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Post-Removal Action Report

for

Site 8 - Nitroglycerin Plant Office

at

Indian Head Division
Naval Surface Warfare Center

Indian Head, Maryland

Engineering Field Activity Chesapeake
Naval Facilities Engineering Command

Northern Division Contract Number N62472-90-D-1298

Contract Task Order 0099

April 1995

Halliburton NUS
CORPORATION

R-07-94-21

POST-REMOVAL ACTION REPORT
FOR
SITE 8 - NITROGLYCERIN PLANT OFFICE
INDIAN HEAD DIVISION
NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MARYLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Engineering Field Activity Chesapeake
Environmental Branch Code 18
Naval Facilities Engineering Command
Washington Navy Yard, Building 212
Washington, D.C. 20374-2121

Submitted by:
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NORTHERN DIVISION CONTRACT NUMBER N62472-90-D-1298
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APRIL 1995

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EXECUTIVE SUMMARY

A removal action was completed at Site 8 - Nitroglycerin Plant Office at the Indian Head Division, Naval Surface Warfare Center in Indian Head, Maryland. The objective of the removal action was to protect human health and the environment by excavating sediment/soil with elevated levels of mercury from a stream channel. Pre-removal action investigation and design work was previously performed by Halliburton NUS Corporation (Halliburton NUS). The actual removal action was performed by the Atlantic Division NAVFAC Remedial Action Contractor (RAC) - OHM. Major activities associated with the removal action were performed from June 1994 through October 1994. Halliburton NUS provided Post Construction Award Services (PCAS) during the removal action; these services included construction monitoring, post-removal action sampling and analysis, and preparation of this report.

Site 8 contained elevated levels of mercury due to previous site operations. Site 8 was previously investigated and evaluated. This evaluation included an Engineering Evaluation/Cost Analysis (EE/CA) that was performed by Halliburton NUS; in 1993 an EE/CA Report recommended a removal action alternative that consisted of excavation and removal of soil with levels of mercury above an action level of 10 parts per million (ppm). The removal action objective was to excavate and remove sediment/soil from Site 8 with mercury concentrations above the action level and place it in a secure area on station. Removal action plans and specifications were subsequently prepared by Halliburton NUS for the recommended removal action alternative.

The RAC performed the removal action in general accordance with the plans and specifications and the removal action objective was achieved. The removal action included excavating sediment/soil with mercury concentrations above the action level from the stream, placing the sediment/soil in an earthen berm of Building 606 and reconstructing the Site 8 stream. Approximately 440 cubic yards of sediment/soil with mercury concentrations above the action level were removed and placed in the earthen berm of Building 606.

Post-removal action sampling and analysis, performed during and after sediment/soil excavation, verified that sediment/soil with mercury concentrations above the action level were excavated from the stream channel. The removal action objective was achieved.

1.0 INTRODUCTION

The Northern Division of the Naval Facilities Engineering Command issued Contract Task Order Number 099 (CTO-099) to Halliburton NUS Corporation (Halliburton NUS) to provide services to the Engineering Field Activity Chesapeake (EFA Chesapeake). CTO-099 was issued under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62472-90-1298 for the work at the Installation Restoration (IR) Site 8 - Nitroglycerin Plant Office (Site 8) and related work areas at the Indian Head Division, Naval Surface Warfare Center (NSWC) in Indian Head, Maryland.

The Indian Head Division, NSWC, contains approximately 3,423 acres and is located approximately 25 miles southwest of Washington, DC, in the northwestern section of Charles County, Maryland. It is located on a peninsula bounded by the Potomac River to the northwest and Mattawoman Creek to the south and southeast. As shown on Figure 1-1, Site 8 is located on the southeast side of the NSWC; runoff from Site 8 discharges into Mattawoman Creek.

Site 8 consists of the following:

- Building 766 (Former Nitroglycerin Plant Office and Laboratory).
- A 3-inch drain pipe from Building 766 to a manhole (Manhole A).
- Manhole A
- Concrete pipe - A 36-inch-diameter reinforced concrete pipe (RCP) that conveys water from Manhole A under railroad tracks to the site and stream.
- Approximately 1,300 feet of stream. The site primarily consists of 1,300 feet of Site 8 stream channel which extends from the outlet of the 36-inch RCP to the pond/marsh area and approximately 80 feet of tributary stream which extends from outlet pipes southeast of Building 767 to the Site 8 stream channel.
- Pond/marsh Area. The pond/marsh area is approximately 700 feet long and 200 feet wide; it includes both a marsh and open water area. The pond outlets through a culvert under Noble Road and into Mattawoman Creek.
- POTENTIALLY [redacted], THE ~~WATER TABLE AQUIFER~~ ~~SURFICIAL AQUIFER, OR GROUND WATER~~ IN THE VICINITY OF THE STREAM AND POND.

Halliburton NUS performed work at Site 8 under two previous CTOs; a detailed investigation and site characterization study was performed under CTO-064, and a long-term biomonitoring program was (and is being) performed under CTO-117. Under CTO-099, Halliburton NUS initially performed engineering and design services for a removal action; after completion of design, Halliburton NUS performed Post-

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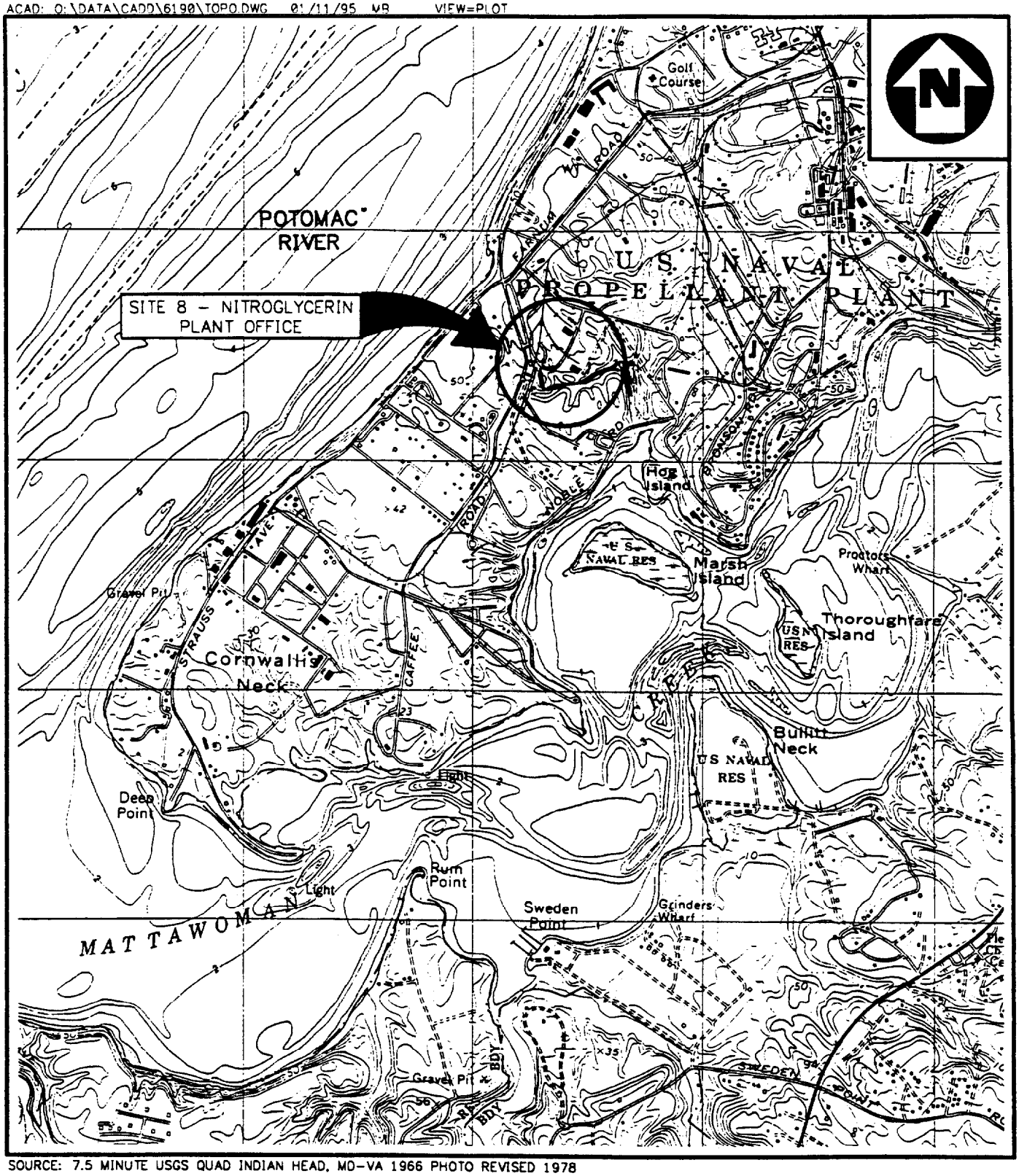

SOURCE: 7.5 MINUTE USGS QUAD INDIAN HEAD, MD-VA 1966 PHOTO REVISED 1978

SITE LOCATION MAP
SITE 8 - NITROGLYCERIN PLANT OFFICE
INDIAN HEAD, MARYLAND

0 2000 4000
SCALE IN FEET

FIGURE 1-1

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Construction Award Services (PCAS) as described in this report. The removal action was performed by the Atlantic Division, Naval Facilities Engineering Command (NAVFAC), Remedial Action Contractor (RAC), OHM.

This report presents site background information, summarizes the removal action activities that were performed, and provides information documenting the removal action.

1.1 PROJECT BACKGROUND

Building 766 was constructed in 1953. From 1953 to 1981, mercury, used in laboratory tests in Building 766, was inadvertently disposed through drains and discharged into Site 8. In 1981, the drains were sealed and the practice discontinued. Environmental investigative work began at Site 8 after elevated levels of mercury were discovered at the site in 1981. In 1984, a contractor inadvertently broke the drain pipe from Building 766 to Manhole A; mercury was observed leaking into the soil. The drain pipe, Manhole A, and approximately 200 drums (55-gallon capacity) of mercury-contaminated soil were excavated and removed from the site. After the excavation was completed, the drain pipe, manhole, and soil were replaced. The removal and subsequent replacement action was performed with oversight from the enforcement staff of the state of Maryland. During the subsequent years, preliminary investigations were performed at the site by various environmental contractors.

In 1992, Halliburton NUS performed an investigation of Site 8; Site Characterization Report (Halliburton NUS, 1993a) was subsequently issued. Information presented in the Site Characterization Report delineated the nature and extent of mercury in the environment at Site 8. In 1992, Halliburton NUS also developed and began implementation of a Quarterly Biomonitoring Program (Halliburton NUS, 1992a) to identify and evaluate the long-term impact (if any) that mercury has had on the environment at Site 8. The first round of biomonitoring was performed in October 1992 and continued until January 1995.

Analytical data presented in the Site Characterization Report documented that the highest concentrations of mercury at Site 8 were located in the Upper Section of Stream immediately downstream of Manhole A. Total mercury concentrations in the sediment/soil in the Upper Section of Stream ranged from BQL (below quantitation limits) to 671 ppm (parts per million). Mercury was generally confined to the surface sediment/soil. Mercury ranged from 18 inches below ground surface near the center of the stream to 12 inches on the overbanks. The Upper Section of Stream with elevated levels of mercury varied from 10 to 30 feet wide and was approximately 300 feet long (Halliburton NUS 1993a). Approximately 40 feet of the tributary channel also contained elevated levels of mercury.

An engineering evaluation/cost analysis (EE/CA) was then performed and the results were presented in an EE/CA Report (Halliburton NUS, 1993b). During the EE/CA process, removal action alternatives were identified and evaluated, and an alternative was selected. The selected removal action alternative consisted of excavating sediment/soil with elevated levels of mercury from the Upper Section of Stream and placing it in the earthen berm of Building 606. Building 606 is located approximately 500 feet north of the Site 8 stream. A risk assessment was performed as part of the EE/CA and an action level of 10 ppm was established; i.e., sediment/soil with mercury concentrations above 10 ppm were to be excavated from the stream channel. Halliburton NUS performed subsequent engineering and design activities. These activities consisted of preparing plans and specifications to implement the removal action alternative selected in the EE/CA.

The engineering and design activities also included PCAS. PCAS consisted of consultation during construction, construction monitoring, sampling and analysis, and preparation of this report.

The Atlantic Division NAVFAC Remedial Action Contractor (RAC) - OHM was selected to implement the removal action plans and specifications.

1.2 REMOVAL ACTION OBJECTIVE

There were no identified direct human exposure pathways associated with Site 8 that posed an unacceptable risk. However, elevated levels of mercury in the sediment/soil in the Upper Section of Stream was a potential source area for future mercury contamination. As described in the EE/CA Report, the mercury in the Upper Section of Stream had the potential to be transported and could impact the ecology of the downstream areas. The purpose of the removal action at Site 8 was to remove a potential source of mercury (sediment/soil containing elevated levels of mercury concentrations in the Upper Section of Stream) and the corresponding threat of downstream migration into Pond/Marsh Area and Mattawoman Creek. The objective of the removal action was to protect public health and the environment by removing mercury-containing sediment/soil from the environment thus reducing the risks that would be created by potential migration. Long-term risks will be further defined and evaluated after completion of the Biomonitoring Program. The Biomonitoring Program will evaluate the impact of mercury at Site 8 and monitor the response to the removal action.

The action level established and utilized for the removal action was 10 mg/kg. A previous study performed at Site 8 proposed a cleanup level of 25 mg/kg for sediment/soil (ABB-ES, 1992b). However, that level was not specifically established for Site 8. The 25 mg/kg level was established at other sites which may not have the same conditions as Site 8. Navy discussions with Maryland Department of the Environment (MDE)

regulatory personnel indicated that 10 mg/kg was an acceptable action level for the removal action; therefore, 10 mg/kg was used as the cleanup level for the removal action in the Upper Section of Stream. The rationale for a removal action is to prevent the spread of mercury through the environment and to reduce the potential impact of mercury on the environment; the removal action was not in response to a known unacceptable risk to either human health or the environment.

1.3 REMOVAL ACTION ROLES AND RESPONSIBILITIES

Halliburton NUS prepared removal action plans and specifications to address sediment/soil with mercury concentrations above the action level (10 mg/kg) from the Upper Section of Stream. The RAC performed construction work to implement the design. Halliburton NUS provided PCAS including verification sampling and analysis and construction monitoring during the removal action. Photographs of the removal action are presented in Appendix A. Sampling and analysis was performed in accordance with the Post-Removal Action Verification Field Sampling Plan (Halliburton NUS, 1994). Construction monitoring services included observing and reporting the general construction activities of the RAC. Observations of the RAC's daily activities were recorded by Halliburton NUS in a bound logbook and on Daily Construction Report forms. Copies of the report forms are presented in Appendix B of this report. The following items were recorded in the Daily Construction Report forms:

- **Equipment**. Numbers and types of major pieces of RAC equipment on site and used each day.
- **Personnel**. Number and classification of RAC personnel on site and a general description of their activity.
- **Tasks Performed**. A general summary of the actual work performed.
- **General Observations**. General observations of construction activity.

Initial construction activities began on June 21, 1994. Halliburton NUS was initially tested with providing sampling and analysis services and periodic inspections. Therefore, during the first phase of construction, Halliburton NUS was generally only at the site during excavation. However, in accordance with direction received from the Navy on August 23, 1994, Halliburton NUS began providing full time inspection services during major construction activities. Daily Construction Report forms summarizing the field activities performed by the RAC were completed by Halliburton NUS beginning August 23, 1994.

The Navy provided direction and approval of RAC activities through the Indian Head Division (NSWC) Resident Officer In Charge of Construction (ROICC). Daily Construction Report forms prepared by Halliburton NUS were submitted to the ROICC.

1.4 REPORT FORMAT

Section 1.0 of this report presents background information and discusses the removal action objectives. Section 2.0 discusses the removal action and construction activities. Section 3.0 presents the analytical results and Section 4.0 contains a summary and conclusions. Supplemental documentation is presented in the appendices of this report.

2.0 REMOVAL ACTION CONSTRUCTION ACTIVITIES

2.1 CONSTRUCTION ACTIVITIES

Removal action construction consisted of the following major activities:

- Site preparation
- Sediment/soil excavation
- Stream reconstruction and site restoration
- Sediment/soil placement and site restoration

Photographs illustrating construction activities in the Site 8 stream channel and the sediment/soil placement area in the earthen berm of Building 606 are contained in Appendix A. The drawings contained in Appendix E illustrate the major components of the work. Each of these components is described separately in the following sections.

2.2 SITE PREPARATION

Site preparation activities consisted of the following tasks to prepare the site for the actual removal action:

- Installation and maintenance of surface water control measures
- Installation and maintenance of erosion and sediment control measures
- Layout of the site
- Access road construction
- Placement and removal of swamp mats

Site preparation activities began on June 21, 1994 and continued through the construction period.

Installation and Maintenance of Surface Water Control Measures. The RAC installed and maintained surface water control measures to facilitate construction activities in the stream channel. The surface water control measures consisted of diverting stream flow around the construction area and pumping water from key locations within the construction area. This was performed to minimize/eliminate water in the construction area.

A plug was installed in the outlet pipe of Manhole A and a pump was placed in the manhole. The pump discharged through a hose which was placed on the ground around the work area and discharged into the existing stream channel downstream of the sedimentation basin dike located downstream of the construction area. The Manhole A pump was not able to divert all stream flow during the entire period of construction. Following a period of rain at the end of July, the pump at Manhole A could not prevent water from backing up and creating a potential flooding conditions near Building 766. To prevent potential flooding, the RAC temporarily removed the plug from Manhole A and allowed flow through the 36-inch RCP and into the construction area. The water flowed from the RCP for approximately 6 hours. After the accumulated water had discharged through the pipe, the plug was replaced and flow was controlled via a pump for the remainder of the construction period.

The RAC also installed and utilized pumps and sumps in the construction area. The pumps and sumps were used to collect and divert surface water from pipe outfalls, and in selected areas of the stream channel, to manage surface water flow and groundwater ex-filtration (generally along the downstream area of construction). Initially, pumps were temporarily installed in areas of the stream bed where work was being conducted. During later portions of the project, sumps (with associated pumps) were utilized at fixed locations. The locations included the area of gabion construction near the outlet of the 36-inch RCP, immediately below stormwater drainage pipes of the tributary channel located southeast of Building 767 (Transect 5), and near the sedimentation basin dike.

Installation and Maintenance of Erosion and Sediment Control Measures. Soil erosion and sediment control measures were installed during initial construction activities. These measures included:

- Construction of a sedimentation basin and an associated dike across the stream immediately downstream of the Upper Section of Stream (area of excavation).

- Installation of silt fence below the sedimentation basin dike.

- Installation of geotextile and stone at the discharge end of stormwater drainage pipes located southeast of Building 767 at the upper end of the tributary channel.

Erosion and sediment control measures were maintained and operated throughout the period of construction. Maintenance included the addition of riprap on the downstream side of the dike, replacing and/or reinforcing silt fence, and the use of plastic sheeting to cover soil stockpiles in the vicinity of the stream channel. The Maryland Department of the Environment conducted four inspections of the erosion and sediment control measures during construction.

Layout of the Site. The approximate locations of transect lines were established using a tape measure and marked with spray-paint on the ground. The actual limits of the excavation were established using taped field measurements. The site was not controlled using typical field survey instruments and techniques and the limits of the excavation were not staked in the field.

Access Road Construction. The RAC constructed an access road into the site within the access road corridor delineated on the construction drawings. The access road extended from the paved road near Building 1769 to the downstream end of the area to be excavated. The access road was approximately 200 feet long. It was constructed by cutting and removing a few small trees, removing the topsoil, performing limited grading, placing geotextile on the graded soil, and placing approximately 6 inches of aggregate on top of the geotextile.

Construction material was stockpiled near the access road. Stockpiled materials included rock (for riprap and gabion construction), aggregate and clean soil.

A power washing/decontamination station was located adjacent to the access road near the aggregate stockpile area. The wash station was used to decontaminate equipment, personnel, and materials (such as swamp mats).

Placement and Removal of Swamp Mats. Prior to sediment/soil excavation, the RAC installed swamp mats (large timbers) approximately 12 feet long, 18 inches wide, and 18 inches deep throughout the stream channel. Approximately 72 swamp mats were installed from the downstream end of the area to be excavated (near the access road) to the outlet of the 36-inch-diameter RCP. Swamp mats were installed perpendicular to the stream channel; they were later used as a platform from which excavation was performed as described in Section 2.3. As excavation was performed, the swamp mats were removed and decontaminated.

2.3 SEDIMENT/SOIL EXCAVATION

The RAC excavated sediment/soil from the Upper Section of Stream. Actual excavation began on July 25, 1994; it was completed on August 30, 1994. Approximately 440 cubic yards of sediment/soil were excavated. The Upper Section of Stream that was excavated is illustrated on the drawings contained in

Appendix E. Sediment/soil excavation activities were performed by the RAC and initiated after the majority of the site preparation activities were completed and consisted of the following:

- Clearing and grubbing
- Excavation and hauling

Halliburton NUS activities and responsibilities during sediment/soil excavation included general monitoring of construction activities, and sampling and analysis to confirm that sediment/soil with mercury concentrations exceeding the 10 mg/kg action level were removed from the Upper Section of Stream.

Clearing and Grubbing. Clearing and grubbing were performed in all areas to be excavated. The trunks of trees from Site 8 were cut into merchantable-size logs (approximately 6 to 8 feet long) and stockpiled near Building 606. The branches from the trees were ground into wood chips and used for mulch at the site. Included in this activity was the excavation and disposal of tree stumps. Because some of the trees were located adjacent and within the stream channel with elevated mercury concentrations, representative samples of the stumps, and soil attached to those stumps, were collected by Halliburton NUS and analyzed for total mercury. As described in Section 3.0 of this report, mercury concentrations in the tree stumps, and associated residual soil, contained mercury concentrations below the action level. Therefore, the RAC ground the stumps (including residual soil) into chips and placed it, as mulch, in the vicinity of the construction area.

Excavation and Hauling. Sediment/soil excavation began after the clearing and grubbing activities were completed. Excavation was performed with a tracked excavator from the swamp mats that were placed in the stream channel during site preparation. Excavation was performed by moving the excavator to the upstream end of the swamp mats and excavating sediment/soil in the area within reach of the backhoe bucket (approximately 20 feet) immediately upstream of the swamp mats.

Initial sediment/soil excavation was performed to a depth of 24 inches in the middle of the stream and to a depth of 12 to 18 inches at each bank. (Additional excavation was performed in areas where initial sample analysis indicated mercury concentrations above the action level.) Excavated soil was loaded into dump trucks that were backed over the swamp mats to the active excavation area. The dump trucks then transported the excavated soil to a stockpile area at Building 606. The dump trucks required assistance (via dozer) to pull them out of the stream channel and up the access road.

Swamp mats were continually removed as excavation progressed in a downstream direction. Post-excavation sampling was performed by Halliburton NUS as the excavation was completed. Initial samples were obtained at predetermined transect locations in accordance with an approved Post-Removal Field Sampling Plan (Halliburton NUS, 1994). Additional samples were obtained in areas where initial analytical data indicated that sediment/soil with mercury concentrations above the action level remained. In cases where additional sampling was necessary, the samples were obtained from the bottom of areas where the additional excavation was conducted. Sample results were provided to the RAC within 24 hours of sample collection. Excavation of the sediment/soil continued while analysis of the samples was conducted. A complete description of sampling and analysis is presented in Section 3.0. As excavation proceeded south along the stream channel, swamp mats were lifted, decontaminated and removed.

Excavation of the Upper Section of Stream began on Friday, July 29, 1994 and proceeded in an incremental process in accordance with the following procedures:

- The RAC excavated sediment/soil containing elevated levels of mercury in incremental areas beginning at the outlet of the 36-inch RCP and proceeding downstream. Excavation activities were performed by an excavator located on the swamp mats. Each incremental area was approximately 40 feet long (in the direction of the stream channel) and varied from approximately 20 to 30 feet wide (perpendicular to stream channel).

- Halliburton NUS collected three soil samples near the downstream edge of each incremental excavation along a transect line perpendicular to the stream. The samples were collected in accordance with the procedures in the site-specific Post-Removal Action Verification Sampling and Analysis Plan (Halliburton NUS, 1994). One sample was collected from the center of the excavation near the location of the original stream channel and one from each side of the stream near the outer edge of the excavation. The samples were then submitted to an analytical laboratory for rapid 24-hour total mercury analysis. The approximate sampling locations are shown on Figures 2-1 and 2-2.

- Based on the initial analytical results, excavation activities proceeded as follows:

  - If all samples collected along a transect contained mercury concentrations below 10 mg/kg, the swamp mats were removed and excavation continued in the next downstream increment.

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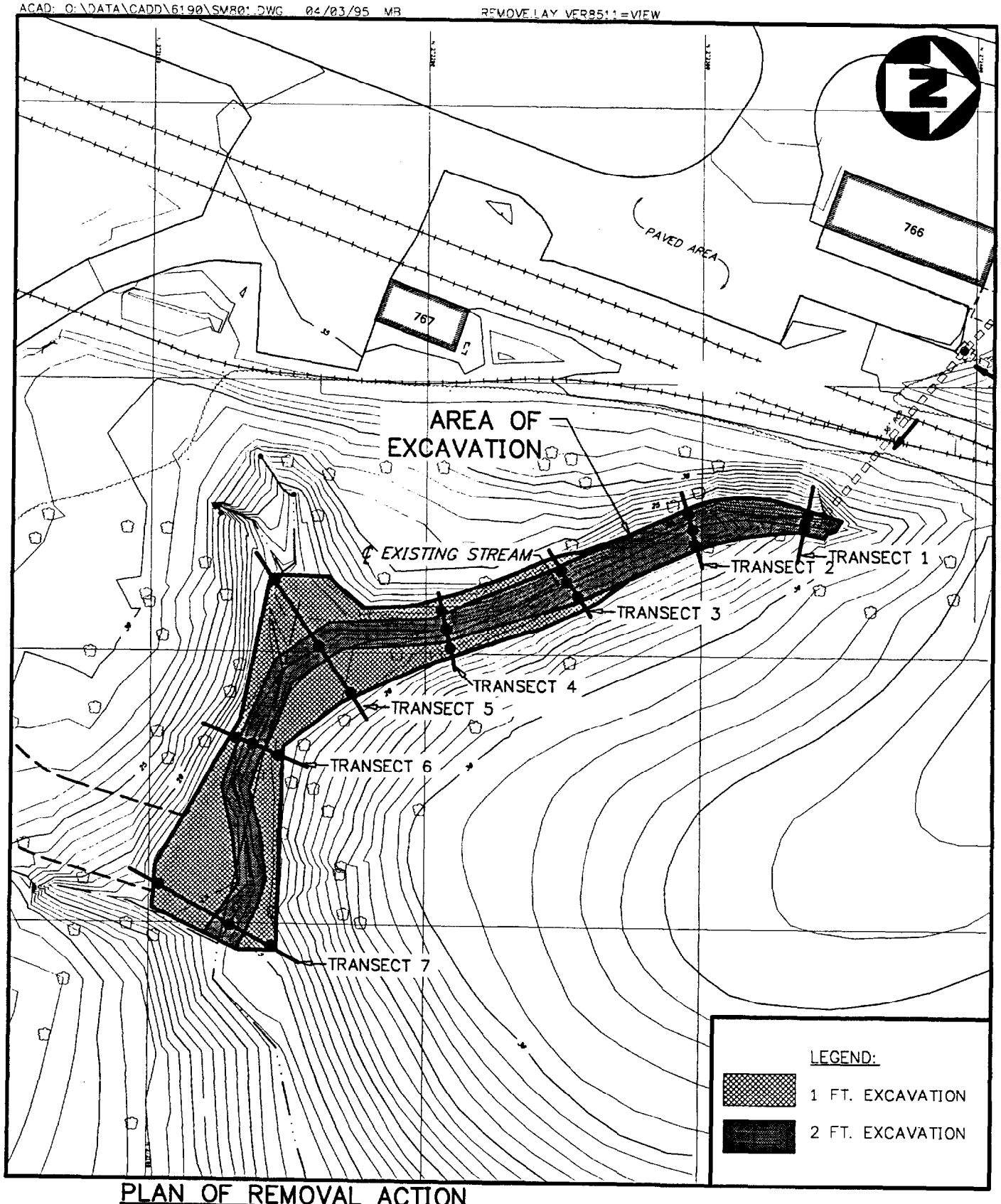

PLAN OF REMOVAL ACTION
SITE 8 – NITROGLYCERIN PLANT SITE
INDIAN HEAD, MARYLAND

0 50 100
SCALE IN FEET

FIGURE 2-1

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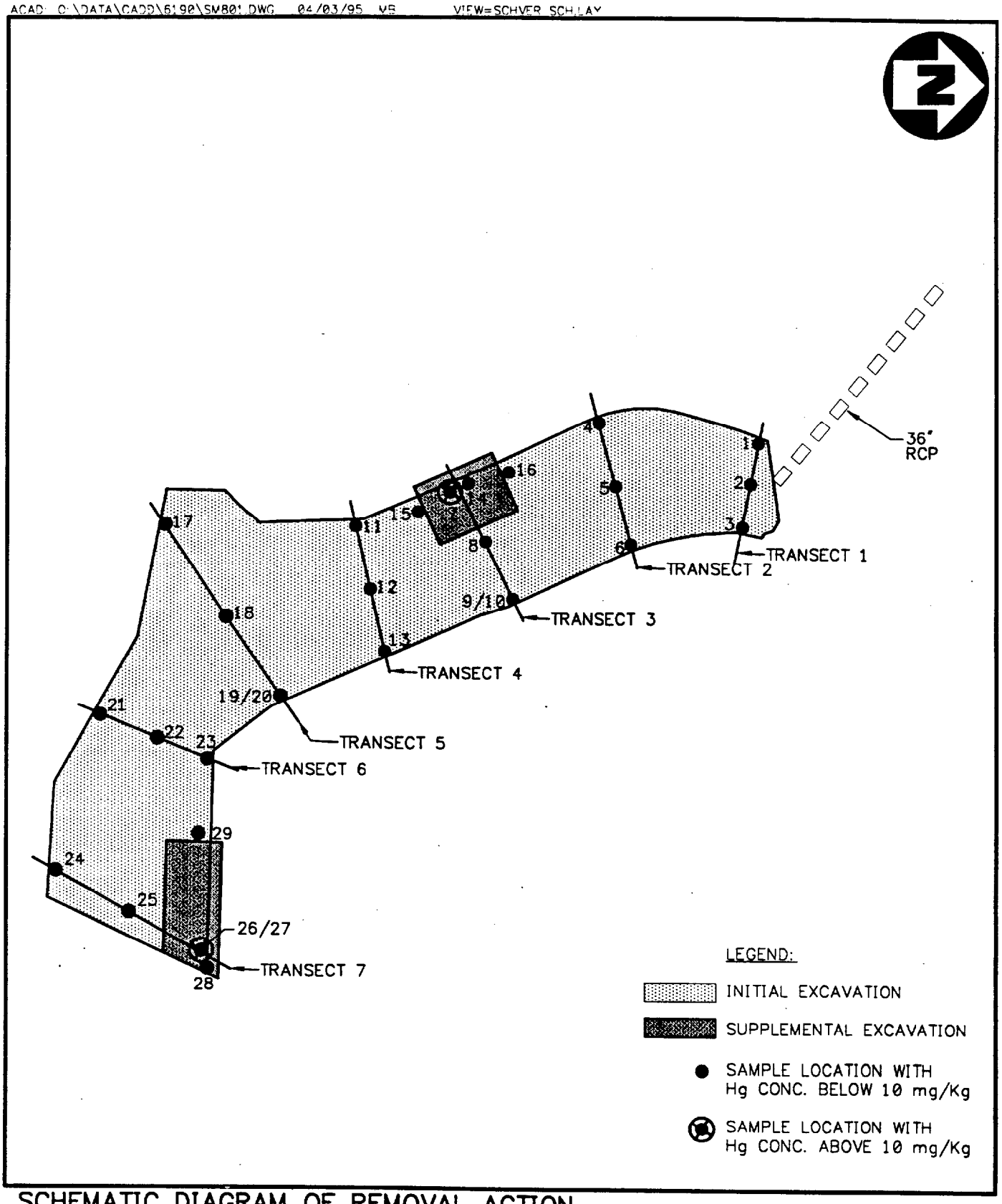

SCHEMATIC DIAGRAM OF REMOVAL ACTION
SITE 8 – NITROGLYCERIN PLANT SITE
INDIAN HEAD, MARYLAND
NTS

FIGURE 2-2

Halliburton NUS CORPORATION

- If one sample collected along a transect contained mercury concentrations above 10 mg/kg, supplemental excavation was performed in the area containing the high-concentration sample and the location was resampled to confirm removal of sediment/soil with mercury concentrations above the action level.

Initial excavation was performed in seven increments and in general conformance with the design plans and specifications. The downstream end of each excavated increment generally conformed to the seven transects as illustrated on Figure 2-1. Analytical results of sediment/soil samples collected at two locations, Transects 3 and 7, indicated that sediment/soil with mercury concentrations above the action level were not removed during initial excavation. Therefore, supplemental excavation was performed in only these two areas.

2.4 STREAM RECONSTRUCTION AND SITE RESTORATION

Stream reconstruction began after confirmatory sampling and analysis indicated that sediment/soils with mercury concentrations above the action level were excavated and removed. Stream reconstruction consisted of the following:

- Soil Backfilling and Regrading
- Gabion Construction
- Riprap Installation
- Installation of Revegative Matting
- Seeding

Soil Backfilling and Regrading. The RAC began backfilling the stream channel on August 15, 1994. Backfilling began on the downstream end of the excavation near the access road and proceeded upgradient. The channel was backfilled with soil in one lift that ranged from 18 to 30 inches deep. The backfill soil was obtained from an offsite location. The soil was end dumped into the excavation and pushed upstream into the channel area excavation. In the lower area of the stream, soil backfill was pushed into standing water. Two types of fill soil were placed in the excavated areas: clayey sand and gravelly sand. The clayey sand was placed first, followed by gravelly sand. The backfilled material was compacted via multiple passes of the dozer, loaded dump trucks which backed upstream to dump subsequent loads, and a vibratory smooth steel roller (using both the vibratory and nonvibratory mode). No in-place compaction testing was observed by Halliburton NUS. The stream channel was "overfilled" with soil; the overfilled soil was subsequently removed as the stream channel was regraded in general conformance with the construction drawings.

Gabion Construction. Gabion construction at the outlet of the 36-inch RCP began on September 12, 1994. The first step of gabion construction consisted of excavating previously placed backfilled soil and the area around the outlet of the pipe to make room for installation of the gabions. The previously placed backfilled soil and some adjoining soils had become saturated; this saturated soil was excavated. During excavation, slope failures in the area caused the last section of 36-inch RCP to separate and fall. Slope failures also caused a drum that was buried in the embankment to become exposed. Construction activities were halted until the exposed drum was investigated. The RAC collected samples of soil from both inside, and adjacent to, the exposed drum. These samples were subsequently analyzed and (as shown in Section 3.3) determined not to contain hazardous material. The exposed drum was removed. The area on which the gabions were to be placed was lined with geotextile material and the area was backfilled with gravelly sand. Gabion baskets were assembled on site and then placed in position. A gabion mattress was placed across the entire stream channel at the outlet of the 36-inch RCP. The baskets were then filled with rock and the tops placed on the baskets and wired shut. The stream channel was lined with gabion baskets in the vicinity of the 36-inch-diameter outlet pipe. Four layers of gabion baskets were installed on the sides of the stream channel.

Riprap Installation. Riprap was used to line the reconstructed stream channel downstream from the gabions. The riprap channel is approximately 12 feet wide, trapezoidal-shaped, and extends approximately 120 feet. Geotextile filter fabric was used between the riprap and the soil of the regraded channel.

Installation of Revegetative Matting. Revegetative matting was used to line the regraded stream channel downstream of the riprap through the construction area.

Seeding. The areas disturbed were seeded after completion of construction.

NOTE: The "bioengineered" channel that was part of the original design was eliminated. However, some trees will be planted on the banks of the reconstructed stream by the RAC in spring of 1995.

2.5 SEDIMENT/SOIL PLACEMENT AND SITE RESTORATION

The excavated sediment/soil was placed in the earthen berm of Building 606. Building 606 is located approximately 500 feet north of Site 8. Sediment/soil placement activities included:

- Site Preparation
- Temporary Stockpiling
- Berm Excavation
- Sediment/Soil Screening and Placement
- Capping and Site Restoration

Site Preparation. The RAC prepared the sediment/soil placement areas area by installing erosion and sediment control measures, and by placing filter fabric and aggregate to protect the wetland area north of the earthen berm from construction activities.

Temporary Stockpiling. An area west of Building 606 was lined with plastic sheeting and was used to temporarily stockpile the excavated sediment/soil material. The material was covered with plastic sheeting to minimize the addition of undesirable moisture and prevent migration of soil containing elevated levels of mercury.

Berm Excavation. The existing earthen berm at Building 606 was excavated to create an area for placement of the excavated sediment/soil. The clean soil excavated from the berm was temporarily stockpiled on site for later use as a cover material. An access road was constructed to the placement areas.

Sediment/Soil Screening and Placement. Sediment/soil was excavated from the temporary stockpile and processed through a mechanical screener on site. The mechanical screen had approximately 3" by 3" spacing between the bars. The mechanical screener was used to remove debris such as rocks, wood, and remnants of plastic sheeting. The screened sediment/soil was then hauled to, and placed in, the Building 606 berm. The screened debris was temporarily placed in rolloff containers. Representative samples were collected from the rolloff containers and subsequently analyzed and determined to be nonhazardous. The analytical results are discussed in Section 3.4. Screened material and used Personal Protective Equipment (PPE) were disposed offsite at the Modern Landfill in York, Pennsylvania. Non-hazardous regional waste manifest disposal documentation is presented in Appendix D.

Note: The sediment/soil was placed in the earthen berm of Building 606 in general conformance with the design drawings. However, the configuration of the reconstructed berm differed from the design. The design drawings indicated that the material was to be placed in the berm to achieve a uniform slope parallel to Building 606. However, the material was placed in the berm in a manner which produced a "bulge" appearance in the berm with a nonuniform slope.

Capping and Site Restoration. After the sediment/soil containing mercury was placed in the berm, it was covered with a 1-foot layer of clay. Warning tape was then placed on the clay. The warning tape indicated that "mercury containing soil" was located below. The area was then covered with soil and vegetated. Revegetation matting was placed on the berm to enhance establishment of grass. The filter fabric and aggregate placed on the wetlands was removed. The disturbed areas were regraded and seeded.

2.6 SUMMARY OF REMOVAL ACTION ACTIVITIES

A chronological summary of Site 8 removal action activities is presented on Table 2-1. As shown on the table, construction activities were performed during an 18-week period. Actual sediment/soil excavation was performed and completed over a 6-week period; it began in week 6 and was completed in week 11.

A summary of the equipment used by the RAC to perform the work and general manpower expended is presented on Table 2-2.

TABLE 2-1

CHRONOLOGY OF SITE 8 CONSTRUCTION ACTIVITIES
SITE 8 - NITROGLYCERIN PLANT OFFICE
NSWC, INDIAN HEAD, MARYLAND

Week	Week Starting (1994)	Major Activities	
1	6/21	Site Preparation -	Mobilization and Site Layout
2	6/27	Site Preparation -	Access Road Construction
		Sediment/Soil Excavation -	Clearing and Grubbing
3	7/5	Site Preparation -	Erosion and Sediment Control Measures Installed
		Sediment/Soil Excavation -	Clearing and Grubbing
4	7/11	Site Preparation -	Swamp Mats Installed
		Sediment/Soil Excavation -	Clearing and Grubbing
5	7/19	Site Preparation -	Swamp Mats Installed Stormwater Diversions Completed
		Sediment/Soil Excavation -	Clearing and Grubbing
		Sampling and Analysis -	Tree Stumps
6	7/25	Sediment/Soil Excavation -	Excavation through Transect 1
		Sampling and Analysis -	Sediment/Soil
7	8/1	Sediment/Soil Excavation -	Excavation through Transect 2
		Sampling and Analysis -	Sediment/Soil
8	8/8	Sediment/Soil Excavation -	Excavation through Transect 4
		Sampling and Analysis -	Sediment/Soil
9	8/15	Stream Reconstruction -	Channel Backfilled
10	8/20	Sediment/Soil Excavation -	Excavation through Transect 7
		Sampling and Analysis -	Sediment/Soil
11	8/27	Sediment/Soil Excavation -	Supplemental Excavation completed
		Stream Reconstruction -	Channel Backfilled
		Sampling and Analysis -	Sediment/Soil
12	9/6	Stream Reconstruction -	Gabions Installed Channel Backfilled
13	9/12	Stream Reconstruction -	Gabions Installed
14	9/19	Sediment/Soil Placement -	Existing berm excavated Stockpiled sediment/soil screened Screened sediment/soil placed in berm
15	9/26	Sediment/Soil Placement -	Clay layer and cover soil installed

TABLE 2-1 (Continued)
CHRONOLOGY OF SITE 8 CONSTRUCTION ACTIVITIES
SITE 8 - NITROGLYCERIN PLANT OFFICE
NSWC, INDIAN HEAD, MARYLAND

Week	Week Starting (1994)	Major Activities	
16	10/2	Sediment/Soil Placement -	Cover soil and erosion control layer placed
17	10/9	Stream Reconstruction -	Gabions installed
18	10/16	Stream Reconstruction -	Stream regraded Riprap installed Erosion control matting installed

TABLE 2-2

MAJOR EQUIPMENT AND AVERAGE MANPOWER USED FOR REMOVAL ACTION
SITE 8 - NITROGLYCERIN PLANT OFFICE
NSWC, INDIAN HEAD, MARYLAND

Week*	Major Equipment Used and/or on-site		Average On-Site Crew
9 and 10 (August 23 through 31)	track excavator 22T dump truck forklift tractor backhoe large pump 850 dozer 1134 dump truck walk behind compactor	2 case graders small hand roller rubber wheeled roller 2 generators 855 loader bomag vibratory roller mud pump	1 supervisor 1 foreman 1 operator 1 health & safety 4 laborers
11, 12, 13, and 14 (September 1 through 19)	excavator forklift ditchwitch dozer bed case 855 loader 850 dozer mud pump forklift 1134 dump truck	jumping jack compactor 3 in. dia. sump pump (2) 2 in. dia. sump pump bomag vibratory compactor vibratory plate compactor pressure washer tractor backhoe walk behind compactor generator	1 supervisor 1 foreman 1 P.A. clerk 1 operator (2 of 8 days) 1 health & safety 4 laborers
14 and 15 (September 20 through October 1)	excavator 855 loader 850 dozer 644 wheeled loader dump truck generator 1155 loader vibratory plate compactor	ditchwitch pressure washer 3 in. dia. sump pump (3) 2 in. dia. sump pump chainsaw power screener	1 supervisor 1 foreman (6 of 10 days) 1 P.A. clerk 6 laborers
17 and 18 (October 15 and 21)	dump truck 655B loader excavator power washer generator	portable light trailer 644 wheeled loader tractor backhoe vibratory plate compactor	1 supervisor 1 foreman 4 laborers

* Halliburton NUS did not provide construction monitoring services during the first 8 weeks of construction.

3.0 SAMPLING AND ANALYSIS RESULTS

Sampling and analysis was performed during the removal action by Halliburton NUS and the RAC. Halliburton NUS performed sampling and analysis to obtain information about tree stumps in the area to be excavated and to verify that material with mercury concentrations above the action level were removed from the site. Tree stump (both soil and wood) and sediment/soil samples were collected and submitted to GP Environmental Laboratory (GP) for rapid turnaround analysis. The RAC collected soil samples from in and around the exposed drum and the contents of the rolloff containers that were sent offsite. The samples collected by the RAC were submitted to, and analyzed by OHM Analytical Services Corporation (ASC). The analytical results from GP and ASC are presented in Appendix C and described in this section of this report.

During excavation, the RAC monitored mercury concentrations in the air with a Jerome Mercury Vapor Analyzer. Elevated levels of mercury vapor were not reported by the RAC to Halliburton NUS during the removal action.

3.1 TREE STUMPS

During the clearing and grubbing phase of the project, trees located in the area to be excavated were cut down and removed. The trunks of the trees were cut into merchantable size logs and transported to a storage area near Building 606. The branches from the trees were ground into wood chips and used for mulch at the site. Because some of the trees were located adjacent to and within the stream channel, representative samples of the stumps and soil attached to those stumps were collected by Halliburton NUS and analyzed for mercury content. The stumps consisted of a short trunk stem, a root mass (approximately 6 feet in diameter), and residual soil attached to, and stuck within, the root mass. Halliburton NUS identified and selected three representative stumps for sampling and analysis. Stump 1 was originally located near Transect 2 and Stumps 2 and 3 were originally located near Transects 4 and 5. Halliburton NUS collected wood and residual soil samples from each stump. Each stump was sampled by collecting pieces of wood and bark from three or four different locations and compositing them for each individual stump. Residual soil samples were also collected from several locations and composited from each stump. The analytical results for the stump wood and the stump residual soil samples are presented in Table 3-1. As shown in Table 3-1, the mercury concentrations in all tree stump samples were below the 10 mg/kg action level. Therefore the RAC ground the stumps including the residual soil into chips that were used for onsite mulch.

TABLE 3-1

TREE STUMP ANALYTICAL RESULTS
SITE 8 - NITROGLYCERIN PLANT OFFICE
INDIAN HEAD DIVISION, NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MARYLAND

Stump No.	Matrix	Sample ID	Mercury Concentration (mg/kg)
1	Wood	WO-01	0.532
2	Wood	WO-02	0.205
3	Wood	WO-03	0.540
1	Residual Soil	SO-01	0.057 U
2	Residual Soil	SO-02	0.416
3	Residual Soil	SO-03	1.73

U = Mercury was not detected; value shown is quantitation limit.

3.2 SEDIMENT/SOIL

Sediment/soil samples were collected and analyzed in accordance with the Post-Removal Action Verification Field Sampling Plan (Halliburton NUS, April 1994). The approximate sediment/soil sampling locations are shown on Figure 2-2. Analytical results are presented in Table 3-2. As shown in Table 3-2 and illustrated on Figure 2-2, initial excavation of sediment/soil from within the stream channel was successful at removing soil containing mercury in excess of the 10 mg/kg action level except for one sample at Transect 3 and one sample at Transect 7.

At Transect 3, the initial surface soil sample collected on the right side (looking downstream) of the stream channel contained 42.8 mg/kg total mercury (Sample 07). Based on this result, the RAC performed supplemental excavation. The supplemental excavation area extended approximately 10 feet upstream and downstream of the Sample 07 location. The supplemental excavation was approximately 1 foot deep. Halliburton NUS then collected supplemental soil samples 14, 15, and 16 for analysis. As shown on Table 3-2 the total mercury concentrations in these supplemental samples confirmed that sediment/soil with mercury concentration above the action level were removed from the area.

At Transect 7, Samples 26 and 27 (samples were duplicates) were collected at the northern edge of the initial excavation and contained mercury concentrations of 140 mg/kg and 214 mg/kg, respectively. The RAC then performed supplemental excavation within this area. Following that supplemental excavation, Samples 28 and 29 were collected for analysis. As shown on Table 3-2 analytical results for Samples 28 and 29 contained mercury concentrations of 0.276 mg/kg and 0.195 mg/kg, respectively. These analytical results confirmed that sediment/soil with mercury concentrations above the action level were removed by the supplemental excavation.

3.3 EXCAVATED DRUM

As described in Section 2.4, during excavation for gabion construction a previously buried drum was exposed. The RAC collected a sample of soil from inside the drum (D001) and a sample of the soil adjacent to the drum (S001). The two samples were submitted to the OHM Analytical Services Corporation Laboratory (ASC) for analysis. They were analyzed for RCRA TCLP (Toxicity Characteristic Leaching Procedure) volatile, semivolatile, metals, herbicide and pesticide constituents. No volatiles, semivolatiles, herbicides or pesticides were detected. Three metals (barium, cadmium and lead) were detected in the TCLP analysis. However the metal concentrations were below their hazardous waste classification levels. A summary of the analytical results are presented in Appendix C.

TABLE 3-2

SEDIMENT/SOIL ANALYTICAL RESULTS
SITE 8 - NITROGLYCERIN PLANT OFFICE
INDIAN HEAD DIVISION, NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MARYLAND

Transect Number/ Week Sampled	Approximate Distance from 36-inch RCP (ft)	Sample ID	Total Mercury Concentration (mg/kg)	Comments
1 Week 6	5	01	0.518	
		02	0.056 U	
		03	0.052 U	
2 Week 7	50	04	0.124	
		05	0.076	
		06	5.17	
3 Week 8	100	07	42.8	Exceeds 10 mg/kg action level
		08	0.051 U	
		09	1.63	Duplicate of 10
		10	1.85	Duplicate of 09
		14	8.65	Supplemental sample for 07
		15	4.92	Supplemental sample for 07
		16	0.939	Supplemental sample for 07
4 Week 8	150	11	0.505	
		12	0.761	
		13	0.463	
5 Week 10	200	17	0.072 U	
		18	0.057 U	
		19	0.218	
		20	0.224	Duplicate of 19
6 Week 10	250	21	0.060 U	
		22	1.28	
		23	0.049 U	
7 Weeks 10 and 11	300	24	1.40	
		25	0.643	
		26	140.0	Exceeds 10 mg/kg action level Duplicate of 27
		27	214.0	Exceeds 10 mg/kg/ action level Duplicate of 26
		28	0.276	Supplemental sample for 26 and 27
		29	0.195	Supplemental sample for 26 and 27

U = Mercury was not detected; value shown is quantitation limit.

Shading indicates exceedance of action level.

3.4 ROLLOFF CONTAINER CONTENTS

As described in Section 2.5, the excavated sediment/soil was screened prior to placement in the earthen berm of Building 606. The screened soil was placed in the berm, the material that did not pass through the screen was placed in rolloff containers and transported offsite for disposal. The RAC collected a sample of screened material from within the rolloff container (S001). Personal protective equipment (PPE) such as clothing and gloves was also placed in a rolloff container and transported offsite for disposal. Prior to offsite disposal the RAC collected a representative sample of the material for analysis (G001). The samples (S001 and G001) were submitted to ASC for RCRA TCLP volatile, semivolatile, metals, herbicides, and pesticide analysis. No volatiles, semivolatiles, metals, herbicides or pesticides were detected in S001; three metals (barium, cadmium and lead) were detected but at concentrations below their hazardous waste classification levels. Four metals (barium, cadmium, chromium and lead) and one volatile (chloroform) were detected in the TCLP analysis; however they were all below hazardous waste levels. Therefore the material contained in the rolloff containers was not classified as a hazardous waste and was sent offsite to a non-hazardous waste facility - Modern Landfill in York, Pennsylvania. A summary of the analytical results are presented in Appendix C.

4.0 SUMMARY AND CONCLUSIONS

The removal action activities achieved the removal action objective: sediment/soil with mercury concentrations above the action level were excavated and removed from the Upper Section of Stream; this eliminated sediment/soil containing elevated levels of mercury as a potential source of future mercury contamination. This removal action was performed in accordance with the recommended alternative identified in the approved EE/CA Report (Halliburton NUS, 1993b).

4.1 SUMMARY

Approximately 440 cubic yards of sediment/soil with mercury concentrations above the action level were removed from the Site 8 Upper Section of Stream. Sampling and analysis performed at Site 8 prior to the removal action indicated that there were mercury concentrations as high was 671 mg/kg in the sediment/soil prior to the removal action (Halliburton NUS, 1994a). Confirmatory sampling and analysis performed after the removal action indicated that the mercury concentrations in the remaining sediment/soil were less than 10 mg/kg.

The sediment/soil excavated from the stream channel was placed in the earthen berm of Building 606. This location was selected because it was not located in, or adjacent to, an active stream channel; placing the material in this location eliminated and/or reduced the potential for mercury from the Upper Section of Stream of Site 8 to impact downstream locations. Previous analysis of the mercury in the Site 8 sediment/soil indicated that it did not leach at concentrations that would cause it to be classified as a hazardous waste. Nevertheless, in order to provide additional security, the excavated sediment/soil from Site 8 was capped with a layer of clay and a layer of topsoil after it was placed in the earthen berm at Building 606. Caution tape was also placed at the site between the topsoil and clay layers to delineate the placement location.

The overall strategy at Site 8 was to initially 1) identify and address elevated levels of mercury concentrations at Site 8 and, 2) assess the impact that mercury has had on the ecology of Site 8. After completion of these initial tasks, the Navy was to assess what, if any, additional action was necessary. The first component of the initial strategy (identifying and addressing areas with elevated levels of mercury concentrations) was performed through the site characterization and EE/CA phases of the work at Site 8 and was completed with the removal action as described herein. The second component of the initial strategy was to perform biomonitoring to assess what, if any, mercury has had on the ecology of Site 8. This component was to

be performed through 10 rounds of quarterly biomonitoring. The field work for the last quarterly round of biomonitoring was performed in January 1995. A summary biomonitoring report is scheduled for completion in April 1995. Preliminary biomonitoring results do not indicate significant impacts from mercury at Site 8.

4.2 CONCLUSIONS

After reviewing the results of the removal action as described herein (and previously prepared associated reports), and the results of the January 1995 round of biomonitoring (and all previous rounds), remedial action alternatives will be identified and a final strategy to address Site 8 will be developed. Based on the results from the work performed ~~at~~ of Site 8, No Further Action (NFA) appears to be the appropriate ~~action~~ for Site 8.

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REFERENCES

ABB Environmental Services (ABB-ES). 1992a. Biomonitoring Work Plan: Site 8 - Nitroglycerin Plant Office (Final Document).

ABB Environmental Services (ABB-ES). 1992b. Engineering Evaluation and Cost Analysis Report: Site 8 - Nitroglycerin Plant Office.

Halliburton NUS Environmental Corporation (Halliburton NUS). 1992a. Biomonitoring Plan for Site 8 - Nitroglycerin Plant Office: Indian Head Division, Naval Surface Warfare Center, Indian Head, Maryland.

Halliburton NUS Environmental Corporation (Halliburton NUS). 1992b. Abbreviated Field Sampling Plan: Site 8 - Nitroglycerin Plant Office, Indian Head, Maryland.

Halliburton NUS Corporation (Halliburton NUS). 1993a. Site Characterization Report for Site 8 - Nitroglycerin Plant Office, Indian Head Division, Naval Surface Warfare Center, Indian, Head, Maryland.

Halliburton NUS Corporation (Halliburton NUS). 1993b. Engineering Evaluation/Cost Analysis (EE/CA) Report for Site 8 - Nitroglycerin Plant Office: Indian Head Division, Naval Surface Warfare Center, Indian Head, Maryland.

Halliburton NUS Corporation (Halliburton NUS). 1994. Post-Removal Action Verification Field Sampling Plan for Site 8 - Nitroglycerin Plant Office, Indian Head Division, Naval Surface Warfare Center, Indian Head, Maryland.

APPENDIX A

CONSTRUCTION PHOTOGRAPHS

SEDIMENT/SOIL EXCAVATION AND BACKFILL IN SITE 8 STREAM

1. Swamp mats placed in stream prior to excavation.

2. Initial excavation at outlet of 36" RCP.

3. Initial excavation looking downstream from 36" RCP.

4. Soil backfill in stream channel.

SITE 8 STREAM RECONSTRUCTION

5. Gabions at outlet of 36" RCP.

6. Looking downstream at reconstructed channel from outlet of 36" RCP.

7. Looking upstream at reconstructed stream channel--revegetative matting, riprap and gabions.

8. Intersection of reconstructed Site 8 stream (left) and tributary (right) channels.

9. Constructing access road and excavating earthen berm prior to sediment/soil placement.

10. Placing sediment/soil in earthen berm.

11. Revegetative matting on sediment/soil placement area.

12. Revegetative matting on earthen berm of Building 606.

APPENDIX B

DAILY CONSTRUCTION REPORT FORMS

DAILY CONSTRUCTION REPORT

DATE 8/23/94

DAY S M T W TH F S

PROJECT Indian Head - Site 8
JOB NO. CTO 099
CLIENT NAVY
CONTRACTOR OHM - Al Maze
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32-50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No.	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
Al - supervisor 1 - site foreman 1 - operator 1 - HAS 4 - laborers			

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE 1 track excavator, 1 backhoe, 1 rubber wheel roller, 2 ~~CAT~~ CASE graders, 1 22T dump truck, 1 pumps (estimate), 1 small hand roller 1 forklift, 2 generators

CONSTRUCTION ACTIVITIES

Major activities today:

1. Al Maze & 1 site foreman & 1 laborer survey backfilled area between RCP & transect #4. Al locates transit between transect 3 & 4 very near transect 3, on east bank. This is not an identified benchmark. Al locates center swale by running a chord from lower right edge of RCP to stake located at center swale of transect #4. Al estimates location of C_L @ transect 4 - not based on any survey info. I note this should be based on surveyed info. He does not agree. (1:00 - I leave @ 3:30)

2. Operator runs track excavator for full day excavating soil from transect #4 to beyond transect #6. At my departure @ 3:30 they are @ easternmost edge of access corridor in excavation (all day)

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PAGE 1 OF 2 PAGES

BY C S. Farkos TITLE field eng.

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DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT Indian Head - Site 8 REPORT NO.

JOB NO. CTO - 099 DATE 8/23/94

CONSTRUCTION ACTIVITIES (Continued)

3. H&S person periodically operates backhoe @ dump area so that soil is properly placed in temporary storage.

4. 1 laborer drives dump truck between dump area & excavation area while loader excavates. Observe additional laborer riding in truck on many occassions. Excavator is idle between trips to dump area.

5. 1 laborer directs truck for each trip off site to dump area.

6. I note that water from northernmost outfall pipe is draining into excavated area near transect 5 in am. Floats on pumps in this area are not properly functioning to stop H_2O. Bill sends laborer over to down on & monitor pumps to stop flow. Significant H_2O already present in this part of swale by this pumps work. Note that later in afternoon drainage is occuring again.

7. I phone lab & receive results for soil analysis for transects 5 & 6. Phone @ 11:00 AM. All samples below 10 mg/kg action level. I inform crew @ 12:00 noon. Excavation clear. Samples were delivered to lab @ 3:00 PM the day earlier. Much better than 24 hr turnaround. Hardcopy arrives @ 3:00 PM today.

SHEET 2 OF 2

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BY C.S. Farkos TITLE field eng

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 8/24/94

DAY | S | M | T | W | TH | F | S |

PROJECT Indian Head - Site 8
JOB NO. CTO - 0099
CLIENT NAVY
CONTRACTOR OHM - Al Mate
PROJECT MANAGER

WEATHER	Bright Sun	Clear	Overcast	Rain	Snow
TEMP.	Below 32	32-50	50-70	70-85	Above 85
WIND	Still	Moder	High	Report No.	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
Al - supervisor 1 - site foreman 1 - operator 1 - HAS 4 - laborers			Crew In: 5:50 AM Crew Out: 5:00 PM 1 hr lunch

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

1 track excavator, 1 backhoe, 1 rubber wheel roller, 2 CASE graders, 1 22-T dump truck, 1 large pumps (carrying to yesterday), 1 small hand roller, 1 forklift, 2 generators

CONSTRUCTION ACTIVITIES

Major Activities today:

1. The day was spent moving 19 swamp mats from the storage location @ transect #7 @ base of Access corridor to the loading area @ bunker & Building 606. Following people were involved in activity:

- 1 laborer decontaminated each swamp mat in sumpe with power hose. Transport loader was decomed also.
- 1 laborer transferred swamp mat up access corridor to road using CASE front loader
- 1 laborer transferred swamp mat from access corridor to bunker using fork lift.
- 1 operator relocated soil in the temporary dump area for 3-4 hrs so as to make room for additional soil.

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DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT Inchman Head - Site 8 REPORT NO.

JOB NO. CTO - 0099 DATE 8/24/94

CONSTRUCTION ACTIVITIES (Continued)

At 7:30 AM H_2O was discharged from storage tank containment basins across the road from the site. The volume of H_2O is substantial & rapidly overfills the temporary collection sump @ drainect #5 outfall area. Water begins to spill over sump & collect in freshly excavated area of swale between drainects #5 & #6. H_2O fills 2 ft excavated trench through the center swale area. I alert Dave & he sets up pump @ drainect #6 which will then pump water & transfer it over the top of dike & into stream on other side of the dike. H_2O inflow & outflow are approx equal @ this dike. In ≅ 1.5 hrs pumps on other side of road are stopped & swale pump begins to reduce volume of H_2O in swale.

SHEET 2 OF 2

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DAILY CONSTRUCTION REPORT

DATE 8/25/94

DAY | S | M | T | W | TH ✓ | F | S |

PROJECT Indian Head - Site 8
JOB NO. CTO - 099
CLIENT NAVY
CONTRACTOR OHM - Al Mace
PROJECT MANAGER

WEATHER	Blue Sky ✓	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85 ✓	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
Al - supervisor 1 - site foreman 1 - operator 1 - HAS 48 - laborers			Crew In: 550 AM 1 hr lunch

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE
1 track excavator, 1 backhoe, 1 rubber wheel roller, 2 case graders, 1 22T dump truck, 1 large pump, 1 generator, 1 small hand roller 1 forklift

CONSTRUCTION ACTIVITIES

Morning Activities until 11:00 AM lunch include:

1 - operator lifting swamp mats for decontamination & drainsher to forklift.

1 - laborer decontaminating swamp mats
1 - laborer attaching & detaching chains from mats
1 - laborer / operator moving swamp mat from access corridor to temporary storage on Asphalt road.

1 laborer + 1 HAS take site vehicles for repairs.

- Crew works thru break to complete move mats.

- Movement of mats continues until ≈ 1:30 PM

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PAGE 1 OF 2 PAGES

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DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT Indian Head - Site 8 REPORT NO.

JOB NO. CTO - 0099 DATE 8/25/84

CONSTRUCTION ACTIVITIES (Continued)

At ≅ 1:30 PM only a few mats remain in swale
A total of 17 mats will be moved & decanted
today. No mats remain in swale.

At ≅ 1:30:

1 - laborer prepares dump truck for excavated
soil. Laborer driving forklift drives dozer to pull truck
up access road when full.
Swamp mat transfer crew continues to operate.

2 full truckloads of soil are removed from
site in area of transect #7 near end of
swale. Excavation will be completed today
for entire swale. Operator excavates & marks
swamp mats & soil.

4 soil samples are collected by NUS employee along
transect #7. Samples delivered to lab @
4:40 PM.

- In process of collecting samples H_2O must be
pumped from center swale area. Pump breaks
down due to collection of debris in impeller.
1 - site foreman & 2 laborers used to
repair.

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SHEET 2 OF 2

BY CS Farkos TITLE field eng

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 8/29/94

DAY | S | ~~M~~ | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO - 0099
CLIENT NAVY
CONTRACTOR OHM - Al MAZE
PROJECT MANAGER

WEATHER	Brite Sun	Clear	~~Overcast~~	Rain	Snow
TEMP.	To 32	32 50	50-70	~~70-85~~	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
Al - supervisor 1 - site foreman 1 - operator 1 - H&S 4 - laborers		~~8~~ (log sheet)	Crew IN: 5:50 AM Crew out: 5:00 PM

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE
1 track excavator, 1 backhoe, 1 rubber wheel roller, 2 CASE graders, 1 22T dump truck, 1 large pump, 1 generator, 1 forklift, 1 hand roller

CONSTRUCTION ACTIVITIES

C. Farkos + T Klinch arrive @ site from P. Highgh @ 9:00 AM.

Arrive @ site to see crew applying clean backfill to excavated area between transects 4 & 7.

Crew involved:
1 - operator overseeing grading activity of younger operator.
1 - laborer/operator running CASE grader to spread backfill
1 - laborer directing dump trucks to site & access corridor.
1 - laborer periodically operating roller to compact.

- Backfill is applied directly to swale w residual water remaining in 2 ft excavation area. As backfill is applied it catches to push this water toward transect # 4 & the mid-swale dike/sump. Water is also being covered & absorbed into backfill. Soft spots result when compacted by roller.

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BY C.S. Farkos TITLE field eng.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT Indian Head – Site 8 REPORT NO.

JOB NO. CTO - 0099 DATE 8/29/94

CONSTRUCTION ACTIVITIES (Continued)

- Backfill continues until AL stops run of trucks due to rain @ 1:30 PM. Total of 16 trucks of backfill was delivered today.

- Backfill is applied also ~~along~~ up to ≅ 5 ft from bottom-of-swale dike. Little to no area available for sediment & water to collect.

- Arrive @ site w/ Tony to see 2 laborers moving gabions to the bank of the swale. A total of 7 gabions were moved.

- At 3:00 PM 3 laborers are sent to site to collect soil for proctor tests. Collected soil to be tested by lab tomorrow. Three soil samples taken. 1 from below dike as represented of excavated soil.
  1 from backfill of upper swale area
  1 from backfill of lower swale area.

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SHEET ____ OF ____

BY CA Fachos TITLE Field eng.

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 8.30.94

DAY | S | M | T (X) | W | TH | F | S

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO - 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear (X)	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85 (X)	85 up
WIND	Still	Moder (X)	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	SUPERVISOR		1
		FOREMAN	1
	HEALTH & SAFETY	OPERATOR	1
			1
		LABORERS	2

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR	LOADER 855 CASE	DUMP TRUCK 113H	COMPACTOR (WALK BEHIND)
HEAVY LIFT FORKTRUCK	BOMAG VIB. ROLLER	MUD PUMP 11.0 HP	
DOZER 850 CASE	TRACTOR BARKHOE	GENERATOR 20KW	

CONSTRUCTION ACTIVITIES

C. FARKOS / R. MCGUIRE ARRIVE AT SITE 0710. OHM CREW LOG IN SHEET INDICATES 0550 ARRIVAL AND 1700 DEPARTURE.

OHM CREW EXCAVATING SOIL FROM AREA AT EAST SIDE OF DAM ABOVE DAM (T_7). REFERENCE FIELD SAMPLING PLAN TR7-L-28, TR7-L-29. EXCAVATED SOIL LOADED INTO DUMP TRUCK. EXCAVATION UTILIZED TRACKED EXCAVATOR.

EXCAVATOR USED TO "CLEAN-UP" SWALE AT LOWER DAM.
SOIL FOR FILL ARRIVES. FILL SOIL USED TO "MOVE" WATER TOWARD SUMPS. SOME STANDING WATER ABSORBED INTO PUSHED FILL. THIS MATERIAL BECOMES SATURATED AS IT IS GRADED AND COMPACTED.

HANDS PERSONNEL COORDINATE WITH NAVY STAFF TO ESTABLISH WORK AREA WITH PHONE, FAX, CAMERA ASS.

DUMPING AND FILLING w/ GRADING CONTINUE THROUGHOUT THE MORNING.
VISIT TO BUNKER AREA SHOWS THAT "WETLANDS" AREA HAS BEEN MOWED w/ LAWN MOWER.

~~HANDS~~ C. FARKOS DEPARTS SITE ± 1200.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 8·30·94

CONSTRUCTION ACTIVITIES (Continued)

AFTER LUNCH R. McGUIRE MEETS W/ LT. JAMES WINK & J. BOSWELL.

MHM CREW SETS UP MUD PUMP (11.0 HP) SOUTH OF T4 TO REMOVE STANDING WATER.

HOSE IS SHORT, CAN'T REACH DAM. MHM CREW DIRECTS HOSE UP BANK EAST OF WORK AREA TO TOP OF HILL AND PUMP WATER. HOSE LEAKS AT SEVERAL LOCATIONS.

PLACEMENT AND GRADING OF FILL CONTINUES THROUGHOUT THE AFTERNOON

MHM CREW BEGINS SHUTDOWN 1630.

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Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 8.31.94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32-50	50-70	70-85	85 up
WIND	Still	Moderate	High	Report No	
HUMIDITY	Dry	Moderate	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	T. BENDA	SUPERVISOR
		E. NELAN	LABOR
		D. MAZE	CLERK
		J CALDROS	LABOR
		R. MOYER	LABOR
		E. DRYER	OPERATOR
		B. FLANAGAN	LABOR
			LABOR

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR	LOADER 855	DUMPTRUCK 113H	COMPACTOR (WALK BEHIND)
HEAVY LIFT FORKTRUCK	VIBRATORY ROLLER	MUD PUMP 11.0 HP	
DOZER 850	TRACTOR BACKHOE	GENERATOR	

CONSTRUCTION ACTIVITIES

ARRIVE ON-SITE 0725 OPERATOR & SUPERVISOR GRADING AND COMPACTING W/ BOMAG & 850 REMAINDER OF CREW WATCHING. OHM CREW SIGN IN 0550. DEPART 1800.

FILL SOIL CONTINUES TO ARRIVE THROUGHOUT MORNING. BOMAG & 850 DOZER USED TO SPREAD AND COMPACT FILL SOIL. LABORERS PERIODICALLY IDLE. "SPRINGS" OF WATER NOTED IN FILLED AREA.

0850 LABORERS INITIATE CONFINED SPACE ENTRY AT MANHOLE ADJACENT TO BLDG 765. A. MAZE INDICATED THAT THE PUMP IN THE MANHOLE LOST POWER OVERNIGHT DUE TO "BLOWN FUSE" THE MANHOLE FLOODED AND HAD TO BE PUMPED OUT. 36"Ø RCP CONTINUES TO LEAK

TRACTOR BACKHOE MOVED TO TOP OF ACCESS ROAD AND PRESSURE WASHED AFTER LUNCH (1340)

TRUCKS W/ FILL CONTINUE TO ARRIVE DURING EARLY AFTERNOON. FILL SPREAD W/ 850. BOMAG ROLLS FILL.

EXCAVATOR MOVED TO 36"Ø RCP OUTFALL AREA. EXCAVATION OF THIS AREA INITIATED. EXCAVATED SOIL SATURATED. SOIL REMAINS WET BELOW BOTTOM OF EXCAVATION.

OHM CREW STOPS WORK ± 1800. DEPART 1815.

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Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

DATE 9·1·94

DAY | S | M | T | W | ~~TH~~ | F | S |

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	~~Overcast~~	Rain	Snow
TEMP.	To 32	32-50	50-70	~~70-85~~	85 up
WIND	Still	Moder	High	Report No
HUMIDITY	Dry	Moder	Humid	

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	SUPERVISOR	Remarks
OHM	A. MAZE	T. BENDA	LABOR	
		E. NELAN	CLERK	
		D. MAZE	LABOR	
		J. CALDER	LABOR	
		B. FLANNIGAN	LABOR	
		E. ARCHER	LABOR	
		R. MOYER	OPERATOR	

VISITORS

Time	Representing	~~Representing~~	Remarks
1455	NAVY ROICC	JIM BOSWELL	

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR	LOADER 955	DUMPTRUCK	COMPACTOR (WALK BEHIND)
HEAVY LIFT FORKLIFT	DOMAG VIB. ROLLER	MUD PUMP (11.0 HP)	
DOZER 850	TRACTOR BACKHOE	GENERATOR 20 KW	

CONSTRUCTION ACTIVITIES

* ARRIVE 0700 FILL TRUCK DUMPS FILL 850 & 955 SPREAD FILL IN UPPER PORTION OF WORK AREA BETWEEN T2 & T4. THIS AREA RUTTED. SOIL VERY MOIST.

* 0800 EXCAVATOR CONTINUES EXCAVATION AT 36"Ø RCP OUTFALL. SOIL IS WET/SATURATED. EXCAVATED SOIL MOVED TO ROAD (ACCESS) W/ 955 & TRACTOR BACKHOE.

* 0840 A. MAZE RETURNS TO EXCAVATION AREA @ RCP. END SECTION OF RCP COLLAPSES INTO EXCAVATION AREA. SOIL IN EXCAVATION AREA IS SATURATED. WATER FROM PIPE SPILLS INTO EXCAVATION. "GROUNDWATER" SEEPS NOTED IN VICINITY OF RCP & EXCAVATION SLOPES. OHM USES EXCAVATOR W/ CHAIN TO REMOVE PIPE. EXCAVATION APPEARS TO BE ± 2.0 FEET OVEREXCAVATED BASED ON "EYEBALLING" OF BOTTOM ELEVATION BY A. MAZE. R. McGUIRE NOTES POTENTIAL UNSTABLE SLOPE TO A. MAZE.

* 0935 OHM CREW INITIATES CONFINED SPACE ENTRY TO PLUG LEAKING RCP FROM DOWN STREAM SIDE. A. MAZE DIRECTS INITIATION OF SUMP PUMP INSTALLATION.

* 1130 EXCAVATOR REMOVES TREE FROM TOP OF SLOPE. THEN MOVED OUT OF EXCAVATION AREA. 850 & 955 GRADE AREA BELOW OUTFALL UNTIL ± 1330.

* DURING AFTERNOON EXCAVATOR USED TO "CLEAN-UP" RCP OUTFALL AREA.
SUMP W/ GEOTEXTILE & PUMPS INSTALLED IN EXCAVATION OF RCP OUTFALL.
J. BOSWELL VISITS SITE ± 1450. CITES OHM FOR SILT FENCE AT DAM AND POTENTIAL INSTABILITY OF SLOPE AT RCP EXCAVATION.
DEPART SITE 1630.

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DAILY CONSTRUCTION REPORT

DATE 9.1.94

DAY: S | M | T | W | ~~TH~~ | F | S

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	~~Overcast~~	Rain	Snow
TEMP.	To 32	32 50	50-70	~~70-85~~	85 up
WIND	Still	~~Moder~~	High	Report No	
HUMIDITY	Dry	~~Moder~~	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	SUPERVISOR	Remarks
OHM	A. MAZE	T. BENDA	LABOR	
		E. NOLAN	CLERK	
		D. MAZE	LABOR	
		J. CALDER	LABOR	
		B. FLANAGAN	LABOR	
		E. BAYER	LABOR	
		R. MOYER	OPERATOR	

VISITORS

Time	Representing	~~Representing~~	Remarks
1455	NAVY ROICC	JIM BOSWELL	

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR	LOADER 855	DUMP TRUCK	COMPACTOR (WALK BEHIND)
HEAVY LIFT FORKLIFT	BOMAG VIB. ROLLER	MUD PUMP (1½ HP)	
DOZER 850	TRACTOR BACKHOE	GENERATOR 20 KW	

CONSTRUCTION ACTIVITIES

* ARRIVE 0700 FILL TRUCK DUMPS FILL 850 & 855 SPREAD FILL IN UPPER PORTION OF WORK AREA BETWEEN T2 & T4. THIS AREA RUTTED. SOIL VERY MOIST.

* 0800 EXCAVATOR CONTINUES EXCAVATION AT 36"Ø RCP OUTFALL. SOIL IS WET/SATURATED. EXCAVATED SOIL MOVED TO ROAD (ACCESS) W/ 855 & TRACTOR BACKHOE.

* 0840 A. MAZE RETURNS TO EXCAVATION AREA @ RCP. END SECTION OF RCP COLLAPSES INTO EXCAVATION AREA. SOIL IN EXCAVATION AREA IS SATURATED. WATER FROM PIPE SPILLS INTO EXCAVATION. "GROUNDWATER" SEEPS NOTED IN VICINITY OF RCP & EXCAVATION SIDES. OHM USES EXCAVATOR W/ CHAIN TO REMOVE PIPE. EXCAVATION APPEARS TO BE ± 2.0 FEET OVEREXCAVATED BASED ON "EYE BALLING" OF BOTTOM ELEVATION BY A. MAZE. R. McGUIRE NOTES POTENTIAL UNSTABLE SLOPE TO A. MAZE.

* 0935 OHM CREW INITIATES CONFINED SPACE ENTRY TO PLUG LEAKING RCP FROM DOWN STREAM SIDE. A. MAZE DIRECTS INITIATION OF SUMP PUMP INSTALLATION.

* 1130 EXCAVATOR REMOVES TREE FROM TOP OF SLOPE. THEN MOVED OUT OF EXCAVATION AREA. 850 & 855 GRADE AREA BELOW OUTFALL UNTIL ± 1330.

* DURING AFTERNOON EXCAVATOR USED TO "CLEAN-UP" RCP OUTFALL AREA. SUMP W/ GEOTEXTILE & PUMPS INSTALLED IN EXCAVATION OF RCP OUTFALL.

J. BOSWELL VISITS SITE ± 1450. CITES OHM FOR SILT FENCE AT DAM AND POTENTIAL INSTABILITY OF SLOPE AT RCP EXCAVATION.

DEPART SITE 1630.

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DAILY CONSTRUCTION REPORT

DATE 9·6·94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE E. NELAN	W. SHREWSBURY B. FLANAGAN D. MAZE E. BRYER J. CALDER	SUPERVISOR CLERK FOREMAN LABOR LABOR H & S LABOR

VISITORS

Time	Representing	Representing	Remarks

* NOTE: ✓ INDICATES EQUIPMENT USAGE

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR ✓	LOADER 955 ✓	DUMP TRUCK W3H	COMPACTOR (WALK BEHIND)
HEAVY WET FORKTRUCK	BOMAG VIBE. ROLLER	MUD PUMP 11.0 HP.	COMPACTOR (VIBE. FLOAT PLATE) ✓
DOZER 850 CASE ✓	TRACTOR BACKHOE ✓	GENERATOR 20KW ✓	

CONSTRUCTION ACTIVITIES

R. MCGUIRE ARRIVES ON-SITE 0930. OHM NOT ON-SITE YET. OBSERVE SITE: STANDING WATER IN ALL SUMPS; TRICKLE FLOW FROM RCP. NEW SILT FENCE IN PLACE AT DAM. COMPLETE PAPERWORK & PICKUP CAMERA PASS, VISIT SHAWN JORGENSON → RETURN TO SITE ± 1250 OHM ON-SITE. SIGN-IN LOG NOTES ARRIVAL AT 1200. EARLY AFTERNOON (± 1300) OHM INITIATES ON-SITE WORK.

TEMPORARY SUMP REMOVED FROM EXCAVATION AREA. STANDING WATER PARTIALLY REMOVED FROM THREE SUMP AREAS.

MUD EXCAVATED FROM RCP AREA W/ EXCAVATOR. GEOTEXTILE PLACED. FILL SOIL PLACED & COMPRESSED OVER GEOTEXTILE W/ EXCAVATOR. BACKFILL PLACED AFTER BEING "EYEBALLED" FOR TOP OF GRADE ELEVATION. STAKES USED TO SET GRADE. AT END OF DAY TOP ELEVATION OF FILL APPEAR TO BE 2-4" BELOW REQUIRED ELEVATION. FILL COMPRESSED W/ EXCAVATOR BUCKET.

SUMP IS EXCAVATED IN RCP AREA FOR DRAINAGE. SUMP CONSISTS OF EXCAVATED TRENCH WITH PLASTIC SHEET LINER. PERFORATED DRUM WRAPPED IN GEOTEXTILE PLACED ON TOP OF PLASTIC AND SURROUNDED W/ GRAVEL. PLASTIC SHEET COVERS 85% OF EXCAVATION AREA. TRICKLE FLOW FROM RCP AND SOME SEEPS ARE RECOVERED ON TOP OF PLASTIC. HOWEVER, SOIL BELOW PLASTIC IS VERY WET.

CONCERNS REMAIN REGARDING STABILITY OF BANK AT RCP BELOW RR TRACKS.

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Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

DATE 9.7.94

DAY: S | M | T | W | TH [X] | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear [X]	Overcast	Rain	Snow
TEMP.	To 32	32-50	50-70	70-85 [X]	85 up
WIND	Soft [X]	Moder	High	Report No	
HUMIDITY	Dry	Moder [X]	Humid		

AVERAGE FIELD FORCE OHM MAINTAINS A PURCHASING CLERK AT TRAILER IN ADDITION TO MANUAL PERSONNEL.

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	E. NELAN	SUPERVISOR
		WM. SHREWSBURY	LABOR
		B. FLANAGAN	FOREMAN
		D. MAZE	LABOR
		E. BRYER	LABOR
		J. CALDER	H & S
		R. MOYER	LABOR
			OPERATOR

VISITORS

Time	Representing	Representing	Remarks
0815	SHAWN JORGENSEN	NAVY	

NOTE: ✓ INDICATES EQUIPMENT TODAY

EQUIPMENT AT THE SITE

TRACKED EXCAVATOR ✓	LOADER 955 ✓	DUMP TRUCK 1134 ✓	COMPACTOR (WALK BEHIND ROLLER)
FORK TRUCK	BOMAG VIBE ROLLER	MUD PUMP ✓	COMPACTOR (VIBE PLATE)
DOZER 850 CASE	TRACTOR BACKHOE	GENERATOR ✓	

CONSTRUCTION ACTIVITIES

0730 SUMP REMOVED AND REINSTALLED AT REP AREA AFTER DISCOVERY OF "DRUM". DRUM DISCOVERED @0700, SUMP REMOVED 0730. REINSTALLED 0940. DRUM OBSERVED BY NAVY PERSONNEL 0815. S. JORGENSEN & TOM

1100 GOW AREA: GEOTEXTILE & WETLANDS AREA LAYED OUT BY EYE & PAINT. SILT FENCE ALSO LAYED OUT. OHM COORDINATES WITH NAVY REGARDING "DRUM" DISPOSITION. INSTALLATION AT T5 OF SUMP PUMP COMPLETED. AL MAZE DISCUSSES PARTIAL DEMOBILIZATION ON THURSDAY AND/OR FRIDAY DUE TO UNCOVERING OF DRUM.

P.M. EQUIPMENT CLEANED, WOOD DEBRIS AT ACCESS ROAD MOVED TO GOW AREA. EXCAVATOR USED TO LOAD DUMP TRUCK. DEPART SITE @ ≈1815

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BY Richard [illegible] TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

DATE 9.8.94

DAY: S | M | T | W | TH (X) | F | S

PROJECT INDIAN HEAD - SITE 8
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear (X)	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70 (X)	70 85	85 up
WIND	Still (X)	Moder	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	T. BENDA D. MAZE E. NELAN R. BRYER W. SHREWSBURY J. CALDER B. FLANAGAN R. MOYER	SUPERVISOR LABOR LABOR ~~LABOR~~ H&S FOREMAN LABOR LABOR OPERATOR
		K. ?	TECHNICIAN

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

✓ INDICATES USAGE TODAY.

TRACK EXCAVATOR ✓	LOADER 855 ✓	DUMPTRUCK	COMPACTOR (ROLLER "WALK-BEHIND)	DITCH WITCH ✓
HEAVY LIFT FORKLIFTRUCK ✓	BOMAG WIRE ROLLER	MUD PUMP ✓	COMPACTOR (WIDE FLAT PLATE)	
DOZER 850	TRACTOR BACKHOE	GENERATOR ✓	COMPACTOR (JUMPING JACK)	

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. INSTALLATION OF SILT FENCE AREA 606 AND LOGS MOVED TO 606 AREA FROM STOCKPILE AT ALLEN ROAD.
2. INSTALLATION OF ELECTRIC SUMP PUMP @ DAM
3. EXCAVATION OF "DRUM" FROM RCP AREA
4. SAMPLING OF "DRUM" REMOVED FROM RCP AREA
5. DEMOBILIZATION OF CREW AT END OF WORK DAY.
6. RETURN OF RENTAL EQUIPMENT (LIFT TRUCK AND TRACTOR BACKHOE)
7. ARRIVAL OF RENTAL "DITCH WITCH."

ACTIVITIES:
1. DITCH WITCH USED TO INSTALL SILT FENCE AT 606 AREA (0900 – 1100)
   TWO MAN CREW; APPROXIMATELY 2 HOURS; DITCHWITCH AND SHOVELS
2. INSTALLATION OF ELECTRIC SUMP PUMP AT DAM AREA (1430 – 1515)
   THREE MAN CREW; APPROXIMATELY 45 MINUTES; SUMP PUMP, EXCAVATOR.
3. EXCAVATION OF DRUM FROM RCP AREA (LEVEL B) (1630 – 1730)
   SUPERVISOR, H&S, OPERATOR, LABORER; APPROXIMATELY 1 HOUR; EXCAVATOR, 855 LOADER, PLASTIC SHEETING
4. SAMPLING OF DRUM REMOVED FROM RCP AREA (1730 – 1755)
   H&S, TECHNICIAN; 30 MINUTES; SAMPLE BOTTLES, HNU, GLOVES, TROWEL
5. DEMOB OF CREW (30 – 45 MINUTES) SUPERVISOR, FOREMAN, LABORERS, OPERATOR.
6. RETURN OF RENTAL EQUIPMENT: OPERATOR (15 MIN)
7. ARRIVAL OF DITCHWITCH: LABORER (15 MIN)

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BY Richard McGuire TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 9.8.94

CONSTRUCTION ACTIVITIES (Continued)

OBSERVATIONS: - ONLY OPERATOR, H.E.L. LABORER ON-SITE FROM ±0745 → 1615 HRS

- SAMPLING TECHNICIAN ON-SITE 1600 – 1800 HRS
- SUMP PUMP AT RCP AREA INACTIVE DURING LATE MORNING WATER LEVEL REACHES TOP OF SUMP. NOTED THAT SUMP PUMP WAS UNPLUGGED. PUMP WAS OPERATING DURING EARLY MORNING.
- MUD PUMP REMOVED FROM DAM AREA ± 1340 HRS. ELECTRIC PUMP INSTALLED AT DAM ± 1515 HRS. NO STONE USED IN SUMP CONSTRUCTION.
- PLASTIC SHEETING IN RCP AREA COVERS SOIL THAT IS BECOMING SATURATED.
- A PORTION OF THE BANK ABOVE THE AREA WHERE THE DRUM WAS EXCAVATED FELL INTO THE EXCAVATION PARTIALLY BURYING THE PLASTIC SHEETING. ADDITIONAL COLLAPSE IS POSSIBLE.
- TWO SAMPLES WERE TAKEN FROM THE EXCAVATED DRUM. ONE SAMPLE WAS SOIL FROM THE OUTSIDE OF THE DRUM. A SECOND WAS OF SOIL FOUND ON THE INSIDE OF THE DRUM. BOTH WERE COMPOSITE SAMPLES OBTAINED INDIVIDUALLY.
- EXCAVATOR NOT DECONTAMINATED AFTER DRUM REMOVAL ACTIVITIES.

COMMENTARY: LAYOUT OF THE 606 EXCAVATION BY SURVEY (ROD, TRANSIT, THEADOLITE) HAS NOT BEEN STARTED. IN ORDER TO DEVELOP ACCURATE "AS-BUILTS" THIS LAYOUT MUST BE COMPLETED PRIOR TO EXCAVATION.

BOTH A GENERATOR AND DIRECT CONNECTION TO ON-SITE ELECTRIC POWER IS BEING USED TO POWER PUMPS. IS THIS NECESSARY? IF SO, COULD A SMALLER GENERATOR BE RENTED?

SUMPS HAVE NOT BEEN CONSTRUCTED AS DESIGNED. THEY ALSO HAVE NOT BEEN OPERATED CONTINUOUSLY. EFFECTIVE CONTROL OF SOIL MOISTURE CONTENT IS ESSENTIAL FOR WORK IN THE RCP AREA. SATURATED SOIL WILL PRODUCE AN INEFFECTIVE FOUNDATION FOR GABION INSTALLATION AND COULD RESULT IN SLOPE FAILURE OR INSTALLATION PROBLEMS DURING AND AFTER GABIONS HAVE BEEN PLACED.

GEOTECHNICAL LAB ANALYTICAL DATA IS NOT YET AVAILABLE FOR SAMPLES OF SOIL PROPOSED FOR USE IN THE 606 AREA. WITHOUT THIS DATA COMPACTION TESTING OF PLACED SOIL CANNOT BE CONDUCTED. ALSO DECISIONS REGARDING EQUIPMENT AND COMPACTION METHODS CANNOT BE MADE WITHOUT THIS INFORMATION. MINIMUM INFORMATION REQUIRED INCLUDES GRAIN SIZE ANALYSIS, MOISTURE CONTENT, AND MOISTURE/DENSITY RELATIONSHIP CURVE.

A GANTT CHART AND CPM SCHEDULE WOULD BE HELPFUL IN ESTABLISHING THE SEQUENCE OF ACTIVITIES AND COMPLETION DATE FOR THE PROJECT. WITHOUT THIS TYPE OF CHART AND EVALUATION (WITH UPDATES), THE PROJECT REMAINS LARGELY OPEN ENDED.

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SHEET 2 OF 2

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Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 9 SEPTEMBER 94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70 85	85 up
WIND	Sun	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM			NOT ON SITE.

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

EXCAVATOR 855 LOADER DUMP TRUCK COMPACTOR (JUMPING JACK) 3"Ø ELECTRIC PUMP
850 DOZER DITCH WITCH COMPACTOR (VIBE. PLATE) MUD PUMP (2) 2"Ø ELECTRIC PUMP

CONSTRUCTION ACTIVITIES

OHM CREW INACTIVE & DEMOBILIZED. NOT PRESENT ON SITE
HANS ARRIVE 0705 HRS. PREPARE REPORTS
@1100 VISIT SHAWN JORGENSEN. DEPART FACILITY.

NOTE: SUMP PUMP AT DAM NOT PLUGGED IN AND NOT OPERATING.

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BY Richard M. Gaine TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

DATE 12 SEPTEMBER 94

DAY: S | M (X) | T | W | TH | F | S

PROJECT INDIAN HEAD – SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast (X)	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85 (X)	85 up
WIND	Still (X)	Moder	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE		SUPERVISOR
		B. SARENSBURY	FOREMAN
		T. BEUM	CLERK
		E. BAYER	N & S
		E. NELAN	LABOR
		G. FLANAGAN	LABOR
		D. MAZE	LABOR
		J. LAUER	LABOR

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

GENERATOR ✓

INDICATES DAILY USAGE

EXCAVATOR ✓	850 DOZER	DITCHWITCH	JUMPING JACK COMPACTOR ✓	3"Ø ELEC. PUMP ✓
855 LOADER ✓	DUMP TRUCK	PLATE VIBE. COMPACTOR ✓	MUD PUMP	(2) 2"Ø ELEC. PUMP ✓✓

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. REMOVAL OF SUMP POND FROM RCP AREA, FINAL GRADING OF FOUNDATION SOIL
2. INSTALLATION OF GEOTEXTILE IN RCP AREA
3. PLACEMENT OF GABION WIRE BASKETS FOR FOUNDATION MAT
4. FILLING GABION FOUNDATION MAT WITH STONE
5. REINSTALLATION OF SUMP PUMP AT RCP AREA AT END OF DAY.

ACTIVITIES:
1. EXCAVATOR USED TO STOCKPILE SOIL IN T6 AREA. SOIL WAS PREVIOUSLY PART OF FILL SOIL IN SAME AREA.
2. 855 LOADER MOVES FILL TO RCP AREA FOR INSTALLATION AS FINAL GRADING MATERIAL.
3. LABORER & H&S USE LEVEL (SURVEY TRANSIT) TO SET FINAL GRADE ELEVATIONS. (APPROXIMATELY 2" OF FILL REQUIRED. FINAL GRADE ACCURACY: ± 0.1 FT.)
4. GEOTEXTILE CUT AND MOVED TO RCP AREA. GEOTEXTILE INSTALLED IN TWO LAYERS LAYER 1 FITTED ACROSS FLOOR OF EXCAVATION. LAYER FITTED ACROSS FLOORS AND TWO VERTICAL WALLS.
5. WIRE GABION BASKET MOVED INTO PLACE AND POSITIONED ON GEOTEXTILE.
6. 855 LOADER MOVED STONE FROM STOCKPILE AREA AT ACCESS ROAD TO RCP AREA.
7. EXCAVATOR USED TO PLACE STONE IN GABION BASKETS. STONE POSITIONED IN BASKETS WITH PICK-AX AND RAKE.
8. SUMP PUMPS ARE NOT OPERATING ON A REGULAR CONTINUOUS BASIS. ONE OR MORE PUMPS ARE NOT OPERATING AT ANY GIVEN TIME.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 12 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

OBSERVATIONS: BACK WALL OF RCP AREA COVERED WITH GEOTEXTILE HORIZONTALLY AND NOT VERTICALLY. THIS TYPE OF GEOMETRY IS NOT INDUSTRY STANDARD. UNLESS A VARIANCE FOR DEVIATION FROM SPECIFICATIONS, SEAMS OF THE GEOTEXTILE SHALL BE SEWN, NOT OVERLAPPED.

SOIL MOISTURE CONTENT IS IN EXCESS OF THE OPTIMUM MOISTURE CONTENT FOR COMPACTION. DENSITY TESTING OF SOIL IS NOT BEING CONDUCTED.

SOIL COMPACTION IS NOT BEING PROVIDED. SOIL IS PLACED IN LIFTS EXCEEDING 12-18 INCHES. PLACED SOIL IS COMPRESSED USING THE BUCKET OF THE EXCAVATOR. BOTH OF THESE PRACTICES FAIL TO CONFORM TO SPECIFICATION REQUIREMENTS (REF. SPEC. SECTION 02220, 3.6 COMPACTION.)

GABION BASKETS ARE BEING WIRED CLOSED WITH TWIST TIES PLACED AT 6 TO 12" INTERVALS. THE MANUFACTURER WOULD NORMALLY RECOMMEND THREADING AND WRAPPING WIRE THROUGH THE TWO SIDES OF BASKET BEING CLOSED. THE THREADING AND WRAPPING IS NORMALLY CONTINUOUS.

PROCTOR TEST DATA IS NOT BEING UTILIZED OR IS NOT AVAILABLE. WITHOUT THIS DATA TESTING OF SOIL FOR COMPLIANCE WITH COMPACTION CRITERIA IS NOT POSSIBLE.

COMMENTARY: WITHOUT PROCTOR DATA THE DENSITY OF COMPRESSED ("COMPACTED") SOIL CANNOT BE DETERMINED. WITHOUT TEST DATA CERTIFICATION OF CONSTRUCTION (STATING THAT THE CONSTRUCTION WAS CONDUCTED IN ACCORDANCE WITH CONTRACT DOCUMENTS WITHOUT SIGNIFICANT DEVIATION) CANNOT BE COMPLETED.

PLACEMENT OF SOIL IN LIFTS GREATER THAN 8" LOOSE AND COMPRESSING SATURATED SOIL RESULTS IN AN UNSTABLE FOUNDATION. SOIL TREATED THIS WAY IS LIKELY TO REEXPAND AFTER COMPRESSION OR NOT MEET DENSITY REQUIREMENTS. SUBSEQUENT SOIL LAYERS OR GABION BASKETS PLACED ON THE UNDERLYING "COMPRESSED" SOIL COULD FAIL OR DEFORM RESULTING IN STRUCTURAL FAILURE OR STRUCTURE COLLAPSE.

** THIS IS ESPECIALLY IMPORTANT TO NOTE BECAUSE FUTURE SATURATION OF FOUNDATION SOILS ARE LIKELY TO ACCELERATE OR ENHANCE THE FAILURE POTENTIAL OF POORLY COMPACTED SOIL. BECAUSE THIS STRUCTURE IS A STREAM BED IS WILL BE SUBJECT TO SATURATION AND THE FREEZE/THAW CYCLE. THE INITIAL COMPACTION OF FOUNDATION SOIL IS CRITICAL TO THE LONG TERM STABILITY OF THE STRUCTURE.

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BY Richard M. Guire TITLE

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 13 SEPTEMBER 94

DAY: S | M | T (X) | W | TH | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear (X)	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85 (X)	85 up
WIND	Still (X)	Moder	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	T. BENDA B. SHREWSBURY E. BOYER E. NOLAN J CALDER D. MAZE B. FLANAGAN	SUPERVISOR P.A. CLERK FOREMAN H & S LABOR

VISITORS

Time	~~Representing~~ NAVY	Representing	Remarks
1130	S. PHILLIPS K. KRUSKONEN	NAVY OHM	ONSITE ALL DAY

EQUIPMENT AT THE SITE

GENERATOR ✓

/I ATES DAI USAGE

EXCAVATOR ✓	850 DOZER	DITCHWITCH	JUMPING JACK COMPACTOR	3"Ø ELECT. PUMP
855 LOADER ✓	DUMP TRUCK	PLATE VIBE. COMPACTOR	MUD PUMP	(2) 2"Ø ELECT. PUMP

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. FIRST LIFT OF GABION BASKETS ABOVE GABION MAT INSTALLED & FILLED.
2. ADDITIONAL STONE FOR GABIONS ARRIVES.
3. SOIL BEHIND BASKETS PLACED AND COMPRESSED.
4. SUMP PUMP AT DAM INSTALLED GENERALLY IN ACCORDANCE W/ CONTRACT DOCS.
5. SUMP AT RCP AREA INSTALLED

ACTIVITIES:
1. LABORERS SET GABION BASKETS ON GABION MAT
2. BASKETS ARE WIRED TOGETHER WITH CUT ON SITE TWIST TIES
3. EXCAVATOR USED TO FILL BASKETS WITH SMALL ROCK
4. 855 LOADER MOVES SMALL ROCK FROM ACCESS ROAD TO RCP AREA
5. EXCAVATOR PLACES FILL BEHIND GEOTEXTILE AND BASKETS. BUCKET OF EXCAVATOR USED TO COMPRESS 12-24" OR THICKER "LIFTS."
6. 855 MOVES FILL SOIL FROM T5 AREA TO RCP AREA
7. JUMPING JACK & FLOAT PLATE COMPACTOR USED TO COMPRESS SOIL
8. EXCAVATOR EXCAVATES SOIL FROM DOWN GRADIANT END OF GABION MAT FOR PLACEMENT OF SUMP DRUM & PUMP.
9. 855 MOVES GRAVEL FROM ACCESS ROAD AREA TO SUMP AT RCP.
10. GEOTEXTILE USED TO LINE SUMP AT RCP.

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Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 13 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

OBSERVATIONS: ① GABION BASKETS MAY NOT BE WIRED CORRECTLY DURING CLOSURE (AFTER PLACEMENT OF STONE). TIES THAT CLOSE THE BASKET ARE SPACED AT 8" TO 12" INTERVALS.

GABION BASKETS ARE NOT "CLOSED" AROUND RCP. BASKETS ARE CUT TO FIT THE RCP BY REMOVING THE END OF THE BASKET AT AN ANGLE. THE END OF THE BASKET IS THEN FITTED UP AGAINST THE PIPE AND TIED TO THE PIPE WITH WIRE. AN END PIECE IS NOT FITTED TO THE BASKET TO COMPLETE THE OPEN END OF THE BASKET.

COMPACTION TESTS ARE NOT BEING USED ON COMPRESSED FILL.

COMPACTION OF FILL SOIL BEHIND GABION BASKETS IS NOT BEING CONTROLLED.

GEOTEXTILE IS BEING FITTED BELOW EACH PORTION OF THE GABION BASKETS. THIS WILL IMPROVE THE LONGEVITY OF THE STRUCTURE.

COMMENTARY: REFER TO COMMENTARY OF 13 SEPTEMBER 94. SOIL COMPACTION EFFORTS DO NOT MEET CONTRACT OR INDUSTRY STANDARDS. WITHOUT COMPLIANCE WITH TERMS AND CONDITIONS OF THE CONTRACT DOCUMENTS, A SUBSTANDARD PRODUCT IS LIKELY TO RESULT FROM ACTIVITIES AND MATERIALS BEING PROVIDED

THE WIRING OF GABION BASKETS IS CRITICAL TO THE LONG TERM PERFORMANCE OF THE STRUCTURE. BASED ON THE SPACING (8-12 INCH INTERVALS), A PORTION OF THE BASKETS CAN FAIL RESULTING IN SPILLING OF STONE AND THE COLLAPSE OF OVERLAYING COURSES OF BASKETS COLLAPSING INTO THE RESULTING VOID. FAILURE OF A SINGLE TWIST TIE CAN PRODUCE A HOLE IN THE BASKETS 16"-24" WIDE. 3"-6" DIAMETER STONE WILL BE DISCHARGED FROM THIS TYPE OF HOLE. THE MANUFACTURER OF THE GABIONS CAN PROVIDE TECHNICAL INFORMATION AND/OR A REPRESENTATIVE TO EXPLAIN HOW INSTALLATION OF THE GABIONS CAN AND SHOULD BE EXECUTED. THIS INFORMATION CAN BE PROVIDED AT NO COST TO THE NAVY AND OHM WITH A GENEROUS IMPROVEMENT IN PROJECT QUALITY. THE SCHEDULE IS NOT LIKELY TO BE IMPACTED BY THIS TYPE OF ACTION.

THE ROLL-OFF CONTAINER HAS BEEN ON-SITE FOR TWO DAYS WITHOUT USE. HOW DOES THIS FIT INTO THE PROJECT SCHEDULE?

SHEET 2 OF 2

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BY Richard McGuire TITLE

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

DATE 14 SEPTEMBER 94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD – SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Cloudy	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70 85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE ~~B. FIREFOUSKY~~ ~~E. BAYER~~	B. SHRENGBURY E. BAYER D. MAZE T. BENDA B. FLANAGAN J. CARBER E. NELAN	SUPERVISOR FORMAN H&S LABOR P.A. CLERK LABOR

VISITORS

Time	Representing	Representing	Remarks
~~8~~ 0900	M. KUKHOLMEN	OHM	

EQUIPMENT AT THE SITE

		GENERATOR ✓	JUMPING JACK TAMPACTOR	(2) 2"Ø ELEC PUMP ✓
EXCAVATOR ✓	850 DOZER	DITCHWITCH	MUD PUMP	
855 LOADER ✓	DUMP TRUCK	PLATE VIBE. COMPACTOR ✓	3"Ø ELECT. PUMP ✓	

IN TIES
ALL USAGE

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. SECOND LAYER OF GABION BASKETS PLACED OVER FIRST LAYER, FITTED AROUND RCP.
2. SECOND LAYER OF GABION BASKETS FILLED W/ STONE & CLOSED
3. BACKFILL PLACED BEHIND GABION BASKETS.
4. THIRD ROW OF GABION BASKETS PLACED OVER SECOND LAYER & FITTED AROUND R.C.P.
5. THIRD ROW OF GABION BASKETS FILLED W/ STONE. BACK ROW PARTIALLY COMPLETE. SIDES WIRED CLOSED
6. BACKFILL PLACED BEHIND BASKETS.

ACTIVITIES:
1. LABORERS SET GABION BASKETS ON FIRST ROW OF BASKETS WITH ± 18" OFF-SET TO FORM 2H:1V SLOPE.
2. BASKETS ARE WIRED TOGETHER W/ CUT-ON-SITE TWIST TIES.
3. EXCAVATOR AND MANUAL FILLING OF GABION BASKETS WITH SMALL ROCK.
4. 855 LOADER MOVES STONE FROM ACCESS ROAD ~~TO~~ AREA TO RCP AREA.
5. GEOTEXTILE FOLDED BACK OVER BASKETS AFTER BASKETS WIRED CLOSED BY LABORERS
6. EXCAVATOR PLACES FILL BEHIND GABION BASKETS. FILL COMPRESSED W/ BUCKET OF EXCAVATOR
7. LABOR SPREADS FILL WITH SHOVELS. BASKETS "SHAPED" WITH SLEDGE HAMMER AND PICK AX.
8. 855 MOVES SOIL FROM T6 AREA TO RCP AREA.
9. SUMP PUMPS INSTALLED IN SUMP DRUMS.
10. VIBE. PLATE COMPACTOR USED TO SMOOTH SURFACE SOIL BEHIND GABIONS
11. INTERIOR OF RCP SEALED W/ GROUT AND MASTIC. NO CLEANING OF PIPE INTERIOR CONDUCTED

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BY Richard McGuire

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DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 14 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

OBSERVATIONS

REFER TO COMMENTS/OBSERVATION FROM 13 SEPT 94 ADDRESSING GABIONS AND FILL SOIL COMPACTION/COMPRESSION.

~~SILT~~ SILT FENCE AT DAM REQUIRES MAINTENCE.

SUMP PUMPS SHOULD BE RUN ON A CONTINUOUS - AS NEED BASIS IN AUTOMATIC FLOAT SWITCH MODE. THEY APPEAR TO BE RUN IN THE MORNING AND EVENING ONLY.

COMMENTARY

SECURING OF DISCHARGE HOSES FROM SUMP PUMPS AT DAM AND MAINTEN'CE OF SILT FENCE SHOULD BE CONDUCTED DAILY.

WILL THE DITCHWITCH BE USED AGAIN? IT HAS BEEN IDLE FOR MORE THAN ONE WORK WEEK. THE SAME APPLIES TO THE DUMP TRUCK.

CLEANING OF PIPE INTERIOR (32" ϕ RCP) HAS NOT BEEN CONDUCTED. THIS COULD HAVE BEEN DONE WHEN THE PIPE JOINTS WERE SEALED.

HOW DOES START-UP OF NITRIFICATION PLANT IMPACT WORK AT SITE 8? WHAT SCHEDULE IMPACTS WILL RESULT? HOW MUCH WILL THIS COST?

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BY Richard M Guise TITLE

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DAILY CONSTRUCTION REPORT

DATE 15 SEPT 94

DAY: S | M | T | W | TH (X) | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear (X)	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70 85 (X)	85 up
WIND	Still (X)	Moder	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE T. BENDA E. NELAN D. MAZE J. CALDER B. FLANAGAN B. SHREWSBURY E. BAKER		SUPERVISOR D.A. CLERK LABOR LABOR LABOR LABOR FOREMAN H&S

VISITORS

Time	Representing	Representing	Remarks
0930	MARYLAND DEPT. OF ENVIRONMENT		INSPECTED SILT FENCE. PROVIDED WRITTEN REPORT.

EQUIPMENT AT THE SITE

		DUMP TRUCK	3"Ø ELECT. PUMP
EXCAVATOR	GENERATOR	DITCHWITCH	(3) 2"Ø ELEC. PUMP
855 LOADER	850 DOZER	PLATE VIBE. COMPACTOR	STEAM GENERATOR/PRESSURE WASHER.

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: ① GABIONS, 3rd ROW, INSTALLED.
② BACKFILL BEHIND GABIONS PLACED.
③ PLASTIC SHEETING INSTALLED OVER UNFINISHED GRADING @ GABIONS AND STOCKPILED SOIL @ ACCESS ROAD.

ACTIVITIES: ① EXCAVATOR USED TO PLACE SOIL FILL BEHIND GABIONS
② 855 LOADER USED TO MOVE FILL SOIL FROM STOCKPILE @ ACCESS ROAD TO RCP AREA.
③ LABORERS WIRE BASKETS CLOSED.
④ LABORERS INSTALL SUMP PUMPS @ SUMPS.
⑤ MAINTENENCE AT DAM CONDUCTED: STONE ADDED TO DOWNSTREAM SIDE OF DAM, SUMP PUMP DISCHARGE HOSES STAKED & TIED IN PLACE, 3"Ø DISCHARGE HOSE DIRECTED TO AND INTO LARGE ROCKS.
⑥ PLASTIC SHEETING SPREAD OVER AREAS SUBJECT TO STORM WATER DAMAGE
⑦ EQUIPMENT POWER WASHED (EXCAVATOR, 855 LOADER)

OBSERVATIONS: WORK AT NITRIFICATION PLANT WILL LIKELY IMPACT PROJECT SCHEDULE.

COMMENTARY: REVISIONS TO THE WORK SCHEDULE SHOULD BE PROVIDED TO NAVY AND ALSO BY NAVY TO HAVS AT LEAST SEVERAL DAYS PRIOR TO INITIATION OF ACTIVITIES, IF POSSIBLE.

THE TENTATIVE SCHEDULE AT THIS TIME IS TO SHIFT THE FOCUS OF WORK FROM THE STREAM TO THE LOG AREA FOR ½ 1 WEEK. WORK WILL THEN BE SHIFTED BACK TO THE STREAM. WHAT IS THE CRITERIA FOR MOVING WORK BACK TO THE STREAM, THE 1 WK. TIME PERIOD OR WORK PROGRESS? IF PROGRESS, WHAT IS TO BE ACCOMPLISHED?

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BY Richard McLaine

TITLE

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DAILY CONSTRUCTION REPORT

DATE 19 SEPTEMBER 94

DAY | S | M | T | W | T | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. 010 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70 85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	T. BRODA D. MAZE B. FLANAGAN J. CALOBA E. BAYER B. SHREWSBURY	SUPERVISOR P. A. CLERK LABORER LABORER LABORER ~~[illegible]~~ HES * FOREMAN *

VISITORS — * INDICATES NOT ON-SITE MOST OF DAY ALTHOUGH THEY ARE SIGNED IN AT OHM TRAILER.

Time	Representing	Representing	Remarks
0930	S. DOSWELL	NAVY	INSPECT PIPE UNEARTHED AND DAMAGED DURING EXCAVATION OF BLDG 606.

EQUIPMENT AT THE SITE

EXCAVATOR	DITCHWITCH (NOT USED)	(1) 3"Ø ELECTRIC PUMP
850 DOZER	DUMPTRUCK	GENERATOR
855 LOADER	(3) 2"Ø ELECTRIC PUMPS	PRESSURE WASHER/STEAM GEN.

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. INITIATED EXCAVATION OF 606 AREA
2. INSTALLED GEOTEXTILE AND STONE OVER WETLANDS AREA
3. OPERATED SOME OF PUMPS IN STREAM AREA

ACTIVITIES:
1. EXCAVATOR ~~[illegible]~~ REMOVES SOIL FROM BACK WALL OF 606 BLDG.
2. DUMP TRUCK USED TO MOVE SOIL FROM EXCAVATION TO STOCKPILE (+/- 50')
3. DOZER AND EXCAVATOR USED TO SPREAD STONE OVER GEOTEXTILE IN "WETLANDS" AREA
4. LABORERS SPREAD GEOTEXTILE OVER "WETLANDS" AREA.

OBSERVATIONS: PIPE WAS ENCOUNTERED DURING EXCAVATION OF BACK WALL OF BLDG. 606. NAVY WAS MADE AWARE OF SITUATION. S. DOSWELL RESPONDED QUICKLY (ON-SITE IN 7 MINUTES)! PIPE MAY BE DRAINAGE CONDUIT.

SOIL FROM EXCAVATION OF 606 DEPOSITED DIRECTLY OVER (ON) GEOTEXTILE. STONE WAS NOT USED AS AN INTERMEDIATE LAYER.

COMMENTARY: IT WILL BE DIFFICULT TO REMOVE SOIL STOCKPILED IN WETLANDS AREA. WITHOUT A STONE LAYER BELOW THE STOCKPILED SOIL, MOVEMENT OF THE SOIL BY HEAVY EQUIPMENT WILL LIKELY TEAR-UP THE FIRST SEVERAL INCHES OF WETLANDS IN THE STOCKPILE AREA.

NO EQUIPMENT OPERATOR IS PRESENT ON SITE.

THERE APPEARS TO BE TWICE AS MANY GABION BASKETS PRESENT ON SITE AS IS NECESSARY FOR COMPLETION OF REQUIRED WORK.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 19 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

SOIL AT BLDG 606, STOCKPILED AFTER EXCAVATION WAS COVERED WITH A PLASTIC SHEET AT THE END OF THE WORK DAY. THE EXCAVATION AREA WAS NOT COVERED WITH PLASTIC. THIS DOESN'T SEEM TO MAKE SENSE. HOWEVER, THE POSSIBILITY FOR SHOWERS ON WEDNESDAY IS ~~[illegible]~~ FORECASTED TO INCREASE. IT WOULD BE PRUDENT TO COVER THE EXCAVATION AREA AT BLDG 606 WITH PLASTIC AS WELL AS THE STOCKPILE AREA.

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DAILY CONSTRUCTION REPORT

DATE 20 SEPTEMBER 94

DAY: S | M | T (X) | W | TH | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Cloudy	Overcast (X)	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85 (X)	85 up
WIND	Still (X)	Moder (X)	High	Report No	
HUMIDITY	Dry	Moder (X)	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	W. SHREWSBURY E. NELAN B. FLANAGAN D. MAZE J. CALDER T. BENDA	SUPERVISOR FOREMAN LABORER P.A. CLERK

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

✓ INDICATES DAILY USAGE

		GENERATOR	(1) 3"Ø ELECTRIC PUMP ✓
EXCAVATOR ✓	855 LOADER ✓	DATHWITCH	(8) 2"Ø ELECTRIC PUMP ✓
850 DOZER ✓	DUMPTRUCK	PRESSURE WASHER/STEAM GEN.	

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED
1. EXCAVATION OF BLDG. 606 BACK WALL
2. POWER SCREENER SET UP IN 606 AREA
3. SILTFENCE REPLACED AFTER POWERSCREENER ~~TIS~~ SETUP

ACTIVITIES:
1. EXCAVATOR REMOVES SOIL FROM BACK WALL OF 606 AREA TO STOCKPILE.
2. 855 LOADER MOVES SOIL FROM BACK WALL OF 606 AREA TO STOCKPILE.
3. EXCAVATOR USED TO MOVE ROLL-OFF CONTAINER FROM ROAD TO STOCKPILE.
4. 855 LOADER ASSISTS EXCAVATOR IN RELOCATING R.O. CONTAINER
5. 850 DOZER MOVES POWER SCREENER TO STOCKPILE AREA.
6. LABORERS UNCOVER AND COVER SOIL FROM ~~BLDG~~ 606 AREA WITH PLASTIC IN MORNING AND EVENING.

OBSERVATIONS: HEALTH & SAFETY OFFICER NOT PRESENT ON-SITE. MONITORING OF STOCKPILED CONTAMINATED SOIL NOT CONDUCTED.

SURVEY CONTROL NOT ESTABLISHED. BOTTOM OF EXCAVATION NOT "SHOT" FOR ELEVATION & GRADE. VISUAL OBSERVATION INDICATE THAT EXCAVATION NOT COMPLETED TO DESIGN GRADE & SIZE.

ROLL-OFF CONTAINER LOCATED BETWEEN CONTAMINATED SOIL STOCKPILE AND POWER SCREENER THIS APPEARS TO BE AWKWARD BECAUSE THE "REACH" OF THE EXCAVATOR BUCKET ~~[illegible]~~ IS REDUCED BY THE LOCATION OF THE ~~[illegible]~~ ROLL-OFF CONTAINER. (THE EXCAVATOR IS USED TO FEED SOIL FROM THE STOCKPILE AND THE SCREENER.)

COMMENTARY: MOISTURE CONTENT OF SCREENED SOIL WILL BE A KEY TO THE EFFECTIVENESS OF POWER SCREENER. TOO MUCH MOISTURE AND LARGE CLUMPS OF SOIL WILL NOT PASS THROUGH THE SCREEN. TOO LITTLE MOISTURE AND DUST WILL BE GENERATED RESULTING IN THE POSSIBLE ~~[illegible]~~ DISCHARGE OF CONTAMINATION AND DISPERSAL BY WIND.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 20 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

COMMENTARY (CON'T): PREVIOUS EXPERIENCE WITH MECHANICAL SCREENERS SHOWS THAT A SIGNIFICANT "SPILLAGE" OF MATERIAL OCCURS. THE SPILLAGE OCCURS ON ALL SIDES OF THE MACHINES. PLASTIC SHEETING SHOULD BE SPREAD BELOW THE MACHINE AND ON ALL SIDES TO MINIMIZE CONTAMINATION OF OF THE PROCESS AREA.

IT IS TYPICAL FOR OPERATIONS OF THE TYPE PROPOSED FOR SCREENING TO UTILIZE A MULTILAYER APPROACH TO CONTAMINANT CONTAINMENT. AN EXAMPLE OF THIS APPROACH MIMICS THE LAYERS OF GEOTEXTILE & STONE USED IN THE WETLANDS HOWEVER, A MEMBRANE LINER IS PLACED BELOW THE GEOTEXTILE AS THE CONTAINMENT MECHANISM. A GEOTEXTILE OVERLAYS THE MEMBRANE FOR PROTECTION FROM DAMAGE FROM THE TOP LAYER OF STONE. THE TOP LAYER OF STONE PROTECTS THE MEMBRANE FROM DAMAGE FROM EQUIPMENT DRIVING ON THE STONE. SUCH A SYSTEM WOULD BE USEFUL AND EFFECTIVE IN PREVENTING CONTAMINATION OF THE SCREENING PROCESS AREA AND AREA SURROUNDING THE BASE OF BLDG 606.

REFER TO COMMENTARY FROM 19 SEPT 94 REGARDING COVER FOR BOTH THE BACKSIDE OF THE 606 EXCAVATION AREA AND THE SOIL EXCAVATED FROM THIS AREA. RAIN IS PREDICTED/FORCAST FOR THE INDIAN HEAD AREA FROM THURSDAY THROUGH SATURDAY.

"AS-BUILT" DRAWINGS CANNOT BE DEVELOPED WITHOUT DATA DEVELOPED FROM A SURVEY OF THE WORK AREA. SURVEY CONTROL HAS NOT BEEN ESTABLISHED IN THE 606 WORK AREA.

HAS GEOTECHNICAL ANALYSIS DATA (MOISTURE/DENSITY RELATIONSHIPS) BEEN GENERATED FOR SOILS BEING WORKED IN THE 606 AREA?

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BY TITLE

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DAILY CONSTRUCTION REPORT

DATE 21 SEPTEMBER 94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE * HEALTH & SAFETY OFFICER NOT PRESENT ON-SITE.

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE. J. CALDER B. SHREWSBURY T. BENDA E. MEGAN D. MAZE B. FLANIGAN		SUPERVISOR LABOR FOREMAN LABOR

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

644 WHEELED LOADER ✓ CHAINSAW ✓

EXCAVATOR ✓ 850 DOZER ✓ GENERATOR ✓ PRESSURE WASHER (3) 2"ø ELECTRIC PUMPS ✓

855 LOADER ✓ DUMP TRUCK DITCHWITCH (1) 3"ø ELECTRIC PUMP ✓ 644 WHEELED LOADER ✓

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: (1) ADJUST SET-UP OF POWER SCREENER/EXCAVATOR/855 LOADER W/ TRIAL RUN.
(2) SCREENING OF CONTAMINATED SOIL (+/- 30% COMPLETE). (SEE ATTACHED DWG.)
(3) PLACEMENT OF SCREENED SOIL IN EXCAVATED AREA, BACK WALL OF BLDG 606.
(4) PROCESS SHUTDOWN AND COVERING OF EXCAVATED AREA, STOCKPILES, AND EQUIPMENT WITH PLASTIC.

ACTIVITIES: (1) EXCAVATOR REMOVES SOIL FROM 606 BACK WALL.
(2) LABORERS CONSTRUCT PLYWOOD CHUTE FOR DISCHARGE OF "WASTE" MATERIALS INTO ROLL OFF CONTAINER.
(3) TRIAL RUN OF PROCESS CONDUCTED: EXCAVATOR LOCATED ON ROAD ABOVE STOCKPILE FEEDS SCREENER.; 855 LOADER POSITIONS BUCKET AT END OF DISCHARGE CONVEYOR, WHEN FULL CONVEYOR SHUT DOWN AND LOADER MOVES SCREENED SOIL TO 606 AREA.
(4) WHEELED LOADER REPLACED 855 LOADER TRANSFERING SCREENED SOIL TO 606 EXCAVATION AREA.
(5) LABORERS SPREAD PLASTIC OVER WORK AREA & EQUIPMENT

OBSERVATIONS: SCREENED SOIL IS NOT BEING COMPACTED AFTER PLACEMENT.
SURVEY CONTROL HAS NOT BEEN USED TO LOCATE AREAS OF EXCAVATION @ 606.

COMMENTARY: IS PROCTOR DATA AVAILABLE FOR SILS SAMPLES SENT OUT THREE WEEKS OR MORE AGO.?
HAVE PROCTOR TESTS BEEN RUN ON LOW PERMEABILITY SOIL PROPOSED FOR USE IN CAP?
UNLESS SURVEY CONTROL IS ESTABLISHED BEFORE ADDITIONAL SOIL IS PLACED IN BLDG 606 EXCAVATION, AS-BUILT DRAWINGS WILL NOT BE ABLE TO BE DEVELOPED W/ ANY ACCURACY.

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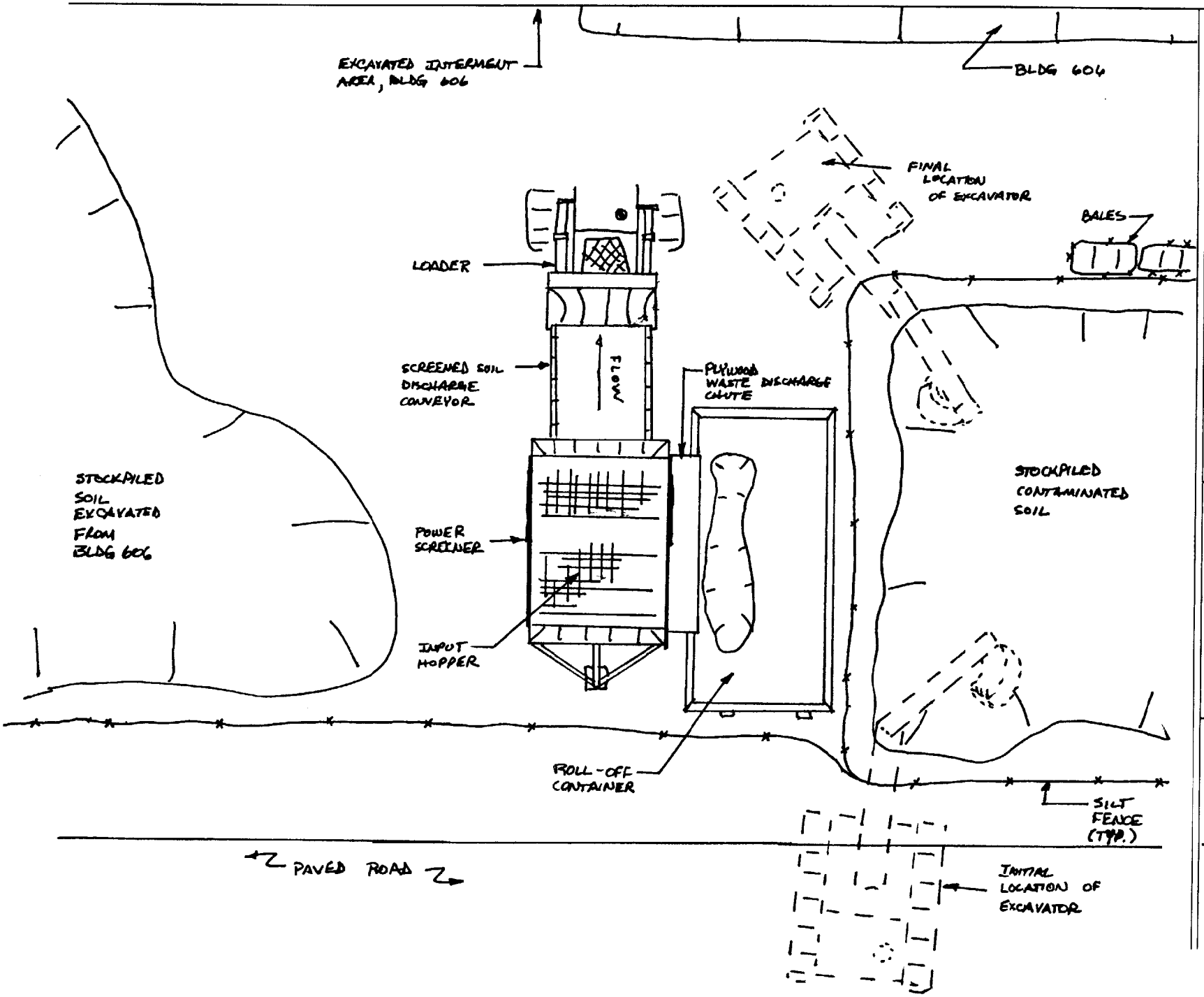
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT: U.S. NAVY			JOB NUMBER: CTO 0099
SUBJECT: INDIAN HEAD - SITE B / BLDG 606			
BASED ON: FIELD CONDITIONS			DRAWING NUMBER: —
BY: RWG	CHECKED BY: —	APPROVED BY: —	DATE: 21 SEPT 94



PAGE 1 OF

DAILY CONSTRUCTION REPORT

DATE 22 SEPTEMBER 94

DAY: S | M | T | W | ~~T~~ | F | S

PROJECT INDIAN HEAD – SITE B
JOB NO. 010 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	~~Cloudy~~	~~Rain~~	Snow
TEMP.	To 32	32 50	50 70	~~70 85~~	85 up
WIND	~~Still~~	~~Moder~~	High	Report No	
HUMIDITY	Dry	~~Moder~~	~~Humid~~		

AVERAGE FIELD FORCE HEALTH & SAFETY OFFICER NOT PRESENT ON-SITE.

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE T. BENDA B. SHERRUBORY B. FLANAGAN D. MAZE J. CARDER E. NEELAN		SUPERVISOR P.A. CLERK FOREMAN LABORER

VISITORS

Time	Representing	Representing	Remarks

✓ INDICATES DAILY USAGE

EQUIPMENT AT THE SITE

EXCAVATOR	DUMP TRUCK	PRESSURE WASHER	CHAINSAW
855 LOADER	GENERATOR ✓	644 WHEELED LOADER	(3) 2" ø ELECT. PUMP
850 DOZER	DITCHWITCH	3" ø ELEC. PUMP	DITCHWITCH

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: ① DEWATERING PUMPS OPERATED.
② GABION BASKETS DISASSEMBLED.

ACTIVITIES CONDUCTED: ① LABORERS OPERATE PUMPS
② LABORERS DISASSEMBLE BASKETS MANUALLY.

OBSERVATIONS: IT WOULD SEEM APPROPRIATE TO DEMOBILIZE AT LEAST A PORTION OF THE CREW AT THIS TIME DUE TO INCLEMENT WEATHER.

COMMENTARY: A DECISION OF APPROVAL OR RESUBMITTAL MUST BE MADE AT THIS TIME. IN ORDER TO BE READY TO COMPACT CONTAMINATED SOIL AND CLAY CAP, PROCTOR DATA FOR THESE SOILS MUST BE REVIEWED AND DISTRIBUTED (IF APPROVED) AT THIS TIME.

BECAUSE OF THE RAIN AND THE DESTRUCTION OF THE PLASTIC GROUND COVER BELOW THE STOCKPILED CONTAMINATED SOIL, THE POSSIBILITY OF CONTAMINATION MIGRATION AND SPREADING THROUGHOUT THE BUNKER (BLDG 606) AREA IS BECOMING INCREASINGLY LIKELY.

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DAILY CONSTRUCTION REPORT

DATE SEPT 23, 24, 25 1994

DAY | S | M | T | W | T | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Cloudy	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	T. BENDA B. SHREWSBURY B. FLANAGAN D. MAZE J. CARDER E. NELAN	STAFF WAS INCREASED FROM 7 TO 10 CREW MEMBERS BETWEEN FRIDAY AND MONDAY MORNING

VISITORS (G. GRAVLES, J. CLARK, E. WALKER) NEW CREW MEMBERS.

Time	Representing	Representing	Remarks

✓ INDICATES DAILY USAGE

EQUIPMENT AT THE SITE

EXCAVATOR ✓	644 WHEEL LOADER ✓	DYNAMITCH	(3) 2" ø SUMP PUMP ✓
855 LOADER ✓	DUMP TRUCK	PRESSURE WASHER	CHAINSAW
850 DOZER ✓	GENERATOR ✓	3" SUMP PUMP ✓	

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: (1) CONTAMINATED SOIL SCREENED.
(2) CONTAMINATED SOIL PLACED IN BLDG 606 EXCAVATION AREA.

ACTIVITIES CONDUCTED
(1) LABORERS & SUPERVISOR OPERATE EXCAVATOR, 644 LOADER, DOZER
(2) EXCAVATOR FILLS SCREENER w/ CONTAMINATED SOIL
(3) EXCAVATOR MOVES SOIL IN STOCKPILE AREA
(4) LOADER & DOZER GROOM STOCKPILE
(5) EQUIPMENT & LABORERS MOVE ROLL-OFF CONTAINERS

OBSERVATIONS: IT APPEARS THAT APPROXIMATELY 25-30% OF THE ORIGINAL STOCKPILE OF CONTAMINATED SOIL REMAINS UNPROCESSED AFTER COMPLETING THREE WORK DAYS.

THE PROCESSED CONTAMINATED SOIL IS NOT BEING COMPACTED AFTER PLACEMENT OF THIS SOIL IN THE 606 EXCAVATED AREA.

THE ROAD AREA (PAVED) AT THE PERIMETER OF THE STOCKPILE IS HEAVILY LITTERED WITH SOIL AND SOIL CLUMPS FROM THE STOCKPILE AREA.

COMMENTARY: WITHOUT COMPACTION OF SOIL PLACED IN THE 606 EXCAVATION, THE LOW PERMEABLE SOIL CAP INSTALLATION WILL BE DIFFICULT TO COMPACT. AS A RESULT THE CAP WILL NOT MEET THE PERMEABILITY REQUIREMENTS. ADDITIONALLY, SETTLEMENT OF THE UNCONTAMINATED COULD CAUSE CRACKING IN THE CAP AFTER PLACEMENT OF THE LOW PERMEABLE SOIL.

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DAILY CONSTRUCTION REPORT
(Continuation Sheet)

PROJECT INNYAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 23/24/25 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

IT IS POSSIBLE THAT CONTAMINATION FROM THE STOCKPILED SOIL IN AREA 60% HAS MIGRATED TO THE PERIMETER OF THE WORK AREA. THIS CAN BE ATTRIBUTED TO THE ABSENCE OF HEALTH AND SAFETY CONSTRAINTS AND A "CLEAN" ZONE/"HOT" ZONE DELINEATION.

WILL SAMPLING BE CONDUCTED IN THE AREA OCCUPIED BY THE STOCKPILED CONTAMINATED SOIL? (TO CONFIRM THE ABSENCE OF MERCURY AFTER PROCESSING).

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DAILY CONSTRUCTION REPORT

DATE 26 SEPT 94

DAY: S [X] M T W TH F S

PROJECT INDIAN HEAD – SITE B
JOB NO. 00 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Cloudy	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 up
WIND	Sun	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE.	E. NELAN D. SHREWSBURY J. CALDER G. GRUBBS K. KRAMER J. CLARK E. WALKER B. FLANAGAN T. BENDA	SUPERVISOR LABORER FOREMAN LABORER P.A. CLERK

VISITORS

Time	Representing	Representing	Remarks

EQUIPMENT AT THE SITE

/ INDICATES USAGE

EXCAVATOR ✓	644 WHEELED LOADER	DITCHWITCH	(3) 2"ϕ SUMP PUMP ✓	POWERSCREENER ✓
855 LOADER	DUMP TRUCK	PRESSURE WASHER	CHAIN SAW	
850 DOZER	GENERATOR ✓	3"ϕ SUMP PUMP ✓	1166 JAMES TRACK LOADER ✓	

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: ① GABION BASKETS DISASSEMBLED.
② 4th ROW OF BASKETS PLACED AND PARTIALLY FILLED W/ STONE.

ACTIVITIES CONDUCTED: ① LABORERS DISASSEMBLE GABIONS.
② LABORERS PLACE BASKETS.
③ LOADER MOVES (1) BUCKET OF STONE TO GABION AREA.
④ LABORERS HAND PLACE STONE IN GABIONS.

OBSERVATIONS: CONTAINMENT AND HEALTH & SAFETY MEASURES NOT UTILIZED IN 606 AREA.
ROLL-OFF CONTAINER LEAKING LEACHATE FROM SOIL CONTAINED WITHIN.
DOZER USED TO "GROOM" SOIL DEPOSITED IN EXCAVATION ALSO USED TO BACKBLADE STONE/GEOTEXTILE AREA, STOCKPILE AREA, AND ACCESS WAY AROUND BASE OF BUNKER. DOZER TRACKS HAVE NOT BEEN DECONTAMINATED.

COMMENTARY: BECAUSE OF THE ABSENCE OF DESIGNATED "HOT" ZONES, THE ABSENCE OF CONTAINMENT MEASURES & MECHANISMS, AND PERIODIC HEAVY PRECIPITATION, IT IS POSSIBLE THAT CONTAMINATION HAS SPREAD BEYOND THE 606 STOCKPILE AREA AND INTERMENT AREA AT BLDG. 606. IT IS LIKELY THAT THE ENTIRE AREA IN THE VICINITY OF THE 606 AREA IS CONTAMINATED.

EXCAVATOR IS INOPERABLE DUE TO PROBLEMS WITH CONTROL/INPUT RESPONSE. CAN A NEW EXCAVATOR BE BROUGHT ON-SITE TO REPLACE THE EXCAVATOR THAT HAS BEEN DOWN FOR 2 DAYS. CAN MCLEAN RENTALS RESPOND TO THIS OPTION? ARE OTHER RENTAL FIRMS ABLE TO SUPPLY THE EQUIPMENT?

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DAILY CONSTRUCTION REPORT

DATE 27 SEPTEMBER

DAY: S | M | [X] T | W | TH | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. CTO 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MARE	B. SHREWSBURY F. NOLAN T. BENDA J. CLARK K. CRAMER G. GRUBBS Z. WALKER R. FLANAGAN J. CALDER	SUPERVISOR LABORER P.A. CLERK LABORER

VISITORS

	Time	~~Representing~~	Representing	Remarks
±	0800	J. BOISSART & ASSOCIATE		
±	1400	J. BARENT		

EQUIPMENT AT THE SITE

✓ INDICATES DAILY USAGE

EXCAVATOR ✓	644 WHEELED LOADER ✓	DITCHWITCH	8" Ø SUMP PUMP	POWER SCREENER ✓
850 DOZER ✓	1155 JAWED TRACK LOADER ✓	PRESSURE WASHER	(2) 2" Ø SUMP PUMP ✓	
855 LOADER	DUMP TRUCK	CHAIN SAW	GENERATOR	

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED: ① 4th ROW OF GABIONS PLACED WITH STONE (NOT WIRED CLOSED OR BACKFILLED).
② 10-15% OF ORIGINAL CONTAMINATED SOIL STOCKPILE PROCESSED THROUGH SCREENER. (± 10% REMAINS PLUS SOIL GENERATED FROM SCRAPING SOIL FROM STOCKPILE AREA TO REMOVE RESIDUAL CONTAMINATION).

ACTIVITIES CONDUCTED: ① LABORERS MANUALLY PLACE STONE IN GABION BASKETS (4th ROW)
② 1155 LOADER MOVES STONE FROM STREAM ACCESS AREA STOCKPILE TO GABION AREA VIA STREAM BED
③ EXCAVATOR LOADS POWER SCREENER WITH SOIL FROM STOCKPILES. (606 AREA)
④ LABORERS PICK THROUGH STOCKPILE REMOVING ROOTS & DEBRIS (606 AREA)
⑤ 644 LOADER MOVES SOIL FROM POWER SCREENER TO BUNKER EXCAVATION.
⑥ LABORER SWEEPS PAVED ROAD (606 AREA) w/ PUSH BROOM.
⑦ PLASTIC SHEETING OVER ROLL OF CONTAINERS, STOCKPILED SOIL, BUNKER EXCAVATION REMOVED AT START OF DAY, REPLACED AT END OF DAY (606 AREA).

OBSERVATIONS: EXCAVATOR REMAINED OUT OF OPERATION UNTIL APPROXIMATELY 1500 HR.
DEWATERING SUMP PUMPS ARE NOT OPERATED CONTINUOUSLY.
STREAM FROM T_5 TO DAM IS PRODUCING SURFACE FLOW (± 10 GPM).
FUEL TRUCK SERVICES GENERATOR & POSSIBLY OTHER EQUIPMENT.

COMMENTARY: SIX PIECES OF HEAVY EQUIPMENT ARE PRESENT (5 @ 606 AREA, 1 @ STREAM) IT APPEARS THAT WITH A CREW OF TEN OR LESS (LESS A FOREMAN, SUPERVISOR, AND PURCHASING AGENT) THAT SOME OF THIS EQUIPMENT MIGHT NOT BE NEEDED, SPECIFICALLY THE 855 LOADER.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE

CONSTRUCTION ACTIVITIES (Continued)

SOIL WAS LOADED INTO THE DUMP TRUCK FOR STORAGE, APPARENTLY, LEACHATE WAS OBSERVED DRIPPING FROM THE DUMP TRUCK AS WELL AS THE ROLL OFF CONTAINERS. THE R.O. CONTAINERS AND THE TRUCK WERE NOT LINED PRIOR TO PLACEMENT OF SOIL INTO THEM.

SHEET 2 OF 2

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DAILY CONSTRUCTION REPORT

DATE 28 SEPTEMBER 94

DAY: S | M | T | W | T | F | S

PROJECT INDIAN HEAD - SITE B
JOB NO. 010 0099
CLIENT U.S. NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50-70	70 85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	J. CLARK J. CALDER G. GRUBBS B. FLANAGAN Z. WALKER K. HARMER E. NELAN	SUPERVISOR LABORER

VISITORS

Time	~~Representing~~	Representing	Remarks
±1000	S. PHILLIPS	NAVY	
		B. SHREWSBURY T. BENDA	FOREMAN P.A. CLERK

EQUIPMENT AT THE SITE

EXCAVATOR ✓	850 DOZER ✓	GENERATOR	PRESSURE WASHER ✓
644 LOADER ✓	DUMP TRUCK ✓	3"Ø PUMP ✓	CHAIN SAW
855 LOADER ✓	955 LOADER	(3) 2"Ø PUMPS ✓	DITCH WITCH

CONSTRUCTION ACTIVITIES

TASKS ACCOMPLISHED:
1. SCREENING & PLACEMENT OF CONTAMINATED SOIL COMPLETED IN 606 AREA.
2. POWER SCREENER WASHED
3. STOCKPILE AREA AT BLDG. 606 "SCRAPED" TO REMOVE POTENTIALLY CONTAMINATED SOIL.
4. ROLL-OFF CONTAINERS MOVED FROM STOCKPILE AREA TO PAVED ROAD AT BLDG 606.
5. PLASTIC SHEETING REMOVED AND REPLACED FROM STOCKPILE & EXCAVATION AT BLDG 606 AREA.

ACTIVITIES CONDUCTED:
1. 644 LOADER MOVES SCREENED CONTAMINATED SOIL FROM POWER SCREENER TO BLDG 606 EXCAVATION AREA.
2. EXCAVATOR MOVES SOIL FROM STOCKPILE INTO SCREENER.
3. LABORERS SCRAPE SOIL FROM EQUIPMENT & SWEEP ROAD
4. LABORERS OPERATE PUMPS IN STREAM AREA.
5. EXCAVATOR & 644 LOADER USED TO MOVE ROLL OFF CONTAINERS FROM STOCKPILE AREA TO ROAD.
6. 855 LOADER MOVES POWER SCREENER TO STREAM ACCESS ROAD FOR PRESSURE WASH.
7. LABORERS PRESSURE WASH SCREENER.
8. LOADER (855) MOVES POWER SCREENER BACK TO 606 AREA.

OBSERVATIONS: R.O. CONTAINERS ARE UNLINED AND ARE LEAKING LIQUIDS ON TO THE ROAD.
MOVEMENT OF EQUIPMENT BETWEEN THE 606 AREA AND THE STREAM ACCESS ROAD IS DEPOSITING SOIL (POSSIBLY CONTAMINATED) ON THE ROAD. LABORERS ARE USING SHOVELS & BROOMS TO SWEEP THE SOIL.

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DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE B REPORT NO.

JOB NO. CTO 0099 DATE 28 SEPT 94

CONSTRUCTION ACTIVITIES (Continued)

COMMENTARY: MOVING THE POWER WASHER TO THE LOG AREA (ALONG WITH A WATER TANK) WOULD SIGNIFICANTLY REDUCE THE NEED TO MOVE EQUIPMENT BETWEEN THE TWO (STREAM AND BLDG LOG) AREAS. IT WOULD ALSO REDUCE THE SPREAD OF POTENTIALLY CONTAMINATED SOIL ALONG THE ADJOINING ROADS. A DECONTAMINATION COLLECTION SUMP COULD EASILY BE CONSTRUCTED IN THE LOG AREA WHERE THE FORMER STOCKPILE AREA HAS BEEN SCRAPED.

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DAILY CONSTRUCTION REPORT

DATE 11 OCTOBER 94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. CTO 0099
CLIENT NAVY
CONTRACTOR
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32 50	50 70	70 85	85 up
WIND	Still	Moder	High	Report No
HUMIDITY	Dry	Moder	Humid	

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	—	—	CONTRACTOR NOT PRESENT ON-SITE.

VISITORS

Time	Representing	Representing	Remarks
—	—	—	NO VISITORS OBSERVED

EQUIPMENT AT THE SITE

EXCAVATOR	DUMP TRUCK
655B JOHN DEERE LOADER	644 WHEELED LOADER
850 DOZER	1155 WHEELED LOADER

CONSTRUCTION ACTIVITIES

THE FOLLOWING IS A LIST OF INFORMATION THAT DESCRIBES CHANGES ON SITE CONDITIONS SINCE THE SUBMISSION OF THE LAST PROGRESS REPORT:

(1) STREAM AREA:
- BACKFILL SOIL HAS BEEN ADDED TO THE GABION BASKETS. THE FILL WAS ADDED BEHIND THE FOURTH ROW OF BASKETS
- LARGE ROCK RIP-RAP HAS BEEN STOCKPILED ADJACENT TO THE ACCESS ROAD APPROXIMATELY 3 LOADS OF STONE ARE PRESENT
- FILL SOIL HAS BEEN STOCKPILED IN THE AREA BETWEEN THE ACCESS ROAD AND THE STREAM APPROXIMATELY 3 LOADS OF FILL SOIL (WELL GRADED, SMALL STONE TO COURSE TO MEDIUM SAND) ARE PRESENT.
- BACK SIDE OF EXCAVATOR BUCKET WAS USED TO CREATE A CHANNEL GROUNDWATER FROM SEEPS ALONG THE NORTH EAST SIDE OF THE STREAM BED BELOW THE GABION BASKET OUTFALL. THE CHANNEL DISCHARGED INTO THE TS SUMP AREA.
- WATER WAS DISCHARGING FROM THE RCP OUTFALL. MANHOLE SUMP (ADJACENT TO THE LAB BUILDING) WAS OPERATIONAL. SUMP PUMPS AT THE GABION BASKETS, TS, AND DAM WERE ALSO OPERATING. THERE WAS LITTLE STANDING WATER ON THE SITE.

(2) BUNKER AREA:
- STONE AND GEOTEXTILE HAVE BEEN REMOVED FROM THE WETLAND AREA. THE STONE AND GEOTEXTILE WERE NOT VISIBLE IN THIS WORK AREA.
- THREE ROLL-OFF CONTAINERS WERE PRESENT ON-SITE. AT LEAST TWO WERE OBSERVED

DISTRIBUTION:
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BY Richard DiGenio TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 11 OCT 94

CONSTRUCTION ACTIVITIES (Continued)

TO BE LEAKING

- COVER SOIL HAS BEEN PLACED OVER THE CAP SOIL IN THE BUNKER MAGAZINE.
- ENKAMAT HAS BEEN PLACED OVER THE FILL SOIL ON THE BUNKER MAGAZINE.
- PLASTIC SHEET & TARPS HAVE BEEN PLACED OVER THE ENKAMAT
- "TOPSOIL" MATERIAL HAS BEEN STOCKPILED ADJACENT TO BLDG. 1218.
- THE CONTAMINATED SOIL STOCKPILE AREA PREVIOUSLY EXCAVATED HAS BEEN FILLED.
- IT IS POSSIBLE THAT "TOPSOIL" MATERIAL HAS BEEN PLACED OVER COVER SOIL AND BELOW ENKAMAT.

INTENTIONALLY

LEFT

BLANK

DISTRIBUTION:
1. Proj. Mgr.
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4. Client

SHEET 2 OF 2

BY Richard McGuire TITLE

Wiley-Fisk Form 8-2

CALCULATION WORKSHEET

Order No. 19115 (01-91)

CLIENT	JOB NUMBER		
U.S. NAVY	CTO 0099		
SUBJECT: INDIAN HEAD - SITE 8, BLDG 606			
BASED ON: ON-SITE OBSERVATIONS	DRAWING NUMBER: —		
BY: B. MCGUIRE	CHECKED BY: —	APPROVED BY: —	DATE: 29 SEPTEMBER 94

COMMENTARY: ① IT APPEARS THAT PVC PIPE IS BEING FITTED TO THE ROOF DRAINAGE SYSTEM DAMAGED DURING THE INITIAL EXCAVATION OF BLDG 606. SHOULD THIS NEW PIPE BE PLACED & CONNECTED TO THE EXISTING PIPE PRIOR TO INSTALLATION OF THE LOW PERMEABILITY SOIL OVER THE CONTAMINATED SOIL, THE POTENTIAL FOR LEACHATE GENERATION IS SIGNIFICANTLY INCREASED. BY PLACING THE NEW PIPE BELOW THE SOIL "CAP", ANY LEAKAGE THAT COULD OCCUR WOULD INFILTRATE DIRECTLY INTO THE CONTAMINATED SOIL. THIS TYPE OF INFILTRATION WOULD CREATE A SITUATION THAT RUNS COUNTER TO THE PURPOSE OF INSTALLING THE CAP. THEREFORE IT IS SUGGESTED THAT THE PIPE BE INSTALLED IN SUCH A WAY AS TO AVOID COMPROMISING THE "CAP" AND RUN ABOVE THE CAP.

DAILY CONSTRUCTION REPORT

DATE 15 OCT 94

DAY | S | M | T | W | TH | F | S |

PROJECT INDIAN HEAD - SITE B
JOB NO. CTO 0099
CLIENT NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brite Sun	Clear	Overcast	Rain	Snow
TEMP.	To 32	32-50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	D. MAZE	D. MAZE J. CALDER B. FLANAGAN E. NELAN L. SHREWSBURY	SUPERVISOR LABOR FOREMAN

VISITORS

Time	Representing	Representing	Remarks
—	—	—	NO VISITORS OBSERVED.

EQUIPMENT AT THE SITE

644 WHEELED LOADER	DUMP TRUCK.
655B TRACKED LOADER	VIBRATORY PLATE COMPACTOR (WACKER BENNIA)
TRACKED BACKHOE	PORTABLE FLOOD LIGHT/GENERATOR

CONSTRUCTION ACTIVITIES

THE FOLLOWING IS A LIST OF OBSERVATIONS MADE DURING A SITE VISIT ON OCTOBER 15, 1994 BETWEEN 0900 AND 1200 HOURS BY HAILIS PERSONNEL:

① STREAM AREA: – 5th ROW OF GABION BASKETS HAS BEEN ASSEMBLED, PLACED, FILLED, AND AT LEAST PARTIALLY WIRED CLOSED. 5th ROW IS A PARTIAL ROW COVERING THE BACK AND RAILROAD SIDE OF THE OUTFALL.
– SOIL HAS BEEN PLACED AND COMPACTED BEHIND THE 5th ROW OF GABION BASKETS
– "TOPSOIL" HAS BEEN MOVED FROM BUNKER AREA TO GABION AREA.
– ONE LOAD OF FILL SOIL HAS BEEN PLACED AT DISCHARGE END OF GABION MAT TO PROVIDE A PLATFORM FOR EXCAVATOR.
– EXCAVATOR HAS BEEN USED TO PLACE AND COMPRESS SOIL BEHIND GABIONS.
– VIBRATORY PLATE COMPACTOR USED TO COMPRESS SOIL BEHIND GABIONS.
– DEWATERING SUMP PUMPS OPERATIONAL.
– A PVC PIPE HAS BEEN INSTALLED BELOW GRADE AT TRANSECT 5. THE PIPE IS USED TO TRANSMIT A FLEXIBLE DISCHARGE HOSE FROM ONE SIDE OF THE STREAM BED TO THE OTHER WITHOUT INTERRUPTING TRAFFIC FLOW.
– FLOOD LIGHT IS SET UP ADJACENT TO BLDG 767.
– CREW ON BREAK BETWEEN 0950 AND APPROXIMATELY 1040 HRS, LUNCH STARTED AT 1203 HRS.

② BUNKER AREA: NO ACTIVITY OBSERVED. 644 LOADER MOVES STOCKPILED "TOPSOIL" FROM BUNKER AREA TO STREAM AREA.

DISTRIBUTION:
1. Proj. Mgr.
2. Field Office
3. File
4. Client

PAGE 1 OF 2 PAGES

BY Richard [illegible] TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

DATE 21 OCT 94

DAY | S | M | T | W | TH | F ☒ | S |

PROJECT INDIAN HEAD NEWS - SITE 8
JOB NO. CTO 0099
CLIENT NAVY
CONTRACTOR OHM
PROJECT MANAGER

WEATHER	Brilliant Sun	Clear ☒	Overcast	Rain	Snow
TEMP.	To 32	32-50	50-70	70-85 ☒	85 up
WIND	Still	Moderate ☒	High	Report No.
HUMIDITY	Dry	Moderate ☒	Humid	

AVERAGE FIELD FORCE

Name of Contractor	Non-manual	Manual	Remarks
OHM	A. MAZE	D. MAZE J. CALDER B. FLANAGAN B. SHREWSBURY	SUPERVISOR LABORER FOREMAN

VISITORS

Time	Representing	Representing	Remarks
—	—	—	NO VISITORS OBSERVED WHILE HNUS WAS PRESENT.

EQUIPMENT AT THE SITE

DUMP TRUCK — POWERWASHER
655 B LOADER — PORTABLE LIGHT TRAILER
EXCAVATOR

CONSTRUCTION ACTIVITIES

THE FOLLOWING IS A LIST OF OBSERVATIONS MADE DURING A SITE VISIT ON OCTOBER 21, 1994 BETWEEN 1030 AND 1335 HRS BY HNUS PERSONNEL:

① STREAM AREA: THIS AREA WAS ACTIVE WHEN ALL OF WORK EFFORT FOCUSED HERE.

- A SUMP STATION WAS INSTALLED AT A LOCATION CLOSE TO MID-STREAM AT TRANSECT 5 (T5). THE SUMP CONSISTS OF A PERFORATED OVERPACK DRUM POSITIONED IN AN EXCAVATION. THE EXCAVATION MEASURES APPROXIMATELY FOUR FEET SQUARE BY 4-5' DEEP.
- THE SUMP THAT WAS PREVIOUSLY LOCATED AT THE BASE OF THE GABIONS HAS BEEN RELOCATED. AN EXCAVATION HAS BEEN CONDUCTED AT THE BASE OF THE GABION MATS. (OUTFALL END). THE EXCAVATION IS APPROXIMATELY 30 FT IN LENGTH, 8 FT IN WIDTH, AND VARIES IN DEPTH FROM +/- 1.5 FT AT THE GABIONS TO +/- 7 FEET AT THE OPPOSITE END. THE EXCAVATION IS ORIENTED LENGTHWISE ALONG THE STREAM BED WITH THE DEEP END POSITIONED DOWN STREAM. THE EXCAVATION IS LINED WITH GEOTEXTILE. THE PERFORATED DRUM PREVIOUSLY LOCATED AT THE DISCHARGE END OF THE GABIONS HAS BEEN POSITIONED IN THE LOW END OF THE EXCAVATION.
- IT WAS OBSERVED THAT THE LARGE RIPRAP WAS MOVED FROM THE STOCKPILE AREA ON THE ACCESS ROAD TO THE GABION AREA EXCAVATION BY THE 655B LOADER. STONE RIPRAP WAS MANUALLY TRANSFERED TO THE EXCAVATOR BUCKET FROM THE 655B BUCKET

DISTRIBUTION:
1. Proj. Mgr.
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BY [signature] TITLE

Wiley-Fisk Form 8-1

DAILY CONSTRUCTION REPORT

(Continuation Sheet)

PROJECT INDIAN HEAD - SITE 8 REPORT NO.

JOB NO. CTO 0099 DATE 21 OCT 94

CONSTRUCTION ACTIVITIES (Continued)

RIPRAP WAS THEN PLACED WITH THE EXCAVATOR BUCKET TO LINE THE EXCAVATION
THE RIPRAP WAS ALSO PLACED OVER THE GEOTEXTILE MANUALLY
- "TOPSOIL" WAS PLACED (PREVIOUSLY) ABOVE THE 5th ROW OF GABION BASKETS.
- MATERIALS STOCKPILED ON-SITE INCLUDE: DISASSEMBLED GABION BASKETS, ENKAMAT, WOOD FIBER MAT, PEA GRAVEL, LARGE RIP-RAP (TYPE A), MEDIUM RIPRAP (TYPE B), TOPSOIL, GEOTEXTILE.
- EXCAVATED "DRUM" FROM GABION AREA STORED ADJACENT TO ACCESS ROAD.
- ORIGINAL SUMP PUMP AT T5 OPERATING. SUMP PUMP AT DAM AREA IN PLACE.
- HAY BALES POSITIONED IN STREAM BELOW DAM ON BOTH SIDES OF SILT FENCE.
- SUMP IN MANHOLE (ADJACENT TO LAB) IN PLACE.

(2) MAGAZINE AREA: THIS AREA WAS INACTIVE.
- DUMP TRUCK STORED HERE.
- DISTURBANCE OF PLASTIC COVER OVER AREA OF EXCAVATION INDICATES THE POSSIBILITY OF INSPECTION OF THIS AREA.

DISTRIBUTION: 1. Proj. Mgr.
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4. Client

SHEET 2 OF 2

BY Richard [illegible] TITLE

Wiley-Fisk Form 8-2

DAILY CONSTRUCTION REPORT

CONTRACT TASK ORDER 0099
INDIAN HEAD NSWC - SITE 8
MERCURY CONTAMINATION REMEDIATION
INDIAN HEAD, MARYLAND

DATE: 11 NOV 94

1.0 WEATHER: Clear to Partly Cloudy, Cool (+/- 60°F), Breezy (+/-2 - 10 mph)

2.0 CONTRACTOR PERSONNEL PRESENT ON-SITE*:

A. MAZE	SUPERVISOR
D. MAZE	LABOR
B. FLANAGAN	LABOR
J. CALDER	LABOR

* These personnel were observed on-site during the period covered by this report.

3.0 EQUIPMENT PRESENT ON-SITE:

Excavator	tracked	John Deere 690 ELC
Loader	tracked	655B

4.0 OBSERVATIONS

Observations were made at two locations during this site visit, Building 606 area and the Stream area. A description of each set of observations follows:

Building 606 Area

Three roll off containers were present at this location. The containers were covered by plastic tarps tied down to the containers. Two were located on the paved access road adjacent to the former contaminated soil stockpile area. A third was located north of the first two containers on the same road. The cover of the third container was loose and blowing in the wind.

Two soil stockpiles were present. The first stockpile was located between the main road and the site access road opposite the side of Bldg 606. This stockpile contained approximately eighteen to twenty cubic yards of soil. A second soil stockpile was located adjacent to Bldg 1218. This stockpile contained approximately six cubic yards of material. Trees removed from the stream area and stockpiled between the paved access road and the main road were also present.

A safety fence was installed on the door side of Bldg 606. Tracks from a tracked vehicle were present on the western slope and top of the building. Soil on the top of the eastern slope was disrupted and replaced. Additional soil and a plastic tarp were placed over the disrupted area. Both the excavator and the loader were parked in the Bldg 606 area adjacent to Bldg 1218.

Stream Area

The stream area was walked starting at Transect 5 and moving upstream toward the gabion basket area. Then from the gabion basket area walking downstream to the dike area.

All pumps appear to be operational and removing water from the sumps and the manhole "A". The additional sump at Transect 5 (T5) appeared to have an extended cycle time. The stream bed between the gabion baskets and T4 was excavated. Riprap with accompanying geotextile was provided for the excavated area. The dike was intact with discharge hoses secured to the top and back side of the structure. Soil was stockpiled on the northeast side of the access road. The drum (excavated from the gabion area) was not observed, possibly disposed of or buried by stockpiled soil.

APPENDIX C

SUMMARY OF LABORATORY ANALYTICAL DATA

- GP LABORATORY DATA
- ASC LABORATORY DATA

GP Work Order # 9407130

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

July 25, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9407130-01A	SO-STUMP-01
9407130-02A	SO-STUMP-02
9407130-03A	SO-STUMP-03

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9407130-01 Matrix: SOIL
Client ID: SO-STUMP-01 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.057	mg/Kg	1	07/22/94	07/22/94 AK

GP ID: 9407130-02 Matrix: SOIL
Client ID: SO-STUMP-02 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.416	0.050	mg/Kg	1	07/22/94	07/22/94 AK

GP ID: 9407130-03 Matrix: SOIL
Client ID: SO-STUMP-03 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	1.73	0.053	mg/Kg	1	07/22/94	07/22/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9407130-01
Client ID: SO-STUMP-01

Matrix: SOIL
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	86.6		%			07/22/94 VM

GP ID: 9407130-02
Client ID: SO-STUMP-02

Matrix: SOIL
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	90.7		%			07/22/94 VM

GP ID: 9407130-03
Client ID: SO-STUMP-03

Matrix: SOIL
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	88.3		%			07/22/94 VM

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

D = Indicates that the compound was found in a analysis at a secondary dilution factor

* = Value obtained from a 1:5 dilution

+ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

GP ENVIRONMENTAL SERVICES, INC.

07-130

FAX Results to: (412) 921-4040

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: _____

1 of 1 Pgs.

Project: INDIAN HEAD Site 8
Client: HALLIBURTON NUS
Send Results To: TONY Klimek
Address: 661 Anderson Drive
Pittsburgh PA 15220
Phone: (412) 921-7090

Turnaround Time: Soil - 24 hrs, Wood - 7
# of Container: 1
Container Type: Glass
Preservative Used: —
Type of Analysis: Total Hg

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Hg	CLIENT COMMENTS
SO-Stump-01	7/21/94	3:45pm	Soil	RB	✓	
SO-Stump-02	7/21/94		Soil	RB	✓	
SO-Stump-03	7/21/94		Soil	RB	✓	
WO-01	7/21/94		Wood	RB	✓	If the samples contain Mercury than the highest level will be tested for TCLP. On HNUS's authorization only.
WO-02	7/21/94		Wood	RB	✓	
WO-03	7/21/94	4:30pm	Wood	RB	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
[signature]	7/21 8:40pm	[signature]	Robin Summerhill	[signature]	7/22/94 9:28am

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:
[signature]	7/22/94 9:05AM	Robin Summerhill			

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:

6190-4.4-102

GP Work Order # 9407131

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

July 28, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9407131-01A	WO-01
9407131-02A	WO-02
9407131-03A	WO-03

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9407131-01 Matrix: WOOD
Client ID: WO-01 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.532	0.055	mg/Kg	1	07/27/94	07/27/94 AK

GP ID: 9407131-02 Matrix: WOOD
Client ID: WO-02 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.205	0.059	mg/Kg	1	07/27/94	07/27/94 AK

GP ID: 9407131-03 Matrix: WOOD
Client ID: WO-03 Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.540	0.120	mg/Kg	1	07/27/94	07/27/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9407131-01
Client ID: WO-01

Matrix: WOOD
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	88.7		%			07/26/94 JS

GP ID: 9407131-02
Client ID: WO-02

Matrix: WOOD
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	84.1		%			07/26/94 JS

GP ID: 9407131-03
Client ID: WO-03

Matrix: WOOD
Collected: 07/21/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	40.7		%			07/26/94 JS

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

D = Indicates that the compound was found in a analysis at a secondary dilution factor

* = Value obtained from a 1:5 dilution

+ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

07-131

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

FAX Results to: (412) 921-4040

Contract #/Billing Reference

1 of 1 Pgs.

Project: INDIAN HEAD Site 8
Client: HALLIBURTON NUS
Send Results To: TONY Klimek
Address: 661 Anderson Drive
Pittsburgh PA 15220
Phone: (412) 921-7090

Turnaround Time: Soil – 24hrs, Wood – 7
# of Container: 1
Container Type: Glass & Ziplock
Presorvative Used: —
Type of Analysis: Total Hg

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Hg	CLIENT COMMENTS
SO-Stump-01	7/21/94	3:45pm	Soil	RB	✓	
SO-Stump-02	7/21/94		Soil	RB	✓	
SO-Stump-03	7/21/94		Soil	RB	✓	
WO-01	7/21/94		Wood	RB	✓	If the samples contain Mercury than the high level will be tested for TCLP. On HNUS's authorization only.
WO-02	7/21/94		Wood	RB	✓	
WO-03	7/21/94	4:30pm	Wood	RB	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
[signature]	7/21 8:40pm	[signature]	Robin Summerhill	[signature]	7/22/94 9:28

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:
[signature]	7/22/94 9:05AM	Robin Summerhill			

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:

GP Work Order # 9407202

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 01, 1994

Albert Ellis, Laboratory Director

for

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9407202-01A	TS1-R-01
9407202-02A	TS1-B-02
9407202-03A	TS1-L-03

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9407202-01
Client ID: TS1-R-01

Matrix: SOIL
Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.518	0.058	mg/Kg	1	08/01/94	08/01/94 AK

GP ID: 9407202-02
Client ID: TS1-B-02

Matrix: SOIL
Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.056	mg/Kg	1	08/01/94	08/01/94 AK

GP ID: 9407202-03
Client ID: TS1-L-03

Matrix: SOIL
Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.052	mg/Kg	1	08/01/94	08/01/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9407202-01 Matrix: SOIL
Client ID: TS1-R-01 Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	77.8		%			07/31/94 MG

GP ID: 9407202-02 Matrix: SOIL
Client ID: TS1-B-02 Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	74.5		%			07/31/94 MG

GP ID: 9407202-03 Matrix: SOIL
Client ID: TS1-L-03 Collected: 07/29/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	84.6		%			07/31/94 MG

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

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= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

Rob Simcik FAX (301) 743 3454

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

07-202

Contract #/Billing Reference: _____

1 of 1 Pgs.

Project: INDIAN HEAD Site 8
Client: HALLIBURTON NUS
Send Results To: Tony Klimek
Address: 661 Anderson Drive
Pittsburgh, PA 15220
Phone: (412) 921 - 7090

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	TOTAL MERCURY	CLIENT COMMENTS
Turnaround Time					24 hrs	
# of Container					1	
Container Type					Glass	
Preservative Used					—	
TS1-R-01	7/29	1:00	Soil	RS	✓	
TS1-B-02	7/29	1:00	Soil	RS	✓	
TS1-L-03	7/29	1:00	Soil	RS	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
[signature]	7/29 3:15pm	[signature]			

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:

GP Work Order # 9408038

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 08, 1994

Albert Ellis, Laboratory Director

for

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9408038-01A	TS2-R-04
9408038-02A	TS2-B-05
9408038-03A	TS2-L-06

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408038-01 Matrix: SOIL
Client ID: TS2-R-04 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.124	0.056	mg/Kg	1	08/05/94	08/05/94 AK

GP ID: 9408038-02 Matrix: SOIL
Client ID: TS2-B-05 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.076	0.051	mg/Kg	1	08/05/94	08/05/94 AK

GP ID: 9408038-03 Matrix: SOIL
Client ID: TS2-L-06 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	5.17	0.228	mg/Kg	4	08/05/94	08/05/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408038-01 Matrix: SOIL
Client ID: TS2-R-04 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	82.6		%			08/05/94 VHM

GP ID: 9408038-02 Matrix: SOIL
Client ID: TS2-B-05 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	79.3		%			08/05/94 VHM

GP ID: 9408038-03 Matrix: SOIL
Client ID: TS2-L-06 Collected: 08/04/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	79.9		%			08/05/94 VHM

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

D = Indicates that the compound was found in a analysis at a secondary dilution factor

* = Value obtained from a 1:5 dilution

÷ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

F RE TS T T A ph (412) 921-7090
Rob Sinclair (301) 743 3457

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: 08-038

1 of 1 Pgs.

Project: INDIAN HEAD, SITE 8
Client: HALLIBURTON NUS
Send Results To: TONY Klimek
Address: 661 Andersen Drive
Pittsburgh, PA 15220
Phone: (412) 921-7090

Turnaround Time	24 hrs
# of Container	1
Container Type	Glass
Preservative Used	—
Type of Analysis	TOTAL MERCURY

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	TOTAL MERCURY	CLIENT COMMENTS
TS2-R-04	8/4/94		Soil	RS	✓	
TS2-B-05	8/4/94		Soil	RS	✓	
TS2-L-06	8/4/94		Soil	RS	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
C FANKOS	8/4/94 PM 5:51	Jill Sobieski		[illegible]	8/5/94 8:00 AM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				7°C

GP Work Order # 9408062

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 09, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9408062-01A	TS2-R-07
9408062-02A	TS2-B-08
9408062-03A	TS2-L-09
9408062-04A	TS2-L-10-F
9408062-05A	TS2-R-11
9408062-06A	TS2-B-12
9408062-07A	TS2-L-13

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408062-01 Matrix: SOIL
Client ID: TS2-R-07 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	42.8	1.26	mg/Kg	20	08/08/94	08/08/94 AK

GP ID: 9408062-02 Matrix: SOIL
Client ID: TS2-B-08 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.051	mg/Kg	1	08/08/94	08/09/94 AK

GP ID: 9408062-03 Matrix: SOIL
Client ID: TS2-L-09 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	1.63	0.057	mg/Kg	1	08/08/94	08/08/94 AK

GP ID: 9408062-04 Matrix: SOIL
Client ID: TS2-L-10-F Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	1.85	0.059	mg/Kg	1	08/08/94	08/08/94 AK

GP ID: 9408062-05 Matrix: SOIL
Client ID: TS2-R-11 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.505	0.053	mg/Kg	1	08/08/94	08/08/94 AK

GP ID: 9408062-06 Matrix: SOIL
Client ID: TS2-B-12 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.761	0.056	mg/Kg	1	08/08/94	08/08/94 AK

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408062-07
Client ID: TS2-L-13

Matrix: SOIL
Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.463	0.052	mg/Kg	1	08/08/94	08/08/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408062-01 Matrix: SOIL
Client ID: TS2-R-07 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	79.4		%			08/08/94 VHM

GP ID: 9408062-02 Matrix: SOIL
Client ID: TS2-B-08 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	83.5		%			08/08/94 VHM

GP ID: 9408062-03 Matrix: SOIL
Client ID: TS2-L-09 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	81.2		%			08/08/94 VHM

GP ID: 9408062-04 Matrix: SOIL
Client ID: TS2-L-10-F Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	80.5		%			08/08/94 VHM

GP ID: 9408062-05 Matrix: SOIL
Client ID: TS2-R-11 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	83.0		%			08/08/94 VHM

GP ID: 9408062-06 Matrix: SOIL
Client ID: TS2-B-12 Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	80.5		%			08/08/94 VHM

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408062-07
Client ID: TS2-L-13

Matrix: SOIL
Collected: 08/08/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	82.7		%			08/08/94 VHM

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

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+ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

– = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

Craig Farkos (301) 743-3454

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: 08-062

1 of 1 Pgs.

Project: Indian Head, Site 8
Client: HALLIBURTON NUS
Send Results To: Tony Klinck
Address: 661 Andersen Dr.
Pittsburgh, PA 15220
Phone: (412) 921-7090

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Mercury	CLIENT COMMENTS
TS2-R-07	8/8/94	13:15	soil	CF	✓	
TS2-B-08	8/8/94	13:15	soil	CF	✓	
TS2-L-09	8/8/94	13:15	soil	CF	✓	
TS2-L-10-F	8/8/94	13:15	soil	CF	✓	
TS2-R-11	8/8/94	13:25	soil	CF	✓	
TS2-B-12	8/8/94	13:25	soil	CF	✓	
TS2-L-13	8/8/94	13:25	soil	CF	✓	

Turnaround Time: 24
# of Container: 1
Container Type: GLASS
Preservative Used: —
Type of Analysis: Total Mercury

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
CH Farkos	8/8/94 3:10	Thin Thin Oliri		C. Lyons	8/08/94 3:10 PM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:

GP Work Order # 9408070

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 10, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9408070-01A	TS2-R-14
9408070-02A	TS2-R-15
9408070-03A	TS2-R-16

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408070-01 Matrix: SOIL
Client ID: TS2-R-14 Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	8.65	0.334	mg/Kg	6	08/09/94	08/09/94 AK

GP ID: 9408070-02 Matrix: SOIL
Client ID: TS2-R-15 Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	4.92	0.319	mg/Kg	6	08/09/94	08/09/94 AK

GP ID: 9408070-03 Matrix: SOIL
Client ID: TS2-R-16 Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.939	0.057	mg/Kg	1	08/09/94	08/09/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408070-01
Client ID: TS2-R-14

Matrix: SOIL
Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	79.5		%			08/09/94 MG

GP ID: 9408070-02
Client ID: TS2-R-15

Matrix: SOIL
Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	85.8		%			08/09/94 MG

GP ID: 9408070-03
Client ID: TS2-R-16

Matrix: SOIL
Collected: 08/09/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	86.1		%			08/09/94 MG

GP ENVIRONMENTAL SERVICES

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= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

– = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

Fax Results to: Tony Klinesh
Craig Farkos (301) 743-345

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: _____

_____ of _____ Pgs.

Project: Indian Head, Site 8
Client: Halliburton NUS
Send Results To: Tony Klinesh
Address: 661 Andersen Dr.
Pittsburgh PA 15220
Phone: (412) 921-7090

Turnaround Time: 24
# of Container: 1
Container Type: Glass
Preservative Used:
Type of Analysis: Total Hg

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Hg	CLIENT COMMENTS
TS2-R-14	8/9/94	13:30	soil	CSF	✓	
TS2-R-15	8/9/94	13:30	soil	CSF	✓	
TS2-R-16	8/9/94	13:30	soil	CSF	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
C. Hunn	8/9/94 15:05	[illegible]		C. Lyons	8/9/94 3:05 PM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				4°C

GP Work Order # 9408142

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 23, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by: CB

SAMPLE IDENTIFICATION

GP ID	Client ID
9408142-01A	TS5-R-17
9408142-02A	TS5-B-18
9408142-03A	TS5-L-19
9408142-04A	TS5-L-20-F
9408142-05A	TS6-R-21
9408142-06A	TS6-B-22
9408142-07A	TS6-L-23

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408142-01
Client ID: TS5-R-17

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.072	mg/Kg	1	08/22/94	08/22/94 AK

GP ID: 9408142-02
Client ID: TS5-B-18

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.057	mg/Kg	1	08/22/94	08/22/94 AK

GP ID: 9408142-03
Client ID: TS5-L-19

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.218	0.055	mg/Kg	1	08/22/94	08/22/94 AK

GP ID: 9408142-04
Client ID: TS5-L-20-F

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.224	0.051	mg/Kg	1	08/22/94	08/22/94 AK

GP ID: 9408142-05
Client ID: TS6-R-21

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.060	mg/Kg	1	08/22/94	08/22/94 AK

GP ID: 9408142-06
Client ID: TS6-B-22

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	1.28	0.053	mg/Kg	1	08/22/94	08/22/94 AK

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408142-07
Client ID: TS6-L-23

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	BQL	0.049	mg/Kg	1	08/22/94	08/22/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408142-01
Client ID: TS5-R-17
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	69.3		%			08/22/94 SMA

GP ID: 9408142-02
Client ID: TS5-B-18
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	72.8		%			08/22/94 SMA

GP ID: 9408142-03
Client ID: TS5-L-19
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	84.3		%			08/22/94 SMA

GP ID: 9408142-04
Client ID: TS5-L-20-F
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	84.0		%			08/22/94 SMA

GP ID: 9408142-05
Client ID: TS6-R-21
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	77.3		%			08/22/94 SMA

GP ID: 9408142-06
Client ID: TS6-B-22
Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	82.5		%			08/22/94 SMA

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408142-07
Client ID: TS6-L-23

Matrix: SOIL
Collected: 08/22/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	88.3		%			08/22/94 SMA

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

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+ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

Fax results to: Tony Klimek (412) 921-7090

08-142 Craig Farkas (301) 743-3454

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: _____

_____ of _____ Pgs.

Project: Indian Head - Site 8

Client: Halliburton NUS

Send Results To: Tony Klimek

Address: 661 Andersen Dr
Pittsburgh, PA 15220

Phone: (412) 921-7090

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Lead	CLIENT COMMENTS
Turnaround Time					24	
# of Container					1	
Container Type					GLASS	
Preservative Used					—	
Type of Analysis						
TS5-R-17	8/22/94	1:20	soil	CSF	✓	
TS5-B-18	8/22	1:21	soil	CSF	✓	
TS5-L-19	8/22	1:22	soil	CSF	✓	
TS5-L-20-F	8/22	1:22	soil	CSF	✓	
TS6-R-21	8/22	1:23	soil	CSF	✓	
TS6-B-22	8/22	1:24	soil	CSF	✓	
TS6-L-23	8/22	1:25	soil	CSF	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
C.S. Farkas	8/22 3:30	Pat Nagel		C. Farkas	8/22/94 3:30 PM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				3°C

GP Work Order # 9408167

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

August 26, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9408167-01A	TR7-R-24
9408167-02A	TR7-B-25
9408167-03A	TR7-L-26
9408167-04A	TR7-L-27-F

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408167-01 Matrix: SOIL
Client ID: TR7-R-24 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	1.40	0.060	mg/Kg	1	08/26/94	08/26/94 AK

GP ID: 9408167-02 Matrix: SOIL
Client ID: TR7-B-25 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.643	0.053	mg/Kg	1	08/26/94	08/26/94 AK

GP ID: 9408167-03 Matrix: SOIL
Client ID: TR7-L-26 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	140.0	6.54	mg/Kg	80	08/26/94	08/26/94 AK

GP ID: 9408167-04 Matrix: SOIL
Client ID: TR7-L-27-F Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	214.0	6.60	mg/Kg	80	08/26/94	08/26/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408167-01 Matrix: SOIL
Client ID: TR7-R-24 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	63.3		%			08/26/94 SMA

GP ID: 9408167-02 Matrix: SOIL
Client ID: TR7-B-25 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	81.8		%			08/26/94 SMA

GP ID: 9408167-03 Matrix: SOIL
Client ID: TR7-L-26 Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	60.6		%			08/26/94 SMA

GP ID: 9408167-04 Matrix: SOIL
Client ID: TR7-L-27-F Collected: 08/25/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	58.3		%			08/26/94 SMA

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

D = Indicates that the compound was found in a analysis at a secondary dilution factor

* = Value obtained from a 1:5 dilution

+ = Value obtained from a 1:10 dilution

= Value obtained from a 1:25 dilution

^ = Value obtained from a 1:50 dilution

~ = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

Fax Results to: Tony Klinch (412) 921-4040
C Farkos (301) 743-3454
08-167

GP Environmental Services, Inc.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: _____

_____ of _____ Pgs.

Project: Indian Head - Site 2
Client: Halliburton NUS
Send Results To: Tony Klinch
Address: 661 Andersen Dr.
Pittsburgh, PA 15220
Phone: (412) 921-7090

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Hg	CLIENT COMMENTS
TR7-R-24	8/25/94	3:20	soil	CSF	✓	
TR7-B-25	8/25/94	3:21	soil	CSF	✓	
TR7-L-26	8/25/94	3:22	soil	CSF	✓	
~~TR7~~-L-27-F	8/25/95	3:23	soil	CSF	✓	

Turnaround Time: 24
# of Container: 1
Container Type: Glass
Preservative Used: —
Type of Analysis: Total Hg

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
C. Farkos	8/25/94 4:40	[illegible]		C. [illegible]	8/25/94 4:40 PM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				6°C

GP Work Order # 9408204

SAMPLE ANALYSIS REPORT

Prepared For:

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220

INDIAN HEAD-SITE 8

Prepared By:

GP Environmental Services, Inc.
202 Perry Parkway
Gaithersburg, Maryland 20877

September 01, 1994

for Albert Ellis, Laboratory Director

GP ENVIRONMENTAL SERVICES
ANALYTICAL RESULTS

Project: INDIAN HEAD-SITE 8

Halliburton NUS
661 Andersen Drive
Pittsburgh, PA 15220
Atten: Tony Klimek

GP ENVIRONMENTAL SERVICES
202 Perry Parkway
Gaithersburg, MD 20877

Atten: Client Services
Phone: (301) 926-6802

Certified by:

SAMPLE IDENTIFICATION

GP ID	Client ID
9408204-01A	TS7-L-28
9408204-02A	TS7-L-29

GP ENVIRONMENTAL SERVICES
METALS ANALYSIS RESULTS

GP ID: 9408204-01
Client ID: TS7-L-28

Matrix: SOIL
Collected: 08/30/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.276	0.062	mg/Kg	1	08/31/94	08/31/94 AK

GP ID: 9408204-02
Client ID: TS7-L-29

Matrix: SOIL
Collected: 08/30/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Mercury	SW846 7471	0.195	0.050	mg/Kg	1	08/31/94	08/31/94 AK

GP ENVIRONMENTAL SERVICES
WET CHEMISTRY ANALYSIS RESULTS

GP ID: 9408204-01 Matrix: SOIL
Client ID: TS7-L-28 Collected: 08/30/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	82.9		%			08/30/94 VHM

GP ID: 9408204-02 Matrix: SOIL
Client ID: TS7-L-29 Collected: 08/30/94

Parameter	Method	Result	Det.Lim.	Units	Dil.	Prepared	Analyzed By
Percent Solids	MCAWW 160.3	88.4		%			08/30/94 VHM

GP ENVIRONMENTAL SERVICES

Possible notes and definitions for this report:

BQL = Below Quantitation Limit

J = An estimated value, below method detection limit

B = Indicates that the compound was found in the associated blank

E = Indicates that the concentration exceeded the calibration range of the instrument

U = Indicates that the compound was analyzed for but not detected, number indicates the detection limit

D = Indicates that the compound was found in a analysis at a secondary dilution factor

* = Value obtained from a 1:5 dilution

÷ = Value obtained from a 1:10 dilution

= Value obtained from a 1:20 dilution

^ = Value obtained from a 1:50 dilution

– = Value obtained from a 1:100 dilution

! = Value obtained from a 1:250 dilution

@ = Value obtained from a 1:125 dilution (Medium Level)

$ = Value obtained from a 1:1000 dilution

& = Value obtained from a 1:10000 dilution

N = Flashpoint not observed; heated to specified limit

R = Flammable at room temperature

TNTC = Too numerous to count

B.P. = Detection limit taken from boiling point

F.F. = Sample gave off flammable fumes

GP ENVIRONMENTAL SERVICES, INC.

202 Perry Parkway
Gaithersburg, Maryland 20877
(301) 926-6802

Contract #/Billing Reference: _____

_____ of _____ Pgs.

08-204

Project: INDIAN HEAD – SITE 8
Client: HALLIBURTON NUS
Send Results To: Tony Klimek
Address: 661 Andersen Dr.
Pittsburgh, PA 15220
Phone: (412) 921-7090

Sample ID#	Date	Time	Sample Matrix	Sampler's Initials	Total Hg	CLIENT COMMENTS
Turnaround Time					24	
# of Container					1	
Container Type					Glass	
Preservative Used					—	
Type of Analysis						
TS7-L-28	8/30/94	7:10	soil	C&F	✓	
TS7-L-29	8/30/94	7:10	soil	C&F	✓	

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
C&F Fards	8/30/94 13:20	[signature]		[signature]	8/31/94 1:40 PM

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				30C

Analytical Services Corp.

SOIL SAMPLES
INSIDE
&
OUTSIDE
DRUM

ANALYTICAL REPORT

Client: OHM Remediation Services Corporation
Eastern Region (Trenton, NJ)

Attn: Ken Kukkonen
Ron Kenyon

Project: 15831N - NEESA; Indianhead, MD

Sample(s): D001 and S001

Sample Type(s): Solid

Analysis Performed: RCRA TCLP Leachate Parameters

Date Sample Received: September 12, 1994

Date Order Received: September 12, 1994

Joblink(s): 616623

This report is "PROPRIETARY AND CONFIDENTIAL" and delivered to, and intended for the exclusive use of the above named client only. Analytical Services Corporation assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.

Reviewed and Approved by: _____ *Date:* September 26, 1994
Thomas E. Gran, Ph.D., Vice President

16406 U.S. Route 224 East ■ P.O. Box 1404 ■ Findlay, Ohio 45839-1404 ■ 419-423-3526

DATA SUMMARY REPORT

DATE: 09/22/94

PAGE: 1

Company: OHM REMEDIATION SERVICES CORPORATION

	Sample Point ID:	D001	S001
	ASC Sample Number:	JN2200	JN2201
	Sample Date:	940908	940908
	Facility Code:	015831N	015831N
Parameters	Units		
RCRA TCLP Leachate Herbicide Analysis, GC, (GS52)			
2,4-D	mg/L	<.250	<.250
2,4,5-TP (Silvex)	mg/L	<.250	<.250
RCRA TCLP Leachate Pesticide Analysis, GC, (GS54)			
Chlordane	mg/L	<.020	<.020
Endrin	mg/L	<.002	<.002
Heptachlor	mg/L	<.002	<.002
Heptachlor epoxide	mg/L	<.002	<.002
Lindane	mg/L	<.002	<.002
Methoxychlor	mg/L	<.002	<.002
Toxaphene	mg/L	<.040	<.040
RCRA TCLP Leachate Metals Analysis, (ME52)			
Arsenic	mg/L	<.023	<.023
Barium	mg/L	.504	1.35
Cadmium	mg/L	.004	.020
Chromium	mg/L	<.006	<.006
Lead	mg/L	.162	2.74
Mercury	mg/L	<.0001	<.0001
Selenium	mg/L	<.039	<.039
Silver	mg/L	<.006	<.006
RCRA TCLP Leachate Base/Neutral/Acid Analysis, MS, (MS52)			
2,4-Dinitrotoluene	mg/L	<.100	<.100
Hexachlorobenzene	mg/L	<.100	<.100
Hexachloroethane	mg/L	<.100	<.100
Hexachlorobutadiene	mg/L	<.100	<.100
2-Methylphenol	mg/L	<.100	<.100
4-Methylphenol	mg/L	<.100	<.100
Nitrobenzene	mg/L	<.100	<.100
Pentachlorophenol	mg/L	<.100	<.100
Pyridine	mg/L	<.100	<.100
2,4,5-Trichlorophenol	mg/L	<.100	<.100
2,4,6-Trichlorophenol	mg/L	<.100	<.100

DATA SUMMARY REPORT

DATE: 09/22/94

Company: OHM REMEDIATION SERVICES CORPORATION

	Sample Point ID:	**D001**	**S001**
	ASC Sample Number:	JN2200	JN2201
	Sample Date:	940908	940908
	Facility Code:	015831N	015831N
Parameters	Units		
RCRA TCLP Leachate (ZHE) Volatile Analysis, MS, (MV50)			
Benzene	mg/L	<.125	<.125
Carbon tetrachloride	mg/L	<.125	<.125
Chlorobenzene	mg/L	<.125	<.125
Chloroform	mg/L	<.125	<.125
1,4-Dichlorobenzene	mg/L	<.125	<.125
1,2-Dichloroethane	mg/L	<.125	<.125
1,1-Dichloroethylene	mg/L	<.125	<.125
Methyl ethyl ketone	mg/L	<.250	<.250
Tetrachloroethylene	mg/L	<.125	<.125
Trichloroethylene	mg/L	<.125	<.125
Vinyl chloride	mg/L	<.125	<.125

LAB COPY

OHM Corporation

CHAIN-OF-CUSTODY RECORD

Form 001
Field Technical Service
Rev. 08/8

142860

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: INDIANHEAD
PROJECT LOCATION: INDIANHEAD, MD
PROJ. NO.: 15831
PROJECT CONTACT: RON KENYON
PROJECT TELEPHONE NO.: (609) 588-~~6433~~ 6344
CLIENT'S REPRESENTATIVE:
PROJECT MANAGER/SUPERVISOR: KEN KUKKONEN / AL MAZE

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TCLP VOC'S	TCLP SEMI-VOC'S	TCLP METALS	TCLP PESTICIDES					REMARKS
1	D001	9-8-94	1745	X		SOIL SAMPLE SOIL INSIDE EXCAVATED DRUM	1x32oz	X	X	X	X					
2	S001	9-8-94	1740	X		SOIL SAMPLE EXCAVATED SOIL AROUND DRUM	1x32oz	X	X	X	X					
3																
4																
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	[illegible]	FEDEX# 2290920527	9-9-94	
2	1-2	Fedx	[signature]	9-4-94	0947
3					
4					

REMARKS

7 DAY TAT

FAX RESULTS TO:
RON KENYON (609) 588-6463

Temp 20°C

SAMPLER'S SIGNATURE

Analytical Services Corp.

SCREENINGS IN ROLL OFF CONTAINERS

ANALYTICAL REPORT

Client: OHM Remediation Services Corporation
Eastern Region (Trenton, NJ)

Attn: Ken Kukkonen
Ron Kenyon

Project: 15831N - NEESA; Indianhead, MD

Sample(s): S001

Sample Type(s): Solid

Analysis Performed: RCRA TCLP Leachate Parameters

Date Sample Received: September 28, 1994

Date Order Received: September 28, 1994

Joblink(s): 616720

This report is "PROPRIETARY AND CONFIDENTIAL" and delivered to, and intended for the exclusive use of the above named client only. Analytical Services Corporation assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.

Reviewed and Approved by: _____ *Date:* October 7, 1994
Thomas E. Gran, Ph.D., Vice President

16406 U.S. Route 224 East ■ P.O. Box 1404 ■ Findlay, Ohio 45839-1404 ■ 419-423-3526

DATA SUMMARY REPORT

DATE: 10/06/94

Company: OHM REMEDIATION SERVICES CORPORATION

Sample Point ID: S001
ASC Sample Number: JN2682
Sample Date: 940927
Facility Code: 015831N

Parameters	Units	
RCRA TCLP Leachate Herbicide Analysis, GC, (GS52)		
2,4-D	mg/L	<.250
2,4,5-TP (Silvex)	mg/L	<.250
RCRA TCLP Leachate Pesticide Analysis, GC, (GS54)		
Chlordane	mg/L	<.020
Endrin	mg/L	<.002
Heptachlor	mg/L	<.002
Heptachlor epoxide	mg/L	<.002
Lindane	mg/L	<.002
Methoxychlor	mg/L	<.002
Toxaphene	mg/L	<.040
RCRA TCLP Leachate Metals Analysis, (ME52)		
Arsenic	mg/L	<.023
Barium	mg/L	1.18
Cadmium	mg/L	.002
Chromium	mg/L	<.006
Lead	mg/L	.262
Mercury	mg/L	<.001
Selenium	mg/L	<.039
Silver	mg/L	<.006
RCRA TCLP Leachate Base/Neutral/Acid Analysis, MS, (MS52)		
2,4-Dinitrotoluene	mg/L	<.100
Hexachlorobenzene	mg/L	<.100
Hexachloroethane	mg/L	<.100
Hexachlorobutadiene	mg/L	<.100
2-Methylphenol	mg/L	<.100
4-Methylphenol	mg/L	<.100
Nitrobenzene	mg/L	<.100
Pentachlorophenol	mg/L	<.100
Pyridine	mg/L	<.100
2,4,5-Trichlorophenol	mg/L	<.100
2,4,6-Trichlorophenol	mg/L	<.100

DATA SUMMARY REPORT

Company: OHM REMEDIATION SERVICES CORPORATION

Sample Point ID: S001
ASC Sample Number: JN2682
Sample Date: 940927
Facility Code: 015831N

RCRA TCLP Leachate (ZHE) Volatile Analysis, MS, (MV50)

Parameters	Units	
Benzene	mg/L	<.125
Carbon tetrachloride	mg/L	<.125
Chlorobenzene	mg/L	<.125
Chloroform	mg/L	<.125
1,4-Dichlorobenzene	mg/L	<.125
1,2-Dichloroethane	mg/L	<.125
1,1-Dichloroethylene	mg/L	<.125
Methyl ethyl ketone	mg/L	<.250
Tetrachloroethylene	mg/L	<.125
Trichloroethylene	mg/L	<.125
Vinyl chloride	mg/L	<.125

LAB COPY

OHM Corporation

CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
Rev. 08/89

138627

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: INDIAN HEAD NAVAL BASE
PROJECT LOCATION: INDIAN HEAD MD
PROJ. NO.: 15831
PROJECT CONTACT: KEN KUKKONEN
PROJECT TELEPHONE NO.: 301-743-3513
CLIENT'S REPRESENTATIVE:
PROJECT MANAGER/SUPERVISOR: AL MAZE

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): Full TCLP

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	Full TCLP	REMARKS
1	S001	9/27	12:57		X	SAMPLE OF SCREENED MATERIAL IN ROLL OFF-SOIL	2X16 oz		
2									
3									
4									
5									
6									
7									
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1	William SHREWSBURY	Fedx	9/27	14:00
2	1	Fedx 1465911963	[illegible]	9/28 94	09:58
3					
4					

REMARKS

7 DAY TAT

FAX RESULTS TO AL MAZE

301-743-3454

SAMPLER'S SIGNATURE: [illegible] #3842 Temp C

GEO TECH FABRIC
&
PPE

Analytical Services Corp.

ANALYTICAL REPORT

Client: OHM Remediation Services Corporation
Eastern Region (Trenton, NJ)

Attn: Ken Kukkonen
Ron Kenyon

Project: 15831N - NEESA; Indianhead, MD

Sample(s): G001

Sample Type(s): Solid

Analysis Performed: RCRA TCLP Leachate Parameters

Date Sample Received: September 16, 1994

Date Order Received: September 16, 1994

Joblink(s): 616656

This report is "PROPRIETARY AND CONFIDENTIAL" and delivered to, and intended for the exclusive use of the above named client only. Analytical Services Corporation assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.

Reviewed and Approved by: Thomas E. Gran, Ph.D., Vice President *Date:* September 28, 1994

16406 U.S. Route 224 East ■ P.O. Box 1404 ■ Findlay, Ohio 45839-1404 ■ 419-423-3526

DATA SUMMARY REPORT

DATE: 09/26/94

Company: OHM REMEDIATION SERVICES CORPORATION

Sample Point ID: G001
ASC Sample Number: JN2399
Sample Date: 940915
Facility Code: 015831N

Parameters	Units	
RCRA TCLP Leachate Herbicide Analysis, GC, (G852)		
2,4-D	mg/L	<.250
2,4,5-TP (Silvex)	mg/L	<.250
RCRA TCLP Leachate Pesticide Analysis, GC, (G854)		
Chlordane	mg/L	<.020
Endrin	mg/L	<.002
Heptachlor	mg/L	<.002
Heptachlor epoxide	mg/L	<.002
Lindane	mg/L	<.002
Methoxychlor	mg/L	<.002
Toxaphene	mg/L	<.040
RCRA TCLP Leachate Metals Analysis, (ME52)		
Arsenic	mg/L	<.010
Barium	mg/L	.884
Cadmium	mg/L	.002
Chromium	mg/L	.040
Lead	mg/L	.038
Mercury	mg/L	<.001
Selenium	mg/L	<.005
Silver	mg/L	<.006
RCRA TCLP Leachate Base/Neutral/Acid Analysis, MS, (MS52)		
2,4-Dinitrotoluene	mg/L	<.100
Hexachlorobenzene	mg/L	<.100
Hexachloroethane	mg/L	<.100
Hexachlorobutadiene	mg/L	<.100
2-Methylphenol	mg/L	<.100
4-Methylphenol	mg/L	<.100
Nitrobenzene	mg/L	<.100
Pentachlorophenol	mg/L	<.100
Pyridine	mg/L	<.100
2,4,5-Trichlorophenol	mg/L	<.100
2,4,6-Trichlorophenol	mg/L	<.100

DATA SUMMARY REPORT

Company: OHM REMEDIATION SERVICES CORPORATION

Sample Point ID: G001
ASC Sample Number: JN2399
Sample Date: 940915
Facility Code: 015831N

RCRA TCLP Leachate (ZHE) Volatile Analysis, MS, (MV50)

Parameters	Units	
Benzene	mg/L	<.125
Carbon tetrachloride	mg/L	<.125
Chlorobenzene	mg/L	<.125
Chloroform	mg/L	.133
1,4-Dichlorobenzene	mg/L	<.125
1,2-Dichloroethane	mg/L	<.125
1,1-Dichloroethylene	mg/L	<.125
Methyl ethyl ketone	mg/L	<.250
Tetrachloroethylene	mg/L	<.125
Trichloroethylene	mg/L	<.125
Vinyl chloride	mg/L	<.125

APPENDIX D

NON-HAZARDOUS RESIDUAL WASTE MANIFEST DISPOSAL DOCUMENTATION

#1

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No. 100113

Document Refer **No** 94 12614

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER, INDIAN HEAD, MD

Pick-up Address: BLDG 716, (No.) (Street) INDIAN HEAD, (City) MD (State) 20640 (Zip Code)

Telephone Number: (301) 743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, If any: _____

MODERN ID #: ~~220056~~ WMNA 189545 RID.

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 26 Jan 95 Signature: [signature] (Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099202681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [signature] Date: 1-26-95

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

Weight obtained by using THE HOWE PATENTED RECORDING BEAM No. #1

From _____ To _____

16,000 Gross Load of _____

59,000 Tare Driver { ON / OFF

Fees _____ Date _____ 198__

75660 Net _____ Weigher

Printed in U.S.A.

#2

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No. 100113

Document Refer **No** 9412615

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER

Pick-up Address: BLDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-[illegible] SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: ~~220056~~ WMNA 189545 R.R.D.

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 26 Jan 95 Signature: [illegible]
(Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099202681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 1-26-95

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

Weight obtained by using THE HOWE PATENTED RECORDING BEAM No. #2

From _____ To _____

15 [illegible] Gross Load of _____

55 8[illegible] Tare Driver { ON / OFF

71540 Net Fees _____ Date _____ 198__

Weigher _____

FORM SA - PL. 32000-4253

Printed in U.S.A.

#3

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No.. 100113

Document Refer **No** 94 12616

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER

Pick-up Address: BLDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: ~~220036~~ WMNA 189545 2nd

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 26 Jan 95 Signature: [signature]
(Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099702681

COMPANY NAME: WASTE MANGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: Miguel Villanueva Date: 1-26-95

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

Weight obtained by using THE HOWE PATENTED RECORDING BEAM No. #3

From _____ To _____

17 5[illegible]0 Gross Load of _____

40 [illegible]0 Tare Driver { ON / OFF

58450 Net Fees _____ Date _____ 198__

Printed in U.S.A. _____ Weigher

FORM SA PT. 12008233

#4

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No.. 100113

Document Refer **No** 9412617

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170026109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER INDIAN HEAD MD

Pick-up Address: BDDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: ~~220056~~ WMNA 189545 RPD.

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 26 Jan 95 Signature: R S Stevens
(Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099202681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 1-26-95

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

#5

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No.. 100113

Document Refer **No** 94 12618

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) ~~NAVAL SURFACE WARFARE CENTER INDIAN HEAD~~

Pick-up Address: BLDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: ~~220056~~ WMNA 189545 RAD

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 26 Jan 95 Signature: _____
(Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099202681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: _____ Date: _____

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

#6

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No.. 100113

Document Refer **No** 94 12620

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER

Pick-up Address: BLDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: ~~220056~~ WMA/A 189545

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 27 Jan 95 Signature: [signature]
(Name and Title)

Contractor: WASTE MANAGEMENT

Address: PO BOX 539 WHITE PLAINS 20695

Contact: TERRY MAYS Phone: 301-8430190

Hauler of Waste (must be filled-in by hauler) EPA I.D. No. TLD099203681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [signature] Date: 1-27-95

Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill **Pink - Hauler** **Golden Rod - Generator**

#7

MODERN LANDFILL
R.D. #9
York, PA 17402

(717) 755-2199 (Laboratory)

Site Permit No. 100113

Document Refer **No** 94 12732

NON-HAZARDOUS RESIDUAL WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. MD 4170024109

Company Name: (Print or Type) NAVAL SURFACE WARFARE CENTER INDIAN HEAD

Pick-up Address: BLDG 716 INDIAN HEAD MD 20640
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 301-743-4343 SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: _____ Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: [illegible]

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: X 17 Feb 95 Signature: [signature]
(Name and Title)

2. Contractor: WASTE MANAGEMENT

Address: P O BOX 539 WHITE PLAINS MD 20695

Contact: TERRY MAYS Phone: 301-843-0190

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. ILD099202681

COMPANY NAME: WASTE MANAGEMENT PHONE: 301-843-0190

ADDRESS: PO BOX 539 WHITE PLAINS MD 20695

Pick-up Date: _____ Truck No. _____ Vehicle Lic. No. _____

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 2-1-95

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: R.D. #9 Prospect Rd., York, Pennsylvania 17402

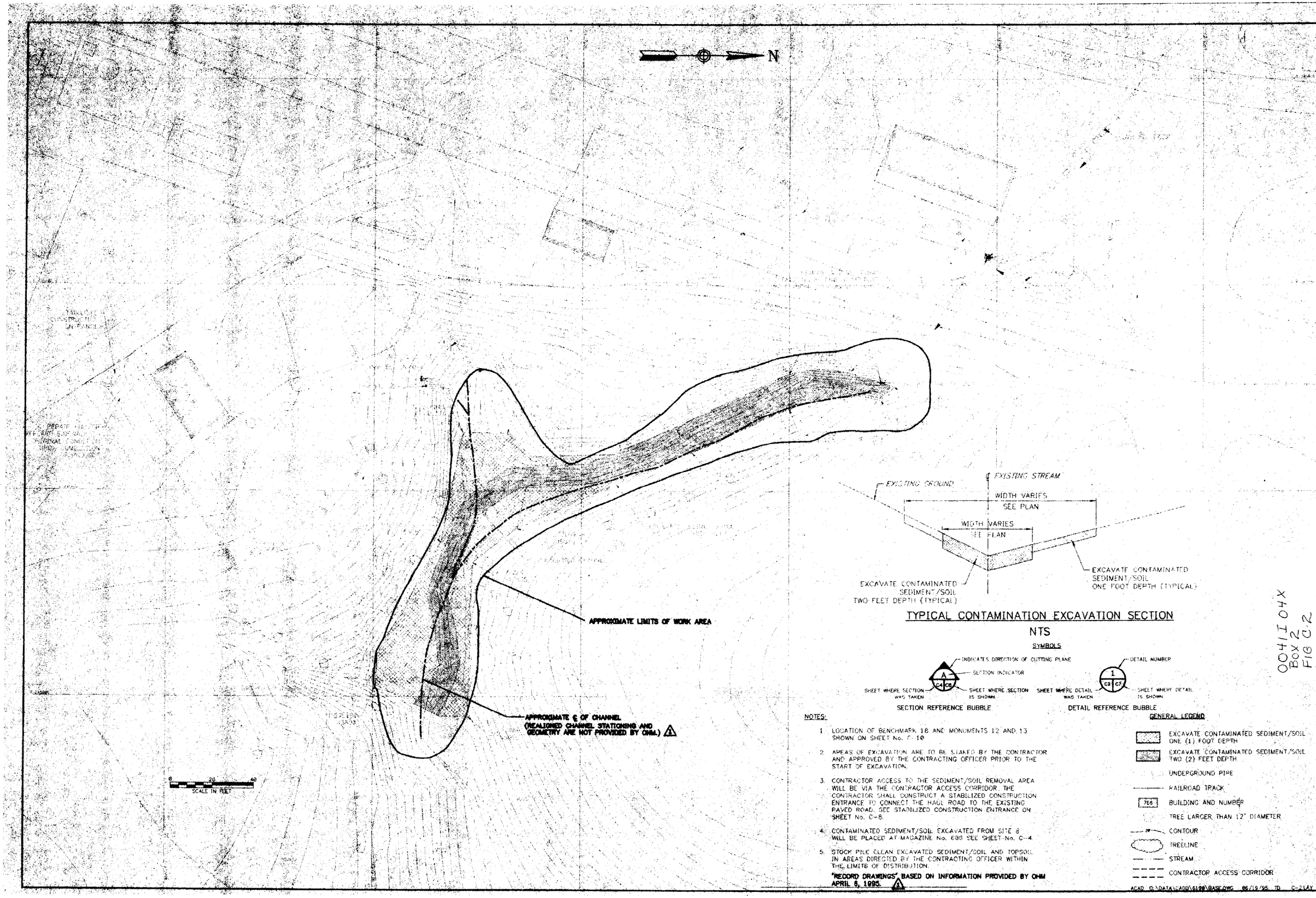
Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

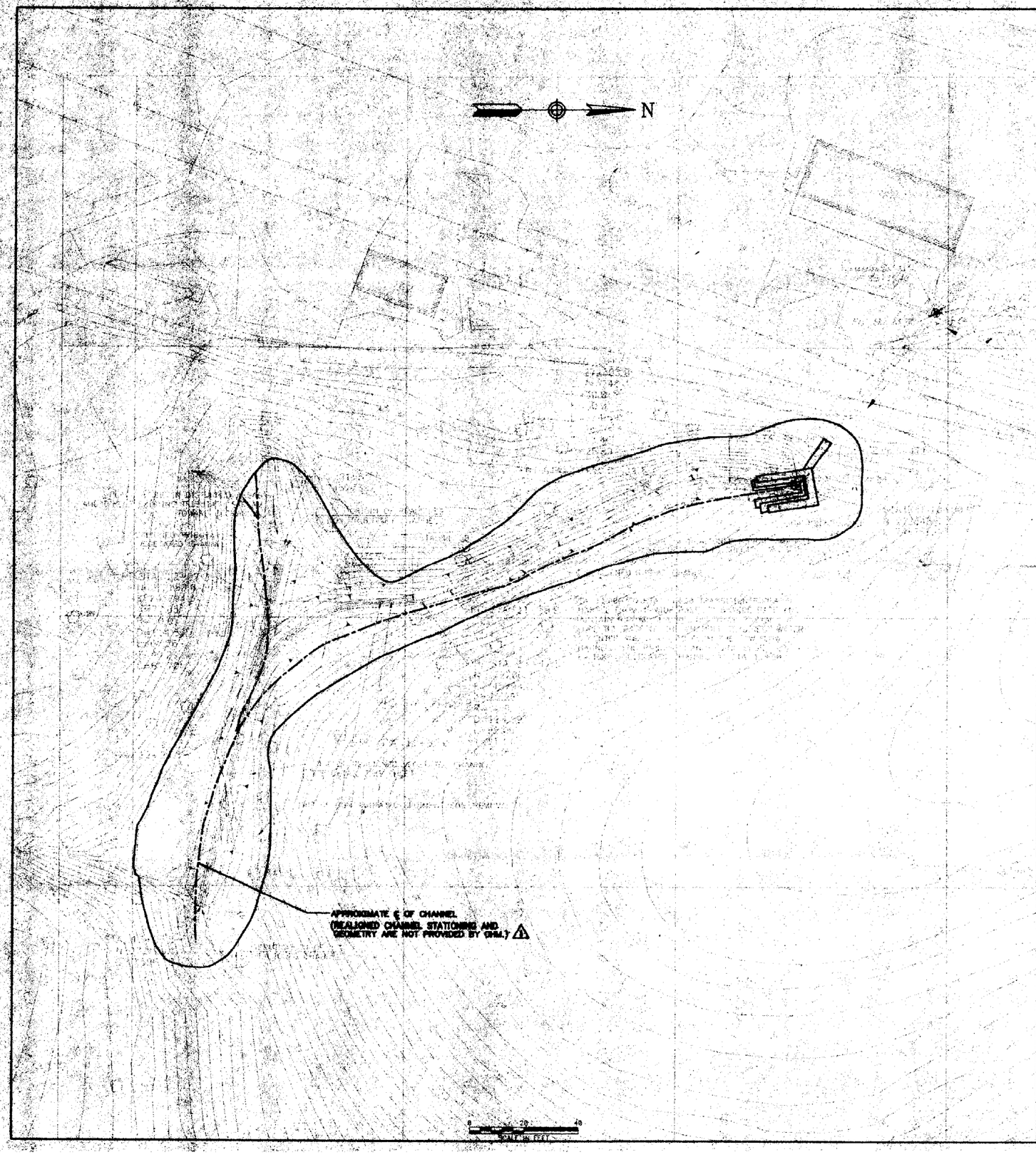
Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

APPENDIX E

AS-BUILT DRAWINGS (Provided by RAC)


N
APPROXIMATE LIMITS OF WORK AREA
APPROXIMATE ℄ OF CHANNEL
(REALIGNED CHANNEL STATIONING AND
GEOMETRY ARE NOT PROVIDED BY OHM.) 3
0 20 40
SCALE IN FEET
℄ EXISTING STREAM
EXISTING GROUND
WIDTH VARIES
SEE PLAN
WIDTH VARIES
SEE PLAN
EXCAVATE CONTAMINATED
SEDIMENT/SOIL
TWO FEET DEPTH (TYPICAL)
EXCAVATE CONTAMINATED
SEDIMENT/SOIL
ONE FOOT DEPTH (TYPICAL)
TYPICAL CONTAMINATION EXCAVATION SECTION
NTS
SYMBOLS
INDICATES DIRECTION OF CUTTING PLANE
SECTION INDICATOR
A
C4 C8
SHEET WHERE SECTION WAS TAKEN
SHEET WHERE SECTION IS SHOWN
SECTION REFERENCE BUBBLE
DETAIL NUMBER
1
C3 C7
SHEET WHERE DETAIL WAS TAKEN
SHEET WHERE DETAIL IS SHOWN
DETAIL REFERENCE BUBBLE
NOTES:
1. LOCATION OF BENCHMARK 18 AND MONUMENTS 12 AND 13 SHOWN ON SHEET No. C-10
2. AREAS OF EXCAVATION ARE TO BE STAKED BY THE CONTRACTOR AND APPROVED BY THE CONTRACTING OFFICER PRIOR TO THE START OF EXCAVATION.
3. CONTRACTOR ACCESS TO THE SEDIMENT/SOIL REMOVAL AREA WILL BE VIA THE CONTRACTOR ACCESS CORRIDOR. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE TO CONNECT THE HAUL ROAD TO THE EXISTING PAVED ROAD. SEE STABILIZED CONSTRUCTION ENTRANCE ON SHEET No. C-8.
4. CONTAMINATED SEDIMENT/SOIL EXCAVATED FROM SITE 8 WILL BE PLACED AT MAGAZINE No. 608 SEE SHEET No. C-4.
5. STOCK PILE CLEAN EXCAVATED SEDIMENT/SOIL AND TOPSOIL IN AREAS DIRECTED BY THE CONTRACTING OFFICER WITHIN THE LIMITS OF DISTRIBUTION.
'RECORD DRAWINGS' BASED ON INFORMATION PROVIDED BY OHM APRIL 6, 1995. 3
GENERAL LEGEND
EXCAVATE CONTAMINATED SEDIMENT/SOIL ONE (1) FOOT DEPTH
EXCAVATE CONTAMINATED SEDIMENT/SOIL TWO (2) FEET DEPTH
UNDERGROUND PIPE
RAILROAD TRACK
766 BUILDING AND NUMBER
TREE LARGER THAN 12" DIAMETER
CONTOUR
TREELINE
STREAM
CONTRACTOR ACCESS CORRIDOR
ACAD: O:\DATA\CADD\6198\BASE.DWG 06/15/95 TD C-2.1AX
HALLIBURTON NUS CORPORATION
401 ANDERSEN DRIVE, PITTSBURGH, PA 15220
DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED
PRELIMINARY
CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, DC
INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
REMOVAL OF CONTAMINATED SOIL
CONTAMINATED SEDIMENT/SOIL REMOVAL ACTION PLAN
CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62477-93-C-0164
SPEC: 21-93-0164
NAVFAC DRAWING NO. 3076349
SHEET 3 OF 11
SHEET No. C-2
REVISIONS
SYMBOL
DESCRIPTION
DATE
APPROVED
RECORD DRAWING INFORMATION
REVIEWED BY NSWCC
DATE
LOCAL AREA
0041 04X
BOX 2
FIG C-2



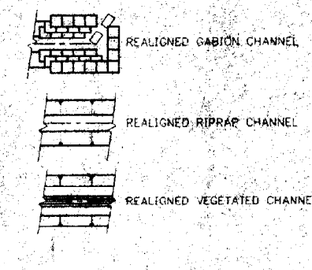
NOTES:

1. PLACE GABIONS IN A MANNER TO ASSURE PROPER ALIGNMENT. AVOID VOIDS BETWEEN STONES AND BULGING OF MESH. CUT AND FIT GABION BASKETS AROUND PIPE TO ASSURE TIGHT FIT.
2. PLACE RIPRAP WITH SUITABLE EQUIPMENT TO PRODUCE A REASONABLY WELL GRADED MAT OF STONE WITH ZERO DROP HEIGHT. PLACEMENT METHODS THAT CAUSE EXTENSIVE SEGREGATION ARE NOT ALLOWED.
3. VEGETATED CHANNEL TO BE CONSTRUCTED AS SHOWN ON THIS SHEET. SOIL IS TO BE PLACE COMPLETELY AROUND SPRIG BUNDLES TO PREVENT VOID SPACES.
4. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.
5. FOR REALIGNED CHANNEL PROFILE SEE SHEET No. C-5.
6. FOR GENERAL LEGEND SEE SHEET No. C-2.

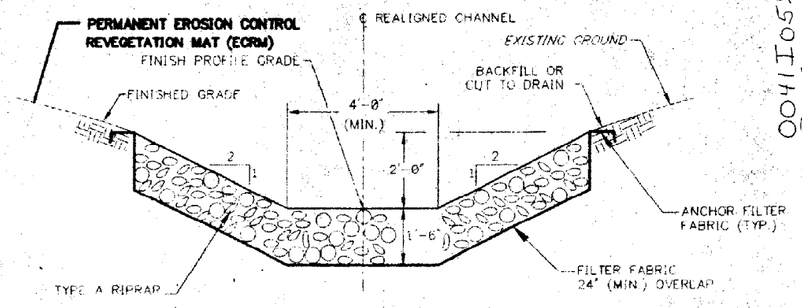
"RECORD DRAWINGS" BASED ON INFORMATION PROVIDED BY OHM APRIL 6, 1995 1

- **REALIGNED CHANNEL STATIONING AND GEOMETRY DATA NOT PROVIDED BY OHM**

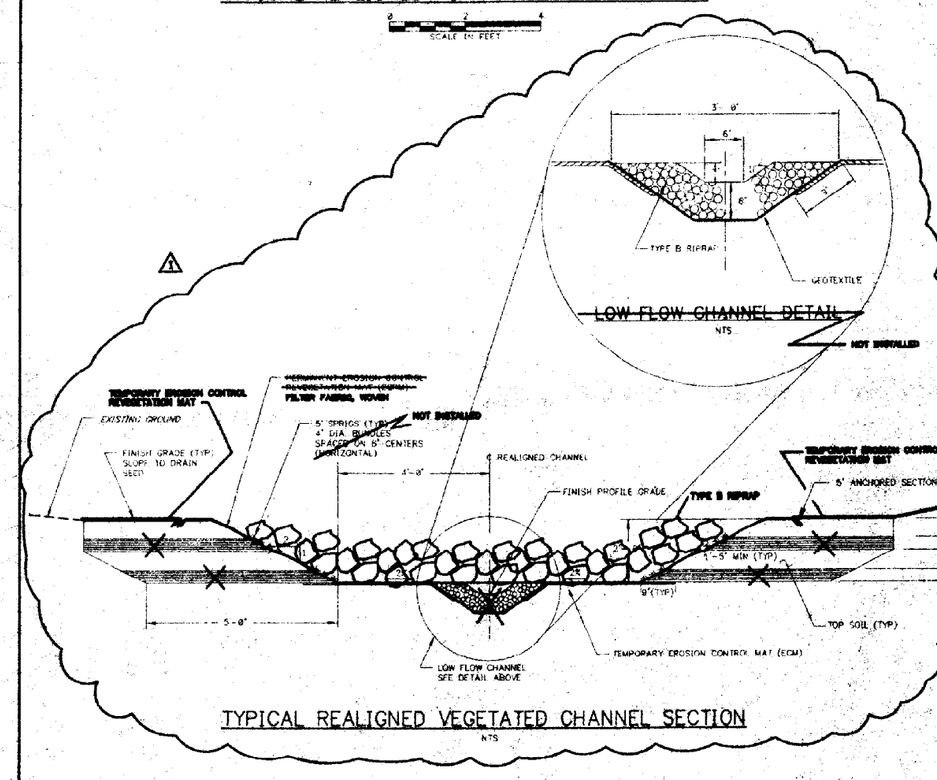
LEGEND



RIPRAP GRADATION TABLE			
	SIZE RANGE	D_{50}	D_{100}
TYPE A	4" to 12"	8"	12"
TYPE B	2" to 4"	3"	4"



TYPICAL REALIGNED RIPRAP CHANNEL SECTION



TYPICAL REALIGNED VEGETATED CHANNEL SECTION
NTS

REVISIONS			
1	RECORD DRAWING INFORMATION	6/95	
	DESCRIPTION	DATE	APPROVED

00411051X
Box 2
FIG C-3

HALLIBURTON NUS CORPORATION
401 WOOD ST., PITTSBURGH, PA 15222

493	494	495	496
25A	04	E.J.C.	401
492	REVIEWED BY: RETICO	DATE	SYMBOL

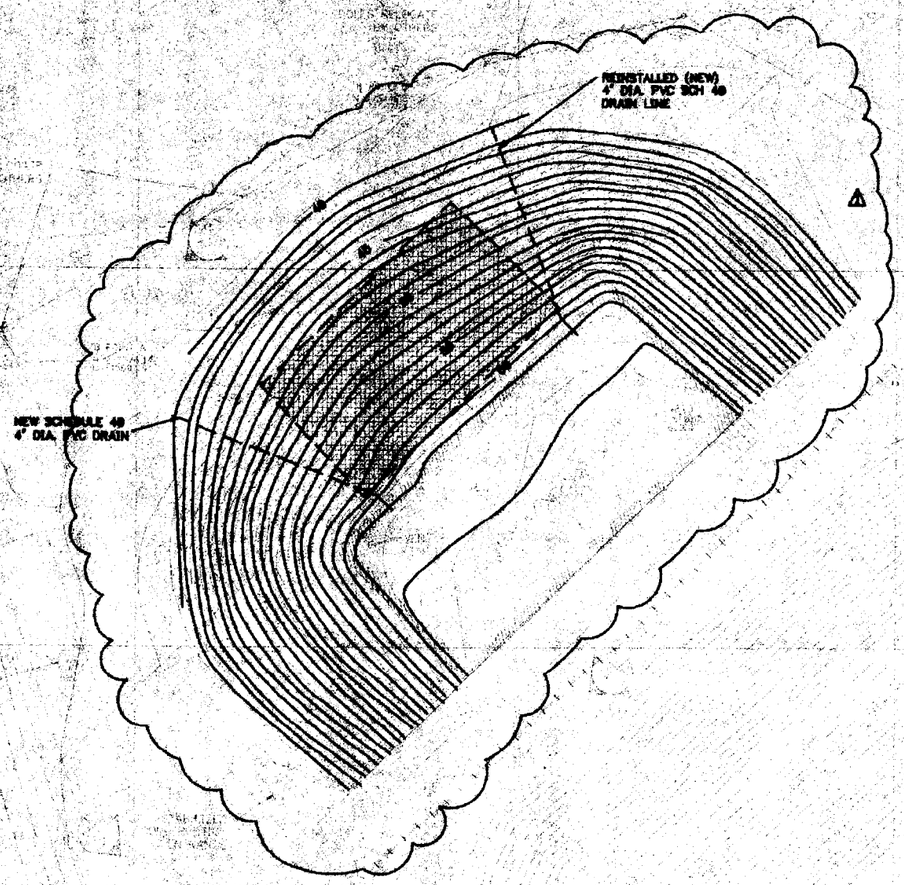
CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C.

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
REMOVAL OF CONTAMINATED SOIL
CHANNEL REALIGNMENT PLAN

SEAL AREA

CODE I.D. NO. 80091
DRAWING SIZE D
CONST. CONT. NO. N62477-93-C-0164
SPEC. 21-93-0164
NAVFAC DRAWING NO. 3076350
SHEET 4 OF 11
SHEET No. C-3

AGAD: O:\DATA\CADD\6190\BASE.DWG 06/19/95 TD C-3LAY



NOTES

1. DO NOT DAMAGE THE VENTS, WATER PROOFING MEMBRANE, NOR THE STRUCTURE OF MAGAZINE No. 606.
2. THIS CELL DESIGN HAS THE CAPACITY TO HOLD APPROXIMATELY 680 CUBIC YARDS OF CONTAMINATED MATERIAL. THE ESTIMATED CONTAMINATED SEDIMENT/SOIL TO BE REMOVED FROM THE STREAM IS 426 CUBIC YARDS. IF ALL OF THE CAPACITY IS NOT REQUIRED, THE CONTRACTOR SHALL REDUCE THE SLOPE OF THE SOIL COVER TO REDUCE THE CAPACITY OF THE CELL AS NEEDED AS THE PROJECT PROGRESSES. A MINIMUM OF 3' SOIL COVER MUST BE MAINTAINED ON THE ROOF.
3. TOP SOIL AND BACKFILL WILL BE STOCK PILED IN AREA INDICATED. IF A SURPLUS OF BACKFILL EXISTS, IT MAY BE USED AS BACKFILL FOR THE SITE 8 STREAM CHANNEL RECONSTRUCTION.

"RECORD DRAWINGS" BASED UPON INFORMATION PROVIDED BY OHM △1
APRIL 6, 1995

NOTES

CONTROL POINTS

PT#	NORTH	EAST	ELEVATION
5101	273361.133	745748.143	61.62
5132	273210.111	745524.552	46.13

LEGEND

△ CONTROL POINTS
○ VENTS
FINISH CONTOUR
LOCATION OF SEDIMENT/SOIL PLACEMENT AREA △1

00411061
Box 2
FIG C-4

ACAD: Q:\DATA\CAUD\6128\MAP.DWG 06/13/95 TD

HALLIBURTON NUS CORPORATION	7GA	483	
4601 ANDERSON DRIVE, PITTSBURGH, PA 15205 (412) 921-7090	B9	484	
DES. BY TDR CHK. BY	E.I.C.	485	
DRAWN BY	401	486	
TECHNICAL REVIEW DATE	402	048	
APPROVED DATE	REVIEWED BY JROCC DATE	SYMBOL	DESCRIPTION DATE APPROVED

RECORD DRAWING INFORMATION
6/95
REVISIONS

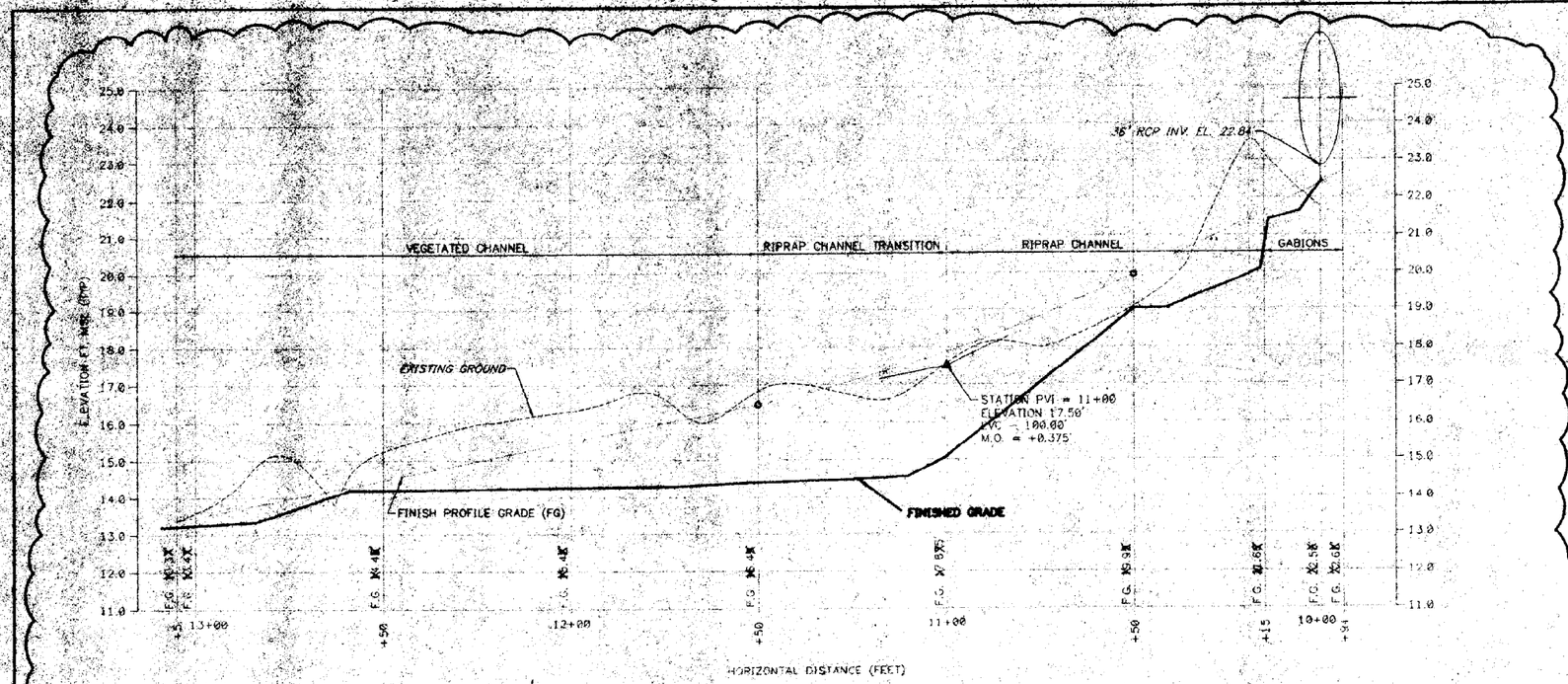
DEPARTMENT OF THE NAVY — CHESAPEAKE DIVISION — NAVAL FACILITIES ENGINEERING COMMAND — WASHINGTON, D.C.

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
REMOVAL OF CONTAMINATED SOIL
SEDIMENT/SOIL PLACEMENT AREA SITE PLAN

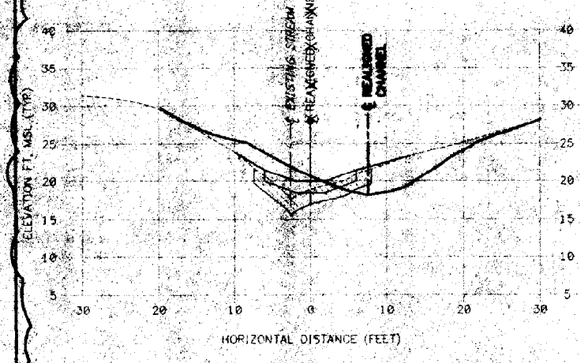
SOIL AREA

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62477-93-C-0164
SPEC. 21-93-0164
NAVFAC DRAWING NO. 3076351
SHEET 5 OF 11
SHEET NO. C-4

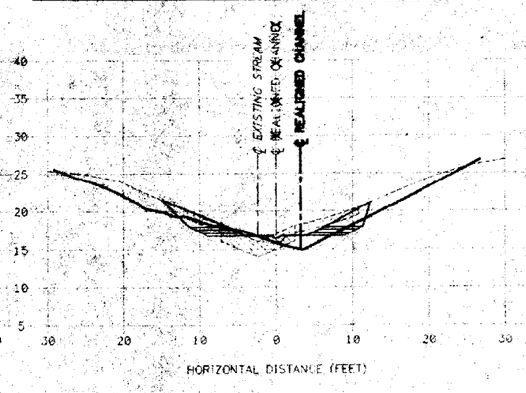
FOR COMMANDER, NAVFAC



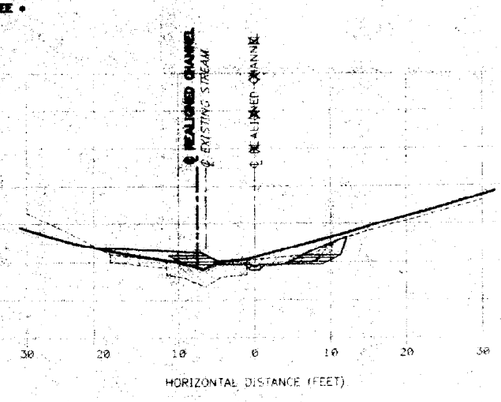
PROFILE OF REALIGNED CHANNEL SEE.



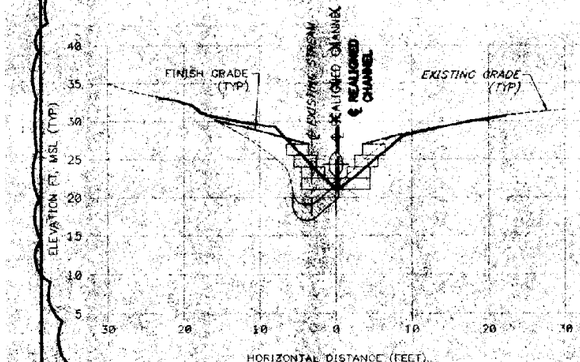
STA. 10+50 SEE.



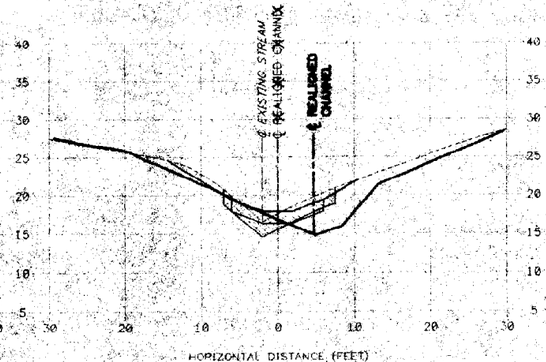
STA. 11+50 SEE.



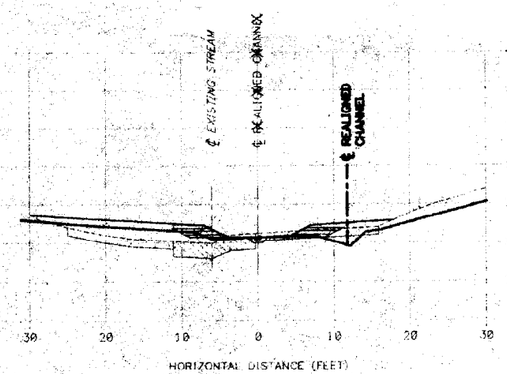
STA. 12+50 SEE.



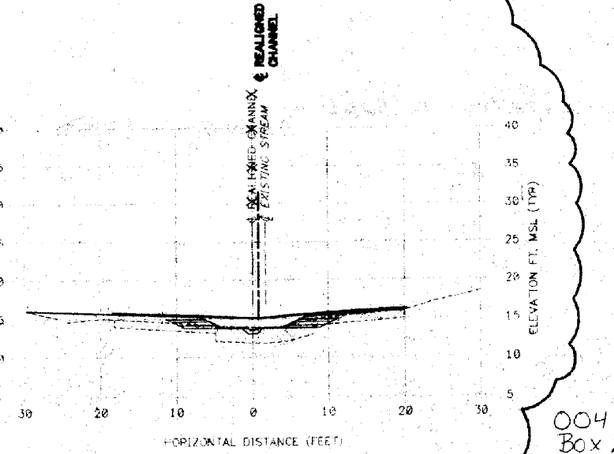
STA. 10+00 SEE.



STA. 11+00 SEE.



STA. 12+00 SEE.



STA. 13+00 SEE.

REALIGNED CHANNEL NOTES

1. UPON COMPLETION OF CONTAMINATED SEDIMENT/SOIL REMOVAL ACTIVITIES, VERIFICATION SOIL SAMPLING WILL BE PERFORMED BY THE GOVERNMENT AND RESULTS VERIFIED BEFORE REALIGNED CHANNEL CONSTRUCTION WILL BE PERMITTED TO PROCEED.
2. INSTALL GABIONS FROM STATION 9+94 TO 10+15. SEE SHEET No. C-7 FOR DETAIL.
3. CONSTRUCT RIPRAP CHANNEL FROM STATION 10+15 TO 11+50. TRANSITION FROM 4' BOTTOM WIDTH AT STATION 11+00 TO 8' BOTTOM WIDTH AT STATION 11+50. SEE SHEET No. C-3 FOR DETAIL.
4. CONSTRUCT VEGETATED CHANNEL FROM STATION 11+50 TO 13+05. SEE SHEET No. C-3 FOR DETAIL.
5. CONSTRUCT VEGETATED CHANNEL TO RECONSTRUCT TRIBUTARY CHANNEL. SEE SHEET No. C-3 FOR DETAIL.

"RECORD DRAWINGS" BASED UPON INFORMATION PROVIDED BY OHM APRIL 8, 1995.

+ REALIGNED CHANNEL STATIONING AND GEOMETRY DATA NOT PROVIDED BY OHM △1

LEGEND

1' DEPTH EXCAVATION AREA

2' DEPTH EXCAVATION AREA

△1

SYMBOL	DESCRIPTION	DATE	APPROVED
△1	RECORD DRAWING INFORMATION	6/95	

REVISIONS

401	CDA	403	
402	DA	404	
	E.I.C.	405	
		406	
		1148	

REVIEWED BY: ROUTE

HALLIBURTON NUS CORPORATION
840 MALVERN DRIVE, FORT WASHINGTON, PA 19034
(215) 591-7500

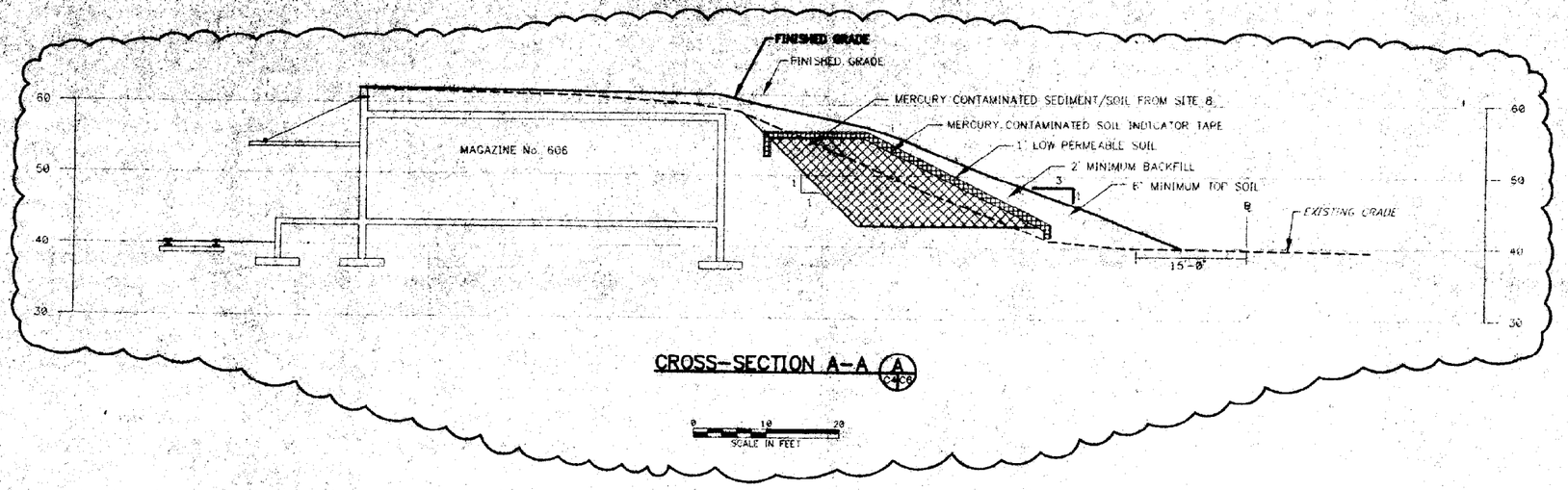
CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
HALLIBURTON NUS

INDIAN HEAD DIVISION, NAVAL SURFACE WARFARE CENTER
REMOVAL OF CONTAMINATED SOIL
CHANNEL REALIGNMENT PROFILE AND CROSS-SECTIONS

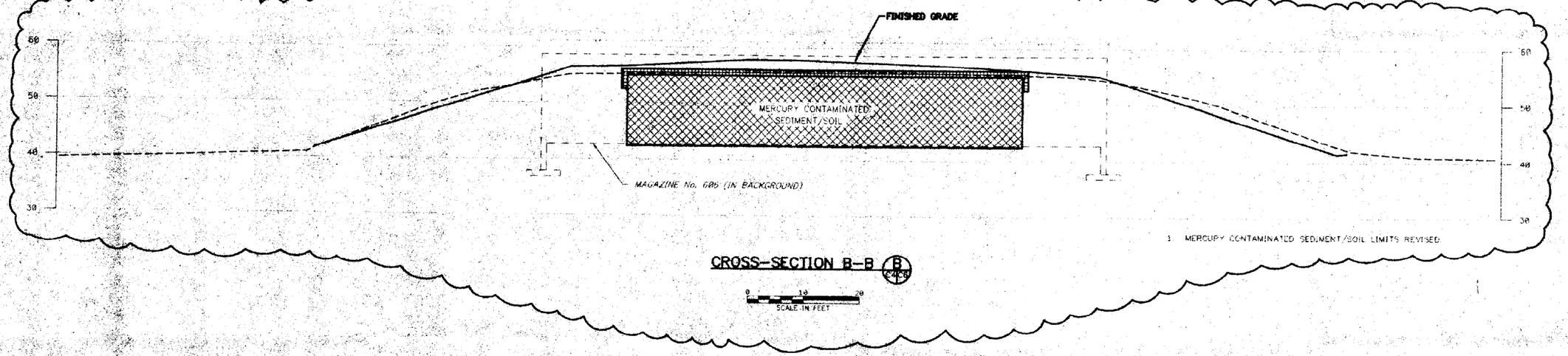
CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62477-93-C-0164
SPEC. SF-93-0164
NAVFAC DRAWING NO. 3076352
SHEET 6 OF 11
SHEET No. C-5

0041I07X
Box 2
FIG. C-5

ACAD: O:\DATA\GADD\61980\PROFILE.DWG 06/15/95 TO



CROSS-SECTION A-A (A C-C6)



1 MERCURY CONTAMINATED SEDIMENT/SOIL LIMITS REVISED

CROSS-SECTION B-B (B C-C6)

NOTES:

1. SET BASELINE (℄) IN FIELD PARALLEL TO MAGAZINE No. 606. COVER WILL BE CONSTRUCTED AT A 2H TO 1V SLOPE. IF FULL CAPACITY OF CELL IS NOT REQUIRED SLOPE MAY BE REDUCED TO CONNECT EDGE OF MAGAZINE AT ELEVATION 61.0'.
2. A MINIMUM OF 3' SOIL COVER WILL BE MAINTAINED ON TOP OF MAGAZINE No. 606.
3. MAXIMUM ALLOWABLE SLOPE FOR THE SOIL COVER OF MAGAZINE No. 606 IS 2H TO 1V.
4. MERCURY CONTAMINATED INDICATOR TAPE WILL BE PLACED WITH NO MORE THAN A 2 FOOT SEPARATION COMPLETELY COVERING THE PLACED SEDIMENT/SOILS.

"RECORD DRAWINGS" BASED UPON INFORMATION PROVIDED BY OHM APRIL 6, 1995.

LEGEND:

- LOW PERMEABILITY SOIL (CLAY)
- CONTAMINATED SEDIMENT/SOIL

0041I08X
Box 2
FIG. C-6

SYMBOL	DESCRIPTION	DATE	APPROVED
1	RECORDS DRAWING INFORMATION	6/95	

403			
404			
405			
408			
D49			

DATE REVISED BY REDEC.

HALLIBURTON NUS CORPORATION
840 WESTHILL DRIVE, PITTSBURGH, PA 15234
DESIGNED BY DR
DRAWN BY CRK
CHECKED BY
DATE
SUBMITTED BY E.I.C.
DATE
APPROVED BY 401
DATE
RECORDS DRAWING 4/7/95
402
DATE
STD FOR COMPUTER MAYFAC

CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C.

SUPERVISOR OF THE WORK

INDIAN HEAD DIVISION, NAVAL SURFACE WARFARE CENTER
REMOVAL OF CONTAMINATED SOIL
SEDIMENT/SOIL PLACEMENT AREA CROSS-SECTIONS AND DETAILS

SEAL AREA

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62477-93-C-0164
SPEC. 21-93-0164
NAVFAC DRAWING NO. 3076353
SHEET 7 OF 11
SHEET No. C-6

ACAD: C:\DATA\CADD\61301\3881781.DWG 06/15/95 TD