FINAL
CONSTRUCTION REPORT
AND SUPPLEMENTAL CONSTRUCTION REPORT
FOR
BUILDING 41 DEMOLITION AND SOIL REMOVAL, SPOILS PILE F REMOVAL, AND REVETMENTS 6 and 7 REMOVAL

HAMILTON ARMY AIRFIELD
NOVATO, CALIFORNIA

SACRAMENTO TERC II
USACE CONTRACT NO. DACW05-96-D-0011
CTO NO. 13, WAD Nos. 3 through 6

Document Control Number ACE13-058-H

May 2003

Prepared by:
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TABLE OF CONTENTS

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This document contains data and materials developed by IT Corporation prior to Shaw Environmental, Inc.'s acquisition of the IT Corporation TERC II Contract. Novation of the Contract to Shaw Environmental, Inc. was completed effective April 2, 2003. However, references to IT Corporation in this document have not been revised to reflect the joint origin of the material.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES (PROVIDED IN ELECTRONIC FORMAT)

ADDENDUM

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

APCL	Applied Physics & Chemistry Laboratory
BEC	BRAC Environmental Coordinator
bgs	below ground surface
BRAC	Base Realignment and Closure
COCs	Contaminants of Concern
CQCSM	Contractor Quality Control System Manager
cy	cubic yards
DCB	Decachlorobiphenyl
4,4'-DDD	4,4'-Dichlorodiphenyldichloroethane
4,4'-DDE	4,4'-Dichlorodiphenyldichloroethylene
4,4'-DDT	4,4'-Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substance Control
FSP	Field Sampling Plan
ft^2	square feet
FWV	Field Work Variance
gpm	gallons per minute
HAAF	Hamilton Army Airfield
HDPE	High-Density Polyethylene
HPCL	High Performance Liquid Chromatography
IT	IT Corporation
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
MDL	Method Detection Limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS	Matrix Sample
MSD	Matrix Sample Duplicate
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDD	Perimeter Drainage Ditch
PPE	Personal Protective Equipment
PQL	Practical Quantitation Limit
QAPP	Quality Assurance Project Plan
QA	Quality Assurance
QC	Quality Control
RAP	Remedial Action Plan
RCI	Reactivity, Corrosivity, Ignitability
ROD	Record of Decision
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SCC	State Coastal Conservancy (California)
SHSP	Site Health and Safety Plan

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS (Continued)

SIM	Selective Ion Monitoring
SOW	Statement of Work
SVOC	Semi-Volatile Organic Compound
TCMX	2,3,4,5-tetrachloro-m-xylene
TERC	Total Environmental Restoration Contract
TPH-d	Total Petroleum Hydrocarbons quantitated as diesel
TPH-g	Total Petroleum Hydrocarbons quantitated as gasoline
TPH-mo	Total Petroleum Hydrocarbons as quantitated motor oil
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This Construction Report was prepared to document the remedial action conducted at Building 41, Spoils Pile F area, and Revetments 6 and 7 at Hamilton Army Airfield (HAAF) in Novato, California. IT Corporation (IT) prepared this report and performed the activities on behalf of the U.S. Army Forces Command Base Realignment and Closure (BRAC) office and the United States Army Corps of Engineers (USACE), Sacramento District, under a Total Environmental Restoration Contract (TERC) No. DACW05-96-D-0011.

The activities described in this report were performed to advance the environmental closure and transfer of HAAF. These activities were specific to environmental and ecological interests and were designed to achieve the objective of removing man-made features and contamination present above established cleanup goals. These cleanup goals were presented in the Record of Decision (ROD)/Remedial Action Plan (RAP)/ for the project (CH2M Hill, 2001).

This report describes the activities that were completed in performing the Building 41 demolition and soil removal, Spoils Pile F removal, and Revetments 6 and 7 removals as detailed in Revision 1 of the Work Plan (IT 2001a) and subsequent Field Work Variances (FWVs) to the approved Work Plan (Appendix A). The Work Plan was based on the ROD/RAP for the project (CH2M Hill, 2001).

The following is a summary of the results of the construction activities completed at HAAF.

Building 41 Area

Building 41 was successfully demolished and waste associated with this construction work was removed for disposal or recycling.

Excavation of petroleum and polynuclear aromatic hydrocarbons (PAH) contaminated soil was completed at four locations in the Building 41 area: the North Excavation, the South Excavation, the Former Transformer Pad, and West "L" Excavation. Based on analytical results for confirmation samples collected following soil removal, soil containing contaminants of concern (COCs) above established cleanup goals has been removed from these locations. Excavated soil from these excavations was transported offsite for disposal as described in Section 6.

Characterization sampling was completed along an approximately 300-foot section of the Perimeter Drainage Ditch (PDD) northwest of Building 41. Approximately 300 cubic yards of soil were removed along the top of the PDD east and west banks. This material was transported offsite for disposal.

Spoils Pile F

Excavation of contaminated and potentially contaminated soil was completed at the former location of Spoils Pile F. Contaminated soils were removed from the area described as Spoils Pile F. Samples collected to delineate and confirm that soils containing COCs associated with Spoils Pile F had been removed indicated that four areas adjacent to Spoils Pile F contained DDT at levels which are representative of installation-wide concentrations.

Excavated soil from the Spoils Pile F site was transported offsite for disposal as described in Section 6.

Revetment 6

Demolition activities (including the concrete revetment demolition and asphalt removal) and excavation of petroleum and PAH-contaminated soil were completed at Revetment 6 location. Based on analytical results for confirmation samples collected following soil removal, soil containing COCs above established cleanup goals has been removed from the Revetment 6 location. Excavated soil from Revetment 6 was transported offsite for disposal as described in Section 6.

Revetment 7

Demolition activities (including the concrete revetment demolition) and excavation of petroleum, lead and PAH contaminated soil were completed at Revetment 7 location. Based on analytical results for confirmation samples collected following soil removal, soil containing COCs above established clean up goals has been removed from beneath and adjacent to Revetment 7 location. Excavated soil from Revetment 7 was transported offsite for disposal as described in Section 6.

1.0 INTRODUCTION

This Construction Report was prepared to document the remedial action conducted at Building 41, Spoils Pile F area, and Revetments 6 and 7 at Hamilton Army Airfield (HAAF) in Novato, California. IT Corporation (IT) prepared this report and performed the activities on behalf of the U.S. Army Forces Command Base Realignment and Closure (BRAC) office and the United States Army Corps of Engineers (USACE), Sacramento District, under a Total Environmental Restoration Contract (TERC) No. DACW05-96-D-0011.

Hamilton Army Airfield was constructed on reclaimed tidal wetlands by the U.S. Army Air Corps in 1932. In 1946 Hamilton became headquarters to the Fourth Air Force. The Base was renamed Hamilton Air Force Base in 1947 when it was transferred to the newly created U.S. Air Force.

In 1974, the Air Force deactivated the Base and initiated transfer of the property to other military or government agencies. In the transfer process, the residential portion of the installation was transferred to the U.S. Navy in 1975. Custodial management of other areas was taken over by the General Services Administration (GSA). In 1976, the U.S. Army was given permission to use the runway and ancillary facilities and several other buildings for regular Army and Army Reserve operations. A parcel in the hangar area went to the U.S. Coast Guard in 1983.

The Army continued to use portions of HAAF on a permit basis until 1984, when portions of the airfield were officially acquired by the Army and property management responsibilities were transferred to the Presidio of San Francisco. Aircraft operations were again discontinued in 1994 when the base was closed. The demolition work that is the subject of this report is located within the Inboard Area (Figure 1-1). The Inboard Area parcel will be transferred to the California State Coastal Conservancy (SCC) and will become part of the Hamilton Wetland Restoration Project.

1.1 OBJECTIVE

The activities described in this report were performed to advance the environmental closure and transfer of HAAF. These activities were specific to environmental and ecological interests and were designed to achieve the objective of removing man-made features and contamination present above established cleanup goals. These cleanup goals were presented in the Record of Decision (ROD)/Remedial Action Plan (RAP) for the project (CH2M Hill, 2001).

1.2 SCOPE OF WORK

This report describes the activities that were completed in performing the Building 41 demolition, Spoils Pile F removal, and Revetments 6 and 7 removal as detailed in Revision 1 of the Work Plan (IT 2001a); as defined in the ROD/RAP for the project (CH2M Hill, 2001). The soil sampling program is described in the Sampling and Analysis Plan (SAP) (IT, 2001b). That document consists of a Quality Assurance Project Plan (QAPP), which describes the procedures for chemical quality control during environmental restoration activities; and a Field Sampling Plan (FSP), which identifies field practices as they were performed and defines specifications for sample collection and supporting field measurements. The Site Health and Safety Plan (SHSP) describes the project-specific health and safety system that was implemented to assure that performed activities met project health and safety objectives (IT, 2001c). All remedial activities were conducted following procedures presented in the Work Plan and SAP or approved Field Work Variances (FWVs). FWVs are presented in Appendix A.

The primary work activities included:

Building 41 Demolition

- Demolish Building 41 including wood above ground structure, above and below-ground concrete structure, related piping through the adjacent levee, and associated concrete drainage ditch liner;
- Remove contaminated soil immediately adjacent to the north side of Building 41 (North Excavation);
- Remove contaminated soil west of Building 41 (West "L" Excavation);
- Remove contaminated soil south of Building 41 (South Excavation);
- Remove contaminated soil at a former transformer pad (Transformer Pad Excavation); and
- Remove soil along the top of the Perimeter Drainage Ditch (PDD Bank Excavation).

Spoils Pile F Removal

- Remove near-surface soil from the former location of Spoils Pile F.

Revetment 6 Demolition

- Remove non-reinforced concrete and underlying base rock that comprised the revetment;
- Remove contaminated soil beneath the revetment; and
- Remove the asphalt shoulder around the concrete revetment.

Revetment 7 Demolition

- Remove non-reinforced concrete and underlying base rock that comprised the revetment; and
- Remove contaminated soil adjacent to and beneath the revetment.

Work activities within 300 feet of the San Pablo Bay levee were required to be completed by January 31, 2002, or work would have to cease and not restart until September 1 to preserve the nesting season of a sensitive avian fauna (California Clapper Rail). Therefore, the work was split into two time-sensitive phases. Phase 1 activities to be completed prior to February 1, 2002 included Building 41 demolition and excavation activities and Spoils Pile F Excavation. Phase 2 consisted of work activities outside of the time-sensitive work zone including Revetments 6 and 7 Excavations and material stockpiling/ transportation activities.

2.0 MOBILIZATION AND PREPARATORY WORK

A pre-construction meeting occurred on December 10, 2001 and included representatives from the Army and IT. The meeting addressed the statement of work (SOW), contract requirements, and anticipated completion points to be fulfilled by IT. Present at the meeting were the BRAC and USACE representatives; IT Project Manager, site superintendent, foreman, Contractor Quality Control System Manager (CQCSM), and Health and Safety Manager; and the Site Manager for Cerrudo Construction who was mobilizing to construct a pipeline adjacent to this project. The agenda topics consisted of introductions, a general discussion of the scope of work, schedule, and planned procedures for controlling the work, reporting, changes, and coordination with adjacent contractors.

2.1 MOBILIZATION AND SITE SET-UP

On December 5, 2001 a tractor mower was mobilized to start clearing the work site and clearing access to roads that would become haul routes. This work continued until the pre-construction meeting was held and approval to start work at Building 41 was issued on December 10, 2001. Permission to clear and grub was granted in advance as it involved no invasive construction activities.

2.2 TEMPORARY FACILITIES

An office was set up in the BRAC facility using a shared telephone line and fax machine. An existing garage/warehouse was used to store vehicles and to store materials, small tools, and equipment. Temporary fencing was set up to limit public access to the work areas, and securing equipment and material from theft and/or vandalism. Portable toilets and refuse containers were utilized throughout the construction period at the work site. Traffic cones, flags, and signage were employed to manage vehicular traffic. Construction access to the site was through the north gate avoiding congestion for those working or residing on the former HAAF.

2.3 UTILITY PROTECTION AND MANAGEMENT

A utility survey was performed using standard underground utility locating equipment. Subdynamics Inc., was contracted to do a geophysical survey of excavation sites to insure utility clearance. There were no active utilities detected during the geophysical survey within the work zone.

Inactive utilities encountered during demolition activities were left in place except where removal was necessary to accommodate construction activities. Two abandoned communication cables traversed diagonally across Spoils Pile F and were cut and removed at the edge of the excavations. An abandoned 2-inch galvanized iron water pipe was encountered on the south side of Building 41 and in the southern excavation. The pipe was removed from the excavation since it appeared to have been abandoned in-place during previous site activities.

2.4 EQUIPMENT AND PERSONNEL DECONTAMINATION FACILITIES

An equipment decontamination area was established on Revetment 1. The decontamination pad was used to clean excavators, backhoes, trucks, and associated tools and equipment. The tires of equipment that traveled on contaminated soil were cleaned before the equipment left the site. Decontamination water and related solids were managed according to regulatory agency requirements. Personnel hand-wash, an emergency eyewash, and personal protective equipment (PPE) disposal facilities were established at work areas as required in the SHSP.

2.5 PERMITS AND NOTIFICATIONS

Prior to the initiation of field activities, the California Occupational Safety and Health Agency (OSHA) was notified of pending excavations at HAAF. The Novato Fire Department issued a hot work permit for the proposed hot work associated with demolition of Building 41.

A copy of IT's annual excavation permit was posted at the site office.

2.6 VEGETATION CLEARING

Clearing was limited to the actual area to be excavated plus minimal additional area to allow access. The clearing limits for specific work areas were adhered to as outlined below.

- Spoils Pile F area: immediate area in and around spoils pile area encompassing about 17,500 square feet (ft^2);
- Building 41: immediate vicinity of concrete-lined ditch located at the rear of the building encompassing about 2,500 ft^2 (approximately 50 foot by 50 foot area); and
- Revetments 6 and 7: very limited along perimeter of revetments to facilitate equipment maneuvering.

3.0 PHASE 1 CONSTRUCTION ACTIVITIES

Phase 1 construction activities began on December 5, 2001 and were completed on January 31, 2002. The removal/demolition activities occurred in late fall and winter at times during heavy rains. Work was slowed as a result of saturated site conditions that created personnel and equipment safety concerns. However, no major work stoppages were encountered.

There were periods of slow progress caused by rains, as stated above, creating site conditions that resulted in equipment becoming mired and additional equipment being required to dig the stuck equipment out. The excavator would be required to assist in lifting, pulling or pushing the equipment free of the mud. This occurred on four or five occasions, and on at least two occasions equipment was damaged as a result of these unavoidable circumstances. Under normal circumstances work would have been stopped until drier conditions prevailed; however, the fall/winter work requirements imposed on this site resulted in unusual working conditions. There were no reportable injuries during this project.

Following completion of mobilization and preparatory activities, demolition activities began. Daily activity field logs for the construction and sampling activities conducted at HAAF are presented in Appendix B. Project photographs are included as Appendix C. The following sections describe the demolition activities as they occurred.

3.1 CHRONOLOGY OF MILESTONE EVENTS PHASE 1

December 5	Non-invasive field activities began to prepare for construction activity.
December 6	Removed and relocated nine 55-gallon drums of oily liquid and three 20-gallon drums of oily liquid to a new containment cell at Revetment 7.
December 10	Pre-construction meeting and verbal Notice to Proceed.
December 13	Completed demolition of Building 41 wooden structure. Started concrete structure demolition.
December 18	Removed outfall pipes through levee and backfilled levee, placed erosion control measures.
January 09	Constructed two dams in the PDD and started dewatering.
January 10	Sampled under PDD concrete liner.
January 14	Began West "L" Excavation.
January 17	Began North Excavation.
January 18	Began excavation of Spoils Pile F area.
January 22	Began South Excavation and Transformer Pad Excavation.
January 23	Completed Spoils Pile F Excavation.
January 25	Completed South Excavation.
January 26	Completed stepout excavation at West "L" Excavation.
January 27	Completed concrete structure demolition at Building 41. Placed bypass pipes in the PDD and backfilled PDD and West "L" Excavation.
January 28	Removed dams in PDD allowing normal flows to resume. Started backfilling South Excavation and Building 41 Excavation.
January 29	Started 3-foot by 9-foot by 300-foot excavation on the PDD west bank.
January 30	Completed backfill of South, North, and Building 41 Excavations.
January 31	Placed aggregate baserock on levee road, completed 3-foot by 9-foot by 300-foot excavation of PDD west bank, and demobilized from Phase 1 area.

3.2 BUILDING 41, NORTH, WEST, AND SOUTH EXCAVATIONS

Building 41, an abandoned pump station, had been used to pump storm water from HAAF via the PDD and discharge it to San Pablo Bay.

The major work activities for Building 41 included demolishing a four-story wood and concrete structure, removal and scrapping pumps and equipment, removal of related piping, and demolition of the outfall. Additionally, contaminated soil from west, north, and south of Building 41 was removed and the excavations backfilled. Confirmation samples were collected from the excavations prior to completion and backfilling, and analyzed for the Building 41 Area site-specific contaminants of concern (COCs) identified in the ROD/RAP (CH2M Hill, 2001) and listed on Table 5-2. Excavation activities were complete when results from confirmation sampling verified that contaminant concentration values were below the cleanup goals for site-specific COCs. In some areas the BRAC Environmental Coordinator (BEC) requested samples be analyzed for additional contaminants thought to be present as evidenced by odor and/or visual observation. When analytical results indicated the additional contaminants were present, excavation was continued until confirmation samples verified in-situ contaminant levels were below cleanup goals.

3.2.1 Building 41 Demolition and North Excavation

The following sections provide a summary of the activities associated with the demolition of Building 41 and excavation of soil with chemical impact adjacent to the northeast corner of the building.

Building 41 Structural Details

Building 41 was reported to have one floor 9 feet deep below ground surface (bgs). However, during demolition activities it was determined that Building 41 had an actual depth of 17.5 feet bgs. The area beneath the ground floor, including the dry well, was flooded and full of debris. The other building dimensions were essentially as described in the Work Plan. Joining the lower level on the west side of the building was a 12-foot wide non-reinforced concrete-lined drainage ditch that flowed into a sump on the lower level of the building from the PDD. The layout of Building 41 is shown in Figure 3-2.

The building's lower level had four chambers. The first two chambers consisted of manual and mechanical bar screens separated by mechanical lift gates with remote operators. The third chamber was the wet well, and the fourth was the dry well containing the pumps, valves, and pressure discharge piping to the outlet junction box above this floor and external to the building. The structure consisted of 12-inch thick reinforced concrete walls, an 8-inch thick concrete top floor and 12-inch thick concrete basement floor. The structure was additionally supported by columns that measured 30 inches square at corner and at 8-foot centers along the walls.

The buildings upper level consisted of wood-frame construction with wood siding and composite shingle roof. The primary features within this level included four 6-cylinder diesel engines with angle drives to four sewage pumps at the lower level. A fuel pump feeding a 30-gallon diesel day-tank, fuel lines, exhaust systems, and a variety of electrical control panels, gauges, and flow- measuring equipment were also located on the upper level as were the mechanical bar screen cleaning equipment. Four, 18-inch steel force-mains rose out of the floor from the pumps below and elbowed through the east wall into the outlet junction box. The two diesel underground storage tanks once located adjacent to the building on the north side had been removed during previous environmental restoration work.

Attached to the east side of the pump station at the upper level was a concrete launder or outlet junction box that received the pumped flow. The outlet junction box discharged the flow into three 30-inch

outside diameter gravity pipes through the levee to San Pablo Bay. The gravity pipes from the outlet junction box to the levee had been slip-lined with twenty-four inch diameter solid wall high-density polyethylene (HDPE) pipe. These three HDPE pipes were later reused to restore flow in the PDD.

Prior to the commencement of demolition activities it was necessary to remove nine 55-gallon drums of waste oil and diesel and three 20-gallon drums of diesel from a storage room on the first floor of the building. The drums along with five 24-volt batteries for the pumps were relocated to a new containment cell just off of Revetment 7. The stored materials were wrapped in HDPE sheeting awaiting classification and disposal.

Building 41 Demolition, Removal, and Excavation

Dismantling of fixtures and equipment within Building 41 began on December 10, 2001 and demolition work began on December 11, 2001. Initially the engines, driveshafts, and angle drives were disconnected for removal. A Linkbelt 3200 excavator with a thumb was used for demolition of the wooden structure. Assisting was a Linkbelt 4300 excavator with a hydraulic breaker. By the close of business on December 13, the wooden structure was demolished and the material had been separated into two piles, one for wood debris and one for metal scrap. The engines were removed intact and segregated for later disposal.

The outlet junction box and concrete support pier were demolished to ready the outfall pipes for removal. Soil was excavated from the levee to a depth of approximately 18 inches above the outfall pipes, and the pipes were removed. The outside of the outfall pipes was intact, without apparent evidence of leaks, and no evidence of staining was observed on the soil beneath the pipes. The inner HDPE slip-liners were removed from the pipes by pulling them out with one excavator while holding the steel pipe with another excavator. The HDPE pipe was stockpiled for future reuse. The outer pipes were transported to a temporary onsite staging area at Revetment 7, prior to offsite disposal as metal debris as described in Section 6 of this report. The soil which was removed to unearth the pipes was then placed back in the excavation and compacted with the excavator, and aggregate gravel fill was placed on top to bring the levee surface back to the original grade.

After removal of the wooden structure and removal of equipment, demolition of the concrete building structure was started. However, the increased depth of the structure to 17.5 feet required a revised approach. The revised approach required excavation of soil surrounding the building and establishing working surfaces (benches) at depth to proceed with demolition. This process was repeated until all concrete debris was removed. Additional soil was segregated into clean and contaminated piles. Clean soil was stockpiled at the south side of the area designated the South Excavation.

During the building demolition the concrete walls were purposely left 2 to 3 feet higher than the excavated benches to prevent surface water intrusion into the building and limit cross contamination. An earthen dam had been built across the influent channel to limit storm water intrusion, but after heavy rains the dam was ineffective. Temporary dams were constructed at the former slide gate locations, sealing off the inflow of storm water to the building.

Excavation and demolition was completed to depths of approximately 18 to 20 feet on the north and south sides of Building 41 and to a depth of approximately 33 feet on the east side. A constructed levee lies east of the site and separates the site from San Pablo Bay. A combination of saturated soil conditions and the pounding of the hydraulic hammer caused soil on the west side of the levee to slump into the excavation. A three to four foot deep scarp approximately 40 to 50 feet long was created along the west bank of the levee. This resulted in concerns about safety as well as the potential for breaching the levee

in case the supporting bank continued to move. After examination, it was decided to continue demolition while continuously monitoring the bank status.

During excavation three wooden piles were uncovered protruding from the west bank of the levee. It is believed that the former piles supported the original shoring during the construction of the pump station. These pilings appeared to prevent further slippage of the levee bank. To further minimize loss of the levee, it was decided to leave the east wall and corners of Building 41 in place until the majority of the concrete floor, side and interior walls were removed. This provided some support for the west bank of the levee. The BEC had requested that the pilings be removed. However upon completion of the concrete removal, further slumping of the west bank occurred. It was therefore agreed to leave them in place and begin backfilling operations.

An estimated 1,725 cubic yards (cy) of soil were excavated from around Building 41 during demolition activities. This included clean soil removed for equipment access to remove Building 41, as well as potentially contaminated soil from the North Excavation (see below). Excavated soil (except soil from the North Excavation) was stockpiled south of the south excavation area. Confirmation soil sampling and analysis were performed as described in Section 5.0.

Backfill operations began on January 28, 2002 using the clean material excavated from Building 41 and material from the authorized borrow pit. The backfill operation is described in Section 3.4.

North Excavation

During a 1998 sampling event, slant drilling was performed to a depth of 17 vertical feet bgs on the north side of Building 41. The soil boring SB-UST41-01 (IT, 2001a) was to reach a depth approximately 11 feet beneath the building slab. Based on available information, the bottom of the building slab was considered to be 9 feet bgs at this location. Analytical results from soil samples collected from the slant drilling indicated there was diesel contamination beneath the slab. As a result, the Work Plan (IT, 2001a) proposed excavation beneath the building adjacent to this location. During excavation of the north side, the grouted slant borings were exposed and showed that the sampling had occurred outside of the building footprint. As the benches were excavated on the north side and the structure demolished to lower levels, visible soil contamination was observed. This soil was excavated and loaded into A35 Volvo off-road trucks for transportation to a containment staging area. Visible soil contamination was removed and complete removal of soil contamination was verified through confirmation sampling (see Section 5.0).

The floor of the wet well was breached and the soil under the slab was sampled (see Section 5.2.1). Analytical results of the soil samples contained no contaminants above the detection limits indicating that the contamination existed to the north of the building and not under the slab area. A FWV was issued that eliminated soil excavation from beneath the slab and added an area to be excavated at the northeast side of Building 41 (see FWV No. 831471-008 in Appendix A).

Approximately 160 cy of visually stained soil was removed from the North Excavation during Phase 1 construction activities. The North Excavation soil was stockpiled at Revetment 2 in the inboard BRAC area, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

3.2.2 West "L" and PDD Bank Excavations

On the west side of Building 41 was an influent structure and channel from the PDD (Figure 3-3). Excavation of soil and channel lining extended along the north side of the channel, from the PDD Bank Excavation limit to Building 41. This produced an "L"-shaped excavation.

Excavation of the West "L" and sampling along a 300-foot length of the PDD required the construction of two earthen dams and de-watering of the PDD to access the concrete lined bottom and sides. On January 8, 2002, two submersible pumps were installed to de-water the PDD. The 300-foot length of the PDD was de-watered on January 9 and sampling of the soil under the concrete lining was completed on January 10. Excavation of the west area was then started. After completion of the initial "L"-shaped excavation, three additional over-excavation events were completed before analytical results from confirmation samples indicated that soil containing contaminants above cleanup goals had been removed. Approximately 350 cy of potentially contaminated soil were removed from the West "L" excavation. The West "L" excavation soil was stockpiled at Revetment 3 in the inboard BRAC area, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

Once excavation work in the PDD was complete, restoration of the flow channel was implemented. Restoration of the PDD consisted of grouting the holes in the concrete liner through which soil samples were collected, placing the three former 24-inch HDPE slip liners in the channel to span the excavation area, and placing backfill in the channel. Clean soil backfill came from the base borrow pit. The three pipes were placed in a triangular pattern, two on the bottom and one on top, and the backfill was then placed and compacted carefully around the pipes. The backfill was brought up over the top of the pipes, approximately level with the concrete liner, and an additional berm was then placed along the length to minimize overflow and erosion.

At the request of the BEC, FWV 831471-001 (Appendix A) was prepared to excavate additional soil along the top of the PDD bank. On each side of the PDD, a 9-foot width of soil (from the outer edge of the PDD concrete liner outward) was excavated down to the elevation of the top of the concrete liner. This excavation extended along a 300-foot length of the PDD adjacent to the Building 41 and Spoils Pile F area (see Figure 3-3). The soil from the PDD Bank excavation was loaded into end-dump trucks and transported to Redwood Landfill, a Class III facility in Novato, California, and was used for clean daily cover.

3.2.3 South Excavation and Transformer Pad Excavation

The South Excavation started on January 22, 2002. The proposed excavation was approximately 53 feet in length, 40 feet in width and 6.5 feet in depth. This area had previously been excavated as part of the 1998 Interim Removal Action (IT, 2001a). After excavation commenced, visible contamination was observed beyond the extent of the existing liner material and the BEC authorized removal of visibly stained soil. The final excavation was 73 feet in length, 43 feet in with and 7.5 feet deep. Confirmation sampling results were below cleanup goals. An estimated 760 cy of potentially contaminated soil was removed from the southern excavation and was transported to Revetment 3 in the inboard BRAC area. This soil was stockpiled at Revetment 3, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

Immediately to the east of the South Excavation area at a former transformer pad south of Building 41, the BEC requested excavation of potentially contaminated soil. Soil had become impacted when an oily residue had been washed off the former transformer pad by rains. The BEC authorized removal of approximately 20 cy of stained soil. Confirmation soil sample results showed no COCs above cleanup goals. The Transformer Pad excavation soil was stockpiled at Revetment 3 in the inboard BRAC area, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

3.2.4 Soil Erosion Control

Silt fences and straw waddles were used at the levee area where the outfall pipes were removed and along the PDD where the banks were excavated to filter sediment and minimize erosion potential. As stipulated

elsewhere in this report, HDPE liners, lined berms, and covers were employed to reduce erosion on the excavated and stockpiled materials. Construction of the silt fences and straw waddles followed the Work Plan and best management practices for control of storm water runoff and sediments.

Stone roadways used to transport soil and debris from the demolition areas to the temporary waste storage areas were constructed using "bunker rock" from on site or repaired with aggregate base. Commercial vehicles were required to stay on paved taxiways and runways. Vehicles were required to be cleaned of loose soil or dirt after loading and prior to leaving the site.

3.3 SPOILS PILE F EXCAVATION

The Spoils Pile F Excavation area is located 50 to 150 feet north of Building 41 (Figure 3-4) and occupies approximately 14,822 square feet. The primary work activities for Spoils Pile F included delineation; excavation of the surface soil; and confirmation sampling. Confirmation samples were analyzed for the Spoils Pile F site-specific contaminants of concern (COCs) identified in the ROD/RAP (CH2M Hill, 2001) and listed on Table 5-2. Analytical results of confirmation samples were compared to cleanup goals to verify that contaminated soil excavation was complete.

The initial Spoils Pile F area was marked out and a 40-foot grid was established over the area. Soil sampling and analysis for COCs was performed in an effort to determine the depth and extent of potential contamination from the spoils pile. Based on the sample analytical results, the area of excavation was expanded to approximately 7,500 square feet and a deepening of the excavations by six inches was planned for a limited area. Excavation proceeded and soils were removed to the limits established by the sample data. After the excavation was complete, sampling grids were established and confirmation samples collected. An area 50-foot by 50-foot within the initial excavation area was excavated to a total depth of two feet below the original ground surface. The area was defined by sample locations HBSFL618 and HBSFL619. The area was resampled and results confirmed that contaminants in the soil were below the cleanup goals. Following this additional excavation, soil sample HBSFL622 was collected from the floor of the excavation. Sampling results for sample HBSFL622 confirmed that COC concentrations in the soil in this 50-foot by 50-foot area were below cleanup goals. Figure 3-4 presents the final excavation limits and depths.

A total of approximately 1,020 cy of potentially contaminated soil was removed from the Spoils Pile F Excavation during Phase 1 construction activities. The Spoils Pile F soil was stockpiled at Revetments 2, 3, and 4 in the inboard BRAC area, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

Included in the cubic yardage for Spoils Pile F was approximately 71 cubic yards of overburden that was excavated from the surface of the north excavation of Building 41. This soil was placed on top of Spoils Pile F, then removed and placed in an intermediate stockpile, shown in Figure 1-1. Upon the request of the DTSC this intermediate stockpile was sampled (HBSFL621-147) and the results indicated total DDTs above the clean-up goals. This portion of the intermediate stockpile was then relocated to the waste stockpile at Revetment 4. Subsequent waste characterization samples Waste P3-177 and Waste P3-223, shown on Figure 1-2 of the Supplemental Construction Report (Addendum 1), determined that the soil was Class II material.

3.4 SITE RESTORATION

Clean backfill material was used to backfill the Building 41 Excavation, the South and North Excavations, and the Transformer Pad Excavation. The Transformer Pad Excavation was not originally

planned to be backfilled. However, the BEC permitted backfilling of the excavation because of its small size and because it provided more efficient equipment access to backfill operations at the Building 41 Excavation.

The Work Plan called for the compaction of the backfill material with a sheepsfoot compactor or other suitable equipment. A sheepsfoot compactor was not used because it could not operate satisfactorily under the existing site conditions. A low ground pressure D-6 bulldozer and both of the excavators had been stuck and required 'digging out' with assistance from another excavator to get out of the saturated conditions. Backfill and compaction was accomplished using the bulldozer to push the soil over into the excavation, with the excavator compacting it as best it could with the back of the bucket compressing the soil into place. The D-6 bulldozer graded and track-walked the entire area as the backfill came up providing a uniformly graded cross slope.

Compaction testing was not done because it was unsafe to place a person in the excavation at the lower levels, and the moisture content of the soil was well over optimum and likely to result in failing tests. As placement progressed, drier soil was uncovered and utilized to make the upper area grade-able. The surface was graded to a uniform north-south side slope and a down slope from the levee on the east to the PDD on the west.

In accordance with the Work Plan, the Spoils Pile F excavation was not backfilled. The edges of the excavation were sloped at 2:1.

4.0 PHASE 2 CONSTRUCTION ACTIVITIES

Phase 2 work activities began on February 4, 2002 and were completed on March 20, 2002. Phase 2 involved substantial scope growth as a result of site conditions.

The following sections describe the Phase 2 demolition and removal actions for Revetment 6 and Revetment 7. In general, the work activities followed the scope of work as outlined in the RAP, changes and additions in scope (if any) are addressed herein.

4.1 CHRONOLOGY OF MILESTONE EVENTS FOR PHASE 2

February 4	Mobilized first full day on Phase 2. Began breaking concrete on revetments, consolidating stockpiles, cutting rebar.
February 5	Loaded and transported metal debris offsite for recycle.
February 14	Completed concrete removal from Revetment 6 and started breaking concrete into 2-foot by 2-foot by 2-foot pieces for disposal.
February 20	Completed concrete removal from Revetment 7. Began asphalt and soil excavation at Revetment 6.
February 25	Completed asphalt removal at Revetment 6. Began soil excavation at Revetment 7.
February 27	Began transporting concrete material offsite for recycling.
March 4	Completed transporting of concrete for recycling.
March 6	Began transporting mixed construction debris offsite for disposal.
March 11	Completed transporting and disposal of mixed construction debris.
March 12	Began transporting PDD Bank Excavation soil offsite for Class III disposal.
March 13	Completed transporting and disposal of PDD Bank Excavation soil.
March 14	Completed soil excavation at Revetment 6. Transported waste materials (diesel, motor oil, etc.) offsite for disposal.
March 18	Completed soil excavation at Revetment 7 and began equipment decontamination.
March 20	Completed all work, finished demobilizing and secured site.

4.2 REVETMENT 6 DEMOLITION AND SOIL EXCAVATION

Revetment 6 is one of 28 circular-shaped parking/turnout areas associated with the former runways (Figure 4-1). In addition to staging aircraft on the revetments, fueling and other services were performed. Revetment 6 was 162 feet in diameter, 14 inches thick, and constructed of reinforced and non-reinforced concrete. The work activities for Revetment 6 were removal of concrete and excavation of contaminated soil beneath the concrete. Confirmation sampling was conducted to ascertain that soil contamination had been successfully removed within the excavated area. Confirmation samples were analyzed for the Revetment 6 site-specific contaminants of concern (COCs) identified in the ROD/RAP (CH2M Hill, 2001) and listed on Table 5-2. Cleanup goals for site-specific COCs were used with collected analytical laboratory soil data verifying that removal was complete.

Concrete paving was broken apart and stockpiled on site for later disposal. The center of the revetment beneath the concrete exhibited a strong odor when exposed, indicating potential contamination.

The proposed one-foot deep excavation began on February 20, 2002. Based on visual observation, the presence of a strong odor, and confirmation sampling results, potentially contaminated soil was present within the excavation footprint following completion of the initial excavation. The contamination appeared to be primarily located in the center of the area. Additional soil excavation was completed to approximately 7 feet below the initial excavation bottom. This main excavation was terminated at a depth

of 8-feet deep and an area of 36 feet by 41 feet before confirmation sample results were below cleanup goals. A smaller over-excavation 1 foot below the initial excavation was completed around sample location HBR6L608. Figure 4-1 presents the final excavation limits and depths.

An estimated 495 cy of potentially contaminated soil was removed from the Revetment 6 area. The Revetment 6 soil was stockpiled at Revetment 6, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

In addition to the removal of concrete and soil, the BEC requested that a 29-foot wide asphalt shoulder be removed. From the initial inspection, it appeared that the asphalt was only about 4- to 5-inches thick. However, there were several layers of asphalt overlain with baserock to a depth of approximately two feet in some areas. The final volume of asphalt and rock removed was approximately 550 cy. This material was stockpiled as mixed construction debris and transported offsite as described in Section 6.0.

4.3 REVETMENT 7 DEMOLITION AND SOIL EXCAVATION

Revetment 7 is one of 28 circular-shaped parking/turnout areas as described for Revetment 6 (Figure 4-2). Revetment 7 was about 100 feet in diameter, 12 inches thick and constructed of non-reinforced concrete. The primary work activities for Revetment 7 were removal of concrete, excavation of contaminated soil beneath and adjacent to the concrete and confirmation that no contaminants remained within the excavated area above the cleanup goals. There were existing piles of scrap metal on Revetment 7 that were removed and placed with the metal scrap profiled for recycling.

The concrete was broken apart and transported to the taxiway where it was stockpiled along the southern side, south of Revetment 4 for later disposal.

The soil excavation at Revetment 7 was started on February 25, 2002. The area originally proposed for excavation was completed and confirmation samples collected. Confirmation samples were analyzed for the Revetment 7 site-specific contaminants of concern (COCs) identified in the ROD/RAP (CH2M Hill, 2001) and listed on Table 5-2. Based on the results of confirmation sampling, additional soil removal was completed at areas containing COCs above cleanup goals. Additionally, an area of visibly contaminated soil was excavated beneath the concrete revetment in the north half of the revetment. Figure 4-2 presents the final excavation limits and depths at Revetment 7.

A total of approximately 450 cy of potentially contaminated soil was removed from Revetment 7 during Phase 2 construction activities. The Revetment 7 soil was stockpiled at Revetments 4 and 7, and was subsequently transported offsite for disposal in October 2002, as described in Section 6.

4.4 SITE RESTORATION

At the request of the BEC and in accordance with the Work Plan (IT, 2001a), the Revetment 6 and 7 excavations were not backfilled. Site restoration at these sites included the following:

- Slope the sides of the excavation; and
- Smooth exposed earth surfaces to reduce slip, trip or fall hazards.

5.0 SAMPLING AND ANALYTICAL RESULTS

Soil sampling was conducted at Building 41 areas, Spoils Pile F, and Revetments 6 and 7 to further characterize existing soil quality and/or to confirm cleanup goals had been met.

A description of sampling protocols, sampling results, and a data quality assessment are presented in the following sections.

A summary of analytical parameters and the number of collected samples are shown in Table 5-1a. Table 5-1b lists the samples by area analytical method used.

5.1 SAMPLING PROTOCOLS AND ANALYTICAL SERVICES

The samples were collected in accordance with protocols presented in *Sampling and Analysis Plan Monitoring Well Abandonment, Building 41 Demolition, Spoil Pile F Removal, and Revetment 6 and 7 Removals* [IT, 2001] or appropriate FWV. Samples were collected, preserved, and shipped in the manner prescribed in the SAP. Field quality assurance and quality control (QA/QC) samples were also collected following the protocols outlined in the SAP.

The contract laboratory for the chemical analysis of confirmation samples was Applied Physics & Chemistry Laboratory (APCL) of Chino, California. The laboratory is validated by USACE and certified by the State of California to perform the requested analyses for the project.

5.2 ANALYTICAL RESULTS

This section summarizes the results of sampling for Phase 1 and Phase 2 activities. Analytical results were compared to established site cleanup goals for each contaminant of concern at each site to assess soil quality. A list of COCs and associated cleanup goal for each site are shown in Table 5-2.

Total polynuclear aromatic hydrocarbons (PAHs) concentrations for collected soil samples were calculated by adding all detected concentrations for individual analytes. All positive results between the method detection limit (MDL) and practical quantitation limit (PQL) were reported and used to obtain total PAHs. If the value was reported as less than the PQL, there were no positive results obtained above the MDL, and a value of 0 was used to obtain total PAHs.

The results for target analytes detected in confirmation samples are shown in Tables 5-3a, 5-4a, 5-5a, 5-6a, and 5-7a. Analytical results for individual PAHs are reported in Tables 5-3b, 5-4b, 5-5b, 5-6b, and 5-7b. Sampling documentation is provided in Appendix D. Laboratory reports are provided in Appendix E.

5.2.1 Phase I Sampling

This section summarizes the analytical results for soil sampling conducted at Building 41 areas, Spoils Pile F, and the PDD.

Building 41 North Excavation

Characterization sampling was conducted on January 3, 2002 north of Building 41, at the location of the former shop area. The purpose of this sampling was to confirm the location of petroleum-contaminated soil detected in slant borings installed in 1998 (see FWV Nos. 831471-003 and 831471-005 in

Appendix A). A total of four samples (HB41L601 through HB41L604) were collected from two trenches located at the former shop location: one sample at 14 feet bgs and one at 17 feet bgs from each location (see Figure 3-1). In addition, on January 10 one soil sample (HB41L605) was collected beneath the wet well in Building 41. This sample was collected by punching a hole through the concrete floor of the wet well and collecting a sample of the soil immediately beneath the floor.

The collected samples were analyzed for total petroleum hydrocarbons quantitated as diesel (TPH-d) and total petroleum hydrocarbons quantitated as motor oil (TPH-mo) using U.S. Environmental Protection Agency (USEPA) Method 8015B. TPH-d and TPH-mo were detected in each sample, but none of the results exceeded the respective cleanup goals. The maximum detected concentrations of TPH-d and TPH-mo were 88 milligrams per kilogram (mg/kg) and 79 mg/kg, respectively, in sample HB41L605-SO-117 collected beneath the wet well (see Table 5-3a).

Petroleum-contaminated soil was uncovered during benching activities at the northeast corner of Building 41 (see Section 3.2.1). On January 17, 2002, following excavation of the petroleum impacted soil, confirmation samples were collected from the four sidewalls and bottom of the North Excavation (HB41L611 through HB41L614). These samples were analyzed for TPH-d and TPH-mo using USEPA Method 8015B and PAHs using USEPA Method 8270C-SIM (selected ion monitoring). Analytical results showed no compounds detected above cleanup goals. No TPH-d was detected in any of the collected samples. The maximum detected concentration of TPH-mo was 28 mg/kg from the east sidewall. Total PAHs were detected at a maximum concentration of 148 micrograms per kilogram (µg/kg) from the west sidewall.

Stained soil was observed in the west sidewall immediately adjacent to Building 41. Additional excavation of the stained soil was performed and a confirmation sample (HB41L617) was collected on January 21, 2002. This sample was analyzed for the same compounds as the previous samples. No COCs were detected in this sample.

Based on final confirmation sampling results, soil containing COCs above cleanup goals has been removed from the North Excavation location.

Building 41 West "L" Excavation

Following completion of the West "L" Excavation on January 14, 2002, confirmation soil samples were collected. A total of six confirmation samples were collected including one duplicate sample (HB41L606 through HB41L610); one sample from the east sidewall, one sample from the north sidewall, and three samples from the bottom of the excavation (see Figure 3-3). Samples were analyzed for TPH-d and TPH-mo using USEPA Method 8015B and PAHs using USEPA Method 8270C-SIM.

Analytical results showed TPH-d exceeding cleanup goals in two samples: HB41L608 collected from the bottom of the excavation and HB41L610 collected from the north sidewall (see Table 5-3a). Detected TPH-d concentration for HB41L608 and HB41L610 were 505 mg/kg and 604 mg/kg, respectively.

Over-excavation at the two locations containing petroleum-contaminated soil (HB41L608 and HB41L610) was completed and additional confirmation soil samples were collected from the north sidewall (HB41L615) and excavation bottom (HB41L616) on January 21, 2002. The two samples, HB41L615 and HB41L616, were collected and analyzed for the same parameters as the previous samples. Analytical results for HB41L615 collected from the north sidewall contained TPH-d at 204 mg/kg that was above the cleanup goal of 144 mg/kg for diesel in soil. Concentration of TPH-d in sample HB41L616 was below the reporting limits for the analysis.

On January 24, 2002, at the request of the California Department of Toxic Substance Control (DTSC), an additional sample was collected from the bottom in the southeast corner of the excavation (HB41L624). This sample was analyzed for TPH-d and TPH-mo using USEPA Method 8015B. No analytes were detected above cleanup goals.

Over-excavation of the north sidewall at sample location HB41L625 was completed on January 26. Confirmation sample HB41L625, was collected and analyzed for TPH-d and TPH-mo using USEPA Method 8015B. Analytical results for sample HB41L625 showed TPH-d at 159 mg/kg, slightly above the cleanup goal. This petroleum-contaminated soil at location HB41L625 was removed during excavation of soil along the PDD banks (see Section 3.2.2.).

Based on final confirmation sampling results, soil containing COCs above cleanup goals has been removed from the West "L" Excavation location.

Building 41 South Excavation and Former Transformer Pad Excavation

On January 23, 2001 confirmation samples (HB41L618 through HB41L623) were collected from the South Excavation. Soil samples were collected from the four excavation sidewalls and bottom (see Figure 3-1) and analyzed for TPH-d and TPH-mo using USEPA Method 8015B. Concentrations of TPH-d and/or TPH-mo were detected in all the samples, but none exceeded cleanup goals. The maximum concentrations of TPH-d and TPH-mo detected were 7.5 mg/kg and 27 mg/kg, respectively, in sample HB41L618 (see Table 5-3a).

Visually stained soil from beneath the former transformer pad, located east of the South Excavation and south of Building 41, was removed in a separate operation on January 22, 2002. This work was performed in accordance with FWV No. 831471-006, that is detailed in Section 3.2.3. Confirmation samples from the former transformer pad excavation were collected on January 23. Soil samples were collected from the four excavation sidewalls and bottom (see Figure 3-1) and analyzed for TPH-d, TPH-mo, and total petroleum hydrocarbons quantitated as gasoline (TPH-g) using USEPA Method 8015B, and polychlorinated biphenyls (PCBs) using USEPA Method 8082. These analyses were selected based on the possibility that a release of oil or fuel occurred near the transformer pad (see FWV No. 831471-006). Low level concentrations of TPH-g, TPH-d, and TPH-mo were detected in several samples, but no compounds were detected above established cleanup goals.

Based on confirmation sampling results, soil containing COCs above cleanup goals in Table 5-2 has been removed from the South Excavation and Former Transformer Pad locations.

PDD Characterization Sampling

On January 10, 2001, four soil samples and one duplicate sample (HBPDL601 through HBPDL604) were collected from the PDD to assess the soil quality beneath the concrete liner of the drainage ditch (see Figure 3-3). Samples were collected as described in FWV No. 831471-001 (see Appendix A). Two samples were collected beneath the concrete liner on the bottom of the channel and one sample from each of the sidewalls. Collected samples were analyzed for the following:

- TPH-d and TPH-mo using USEPA Method 8015B;
- Metals using USEPA Methods 6010B and 7471A;
- Pesticides using USEPA Method 8081A; and
- Total PAHs using USEPA Methods 8310 and 8270C-SIM.

The analytical requirements for the PDD samples are outlined in FWV No. 831471-001 and a list of the specific analytes is shown in Table 5-2.

Pesticides were detected above cleanup goals in sample HBPDL604. In the sample 4,4'-dichlorodiphenyldichloroethane (4,4'-DDD), 4,4'-dichlorodiphenyldichlorethylene (4,4'-DDE), and 4,4'-dichlorodiphenyltrichlorethane (4,4'-DDT) were detected at 40 µg/kg, 50 µg/kg and 160 µg/kg, respectively (see Table 5-4a).

Several metals were also detected above cleanup goals at location HBPDL604 including cobalt, manganese, and nickel at 44.8 mg/kg, 1,190 mg/kg and 168 mg/kg, respectively. These same metals were also detected above cleanup goals in HBPDL602 at 73.6 mg/kg, 2,340 mg/kg, and 274 mg/kg, respectively. At HBPDL603, nickel and zinc were detected in soil samples at 120 mg/kg and 175 mg/kg, respectively, both above cleanup goals.

Dibenzofuran was not detected above the PQL in any samples from the PDD. In addition, PAHs were not detected above PQLs in the samples from the samples collected beneath the PDD concrete liner. However, the dibenzofuran PQL exceeded the cleanup goals after the results were corrected for moisture content. Multiple PAHs also had PQLs exceeding individual PAH cleanup goals (Appendix H contains all analytical results). The analytical laboratory reports all results above method detection limit (MDL). The MDLs for dibenzofuran ranged from 49 µg/kg to 74 µg/kg and no positive results were reported. MDLs for PAHs ranged from 0.13 µg/kg to 87 µg/kg and no positive results were reported. In addition, the total PAH cleanup goal was met. This information can be used to substantiate that the remedial objectives were met for dibenzofuran and PAHs.

An additional soil sample (HBPDL605) was collected from the west sidewall of the PDD on January 17 near the location of HBPDL604. This location was within a few feet of HBPDL604, but was further away from defects in the concrete lining. It was thought that location 604 was too close to a defect in the lining to be truly representative of conditions beneath areas of intact concrete lining. Sample HBPDL605 was analyzed for the same constituents listed above. All analytes were below cleanup goals.

Spoils Pile F

Prior to soil removal at the Spoils Pile F area, characterization samples were collected around the proposed excavation area in accordance with FWV No. 831471-004 (Appendix A). A total of nine soil samples including one duplicate sample were collected at eight locations (HBSFL602 through HBSFL608) to further characterize the location (see Figure 3-4). The samples were collected between 12 and 18 inches bgs and analyzed for the following analyte list provided in FWV No. 831471-002:

- TPH-d using EPA Method 8015B;
- Metals using EPA Methods 6010B and 7470A;
- Pesticides using EPA Method 8081A;
- PCBs using EPA Method 8082;
- PAHs using EPA Method 8310; and
- Dibenzofuran using EPA Method 8270C.

A list of specific analytes for the characterization samples is shown in Table 5-2. The analyte list includes the list from the Work Plan, plus TPH-d, mercury, and PCBs, which were added in FWV No. 831471-002.

Analytical results for the Spoils Pile F characterization samples indicated elevated pesticides concentrations at three locations: HBSFL603, HBSFL606, and HBSFL608 (see Table 5-5a). At HBSFL603, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were detected at 8 µg/kg, 13 µg/kg, and 58 µg/kg, respectively, versus the cleanup goal of 7 µg/kg for each compound. HBSFL608 contained 4,4-DDE and 4,4-DDT at 11 µg/kg and 36 µg/kg, respectively. HBSFL606 also contained DDT at 8 µg/kg, slightly above the cleanup goal of 7 µg/kg.

Lead was detected slightly above the cleanup goal in sample HBSFL607-SO-107. The analytical results for lead in this sample was 53.9 mg/kg compared to the cleanup goal of 43.2 mg/kg.

Based on the characterization effort, the proposed Spoils Pile F excavation footprint was enlarged according to FWV No. 831471-004 (see Section 3.3 and Appendix A). The excavation then proceeded following the Work Plan and FWV No. 831471-004.

On January 17, 2002, confirmation samples were collected from ten locations in the Spoils Pile F excavation. A total of ten primary samples and one duplicate sample were collected (HBSFL611 through HBSFL620). Collected soil samples were analyzed for the following:

- Metals using USEPA Methods 6010B and 7470A;
- Pesticides using USEPA Method 8081A;
- PAHs using USEPA Method 8310; and
- Dibenzofuran using USEPA Method 8270C.

A list of specific analytes for the Spoils Pile F confirmation samples is shown in Table 5-2.

Analytical results for the Spoils Pile F confirmation samples showed elevated pesticides concentrations at HBSFL618 and HBSFL619. For HBSFL618, 4,4-DDD, 4,4-DDE, and 4,4-DDT were detected in the sample at 40 µg/kg, 68 µg/kg, and 223 µg/kg, respectively. For HBSFL619, concentrations of 4,4-DDD, 4,4-DDE, and 4,4-DDT were detected in the sample at 29 µg/kg, 28 µg/kg, and 77 µg/kg, respectively. Two additional locations, HBSFL611 and HBSFL616, contained 4,4-DDT at 23 µg/kg and 12 µg/kg, both slightly above the cleanup goal for that compound.

Following over-excavation at the locations of HBSFL618 and HBSF619, a confirmation soil sample, HBSFL622 was collected at a location approximately between the two previous sample collection points. The sample was analyzed for the same suite of analytes as the previously collected confirmation samples at Spoils Pile F. Detected chemical concentrations in sample HBSFL622 were all below cleanup goals.

Based on final confirmation sampling results, low levels of pesticides remain at three locations in the Spoils Pile F area. Sample locations HBSFL606, HBSFL611, HBSFL616, and HBSFL620 contained 4,4'-DDT at 8 µg/kg, 23 µg/kg, 12 µg/kg, and 10 µg/kg, respectively, all slightly above the cleanup goal of 7 µg/kg. These detections appeared distinctly different from the concentrations and range of analytes found in the Spoils Pile itself, and were attributed to other sources than the Spoils Pile.

5.2.2 Phase II Sampling

This section summarizes the results of the confirmation sampling associated with Revetment 6 and 7 remedial activities.

Revetment 6

On February 28, 2002, a total of 11 confirmation samples (including two duplicate samples) were collected from the initial excavation approximately 1 to 3 feet deep at locations HBR6L601 and HBR6L609 (see Figure 4-1). Samples were collected from the bottom of the excavation, except HBRL609 that was collected from a sidewall of a small "pothole" near the excavation center. Samples were analyzed for TPH-d, TPH-mo, and TPH-g using USEPA Method 8015B and PAHs using USEPA Method 8270C-SIM.

Two samples, HBR6L605 and HBR6L608, contained compounds above cleanup goals. HBR6L605 contained TPH-d at 500 mg/kg and HBR6L608, contained TPH-mo at 233 mg/kg (see Table 5-6a).

Additional excavation to remove the petroleum-contaminated soil was completed at both locations. At sample HBR6L605 location, the excavation was completed to approximately 8 feet deep while chasing visually contaminated soil. On March 15, 2002, confirmation samples were collected from the four sidewalls and bottom of the 8-foot deep excavation (HBR6L610 through HBR6L614) and analyzed for the same compounds as the previous confirmation samples. All analytical results were below cleanup goals. Maximum detected concentrations of TPH-d, TPH- mo, TPH-g and total PAHs were 9.1 mg/kg, 21 mg/kg, 0.4 mg/kg, and 248 µg/kg, respectively.

On March 15 confirmation sample HBR6L615 was collected from the over-excavation at the HBR6L608 sample location. This sample was analyzed for the same compounds as the previous confirmation samples. All analytical results were below cleanup goals.

On March 15, three additional confirmation samples, HBR6L616 through HBR6L618, were collected from the east sidewall of the initial excavation. These samples were analyzed for the same constituents as the previous samples. No compounds were detected above cleanup goals.

Based on final confirmation sampling results, soil containing COCs above cleanup goals has been removed from the Revetment 6 location.

Revetment 7

On February 28, 2002, a total of six samples including one duplicate sample (HBR7L601 through HBR7L605) were collected from the Revetment 7 excavation (see Figure 4-2). The soil samples were analyzed for PAHs using USEPA Method 8270C-SIM and lead using USEPA Method 6010B.

Two of the samples contained detected concentrations of lead above the cleanup goal of 43.2 mg/kg (Table 5-7a). Sample HBR7L601 contained lead at 66.4 mg/kg and HBR7L603 at 51.2 mg/kg.

Based on these results, over-excavation was completed following receipt of analytical results. A second round of confirmation sampling was conducted at the site on March 15, 2002. A total of six samples including one duplicate sample (HBR7L611 through HBR7L615) were collected and analyzed for PAHs using USEPA Method 8270C-SIM and lead using USEPA Method 6010B. Laboratory analytical results for the collected samples were below cleanup goals for all analytes.

Following completion of concrete removal and the initial 1-foot deep excavation an area of visibly stained soil with a strong odor was exposed near the center of Revetment 7. Visibly contaminated soil was excavated from this roughly triangular area and four confirmation samples were collected; one sample from each of the three sidewalls and one sample from the bottom (HBR7L606 through HBR7L609). The samples were analyzed for TPH-d, TPH-mo, and TPH -g using USEPA Method 8015B and volatile

organic compounds (VOCs) using USEPA Method 8260B. No compounds were detected in the samples above cleanup goals.

Based on final confirmation sampling results, soil containing COCs above cleanup goals has been removed from the Revetment 7 location.

5.3 DATA QUALITY ASSESSMENT

This section summarizes the results of the data quality assessment including field data and laboratory data quality assessment.

5.3.1 Field Quality Control Data

Field QC included two equipment rinsate blanks and nine field duplicate samples.

Equipment rinsate blanks were collected at frequency of one per day when reusable decontaminated sampling equipment was used to collect soil samples. Throughout the majority of the sampling effort, clean disposable sampling scoops were used to collect soil samples and no equipment rinsate blanks wee required. On December 27, 2001 and January 10, 2002, a drive sampler with decontaminated stainless steel sleeves was used for soil sampling and equipment rinsate blanks EB1-109 and EB2-116, respectively, were collected on those days. The positive analytical results for the equipment rinsate blanks are summarized below:

Sample Identification	Analyte	Result	Reporting Limit	Method Detection Limit	Units
EB1-109	Nickel	1.6	5	0.71	µg/L
EB1-109	Lead	1.3	5	0.87	µg/L
EB1-109	Zinc	5.5	10	2.6	µg/L
EB2-116	TPH-diesel fuel (C12-C24)	0.03	0.5	0.024	mg/L
EB2-116	Boron	52	300	17	µg/L
EB2-116	Barium	1.3	10	1.1	µg/L
EB2-116	Beryllium	0.095	2	0.075	µg/L
EB2-116	Chromium, total	1	5	0.58	µg/L
EB2-116	Copper	3	10	1.8	µg/L
EB2-116	Manganese	1.1	5	0.74	µg/L
EB2-116	Nickel	1.2	5	0.71	µg/L
EB2-116	Zinc	12.3	10	2.6	µg/L

µg/L = micrograms per liter

Normal samples are associated with the equipment rinsate blanks based on date and time of collection. The identification of the associated equipment blank is recorded by the sampler on the collected sample form. When disposable sampling equipment is used, no equipment rinsate blanks are required and no equipment rinsate blank is associated with the normal samples. In cases where there are target analytes detected in the equipment rinsate blank and an associated normal sample, the normal sample result is qualified as not detected as follows:

- Normal sample result < PQL and < 5 times the concentration in the associated equipment rinsate blank, the normal sample result is qualified as not detected at the PQL; and

- Normal sample result > PQL and < 5 times the concentration in the associated equipment rinsate blank, the normal sample result is qualified as not detected at the concentration reported.

For common laboratory contaminants, the normal sample result is evaluated based on 10 times the concentration in the associated equipment blank.

The diesel result in two samples associated with EB2-116, HBPDL-602-SO-120 and HBPDL-604-SO-122 (Table 5-4a), were qualified as not detected because of the positive diesel result in equipment rinsate blank EB2-116. No other project data were qualified based on equipment rinsate blank results.

Nine field duplicate samples were collected. This represents approximately 10 percent of the total number (93) of normal samples collected during the field effort. The distribution of the field duplicates over the areas sampled is presented in the following list:

- Two from Building 41;
- One from the perimeter drainage ditch;
- Two from Spoils Pile F;
- Two from Revetment 6; and
- Two from Revetment 7.

The percentage of field duplicates by parameter is as follows:

- PAHs (EPA Method 8270C-SIM): 16 percent;
- PAHs (EPA Method 8310): 14 percent;
- TPH as diesel and motor oil: 10 percent;
- TPH as gasoline: 16 percent;
- Metals: 29 percent;
- Mercury in soil: 17 percent;
- Organochlorine pesticides: 13 percent;
- PCBs: 9 percent; and
- Dibenzofuran: 13 percent.

With the exception of PCBs, the 10 percent field duplicate frequency goal was met for all COCs.

Field duplicate results were compared for analytes that had positive results in both the primary and duplicate sample. There were four field duplicate pairs that met this criterion, one from Building 41, one from the perimeter drainage ditch, and two from Spoils Pile F. The following samples had results that did not meet the 50 percent relative percent difference (RPD) criterion:

- 130 RPD for benzo(b)fluoranthene and 63 RPD for TPH quantitated as diesel in field duplicate pair HB41L607-126/127;
- 101 RPD for cadmium in field duplicate pair HBPDL601-119/119;
- 51 RPD for mercury in field duplicate pair HBSFL602-SO-101; and
- 76 RPD for phenanthrene in field duplicate pair HBSFL612-SO-132/133.

Data are not qualified based on the field duplicate RPD results. The majority of the field duplicate results were within the acceptance limit indicating that adequate field and analytical precision were obtained. The non-compliant field duplicate results have minimal impact on the data quality and usability.

5.3.2 Laboratory Data Quality Assessment

A Level III data review was performed on approximately 90 percent of the samples and a full validation was performed on approximately 10 percent of the samples. The review was conducted in accordance with the guidelines and control criteria specified in the following documents:

- *National Functional Guidelines for Organic Data Review*, (USEPA, 1999);
- *National Functional Guidelines for Inorganic Data Review*, (USEPA, 1994); and
- *Sampling and Analysis Plan Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal* (IT, 2001b).

The following QC elements were included in the Level III data review:

- Sample holding times;
- Surrogate recoveries;
- Laboratory Control Sample/Laboratory Control Sample Duplicate recoveries;
- Matrix Spike/Matrix Spike Duplicate recoveries;
- Relative Percent Differences;
- Internal Standard Recoveries;
- Initial calibrations;
- Continuing calibrations;
- Laboratory Method Blanks; and
- Field Blanks.

The Level IV validation includes all of the elements of the Level III review along with verification of analyte quantitation based on independent calculation and qualitative evaluation of all associated raw data. The following sections provide a discussion of the findings of both the Level III and Level IV review. The discussion focuses on the QC analytical results that were outside their respective control criteria and the potential impact of non-compliant issues on the data quality and usability. A complete discussion of the data quality is presented in *Quality Control Summary Report, Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal* (IT, 2002 in preparation).

The following table presents a summary of the data qualifications by area and sample type:

Area	Parameter	Analysis Method	Number of Qualified Results	Number of Qualified Confirmation Sample Results	Total Number of Results
Building 41	Polynuclear Aromatic Hydrocarbons	USEPA Method 8310	5	5	136
	TPH, diesel and motor oil	USEPA Method 8015B	4	2	54
Transformer Pad	Polychlorinated Biphenyls	USEPA Method 8082	7	7	35
	TPH, diesel and motor oil	USEPA Method 8015B	1	1	10
	TPH, gasoline	USEPA Method 8015B	3	3	5
Perimeter Drainage	Polynuclear Aromatic Hydrocarbons	USEPA Method 8270C-SIM	4	4	18
	Polynuclear Aromatic Hydrocarbons	USEPA Method 8310	4	4	102
	Organochlorine Pesticides	USEPA Method 8081A	12	12	23
	Dibenzofuran	USEPA Method 8270C	3	3	6
	TPH, diesel and motor oil	USEPA Method 8015B	2	2	12

Area	Parameter	Analysis Method	Number of Qualified Results	Number of Qualified Confirmation Sample Results	Total Number of Results
Spoils Pile F	Metals	USEPA Method 6010B and 7471A	2	2	176
	Polynuclear Aromatic Hydrocarbons	USEPA Method 8270C-SIM	3	3	18
	Organochlorine Pesticides	USEPA Method 8081A	14	9	63
	Dibenzofuran	USEPA Method 8270C	3	2	21
Revetment 6	Polynuclear Aromatic Hydrocarbons	USEPA Method 8270C-SIM	1	1	360
	TPH, diesel and motor oil	USEPA Method 8015B	1	1	49
	TPH, gasoline	USEPA Method 8015B	8	6	11
Revetment 7	Polynuclear Aromatic Hydrocarbons	USEPA Method 8270C-SIM	15	15	216
	TPH, gasoline	USEPA Method 8015B	5	5	5
	Volatile Organic Compounds	USEPA Method 8260B	10	10	335

All data were reviewed or validated; however, the following discussion presents an evaluation of the qualifications associated with confirmation sample results, indicated in Appendix E, Table E-1 as "CF". All qualified data and their associated sampling locations are identified in Table E-1.

Building 41

- **Surrogate, Reason Code S:** Results and quantitation limits for polynuclear aromatic hydrocarbons analyzed by USEPA Method 8310, High Performance Liquid Chromatography (HPCL), were qualified as estimated in sample HB41L609-SO-129 because of surrogate recovery outliers. The recovery of para-terphenyl was 58 percent, slightly below the 65 percent lower control limit. The data is considered usable although there may be a low bias in the positive results for phenanthrene, as indicated by the J- qualifier flag.

  The motor oil results and the diesel quantitation limits in sample HB41L616-SO-149 were qualified as estimated because the recovery of n-octacosane was 60 percent, slightly below the 65 percent lower control limit. The data is considered usable although there may be a low bias in the positive results for diesel, as indicated by the J- qualifier flag.

Transformer Pad

- **Method Blank, Reason Code B:** Three TPH as gasoline results were qualified as not detected, because of method blank contamination. All of the sample results were below the method reporting limit and there is no expected result on data usability; and
- **Surrogate Recovery, Reason Code S:** All Aroclor quantitation limits in sample HBTPL602-SO-152 were qualified as estimated because the recovery of the surrogate 2,3,4,5-tetrachloro-m-xylene (TCMX) was 62 percent, below the 65 percent lower control limit. The second surrogate, decachlorobiphenyl (DCB), meet acceptance criteria and there is no negative effect on data usability based on this outlier.

Perimeter Drainage

- **Calibration Outliers, Reason Code C:** The benzo(g,h,i)perylene, indeno(1,2,3-c,d)pyrene, and dibenz(a,h)anthracene quantitation limits in sample HBPDL605-SO-142 were qualified as estimated because the percent difference between the initial calibration response factor and the continuing calibration response factor exceeded the 20 percent acceptance criterion. The response factors were 21.4 percent for indeno(1,2,3-c,d)pyrene, 21.4 percent for dibenz(a,h,)anthracene, and 23.6 for

benzo(g,h,i)perylene. The deviations from the acceptance limits are small and there is no effect on the results because of these outliers. The data is considered to meet the project quality objectives;

- **Laboratory Control Sample Recovery, Reason Code L:** The laboratory control sample recovery of acenaphthene was 55 percent, slightly below the 60 percent acceptance criterion. As a result the acenaphthene quantitation limit in sample HBPDL605-SO-142 was qualified as estimated. There is no effect on the results because of these outliers and the data is considered to meet the project quality objectives;
- **Matrix Spike Recovery, Reason Code M:** The matrix spike/matrix spike duplicate sample recoveries for acenaphthene, anthracene, and naphthalene were 34/33, 27/26, 48/44 percent, respectively. The acenaphthene and naphthalene quantitation limits in the parent sample were qualified as estimated, UJ, because the matrix spike and/or spike duplicate sample recoveries were below the 45 percent lower control limit. The quantitation limits for anthracene were rejected because the recoveries in the matrix spike and matrix spike duplicate sample were below the 30 percent rejection criterion. These low recoveries may indicate a matrix effect and the reported quantitation limits for these compounds should be considered a minimum and the true quantitation limits may be higher. Despite these low matrix spike recoveries, the possibility of false negatives is considered unlikely and the data are useable; and
- **Surrogate Recovery, Reason Code S:** The surrogate recovery was below the USEPA Method 8081A 65 percent lower control limit in the following samples:

  - HBPD601-SO-118: Surrogate TCMX recovery 60 percent;
  - HBPD601-SO-119: TCMX 50 percent and surrogate DCB 58 percent;
  - HBPDl602-SO-120: TCMX recovery 64 percent; and
  - HBPDl603-SO-121: TCMX recovery 61 percent and DCB recovery 64 percent.

  As a result the positive results and quantitation limits for 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were qualified J/UJ in the samples listed above. With the exception of HBPD601-SO-119, the recovery of at least 1 surrogate meet the acceptance limits and for all qualified samples, the recoveries were only slightly below the lower control limit. The effect on data usability is not significant.

Spoils Pile F

- **Serial Dilution, Reason Code A:** Results for cadmium and arsenic were qualified as estimated, J, in sample HBSFL622-SO-171 because the serial dilution percent difference did not meet the ±10 percent acceptance criteria. The percent difference for arsenic was 63 percent and the percent difference for cadmium was 25 percent. The large percent differences for arsenic and cadmium indicate the possibility of a matrix effect although the data is still considered usable for the intended purpose;
- **Continuing Calibration, Reason Code C:** The indeno(1,2,3-cd)pyrene result and the fluorene and benzo(g,h,i)perylene quantitation limits were qualified as estimated in sample HBSFL622-SO-171 because of the percent difference between the initial and continuing calibration response factors did not meet the ±20 percent difference acceptance criteria. The percent difference was 24.9 percent for indeno(1,2,3-cd)pyrene, 22.5 percent for fluorine, and 24.4 percent for benzo(g,h,i)perylene. The percent differences observed for these analytes are all within 25 percent and these outliers do not affect the data usability;
- **Laboratory Control Sample Recovery, Reason Code L:** The positive results and quantitation limits for 4,4'-DDD were qualified as estimated in 8 samples because the percent recovery of 4,4'-DDD was 62 percent in the laboratory control sample, below the 65 percent lower control limit. Although the recovery of 4,4'-DDD was low in the laboratory control sample, it was within acceptance limits in the associated matrix sample/matrix sample duplicate (MS/MSD). There is no

evidence of a systematic recovery problem with this compound and the data is considered useable; and

- **Surrogate Recovery, Reason Code S:** The dibenzofuran quantitation limit in sample HBSFL607-SO-107 was qualified as estimated because the recovery for the surrogate 2,4,6-tribromophenol was 40 percent, below the 45 lower control limit. There is no expected effect on sensitivity due to this outlier and the data is considered useable.

Revetment 6:

- **Laboratory Blank Contamination, Reason Code B:** The results for gasoline in five samples and were qualified as not detected because of contamination in the associated laboratory blank. All of the qualified results were below the quantitation limit and gasoline in the samples is reported as not detected at the quantitation limit. The qualification of these sample results has no effect on data usability; and
- **Surrogate Recovery, Reason Code S:** The recovery of the USEPA Method 8270C-SIM surrogate, nitrobenzene-d5, was 137 percent, slightly exceeding the 135 percent upper control limit. The result for 2-methyl naphthalene in sample HBR6L612-SO-212 was qualified J+. It is unlikely that the bias in this result is significant and usability is unaffected by this outlier.

Revetment 7

- **Laboratory Blank Contamination:** The results for gasoline in four samples and the results for methylene chloride in five samples were qualified as not detected because of contamination in the associated laboratory blank. All of the qualified results were below the quantitation limit and the qualification of these sample results has no effect on data usability;
- **Calibration, Reason Code C:** The results for acetone were qualified in five samples because the percent difference between the initial and continuing calibration response factors did not meet the 20 percent criterion. The percent difference for acetone was 25.7 percent. In addition, the results were qualified as estimated because the response factor for acetone in the initial calibration did not meet the 0.05 validation acceptance criterion. The response factor for acetone was 0.045, below the 0.05 validation criterion, but above the method acceptance criterion of 0.01. In both cases the deviations from the applicable acceptance limit was small and there is no effect on data usability because of these outliers; and
- **Surrogate Recovery, Reason Code S:** The recovery of the surrogate, terphenyl-d14, was below the USEPA Method 8270C-SIM 135 percent upper control limit in the following samples:

  - HBR7L613-SO-221: recovery 148 percent resulting in the estimation of acenaphthene anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, phenanthrene, and pyrene results;
  - HBR7L613-SO-222: recovery 146 percent resulting in the estimation of fluoranthene and phenanthrene results; and
  - HBR7L613-SO-223: recovery 145 percent resulting in the estimation of benzo(a)anthracene, chrysene, fluoranthene, phenanthrene, and pyrene results.

  The potential for a slight high bias in the surrogates does not adversely affect the usability of these data and the data are considered to meet the project objectives.

All of the confirmation sample results meet the project objectives and the outliers discussed in the preceding text do not represent a systematic problem with data quality.

6.0 WASTE MANAGEMENT

Soil and debris stockpile areas and temporary drum storage areas were constructed for storage of waste removed during remedial action at HAAF. The following sections provide a summary of the waste management and disposal activities conducted during remedial activities at Building 41, Spoils Pile F, and Revetments 6 and 7.

6.1 GENERATED WASTE

Materials generated by the demolition and excavation processes were segregated into seven general classes:

1. Wood Debris consisting of the crushed and obliterated wood structural components consisting of 99 percent wood and 1 percent miscellaneous debris, such as in wall electrical wire, conduit, wall boxes, sheet metal flashing, roof jacks, etc., that could not be readily separated from the wood.
2. Metal Debris consisting of building and process piping, metal equipment and components, metal panels and boxes, electrical conduit, engine stands, drives, gears and shafts, trash racks, etc.
3. Mixed Construction Debris including clean soil, wood, concrete, and other miscellaneous debris too mixed to separate. The general mix of debris approximates the following percentages; wood < 3 percent, soil 15 to 20 percent, concrete with steel-rebar 75 to 85 percent, other miscellaneous < 2 percent.
4. Clean Recyclable Concrete containing less than 10 to 15 percent other materials with rebar cut to 4-inch or less in exposed length, and rubble size not exceeding 2 feet by 2 feet by 2 feet.
5. Clean Cover Soil with chemical concentrations below the facility acceptance criteria and free of large rubble, substantial vegetation or other deleterious materials.
6. Potentially Contaminated Soil containing or potentially containing COCs in levels above the cleanup goals of the sites from which they were removed.
7. Miscellaneous Waste consisting of the following:
   - Four, 55-gallon drums of waste-motor oil;
   - Five, 55-gallon drums and three small drums of diesel fuel; and
   - Five, 24-volt batteries.

6.2 WASTE SAMPLING

Waste soil characterization samples were collected directly from soil stockpiles and other waste stockpiles, as required by the disposal facility, using disposable sampling equipment. One four-point composite sample was collected from the waste stockpiles at a rate of approximately one sample per 500 cy. Samples were analyzed for semi-volatile organic compounds (SVOCs) using USEPA Method 8270C, pesticides using USEPA Method 8081A; PCBs using USEPA Method 8082; TPH-d and TPH-mo using USEPA Method 8015B; metals using USEPA Method 6010B/7471A; and reactivity, corrosivity, and ignitability (RCI) using USEPA Methods 7.3, 9045, and 1010.

In addition, one discrete sample was also collected from the waste stockpile at the four-point subsample location containing the most contaminated soil based on visual and olfactory observations. This sample was analyzed for VOCs using USEPA Method 8260B and TPH-g using USEPA Method 8015B.

A summary of analytical results for collected waste characterization samples associated with materials transported from site for disposal in Spring 2002 is presented in Appendix F. Samples Waste PD1-123, Waste PD2-124, Waste PD1-178, and Waste PD2-179 were collected from stockpiled soil from the 300 foot length PDD bank excavation, which was transported offsite in March 2002. Samples Waste

Demo 1-180 and Waste Demo 2-181 were collected from mixed construction debris stockpiles at Revetments 6 and 7, which was transported offsite in March 2002.

Potentially contaminated soil (see Section 6.1) was stockpiled onsite and subsequently transported offsite for disposal as described in Section 6.4. Waste profile sample results for this soil are presented in the Supplemental Construction Report, included as Addendum 1 of this report.

6.3 WASTE TRANSPORTATION AND DISPOSAL

The quantities of materials generated by the demolition and excavation processes and appropriate disposal locations are described below:

1. Wood Debris: Wood debris was derived from demolition and removal of Building 41. This material was placed in roll-off bins and transported to Forward Landfill in Stockton, California under bills of lading. Approximately 52 tons of non-hazardous material was transported offsite for disposal.
2. Metal Debris: Approximately 50 percent of the metal debris was derived from the demolition and removal of Building 41. The other 50 percent was scrap metal debris cleared from the Revetment 7 site prior to excavation. This material was loaded into trucks and roll-off bins and transported to Simms Metals in Oakland, California for recycling under bills of lading. Approximately 75 tons of metal debris was transported offsite for recycling.
3. Mixed Construction Debris: Mixed construction debris was derived from the Building 41 demolition as well as the removals at Revetments 6 and 7. This material was loaded into end-dump trucks and transported to Forward Landfill under non-hazardous waste manifests. Approximately 2,625 tons of mixed construction debris was transported offsite for disposal.
4. Clean Recyclable Concrete: The bulk of the clean recyclable concrete was derived from the removals at Revetments 6 and 7, with a relatively small portion of clean concrete (less than 100 cy) from the Building 41 demolition. This material was loaded into end-dumps and transported for recycling under bills of lading to the Dutra Material plant in Petaluma, California, Aman Environmental Construction, Inc., of Oakland, California or the Altamont Landfill in Livermore, California. Approximately 2,180 tons of material was transported offsite for recycling.
5. Clean Cover Soil: Clean cover soil was derived from the 300-ft length of soil removed along the PDD bank (Section 3.2.2). This material was loaded into end-dump trucks and transported under bills of lading to Redwood Landfill in Novato, California. Approximately 663 tons of this material was transported offsite for disposal as non-hazardous waste.
6. Potentially Contaminated Soil: containing or potentially containing COCs in levels above the cleanup goals of the sites from which they were removed. The potentially contaminated material was placed in containment cells and stockpiled onsite until October 2002. In October 2002 this soil was transported offsite for disposal (see Section 6.4).
7. Miscellaneous Waste: Miscellaneous waste was derived from the Building 41 demolition.
   - Four, 55-gallon drums of waste-motor oil. This material was sent to Alvisio Independent Oil in Alvisio, California for recycling;
   - Five, 55-gallon drums and three small drums of diesel fuel. These drums were sent to Waste Management's facility in Kettleman City, California for recycling/disposal; and
   - Five, 24-volt batteries. The batteries were delivered to the Interstate Battery facility in Santa Rosa, California for recycling.

The weight tickets, bill of ladings and non-hazardous manifests for offsite disposal or recycling are contained in Appendix G.

6.4 WASTE TRANSPORTED OFFSITE IN FALL 2002

Potentially contaminated soil was stockpiled on Revetments 2, 3, and 4, and in front of Revetments 6 and 7. These stockpile areas were constructed as containment cells using 20-mil HDPE liner material and clean earth berms. Stockpiles were covered with 10 mil HDPE material and tied with sandbag-weighted rope.

Revetments 2, 3, and 4 were used for stockpiling material excavated from the various sites including Revetments 6 and 7. Revetments 6 and 7 stockpiles represented material excavated from those respective revetments alone. With the exception of a few areas, the excavated material was very wet and contained low levels of contamination, therefore the BEC issued instructions to the contractor to delay transportation of these materials until late summer or fall, when they would be drier. The location of these stockpiles is shown in Figure 1-1.

Sampling of the stockpiles was completed in October 2002. Following completion of the sampling and waste profiling, all of the stockpiled soil was transported offsite to Altamont Landfill in Livermore, California for disposal. Details of these waste disposal activities are presented in the Supplemental Construction Report, included as Addendum 1 of this report.

7.0 CONCLUSIONS

This section provides general conclusions related to the remedial action completed at the Building 41 area, Spoils Pile F, and Revetments 6 and 7.

7.1 BUILDING 41 AREA

Building 41 was successfully demolished and all waste associated with this construction work was transported offsite for disposal or recycling.

Excavation of petroleum and PAH contaminated soil was completed at four locations in the Building 41 area: the North Excavation, the South Excavation, the Former Transformer Pad, and West "L" Excavation. Based on analytical results for confirmation samples collected following soil removal, all soil containing COCs above established cleanup goals has been removed from these locations. Soil from these excavations was transported offsite for disposal.

Total DDTs (the sum of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected at a concentration of 1.9 mg/kg in one waste profile sample (Waste P2-175) collected from Building 41 soil which was stockpiled temporarily at Revetment 3 and later disposed of offsite. DDTs were not originally identified as a COC for the Building 41 site (Table 5-2). Since the higher detection was not expected from site knowledge, four discrete waste profile samples were collected from the composite sample locations comprising sample Waste P2-175. The Total DDT results for these four discrete samples were 0.013, 0.016, 0.031 and 0.230 mg/kg. Details on the waste profile samples, including sample locations and analytical data, are presented in the Supplemental Construction Report (Addendum 1 of this report). Despite the lower concentrations in the discrete samples, the Army and regulatory agencies have agreed to collect additional soil samples to evaluate whether DDTs remain at levels of concern, and if necessary, perform an additional remedial action. This work will be performed as a separate future action.

As requested by the BEC and detailed in FWV 831471-001, approximately 400 cubic yards of soil were removed along the top of the PDD east and west banks northwest of Building 41, and characterization sampling was completed under the concrete lining in this 300-foot section. The excavation material was transported off site for disposal. Analytical results for the characterization samples indicated that some metals and pesticides were present in concentrations above cleanup goals in soil collected beneath the PDD concrete lining, primarily near defects in the concrete lining. Sample HBPDL-604, collected approximately two feet from a defect in the concrete lining, exceeded cleanup goals for total DDTs. However, sample HBPDL-605, collected near HBPDL-604 but further from the defect and therefore more representative of conditions under the intact concrete lining, was below the total DDT cleanup goal. The Army and regulatory agencies have agreed to identify this site as requiring action in the ROD/RAP. Future discussions will determine if the actions taken to date are sufficient for closure of the site.

7.2 SPOILS PILE F

Contaminated and potentially contaminated soil was excavated at the former location of Spoils Pile F. Soil from the Spoils Pile F excavation was transported offsite for disposal.

Only one of 16 final confirmation samples for the Spoil Pile F site had a level of DDT above the preliminary remediation goals currently under consideration (0.033 mg/kg versus 0.030 mg/kg). The Army has agreed to collect additional confirmation samples to determine whether the higher levels of DDTs associated with the spoil pile have been removed. At this time it is not known that additional

remediation is needed at this site. If additional remedial action is required, it would be completed as a separate future action.

Chlordane, not identified as a COC for the site, was detected in three of four waste profile samples from Spoils Pile F soil (Addendum 1), at concentrations of 0.001, 0.004, and 0.007 mg/kg (results for total chlordane). However, because these concentrations are near or below cleanup goals used at other sites for chlordane (Table 5-2), the USACE and regulatory agencies have determined that no further action regarding chlordane is warranted at this site.

7.3 REVETMENT 6

Demolition activities (including concrete revetment demolition and asphalt removal) and excavation of petroleum and PAH contaminated soil was completed at the Revetment 6 location. Based on analytical results for confirmation samples collected following soil removal, soil containing COCs above established cleanup goals has been removed from the Revetment 6 location. Soil from these excavations was transported offsite for disposal.

Mercury was detected at a relatively high level in one of three waste profile samples collected from Revetment 6 soil which was stockpiled temporarily onsite and later disposed of offsite. This mercury detection of 1.9 mg/kg was above the cleanup goal (0.43 mg/kg) presented in Table 5-2 for other sites, although mercury was not a COC for the Revetment 6 site. Details of the soil stockpiling and disposal, including locations and analytical data for the waste profile samples, are presented in the Supplemental Construction Report (Addendum 1). Based on this new information the Army has agreed to collect additional confirmation samples for mercury. The sampling data will be used to determine if mercury should be added to the list of site COCs. At this time it is not known that additional remediation is needed at this site. If additional remedial action is required, it would be completed as a separate future action.

7.4 REVETMENT 7

Demolition activities (including concrete revetment demolition) and excavation of petroleum, lead and PAH contaminated soil was completed at Revetment 7 location. Based on analytical results for confirmation samples collected following soil removal, soil containing COCs above established cleanup goals has been removed from the Revetment 7 location. Soil from the excavation was transported offsite for disposal.

Mercury was detected at a relatively high level in one of two waste profile samples collected from Revetment 7 soil which was stockpiled temporarily onsite and later disposed of offsite. This mercury detection of 4.2 mg/kg was above the cleanup goal (0.43 mg/kg) presented in Table 5-2 for other sites, although mercury was not a COC for the Revetment 7 site. Details of the soil stockpiling and disposal, including locations and analytical data for the waste profile samples, are presented in the Supplemental Construction Report (Addendum 1). Based on this new information the Army has agreed to collect additional confirmation samples for mercury. The sampling data will be used to determine if mercury should be added to the list of site COCs. At this time it is not known that additional remediation is needed at this site. If additional remedial action is required, it would be completed as a separate future action.

8.0 REFERENCES

CH2M Hill, 2001. *Record of Decision/Remedial Action Plan, Inboard Area Sites*, Army Base Realignment and Closure (BRAC) Property, Hamilton Army Airfield. Draft Final. August.

IT Corporation, 2001a. *Work Plan Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 1*, Hamilton Army Airfield, Novato, California. December.

IT Corporation, 2001b. *Sampling and Analysis Plan, Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 1,* Hamilton Army Airfield, Novato, California. December.

IT Corporation, 2001c. *Health and Safety Plan, Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 0,* Hamilton Army Airfield, Novato, California. December.

IT Corporation, 2003. *Draft Final Supplemental Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, Revetments 6 and 7 Removal, and Waste Disposal,* Hamilton Army Airfield, Novato, California. January.

U.S. Environmental Protection Agency (USEPA), 1994. *National Functional Guidelines for Inorganic Data Review.*

USEPA, 1999. *National Functional Guidelines for Organic Data Review.*

TABLES

All tables contained in the Final Construction Report have been prepared, reviewed, and approved by the responsible parties indicated below. The tables have been reviewed for accuracy and consistency with previous investigation data, and the companion text and figures in the report.

Prepared by	Reviewed by	Approved by
for Tuesdai Powers	Mike Brown	John Warren

Table 5-1a: Summary of Collected Samples and Analyses
Hamilton Army Airfield

Analysis	Analytical Method	Number of Soil Samples	Number of Field Duplicates
Building 41 Area			
PAHs (SIM)	BNASIM	12	1
Moisture	D2216	35	2
TPH - Diesel	M8015D	30	2
TPH - Gasoline	M8015V	5	0
PCBs	SW8082	5	0
PAHs	SW8310	7	1
Soil pH	SW9045C	3	0
Perimeter Drainage			
PAHs (SIM)	BNASIM	1	0
Moisture	D2216	5	1
TPH - Diesel	M8015D	5	1
Metals	SW6010B	5	1
Metals	SW7471A	5	1
Pesticides	SW8081A	5	1
SVOCs	SW8270C	5	1
PAHs	SW8310	5	1
Soil pH	SW9045C	4	1
Spoils Pile F			
PAHs (SIM)	BNASIM	1	0
Moisture	D2216	18	2
TPH - Diesel	M8015D	7	1
Metals	SW6010B	18	2
Metals	SW7470A	7	1
Pesticides	SW8081A	18	2
PCBs	SW8082	7	1
SVOCs	SW8270C	18	2
PAHs	SW8310	17	2
Soil pH	SW9045C	8	1
Revetment 6			
PAHs (SIM)	BNASIM	18	2
Moisture	D2216	18	2
TPH - Diesel	M8015D	18	2
TPH - Gasoline	M8015V	18	2
Soil pH	SW9045C	9	2

Table 5-1a: Summary of Collected Samples and Analyses
Hamilton Army Airfield

Analysis	Analytical Method	Number of Soil Samples	Number of Field Duplicates
Revetment 7			
PAHs (SIM)	BNASIM	10	2
Moisture	D2216	15	2
TPH - Diesel	M8015D	5	0
TPH - Gasoline	M8015V	5	0
Metals	SW6010B	10	2
VOCs	SW8260B	5	0
Field Quality Control			
TPH - Diesel	M8015D	0	0
Metals	SW6010B	0	0
Metals	SW7470A	0	0
Pesticides	SW8081A	0	0
PCBs	SW8082	0	0
SVOCs	SW8270C	0	0
PAHs	SW8310	0	0
Waste Profile			
Moisture	D2216	16	0
TPH - Diesel	M8015D	10	0
TPH - Gasoline	M8015V	10	0
Flashpoint	SW1010	10	0
Metals	SW6010B	10	0
Reactive Cyanide	SW7.33	10	0
Reactive Sulfide	SW7.34	10	0
Metals	SW7471A	10	0
Pesticides	SW8081A	14	0
PCBs	SW8082	10	0
VOCs	SW8260B	10	0
SVOCs	SW8270C	10	0
Soil pH	SW9045C	10	0

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Building 41 - North Excavation																						
HB41L601	112 *	01/03/2002	17	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L602	113 *	01/03/2002	14	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L603	114 *	01/03/2002	14	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L604	115 *	01/03/2002	17	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L605	117 *	01/10/2002	13	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	X	-	X
HB41L611	143 *	01/17/2002	15	NS	SO	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HB41L612	144	01/17/2002	19-19.5	NS	SO	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HB41L613	145	01/17/2002	15	NS	SO	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HB41L614	146	01/17/2002	15	NS2	SO	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HB41L617	150	01/21/2002	18	NS	SO	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X
Building 41 - South Excavation																						
HB41L618	156	01/23/2002	4	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L619	157	01/23/2002	4	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L620	158	01/23/2002	6.5-7	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L620	159	01/23/2002	6.5-7	FD	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L621	160	01/23/2002	6.5-7	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L622	161	01/23/2002	3.5	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L623	162	01/23/2002	4	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
Building 41 - West "L" Excavation																						
HB41L606	125	01/14/2002	5	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X
HB41L607	126	01/14/2002	9.5-10	NS1	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X
HB41L607	127	01/14/2002	9.5-10	FD	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Building 41 - West "L" Excavation																						
HB41L608	128 *	01/14/2002	9.5-10	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X
HB41L609	129	01/14/2002	9.5-10	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X
HB41L610	130 *	01/14/2002	5	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	-	-	X
HB41L615	148 *	01/21/2002	5	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	X	-	X
HB41L616	149	01/21/2002	11.5-12	NS	SO	-	X	-	X	-	X	X	-	-	-	-	-	-	-	X	-	X
HB41L624	168	01/24/2002	9-10	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HB41L625	169 *	01/26/2002	5	NS	SO	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X
Building 41 - Transformer Pad																						
HBTPL601	151	01/23/2002	2	NS	SO	-	X	-	X	-	-	-	-	X	-	-	-	-	-	-	-	X
HBTPL601	163	01/24/2002	2	NS	SO	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X
HBTPL602	152	01/23/2002	2	NS	SO	-	X	-	X	-	-	-	-	X	-	-	-	-	-	-	-	X
HBTPL602	164	01/24/2002	2	NS	SO	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X
HBTPL603	153	01/23/2002	4-4.5	NS	SO	-	X	-	X	-	-	-	-	X	-	-	-	-	-	-	-	X
HBTPL603	165	01/24/2002	4-4.5	NS	SO	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X
HBTPL604	154	01/23/2002	3	NS	SO	-	X	-	X	-	-	-	-	X	-	-	-	-	-	-	-	X
HBTPL604	166	01/24/2002	3	NS	SO	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X
HBTPL605	155	01/23/2002	2	NS	SO	-	X	-	X	-	-	-	-	X	-	-	-	-	-	-	-	X
HBTPL605	167	01/24/2002	2	NS	SO	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Perimeter Drainage																						
HBPDL601	118	01/10/2002	9-10	NS1	SO	-	X	-	X	X	X	-	X	-	X	X	-	-	-	X	-	X
HBPDL601	119	01/10/2002	9-10	FD	SO	-	X	-	X	X	X	-	X	-	X	X	-	-	-	X	-	X
HBPDL602	120	01/10/2002	3	NS	SO	-	X	-	X	X	X	-	X	-	X	X	-	-	-	X	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Perimeter Drainage																						
HBPDL603	121	01/10/2002	9-9.5	NS	SO	-	X	-	X	X	X	-	X	-	X	X	-	-	-	X	-	X
HBPDL604	122	01/10/2002	3	NS	SO	-	X	-	X	X	X	-	X	-	X	X	-	-	-	X	-	X
HBPDL605	142	01/17/2002	4	NS	SO	-	X	-	X	X	X	X	X	-	X	X	-	-	-	-	-	X
Spoils Pile F																						
HBSFL602	101	12/27/2001	1-1.5	NS1	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL602	102	12/27/2001	1-1.5	FD	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL603	103 *	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL604	104	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL605	105	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL606	106	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL607	107	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL608	108 *	12/27/2001	1-1.5	NS	SO	-	X	-	-	X	X	-	X	X	X	X	-	-	-	X	-	X
HBSFL611	131	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL612	132	01/17/2002	1.5-2	NS1	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL612	133	01/17/2002	1.5-2	FD	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL613	134	01/17/2002	1.5-2	NS2	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL614	135	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL615	136	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL616	137	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL617	138	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL618	139 *	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL619	140 *	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Spoils Pile F																						
HBSFL620	141	01/17/2002	1.5-2	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
HBSFL622	171	02/05/2002	2-2.5	NS	SO	-	-	-	-	X	-	X	X	-	-	X	-	-	-	X	-	X
Spoils Pile F, Stockpile																						
HBSFL621	147	01/21/2002	0	NS	SO	-	-	-	-	X	X	-	X	-	-	X	-	-	-	-	-	X
Revetment 6																						
HBR6L601	194	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L601	195	02/28/2002	1-1.5	FD	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L602	196	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L603	197	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L604	198	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L605	199 *	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L606	200 *	02/28/2002	2-2.5	NS2	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L607	202 *	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L608	203 *	02/28/2002	1-1.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L609	204 *	02/28/2002	2	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L609	205 *	02/28/2002	2	FD	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	X	-	X
HBR6L610	210	03/15/2002	6	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L611	211	03/15/2002	5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L612	212	03/15/2002	9-9.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L613	213	03/15/2002	6	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L614	214	03/15/2002	6	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L615	215	03/15/2002	2-2.5	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Revetment 6																						
HBR6L616	216	03/15/2002	0.5-1	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L617	217	03/15/2002	1	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
HBR6L618	218	03/15/2002	0.5-1	NS	SO	-	X	X	X	-	-	X	-	-	-	-	-	-	-	-	-	X
Revetment 7																						
HBR7L601	182 *	02/28/2002	0.2-0.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L601	183 *	02/28/2002	0.2-0.5	FD	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L602	184	02/28/2002	1-1.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L603	185 *	02/28/2002	0.2-0.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L604	186 *	02/28/2002	1-1.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L605	187 *	02/28/2002	0.2-0.5	NS2	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L606	189	02/28/2002	2	NS	SO	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HBR7L607	190	02/28/2002	2	NS	SO	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HBR7L608	191	02/28/2002	2	NS	SO	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HBR7L609	192	02/28/2002	2.5-3	NS	SO	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HBR7L610	193	02/28/2002	0	NS	SO	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	X
HBR7L611	219	03/15/2002	0.2-0.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L612	220	03/15/2002	1-1.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L613	221	03/15/2002	0.2-0.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L614	222	03/15/2002	2-2.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L615	223	03/15/2002	0.2-0.5	NS	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X
HBR7L615	224	03/15/2002	0.2-0.5	FD	SO	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Location	Sample ID	Sample Date	Sample Depth, fbgs	Sample Type	Sample Matrix	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	PAHs (8310)	PAHs (BNASIM)	Pesticides (8081)	PCBs (8082)	Mercury (7470/7471)	Metals (6010 series)	DI WET Metals (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
Field Quality Control Sample																						
FieldQC	109	12/27/2001	0	EB	WH	-	X	-	-	X	X	-	X	X	X	X	-	-	-	-	-	-
FieldQC	116	01/10/2002	0	EB	WH	-	X	-	X	X	X	-	X	-	X	X	-	-	-	-	-	-
Waste Profile																						
WASTE	123	01/14/2002	2	NS	SO	-	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	124	01/14/2002	2	NS	SO	-	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	172	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	173	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	174	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	175	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	-	X	X	X	X	X
WASTE	176	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	177	02/05/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	178	02/05/2002	0	NS	SO	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
WASTE	179	02/05/2002	0	NS	SO	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
WASTE	180	02/07/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WASTE	181	02/07/2002	0	NS	SO	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
WasteP2r1	206	03/12/2002	0	NS	SO	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	X
WasteP2r2	207	03/12/2002	0	NS	SO	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	X
WasteP2r3	208	03/12/2002	0	NS	SO	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	X
WasteP2r4	209	03/12/2002	0	NS	SO	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	X

Table 5-1b: Summary of Soil and Water Analyses Performed
Hamilton Army Airfield

Notes:

*	= Soil at sample location was removed by subsequent excavation.
fbgs	= feet below ground surface
NS	= Normal Sample
FD	= Field Duplicate
NS1	= Normal Sample where a field duplicate was also collected
NS2	= Normal Sample where a quality assurance sample was also collected
VOCs	= Volatile Organic Compounds
TPH	= Total Petroleum Hydrocarbons
SVOCs	= Semi-Volatile Organic Compounds
PAHs	= Polynuclear Aromatic Hydrocarbons
PCBs	= Polychlorinated Biphenyls

Table 5-2: Contaminants of Concern with Cleanup Goals

Area	Analytical Method	Contaminants of Concern (COCs)	Cleanup Goals (mg/kg)
Building 41 Area	USEPA Method 8015B	Total Petroleum Hydrocarbons as diesel (TPH-d)	144
		Total Petroleum Hydrocarbons as motor oil (TPH-mo)	144
	USEPA Method 8310 or USEPA Method 8270C-SIM	Total Polynuclear Aromatic Hydrocarbons (PAHs)	4.02
		2-methylnaphthalene	0.0194
		Acenaphthene	0.026
		Fluoranthene	0.6
		Fluorene	0.0253
		Naphthalene	0.382
		Phenanthene	0.24
Former Transformer Pad	USEPA Method 8015B	Total Petroleum Hydrocarbons as gasoline (TPH-g)	12
	USEPA Method 8015B	TPH-d, mo	144
	USEPA Method 8082	Polychlorinated Biphenyls (PCBs)	NA
Perimeter Drainage Ditch	USEPA Method 8015B	TPH-d, mo	144
	USEPA Method 6010B	Arsenic	16.7
		Barium	190
		Beryllium	1
		Boron	36.9
		Cadmium	1.2
		Chromium	112
		Cobalt	27.6
		Copper	68.1
		Lead	43.2
		Manganese	943
		Nickel	113
		Silver	1
		Vanadium	118
		Zinc	158
	USEPA Method 7471A	Mercury	0.43
	USEPA Method 8310 or USEPA Method 8270C-SIM	Total PAHs	4.02
	USEPA Method 8270C-SIM	Dibenzofuran	0.11
	USEPA Method 8081A	alpha-Chlordanes	0.0023
		gamma-Chlordanes	0.0023
		4,4'-Dichlorophenyldichlorethane (4,4'-DDD)	0.007
		4,4'-Dichlorodiphenyldichlorethylene (4,4'-DDE)	0.007
		4,4'-Dichlorodiphenyltrichlorethane (4,4'-DDT)	0.007
		Dieldrin	0.00072
		Endrin Aldehyde	0.0215
		Endosulfan Sulfate	0.00286
Spoils Pile F	USEPA Method 8015B	TPH-d,mo*	144
	USEPA Method 6010B	Arsenic	16.7
		Beryllium	1
		Cadmium	1.2
		Cobalt	27.6
		Lead	43.2

Table 5-2: Contaminants of Concern with Cleanup Goals

Area	Analytical Method	Contaminants of Concern (COCs)	Cleanup Goals (mg/kg)
Spoils Pile F (Continued)	USEPA Method 6010B	Manganese	943
		Nickel	113
		Zinc	158
	USEPA Method 7471A	Mercury*	0.43
	USEPA Method 8310	Total PAHs	4.02
		Acenaphthene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Benzo(b)fluoranthene	
		Benzo(g,h,i)perylene	
		Chrysene	
		Fluoranthene	
		Fluorene	
		Indeno(1,2,3-cd)pyrene	
		Phenanthrene	
		Pyrene	
	USEPA Method 8270C	Dibenzofuran	0.11
	USEPA Method 8081A	4,4' –DDD	0.007
		4,4'-DDE	0.007
		4,4'-DDT	0.007
	USEPA Method 8082	PCBs*	NA
Revetment 6	USEPA Method 8015B	TPH-g	12
	USEPA Method 8015B	TPH-d,mo	144
	USEPA Method 8270C-SIM	Total PAHs	4.02
		2-methylnaphthalene	
		Acenaphthene	
		Fluorene	
Revetment 7	USEPA Method 8015B	TPH-g**	12
	USEPA Method 8015B	TPH-d,mo**	144
	USEPA Method 8260B	Volatile Organic Compounds (VOCs)**	NA
	USEPA Method 6010B	Lead	43.2
	USEPA Method 8270C-SIM	Total PAHs	4.02
		2-methylnaphthalene	
		Acenaphthene	
		Anthracene	
		Benz(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenzo(a,h)anthracene	
		Fluoranthene	

Table 5-2: Contaminants of Concern with Cleanup Goals

Area	Analytical Method	Contaminants of Concern (COCs)	Cleanup Goals (mg/kg)
		Fluorene	
		Phenanthrene	
		Pyrene	

Notes:
* Only analyzed in initial characterization samples, as specified in FWV 831471-002 (Appendix A).
** Only analyzed in samples HBR7L606 through HBR7L609.
NA = Not Applicable.

Table 5-3a: Building 41 Area - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)			SW8270C (SIM) or SW8310 (µg/kg)	SW8082 (µg/kg)
			TPH Diesel	TPH Motor	TPH Gasoline	Total PAHs	PCBs
Comparator Values:			144	144	12	4022	--
North Excavation							
HB41L612-SO-144	1/17/2002	19-19.5	<3.9	**11**	--	ND [1]	--
HB41L613-SO-145	1/17/2002	15-15	<3.4	<9	--	ND [1]	--
HB41L614-SO-146	1/17/2002	15-15	<3.8	**28**	--	ND [1]	--
HB41L617-SO-150	1/21/2002	18-18	<4.2	<4.9	--	ND [1]	--
HB41L626-SO-170		-	Collected but not analyzed			--	--
South Excavation							
HB41L618-SO-156	1/23/2002	4-4	**7.5**	**27**	--	--	--
HB41L619-SO-157	1/23/2002	4-4	**6.1**	**15**	--	--	--
HB41L620-SO-158	1/23/2002	6.5-7	<3.7	**10**	--	--	--
HB41L620-SO-159 (FD)	1/23/2002	6.5-7	<3.8	**7.3**	--	--	--
HB41L621-SO-160	1/23/2002	6.5-7	<4.2	**24**	--	--	--
HB41L622-SO-161	1/23/2002	3.5-3.5	<3.9	**12**	--	--	--
HB41L623-SO-162	1/23/2002	4-4	<3.3	**13**	--	--	--
West "L" Excavation							
HB41L606-SO-125	1/14/2002	5-5	**23**	**57**	--	**2,955** [2]	--
HB41L607-SO-126	1/14/2002	9.5-10	**55**	**22**	--	**19** [2]	--
HB41L607-SO-127 (FD)	1/14/2002	9.5-10	**105**	**18**	--	**4** [2]	--
HB41L609-SO-129	1/14/2002	9.5-10	**59**	**23**	--	**81** [2]	--
HB41L616-SO-149	1/21/2002	11.5-12	<4.9 UJ	**24 J-**	--	**27** [2]	--
HB41L624-SO-168	1/24/2002	9-10	**25**	**39**	--	--	--
Transformer Pad							
HBTPL601-SO-151	1/23/2002	2-2	<2.3	<2.7	--	--	ND
HBTPL601-SO-163	1/24/2002	2-2	--	--	<1.6 UJ	--	--
HBTPL602-SO-152	1/23/2002	2-2	<2.3 UJ	**25**	--	--	ND
HBTPL602-SO-164	1/24/2002	2-2	--	--	<1.5 UJ	--	--
HBTPL603-SO-153	1/23/2002	4-4.5	<2.3	<2.7	--	--	ND
HBTPL603-SO-165	1/24/2002	4-4.5	--	--	<2.2	--	--
HBTPL604-SO-154	1/23/2002	3-3	<2.3	<2.7	--	--	ND
HBTPL604-SO-166	1/24/2002	3-3	--	--	<1.8	--	--
HBTPL605-SO-155	1/23/2002	2-2	<2.3	**4.9**	--	--	ND
HBTPL605-SO-167	1/24/2002	2-2	--	--	<1.6 UJ	--	--

Table 5-3a: Building 41 Area - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)			SW8270C (SIM) or SW8310 (µg/kg)	SW8082 (µg/kg)
			TPH Diesel	TPH Motor	TPH Gasoline	Total PAHs	PCBs
Comparator Values:			144	144	12	4022	--
North Excavation - Sample Locations Removed During Excavation							
HB41L601-SO-112 *	1/3/2002	17-17	**47**	**65**	--	**--**	--
HB41L602-SO-113 *	1/3/2002	14-14	**23**	**24**	--	**--**	--
HB41L603-SO-114 *	1/3/2002	14-14	**6.3**	**14 J^**	--	**--**	--
HB41L604-SO-115 *	1/3/2002	17-17	**18**	**28**	--	**--**	--
HB41L605-SO-117 *	1/10/2002	13-13	**88**	**79**	--	**--**	--
HB41L611-SO-143 *	1/17/2002	15-15	<3.4	**18**	--	**148** [1]	--
West "L" Excavation - Sample Locations Removed During Excavation							
HB41L608-SO-128 *	1/14/2002	9.5-10	**505 J**	**39**	--	**207** [2]	--
HB41L610-SO-130 *	1/14/2002	5-5	**604 J**	<22	--	**2** [2]	--
HB41L615-SO-148 *	1/21/2002	5-5	**204**	**22**	--	**1** [2]	--
HB41L625-SO-169 *	1/26/2002	5-5	**159**	**24**	--	**--**	--

(FD): field duplicate

fbgs: feet below ground surface

< Not detected above the practical quantitation limit.

J^ Reported between method detection limit and practical quantitation limit

J The analyte was positively identified; associated numerical value is its approximate concentration in the sample.

UJ The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

- Bias low

ND for multianalyte methods, all target analytes below practical quantitation limit.

-- Not analyzed.

* Soil at sample location was removed by subsequent excavation.

Detections shown in bold. Detections above Comparator values are circled.

[1] Sample was analyzed for PAHs using Method SW827-SIM only.

[2] Sample was analyzed for PAHs using Methods SW8270-SIM and SW8310. The higher of the two results is presented on this table. The complete results for each method are presented in Table 5-3b

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L606-SO-125							
BNASIM	2-Methylnaphthalene	**76**	22	15	µg/kg	19.4	**Y**
	Acenaphthene	**370**	22	17	µg/kg	26	
	Acenaphthylene	ND	22	18	µg/kg		
	Anthracene	**130**	22	17	µg/kg	88	
	Benzo(a)anthracene	**25**	22	20	µg/kg	412	
	Benzo(a)pyrene	ND	22	16	µg/kg	430	
	Benzo(b)fluoranthene	**18**	22	17	µg/kg	371	
	Benzo(g,h,i)perylene	ND	22	11	µg/kg	310	
	Benzo(k)fluoranthene	ND	22	21	µg/kg		
	Chrysene	**31**	22	17	µg/kg	384	
	Dibenz(a,h)anthracene	ND	22	11	µg/kg	63.4	
	Fluoranthene	**598**	22	19	µg/kg	600	**Y**
	Fluorene	**330**	22	12	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	22	11	µg/kg	160	
	Naphthalene	ND	22	17	µg/kg	160	**Y**
	Phenanthrene	**987**	22	16	µg/kg	240	
	Pyrene	**390**	22	15	µg/kg	665	
	Total PAHs (BNASIM)	**2955**			µg/kg	4022	
D2216	Moisture, percent	24.2	0.5	0.19	%		
SW8310	Acenaphthene	ND	20	6.9	µg/kg	26	**Y**
	Acenaphthylene	ND	66	5.9	µg/kg		
	Anthracene	**7**	13	0.088	µg/kg	88	
	Benzo(a)anthracene	**5**	6.6	0.41	µg/kg	412	
	Benzo(a)pyrene	ND	2.6	0.63	µg/kg	430	
	Benzo(b)fluoranthene	**3**	6.6	0.25	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.6	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.6	0.62	µg/kg		
	Chrysene	ND	6.6	0.61	µg/kg	384	
	Dibenz(a,h)anthracene	ND	6.6	4.1	µg/kg	63.4	
	Fluoranthene	**35**	6.6	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.6	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.6	0.94	µg/kg	160	
	Naphthalene	ND	66	5.3	µg/kg	160	**Y**
	Phenanthrene	**38**	13	0.29	µg/kg	240	
	Pyrene	**35**	6.6	1.5	µg/kg	665	
	Total PAHs (SW8310)	**123**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L607-SO-126							
BNASIM	2-Methylnaphthalene	ND	30	20	µg/kg	19.4	**Y**
	Acenaphthene	ND	30	23	µg/kg	26	
	Acenaphthylene	ND	30	24	µg/kg		
	Anthracene	ND	30	23	µg/kg	88	
	Benzo(a)anthracene	ND	30	26	µg/kg	412	
	Benzo(a)pyrene	ND	30	21	µg/kg	430	
	Benzo(b)fluoranthene	ND	30	23	µg/kg	371	
	Benzo(g,h,i)perylene	ND	30	14	µg/kg	310	
	Benzo(k)fluoranthene	ND	30	28	µg/kg		
	Chrysene	ND	30	23	µg/kg	384	
	Dibenz(a,h)anthracene	ND	30	15	µg/kg	63.4	
	Fluoranthene	ND	30	26	µg/kg	600	**Y**
	Fluorene	ND	30	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	30	15	µg/kg	160	
	Naphthalene	ND	30	23	µg/kg	160	**Y**
	Phenanthrene	ND	30	21	µg/kg	240	
	Pyrene	ND	30	20	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	43.4	0.5	0.19	%		
SW8310	Acenaphthene	ND	26	9.2	µg/kg	26	**Y**
	Acenaphthylene	ND	88	7.9	µg/kg		
	Anthracene	ND	18	0.12	µg/kg	88	
	Benzo(a)anthracene	ND	8.8	0.55	µg/kg	412	
	Benzo(a)pyrene	ND	3.5	0.85	µg/kg	430	
	Benzo(b)fluoranthene	**19**	8.8	0.34	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.8	3.4	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.8	0.83	µg/kg		
	Chrysene	ND	8.8	0.81	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.8	5.5	µg/kg	63.4	
	Fluoranthene	ND	8.8	1.6	µg/kg	600	**Y**
	Fluorene	ND	8.8	1.3	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.8	1.3	µg/kg	160	
	Naphthalene	ND	88	7.1	µg/kg	160	**Y**
	Phenanthrene	ND	18	0.39	µg/kg	240	
	Pyrene	ND	8.8	1.9	µg/kg	665	
	Total PAHs (SW8310)	**19**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L607-SO-127							
BNASIM	2-Methylnaphthalene	ND	29	19	µg/kg	19.4	**Y**
	Acenaphthene	ND	29	22	µg/kg	26	
	Acenaphthylene	ND	29	23	µg/kg		
	Anthracene	ND	29	22	µg/kg	88	
	Benzo(a)anthracene	ND	29	25	µg/kg	412	
	Benzo(a)pyrene	ND	29	20	µg/kg	430	
	Benzo(b)fluoranthene	ND	29	22	µg/kg	371	
	Benzo(g,h,i)perylene	ND	29	14	µg/kg	310	
	Benzo(k)fluoranthene	ND	29	26	µg/kg		
	Chrysene	ND	29	22	µg/kg	384	
	Dibenz(a,h)anthracene	ND	29	14	µg/kg	63.4	
	Fluoranthene	ND	29	25	µg/kg	600	**Y**
	Fluorene	ND	29	15	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	29	14	µg/kg	160	
	Naphthalene	ND	29	22	µg/kg	160	**Y**
	Phenanthrene	ND	29	20	µg/kg	240	
	Pyrene	ND	29	19	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	40.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	85	8.8	µg/kg	26	**Y**
	Acenaphthylene	ND	85	7.6	µg/kg		
	Anthracene	ND	17	0.11	µg/kg	88	
	Benzo(a)anthracene	ND	8.5	0.52	µg/kg	412	
	Benzo(a)pyrene	ND	3.4	0.81	µg/kg	430	
	Benzo(b)fluoranthene	**4**	8.5	0.32	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.5	3.2	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.5	0.79	µg/kg		
	Chrysene	ND	8.5	0.78	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.5	5.2	µg/kg	63.4	
	Fluoranthene	ND	8.5	1.5	µg/kg	600	**Y**
	Fluorene	ND	8.5	1.3	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.5	1.2	µg/kg	160	
	Naphthalene	ND	85	6.8	µg/kg	160	**Y**
	Phenanthrene	ND	17	0.37	µg/kg	240	
	Pyrene	ND	8.5	1.9	µg/kg	665	
	Total PAHs (SW8310)	**4**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L608-SO-128							
BNASIM	2-Methylnaphthalene	ND	29	19	µg/kg	19.4	**Y**
	Acenaphthene	ND	29	22	µg/kg	26	
	Acenaphthylene	ND	29	23	µg/kg		
	Anthracene	ND	29	22	µg/kg	88	
	Benzo(a)anthracene	ND	29	26	µg/kg	412	
	Benzo(a)pyrene	ND	29	20	µg/kg	430	
	Benzo(b)fluoranthene	ND	29	22	µg/kg	371	
	Benzo(g,h,i)perylene	ND	29	14	µg/kg	310	
	Benzo(k)fluoranthene	ND	29	27	µg/kg		
	Chrysene	ND	29	22	µg/kg	384	
	Dibenz(a,h)anthracene	ND	29	15	µg/kg	63.4	
	Fluoranthene	**87**	29	25	µg/kg	600	**Y**
	Fluorene	ND	29	15	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	29	15	µg/kg	160	
	Naphthalene	ND	29	22	µg/kg	160	**Y**
	Phenanthrene	ND	29	21	µg/kg	240	
	Pyrene	**120**	29	20	µg/kg	665	
	Total PAHs (BNASIM)	**207**			µg/kg	4022	
D2216	Moisture, percent	41.6	0.5	0.19	%		
SW8310	Acenaphthene	ND	26	8.9	µg/kg	26	**Y**
	Acenaphthylene	ND	86	7.7	µg/kg		
	Anthracene	ND	17	0.11	µg/kg	88	
	Benzo(a)anthracene	ND	8.6	0.53	µg/kg	412	
	Benzo(a)pyrene	ND	3.4	0.82	µg/kg	430	
	Benzo(b)fluoranthene	**22**	8.6	0.33	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.6	3.3	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.6	0.81	µg/kg		
	Chrysene	ND	8.6	0.79	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.6	5.3	µg/kg	63.4	
	Fluoranthene	ND	8.6	1.6	µg/kg	600	**Y**
	Fluorene	ND	8.6	1.3	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.6	1.2	µg/kg	160	
	Naphthalene	ND	86	6.9	µg/kg	160	**Y**
	Phenanthrene	ND	17	0.38	µg/kg	240	
	Pyrene	ND	8.6	1.9	µg/kg	665	
	Total PAHs (SW8310)	**22**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L609-SO-129							
BNASIM	2-Methylnaphthalene	**58**	30	20	µg/kg	19.4	**Y**
	Acenaphthene	ND	30	23	µg/kg	26	
	Acenaphthylene	ND	30	24	µg/kg		
	Anthracene	ND	30	23	µg/kg	88	
	Benzo(a)anthracene	ND	30	27	µg/kg	412	
	Benzo(a)pyrene	ND	30	21	µg/kg	430	
	Benzo(b)fluoranthene	ND	30	23	µg/kg	371	
	Benzo(g,h,i)perylene	ND	30	14	µg/kg	310	
	Benzo(k)fluoranthene	ND	30	28	µg/kg		
	Chrysene	ND	30	23	µg/kg	384	
	Dibenz(a,h)anthracene	ND	30	15	µg/kg	63.4	
	Fluoranthene	ND	30	26	µg/kg	600	**Y**
	Fluorene	ND	30	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	30	15	µg/kg	160	
	Naphthalene	ND	30	23	µg/kg	160	**Y**
	Phenanthrene	ND	30	21	µg/kg	240	
	Pyrene	ND	30	20	µg/kg	665	
	Total PAHs (BNASIM)	**58**			µg/kg	4022	
D2216	Moisture, percent	44.1	0.5	0.19	%		
SW8310	Acenaphthene	ND	27	9.3	µg/kg	26	**Y**
	Acenaphthylene	ND	89	8.1	µg/kg		
	Anthracene	ND	18	0.12	µg/kg	88	
	Benzo(a)anthracene	ND	8.9	0.55	µg/kg	412	
	Benzo(a)pyrene	ND	3.6	0.86	µg/kg	430	
	Benzo(b)fluoranthene	**10**	8.9	0.34	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.9	3.4	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.9	0.84	µg/kg		
	Chrysene	ND	8.9	0.82	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.9	5.5	µg/kg	63.4	
	Fluoranthene	**43**	8.9	1.6	µg/kg	600	**Y**
	Fluorene	ND	8.9	1.4	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.9	1.3	µg/kg	160	
	Naphthalene	ND	89	7.2	µg/kg	160	**Y**
	Phenanthrene	**25**	18	0.39	µg/kg	240	
	Pyrene	**3**	8.9	2	µg/kg	665	
	Total PAHs (SW8310)	**81**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L610-SO-130							
BNASIM	2-Methylnaphthalene	ND	(28)	18	µg/kg	19.4	**Y**
	Acenaphthene	ND	(28)	21	µg/kg	26	
	Acenaphthylene	ND	28	22	µg/kg		
	Anthracene	ND	28	21	µg/kg	88	
	Benzo(a)anthracene	ND	28	25	µg/kg	412	
	Benzo(a)pyrene	ND	28	19	µg/kg	430	
	Benzo(b)fluoranthene	ND	28	21	µg/kg	371	
	Benzo(g,h,i)perylene	ND	28	13	µg/kg	310	
	Benzo(k)fluoranthene	ND	28	26	µg/kg		
	Chrysene	ND	28	21	µg/kg	384	
	Dibenz(a,h)anthracene	ND	28	14	µg/kg	63.4	
	Fluoranthene	ND	28	24	µg/kg	600	**Y**
	Fluorene	ND	(28)	15	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	28	14	µg/kg	160	
	Naphthalene	ND	28	21	µg/kg	160	**Y**
	Phenanthrene	ND	28	20	µg/kg	240	
	Pyrene	ND	28	19	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	38.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	25	8.5	µg/kg	26	**Y**
	Acenaphthylene	ND	82	7.4	µg/kg		
	Anthracene	ND	16	0.11	µg/kg	88	
	Benzo(a)anthracene	ND	8.2	0.51	µg/kg	412	
	Benzo(a)pyrene	ND	3.3	0.79	µg/kg	430	
	Benzo(b)fluoranthene	ND	8.2	0.31	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.2	3.1	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.2	0.77	µg/kg		
	Chrysene	ND	8.2	0.75	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.2	5.1	µg/kg	63.4	
	Fluoranthene	ND	8.2	1.5	µg/kg	600	**Y**
	Fluorene	ND	8.2	1.2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.2	1.2	µg/kg	160	
	Naphthalene	ND	82	6.5	µg/kg	160	**Y**
	Phenanthrene	**2**	16	0.36	µg/kg	240	
	Pyrene	ND	8.2	1.8	µg/kg	665	
	Total PAHs (SW8310)	**2**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L611-SO-143							
BNASIM	2-Methylnaphthalene	ND	28	18	µg/kg	19.4	**Y**
	Acenaphthene	**37**	28	21	µg/kg	26	
	Acenaphthylene	ND	28	22	µg/kg		
	Anthracene	ND	28	21	µg/kg	88	
	Benzo(a)anthracene	ND	28	24	µg/kg	412	
	Benzo(a)pyrene	ND	28	19	µg/kg	430	
	Benzo(b)fluoranthene	ND	28	21	µg/kg	371	
	Benzo(g,h,i)perylene	ND	28	13	µg/kg	310	
	Benzo(k)fluoranthene	ND	28	25	µg/kg		
	Chrysene	ND	28	21	µg/kg	384	
	Dibenz(a,h)anthracene	ND	28	14	µg/kg	63.4	
	Fluoranthene	ND	28	24	µg/kg	600	**Y**
	Fluorene	**22**	28	14	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	28	14	µg/kg	160	
	Naphthalene	**34**	28	21	µg/kg	160	**Y**
	Phenanthrene	**55**	28	19	µg/kg	240	
	Pyrene	ND	28	19	µg/kg	665	
	Total PAHs (BNASIM)	**148**			µg/kg	4022	
D2216	Moisture, percent	38.4	0.5	0.19	%		
HB41L612-SO-144							
BNASIM	2-Methylnaphthalene	ND	31	21	µg/kg	19.4	**Y**
	Acenaphthene	ND	31	24	µg/kg	26	
	Acenaphthylene	ND	31	25	µg/kg		
	Anthracene	ND	31	24	µg/kg	88	
	Benzo(a)anthracene	ND	31	28	µg/kg	412	
	Benzo(a)pyrene	ND	31	22	µg/kg	430	
	Benzo(b)fluoranthene	ND	31	24	µg/kg	371	
	Benzo(g,h,i)perylene	ND	31	15	µg/kg	310	
	Benzo(k)fluoranthene	ND	31	29	µg/kg		
	Chrysene	ND	31	24	µg/kg	384	
	Dibenz(a,h)anthracene	ND	31	16	µg/kg	63.4	
	Fluoranthene	ND	31	27	µg/kg	600	**Y**
	Fluorene	ND	31	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	31	16	µg/kg	160	
	Naphthalene	ND	31	24	µg/kg	160	**Y**
	Phenanthrene	ND	31	22	µg/kg	240	
	Pyrene	ND	31	21	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	46	0.5	0.19	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L613-SO-145							
BNASIM	2-Methylnaphthalene	ND	28	18	µg/kg	19.4	**Y**
	Acenaphthene	ND	28	21	µg/kg	26	
	Acenaphthylene	ND	28	22	µg/kg		
	Anthracene	ND	28	21	µg/kg	88	
	Benzo(a)anthracene	ND	28	24	µg/kg	412	
	Benzo(a)pyrene	ND	28	19	µg/kg	430	
	Benzo(b)fluoranthene	ND	28	21	µg/kg	371	
	Benzo(g,h,i)perylene	ND	28	13	µg/kg	310	
	Benzo(k)fluoranthene	ND	28	25	µg/kg		
	Chrysene	ND	28	21	µg/kg	384	
	Dibenz(a,h)anthracene	ND	28	14	µg/kg	63.4	
	Fluoranthene	ND	28	24	µg/kg	600	**Y**
	Fluorene	ND	28	15	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	28	14	µg/kg	160	
	Naphthalene	ND	28	21	µg/kg	160	**Y**
	Phenanthrene	ND	28	20	µg/kg	240	
	Pyrene	ND	28	19	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	38.7	0.5	0.19	%		
HB41L614-SO-146							
BNASIM	2-Methylnaphthalene	ND	31	20	µg/kg	19.4	**Y**
	Acenaphthene	ND	31	24	µg/kg	26	
	Acenaphthylene	ND	31	25	µg/kg		
	Anthracene	ND	31	24	µg/kg	88	
	Benzo(a)anthracene	ND	31	27	µg/kg	412	
	Benzo(a)pyrene	ND	31	22	µg/kg	430	
	Benzo(b)fluoranthene	ND	31	24	µg/kg	371	
	Benzo(g,h,i)perylene	ND	31	15	µg/kg	310	
	Benzo(k)fluoranthene	ND	31	29	µg/kg		
	Chrysene	ND	31	23	µg/kg	384	
	Dibenz(a,h)anthracene	ND	31	16	µg/kg	63.4	
	Fluoranthene	ND	31	27	µg/kg	600	**Y**
	Fluorene	ND	31	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	31	16	µg/kg	160	
	Naphthalene	ND	31	24	µg/kg	160	**Y**
	Phenanthrene	ND	31	22	µg/kg	240	
	Pyrene	ND	31	21	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	45.4	0.5	0.19	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L615-SO-148							
BNASIM	2-Methylnaphthalene	ND	(28)	18	µg/kg	19.4	**Y**
	Acenaphthene	ND	(28)	21	µg/kg	26	
	Acenaphthylene	ND	28	22	µg/kg		
	Anthracene	ND	28	22	µg/kg	88	
	Benzo(a)anthracene	ND	28	25	µg/kg	412	
	Benzo(a)pyrene	ND	28	19	µg/kg	430	
	Benzo(b)fluoranthene	ND	28	21	µg/kg	371	
	Benzo(g,h,i)perylene	ND	28	13	µg/kg	310	
	Benzo(k)fluoranthene	ND	28	26	µg/kg		
	Chrysene	ND	28	21	µg/kg	384	
	Dibenz(a,h)anthracene	ND	28	14	µg/kg	63.4	
	Fluoranthene	ND	28	24	µg/kg	600	**Y**
	Fluorene	ND	(28)	15	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	28	14	µg/kg	160	
	Naphthalene	ND	28	21	µg/kg	160	**Y**
	Phenanthrene	ND	28	20	µg/kg	240	
	Pyrene	ND	28	19	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	39.1	0.5	0.19	%		
SW8310	Acenaphthene	ND	25	8.5	µg/kg	26	**Y**
	Acenaphthylene	ND	82	7.4	µg/kg		
	Anthracene	ND	16	0.11	µg/kg	88	
	Benzo(a)anthracene	ND	8.2	0.51	µg/kg	412	
	Benzo(a)pyrene	ND	3.3	0.79	µg/kg	430	
	Benzo(b)fluoranthene	**1**	8.2	0.31	µg/kg	371	
	Benzo(g,h,i)perylene	ND	8.2	3.1	µg/kg	310	
	Benzo(k)fluoranthene	ND	8.2	0.77	µg/kg		
	Chrysene	ND	8.2	0.75	µg/kg	384	
	Dibenz(a,h)anthracene	ND	8.2	5.1	µg/kg	63.4	
	Fluoranthene	ND	8.2	1.5	µg/kg	600	**Y**
	Fluorene	ND	8.2	1.2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	8.2	1.2	µg/kg	160	
	Naphthalene	ND	82	6.6	µg/kg	160	**Y**
	Phenanthrene	ND	16	0.36	µg/kg	240	
	Pyrene	ND	8.2	1.8	µg/kg	665	
	Total PAHs (SW8310)	**1**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L616-SO-149							
BNASIM	2-Methylnaphthalene	ND	(36)	(24)	µg/kg	19.4	**Y**
	Acenaphthene	ND	(36)	(27)	µg/kg	26	
	Acenaphthylene	ND	36	29	µg/kg		
	Anthracene	ND	36	28	µg/kg	88	
	Benzo(a)anthracene	ND	36	32	µg/kg	412	
	Benzo(a)pyrene	ND	36	25	µg/kg	430	
	Benzo(b)fluoranthene	ND	36	27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	36	17	µg/kg	310	
	Benzo(k)fluoranthene	ND	36	33	µg/kg		
	Chrysene	ND	36	27	µg/kg	384	
	Dibenz(a,h)anthracene	ND	36	18	µg/kg	63.4	
	Fluoranthene	ND	36	31	µg/kg	600	**Y**
	Fluorene	ND	(36)	19	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	36	18	µg/kg	160	
	Naphthalene	ND	36	28	µg/kg	160	**Y**
	Phenanthrene	ND	36	26	µg/kg	240	
	Pyrene	ND	36	24	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	53	0.5	0.19	%		
SW8310	Acenaphthene	ND	(320)	(110)	µg/kg	26	**Y**
	Acenaphthylene	ND	1100	96	µg/kg		
	Anthracene	ND	(210)	1.4	µg/kg	88	
	Benzo(a)anthracene	ND	110	6.6	µg/kg	412	
	Benzo(a)pyrene	ND	43	10	µg/kg	430	
	Benzo(b)fluoranthene	**27**	110	4	µg/kg	371	
	Benzo(g,h,i)perylene	ND	110	40	µg/kg	310	
	Benzo(k)fluoranthene	ND	110	10	µg/kg		
	Chrysene	ND	110	9.8	µg/kg	384	
	Dibenz(a,h)anthracene	ND	(110)	(66)	µg/kg	63.4	
	Fluoranthene	ND	110	19	µg/kg	600	**Y**
	Fluorene	ND	(110)	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	110	15	µg/kg	160	
	Naphthalene	ND	(1100)	85	µg/kg	160	**Y**
	Phenanthrene	ND	210	4.7	µg/kg	240	
	Pyrene	ND	110	23	µg/kg	665	
	Total PAHs (SW8310)	**27**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-3b: Building 41 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HB41L617-SO-150							
BNASIM	2-Methylnaphthalene	ND	(31)	(20)	µg/kg	19.4	**Y**
	Acenaphthene	ND	(31)	24	µg/kg	26	
	Acenaphthylene	ND	31	24	µg/kg		
	Anthracene	ND	31	24	µg/kg	88	
	Benzo(a)anthracene	ND	31	27	µg/kg	412	
	Benzo(a)pyrene	ND	31	22	µg/kg	430	
	Benzo(b)fluoranthene	ND	31	24	µg/kg	371	
	Benzo(g,h,i)perylene	ND	31	15	µg/kg	310	
	Benzo(k)fluoranthene	ND	31	28	µg/kg		
	Chrysene	ND	31	23	µg/kg	384	
	Dibenz(a,h)anthracene	ND	31	16	µg/kg	63.4	
	Fluoranthene	ND	31	26	µg/kg	600	**Y**
	Fluorene	ND	(31)	16	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	31	16	µg/kg	160	
	Naphthalene	ND	31	24	µg/kg	160	**Y**
	Phenanthrene	ND	31	22	µg/kg	240	
	Pyrene	ND	31	21	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	45.2	0.5	0.19	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Reviewed by: _____ Approved by: _____

Table 5-4a: Perimeter Drainage Ditch - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)	SW6010B/7471A series (mg/kg)														SW8081A (µg/kg)			SW8270 (µg/kg)
			Diesel	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium, total	Cobalt	Copper	Lead	Manganese	Nickel	Silver	Vanadium	Zinc	Mercury	DDD44	DDE44	DDT44	Dibenzofuran [1]
Comparator Values:			144	16.7	140	1	36.9	1.2	112	27.6	68.1	43.2	943	113	1	118	158	0.43	7	7	7	110
HBPDL601-SO-118	01/10/2002	9-10	**13**	**8.8**	**44.4**	<0.98	**27.1 J^**	**0.036 J^**	**91.1**	**19.8**	**41.8**	**11.3**	**574**	**103**	<0.98	**74.1**	**92.7**	**0.073 J^**	**1 J-**	<7.8 UJ	**0.8 J-**	<74
HBPDL601-SO-119 (FD)	01/10/2002	9-10	**14**	**7.2**	**49.4**	<0.98	**26.2 J^**	**0.11 J^**	**87.2**	**19.4**	**38.6**	**10.1**	**563**	**97.5**	**0.048 J^**	**67.5**	**90.4**	**0.092 J^**	**1 J-**	<7.8 UJ	**1 J-**	<74 UJ
HBPDL602-SO-120	01/10/2002	3-3	<3.6 U	**12.1**	**114**	**0.63 J^**	**19.2 J^**	**0.98**	**84.4**	**73.6**	**45.1**	**31.5**	**2,340**	**274**	**0.24 J^**	**73.7**	**155**	**0.23 J^**	**1 J-**	**2 J-**	**4 J-**	<59 J
HBPDL603-SO-121	01/10/2002	9-9.5	**12**	**6**	**62.6**	<0.84	**22.8 J^**	**0.28 J^**	**71.9**	**18.7**	**32.1**	**9.8**	**509**	**120**	<0.84	**57.2**	**175**	**0.13 J^**	**1 J-**	<6.7 UJ	**0.9 J-**	<64
HBPDL604-SO-122	01/10/2002	3-3	<3.5 U	**8.7**	**55.9**	**0.65 J^**	**15.5 J^**	**0.12 J^**	**90.2**	**44.8**	**40.8**	**18.9**	**1,190**	**168**	<0.76	**65.9**	**135**	**0.2 J^**	**40**	**50**	**160**	<57 UJ
HBPDL605-SO-142 [2]	01/17/2002	4-4	**7.4**	**9.5**	**41**	**0.19 J^**	**16.9 J^**	**0.15 J^**	**85.5**	**27**	**39.4**	**13.4**	**654**	**98.8**	<0.81	**63.2**	**101**	**0.15 J^**	**5 J^**	**3 J^**	**5 J^**	<61

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^: Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
[1] Results for dibenzofuran are reported to the method detection limit (MDL).
[2] Sample was analyzed for PAHs using methods SW8270 (SIM) and SW8310. No PAHs were detected from either method. The complete results for each method are presented in Table 5-4b.
Detections shown in bold. Detections above Comparator values are circled.

Table 5-4b: Perimeter Drainage Ditch - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBPDL601-SO-118							
D2216	Moisture, percent	49	0.5	0.19	%		
SW8310	Acenaphthene	ND	(150)	(51)	µg/kg	26	Y
	Acenaphthylene	ND	490	44	µg/kg		
	Anthracene	ND	(98)	0.66	µg/kg	88	Y
	Benzo(a)anthracene	ND	49	3	µg/kg	412	
	Benzo(a)pyrene	ND	20	4.7	µg/kg	430	
	Benzo(b)fluoranthene	ND	49	1.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	49	19	µg/kg	310	
	Benzo(k)fluoranthene	ND	49	4.6	µg/kg		
	Chrysene	ND	49	4.5	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	49	30	µg/kg	63.4	
	Fluoranthene	ND	49	8.9	µg/kg	600	
	Fluorene	ND	(49)	7.4	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	49	7	µg/kg	160	
	Naphthalene	ND	(490)	39	µg/kg	160	
	Phenanthrene	ND	49	2.2	µg/kg	240	
	Pyrene	ND	20	11	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBPDL601-SO-119							
D2216	Moisture, percent	49	0.5	0.19	%		
SW8310	Acenaphthene	ND	(29)	10	µg/kg	26	Y
	Acenaphthylene	ND	98	8.8	µg/kg		
	Anthracene	ND	20	0.13	µg/kg	88	Y
	Benzo(a)anthracene	ND	9.8	0.61	µg/kg	412	
	Benzo(a)pyrene	ND	3.9	0.94	µg/kg	430	
	Benzo(b)fluoranthene	ND	9.8	0.37	µg/kg	371	
	Benzo(g,h,i)perylene	ND	9.8	3.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	9.8	0.92	µg/kg		
	Chrysene	ND	9.8	0.9	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	9.8	6.1	µg/kg	63.4	
	Fluoranthene	ND	9.8	1.8	µg/kg	600	
	Fluorene	ND	9.8	1.5	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	9.8	1.4	µg/kg	160	
	Naphthalene	ND	98	7.8	µg/kg	160	
	Phenanthrene	ND	9.8	0.43	µg/kg	240	
	Pyrene	ND	3.9	2.2	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-4b: Perimeter Drainage Ditch - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBPDL602-SO-120							
D2216	Moisture, percent	35.7	0.5	0.19	%		
SW8310	Acenaphthene	ND	(230)	(81)	µg/kg	26	**Y**
	Acenaphthylene	ND	780	70	µg/kg		
	Anthracene	ND	(160)	1	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	78	4.8	µg/kg	412	
	Benzo(a)pyrene	ND	31	7.5	µg/kg	430	
	Benzo(b)fluoranthene	ND	78	3	µg/kg	371	
	Benzo(g,h,i)perylene	ND	78	30	µg/kg	310	
	Benzo(k)fluoranthene	ND	78	7.3	µg/kg		
	Chrysene	ND	78	7.2	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	(78)	48	µg/kg	63.4	
	Fluoranthene	ND	78	14	µg/kg	600	
	Fluorene	ND	(78)	12	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	78	11	µg/kg	160	
	Naphthalene	ND	(780)	62	µg/kg	160	
	Phenanthrene	ND	78	3.4	µg/kg	240	
	Pyrene	ND	31	17	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBPDL603-SO-121							
D2216	Moisture, percent	40.4	0.5	0.19	%		
SW8310	Acenaphthene	ND	(250)	(87)	µg/kg	26	**Y**
	Acenaphthylene	ND	840	76	µg/kg		
	Anthracene	ND	(170)	1.1	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	84	5.2	µg/kg	412	
	Benzo(a)pyrene	ND	34	8.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	84	3.2	µg/kg	371	
	Benzo(g,h,i)perylene	ND	84	32	µg/kg	310	
	Benzo(k)fluoranthene	ND	84	7.9	µg/kg		
	Chrysene	ND	84	7.7	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	(84)	52	µg/kg	63.4	
	Fluoranthene	ND	84	15	µg/kg	600	
	Fluorene	ND	(84)	13	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	84	12	µg/kg	160	
	Naphthalene	ND	(840)	67	µg/kg	160	
	Phenanthrene	ND	84	3.7	µg/kg	240	
	Pyrene	ND	34	18	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-4b: Perimeter Drainage Ditch - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBPDL604-SO-122							
D2216	Moisture, percent	33.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	(230)	(79)	µg/kg	26	**Y**
	Acenaphthylene	ND	760	68	µg/kg		
	Anthracene	ND	(150)	1	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	76	4.7	µg/kg	412	
	Benzo(a)pyrene	ND	30	7.3	µg/kg	430	
	Benzo(b)fluoranthene	ND	76	2.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	76	29	µg/kg	310	
	Benzo(k)fluoranthene	ND	76	7.1	µg/kg		
	Chrysene	ND	76	7	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	(76)	47	µg/kg	63.4	
	Fluoranthene	ND	76	14	µg/kg	600	
	Fluorene	ND	(76)	11	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	76	11	µg/kg	160	
	Naphthalene	ND	(760)	60	µg/kg	160	
	Phenanthrene	ND	76	3.3	µg/kg	240	
	Pyrene	ND	30	17	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-4b: Perimeter Drainage Ditch - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBPDL605-SO-142							
BNASIM	2-Methylnaphthalene	ND	(27)	18	µg/kg	19.4	**Y**
	Acenaphthene	ND	(27)	21	µg/kg	26	
	Acenaphthylene	ND	27	22	µg/kg		
	Anthracene	ND	27	21	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	27	24	µg/kg	412	
	Benzo(a)pyrene	ND	27	19	µg/kg	430	
	Benzo(b)fluoranthene	ND	27	21	µg/kg	371	
	Benzo(g,h,i)perylene	ND	27	13	µg/kg	310	
	Benzo(k)fluoranthene	ND	27	25	µg/kg		
	Chrysene	ND	27	21	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	27	14	µg/kg	63.4	
	Fluoranthene	ND	27	23	µg/kg	600	
	Fluorene	ND	(27)	14	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	27	14	µg/kg	160	
	Naphthalene	ND	27	21	µg/kg	160	
	Phenanthrene	ND	27	19	µg/kg	240	
	Pyrene	ND	27	18	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	38	0.5	0.19	%		
SW8310	Acenaphthene	ND	(240)	(84)	µg/kg	26	**Y**
	Acenaphthylene	ND	810	73	µg/kg		
	Anthracene	ND	(160)	1.1	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	81	5	µg/kg	412	
	Benzo(a)pyrene	ND	32	7.7	µg/kg	430	
	Benzo(b)fluoranthene	ND	81	3.1	µg/kg	371	
	Benzo(g,h,i)perylene	ND	81	31	µg/kg	310	
	Benzo(k)fluoranthene	ND	81	7.6	µg/kg		
	Chrysene	ND	81	7.4	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	(81)	50	µg/kg	63.4	
	Fluoranthene	ND	81	15	µg/kg	600	
	Fluorene	ND	(81)	12	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	81	11	µg/kg	160	
	Naphthalene	ND	(810)	64	µg/kg	160	
	Phenanthrene	ND	160	3.5	µg/kg	240	
	Pyrene	ND	81	18	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Reviewed by: _____ Approved by: _____

Table 5-5a: Spoils Pile F - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)	SW6010B/7470A series (mg/kg)									SW8081A (µg/kg)			SW8310 [1] (µg/kg)
			Diesel	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Manganese	Mercury	Nickel	Zinc	DDD44	DDE44	DDT44	Total PAHs
Comparator Values:			144	16.7	1	1.2	27.6	43.2	943	0.43	113	158	7	7	7	4022
HBSFL602-SO-101	12/27/2001	1-1.5	**4.8**	**15.6**	**0.26 J^**	<0.42	**16**	**25**	**436**	**0.25**	**77.1**	**82.2**	<5.6	<5.6	<5.6	**3.7**
HBSFL602-SO-102 (FD)	12/27/2001	1-1.5	**3.5**	**16.1**	**0.33 J^**	<0.42	**15.8**	**26.3**	**465**	**0.42**	**79.5**	**84.2**	<5.6	<5.6	<5.6	ND
HBSFL604-SO-104	12/27/2001	1-1.5	**8.5**	**12.8**	**0.27 J^**	**0.15 J^**	**18**	**32.6**	**599**	**0.25**	**87.1**	**102**	<5.5	**0.6 J^**	**2 J^**	ND
HBSFL605-SO-105	12/27/2001	1-1.5	**4.2**	**12**	**0.29 J^**	**0.029 J^**	**16.2**	**23.3**	**464**	**0.28**	**82.9**	**91.7**	<5.5	**0.5 J^**	**0.6 J^**	ND
HBSFL606-SO-106	12/27/2001	1-1.5	<3.2	**10.3**	**0.37 J^**	<0.42	**11.3**	**12.1**	**238**	**0.38**	**68.5**	**72.9**	**0.9 J^**	**3 J^**	**8**	ND
HBSFL607-SO-107	12/27/2001	1-1.5	**5**	**13.6**	**0.52 J^**	**0.16 J^**	**13.5**	**53.9**	**357**	**0.4**	**82.4**	**91.3**	<5.6	<5.6	<5.6	ND
HBSFL611-SO-131	01/17/2002	1.5-2	--	**13.8**	**0.29 J^**	**0.03 J^**	**16.9**	**41.5**	**451**	--	**73.7**	**84.8**	**4 J^**	**6**	**23**	**6.8**
HBSFL612-SO-132	01/17/2002	1.5-2	--	**16.3**	**0.2 J^**	<0.41	**16.2**	**24.7**	**426**	--	**73**	**91.9**	<5.5 UJ	**0.7 J^**	**1 J^**	**35.9**
HBSFL612-SO-133 (FD)	01/17/2002	1.5-2	--	**15.7**	**0.31 J^**	<0.41	**16.1**	**23.8**	**417**	--	**68.5**	**86.8**	<5.5 UJ	**0.8 J^**	**1 J^**	**39**
HBSFL613-SO-134	01/17/2002	1.5-2	--	**14.4**	**0.3 J^**	<0.42	**15.7**	**20.2**	**396**	--	**69**	**76.5**	<5.5 UJ	**0.5 J^**	<5.5	**10.8**
HBSFL614-SO-135	01/17/2002	1.5-2	--	**10.2**	<0.69	<0.41	**14.5**	**10.5**	**396**	--	**72.8**	**73.9**	<5.5 UJ	**0.7 J^**	**1 J^**	**0.6**
HBSFL615-SO-136	01/17/2002	1.5-2	--	**14**	**0.32 J^**	**0.061 J^**	**9.2**	**11.1**	**157**	--	**62.4**	**76.8**	<5.6 UJ	**0.5 J^**	<5.6	ND

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^: Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
ND: for multianalyte methods, all target analytes below practical quantitation limit.
-- Not analyzed.
* Soil at sample location was removed by subsequent excavation.
All PAHs at Spoil Pile F were analyzed by SW8310, except for HBSFL622-SO-171, which was analyzed by SW8270C (SIM).
Detections shown in bold. Detections above Comparator values are circled.

Table 5-5a: Spoils Pile F - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)	SW6010B/7470A series (mg/kg)									SW8081A (µg/kg)			SW8310 [1] (µg/kg)
			Diesel	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Manganese	Mercury	Nickel	Zinc	DDD44	DDE44	DDT44	Total PAHs
Comparator Values:			144	16.7	1	1.2	27.6	43.2	943	0.43	113	158	7	7	7	4022
HBSFL616-SO-137	01/17/2002	1.5-2	--	**12.8**	**0.29 J^**	<0.39	**17.5**	**23.6**	**433**	--	**78.4**	**98.1**	<5.2 UJ	**4 J^**	**12**	**16**
HBSFL617-SO-138	01/17/2002	1.5-2	--	**10.2**	<0.77	**0.74**	**17.9**	**18.5**	**519**	--	**90**	**87.6**	**0.5 J-**	**1 J^**	<6.1	ND
HBSFL620-SO-141	01/17/2002	1.5-2	--	**10.1**	**0.025 J^**	<0.42	**14.7**	**12.1**	**413**	--	**72.1**	**85.2**	**1 J-**	**5 J^**	**10**	ND
HBSFL622-SO-171	02/05/2002	2-2.5	--	**9.1 J**	**0.46 J^**	**0.18 J**	**17.7**	**12.4**	**343**	--	**108**	**105**	**0.6 J^**	**1 J^**	**2 J^**	**93**
Sample Locations Removed During Excavation																
HBSFL603-SO-103 *	12/27/2001	1-1.5	**4.7**	**12**	**0.22 J^**	**0.05 J^**	**17.2**	**24.6**	**519**	**0.24**	**78.8**	**92.3**	**8 J+**	**13 J+**	**58 J+**	ND
HBSFL608-SO-108 *	12/27/2001	1-1.5	<3.1	**9.4**	**0.24 J^**	<0.41	**16.1**	**18.2**	**393**	**0.16**	**76.7**	**90.7**	**6**	**11**	**36**	ND
HBSFL618-SO-139 *	01/17/2002	1.5-2	--	**8.8**	**0.19 J^**	<0.39	**14.9**	**19.5**	**468**	--	**63.5**	**88.8**	**40 J-**	**68**	**223**	**58**
HBSFL619-SO-140 *	01/17/2002	1.5-2	--	**10.9**	**0.14 J^**	**0.065 J^**	**17.2**	**23.4**	**377**	--	**77.1**	**86**	**29 J-**	**28**	**77**	**52**

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^: Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
ND: for multianalyte methods, all target analytes below practical quantitation limit.
-- Not analyzed.
* Soil at sample location was removed by subsequent excavation.
All PAHs at Spoil Pile F were analyzed by SW8310, except for HBSFL622-SO-171, which was analyzed by SW8270C (SIM).
Detections shown in bold. Detections above Comparator values are circled.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL602-SO-101							
D2216	Moisture, percent	28.3	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.2	µg/kg	26	Y
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.093	µg/kg	88	Y
	Benzo(a)anthracene	ND	7	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	**0.7**	7	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.66	µg/kg		
	Chrysene	ND	7	0.64	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	7	4.3	µg/kg	63.4	
	Fluoranthene	**3**	7	1.3	µg/kg	600	Y
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	0.99	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	Y
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	**3.7**			µg/kg	4022	
HBSFL602-SO-102							
D2216	Moisture, percent	28.6	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.3	µg/kg	26	Y
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.094	µg/kg	88	Y
	Benzo(a)anthracene	ND	7	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	ND	7	0.27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.66	µg/kg		
	Chrysene	ND	7	0.64	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	7	4.3	µg/kg	63.4	
	Fluoranthene	ND	7	1.3	µg/kg	600	Y
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	0.99	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	Y
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL603-SO-103							
D2216	Moisture, percent	29.6	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.4	µg/kg	26	**Y**
	Acenaphthylene	ND	71	6.4	µg/kg		
	Anthracene	ND	14	0.095	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	7.1	0.44	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.68	µg/kg	430	
	Benzo(b)fluoranthene	ND	7.1	0.27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7.1	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	7.1	0.67	µg/kg		
	Chrysene	ND	7.1	0.65	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	7.1	4.4	µg/kg	63.4	
	Fluoranthene	ND	7.1	1.3	µg/kg	600	**Y**
	Fluorene	ND	7.1	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7.1	1	µg/kg	160	
	Naphthalene	ND	71	5.7	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	**Y**
	Pyrene	ND	7.1	1.6	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBSFL604-SO-104							
D2216	Moisture, percent	26.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.1	µg/kg	26	**Y**
	Acenaphthylene	ND	68	6.2	µg/kg		
	Anthracene	ND	14	0.092	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	6.8	0.42	µg/kg	412	
	Benzo(a)pyrene	ND	2.7	0.66	µg/kg	430	
	Benzo(b)fluoranthene	ND	6.8	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.8	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.8	0.64	µg/kg		
	Chrysene	ND	6.8	0.63	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.8	4.2	µg/kg	63.4	
	Fluoranthene	ND	6.8	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.8	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.8	0.97	µg/kg	160	
	Naphthalene	ND	68	5.5	µg/kg	160	
	Phenanthrene	ND	14	0.3	µg/kg	240	**Y**
	Pyrene	ND	6.8	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL605-SO-105							
D2216	Moisture, percent	27.1	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.1	µg/kg	26	Y
	Acenaphthylene	ND	69	6.2	µg/kg		
	Anthracene	ND	14	0.092	µg/kg	88	Y
	Benzo(a)anthracene	ND	6.9	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.7	0.66	µg/kg	430	
	Benzo(b)fluoranthene	ND	6.9	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.9	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.9	0.64	µg/kg		
	Chrysene	ND	6.9	0.63	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	6.9	4.3	µg/kg	63.4	
	Fluoranthene	ND	6.9	1.2	µg/kg	600	Y
	Fluorene	ND	6.9	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.9	0.97	µg/kg	160	
	Naphthalene	ND	69	5.5	µg/kg	160	
	Phenanthrene	ND	14	0.3	µg/kg	240	Y
	Pyrene	ND	6.9	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBSFL606-SO-106							
D2216	Moisture, percent	28.1	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.2	µg/kg	26	Y
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.093	µg/kg	88	Y
	Benzo(a)anthracene	ND	7	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	ND	7	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.65	µg/kg		
	Chrysene	ND	7	0.64	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	7	4.3	µg/kg	63.4	
	Fluoranthene	ND	7	1.3	µg/kg	600	Y
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	0.99	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	Y
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL607-SO-107							
D2216	Moisture, percent	28.4	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.3	µg/kg	26	**Y**
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.094	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	7	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	ND	7	0.27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.66	µg/kg		
	Chrysene	ND	7	0.64	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	7	4.3	µg/kg	63.4	
	Fluoranthene	ND	7	1.3	µg/kg	600	**Y**
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	0.99	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	**Y**
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBSFL608-SO-108							
D2216	Moisture, percent	26.4	0.5	0.19	%		
SW8310	Acenaphthene	ND	20	7.1	µg/kg	26	**Y**
	Acenaphthylene	ND	68	6.1	µg/kg		
	Anthracene	ND	14	0.091	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	6.8	0.42	µg/kg	412	
	Benzo(a)pyrene	ND	2.7	0.65	µg/kg	430	
	Benzo(b)fluoranthene	ND	6.8	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.8	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.8	0.64	µg/kg		
	Chrysene	ND	6.8	0.63	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.8	4.2	µg/kg	63.4	
	Fluoranthene	ND	6.8	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.8	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.8	0.97	µg/kg	160	
	Naphthalene	ND	68	5.4	µg/kg	160	
	Phenanthrene	ND	14	0.3	µg/kg	240	**Y**
	Pyrene	ND	6.8	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL611-SO-131							
D2216	Moisture, percent	26.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.1	µg/kg	26	Y
	Acenaphthylene	ND	68	6.2	µg/kg		
	Anthracene	ND	14	0.092	µg/kg	88	Y
	Benzo(a)anthracene	**4**	6.8	0.42	µg/kg	412	
	Benzo(a)pyrene	**2**	2.7	0.66	µg/kg	430	
	Benzo(b)fluoranthene	ND	6.8	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.8	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.8	0.64	µg/kg		
	Chrysene	**0.8**	6.8	0.63	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	6.8	4.2	µg/kg	63.4	
	Fluoranthene	ND	6.8	1.2	µg/kg	600	Y
	Fluorene	ND	6.8	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.8	0.97	µg/kg	160	
	Naphthalene	ND	68	5.5	µg/kg	160	
	Phenanthrene	ND	14	0.3	µg/kg	240	Y
	Pyrene	ND	6.8	1.5	µg/kg	665	
	Total PAHs (SW8310)	**6.8**			µg/kg	4022	
HBSFL612-SO-132							
D2216	Moisture, percent	26.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.1	µg/kg	26	Y
	Acenaphthylene	ND	68	6.2	µg/kg		
	Anthracene	ND	14	0.092	µg/kg	88	Y
	Benzo(a)anthracene	**8**	6.8	0.42	µg/kg	412	
	Benzo(a)pyrene	**4**	2.7	0.66	µg/kg	430	
	Benzo(b)fluoranthene	**4**	6.8	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.8	2.6	µg/kg	310	
	Benzo(k)fluoranthene	**2**	6.8	0.64	µg/kg		
	Chrysene	**3**	6.8	0.63	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	6.8	4.2	µg/kg	63.4	
	Fluoranthene	**8**	6.8	1.2	µg/kg	600	Y
	Fluorene	ND	6.8	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.8	0.97	µg/kg	160	
	Naphthalene	ND	68	5.5	µg/kg	160	
	Phenanthrene	**0.9**	14	0.3	µg/kg	240	Y
	Pyrene	**6**	6.8	1.5	µg/kg	665	
	Total PAHs (SW8310)	**35.9**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL612-SO-133							
D2216	Moisture, percent	26.6	0.5	0.19	%		
SW8310	Acenaphthene	ND	20	7.1	µg/kg	26	**Y**
	Acenaphthylene	ND	68	6.1	µg/kg		
	Anthracene	ND	14	0.091	µg/kg	88	**Y**
	Benzo(a)anthracene	**9**	6.8	0.42	µg/kg	412	
	Benzo(a)pyrene	**4**	2.7	0.65	µg/kg	430	
	Benzo(b)fluoranthene	**6**	6.8	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.8	2.6	µg/kg	310	
	Benzo(k)fluoranthene	**3**	6.8	0.64	µg/kg		
	Chrysene	**3**	6.8	0.63	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.8	4.2	µg/kg	63.4	
	Fluoranthene	**8**	6.8	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.8	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.8	0.97	µg/kg	160	
	Naphthalene	ND	68	5.5	µg/kg	160	
	Phenanthrene	**2**	14	0.3	µg/kg	240	**Y**
	Pyrene	**4**	6.8	1.5	µg/kg	665	
	Total PAHs (SW8310)	**39**			µg/kg	4022	
HBSFL613-SO-134							
D2216	Moisture, percent	27.9	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.2	µg/kg	26	**Y**
	Acenaphthylene	ND	69	6.2	µg/kg		
	Anthracene	ND	14	0.093	µg/kg	88	**Y**
	Benzo(a)anthracene	**3**	6.9	0.43	µg/kg	412	
	Benzo(a)pyrene	**1**	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	**3**	6.9	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.9	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.9	0.65	µg/kg		
	Chrysene	**0.8**	6.9	0.64	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.9	4.3	µg/kg	63.4	
	Fluoranthene	**3**	6.9	1.3	µg/kg	600	**Y**
	Fluorene	ND	6.9	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.9	0.98	µg/kg	160	
	Naphthalene	ND	69	5.5	µg/kg	160	
	Phenanthrene	ND	14	0.3	µg/kg	240	**Y**
	Pyrene	ND	6.9	1.5	µg/kg	665	
	Total PAHs (SW8310)	**10.8**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL614-SO-135							
D2216	Moisture, percent	27.7	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.2	µg/kg	26	Y
	Acenaphthylene	ND	69	6.2	µg/kg		
	Anthracene	ND	14	0.093	µg/kg	88	Y
	Benzo(a)anthracene	ND	6.9	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.66	µg/kg	430	
	Benzo(b)fluoranthene	ND	6.9	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.9	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.9	0.65	µg/kg		
	Chrysene	ND	6.9	0.64	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	6.9	4.3	µg/kg	63.4	
	Fluoranthene	ND	6.9	1.3	µg/kg	600	Y
	Fluorene	ND	6.9	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.9	0.98	µg/kg	160	
	Naphthalene	ND	69	5.5	µg/kg	160	
	Phenanthrene	**0.6**	14	0.3	µg/kg	240	Y
	Pyrene	ND	6.9	1.5	µg/kg	665	
	Total PAHs (SW8310)	**0.6**			µg/kg	4022	
HBSFL615-SO-136							
D2216	Moisture, percent	29	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.3	µg/kg	26	Y
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.094	µg/kg	88	Y
	Benzo(a)anthracene	ND	7	0.44	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.68	µg/kg	430	
	Benzo(b)fluoranthene	ND	7	0.27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.66	µg/kg		
	Chrysene	ND	7	0.65	µg/kg	384	Y
	Dibenz(a,h)anthracene	ND	7	4.4	µg/kg	63.4	
	Fluoranthene	ND	7	1.3	µg/kg	600	Y
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	1	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	Y
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL616-SO-137							
D2216	Moisture, percent	23	0.5	0.19	%		
SW8310	Acenaphthene	ND	19	6.7	µg/kg	26	**Y**
	Acenaphthylene	ND	65	5.8	µg/kg		
	Anthracene	ND	13	0.087	µg/kg	88	**Y**
	Benzo(a)anthracene	**3**	6.5	0.4	µg/kg	412	
	Benzo(a)pyrene	**1**	2.6	0.62	µg/kg	430	
	Benzo(b)fluoranthene	**3**	6.5	0.25	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.5	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	6.5	0.61	µg/kg		
	Chrysene	ND	6.5	0.6	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.5	4	µg/kg	63.4	
	Fluoranthene	**3**	6.5	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.5	0.99	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	6.5	0.92	µg/kg	160	
	Naphthalene	ND	65	5.2	µg/kg	160	
	Phenanthrene	ND	13	0.29	µg/kg	240	**Y**
	Pyrene	**6**	6.5	1.4	µg/kg	665	
	Total PAHs (SW8310)	**16**			µg/kg	4022	
HBSFL617-SO-138							
D2216	Moisture, percent	34.8	0.5	0.19	%		
SW8310	Acenaphthene	ND	23	8	µg/kg	26	**Y**
	Acenaphthylene	ND	77	6.9	µg/kg		
	Anthracene	ND	15	0.1	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	7.7	0.48	µg/kg	412	
	Benzo(a)pyrene	ND	3.1	0.74	µg/kg	430	
	Benzo(b)fluoranthene	ND	7.7	0.29	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7.7	2.9	µg/kg	310	
	Benzo(k)fluoranthene	ND	7.7	0.72	µg/kg		
	Chrysene	ND	7.7	0.7	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	7.7	4.8	µg/kg	63.4	
	Fluoranthene	ND	7.7	1.4	µg/kg	600	**Y**
	Fluorene	ND	7.7	1.2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7.7	1.1	µg/kg	160	
	Naphthalene	ND	77	6.1	µg/kg	160	
	Phenanthrene	ND	15	0.34	µg/kg	240	**Y**
	Pyrene	ND	7.7	1.7	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL618-SO-139							
D2216	Moisture, percent	24	0.5	0.19	%		
SW8310	Acenaphthene	ND	20	6.8	µg/kg	26	**Y**
	Acenaphthylene	ND	66	5.9	µg/kg		
	Anthracene	ND	13	0.088	µg/kg	88	**Y**
	Benzo(a)anthracene	**2**	6.6	0.41	µg/kg	412	
	Benzo(a)pyrene	**1**	2.6	0.63	µg/kg	430	
	Benzo(b)fluoranthene	**10**	6.6	0.25	µg/kg	371	
	Benzo(g,h,i)perylene	ND	6.6	2.5	µg/kg	310	
	Benzo(k)fluoranthene	**7**	6.6	0.62	µg/kg		
	Chrysene	**3**	6.6	0.61	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	6.6	4.1	µg/kg	63.4	
	Fluoranthene	**5**	6.6	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.6	1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**15**	6.6	0.93	µg/kg	160	
	Naphthalene	ND	66	5.3	µg/kg	160	
	Phenanthrene	ND	13	0.29	µg/kg	240	**Y**
	Pyrene	**15**	6.6	1.4	µg/kg	665	
	Total PAHs (SW8310)	**58**			µg/kg	4022	
HBSFL619-SO-140							
D2216	Moisture, percent	29.7	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.4	µg/kg	26	**Y**
	Acenaphthylene	ND	71	6.4	µg/kg		
	Anthracene	ND	14	0.095	µg/kg	88	**Y**
	Benzo(a)anthracene	**6**	7.1	0.44	µg/kg	412	
	Benzo(a)pyrene	**3**	3	0.68	µg/kg	430	
	Benzo(b)fluoranthene	**6**	7.1	0.27	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7.1	2.7	µg/kg	310	
	Benzo(k)fluoranthene	**4**	7.1	0.67	µg/kg		
	Chrysene	**4**	7.1	0.65	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	7.1	4.4	µg/kg	63.4	
	Fluoranthene	**17**	7.1	1.3	µg/kg	600	**Y**
	Fluorene	ND	7.1	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7.1	1	µg/kg	160	
	Naphthalene	ND	71	5.7	µg/kg	160	
	Phenanthrene	**5**	14	0.31	µg/kg	240	**Y**
	Pyrene	**7**	7	1.6	µg/kg	665	
	Total PAHs (SW8310)	**52**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL620-SO-141							
D2216	Moisture, percent	28.3	0.5	0.19	%		
SW8310	Acenaphthene	ND	21	7.2	µg/kg	26	**Y**
	Acenaphthylene	ND	70	6.3	µg/kg		
	Anthracene	ND	14	0.093	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	7	0.43	µg/kg	412	
	Benzo(a)pyrene	ND	2.8	0.67	µg/kg	430	
	Benzo(b)fluoranthene	ND	7	0.26	µg/kg	371	
	Benzo(g,h,i)perylene	ND	7	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	7	0.66	µg/kg		
	Chrysene	ND	7	0.64	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	7	4.3	µg/kg	63.4	
	Fluoranthene	ND	7	1.3	µg/kg	600	**Y**
	Fluorene	ND	7	1.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	7	0.99	µg/kg	160	
	Naphthalene	ND	70	5.6	µg/kg	160	
	Phenanthrene	ND	14	0.31	µg/kg	240	**Y**
	Pyrene	ND	7	1.5	µg/kg	665	
	Total PAHs (SW8310)	0			µg/kg	4022	
HBSFL621-SO-147							
D2216	Moisture, percent	22.3	0.5	0.19	%		
SW8310	Acenaphthene	ND	19	6.7	µg/kg	26	**Y**
	Acenaphthylene	ND	64	5.8	µg/kg		
	Anthracene	ND	13	0.086	µg/kg	88	**Y**
	Benzo(a)anthracene	**7**	6.4	0.4	µg/kg	412	
	Benzo(a)pyrene	**6**	2.6	0.62	µg/kg	430	
	Benzo(b)fluoranthene	**2**	6.4	0.24	µg/kg	371	
	Benzo(g,h,i)perylene	**14**	6.4	2.4	µg/kg	310	
	Benzo(k)fluoranthene	**3**	6.4	0.61	µg/kg		
	Chrysene	ND	6.4	0.59	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	**76**	6.4	4	µg/kg	63.4	
	Fluoranthene	**55**	6.4	1.2	µg/kg	600	**Y**
	Fluorene	ND	6.4	0.98	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**3**	6.4	0.91	µg/kg	160	
	Naphthalene	ND	64	5.2	µg/kg	160	
	Phenanthrene	**56**	13	0.28	µg/kg	240	**Y**
	Pyrene	**34**	6.4	1.4	µg/kg	665	
	Total PAHs (SW8310)	**256**			µg/kg	4022	

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-5b: Spoils Pile F - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBSFL622-SO-171							
BNASIM	2-Methylnaphthalene	ND	24	16	µg/kg	19.4	
	Acenaphthene	ND	24	18	µg/kg	26	**Y**
	Acenaphthylene	ND	24	19	µg/kg		
	Anthracene	ND	24	19	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	24	21	µg/kg	412	
	Benzo(a)pyrene	ND	24	17	µg/kg	430	
	Benzo(b)fluoranthene	**47**	24	18	µg/kg	371	
	Benzo(g,h,i)perylene	ND	24	12	µg/kg	310	
	Benzo(k)fluoranthene	ND	24	22	µg/kg		
	Chrysene	**33**	24	18	µg/kg	384	**Y**
	Dibenz(a,h)anthracene	ND	24	12	µg/kg	63.4	
	Fluoranthene	ND	24	21	µg/kg	600	**Y**
	Fluorene	ND	24	13	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**13**	24	12	µg/kg	160	
	Naphthalene	ND	24	18	µg/kg	160	
	Phenanthrene	ND	24	17	µg/kg	240	**Y**
	Pyrene	ND	24	16	µg/kg	665	
	Total PAHs (BNASIM)	**93**			µg/kg	4022	
D2216	Moisture, percent	29.6	0.5	0.19	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Reviewed by: _____ Approved by: _____

Table 5-6a: Revetment 6 - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW8015B (mg/kg)			SW8270 (SIM) (µg/kg)
			TPH-gasoline	TPH-diesel	TPH-motor oil	Total PAHs
Comparator Values:			12	144	144	4022
HBR6L601-SO-194	02/28/2002	1-1.5	<1 UJ	**6.8**	**80**	**8**
HBR6L601-SO-195 (FD)	02/28/2002	1-1.5	<1.2 UJ	**5.9 J+**	**41**	**210**
HBR6L602-SO-196	02/28/2002	1-1.5	<1.6 UJ	**9.7**	**18**	ND
HBR6L603-SO-197	02/28/2002	1-1.5	<1.1 UJ	**14**	**53**	**1,516**
HBR6L604-SO-198	02/28/2002	1-1.5	<1.2 UJ	<1.2	**8.5**	ND
HBR6L610-SO-210	03/15/2002	6-6	**0.4 J^**	**9.1**	**21**	ND
HBR6L611-SO-211	03/15/2002	5-5	**0.07 J^**	**2**	**14**	ND
HBR6L612-SO-212	03/15/2002	9-9.5	**0.4 J^**	**7.1**	**11**	**248**
HBR6L613-SO-213	03/15/2002	6-6	**0.07 J^**	**2**	**17**	ND
HBR6L614-SO-214	03/15/2002	6-6	**0.04 J^**	**2**	**20**	ND
HBR6L615-SO-215	03/15/2002	2-2.5	**0.03 J^**	**0.9 J^**	**13**	ND
HBR6L616-SO-216	03/15/2002	0.5-1	<0.93	<1.1	**4.3**	ND
HBR6L617-SO-217	03/15/2002	1-1	<0.98	<1.2	<2.8	ND
HBR6L618-SO-218	03/15/2002	0.5-1	<1	<1.1	<2.8	ND
Sample Locations Removed During Excavation						
HBR6L605-SO-199 *	02/28/2002	1-1.5	**1.9 J+**	**500**	**34**	**90**
HBR6L606-SO-200 *	02/28/2002	2-2.5	**0.2 J^**	**37**	**7.6**	**32**
HBR6L607-SO-202 *	02/28/2002	1-1.5	<1.1 UJ	**11**	**3.1**	ND
HBR6L608-SO-203 *	02/28/2002	1-1.5	**0.8 J+**	**25**	**233**	**59**
HBR6L609-SO-204 *	02/28/2002	2-2	**0.3 J^**	**31**	**30**	**30**
HBR6L609-SO-205 (FD) *	02/28/2002	2-2	**0.3 J^**	**16**	**10**	**22**

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^: Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+/-: Bias high or low, respectively
ND: for multianalyte methods, all target analytes below practical quantitation limit.
* Soil at sample location was removed by subsequent excavation.
Detections shown in bold. Detections above Comparator values are circled.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	Analyte	Result	Practical Quantitation Limit	Method Detection Limit	Units	Cleanup Goal	COPC
HBR6L601-SO-194							
BNASIM	2-Methylnaphthalene	**8**	18	2.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	18	1.6	µg/kg	26	
	Acenaphthylene	ND	18	2.1	µg/kg		
	Anthracene	ND	18	1.6	µg/kg	88	
	Benzo(a)anthracene	ND	18	2.6	µg/kg	412	
	Benzo(a)pyrene	ND	18	2.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	18	4.5	µg/kg	371	
	Benzo(g,h,i)perylene	ND	18	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	18	2.8	µg/kg		
	Chrysene	ND	18	1.4	µg/kg	384	
	Dibenz(a,h)anthracene	ND	18	2.2	µg/kg	63.4	
	Fluoranthene	ND	18	1.6	µg/kg	600	
	Fluorene	ND	18	1.9	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	18	2.1	µg/kg	160	
	Naphthalene	ND	18	2.1	µg/kg	160	
	Phenanthrene	ND	18	1.7	µg/kg	240	
	Pyrene	ND	18	1.4	µg/kg	665	
	Total PAHs (BNASIM)	**8**			µg/kg	4022	
D2216	Moisture, percent	7.6	0.5	0.025	%		
HBR6L601-SO-195							
BNASIM	2-Methylnaphthalene	**93**	37	5.2	µg/kg	19.4	**Y**
	Acenaphthene	ND	37	3.2	µg/kg	26	
	Acenaphthylene	ND	37	4.1	µg/kg		
	Anthracene	ND	37	3.2	µg/kg	88	
	Benzo(a)anthracene	ND	37	5.2	µg/kg	412	
	Benzo(a)pyrene	ND	37	4.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	37	9.1	µg/kg	371	
	Benzo(g,h,i)perylene	ND	37	5	µg/kg	310	
	Benzo(k)fluoranthene	ND	37	5.6	µg/kg		
	Chrysene	ND	37	2.8	µg/kg	384	
	Dibenz(a,h)anthracene	ND	37	4.3	µg/kg	63.4	
	Fluoranthene	ND	37	3.2	µg/kg	600	
	Fluorene	**17**	37	3.9	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	37	4.1	µg/kg	160	
	Naphthalene	**63**	37	4.1	µg/kg	160	
	Phenanthrene	**37**	37	3.5	µg/kg	240	
	Pyrene	ND	37	2.8	µg/kg	665	
	Total PAHs (BNASIM)	**210**			µg/kg	4022	
D2216	Moisture, percent	7.3	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L602-SO-196							
BNASIM	2-Methylnaphthalene	ND	23	3.2	µg/kg	19.4	**Y**
	Acenaphthene	ND	23	2	µg/kg	26	
	Acenaphthylene	ND	23	2.6	µg/kg		
	Anthracene	ND	23	2	µg/kg	88	
	Benzo(a)anthracene	ND	23	3.2	µg/kg	412	
	Benzo(a)pyrene	ND	23	2.6	µg/kg	430	
	Benzo(b)fluoranthene	ND	23	5.7	µg/kg	371	
	Benzo(g,h,i)perylene	ND	23	3.1	µg/kg	310	
	Benzo(k)fluoranthene	ND	23	3.5	µg/kg		
	Chrysene	ND	23	1.8	µg/kg	384	
	Dibenz(a,h)anthracene	ND	23	2.7	µg/kg	63.4	
	Fluoranthene	ND	23	2	µg/kg	600	
	Fluorene	ND	23	2.4	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	23	2.6	µg/kg	160	
	Naphthalene	ND	23	2.6	µg/kg	160	
	Phenanthrene	ND	23	2.2	µg/kg	240	
	Pyrene	ND	23	1.8	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	26.1	0.5	0.025	%		
HBR6L603-SO-197							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	**17**	19	1.7	µg/kg	88	
	Benzo(a)anthracene	**290**	19	2.7	µg/kg	412	
	Benzo(a)pyrene	**160**	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	**360**	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	**59**	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	**140**	19	3	µg/kg		
	Chrysene	**290**	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	**75**	19	1.7	µg/kg	600	
	Fluorene	ND	19	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	**10**	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	**17**	19	1.8	µg/kg	240	
	Pyrene	**98**	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**1516**			µg/kg	4022	
D2216	Moisture, percent	12.6	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L604-SO-198							
BNASIM	2-Methylnaphthalene	ND	20	2.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	20	1.8	µg/kg	26	
	Acenaphthylene	ND	20	2.2	µg/kg		
	Anthracene	ND	20	1.8	µg/kg	88	
	Benzo(a)anthracene	ND	20	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3.1	µg/kg		
	Chrysene	ND	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	ND	20	1.8	µg/kg	600	
	Fluorene	ND	20	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	20	2.2	µg/kg	160	
	Naphthalene	ND	20	2.2	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	
	Pyrene	ND	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	14.8	0.5	0.025	%		
HBR6L605-SO-199							
BNASIM	2-Methylnaphthalene	ND	19	2.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.6	µg/kg	26	
	Acenaphthylene	ND	19	2.1	µg/kg		
	Anthracene	ND	19	1.6	µg/kg	88	
	Benzo(a)anthracene	**8**	19	2.6	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.6	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	2.8	µg/kg		
	Chrysene	ND	19	1.4	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.2	µg/kg	63.4	
	Fluoranthene	ND	19	1.6	µg/kg	600	
	Fluorene	ND	19	2	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	19	2.1	µg/kg	160	
	Naphthalene	**58**	19	2.1	µg/kg	160	
	Phenanthrene	**24**	19	1.7	µg/kg	240	
	Pyrene	ND	19	1.4	µg/kg	665	
	Total PAHs (BNASIM)	**90**			µg/kg	4022	
D2216	Moisture, percent	8.5	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L606-SO-200							
BNASIM	2-Methylnaphthalene	ND	20	2.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	20	1.7	µg/kg	26	
	Acenaphthylene	ND	20	2.2	µg/kg		
	Anthracene	ND	20	1.7	µg/kg	88	
	Benzo(a)anthracene	**9**	20	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3	µg/kg		
	Chrysene	ND	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	**8**	20	1.7	µg/kg	600	
	Fluorene	ND	20	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	20	2.2	µg/kg	160	
	Naphthalene	**15**	20	2.2	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	
	Pyrene	ND	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**32**			µg/kg	4022	
D2216	Moisture, percent	14.1	0.5	0.025	%		
HBR6L607-SO-202							
BNASIM	2-Methylnaphthalene	ND	20	2.9	µg/kg	19.4	**Y**
	Acenaphthene	ND	20	1.8	µg/kg	26	
	Acenaphthylene	ND	20	2.3	µg/kg		
	Anthracene	ND	20	1.8	µg/kg	88	
	Benzo(a)anthracene	ND	20	2.9	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.3	µg/kg	430	
	Benzo(b)fluoranthene	ND	20	5	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3.1	µg/kg		
	Chrysene	ND	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.4	µg/kg	63.4	
	Fluoranthene	ND	20	1.8	µg/kg	600	
	Fluorene	ND	20	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	20	2.3	µg/kg	160	
	Naphthalene	ND	20	2.3	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	
	Pyrene	ND	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	15.8	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	Analyte	Result	Practical Quantitation Limit	Method Detection Limit	Units	Cleanup Goal	COPC
HBR6L608-SO-203							
BNASIM	2-Methylnaphthalene	**27**	25	3.5	µg/kg	19.4	Y
	Acenaphthene	ND	25	2.2	µg/kg	26	
	Acenaphthylene	ND	25	2.8	µg/kg		
	Anthracene	ND	25	2.2	µg/kg	88	
	Benzo(a)anthracene	**15**	25	3.5	µg/kg	412	
	Benzo(a)pyrene	ND	25	2.8	µg/kg	430	
	Benzo(b)fluoranthene	ND	25	6.2	µg/kg	371	
	Benzo(g,h,i)perylene	ND	25	3.4	µg/kg	310	
	Benzo(k)fluoranthene	ND	25	3.8	µg/kg		
	Chrysene	ND	25	1.9	µg/kg	384	
	Dibenz(a,h)anthracene	ND	25	3	µg/kg	63.4	
	Fluoranthene	ND	25	2.2	µg/kg	600	
	Fluorene	ND	25	2.7	µg/kg	25.3	Y
	Indeno(1,2,3-c,d)pyrene	ND	25	2.8	µg/kg	160	
	Naphthalene	**17**	25	2.8	µg/kg	160	
	Phenanthrene	ND	25	2.4	µg/kg	240	
	Pyrene	ND	25	1.9	µg/kg	665	
	Total PAHs (BNASIM)	**59**			µg/kg	4022	
D2216	Moisture, percent	32.4	0.5	0.025	%		
HBR6L609-SO-204							
BNASIM	2-Methylnaphthalene	ND	25	3.6	µg/kg	19.4	Y
	Acenaphthene	ND	25	2.2	µg/kg	26	
	Acenaphthylene	ND	25	2.8	µg/kg		
	Anthracene	ND	25	2.2	µg/kg	88	
	Benzo(a)anthracene	ND	25	3.6	µg/kg	412	
	Benzo(a)pyrene	ND	25	2.8	µg/kg	430	
	Benzo(b)fluoranthene	ND	25	6.3	µg/kg	371	
	Benzo(g,h,i)perylene	ND	25	3.4	µg/kg	310	
	Benzo(k)fluoranthene	ND	25	3.9	µg/kg		
	Chrysene	ND	25	1.9	µg/kg	384	
	Dibenz(a,h)anthracene	ND	25	3	µg/kg	63.4	
	Fluoranthene	ND	25	2.2	µg/kg	600	
	Fluorene	ND	25	2.7	µg/kg	25.3	Y
	Indeno(1,2,3-c,d)pyrene	ND	25	2.8	µg/kg	160	
	Naphthalene	**30**	25	2.8	µg/kg	160	
	Phenanthrene	ND	25	2.4	µg/kg	240	
	Pyrene	ND	25	1.9	µg/kg	665	
	Total PAHs (BNASIM)	**30**			µg/kg	4022	
D2216	Moisture, percent	33.3	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L609-SO-205							
BNASIM	2-Methylnaphthalene	ND	26	3.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	26	2.3	µg/kg	26	
	Acenaphthylene	ND	26	2.9	µg/kg		
	Anthracene	ND	26	2.3	µg/kg	88	
	Benzo(a)anthracene	ND	26	3.6	µg/kg	412	
	Benzo(a)pyrene	ND	26	2.9	µg/kg	430	
	Benzo(b)fluoranthene	ND	26	6.3	µg/kg	371	
	Benzo(g,h,i)perylene	ND	26	3.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	26	3.9	µg/kg		
	Chrysene	ND	26	2	µg/kg	384	
	Dibenz(a,h)anthracene	ND	26	3	µg/kg	63.4	
	Fluoranthene	ND	26	2.3	µg/kg	600	
	Fluorene	ND	26	2.7	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	26	2.9	µg/kg	160	
	Naphthalene	**22**	26	2.9	µg/kg	160	
	Phenanthrene	ND	26	2.4	µg/kg	240	
	Pyrene	ND	26	2	µg/kg	665	
	Total PAHs (BNASIM)	**22**			µg/kg	4022	
D2216	Moisture, percent	33.7	0.5	0.025	%		
HBR6L610-SO-210							
BNASIM	2-Methylnaphthalene	ND	26	3.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	26	2.3	µg/kg	26	
	Acenaphthylene	ND	26	2.9	µg/kg		
	Anthracene	ND	26	2.3	µg/kg	88	
	Benzo(a)anthracene	ND	26	3.6	µg/kg	412	
	Benzo(a)pyrene	ND	26	2.9	µg/kg	430	
	Benzo(b)fluoranthene	ND	26	6.4	µg/kg	371	
	Benzo(g,h,i)perylene	ND	26	3.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	26	3.9	µg/kg		
	Chrysene	ND	26	2	µg/kg	384	
	Dibenz(a,h)anthracene	ND	26	3	µg/kg	63.4	
	Fluoranthene	ND	26	2.3	µg/kg	600	
	Fluorene	ND	26	2.7	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	26	2.9	µg/kg	160	
	Naphthalene	ND	26	2.9	µg/kg	160	
	Phenanthrene	ND	26	2.4	µg/kg	240	
	Pyrene	ND	26	2	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	33.9	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L611-SO-211							
BNASIM	2-Methylnaphthalene	ND	27	3.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	27	2.4	µg/kg	26	
	Acenaphthylene	ND	27	3	µg/kg		
	Anthracene	ND	27	2.4	µg/kg	88	
	Benzo(a)anthracene	ND	27	3.8	µg/kg	412	
	Benzo(a)pyrene	ND	27	3	µg/kg	430	
	Benzo(b)fluoranthene	ND	27	6.6	µg/kg	371	
	Benzo(g,h,i)perylene	ND	27	3.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	27	4.1	µg/kg		
	Chrysene	ND	27	2	µg/kg	384	
	Dibenz(a,h)anthracene	ND	27	3.1	µg/kg	63.4	
	Fluoranthene	ND	27	2.4	µg/kg	600	
	Fluorene	ND	27	2.8	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	27	3	µg/kg	160	
	Naphthalene	ND	27	3	µg/kg	160	
	Phenanthrene	ND	27	2.5	µg/kg	240	
	Pyrene	ND	27	2	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	36.2	0.5	0.025	%		
HBR6L612-SO-212							
BNASIM	2-Methylnaphthalene	**43**	27	3.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	27	2.3	µg/kg	26	
	Acenaphthylene	ND	27	3	µg/kg		
	Anthracene	ND	27	2.3	µg/kg	88	
	Benzo(a)anthracene	ND	27	3.8	µg/kg	412	
	Benzo(a)pyrene	**55**	27	3	µg/kg	430	
	Benzo(b)fluoranthene	ND	27	6.6	µg/kg	371	
	Benzo(g,h,i)perylene	ND	27	3.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	27	4.1	µg/kg		
	Chrysene	ND	27	2	µg/kg	384	
	Dibenz(a,h)anthracene	ND	27	3.1	µg/kg	63.4	
	Fluoranthene	ND	27	2.3	µg/kg	600	
	Fluorene	ND	27	2.8	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	27	3	µg/kg	160	
	Naphthalene	**150**	27	3	µg/kg	160	
	Phenanthrene	ND	27	2.5	µg/kg	240	
	Pyrene	ND	27	2	µg/kg	665	
	Total PAHs (BNASIM)	**248**			µg/kg	4022	
D2216	Moisture, percent	36.1	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L613-SO-213							
BNASIM	2-Methylnaphthalene	ND	25	3.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	25	2.2	µg/kg	26	
	Acenaphthylene	ND	25	2.8	µg/kg		
	Anthracene	ND	25	2.2	µg/kg	88	
	Benzo(a)anthracene	ND	25	3.6	µg/kg	412	
	Benzo(a)pyrene	ND	25	2.8	µg/kg	430	
	Benzo(b)fluoranthene	ND	25	6.3	µg/kg	371	
	Benzo(g,h,i)perylene	ND	25	3.4	µg/kg	310	
	Benzo(k)fluoranthene	ND	25	3.9	µg/kg		
	Chrysene	ND	25	1.9	µg/kg	384	
	Dibenz(a,h)anthracene	ND	25	3	µg/kg	63.4	
	Fluoranthene	ND	25	2.2	µg/kg	600	
	Fluorene	ND	25	2.7	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	25	2.8	µg/kg	160	
	Naphthalene	ND	25	2.8	µg/kg	160	
	Phenanthrene	ND	25	2.4	µg/kg	240	
	Pyrene	ND	25	1.9	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	33.1	0.5	0.025	%		
HBR6L614-SO-214							
BNASIM	2-Methylnaphthalene	ND	28	3.9	µg/kg	19.4	**Y**
	Acenaphthene	ND	28	2.4	µg/kg	26	
	Acenaphthylene	ND	28	3.1	µg/kg		
	Anthracene	ND	28	2.4	µg/kg	88	
	Benzo(a)anthracene	ND	28	3.9	µg/kg	412	
	Benzo(a)pyrene	ND	28	3.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	28	6.8	µg/kg	371	
	Benzo(g,h,i)perylene	ND	28	3.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	28	4.2	µg/kg		
	Chrysene	ND	28	2.1	µg/kg	384	
	Dibenz(a,h)anthracene	ND	28	3.3	µg/kg	63.4	
	Fluoranthene	ND	28	2.4	µg/kg	600	
	Fluorene	ND	28	2.9	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	28	3.1	µg/kg	160	
	Naphthalene	ND	28	3.1	µg/kg	160	
	Phenanthrene	ND	28	2.6	µg/kg	240	
	Pyrene	ND	28	2.1	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	38.6	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L615-SO-215							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.1	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	
	Benzo(a)anthracene	ND	19	2.7	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.7	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	2.9	µg/kg		
	Chrysene	ND	19	1.4	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.2	µg/kg	63.4	
	Fluoranthene	ND	19	1.7	µg/kg	600	
	Fluorene	ND	19	2	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	19	2.1	µg/kg	160	
	Naphthalene	ND	19	2.1	µg/kg	160	
	Phenanthrene	ND	19	1.8	µg/kg	240	
	Pyrene	ND	19	1.4	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	9.8	0.5	0.025	%		
HBR6L616-SO-216							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	
	Benzo(a)anthracene	ND	19	2.7	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	3	µg/kg		
	Chrysene	ND	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	ND	19	1.7	µg/kg	600	
	Fluorene	ND	19	2	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	ND	19	1.8	µg/kg	240	
	Pyrene	ND	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	12	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-6b: Revetment 6 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR6L617-SO-217							
BNASIM	2-Methylnaphthalene	ND	20	2.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	20	1.7	µg/kg	26	
	Acenaphthylene	ND	20	2.2	µg/kg		
	Anthracene	ND	20	1.7	µg/kg	88	
	Benzo(a)anthracene	ND	20	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3	µg/kg		
	Chrysene	ND	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	ND	20	1.7	µg/kg	600	
	Fluorene	ND	20	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	20	2.2	µg/kg	160	
	Naphthalene	ND	20	2.2	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	
	Pyrene	ND	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	14.2	0.5	0.025	%		
HBR6L618-SO-218							
BNASIM	2-Methylnaphthalene	ND	19	2.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	
	Benzo(a)anthracene	ND	19	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	3	µg/kg		
	Chrysene	ND	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	ND	19	1.7	µg/kg	600	
	Fluorene	ND	19	2.1	µg/kg	25.3	**Y**
	Indeno(1,2,3-c,d)pyrene	ND	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	ND	19	1.8	µg/kg	240	
	Pyrene	ND	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	12.8	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Reviewed by: _____ Approved by: _____

Table 5-7a: Revetment 7 - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW6010B (mg/kg)	SW8015B (mg/kg)			SW8260B (µg/kg)						SW8270C (SIM) (µg/kg)
			Lead	TPH as motor oil	TPH-diesel fuel	TPH-gasoline	1,2,4-Trimethylbenzene	Acetone	Isopropylbenzene (cumene)	Methyl ethyl ketone	N-propylbenzene	P-cymene (p-isopropyltoluene)	Total PAHs
Comparator Values			43.2	144	144	12	NA	NA	NA	NA	NA	NA	4022
HBR7L602-SO-184	02/28/2002	1-1.5	**10.7**	--	--	--	--	--	--	--	--	--	ND
HBR7L606-SO-189	02/28/2002	2-2	--	**3.7**	<1.1	<0.98 UJ	<4.8	**15 J**	<4.8	**5 J^**	<4.8	<4.8	--
HBR7L607-SO-190	02/28/2002	2-2	--	**5.2**	<1.2	<1.2 UJ	<5.6	**99 J**	<5.6	**33 J^**	<5.6	<5.6	--
HBR7L608-SO-191	02/28/2002	2-2	--	**22**	**0.9 J^**	<1.4 UJ	<5.9	**150 J**	<5.9	**43 J^**	<5.9	<5.9	--
HBR7L609-SO-192	02/28/2002	2.5-3	--	**16**	**2**	<1.4 UJ	<6.5	**59 J**	<6.5	**17 J^**	<6.5	<6.5	--
HBR7L610-SO-193 **	02/28/2002	0-0	--	<2.8	**22**	**2.6 J+**	**1 J^**	**22 J**	**1 J^**	<59	**4 J^**	**4 J^**	--
HBR7L611-SO-219	03/15/2002	0.2-0.5	**10.1**	--	--	--	--	--	--	--	--	--	ND
HBR7L612-SO-220	03/15/2002	1-1.5	**9.4**	--	--	--	--	--	--	--	--	--	**12**

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^ Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
ND: For multianalyte methods, all target analytes below practical quantitation limit.
-- Not analyzed.
* Soil at sample location was removed by subsequent excavation.
** Sampled from soil stockple from the Revetment 7 excavation.
Two or more PAHs exceeded individual comparator values (see Appendix H). This sample location was removed during overexcavation.
Detections shown in bold. Detections above Comparator values are circled.

Table 5-7a: Revetment 7 - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW6010B (mg/kg)	SW8015B (mg/kg)			SW8260B (µg/kg)						SW8270C (SIM) (µg/kg)
			Lead	TPH as motor oil	TPH-diesel fuel	TPH-gasoline	1,2,4-Trimethylbenzene	Acetone	Isopropylbenzene (cumene)	Methyl ethyl ketone	N-propylbenzene	P-cymene (p-isopropyltoluene)	Total PAHs
Comparator Values			43.2	144	144	12	NA	NA	NA	NA	NA	NA	4022
HBR7L613-SO-221	03/15/2002	0.2-0.5	**23.4**	--	--	--	--	--	--	--	--	--	**561**
HBR7L614-SO-222	03/15/2002	2-2.5	**11.6**	--	--	--	--	--	--	--	--	--	**18**
HBR7L615-SO-223	03/15/2002	0.2-0.5	**18.2**	--	--	--	--	--	--	--	--	--	**67**
HBR7L615-SO-224 (FD)	03/15/2002	0.2-0.5	**17.7**	--	--	--	--	--	--	--	--	--	**180**
Sample Locations Removed During Excavation													
HBR7L601-SO-182 *	02/28/2002	0.2-0.5	**35.5**	--	--	--	--	--	--	--	--	--	**79**
HBR7L601-SO-183 (FD) *	02/28/2002	0.2-0.5	**66.4**	--	--	--	--	--	--	--	--	--	**918**
HBR7L603-SO-185 *	02/28/2002	0.2-0.5	**51.2**	--	--	--	--	--	--	--	--	--	**1,780**

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^ Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
ND: For multianalyte methods, all target analytes below practical quantitation limit.
-- Not analyzed.
* Soil at sample location was removed by subsequent excavation.
** Sampled from soil stockple from the Revetment 7 excavation.
Two or more PAHs exceeded individual comparator values (see Appendix H). This sample location was removed during overexcavation.
Detections shown in bold. Detections above Comparator values are circled.

Table 5-7a: Revetment 7 - Analytical Results for Contaminants of Concern
Hamilton Army Airfield

Location ID	Sample Date	Sample Depth (fbgs)	SW6010B (mg/kg)	SW8015B (mg/kg)			SW8260B (µg/kg)						SW8270C (SIM) (µg/kg)
			Lead	TPH as motor oil	TPH-diesel fuel	TPH-gasoline	1,2,4-Trimethylbenzene	Acetone	Isopropylbenzene (cumene)	Methyl ethyl ketone	N-propylbenzene	P-cymene (p-isopropyltoluene)	Total PAHs
Comparator Values			43.2	144	144	12	NA	NA	NA	NA	NA	NA	4022
Sample Locations Removed During Excavation													
HBR7L604-SO-186 ! *	02/28/2002	1-1.5	**16.9**	--	--	--	--	--	--	--	--	--	**2,086**
HBR7L605-SO-187 *	02/28/2002	0.2-0.5	**21**	--	--	--	--	--	--	--	--	--	**2,226**

(FD): field duplicate
fbgs: feet below ground surface

<: Not detected above the practical quantitation limit.
J^ Reported between method detection limit and practical quantitation limit
J: The analyte was positively identified; associated numerical value is its approximate concentration in the sample.
UJ: The analyte was not detected above the reporting limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
+ Bias high
ND: For multianalyte methods, all target analytes below practical quantitation limit.
-- Not analyzed.
* Soil at sample location was removed by subsequent excavation.
** Sampled from soil stockple from the Revetment 7 excavation.
Two or more PAHs exceeded individual comparator values (see Appendix H). This sample location was removed during overexcavation.
Detections shown in bold. Detections above Comparator values are circled.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR7L601-SO-182							
BNASIM	2-Methylnaphthalene	ND	20	2.8	µg/kg	19.4	Y
	Acenaphthene	ND	20	1.8	µg/kg	26	
	Acenaphthylene	ND	20	2.2	µg/kg		
	Anthracene	**10**	20	1.8	µg/kg	88	Y
	Benzo(a)anthracene	**15**	20	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	**13**	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3	µg/kg		
	Chrysene	**11**	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	**16**	20	1.8	µg/kg	600	Y
	Fluorene	ND	20	2.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	20	2.2	µg/kg	160	
	Naphthalene	ND	20	2.2	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	Y
	Pyrene	**14**	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**79**			µg/kg	4022	
D2216	Moisture, percent	14.6	0.5	0.025	%		
HBR7L601-SO-183							
BNASIM	2-Methylnaphthalene	ND	20	2.9	µg/kg	19.4	Y
	Acenaphthene	**13**	20	1.8	µg/kg	26	
	Acenaphthylene	ND	20	2.3	µg/kg		
	Anthracene	**14**	20	1.8	µg/kg	88	Y
	Benzo(a)anthracene	**96**	20	2.9	µg/kg	412	
	Benzo(a)pyrene	**89**	20	2.3	µg/kg	430	
	Benzo(b)fluoranthene	**140**	20	5	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	**60**	20	3.1	µg/kg		
	Chrysene	**86**	20	1.6	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.4	µg/kg	63.4	
	Fluoranthene	**170**	20	1.8	µg/kg	600	Y
	Fluorene	ND	20	2.2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	20	2.3	µg/kg	160	
	Naphthalene	ND	20	2.3	µg/kg	160	
	Phenanthrene	**100**	20	1.9	µg/kg	240	Y
	Pyrene	**150**	20	1.6	µg/kg	665	
	Total PAHs (BNASIM)	**918**			µg/kg	4022	
D2216	Moisture, percent	16.3	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR7L602-SO-184							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.1	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	19	2.7	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.7	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	2.9	µg/kg		
	Chrysene	ND	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	ND	19	1.7	µg/kg	600	**Y**
	Fluorene	ND	19	2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	19	2.1	µg/kg	160	
	Naphthalene	ND	19	2.1	µg/kg	160	
	Phenanthrene	ND	19	1.8	µg/kg	240	**Y**
	Pyrene	ND	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	11.5	0.5	0.025	%		
HBR7L603-SO-185							
BNASIM	2-Methylnaphthalene	ND	25	3.5	µg/kg	19.4	**Y**
	Acenaphthene	**11**	25	2.2	µg/kg	26	
	Acenaphthylene	**15**	25	2.8	µg/kg		
	Anthracene	**37**	25	2.2	µg/kg	88	**Y**
	Benzo(a)anthracene	**84**	25	3.5	µg/kg	412	
	Benzo(a)pyrene	**51**	25	2.8	µg/kg	430	
	Benzo(b)fluoranthene	**190**	25	6.2	µg/kg	371	
	Benzo(g,h,i)perylene	ND	25	3.4	µg/kg	310	
	Benzo(k)fluoranthene	**64**	25	3.8	µg/kg		
	Chrysene	**200**	25	1.9	µg/kg	384	
	Dibenz(a,h)anthracene	ND	25	3	µg/kg	63.4	
	Fluoranthene	**470**	25	2.2	µg/kg	600	**Y**
	Fluorene	ND	25	2.7	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**38**	25	2.8	µg/kg	160	
	Naphthalene	ND	25	2.8	µg/kg	160	
	Phenanthrene	**250**	25	2.4	µg/kg	240	**Y**
	Pyrene	**370**	25	1.9	µg/kg	665	
	Total PAHs (BNASIM)	**1780**			µg/kg	4022	
D2216	Moisture, percent	32.4	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR7L604-SO-186							
BNASIM	2-Methylnaphthalene	**52**	19	2.7	µg/kg	19.4	Y
	Acenaphthene	**89**	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	**83**	19	1.7	µg/kg	88	Y
	Benzo(a)anthracene	**150**	19	2.7	µg/kg	412	
	Benzo(a)pyrene	**110**	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	**150**	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	**57**	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	**60**	19	3	µg/kg		
	Chrysene	**120**	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	**350**	19	1.7	µg/kg	600	Y
	Fluorene	**68**	19	2.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**62**	19	2.2	µg/kg	160	
	Naphthalene	**52**	19	2.2	µg/kg	160	
	Phenanthrene	**433**	19	1.8	µg/kg	240	Y
	Pyrene	**250**	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**2086**			µg/kg	4022	
D2216	Moisture, percent	12.5	0.5	0.025	%		
HBR7L605-SO-187							
BNASIM	2-Methylnaphthalene	**17**	20	2.8	µg/kg	19.4	Y
	Acenaphthene	**32**	20	1.8	µg/kg	26	
	Acenaphthylene	**13**	20	2.2	µg/kg		
	Anthracene	**49**	20	1.8	µg/kg	88	Y
	Benzo(a)anthracene	**93**	20	2.8	µg/kg	412	
	Benzo(a)pyrene	**74**	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	**210**	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	**44**	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	**68**	20	3.1	µg/kg		
	Chrysene	**230**	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	**456**	20	1.8	µg/kg	600	Y
	Fluorene	**31**	20	2.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**54**	20	2.2	µg/kg	160	
	Naphthalene	**50**	20	2.2	µg/kg	160	
	Phenanthrene	**445**	20	1.9	µg/kg	240	Y
	Pyrene	**360**	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**2226**			µg/kg	4022	
D2216	Moisture, percent	14.8	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR7L611-SO-219							
BNASIM	2-Methylnaphthalene	ND	19	2.6	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.6	µg/kg	26	
	Acenaphthylene	ND	19	2.1	µg/kg		
	Anthracene	ND	19	1.6	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	19	2.6	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.1	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.6	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.5	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	2.9	µg/kg		
	Chrysene	ND	19	1.4	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.2	µg/kg	63.4	
	Fluoranthene	ND	19	1.6	µg/kg	600	**Y**
	Fluorene	ND	19	2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	19	2.1	µg/kg	160	
	Naphthalene	ND	19	2.1	µg/kg	160	
	Phenanthrene	ND	19	1.8	µg/kg	240	**Y**
	Pyrene	ND	19	1.4	µg/kg	665	
	Total PAHs (BNASIM)	0			µg/kg	4022	
D2216	Moisture, percent	9	0.5	0.025	%		
HBR7L612-SO-220							
BNASIM	2-Methylnaphthalene	ND	20	2.8	µg/kg	19.4	**Y**
	Acenaphthene	ND	20	1.7	µg/kg	26	
	Acenaphthylene	ND	20	2.2	µg/kg		
	Anthracene	ND	20	1.7	µg/kg	88	**Y**
	Benzo(a)anthracene	ND	20	2.8	µg/kg	412	
	Benzo(a)pyrene	ND	20	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	20	4.9	µg/kg	371	
	Benzo(g,h,i)perylene	ND	20	2.7	µg/kg	310	
	Benzo(k)fluoranthene	ND	20	3	µg/kg		
	Chrysene	ND	20	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	20	2.3	µg/kg	63.4	
	Fluoranthene	ND	20	1.7	µg/kg	600	**Y**
	Fluorene	ND	20	2.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	20	2.2	µg/kg	160	
	Naphthalene	**12**	20	2.2	µg/kg	160	
	Phenanthrene	ND	20	1.9	µg/kg	240	**Y**
	Pyrene	ND	20	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**12**			µg/kg	4022	
D2216	Moisture, percent	14.1	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

Field Sample ID	Analyte	Result	Practical Quantitation Limit	Method Detection Limit	Units	Cleanup Goal	COPC
HBR7L613-SO-221							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	Y
	Acenaphthene	**11**	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	**14**	19	1.7	µg/kg	88	Y
	Benzo(a)anthracene	**50**	19	2.7	µg/kg	412	
	Benzo(a)pyrene	**25**	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	**55**	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	**21**	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	**27**	19	3	µg/kg		
	Chrysene	**47**	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	**110**	19	1.7	µg/kg	600	Y
	Fluorene	ND	19	2.1	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	**19**	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	**89**	19	1.8	µg/kg	240	Y
	Pyrene	**93**	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**561**			µg/kg	4022	
D2216	Moisture, percent	12.6	0.5	0.025	%		
HBR7L614-SO-222							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	Y
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	Y
	Benzo(a)anthracene	ND	19	2.7	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	2.9	µg/kg		
	Chrysene	ND	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	**10**	19	1.7	µg/kg	600	Y
	Fluorene	ND	19	2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	**8**	19	1.8	µg/kg	240	Y
	Pyrene	ND	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**18**			µg/kg	4022	
D2216	Moisture, percent	11.8	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Table 5-7b: Revetment 7 - Polynuclear Aromatic Hydrocarbons Results and Cleanup Goals
Hamilton Army Airfield

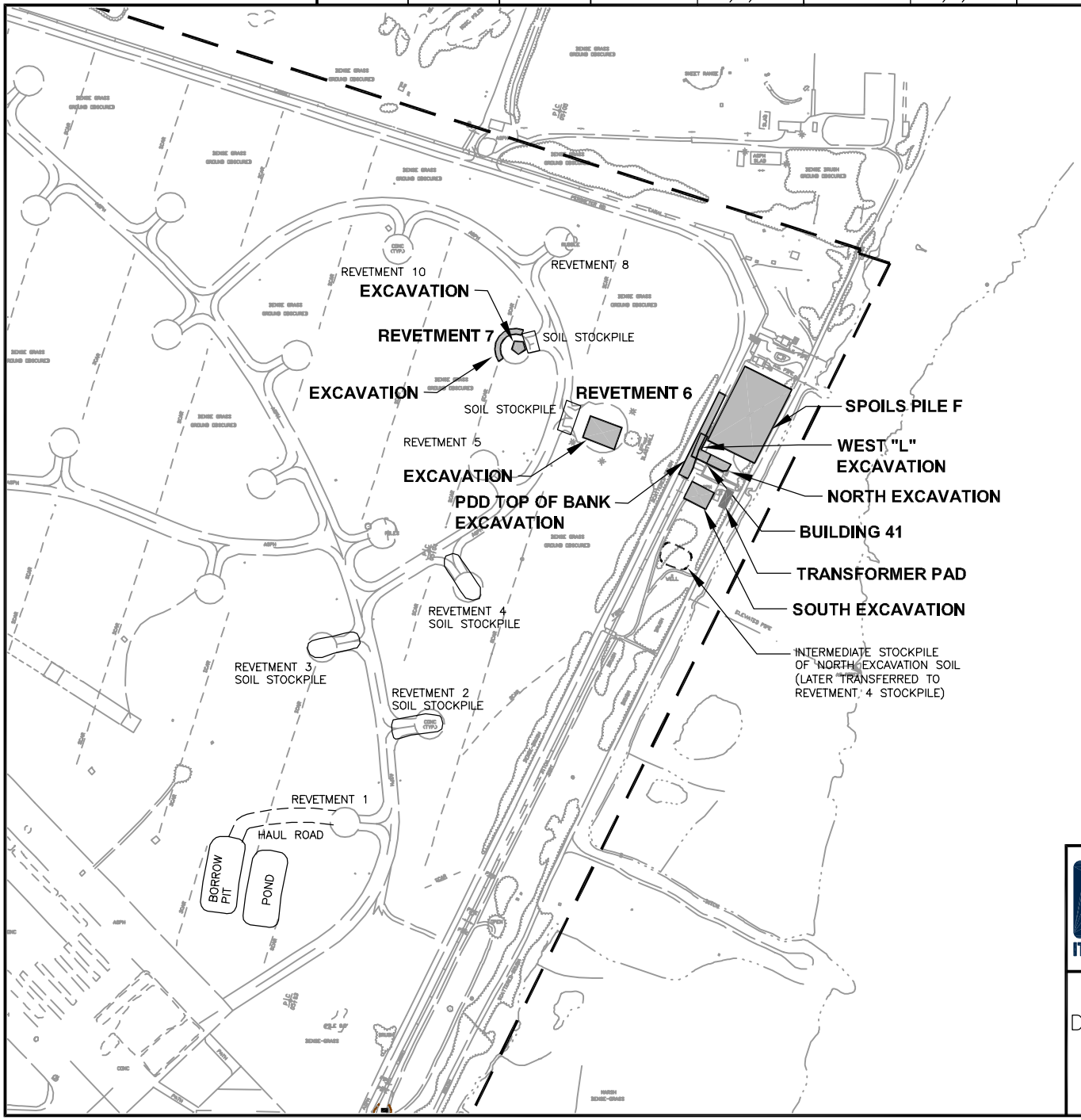
Field Sample ID	*Analyte*	*Result*	*Practical Quantitation Limit*	*Method Detection Limit*	*Units*	*Cleanup Goal*	*COPC*
HBR7L615-SO-223							
BNASIM	2-Methylnaphthalene	ND	19	2.7	µg/kg	19.4	**Y**
	Acenaphthene	ND	19	1.7	µg/kg	26	
	Acenaphthylene	ND	19	2.2	µg/kg		
	Anthracene	ND	19	1.7	µg/kg	88	**Y**
	Benzo(a)anthracene	**10**	19	2.7	µg/kg	412	
	Benzo(a)pyrene	ND	19	2.2	µg/kg	430	
	Benzo(b)fluoranthene	ND	19	4.8	µg/kg	371	
	Benzo(g,h,i)perylene	ND	19	2.6	µg/kg	310	
	Benzo(k)fluoranthene	ND	19	3	µg/kg		
	Chrysene	**17**	19	1.5	µg/kg	384	
	Dibenz(a,h)anthracene	ND	19	2.3	µg/kg	63.4	
	Fluoranthene	**18**	19	1.7	µg/kg	600	**Y**
	Fluorene	ND	19	2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	19	2.2	µg/kg	160	
	Naphthalene	ND	19	2.2	µg/kg	160	
	Phenanthrene	**10**	19	1.8	µg/kg	240	**Y**
	Pyrene	**12**	19	1.5	µg/kg	665	
	Total PAHs (BNASIM)	**67**			µg/kg	4022	
D2216	Moisture, percent	12.1	0.5	0.025	%		
HBR7L615-SO-224							
BNASIM	2-Methylnaphthalene	ND	21	2.9	µg/kg	19.4	**Y**
	Acenaphthene	ND	21	1.8	µg/kg	26	
	Acenaphthylene	ND	21	2.3	µg/kg		
	Anthracene	ND	21	1.8	µg/kg	88	**Y**
	Benzo(a)anthracene	**11**	21	2.9	µg/kg	412	
	Benzo(a)pyrene	ND	21	2.3	µg/kg	430	
	Benzo(b)fluoranthene	**12**	21	5.1	µg/kg	371	
	Benzo(g,h,i)perylene	ND	21	2.8	µg/kg	310	
	Benzo(k)fluoranthene	**8**	21	3.1	µg/kg		
	Chrysene	**19**	21	1.6	µg/kg	384	
	Dibenz(a,h)anthracene	ND	21	2.4	µg/kg	63.4	
	Fluoranthene	**50**	21	1.8	µg/kg	600	**Y**
	Fluorene	ND	21	2.2	µg/kg	25.3	
	Indeno(1,2,3-c,d)pyrene	ND	21	2.3	µg/kg	160	
	Naphthalene	**12**	21	2.3	µg/kg	160	
	Phenanthrene	**32**	21	1.9	µg/kg	240	**Y**
	Pyrene	**36**	21	1.6	µg/kg	665	
	Total PAHs (BNASIM)	**180**			µg/kg	4022	
D2216	Moisture, percent	17.3	0.5	0.025	%		

Values greater than the Cleanup goal are circled.
Detections are bolded.

Reviewed by: _____ Approved by: _____

FIGURES

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	H2PLAN	Concord	SCHAEFFER	5/6/03	DB	5/6/03	MAB	5/6/03	831471-A11



LEGEND:

BRAC PROPERTY BOUNDARY

PERIMETER DRAINAGE DITCH (PDD)

EXCAVATION

N

SCALE

0 500 1000 FEET

IT CORPORATION

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CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

FIGURE 1-1
DEMOLITION AND REMOVAL WORK AREAS INBOARD AREA SITES
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	H2PLAN	Concord	SCHAEFFER	8/20/02	MAB	8/20/02	JW	12/10/02	831471-B16

PDD EXCAVATION LIMITS

HB41L625

HBPDL602

HB41L615

HB41L610

HBSFL616

HB41L609

WEST EXCAVATION

BUILDING 41E "L" AREA
EXCAVATION LIMITS

NORTH EXCAVATION LIMITS

HBSFL617

HB41L608

HB41L626

HB41L607

HB41L617

HBPDL601

HB41L602

HB41L613

HB41L606

HB41L611

HB41L601

HB41L614

HB41L624

HB41L603,
HB41L604

HB41L612

HB41L605

LIMITS OF BUILDING 41
REMOVAL EXCAVATION

BLDG. 41

ASPH

SCATTERED-BRUSH

E 1426200

HB41L623

HB41L620

HBTPL604

HBTPL605

PSA-MW-2

HB41L621

HBTPL603

TRANSFORMER
PAD EXCAVATION LIMITS

HB41L618

BUILDING 41S

HBTPL602

HB41L622

HBTPL601

HB41L619

E 1426350

PSA-MW-1

PSA-MW-3

SOUTH EXCAVATION LIMITS

LEGEND:

PERIMETER DRAINAGE DITCH (PDD)

EXCAVATION BOUNDARY

HB41L622 FORMER LOCATION OF MONITORING WELL

SCALE

0 30 60 FEET

IT CORPORATION

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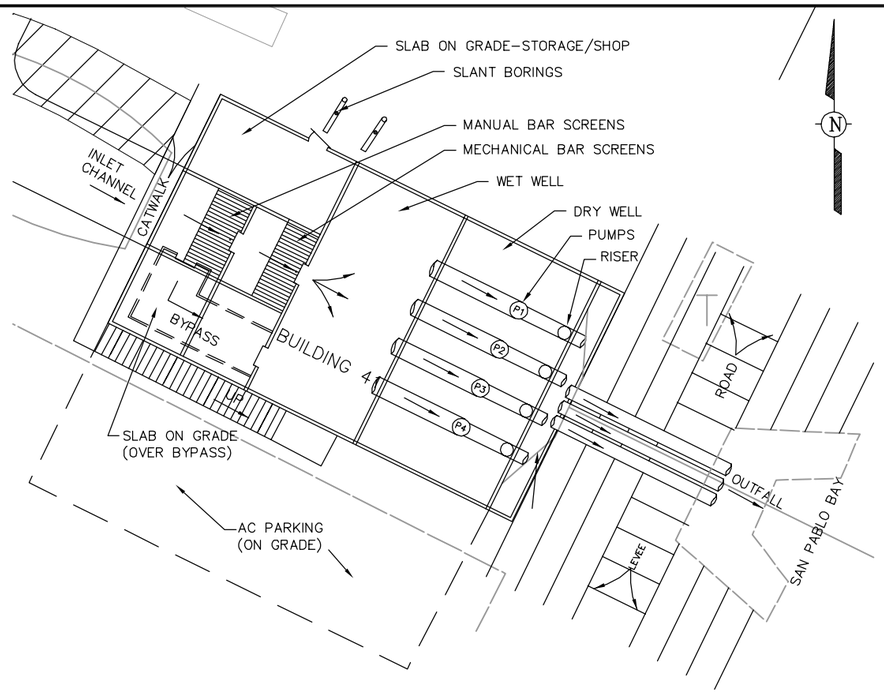
SACRAMENTO, CALIFORNIA

FIGURE 3-1
SITE MAP
BUILDING 41, NORTH EXCAVATION,
TRANSFORMER PAD
AND SOUTH EXCAVATION
WITH SAMPLE LOCATIONS

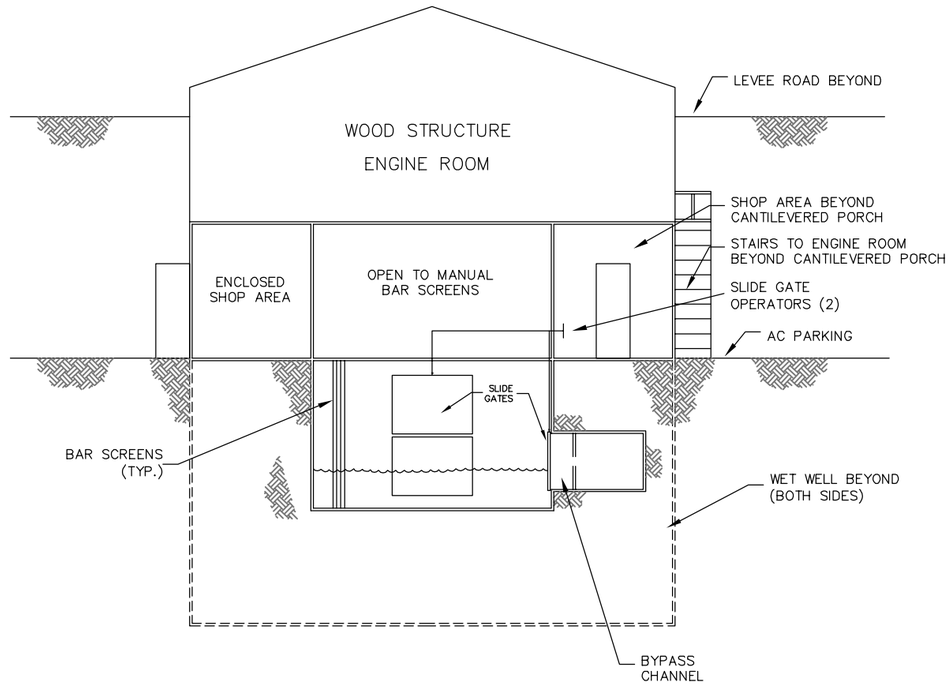
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	Concord	RB	DB	MAB	831471-B7
			6/11/02	6/11/02	12/10/02	



PLAN VIEW – BOTTOM FLOOR

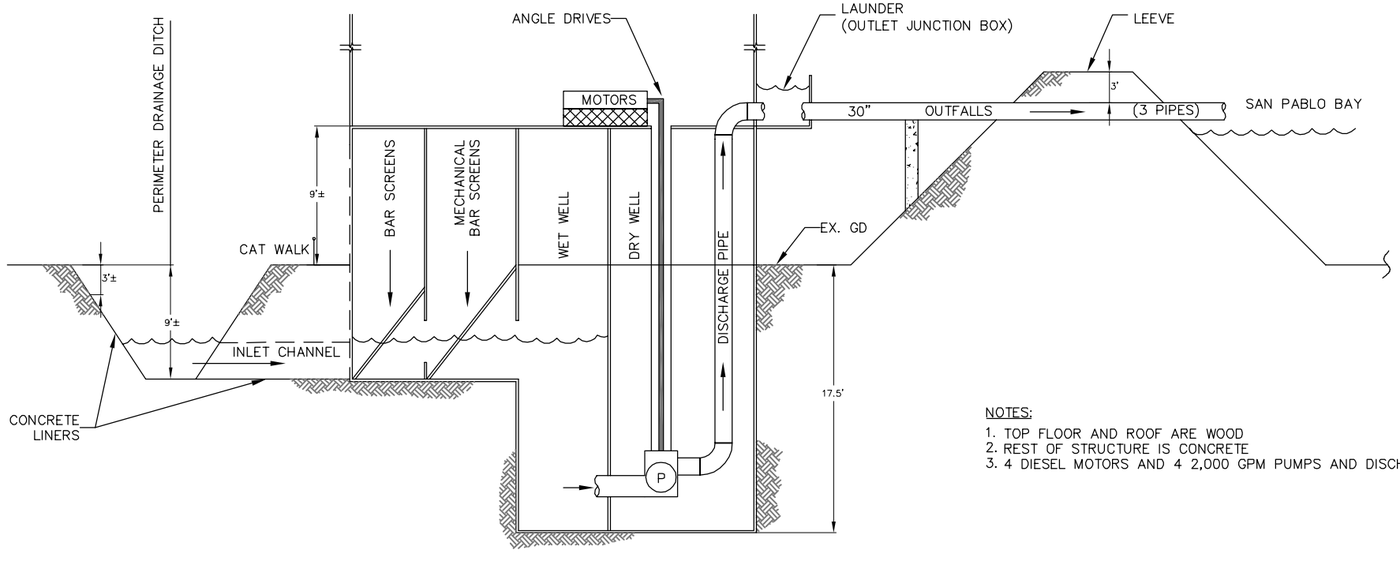
SCALE
0 20 40 FEET



SECTION AT INLET (LOOKING EAST)

NOT TO SCALE

WOOD STRUCTURE NOT SHOWN



PUMP STATION – SECTION VIEW (LOOKING NORTH)

NOT TO SCALE

NOTES:
1. TOP FLOOR AND ROOF ARE WOOD
2. REST OF STRUCTURE IS CONCRETE
3. 4 DIESEL MOTORS AND 4 2,000 GPM PUMPS AND DISCHARGES

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SACRAMENTO, CALIFORNIA

FIGURE 3-2

BUILDING 41
PLAN OF DEMOLISHED BUILDING
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	H2PLAN	Concord	SCHAEFFER 8/20/02	MAB 8/20/02	JW 12/10/02	831471-B15

LEGEND:

EXCAVATION BOUNDARY

HBPDL605 SAMPLE LOCATION

HBSFL612

DENSE GRASS

HBSFL603

HBSFL613

GROUND OBSCUR

HBSFL607

HBSFL611

HBSFL614

HBSFL620

HBSFL608

HBSFL619

HBPDL604

HBSFL602

HBPDL605

HBSFL615

HBPDL603

HBSFL618

PDD BANK EXCAVATION LIMITS

HB41L625

HBPDL602

HB41L615

HB41L610

HBSFL616

HB41L609

WEST "L" EXCAVATION LIMITS

HBSFL617

HB41L608, HB41L616

HB41L607

HBPDL601

HB41L606

HB41L613

HB41L626

HB41L611

HB41L614

HB41L617

HB41L612

HB41L624

BLDG. 41

RED-BRUSH

SCALE

0 30 60 FEET

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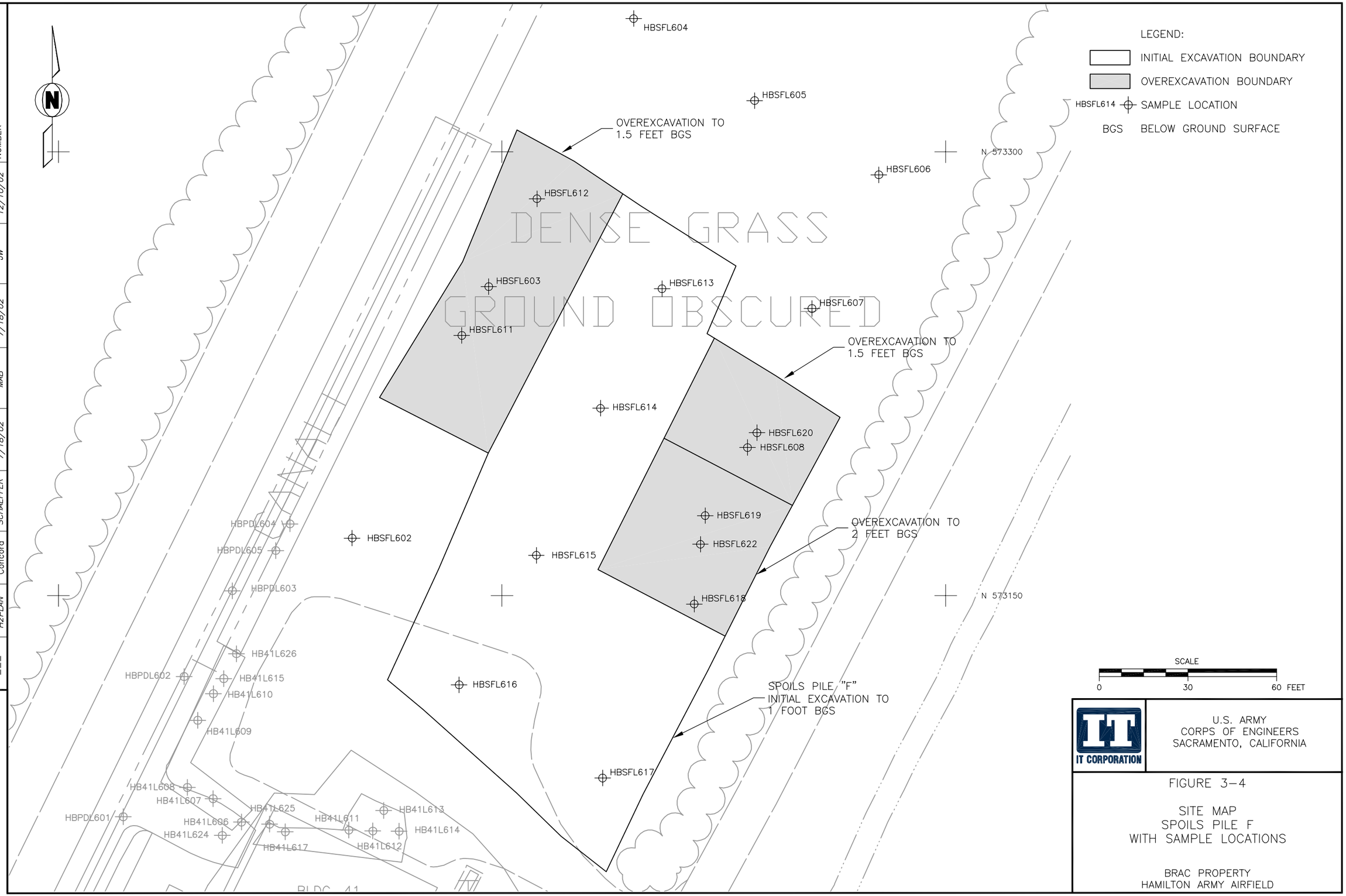
SACRAMENTO, CALIFORNIA

FIGURE 3-3

SITE MAP
WEST EXCAVATION AND
PDD BANK EXCAVATION
WITH SAMPLE LOCATIONS

BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	H2PLAN	Concord	SCHAEFFER 7/18/02	MAB 7/18/02	JW 12/10/02	831471-B18



IT CORPORATION

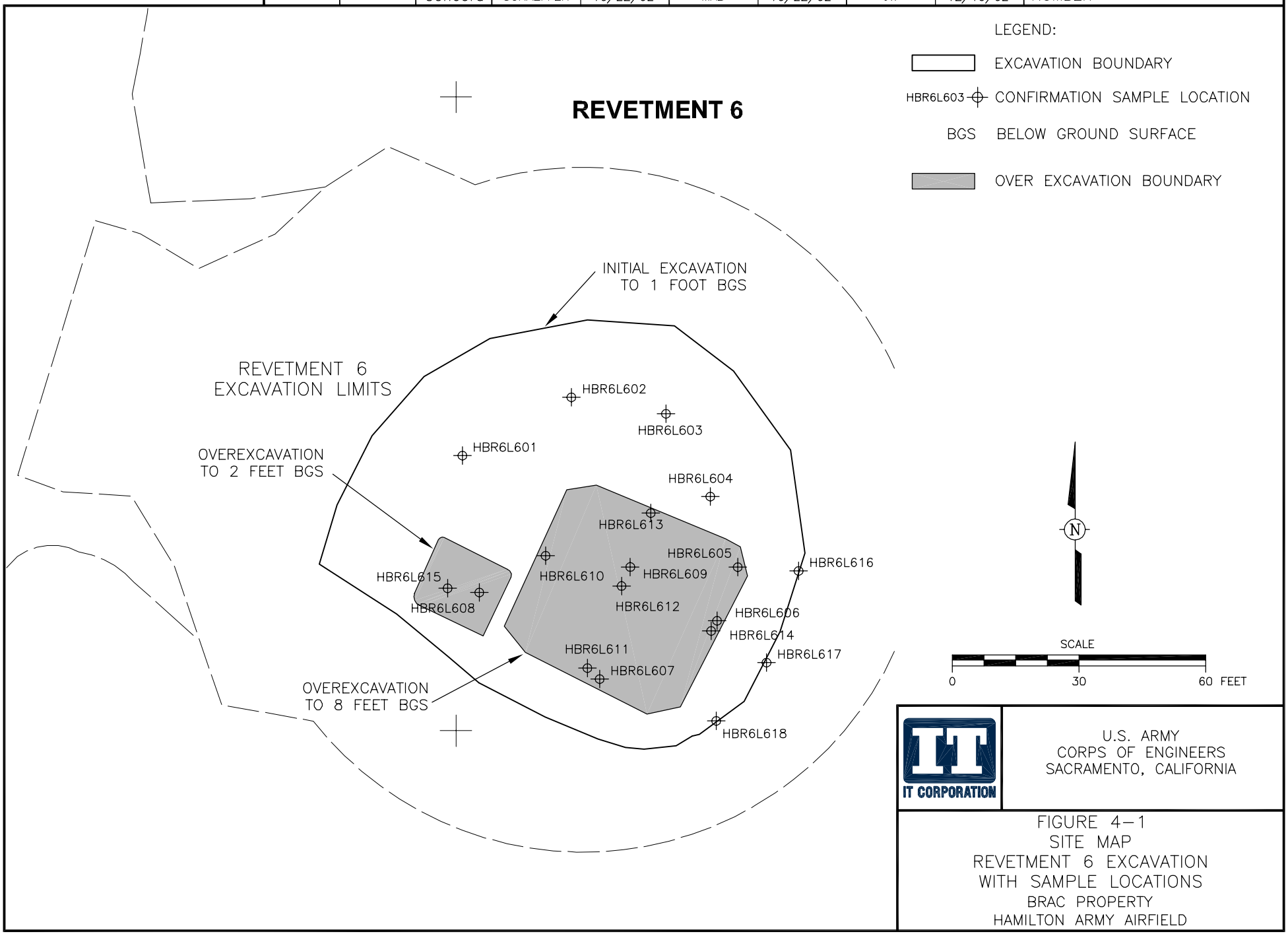
U.S. ARMY
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

FIGURE 3-4

SITE MAP
SPOILS PILE F
WITH SAMPLE LOCATIONS

BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	---	Concord	SCHAEFFER	10/22/02	MAB	10/22/02	JW	12/10/02	831471-A14



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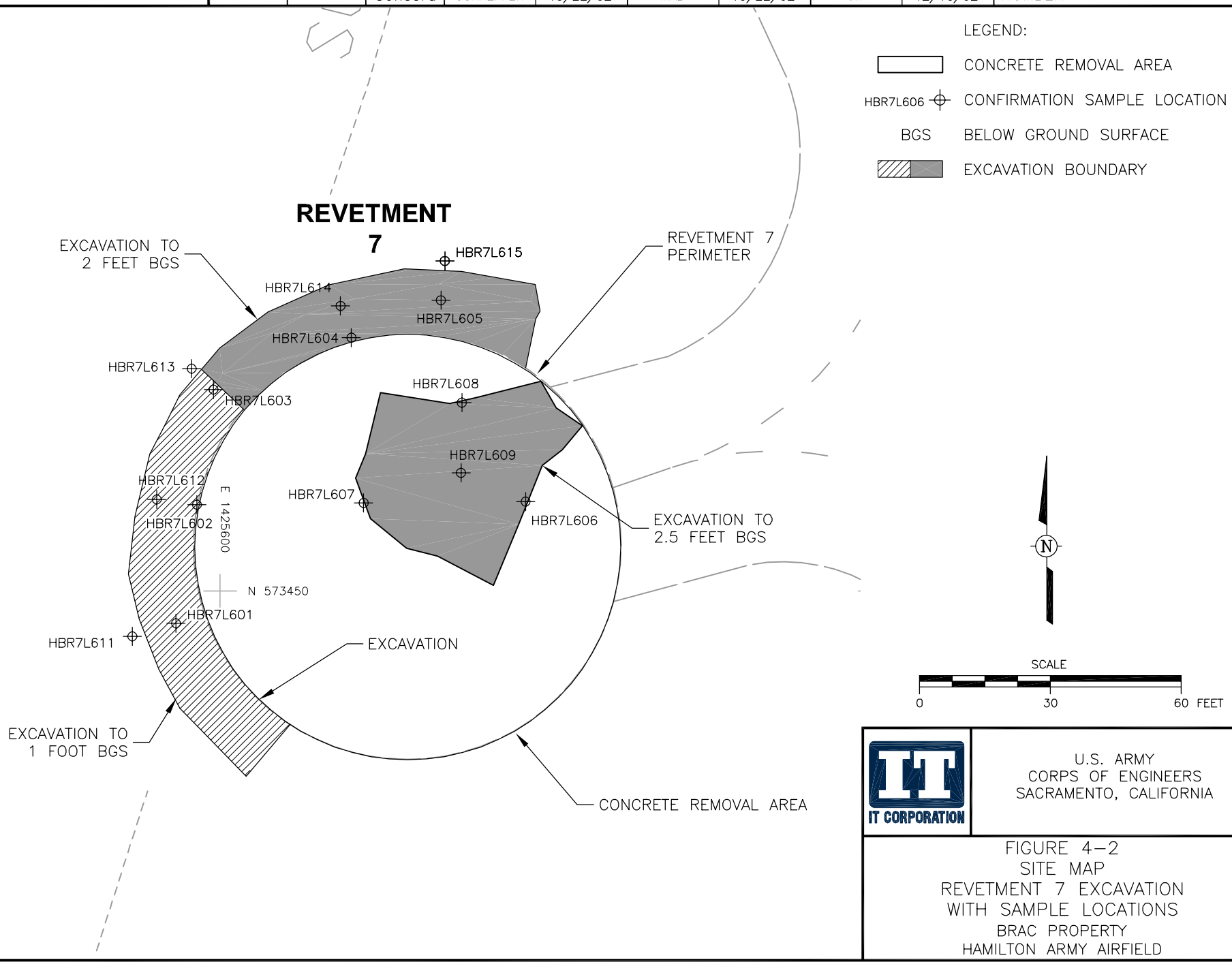
SACRAMENTO, CALIFORNIA

FIGURE 4-1
SITE MAP
REVETMENT 6 EXCAVATION
WITH SAMPLE LOCATIONS
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	---	Concord	SCHAEFFER	10/22/02	MAB	10/22/02	JW	12/10/02	831471-A15



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SACRAMENTO, CALIFORNIA

FIGURE 4-2
SITE MAP
REVETMENT 7 EXCAVATION
WITH SAMPLE LOCATIONS
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

ADDENDUM 1
FINAL
SUPPLEMENTAL CONSTRUCTION REPORT
FOR
BUILDING 41 DEMOLITION AND SOIL REMOVAL, SPOILS PILE F REMOVAL, AND REVETMENTS 6 and 7 REMOVAL

FOR
HAMILTON ARMY AIRFIELD
NOVATO, CALIFORNIA

SACRAMENTO TERC II
USACE CONTRACT NO. DACW05-96-D-0011
CTO NO. 13 - WAD NO. 06

Document Control Number ACE13-093-H

May 2003

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This document contains data and materials developed by IT Corporation prior to Shaw Environmental, Inc.'s acquisition of the IT Corporation TERC II Contract. Novation of the Contract to Shaw Environmental, Inc. was completed effective April 2, 2003. However, references to IT Corporation in this document have not been revised to reflect the joint origin of the material.

APPROVALS & CONCURRENCES:

For Michael Reed Program QC Manager, Shaw Environmental, Inc.	Michael Bruno Signature	5-22-03 Date
For John Warren, P.E. Project Manager, Shaw Environmental, Inc.	John E. Warren Signature	5/22/03 Date

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES (PROVIDED IN ELECTRONIC FORMAT)

EXECUTIVE SUMMARY

This Supplement to the Construction Report has been prepared by IT Corporation (IT) to document the transportation and disposal of waste soils generated during the remedial action conducted at Building 41, Spoils Pile F area, and Revetments 6 and 7 at Hamilton Army Airfield (HAAF) in Novato, California. IT performed the activities on behalf of the U.S. Army Forces Command Base Realignment and Closure (BRAC) office and the United States Army Corps of Engineers (USACE), Sacramento District, under a Total Environmental Restoration Contract (TERC) No. DACW05-96-D-0011. The work was conducted between February 2002 and October 2002. The objective of the work summarized in this report was the removal and proper disposal of soil excavated in the vicinity of Building 41, Spoils Pile F, and Revetments 6 and 7.

Activities performed at HAAF toward accomplishing Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal were completed in three phases. The first phase included activities performed inside the time-sensitive work zone. Work activities within 300 feet of the San Pablo Bay levee required completion between September 1 and January 31, 2002. The second phase consisted of work activities outside of the time-sensitive work zone. Waste soil excavated during the first two phases was stockpiled in covered containment cells located on paved surfaces outside of the time-sensitive zone. The summary of the first and second phase of work is in the *Draft Final Construction Report for Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal* (IT, 2003). The final phase included the transportation and disposal of the waste soils at an approved landfill, as summarized in this Supplement to the Construction Report. The scope of work for the final phase included four tasks: 1) waste characterization and landfill acceptance, 2) mobilization, waste loading, and transportation, 3) waste disposal, and 4) report preparation for documentation of these tasks. The summary of the third phase of work is in this *Draft Final Supplement to the Construction Report for Building 41 Demolition and Soil Removal Spoils Pile F Removal, and Revetments 6 and 7 Removal* (IT, 2003).

Multi-point composite soil sampling was conducted on the waste soil stockpiles to collect samples that were representative of the soil within the stockpiles or portion thereof. The samples were submitted for laboratory analyses and the results were compared to established acceptance criteria for local landfills to evaluate whether the waste soil could be accepted for disposal and under what waste classification. The objective of the sampling and analysis program was to obtain data that would support the proper waste classification for the stockpiles. Altamont Landfill in Alameda County, California, accepted the soil based on the profile and analytical data submitted. The material was segregated between Class III waste and Class II waste based on the representative analytical results.

The waste loading and transportation activities began on October 10, 2002, and were completed on October 17, 2002. The transportation vehicles were loaded with the stockpile contents, including containment berm and liners. A total of 202 truckloads comprising 4,726.21 tons of non-hazardous waste soil were transported to Altamont Landfill for disposal. The soil was used as landfill cover soil. Within the total, 3,986.53 tons were Class II waste and 739.68 tons were Class III waste. Waste soil stockpiles generated during the subject removal action that remained at HAAF were disposed of in accordance with local, state, and federal regulations.

1.0 INTRODUCTION

This report has been prepared to supplement the Construction Report (IT, 2002) for the remedial action conducted at Building 41, Spoils Pile F area, and Revetments 6 and 7 at Hamilton Army Airfield (HAAF) in Novato, California. IT Corporation (IT) prepared this Supplement to the Construction Report and performed the activities on behalf of the U.S. Army Forces Command Base Realignment and Closure (BRAC) office and the United States Army Corps of Engineers (USACE), Sacramento District, under a Total Environmental Restoration Contract (TERC) No. DACW05-96-D-0011. This Supplement to the Construction Report describes the activities that were completed for the transportation and disposal of waste soils generated during the removal portion of this remedial action as detailed in the Work Plan (IT, 2001a) and defined in the ROD/RAP for the project (CH2M Hill, 2001). The work was conducted between February 2002 and October 2002.

1.1 CONSTRUCTION ACTIVITIES

Activities performed at HAAF toward accomplishing Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal were completed in three phases. The first phase included activities performed inside the time-sensitive work zone. Work activities within 300 feet of the San Pablo Bay levee required completion between September 1 and January 31, 2002. The second phase consisted of work activities outside of the time-sensitive work zone. Soil excavated during the first two work phases was stockpiled on Revetments 2, 3, and 4, and in front of Revetments 6 and 7. The stockpiles were placed in 20-mil high-density polyethylene (HDPE) lined cells contained by one-foot tall earth perimeter berms and covered with 10-mil HDPE held in place by ropes attached to sandbags. When excavated, the soil was wet and had low levels of contamination, which were non-hazardous and did not trigger any hazardous waste holding time removal requirements. Upon request of the BRAC Environmental Coordinator (BEC), the soil remained in stockpiles over the summer to allow for drying. The final phase included the transportation and disposal of the waste soils at an approved landfill, as summarized in this Supplement to the Construction Report.

1.2 OBJECTIVE

The activities described in this Supplement to the Construction Report were performed to advance the environmental closure and transfer of HAAF. The objective of the work summarized in this report was the removal and proper disposal of soil excavated in the vicinity of Building 41, Spoils Pile F, and Revetments 6 and 7.

2.0 SCOPE OF WORK

The scope of work included four tasks: 1) waste characterization and landfill acceptance, 2) mobilization, waste loading, and transportation, 3) waste disposal, and 4) report preparation for documentation of these tasks. All activities were conducted following procedures presented in the Work Plan (IT, 2001a), Sampling and Analysis Plan (IT, 2001b; SAP), and Site Health and Safety Plan (IT, 2001c; SHSP). The soil sampling program is described in the SAP. That document consists of a Quality Assurance Project Plan (QAPP), which describes the procedures for chemical quality control during environmental restoration activities, and a Field Sampling Plan (FSP), which identifies field practices, and defines specifications for sample collection and supporting field measurements. The SHSP describes the project-specific health and safety systems that were implemented to assure that performed activities met project health and safety objectives.

The primary work activities included:

Waste Characterization and Landfill Acceptance

- Collect composite and discrete soil samples per the SAP and landfill requirements;
- Analyze soil samples at a State-certified laboratory;
- Compare analytical results to acceptance criteria for local landfills; and
- Submit waste profiles and verify approval of the waste profiles by the landfill.

Mobilization, Waste Loading, and Transportation

- Prepare stockpile areas and roadways for work;
- Load stockpile contents, including containment berm and liners, into approved transport vehicles;
- Weigh transport vehicles prior to leaving site; and
- Transport waste to an approved landfill using appropriate manifest documents.

Disposal

- Dispose of waste soil at Altamont Landfill as Class II or Class III waste.

Activities took place on the inboard side of the San Pablo Bay levee. Activities were generally constrained to paved surfaces.

3.0 WASTE CHARACTERIZATION

Multi-point composite and discrete soil sampling was conducted on the waste soil stockpiles to collect samples that were representative of the soil within the stockpiles or portion thereof. The samples were submitted for laboratory analyses and the results were compared to established acceptance criteria for local landfills to evaluate whether the waste soil could be accepted for disposal and under what waste classification. A summary of the stockpile composition and volumes is presented below.

- Stockpile 1, Revetment 2 - contained soil from the North excavation and the Spoils Pile F excavation;
- Stockpile 2, Revetment 3 - contained soil from the West "L" excavation, the South excavation, the Transformer Pad excavation, and the Spoils Pile F excavation;
- Stockpile 3, Revetment 4 - contained soil from the Spoils Pile F excavation and Revetments 6 and 7 excavations;
- Stockpile 4, Revetment 6 - contained soil from the Revetment 6 excavation; and
- Stockpile 5, Revetment 7 - contained soil from the Revetment 7 excavation.

3.1 SAMPLE COLLECTION AND ANALYSIS

The samples were collected, preserved, and shipped in accordance with protocols presented in the SAP (IT, 2001b). Copies of the Collected Sample Forms are contained in Appendix A.

The samples were submitted to Applied Physics & Chemistry Laboratory (APCL) of Chino, California. The laboratory is validated by USACE and certified by the California Department of Health Services Environmental Laboratory Accreditation Program to perform the requested analyses for the project. Chain of custody procedures, including the use of chain of custody forms, were used to document sample handling and transport from the time of collection to delivery to the laboratories for analysis. The chain of custody forms and laboratory analytical reports are included in Appendix B.

The analyses were conducted in accordance with U.S. Environmental Protection Agency-methods. A summary of the soil analyses performed is presented in Table 2-1.

The objective of the sampling and analysis program was to obtain data that would support the proper hazardous or non-hazardous waste classification for the stockpiles. Soil within the stockpiles from each excavation was sampled at a frequency that was required by the landfill facilities. All results were compared to the landfills acceptance criteria. Based on the analytical results, all stockpiles were characterized as non-hazardous Class II or Class III. No stockpiles were characterized as hazardous, Class I, waste.

Four rounds of sampling were performed to provide all the data needed for final characterization and proper disposal of the stockpiles. The samples collected for the waste characterization were designated as "Waste"-pile number-sequential number. The soil stockpiles were labeled Pile 1, Pile 2, Pile 3, Pile 4, and Pile 5 and were located on Revetments 2, 3, 4, 6, and 7, respectively. Thus, the sample designation "Waste P1-172" indicates the sample was from Pile 1 located at Revetment 2 with a unique sequential sample number of 172. Exceptions to the above numbering system were the four samples P2-1-206, P2-2-207, P2-3-208, and P2-4-209 indicating discrete samples 1 through 4 that were collocated with the individual points of the 4-point composite sample P2-175. Additionally the samples taken during the September-October 2002 timeframe included a "SUPP" identifier; i.e., P2-SUPP-223 designating them as part of the Supplemental work effort. In both cases the pile identifier (P2 etc.) and the sequential numbering (206, etc., 223) remained intact. A compilation of the samples collected and the sample

locations is included in Table 2-1. Stockpile locations are shown in Figure 1-1. Sample locations are shown in Figure 1-2.

3.2 ANALYTICAL AND WASTE CLASSIFICATION RESULTS

The analytical results are presented in Appendix B. The results are summarized on Tables 2-2 through 2-6 for stockpiles located on Revetments 2, 3, 4, 6, and 7, respectively. The results were used to evaluate the waste classification for each stockpile. Initially waste acceptance was sought from Redwood Landfill in Marin County, California, as this was the closest Class III landfill to HAAF. However, based on analyses that Redwood Landfill requested, the waste soil could not be accepted because soluble aluminum and vanadium concentrations exceeded their acceptance criteria. Altamont Landfill in Alameda County, California, was then contacted for waste acceptance. Based on the profile and analytical data submitted, Altamont Landfill accepted the soil, segregating certain waste soil as Class III waste and Class II waste. A summary of the waste classification is presented below.

Soil Stockpile	Soil Source	Sample ID	Waste Classification	Reason for Class Designation
Stockpile 1 Revetment 2	Spoils Pile F Sample Location 608	P1-172	Class II	Exceeds Class III levels for total chromium and TPH-motor oil
	Spoils Pile F	P1-173 P1-SUPP-216	Class II	Exceeds Class III level for total chromium
	Spoils Pile F	P1-173 P1-SUPP-217	Class II	Exceeds Class III level for nickel
	Building 41 North	P1-174	Class II	Exceeds Class III level for TPH-diesel
Stockpile 2 Revetment 3	Spoils Pile F Sample Location 603	P2-176	Class II	Exceeds Class III level for total chromium and TPH-motor oil
	Spoils Pile F	P2-176	Class II	Exceeds Class III level for total chromium and TPH-motor oil
	Building 41 South and Transformer Pad	P2-175 P2-1-206 P2-2-207 P2-4-209	Class II	Exceeds Class III level for TPH-diesel and TPH-motor oil
	Building 41 West "L"	P2-175 P2-3-208	Class II	Exceeds Class III level for TPH-diesel and TPH-motor oil
Stockpile 3 Revetment 4	Spoils Pile F Sample Location 603	P3-177 P3-SUPP-223	Class II	Exceeds Class III level for total chromium
	Spoils Pile F	P3-177 P3-SUPP-223	Class II	Exceeds Class III level for total chromium and TPH-motor oil
	Revetment 6	P3-SUPP-219	Class III	Class III waste
	PDD Driveway	P3-SUPP-219	Class III	Class III waste
	Revetment 7	P3-SUPP-218	Class III	Class III waste

Soil Stockpile	Soil Source	Sample ID	Waste Classification	Reason for Class Designation
Stockpile 4 Revetment 6	Revetment 6	P4-SUPP-220	Class II	Exceeds Class III level for total chromium and nickel
	Revetment 6	P4-SUPP-221	Class II	All constituents below acceptance criteria levels, however, BEC classified the waste as Class II due to slight hydrocarbon odor
Stockpile 5 Revetment 7	Revetment 7	P5-SUPP-222	Class III	Class III waste

Figure 1-2 presents the sample locations and indicates the segregation of source materials within each stockpile.

4.0 MOBILIZATION, WASTE LOADING, AND TRANSPORTATION

4.1 MOBILIZATION

On October 8, 2002, the IT Contractor Quality Control System Manager (CQCSM) held an internal pre-construction meeting at the Concord office. Attendees included the IT project manager, project superintendent, regulatory specialist and site engineer. Topics discussed included:

- Review of the Work Plan;
- Review of waste haulers' SOW, schedule, waste profile approval status;
- Verification that manifests were prepared and ready for signature;
- Review of the Scope of Work:
  - Site set-up including management of potential spilled material and dry decon before leaving area,
  - Loading,
  - Tracking material from each pile to each facility under appropriate profile and manifest,
  - Site cleanup and demobilization,
  - Submittals; and
- Site safety.

During the week preceding hauling operations, IT personnel and equipment were onsite to mow weeds and grass surrounding the stockpiles and haul roads. Permission to clear and grub was granted in advance, as it involved no invasive construction activities. Mowing the tall weeds increased visibility and safety of incoming and outgoing trucks and decreased the threat of insect attacks.

The following equipment was mobilized and/or demobilized on the indicated dates:

- October 8, 2002;
  - CAT 330 Excavator from Peterson Rents,
  - Water truck from IT,
- October 10, 2002;
  - CAT 966G Loader from Peterson Rents,
  - Four single-wheel scales (demobilized October 11th),
- October 14, 2002;
  - A double-axle platform scale,
- October 18, 2002;
  - CAT 330 Excavator, CAT 966G Loader, and portable bathrooms demobilized, and
- October 22, 2002
  - Water truck demobilized.

On October 8, 2002, IT set up an eyewash station near the center of operations. Hand wash stations were provided inside the portable toilet facilities. Additionally, the IT site supervisor conducted a project safety meeting at HAAF for IT field personnel. From that date forward Tailgate Safety Meetings were conducted prior to beginning each day's activities.

On October 8, 2002, IT personnel cut away the ropes and HDPE plastic sheeting covering the stockpiles. Upon request of the BEC, the excavator was used to mix the surface and interior soil within each stockpile segment to homogenize the soil moisture content.

4.2 WASTE LOADING AND TRANSPORTATION

The waste loading and transportation activities began on October 10, 2002, and were completed on October 17, 2002. There was no rainfall during this period. No major work stoppages were encountered. There were no reportable injuries during this project. Waste loading was performed by IT. Transportation services were provided by Dillard Environmental Services (Dillard) and Cummings Transportation (Cummings).

Loading areas were established with HDPE plastic sheeting to contain spillover material. A truck scale was set up to weigh the trucks, as they were loaded. Both Dillard and Cummings provided scale services. Initially Dillard's individual wheel system was utilized, but was replaced by Cummings' double axle platform system on October 14, 2002.

The transportation vehicles were loaded with the stockpile contents, including containment berm and liners. Each truckload was shipped under manifest. A copy of the manifest and a Waste Acceptance Form accompanied each load. Copies of the manifests and Waste Acceptance Form are provided in Appendix C. Field Activity Daily Logs for the construction and sampling activities conducted at HAAF are contained in Appendix D. Photographs taken during the work are included in Appendix E. Inbound Profile Reports and onsite scale logs and weigh counts are provided in Appendix F.

There is an error on the Altamont Landfill & RRF: Inbound Profile Report for profiles 55034300 and 55098900 attached in Appendix F. Ticket numbers 317132, 317180, 317182, 317186, and 317188 were credited to profile 55034300 (Cummings Class II) when they should have been credited to profile 55098900 (Dillard Class II). A summary of the daily loads is presented below.

Date	Class II (number truckloads / total tons)			Class III (number truckloads / total tons)			Totals
	Cummings	Dillard	Total	Cummings	Dillard	Total	
Oct 10		31 / 713.27	31 / 713.27				31 / 713.27
Oct 11		24 / 541.81	24 / 541.81				24 / 541.81
Oct 14	23 / 523.63	50 / 1,147.35	73 / 1,670.98				73 / 1,670.98
Oct 15	23 / 567.10	20 / 493.37	43 / 1,060.47	4 / 95.20	4 / 99.33	8 / 194.53	51 / 1,255.00
Oct 16				22 / 525.14		22 / 525.14	22 / 525.14
Oct 17				1 / 20.01		1 / 20.01	1 / 20.01
Total	46 / 1,090.73	125 / 2,895.80	171 / 3,986.53	27 / 640.35	4 / 99.33	31 / 739.68	202 / 4,726.21

5.0 WASTE DISPOSAL

A total of 202 truckloads comprising 4,726.21 tons of non-hazardous Class II and Class III waste soil were transported to Altamont Landfill for disposal. The soil was used as landfill cover soil due to the low levels of constituents and the limited amount of debris in the soil. Within the total disposed, 3,986.53 tons were Class II waste and 739.68 tons were Class III waste.

All waste soil stockpiles generated during the removal action that remained at HAAF were disposed of in accordance with local, state, and federal regulations. The waste soil included the soil excavated from the Building 41 Area, Spoils Pile F, Revetment 6, and Revetment 7 (Figure 1-1). Upon completion of the work, the site was broom cleaned and washed down, including the traffic routes. Minor repairs were made to a dirt road to restore it to the prior condition.

6.0 REFERENCES

CH2M Hill, 2001. *Record of Decision/Remedial Action Plan, Inboard Area Sites*, Army Base Realignment and Closure (BRAC) Property, Hamilton Army Airfield. Draft Final. August 2001.

IT Corporation, 2001a. *Work Plan Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 1*, Hamilton Army Airfield, Novato, California. December 2001.

IT Corporation, 2001b. *Sampling and Analysis Plan, Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 1*, Hamilton Army Airfield, Novato, California. December 2001.

IT Corporation, 2001c. *Health and Safety Plan, Monitoring Well Abandonment, Building 41 Demolition, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 0,* Hamilton Army Airfield, Novato, California. December 2001.

IT Corporation, 2002. *Construction Report, Building 41 Demolition and Soil Removal, Spoils Pile F Removal, and Revetments 6 and 7 Removal; Revision 0,* Hamilton Army Airfield, Novato, California. Draft Final. September 2002.

TABLES

All tables contained in the Final Supplemental Construction Report (Addendum 1) have been prepared, reviewed, and approved by the responsible parties indicated below. The tables have been reviewed for accuracy and consistency with previous investigation data, and the companion text and figures in the report.

Prepared by	Reviewed by	Approved by
for Tuesdai Powers	Mike Brown	John Warren

Table 2-1: Summary of Soil Waste Characterization Analyses Performed
Hamilton Army Airfield

Sample ID	Sample Collection Type	Sample Date	Sample Depth, fbgs	VOCs (8260)	TPH - Diesel (8015)	TPH - Gasoline (8015)	TPH - Motor Oil (8015)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	Mercury (7471)	Metals (6010 series)	STLC Metals (6010)	TCLP Mercury (7470)	DI WET Aluminum (6010)	Reactive Cyanide (7.33)	Reactive Sulfide (7.34)	Corrosivity (9045)	Ignitability (1010)	Moisture (2216)
*** Revetment 2**																				
WASTE P1-172	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
WASTE P1-173	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
WASTE P1-174	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
WASTE P1SUPP-216	5 Pt Composite	09/05/2002	0-0.5	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-
WASTE P1SUPP-217	5 Pt Composite	09/05/2002	0-0.5	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-
*** Revetment 3**																				
WASTE P2-175	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	-	-	-	X	X	X	X	X
WASTE P2-176	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
WASTE P2-1-206	Discrete	03/12/2002	0	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X
WASTE P2-2-207	Discrete	03/12/2002	0	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X
WASTE P2-3-208	Discrete	03/12/2002	0	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X
WASTE P2-4-209	Discrete	03/12/2002	0	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X
*** Revetment 4**																				
WASTE P3-177	4 Pt Composite	02/05/2002	0	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
WASTE P3SUPP-218	5 Pt Composite	09/05/2002	0-0.5	X	X	-	X	X	X	X	X	X	X	X	-	-	-	X	-	X
WASTE P3SUPP-219	5 Pt Composite	09/05/2002	0-0.5	X	X	-	X	X	X	X	X	X	X	-	-	-	-	X	-	X
WASTE P3SUPP-223	5 Pt Composite	09/25/2002	0-0.5	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-
*** Revetment 6**																				
WASTE P4SUPP-220	5 Pt Composite	09/05/2002	0-0.5	X	X	-	X	X	X	X	X	X	X	-	-	-	-	X	-	X
WASTE P4SUPP-221	5 Pt Composite	09/05/2002	0-0.5	X	X	-	X	X	X	X	X	X	X	-	-	-	-	X	-	X
*** Revetment 7**																				
WASTE P5SUPP-222	5 Pt Composite	09/05/2002	0-0.5	X	X	-	X	X	X	X	X	X	X	-	-	-	-	X	-	X

Notes:

fbgs	= feet below ground surface	PCBs	= Polychlorinated Biphenyls
VOCs	= Volatile Organic Compounds	STLC	= Soluble threshold limit concentration
TPH	= Total Petroleum Hydrocarbons	TCLP	= Toxicity characteristic leaching procedure
SVOCs	= Semi-Volatile Organic Compounds	DI WET	= Deionized water waste extraction test
Pesticides	= Organochlorine Pesticides		

* Figure 1-2 contains a diagram of each soil stockpile showing the source areas from which each soil sample was collected.

Table 2-2: Waste Characterization Detected Compounds Sampling Results for Revetment 2 Stockpile Hamilton Army Airfield

Analytical Method Group	Compound	Basis	Units	P1-172	P1-173	P1-174	P1SUPP-216	P1SUPP-217
Flashpoint	Ignitability	Dry	°C	100	100	100	---	---
Metals	Aluminum	Dry	mg/kg	28800	30600	29000	---	---
	Antimony	Dry	mg/kg	3.5	3.7	3	---	---
	Arsenic	Dry	mg/kg	10.8	11	9.3	---	---
	Barium	Dry	mg/kg	54.5	61.9	59.4	---	---
	Beryllium	Dry	mg/kg	0.32	0.31	0.19	---	---
	Cadmium	Dry	mg/kg	0.21	0.39	0.26	---	---
	Cadmium	STLC	mg/L	---	---	---	0.0201	0.0167
	Calcium	Dry	mg/kg	3180	4580	5230	---	---
	Chromium, total	Dry	mg/kg	97.9	99	92.6	---	---
	Chromium, total	STLC	mg/L	0.779	0.48	0.397	---	---
	Cobalt	Dry	mg/kg	25.5	21.6	19	---	---
	Copper	Dry	mg/kg	42	42.8	37.2	---	---
	Copper	STLC	mg/L	---	---	---	0.747	0.641
	Iron	Dry	mg/kg	44100	45300	42000	---	---
	Lead	Dry	mg/kg	19.5	24.7	17	---	---
	Lead	STLC	mg/L	---	---	---	0.721	0.618
	Magnesium	Dry	mg/kg	11800	11700	12100	---	---
	Manganese	Dry	mg/kg	764	609	523	---	---
	Mercury	Dry	mg/kg	0.18	0.17	0.11	---	---
	Mercury	STLC	mg/L	---	---	---	0.0017	0.00045
	Nickel	Dry	mg/kg	90.4	95.5	88.9	---	---
	Nickel	STLC	mg/L	---	---	---	1.86	1.43
	Potassium	Dry	mg/kg	3240	3740	3470	---	---
	Sodium	Dry	mg/kg	1130	305	2980	---	---
	Titanium	Dry	mg/kg	378	464	476	---	---
	Vanadium	Dry	mg/kg	81.5	84	77.4	---	---
	Zinc	Dry	mg/kg	92	103	92.5	---	---
Moisture	Moisture, percent	Dry	%	29.9	28.7	35.4	---	---
PCBs	PCB-1260 (Aroclor 1260)	Dry	µg/kg	38	92	<77	---	---
Pesticides	4,4'-DDD	Dry	µg/kg	40	58	72	---	---
	4,4'-DDE	Dry	µg/kg	40	60	6	---	---
	4,4'-DDT	Dry	µg/kg	100	120	18	---	---
	Alpha-chlordane	Dry	µg/kg	<14	3	3	---	---
	Gamma-chlordane	Dry	µg/kg	<14	4	2	---	---
Soil pH	pH	Dry	PH units	6.43	6.52	7.22	---	---
SVOCs	2-Methylnaphthalene	Dry	µg/kg	<470	<460	170	---	---
	Bis(2-ethylhexyl) phthalate	Dry	µg/kg	<470	990	<510	---	---
	Phenanthrene	Dry	µg/kg	<210	<210	110	---	---
TPH - Diesel	TPH as motor oil (C24-C36)	Dry	mg/kg	111	55	77	---	---
	TPH-diesel (C12-C24)	Dry	mg/kg	17	16	136	---	---
TPH - Gasoline	TPH-gasoline (C7-C12)	Dry	mg/kg	<1.5	<1.5	0.05	---	---
VOCs	2-Hexanone	Dry	µg/kg	2	<14	<18	---	---

< - reported as not detected greater than the practical quantitation limit. --- not analyzed
TCLP = Toxicity Characteristic Leaching Procedure.
STLC = Soluble Threshold Limit Concentration.

Reviewed by: _____ Approved by: _____

Table 2-3: Waste Characterization Detected Compounds Sampling Results for Revetment 3 Stockpile Hamilton Army Airfield

Analytical Method Group	Compound	Basis	Units	P2-175	P2-176	P2-1-206	P2-2-207	P2-3-208	P2-4-209
Flashpoint	Ignitability	Dry	°C	100	100	---	---	---	---
Metals	Aluminum	Dry	mg/kg	28900	24300	---	---	---	---
	Antimony	Dry	mg/kg	3.2	3.2	---	---	---	---
	Arsenic	Dry	mg/kg	8.5	8.6	---	---	---	---
	Barium	Dry	mg/kg	57.9	60.7	---	---	---	---
	Beryllium	Dry	mg/kg	0.1	0.078	---	---	---	---
	Cadmium	Dry	mg/kg	0.25	0.24	---	---	---	---
	Calcium	Dry	mg/kg	5540	4550	---	---	---	---
	Chromium, total	Dry	mg/kg	98.6	79.8	---	---	---	---
	Chromium, total	STLC	mg/L	---	0.689	---	---	---	---
	Cobalt	Dry	mg/kg	20.7	17	---	---	---	---
	Copper	Dry	mg/kg	40.7	30.3	---	---	---	---
	Iron	Dry	mg/kg	43600	36900	---	---	---	---
	Lead	Dry	mg/kg	32.3	23.8	---	---	---	---
	Magnesium	Dry	mg/kg	13700	10700	---	---	---	---
	Manganese	Dry	mg/kg	509	488	---	---	---	---
	Mercury	Dry	mg/kg	0.057	0.091	---	---	---	---
	Nickel	Dry	mg/kg	94	75.5	---	---	---	---
	Potassium	Dry	mg/kg	3720	3010	---	---	---	---
	Sodium	Dry	mg/kg	4100	2900	---	---	---	---
	Titanium	Dry	mg/kg	575	475	---	---	---	---
	Vanadium	Dry	mg/kg	82	66.6	---	---	---	---
	Zinc	Dry	mg/kg	94.1	76.6	---	---	---	---
Moisture	Moisture, percent	Dry	%	42.2	26.9	26.8	30.3	35.1	37.3
PCBs	PCB-1260 (Aroclor 1260)	Dry	µg/kg	<86	30	---	---	---	---
Pesticides	4,4'-DDD	Dry	µg/kg	1860	98	223	9	22	9
	4,4'-DDE	Dry	µg/kg	14	10	5	1	3	2
	4,4'-DDT	Dry	µg/kg	33	19	2	6	6	2
	Alpha-chlordane	Dry	µg/kg	<3.5	2	---	---	---	---
	Gamma-chlordane	Dry	µg/kg	<3.5	2	---	---	---	---
Soil pH	pH	Dry	PH units	7.01	6.31	---	---	---	---
SVOCs	2-Methylnaphthalene	Dry	µg/kg	744	<450	---	---	---	---
	Bis(2-ethylhexyl) phthalate	Dry	µg/kg	1900	<450	---	---	---	---
	Phenanthrene	Dry	µg/kg	150	<210	---	---	---	---
TPH - Diesel	TPH as motor oil (C24-C36)	Dry	mg/kg	198	154	---	---	---	---
	TPH-diesel (C12-C24)	Dry	mg/kg	221	88	---	---	---	---
TPH - Gasoline	TPH-gasoline (C7-C12)	Dry	mg/kg	0.08	<1.8	---	---	---	---
VOCs	Carbon disulfide	Dry	µg/kg	6	<26	---	---	---	---
	P-cymene (p-isopropyltoluene)	Dry	µg/kg	<11	3	---	---	---	---

< - reported as not detected greater than the practical quantitation limit. --- not analyzed
TCLP = Toxicity Characteristic Leaching Procedure.
STLC = Soluble Threshold Limit Concentration.

Reviewed by: _____ Approved by: _____

Table 2-4: Waste Characterization Detected Compounds Sampling Results for Revetment 4 Stockpile Hamilton Army Airfield

Analytical Method Group	Compound	Basis	Units	P3-177	P3SUPP-218	P3SUPP-219	P3SUPP-223
Flashpoint	Ignitability	Dry	°C	100	---	---	---
Metals	Aluminum	DI WET	mg/L	---	---	---	34.7
	Aluminum	Dry	mg/kg	26800	14900	17800	---
	Antimony	Dry	mg/kg	3.2	1.3	<22	---
	Arsenic	Dry	mg/kg	10.1	10.2	7.8	---
	Arsenic	STLC	mg/L	---	---	---	0.249
	Barium	Dry	mg/kg	60.7	88.9	93.1	---
	Beryllium	Dry	mg/kg	0.19	0.33	0.12	---
	Cadmium	Dry	mg/kg	0.26	<1.3	<1.3	---
	Cadmium	STLC	mg/L	---	0.0027	0.0041	---
	Calcium	Dry	mg/kg	3640	1760	2250	---
	Chromium, total	Dry	mg/kg	87.6	43.1	40.9	---
	Chromium, total	STLC	mg/L	0.503	0.359	0.232	---
	Cobalt	Dry	mg/kg	17.5	14.4	10.8	---
	Copper	Dry	mg/kg	37.8	37.2	33.9	---
	Iron	Dry	mg/kg	39100	28500	29900	---
	Lead	Dry	mg/kg	18.4	11.2	12.4	---
	Lead	STLC	mg/L	---	---	---	0.203
	Magnesium	Dry	mg/kg	10300	6910	6260	---
	Manganese	Dry	mg/kg	441	335	300	---
	Mercury	Dry	mg/kg	0.13	4.2	1.9	---
	Mercury	TCLP	mg/L	---	<0.0005	---	---
	Mercury	STLC	mg/L	---	0.00011	<0.0005	0.0003
	Nickel	Dry	mg/kg	77.2	32.6	32.4	---
	Nickel	STLC	mg/L	---	0.503	0.456	0.634
	Potassium	Dry	mg/kg	3020	722	971	---
	Sodium	Dry	mg/kg	2040	322	<440	---
	Titanium	Dry	mg/kg	439	195	273	---
	Vanadium	Dry	mg/kg	76	75	66.3	---
	Vanadium	STLC	mg/L	---	---	---	0.972
	Zinc	Dry	mg/kg	91.3	58.4	51.2	---
Moisture	Moisture, percent	Dry	%	23.7	4.9	9.3	---
PCBs	PCB-1260 (Aroclor 1260)	Dry	µg/kg	11	<53	7	---
Pesticides	4,4'-DDD	Dry	µg/kg	91	3	9	---
	4,4'-DDE	Dry	µg/kg	16	0.9	7	---
	4,4'-DDT	Dry	µg/kg	40	0.5	6	---
	Alpha-chlordane	Dry	µg/kg	1.11	<2.1	<2.2	---
Soil pH	pH	Dry	PH units	6.44	6.49	6.89	---
SVOCs	Bis(2-ethylhexyl) phthalate	Dry	µg/kg	980	48	<360	---
TPH - Diesel	TPH as motor oil (C24-C36)	Dry	mg/kg	98	27	77	---
	TPH-diesel (C12-C24)	Dry	mg/kg	82	28	17	---
VOCs	Methylene chloride	Dry	µg/kg	0.9	3	3	---

< - reported as not detected greater than the practical quantitation limit.
--- not analyzed
TCLP = Toxicity Characteristic Leaching Procedure.
DI WET = Deionized water waste extraction test.
STLC = Soluble Threshold Limit Concentration.

Reviewed by: _____ Approved by: _____

Table 2-5: Waste Characterization Detected Compounds Sampling Results for Revetment 6 Stockpile Hamilton Army Airfield

Analytical Method Group	Compound	Basis	Units	P4SUPP-220	P4SUPP-221
Metals	Aluminum	Dry	mg/kg	18900	24400
	Antimony	Dry	mg/kg	<25	0.74
	Arsenic	Dry	mg/kg	9.1	10.8
	Barium	Dry	mg/kg	58.8	64
	Calcium	Dry	mg/kg	4180	3620
	Chromium, total	Dry	mg/kg	66.1	78.7
	Chromium, total	STLC	mg/L	0.744	0.312
	Cobalt	Dry	mg/kg	13.9	14.1
	Copper	Dry	mg/kg	31.4	38.3
	Iron	Dry	mg/kg	33000	37100
	Lead	Dry	mg/kg	9.2	11.9
	Magnesium	Dry	mg/kg	8670	9080
	Manganese	Dry	mg/kg	372	366
	Mercury	Dry	mg/kg	0.54	0.24
	Mercury	STLC	mg/L	<0.0005	<0.0005
	Nickel	Dry	mg/kg	61.3	68.1
	Nickel	STLC	mg/L	1.11	0.381
	Potassium	Dry	mg/kg	2150	2420
	Selenium	Dry	mg/kg	0.94	<5
	Sodium	Dry	mg/kg	931	659
	Titanium	Dry	mg/kg	371	399
	Vanadium	Dry	mg/kg	55.7	68.2
	Zinc	Dry	mg/kg	66.2	71.3
Moisture	Moisture, percent	Dry	%	20.5	20.4
Pesticides	4,4'-DDD	Dry	µg/kg	5	4
	4,4'-DDE	Dry	µg/kg	2	1
	4,4'-DDT	Dry	µg/kg	0.2	<5
Soil pH	pH	Dry	PH units	5.62	5.79
SVOCs	Bis(2-ethylhexyl) phthalate	Dry	µg/kg	54	<410
TPH - Diesel	TPH as motor oil (C24-C36)	Dry	mg/kg	31	32
	TPH-diesel (C12-C24)	Dry	mg/kg	59	32
VOCs	Methylene chloride	Dry	µg/kg	4	4

< - reported as not detected greater than the practical quantitation limit. --- not analyzed
TCLP = Toxicity Characteristic Leaching Procedure.
STLC = Soluble Threshold Limit Concentration.

Reviewed by: _____ Approved by: _____

Table 2-6: Waste Characterization Detected Comopunds Sampling Results for Revetment 7 Stockpile Hamilton Army Airfield

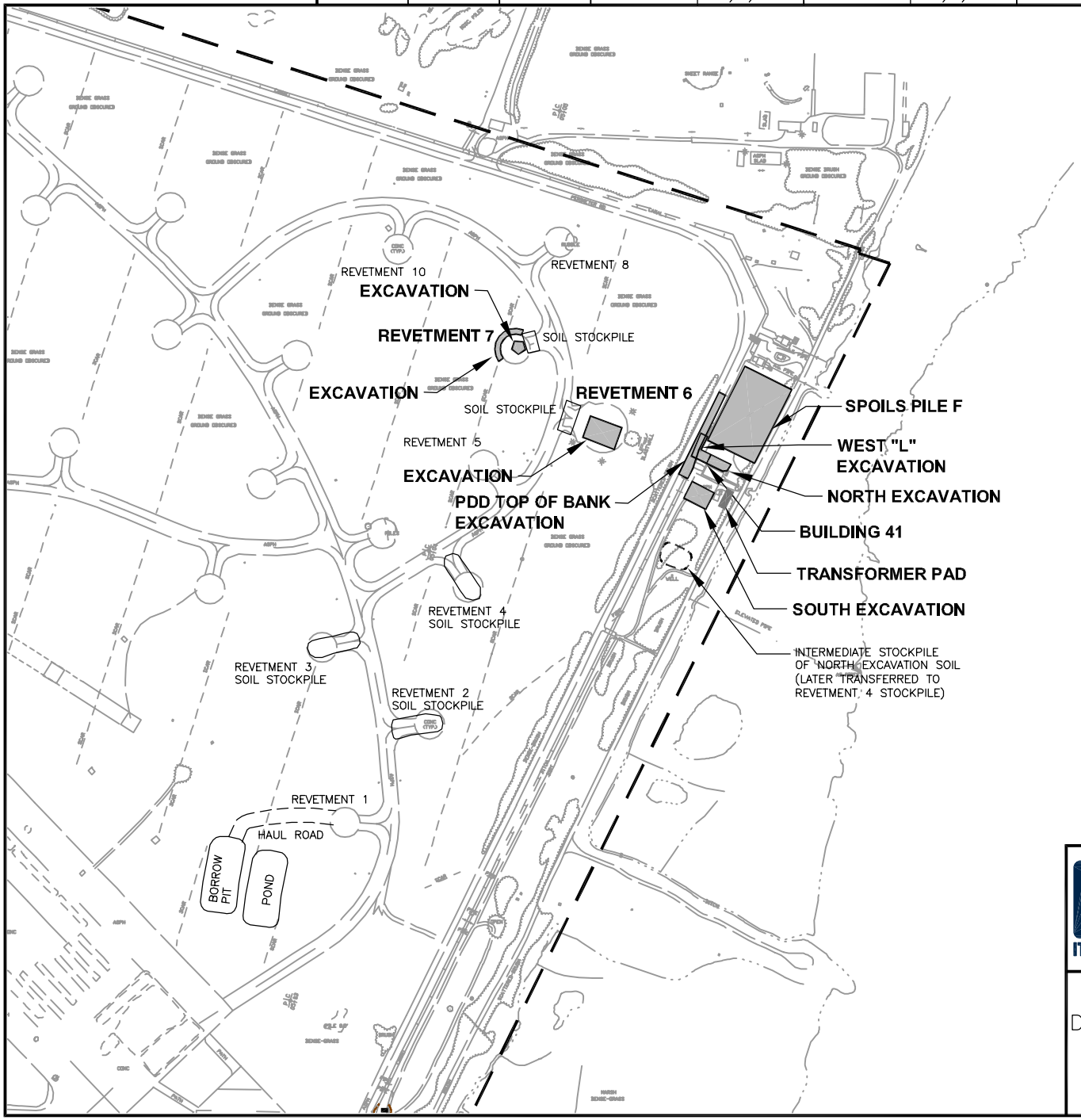
Analytical Method Group	Compound	Basis	Units	P5SUPP-222
Metals	Aluminum	Dry	mg/kg	17800
	Antimony	Dry	mg/kg	0.86
	Arsenic	Dry	mg/kg	8.6
	Barium	Dry	mg/kg	79.9
	Beryllium	Dry	mg/kg	0.17
	Cadmium	Dry	mg/kg	<1.3
	Cadmium	STLC	mg/L	0.0063
	Calcium	Dry	mg/kg	2440
	Chromium, total	Dry	mg/kg	46.1
	Chromium, total	STLC	mg/L	0.207
	Cobalt	Dry	mg/kg	14.4
	Copper	Dry	mg/kg	40.1
	Iron	Dry	mg/kg	32100
	Lead	Dry	mg/kg	12.9
	Magnesium	Dry	mg/kg	7060
	Manganese	Dry	mg/kg	389
	Mercury	Dry	mg/kg	0.14
	Nickel	Dry	mg/kg	34.8
	Nickel	STLC	mg/L	0.531
	Potassium	Dry	mg/kg	930
	Titanium	Dry	mg/kg	258
	Vanadium	Dry	mg/kg	74.4
	Zinc	Dry	mg/kg	63.2
Moisture	Moisture, percent	Dry	%	8.2
Pesticides	4,4'-DDD	Dry	µg/kg	3
	4,4'-DDE	Dry	µg/kg	0.6
	4,4'-DDT	Dry	µg/kg	2
Soil pH	pH	Dry	PH units	5.69
SVOCs	Benzo(a)anthracene	Dry	µg/kg	96
	Benzo(a)pyrene	Dry	µg/kg	91
	Benzo(b)fluoranthene	Dry	µg/kg	76
	Benzo(g,h,i)perylene	Dry	µg/kg	41
	Benzo(k)fluoranthene	Dry	µg/kg	100
	Chrysene	Dry	µg/kg	120
	Fluoranthene	Dry	µg/kg	190
	Phenanthrene	Dry	µg/kg	161
	Pyrene	Dry	µg/kg	160
TPH - Diesel	TPH as motor oil (C24-C36)	Dry	mg/kg	9.1
	TPH-diesel (C12-C24)	Dry	mg/kg	2
VOCs	Methylene chloride	Dry	µg/kg	2

< - reported as not detected greater than the practical quantitation limit. --- not analyzed
TCLP = Toxicity Characteristic Leaching Procedure.
STLC = Soluble Threshold Limit Concentration.

Reviewed by: _____ Approved by: _____

FIGURES

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	H2PLAN	Concord	SCHAEFFER	5/6/03	DB	5/6/03	MAB	5/6/03	831471-A11



LEGEND:

BRAC PROPERTY BOUNDARY

PERIMETER DRAINAGE DITCH (PDD)

EXCAVATION

N

SCALE

0 500 1000 FEET

IT CORPORATION

U.S. ARMY
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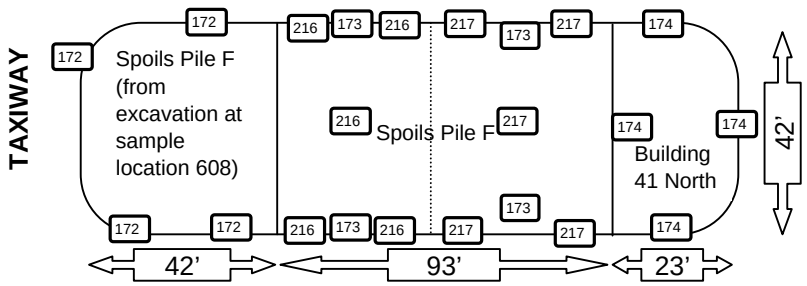
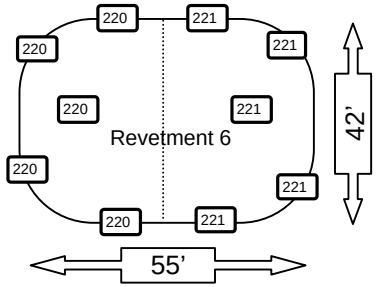
SACRAMENTO, CALIFORNIA

FIGURE 1-1
DEMOLITION AND REMOVAL WORK AREAS INBOARD AREA SITES
BRAC PROPERTY
HAMILTON ARMY AIRFIELD

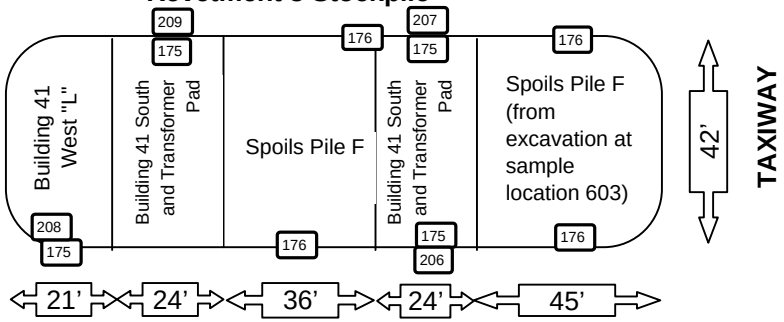
Revetment 2 Stockpile



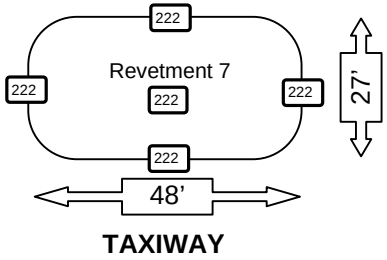
Revetment 6 Stockpile



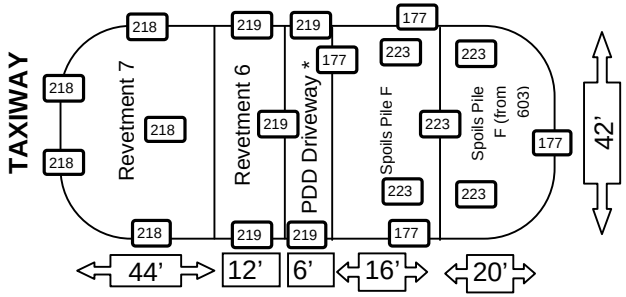
Revetment 3 Stockpile



Revetment 7 Stockpile



Revetment 4 Stockpile



The locations of the stockpiles are shown on Figure 1-1.
Source areas for stockpile sections are indicated by labels.

177 Composite sample point location for waste profiling (samples numbered Waste Pl-172, Waste-Pl-173, etc.)

Dimensions and shapes are approximate.
Stockpile orientations are shown relative to the taxiway.
* Soil is from access road into PDD excavation area.

Checked by: DB 5/16/03
Approved by: MAB 5/16/03

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Figure 1-2
Excavation Soil Stockpiles from Inboard 2002 Removals
BRAC Property
Hamilton Army Airfield