. Additional investigative data will be included, per regulatory comments. The rewrite of the Phase II RI report was delayed because of the development of individual FS documents. The SMP also could not be finalized as planned. Because the base's main priority was continuation of the Phase II RI report, initiation of RI/FS activities for Site 11 was deferred.

The Interim Remedial Action (IRA) for PCB-contaminated soil at Site 1 was completed. Approximately 1,100 tons of soil was removed, and appropriate confirmation samples were taken. Operation of the LNAPL recovery system continued at Site 10. The RAB met three times, focusing on summarizing data collected for the Air Force's and the Navy's IR programs. The Navy gave a focused presentation for IR Site 5 and a status update on the IRA for Site 1 soil.

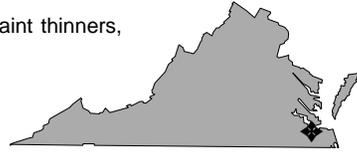
Plan of Action

- Complete additional investigations (Phase II RI) and submit a draft FS for soil and groundwater remediation at Site 5 in FY00
- Submit NFA Records of Decision for Site 1 soil in FY00
- Resubmit focused version of Phase II RI for Site 2, the Antenna Field Landfill, in FY00
- Continue operation of LNAPL recovery system at Site 10 in FY00 and FY01
- Hold quarterly RAB meetings in FY00 and FY01
- Complete CERCLA documentation for Site 2 in FY01
- Complete Remedial Design and award Remedial Action for preferred remedy for Site 5 in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: VA317002417000
Size: 10,624 acres
Mission: Provide ordnance technical support and related services; provide maintenance, modifications, production, loading, off-loading, and storage for the Atlantic Fleet
HRS Score: 50.00; placed on NPL in October 1992
IAG Status: Federal Facility Agreement signed in September 1994
Contaminants: Acids, asbestos, explosives, cadmium, lead, mercury, nickel, paint thinners, solvents, PCBs, varnishes, and waste oil
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: \$30.0 million
Estimated Cost to Completion (Completion Year): \$25.8 million (FY2015)
Final Remedy in Place or Response Complete Date for All Sites: FY2008



Yorktown, Virginia

Restoration Background

Since FY84, studies at Yorktown Naval Weapons Station identified 50 sites. No further action (NFA) has been recommended for 13 sites. The installation was placed on the National Priorities List (NPL) primarily because of six sites identified in FY92, which are hydrologically connected to the Chesapeake Bay. Contaminants include explosive nitramine compounds and primarily affect groundwater, surface water, and sediment.

During FY93, the installation completed an initial site characterization for all four underground storage tank (UST) sites. A Corrective Action Plan was completed. In FY95, corrective actions were completed for USTs 1 and 2.

Between FY84 and FY93, the installation completed an Initial Assessment Study for 19 sites, a confirmation study for 15 sites, and a Site Inspection (SI) for one site. During FY94, a Remedial Investigation and Feasibility Study (RI/FS) was completed for one site and Removal Actions were completed for three sites. The installation completed an SI for one solid waste management unit (SWMU). A comprehensive Site Management Plan was completed in FY94. The installation initiated a Treatability Study (TS) for treatment of explosives-contaminated soil.

During FY95, the installation completed an SI for three SWMUs, completed an RI, and signed a Record of Decision (ROD) for NFA for two sites and one SWMU. During FY96, the installation completed an SI for eight SWMUs. An RI/FS was completed and Remedial Design initiated for another site. RI/FSs were initiated at eight sites and five SWMUs. Three fire training pits and associated contaminated soil, a UST and piping, and underwater ordnance items were removed from two SWMUs.

In FY97, RI/FSs were completed for four sites. The installation completed field and bench-scale TSs for one site and began Remedial Action (RA) for one site. SIs were completed at four SWMUs/Site Screening Areas (SSAs). Early actions took place at two SSAs.

In FY98, an anaerobic bioslurry biocell technology was successfully used to treat 1,200 cubic yards of explosives-contaminated soil. An RA was completed at one site, and long-term monitoring (LTM) was initiated. RAs were initiated for three sites. An additional biotreatment technology was used to remediate soil contaminated with explosives and listed hazardous waste. As part of the demonstration project, the contractor contributed 50 percent of the capital and remedial costs, saving the Navy approximately \$200,000.

A Technical Review Committee, formed in FY91, was converted to a Restoration Advisory Board in FY95. A Community Relations Plan was completed the same year.

FY99 Restoration Progress

RODs were signed for four sites. A ROD planned for two additional sites was delayed until FY00 because of resource constraints. RAs were initiated at three sites and two SSAs and completed at two sites and one SSA. An RA planned for a third site is in progress but was delayed because of construction issues and inclement weather.

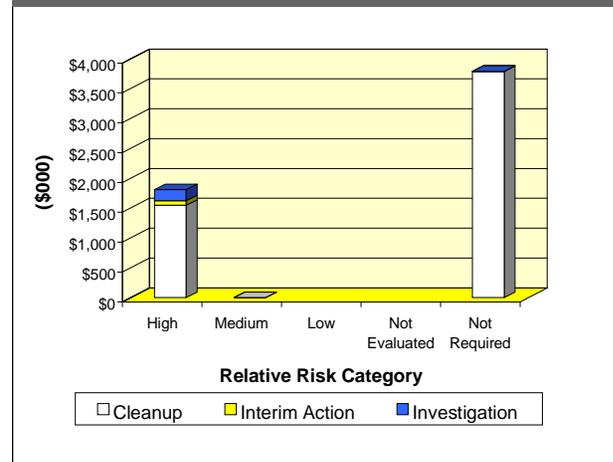
LTM was conducted at four sites. RI/FS activities were initiated at four sites, completed at two sites, and are under way at two sites. The planned completion of six RI/FSs was delayed because of a shift in priorities by the Navy and regulatory concerns at other sites. All field investigations of the SSAs were completed. The

final SSA report was delayed due to a change in site priorities. Removal Actions were completed at two SSAs.

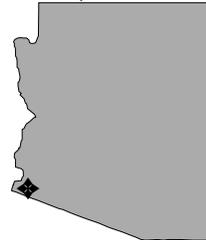
Plan of Action

- Sign RODs for five sites in FY00
- Initiate RA at four sites in FY00
- Complete RA at three sites and one SSA in FY00
- Conduct LTM at four sites in FY00
- Finalize RI/FS for three sites and one SSA in FY00
- Finalize Site Screening Report for 10 SSAs in FY00
- Sign Closeout Reports for eight SSAs in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: AZ917302449300
Size: 3,000 acres
Mission: Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces
HRS Score: 32.24; placed on NPL in February 1990
IAG Status: Federal Facility Agreement signed in January 1992
Contaminants: JP-5, petroleum hydrocarbons, SVOCs, trihalomethanes, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$39.5 million
Estimated Cost to Completion (Completion Year): \$33.2 million (FY2016)
Final Remedy in Place or Response Complete Date for All Sites: FY2014



Yuma, Arizona

Restoration Background

Investigations conducted between FY85 and FY92 identified 20 CERCLA sites and 5 underground storage tank (UST) sites at Yuma Marine Corps Air Station. Site types include landfills, sewage lagoons, liquid waste disposal areas, and ordnance and low-level radioactive material disposal sites.

Under the Federal Facility Agreement, sites were divided into three operable units (OUs): OU1, installationwide groundwater contamination; OU2, surface and subsurface soil contamination at 18 sites; and OU3, potential future sites.

In FY80, the installation removed sealed pipes containing low-level radioactive dials, gauges, and tubes at one site. It completed Site Inspections at 2 sites in FY88 and at 10 sites in FY91. In FY93, the installation removed 92 waste drums from a drum storage site. Initial site characterizations were completed at two UST sites in FY93 and one UST site in FY94. The installation also constructed three air-sparging and soil vapor extraction (AS/SVE) systems.

In FY95, the installation completed a Corrective Action Plan (CAP) at one UST site. The draft Remedial Investigation (RI) report for OU1 was submitted for regulatory approval. The OU2 RI report was submitted.

In FY96, field investigations at OU3 and RIs for OU1 and OU2 were completed. A draft Proposed Plan (PP) for OU2 was submitted. Fifty UST site assessments were performed at UST Units 2, 3, and 4. Approximately 40 USTs were declared to be candidates for clean closure.

In FY97, six USTs were closed and draft CAPs for four others were completed. A Removal Action and a closeout report were completed for UST B1040. Feasibility Studies were completed for OU1 and OU2, and a draft PP was completed for OU1.

In FY98, approximately 8 million gallons of groundwater was treated. Two full-scale UST systems using AS/SVE and free-product removal were implemented. The Arizona Department of Environmental Quality (ADEQ) approved monitored natural attenuation as the remedial alternative for the Motor Transportation Pool. Eight USTs were removed. The OU2 Record of Decision (ROD) was signed. The CAPs are awaiting ADEQ approval.

In FY95, the installation converted its Technical Review Committee to a Restoration Advisory Board. The Community Relations Plan was updated in FY94.

FY99 Restoration Progress

A 6-month vertical recirculation pilot study was successfully performed at the facility boundary, treating 13 million gallons of contaminated groundwater. The AS/SVE system, used in the hot spot Removal Action, was 75 percent installed. The Remedial Action (RA) for OU2 was completed. Three Voluntary Environmental Mitigation Use Restrictions were prepared and submitted, and four UST remedial systems were in operation. The installation developed a long-term monitoring (LTM) plan, and CAPs for the gas station and the fuel farm were submitted. The OU1 ROD is being revised.

Plan of Action

- Finalize the OU1 ROD in FY00
- Implement the RA for OU1 in FY00
- Implement the RA for the Federal Facility Agreement Assessment Program in FY00
- Initiate the long-term operation of the OU1 groundwater remediation systems in FY01
- Finalize and implement an LTM Plan/Program in FY01
- Complete active UST remediation in FY01

FY00 FUNDING BY PHASE AND RELATIVE RISK

