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FINAL DATA COLLECTION REPORT

FOR

**DEFENSE ENVIRONMENTAL RESTORATION
PROGRAM FORMERLY USED DEFENSE SITES
(DERP-FUDS)**

**CAMP HERO PROPERTY
MONTAUK, NEW YORK**

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ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
DOD	U.S. Department of Defense
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
E&SCP	Erosion and Sediment Control Plan
E&SPCM	Erosion and Sedimentation Pollution Control Program Manual
E&SPCP	Erosion and Sedimentation Pollution Control Plan
FERC	Federal Energy Regulatory Commission
NWI	U.S. Fish and Wildlife Service National Wetlands Inventory
TSF	trout stocking fishery
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
WWF	warmwater fisheries

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (USACE) investigates potentially Department of Defense (DOD) related hazards under the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS) program. Based on previously obtained sampling information, the USACE investigated potential soil and water contamination at Camp Hero in support of a decision regarding whether further action is required.

The Camp Hero property covers approximately 415 acres to the immediate west of Montauk Point State Park in Montauk, Suffolk County, New York. Camp Hero was used for military purposes beginning in 1942, and subsequently during the Cold War period. Military development included a series of underground bunkers associated with the many gun batteries that were used as part of a coastal defense system installed during World War II. Other developments on the site included a radar tower that was the main component of an air defense system in operation during the Cold War, and an assortment of related buildings and other structures. In 1974, when some of the on-site military uses were still active, portions of the property were transferred from DOD to the State of New York. By 1984, the remainder of the federal surplus land was deeded over the State of New York and Town of East Hampton.

The project purpose was to collect definitive-level analytical data at the Camp Hero site. The conclusions of the chemical data gathered from this investigation were used to determine whether there is a need for further environmental action. Concrete chip samples, soil (surface and subsurface), groundwater and sediment samples were collected and compared against applicable regulatory criteria or guidelines to evaluate whether the constituents present pose any potential risk to human health or the surrounding environment.

Three concrete chip samples were collected from inside on-site buildings (Building 5, Building 10 and Radar Tower) in order to determine whether oil stains noted within accessible site buildings contain PCBs. The extent of these oil stains are limited to a 4 by 6 foot area (maximum) in each building. Analytical results indicate that PCBs are present within the observed oil stains at a level above the TSCA unrestricted use limit of 1 mg/kg in both Building 5 and the Radar Tower. No PCBs were detected in the oil stains in Building 10. Based on the depth of the PCBs in the concrete, it appears that the oil has not migrated outside the buildings.

Sixteen surface soil samples and three subsurface soil samples were collected to determine whether any stained areas or other areas in the vicinity of former tanks or buildings contain contamination that poses potential risks to human health, by comparing the results to the NYSDEC screening criteria/guidance. The presence of any contamination in these areas was also qualitatively evaluated with respect to potential migration to surface water drainages or groundwater. The surface soil samples were analyzed for PCBs. Two of the three subsurface samples were collected near the former Power Plant and analyzed for PCBs, SVOCs and metals. The third subsurface sample, collected from the former cesspool by the Radar Tower, was only analyzed for PCBs.

The analytical data for soils indicate that PCBs are not present in the surface soil at levels exceeding the NYSDEC TAGM regulatory criteria of 1 mg/kg, with the exception of surface soil sample SS-14, Radar Tower. That sample contained 1.4 mg/kg of Aroclor-1254. PCBs were not detected above the TAGM in the subsurface soils, but beryllium was detected in sample SS-1 (Power Plant) at 0.25 mg/kg, which exceeds the TAGM criteria of 0.16 mg/kg.

Five sediment samples and one surface water sample were also collected from select drainages to evaluate whether on-site intermittent streams are impacted from runoff carrying soil, or former discharges from facility buildings. Sample data were evaluated against NYSDEC sediment and surface water quality criteria to determine whether the concentrations pose potential ecological risks. The sediment samples were analyzed for PCBs only, and the surface water samples were analyzed for SVOCs, metals and PCBs. Analytical results indicate that no PCBs are present in the sediment or surface water at concentrations exceeding the New York State criteria. In addition, no SVOCs or metals were detected in the surface water at concentrations exceeding the State regulatory criteria.

Shallow groundwater samples were collected at Area of Concern (AOC) H-11, the site of the former power plant, which has been razed. Groundwater analytical results were evaluated against NYSDEC groundwater (GA) criteria. The data was compared to surface soil concentrations (SVOCs, metals, and PCBs) and sediment concentrations in an adjacent intermittent stream to evaluate potential ecological impacts. Analytical results indicate that no PCBs or SVOCs are present in the groundwater at concentrations exceeding the New York State criteria. Metals were detected in one groundwater sample (GW-2) at concentrations exceeding the State criteria. Chromium (56.9 µg/L) and lead (25.6 µg/L) were detected in SW-2 at concentrations exceeding the State criteria. Both of these were slight exceedances of the criteria.

The following summary statements and conclusions can be drawn from the results of this investigation:

The oil stains on the concrete floors of Buildings 5 and the Radar Tower contain concentrations of PCBs that exceed the TSCA unrestricted use limit of 1 mg/kg. These oil stains are limited to areas 4 by 6 feet in extent and provide no significant ecological or human health threats via migration. The stains could be addressed by concrete removal, painting over the stains, or, if necessary, controlling building access.

PCBs were detected in the surface soil at sample location SS-14 near the radar tower. Aroclor-1254 was detected at 1.4 ug/kg, which is just above the regulatory criteria of 1 ug/kg. The area of contamination appears to be *de minimus*, as no PCBs were detected above the regulatory criteria in adjacent samples collected within 50 feet of this location.

The former Power Plant location contains three to five feet of fill material, consisting mostly of charcoal. The subsurface soil (SS-1) analytical samples indicate only elevated levels of beryllium

above the regulatory criteria. In addition, the groundwater (GW-2) analytical samples indicate elevated levels of chromium and lead that only slightly exceed NYSDEC criteria.

1.0 INTRODUCTION

1.1 PROJECT AUTHORITY AND PURPOSE

The U.S. Army Corps of Engineers New York District (USACE) investigates potential Department of Defense (DOD) related hazards at formerly used defense sites under the Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS). Based on previously obtained sampling information, the USACE investigated potential soil and water contamination at Camp Hero in support of a decision regarding whether further action is required.

All work was performed in accordance to the 24 April 2000 Final Work Plan for Data Collection at DERP-FUDS – Camp Hero Property (Work Plan), except for the deviations noted in Section 2.8 of this report.

1.2 BACKGROUND

The Camp Hero property covers approximately 415 acres to the immediate west of Montauk Point State Park in Montauk, Suffolk County, New York (Figure 1-1). The site is also bounded by the Atlantic Ocean to the south, the State-owned “Sanctuary” property to the west, and Montauk Point State Park and Montauk County Park across State Route 27 (Montauk State Boulevard) to the north, and constitutes the only non-public lands in the immediate vicinity of the site.

Camp Hero was used for military purposes beginning in 1942, and subsequently during the Cold War period. Military development included a series of underground bunkers associated with the many gun batteries that were used as part of a coastal defense system installed during World War II. Other developments on the site included a radar tower that was the main component of an air defense system in operation during the Cold War, and an assortment of related buildings and other structures.

In 1974, when some of the on-site military uses were still active, portions of the property were transferred from DOD to the State of New York. With the departure of the last military personnel from the site in 1980, the DOD declared the remainder of the property to be surplus Federal land. Over the next few years the property was divided and deeded to the State of New York and Town of East Hampton. The final land transfer to the State occurred in 1984.

The State’s acquisition of the Camp Hero property from the Federal government was accomplished through the “Federal Lands to Parks Program” administered by the National Park Service. Properties conveyed through this program are restricted for public park and recreational use.

The State’s Camp Hero property is presently closed to the public, except for fishing access by special permit and a limited number of other activities. Only two facilities on the site are active at this time, a vehicle maintenance shop used by the New York State Office of Parks, Recreation,

and Historic Preservation, and a New York State Park Police office. The developed portion of the site is fenced and the inactive buildings and bunkers have been sealed.

During previous investigations of the site (Cashin 1998; Cashin 1999), oil stains were noted in several building locations. The reports indicated that the stains could contain polychlorinated biphenyls (PCBs) contamination from transformers and other potential sources previously located at the site. In addition, one building and 47 aboveground and underground storage tanks (ASTs and USTs) have been removed from the site. The soils surrounding the tanks are suspected of being contaminated with petroleum hydrocarbons, metals and/or PCBs.

1.3 OBJECTIVES

The project purpose was to collect definitive-level analytical data at the Camp Hero site. The conclusions of the chemical data gathered from this investigation were used as a defense on whether there is a need for further environmental action. The objectives were to collect analytical data according to the USACE scope of work, in order to evaluate whether any additional remedial action or investigation might be necessary.

2.0 METHODOLOGY

2.1 OVERVIEW

Concrete chip samples, soil (surface and subsurface), groundwater and sediment samples were collected and compared against applicable regulatory criteria to evaluate whether the constituents present or pose any potential risk to human health or the surrounding environment.

Concrete chip samples were collected from inside on-site buildings in order to determine whether oil stains noted within accessible site buildings contain PCBs.

Surface soil samples were collected to determine whether any stained areas or other areas in the vicinity of former tanks or buildings contain contamination that poses potential risks to human health, by comparing the results to the NYSDEC screening criteria/guidance. The presence of any contamination in these areas was also qualitatively evaluated with respect to potential migration to surface water drainages or groundwater.

Sediment and surface water samples were also collected from select locations to evaluate whether on-site intermittent streams are impacted from runoff carrying soil, or former discharges from facility buildings. Sediment data was evaluated against NYSDEC sediment and surface water quality criteria to determine whether the concentrations pose potential ecological risk.

Shallow groundwater samples were collected at Area of Concern (AOC) H-11, the site of the former power plant, which has been razed. Groundwater analytical results were evaluated against NYSDEC groundwater (GA) criteria. The data was compared to surface soil concentrations (SVOCs, metals, and PCBs) and sediment concentrations in an adjacent intermittent stream to evaluate potential ecological impacts.

A field reconnaissance, supplemented with a review of prior studies, was used to identify potential ecological receptors and exposure pathways.

2.2 UXO SCREENING

A magnetometer screening was conducted by a qualified unexploded ordnance (UXO) personnel to identify the potential for any UXO prior to any intrusive sampling activities. Weston® subcontracted EOD Technology, Inc. (EODT) to conduct the surface and subsurface UXO surveying operations. EODT's personnel were responsible for protecting site personnel from UXO-related hazards during site sampling where the potential exists for encountering UXO hazards. The UXO personnel were responsible for the following activities:

- Providing the UXO portion of the daily safety briefings;

- Ensuring that all UXO-related site operations are conducted according to the document entitled *Safety Concepts and Basic Considerations for*, revised edition, 16 February 1996, prepared by the USACE, Huntsville office (CEHNC). In addition, all UXO activities are conducted in accordance with the Weston® SSHP, and other relevant health and safety regulations and standards;
- Authorizing Stop-Work orders for UXO-related safety hazards;
- Identifying any known or potential UXO safety problems and implementing any necessary corrective actions;
- Ensuring that all magnetometer instruments are calibrated, field checked, and operated according to the manufacturer's instructions or established procedures, including the recording of all data relative to equipment calibration, repair and replacement.

Only appropriately trained personnel conducted operations involving potential exposure to UXO. Non-UXO personnel were allowed to sample in a suspected UXO area only if they were escorted and directly supervised by a UXO-qualified technician. Once an area was cleared of UXO hazards, and has been marked free of such hazards, non-UXO personnel were allowed to conduct duties in the area unescorted, but were not allowed to leave the demarcated area unescorted. Additionally, non-UXO qualified personnel were instructed not to touch or disturb any object that potentially was UXO-related, and to immediately notify the UXO technician of the presence of the object. Prior to conducting any intrusive activities, including setting stakes or marker posts, the areas were checked by UXO technicians.

2.3 Soil and Concrete Chip Sampling

The focus of the investigation at the Camp Hero site is on areas where contaminated soils have been suspected on the basis of prior studies (Cashin 1998; Cashin 1999). These areas were reviewed during a field reconnaissance conducted by Weston® and the USACE on 17 August 1999. A total of 3 chip, 15 surface soil, 5 subsurface soil and 2 MS/MSD samples were collected from 9 AOCs on 12 April 2000. Figure 2-1 illustrates the sample locations, and Table 2-1 summarizes the sampling program. Sampling was performed in accordance to the 24 April 2000 Work Plan with the exceptions noted in the Deviations section of this report.

Chip samples were collected where staining was observed on the concrete floors from the following buildings: Radar Tower (1 sample), Electrical Substation (1 sample), and Building 10 (1 sample). The samples were collected using a decontaminated hammer and chisel to chip the concrete. The chipping was done in a cardboard box lined with a dedicated polyethylene sheet in order to contain the sample. The sample was then swept up with a dedicated brush for sample collection. The chip samples were analyzed for PCBs.

Soil samples were collected as follows. At each surficial soil location, a sample was collected at the surface (0-6 inches below ground surface [bgs]) using dedicated trowels. Samples were homogenized in-situ and apportioned into the appropriate sample jars. Surface soil samples were analyzed for PCBs.

Subsurface samples were obtained at the former Power Plant location and a possible former cesspool near the Radar Tower. All subsurface samples were collected using a hydraulic portable push sampling/boring device (Geoprobe®). Samples were collected at the depth of highest PID readings or the six-inch interval above the water table. Soil cores were collected continuously until the water table was reached. The soil was classified using the Burmeister Scale and was recorded in the field book. Copies of the soil classification can be found in Appendix A. The soil interval above the groundwater table that showed the greatest degree of staining or contained the highest PID readings was collected for laboratory analysis. If no staining or PID readings were observed a sample was collected in the six-inch interval above the groundwater table. After the samples were collected, the boreholes were backfilled with soil, and the boring location was measured in relation to the nearest landmark and recorded in the field book. The subsurface soil sample collected by the Radar Tower was analyzed only for PCBs. Two of the four subsurface soil samples by the Former Power Plant were analyzed only for PCBs, and the remaining two were analyzed for SVOCs, PCBs, and PP metals. No PID readings were detected in any of the soil samples.

2.4 Shallow Groundwater Sampling

Shallow groundwater samples were collected at five locations. Figure 2-1 illustrates the groundwater sampling locations, and Table 2-1 summarizes the sampling program. Four of the samples were collected near the former Power Plant, AOC H-11, and the fifth sample was collected up-gradient of AOC-H-11. One MS/MSD sample was collected at one of the five locations. Grab groundwater samples were obtained subsequent to soil sampling using a peristaltic pump and dedicated tubing for each location. The tubing was lowered into a slotted screen (approximately 1-inch outside diameter), which was installed to the appropriate depth. The shallow groundwater sampling was performed in accordance with the Work Plan with the exceptions noted in the Deviations section of this report. Care was taken to purge the groundwater until the turbidity diminished. The objective was to collect as turbid-free samples as was feasible. The groundwater samples were collected for SVOCs, PCBs, and PP metals. Samples collected for metals were preserved with HNO₃ in the field to achieve a pH less than 2.

2.5 Sediment Sampling

Seven sediment samples were collected to determine if any further investigation is necessary of the intermittent streams on-site at four locations: in the vicinity of Building B-3; downslope of Building 10; adjacent to AOC H-11; and near Building 203. Figure 2-1 illustrates the sediment sampling locations, and Table 2-1 summarizes the sampling program. In addition to the seven sediment samples an MS/MSD sample analysis was performed. The MS/MSD analysis was performed on a sample collected near Bunker B-3. Samples were collected at a depth of 0-6-inches bgs with dedicated trowels, and were homogenized in situ. Sediment sample collection was performed in accordance with the Work Plan with the exceptions noted in the Deviations section of this report. The sediment samples were analyzed only for PCBs.

2.6 SURFACE WATER SAMPLING

No surface water samples were proposed to be collected in the Work Plan, but based on site conditions (visible degradation to the stream quality) it was determined to collect one surface water sample in a stream running behind Building 203. During the field visit the surface water in this location appeared turbid and degraded. It was brick red in color and was influenced by algal growth. This stream would be the main migration pathway for any contaminants present in the Building 203 area. The surface water was sampled for metals, PCBs, and SVOCs.

The surface water samples were collected prior to the collection of the sediment sampled from the stream. The direct method was utilized to collect the surface water sample by dipping an unpreserved sample container below the water surface while pointing the sample container upstream. The sample container was lowered into the water upstream of the sampler, while avoiding any disruption of the substrate.

2.7 SAMPLE PROCESSING AND SHIPMENT

In summary, the outside of each sample bottle was wiped with a clean paper towel to remove excess sample material, the bottles were labeled and each sample container was sealed. All samples (preserved and unpreserved) were placed immediately in a cooler with ice after sampling and kept at approximately 4°C. The coolers were packed with granular absorbent (vermiculite) to ensure sample preservation and integrity during shipment. The lids of the coolers were secured with tape and sealed with Weston® custody seals. The samples were picked up by Severn-Trent Laboratories personnel at the Weston® office in Edison, New Jersey under chain-of-custody. Laboratory personnel acknowledged receipt of the shipped samples at the time of their arrival by signing the chain-of-custody. All sample documentation, identification, handling, storage, preservation and shipping procedures followed the Work Plan.

2.8 SAMPLING EQUIPMENT DECONTAMINATION

Equipment decontamination was conducted upon arrival at the site and subsequent to collecting samples. Decontamination was performed to minimize the potential for cross-contamination of samples caused by transfer of contaminants from sampling equipment. Any equipment used to collect samples that came into contact with the sample matrix was decontaminated in accordance with the Work Plan.

2.9 DEVIATIONS FROM THE WORK PLAN

With the approval of the USCAE task manager, Mr. Mark Lulka, the sampling effort on 12 April 2000 deviated from the Work Plan due to the following conditions and observations in the field. All decisions to alter the sampling plan were agreed upon by the USACE representative on-site after discussing the issues with Weston® personnel. The total number of samples collected and analysis remain the same as presented in the Work Plan, however the location and/or matrix of some of the samples were changed and are described below.

At the site of Building 203, 1 soil sample was planned for PCB analysis. Instead, 1 sediment sample was taken for PCB analysis and 1 surface water sample was taken for SVOC, PCB, and PP Metal analysis. The decision to collect these two samples was based on the on-site finding of a stream running behind Building 203 that would be the main migration pathway for any contaminants in this area.

At Buildings 5 and 10, only 1 chip sample for PCB analysis was collected from each building instead of the 2 samples that were proposed. This decision was based on the lack of any floor staining that was the basis for chip sampling. Instead of sampling and analyzing the 2 “unused” chip samples, 2 additional subsurface soil samples were collected at Area of Concern (AOC) H-11 at the location of the former power plant. The subsurface samples were extracted from soil cores collected with the geoprobe unit and were analyzed for PCBs. Three subsurface samples were collected and analyzed for PCBs; SS-1 (7.5'-8.0'), SS-2 (6.0'-6.5'), and SS-16 (11.5-12.0').

Only 5 groundwater samples were taken at AOC H-11 instead of the 6 samples proposed, for two reasons. The first reason was that groundwater recovery was relatively poor which made sampling difficult. Secondly, this decision was also made on-site in order to be able to address the potential surface water pathway near Building 203. During the field visit the surface water in this location appeared turbid and degraded. It was brick red in color and was influenced by algal growth. Thus a surface water sample was collected at that location, in place of one of the groundwater samples proposed at H-11.

3.0 RESULTS

3.1 FIELD ACTIVITIES/OBSERVATIONS

The Camp Hero property was investigated on two occasions. A site reconnaissance was conducted on 17 August 1999, followed by the field sampling on 12 April 2000. Appendix B contains photographs of the site activities, as well as photo documentation of sampling.

3.1.1 Concrete Chip Samples

All of the buildings on site have been locked up or sealed, and New York State Parks personnel were needed to access the buildings in order to collect the concrete chip samples. In Building 10 hundreds of 3/4-inch chlorine reagent ampoules were discarded on the floor. Approximately two feet from the entrance to Building 10, a stained area was observed, approximately one foot in diameter and about 1/8-inch thick. There was not much visible staining in the building beyond that one location. Sample C-1 was collected from the stained area.

The first floor of the Radar Tower contains a stained area, which was approximately four feet by six feet in area. The stained area is present below several pipes extending from the ceiling labeled "refrigerated water return." The stained area is not darkly stained, and is adjacent to a six-inch diameter floor drain. The concrete was not stained below 0.5 inches. Sample C-2 was collected from the stained area.

Building 5 contained a stained area, which is about three feet by five feet in area in the northeast corner of the building basement. There is an opening to the outside approximately three to four feet above the floor. No floor drains were observed in the basement where the four transformers are still mounted on the wall. The staining in Building 5 extended to approximately 1/4-inch below the surface of the concrete. There was also no evidence of basement flooding. Sample C-3 was collected from the stained area.

3.1.2 Soil Samples

The soils observed at the site were generally consistent throughout the site. In the upland portions of the site the soil consisted of a medium to dark brown silty- to sandy-loam. In the drainage ditches and low-lying areas, the soil consisted of black organic rich silt. In soil sample SS-10 (Bunker 1) a bare spot was observed, with possible staining. At soil sample location SS-11 (Radar Tower) an erosional gully is present leading from the former locations of the USTs to a wetlands below, representing a potential pathway for contaminant migration. However, contamination was present at SS-11, so it does not appear to be an actual migration pathway. At sample location SS-13 (southeastern corner of Radar Tower), a two-foot by two-foot slightly

stained bare spot was observed beneath a ladder. No other concerns were noted during the collection of the surface soil samples.

The location of the former Power Plant has been filled to raise the surface terrain. The charcoal fill was approximately three to five feet thick, thicken towards the wetlands. Beneath this fill is a brown sandy loam to approximately seven to eight feet. A medium brown silty clay layer acts as a semi-confining unit that is two to three feet thick. Beneath the clay is a sandy loam. No soil staining or odors were noticed during the collection of the soil samples at the Power Plant.

No odors or stains were observed during the surface and sub-surface soil sampling near the suspected former cesspool area.

3.1.3 Groundwater Samples

Groundwater was present at a depth of 7 to 12 feet at all sample locations. The grab groundwater samples were collected from an interval extending approximately 7 to 15 feet bgs, depending on the particular conditions at the location. Due to the presence of fines in the formation, the lack of a filter pack, and the development procedure, the groundwater samples were relatively turbid. At most locations the water appeared to clear up as volume was removed for sample collection. The turbid samples were decanted after allowing the sediment to settle prior to preservation. No odors or sheens were noted while collecting the grab groundwater samples.

3.1.4 Sediment Samples

Sediment sample SD-1 was collected in drainage creek below Building 11. Scattered debris was observed in the area, along with various plants and trees including skunk cabbage, spicebrush, yellow birch, red maple and beech. The water depth was approximately two inches, and the sediment was mostly organic with a lot of leaf litter. Charcoal was observed on the banks of the drainage. Two outfall pipes were noted in the area; one ten-inch diameter concrete outfall and a six-inch diameter outfall. A surface sheen was observed on the water near the six-inch outfall, but did not reform when broken up, which indicates that it is probably not contaminant-related.

Sediment sample SD-2 was collected at the confluence of the drainage ditch sampled at SD-1 and another downstream, each about three to four feet wide and two inches deep. Skunk cabbage, black gum, beech, and yellow birch were observed in the area. The sediment mostly consisted of black organic material with leaf litter. There was evidence noted of historical bulldozing and filling.

Sediment sample SD-3 was collected below Building 10. A 24-inch concrete outfall was noted entering the drainage. Vegetation observed at this location included black gum, red oak, spicebrush, and skunk cabbage. The sediment was very organic rich.

Sediment sample SD-4 was collected approximately 50 feet downstream of SD-3. Deer prints and skunk cabbage were noted in this area. The sediment was rich and very organic.

Sediment sample SD-5 was collected in a forested drainage approximately 150 feet west of Bunker 3. The location was inundated with approximately ½-inch of water. Skunk cabbage, red maple, beech, mountain laurel and spicebush were observed in the area. The sediment was dark gray, fine sandy loam with some organics.

3.1.5 Surface Water Samples

One surface water sample was collected near Building 203, south of the Radar Tower. A hole in the south side of the building was noted where a pipe used to lead out. Also, a three foot wide cement gully is present which runs to the away from the building and exits at a drainage area below building 203. This drainage ditch/wetlands contains phragmites and dogwood. The ditch is about three feet wide and two to three inches deep. A lot of red algae was observed and a slight sheen was evident. The area appears to be highly degraded. The surface water samples were clear and odorless. Care was taken not to stir up the sediments and the algal-like iron-oxide deposits that nearly covered the entire streambed.

3.2 ANALYTICAL RESULTS

Analytical results for detected compounds are presented in Tables 3-1 through 3-6. Appendix C contains the complete analytical data package provided from the laboratory.

3.2.1 Concrete Chip Samples

Analytical results for disposal issues and site planning were compared to Toxic Substance Control Act (TSCA) PCB cleanup levels specified in 40 Code of Federal Regulations, Part 761.1 (b) (5) and 761.61 (“the PCB Mega-Rule”, June 1998).

Analytical results indicate that PCBs were detected in two (C-2 and C-3) of the three concrete chip samples were present above the TSCA unrestricted use limit of 1 mg/kg. The concrete chip sample from Building 10 (C-1) contained no detectable levels of PCBs. The concrete chip sample from the Radar Tower (C-2) contained Aroclor-1260 (1.6 mg/kg), and Aroclor-1254 (4.1 mg/kg) at concentrations exceeding the TSCA unrestricted use limit. Aroclor-1268 was also detected in sample C-2 at 0.55 mg/kg, which is below the TSCA limit. The concrete chip sample from Building 5 (C-3) only contained Aroclor-1254 (4.7 mg/kg) at a concentration exceeding the TSCA unrestricted use limit. No other PCB compounds were detected in sample C-3.

Table 3-1 summarizes the PCB detection in the concrete chip samples.

3.2.2 Soil Samples

Fifteen surface soil samples were collected and analyzed only for PCBs, three subsurface soil samples were collected and analyzed only for PCBs, and two subsurface samples were collected and analyzed for PCBs, metals and SVOCs. The analytical results were compared to the

Recommended Soil Cleanup Objectives, NYSDEC 24 January 1994 Technical and Administrative Guidance Memorandum, "Determination of Soil Cleanup Objectives" (TAGM).

In the surface soil PCB samples four sample locations contained detectable levels of PCBs. Surface soil sample SS-7 was collected near Building 3, and contained 0.19 mg/kg of Aroclor-1262, which is below the 1 mg/kg TAGM level and the 10 mg/kg soil cleanup criteria to protect groundwater. Surface soil sample SS-10 was collected near Building 10 and contained 0.3 mg/kg of Aroclor-1260. Five surface soil samples were collected near the Radar Tower (SS-11 through SS-16) and analyzed for PCBs only. Two of the samples, SS-13 and SS-14, contained detectable levels of PCBs. SS-13 contained Aroclor-1248 (0.38 mg/kg) and Aroclor-1254 (0.95 mg/kg) below the regulatory criteria. SS-14 contained Aroclor-1254 (1.4 mg/kg) at a concentration exceeding the soil cleanup objective set forth in the TAGM, but is below the criteria to protect groundwater. No PCBs were detected in the remained of the surface soil samples.

The only subsurface soil sample that contained a detectable concentration of PCBs was collected from the location of the former Power Plant (SS-1_7.5-8.0) at a depth of 7.5'-8.0' bgs. Aroclor-1260 was detected at 0.27 mg/kg, which is below the regulatory criteria. No PCBs were detected in the subsurface sample collected near the suspected location of a cesspool near the Radar Tower. The PCB soil results are summarized in Table 3-2.

In addition to PCBs, two subsurface soil samples collected at the location of the former Power Plant were also analyzed for metals and SVOCs. No SVOCs were detected in the subsurface soil samples. The metals results were compared to the TAGM, and only beryllium was detected at a concentration exceeding the TAGM. Beryllium was detected at 0.25 mg/kg in sample SS-1 7.5-8.0, near the former Power Plant, which exceeded the regulatory criteria of 0.16 mg/kg. Other metals that were detected below the regulatory criteria in the subsurface soil samples include lead, chromium, copper, zinc, nickel, and arsenic. The metal analytical results are summarized in Table 3-3.

3.2.3 Groundwater Samples

Five groundwater samples were collected and analyzed for SVOC, metals and PCBs from the location of the former Power Plant and one upgradient background location. No PCBs were detected in any of the groundwater samples. Three SVOCs were detected in three separate groundwater samples. Diethylphthalate was detected in sample GW-1 (Power Plant) at 0.6 µg/L. Fluoranthene was detected in sample GW-2 (Power Plant) at 0.7 µg/L. Bis(2-ethylhexyl)phthalate was detected in sample GW-3 (Power Plant) at 2.2 µg/L. None of these compounds are listed as having water quality standards in New York State. Table 3-4 summarizes the SVOC detections in the groundwater samples.

Metals were detected in one sample at concentrations that exceed the New York State Surface Water and Groundwater Quality Standards. Sample GW-2 (Power Plant) contained chromium at 56.9 µg/L, which exceeds the regulatory criteria of 50 µg/L, and lead at 25.6 µg/L, which exceeds the regulatory criteria of 25 µg/L. The levels of chromium and lead were elevated in relation to the reference well located upgradient of the former Power Plant location. No other metals were

detected in the groundwater samples at concentrations exceeding the regulatory criteria. Other metals that were detected but are below the regulatory criteria include nickel, beryllium, zinc, mercury, copper, and arsenic. Table 3-5 summarizes the metal detections in the groundwater samples.

3.2.4 Sediment Samples

Five sediment samples (SD-1 through SD-5) were collected near the site of Building 203 (one sample), Building 10 (two samples) and the former Power Plant (two samples), and were analyzed for PCBs. No PCBs were detected in any of the sediment samples.

3.2.5 Surface Water Samples

One surface water sample (SW-1) was collected in a stream behind Building 203, and was analyzed for PCBs, SVOCs, and metals. No PCBs or SVOCs were detected in the surface water sample. Two metals, zinc and arsenic, were detected in sample SW-1, but were below the New York State Surface Water and Groundwater Quality Standards. Table 3-6 summarizes the detections of metals in the groundwater samples.

3.3 DATA QUALITY

3.3.1 Laboratory Analysis

Two laboratory reports (Z292 and Z293) were submitted for data generated for samples collected from the Camp Hero site. Quality parameters such as holding times, moisture content (soil samples only), instrument performance (e.g., tuning, initial and continuing calibrations, and internal standards), blanks, surrogate compound recoveries, matrix spikes recoveries, and laboratory duplicates were reviewed to assess data quality. Other than the discussion outlined below, no major data quality issues were identified.

- **Moisture Content**

The moisture contents of sediment samples SD-1, SD-2, SD-3, and SD-6 were greater than 50% but less than 90%. As a result, the non-detects were qualified as "UJ" and the hits "J".

- **Calibration**

Initial calibration is used to determine the linear ranges of the instrument used in sample analysis so that the concentrations of compounds/analytes of interest detected in a sample can be correctly quantified. The continuing calibration verification ensures the validity of the initial calibration used for result quantification. The relative standard deviation (RSD) was used to evaluate the initial calibration results; the percent difference (%D) was used to evaluate the continuing calibration verification.

Laboratory Report Z293

In the semi-volatile analysis, the percent Ds of 3,3'-dichlorobenzidine and bis(2-ethylhexyl) phthalate did not meet the method requirements. As a result, the non-detects of the two compounds in samples SS-1-7.5-8.0 and SS-2-6.0-6.5 were qualified as non-detect at an estimated quantitation limit (UJ).

- **Blank Contamination**

Method blanks were evaluated for potential contamination introduced by the laboratory in the analytical procedures which may result in false positive identifications.

Laboratory Report Z292

In the semi-volatile analysis, bis(2-ethylhexyl)phthalate (4.1 µg/L) was detected in the method blank. Sample GW-3 contained bis(2-ethylhexyl)phthalate at a concentration (2.2 µg/L) less than 10 times the blank concentration. As a result, the bis(2-ethylhexyl)phthalate result reported for sample GW-3 was qualified as non-detect (U).

- **Compound Identification and Detection/Quantification Limits**

Chromatograms and spectra were reviewed to ensure that the detections of compounds of interest reported by the laboratory were correct. The sample reporting limits were compared to the method blank reporting limits to ensure those reported for each sample reflected the correction of dilution factor, percent moisture (soil only), and the sample weight/volume (if different from what was used for method blank) used in sample preparation.

Laboratory Report Z293

Because the presence of common isomers in the following Aroclors, the detection of multi-Aroclors in a sample resulted in difficulty in correctly quantifying these Aroclors: 1248/1254, 1254/1260, and 1260/1262/1268. As a result, if a sample contained any of these Aroclor pairs, the concentrations of these Aroclors were qualified as estimate (J). The "J" qualifier was applied to the following sample results: SS-13 (Aroclors 1248 and 1254) and C-2 (Aroclors 1254, 1260, and 1268).

- **Accuracy**

The recoveries of matrix spike/matrix spike duplicate (MS/MSD) and the blank spike (BS) were evaluated against the laboratory-generated control limits.

Laboratory Report Z293

For metal analysis, the recoveries of antimony in SS-1-7.5-8.0MS/MSD were less than the QC limits. As a result, the non-detects of antimony in samples SS-1-7.5-8.0 and SS-2-6.0-6.5 were qualified with an "UJ".

For PCB analysis, the recoveries of Aroclors 1016 and 1260 were less than the QC limits in SS-15MSD. As a result, the non-detects of Aroclor 1016 and 1260 in sample SS-15 were qualified with an "UJ".

- **Precision**

This data quality indicator is defined as a measure of reproducibility or variability of a measurement under a given set of conditions, and is expressed as relative percent difference (RPD). The laboratory duplicate analysis (metals only) and the results of MS/MSD were reviewed to assess the data quality.

Laboratory Report Z293

The variance of Aroclors 1016 and 1260 recoveries between SS-15MS and SS-15MSD exceeded the laboratory-generated control limits. No further data qualification was required because the results of Aroclors 1016 and 1260 reported for SS-15 were already qualified under the review of precision.

- **Representativeness**

This data quality indicator is defined as the extent to which data measure the objective of the data collection. It is less quantitatively defined than accuracy or precision and represents the ability of sample collection and handling steps to accurately reflect site characteristics. As such, it is controlled primarily by sampling program design and is influenced by field QC sample results.

- **Comparability**

This data quality indicator is a measure of the equivalence of data. Comparability for sampling involves application of consistent sample designs and time period, which comparability for analyses encompasses issues related to different methodologies, detection limits, laboratories, units of measure, and sample preparation procedures. The potential for comparability concerns was minimized through the design of the Quality Assurance Program Plan (QAPP) and sampling methodologies. Standardized sampling techniques and analytical methods were used to attain project objectives.

- **Completeness**

This data quality indicator is defined as the measure of the amount of usable data resulting from a data collection activity. All samples collected for in the field are accounted for in the sample data packages and the data are 100% complete from a deliverable standpoint, as tracked through the chain-of-custody process.

3.3.2 Field QC Samples

Field QC samples, such as field blank and field duplicate samples, were not collected.

4.0 SUMMARY AND RECOMMENDATIONS

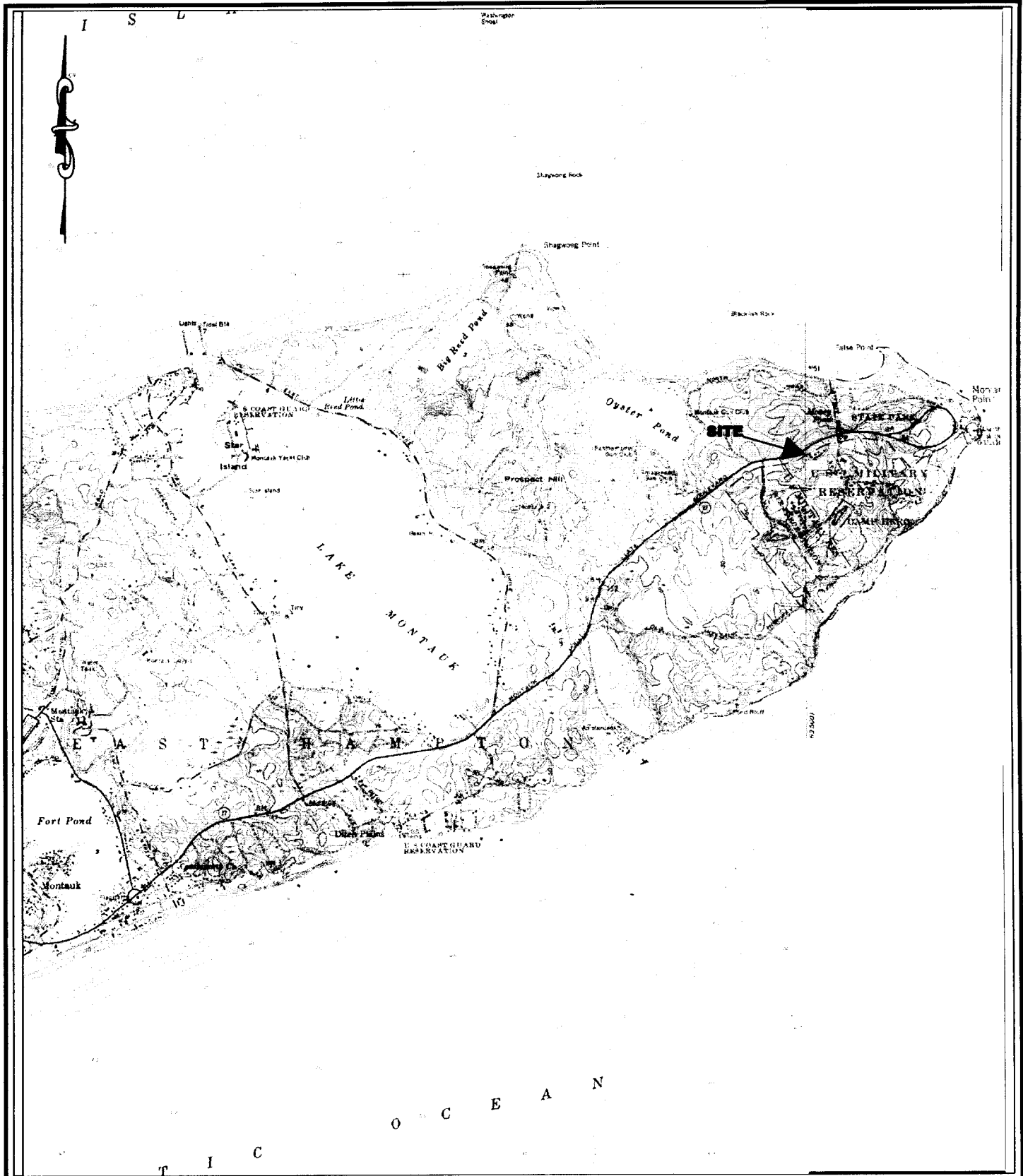
The following summary statements and conclusions can be drawn from the results of this investigation:

- The oil stains on the concrete floors of Buildings 5^e and the Radar Tower contain concentrations of PCBs that exceed the TSCA unrestricted use limit of 1 mg/kg. These oil stains are limited to areas 4 by 6 feet in extent and provide no significant ecological or human health threats via migration. The stains could be addressed by concrete removal, painting over the stains, or, if necessary, controlling building access. These stains do not pose an imminent health threat as the building are presently sealed from public access.
- PCBs were detected in the surface soil only at sample location SS-14 near the radar tower. Aroclor 1254 was detected at 1.4 ug/kg, which is just above the regulatory criteria of 1 ug/kg. The area of contamination appears to be *de minimus*, as no PCBs were detected above the regulatory criteria in adjacent samples collected within 50 feet of that location.
- The former Power Plant location contains three to five feet of fill material, consisting mostly of charcoal. This area was investigated primarily for the presence of PCBs. No PCBs were detected in soils or groundwater from within this area. The subsurface soil (SS-1) analytical samples indicate elevated levels of beryllium above the regulatory criteria. In addition, the groundwater (GW-2) analytical samples indicate levels of chromium and lead slightly exceeding the criteria. The levels of chromium and lead were somewhat elevated in relation to the reference well located upgradient of the former Power Plant location. Of the 5 shallow groundwater probes sampled near the former power plant B-11, (GW-2) was the only sample in which contaminant levels were elevated. Given the close proximity of these samples (within 50 ft of one another) it is likely that the levels are due to sample variability associated with turbidity observed in the samples during field collections.
- Surface water and sediment data collected revealed no evidence of contaminant transport pathways from the buildings to adjacent sensitive environmental areas, such as forested wetlands and streams.

5.0 REFERENCES

- Cashin Associates, January 1999. New York State Office of Parks, Recreation and Historic Preservation. Preliminary Interim Report, Existing Conditions, Montauk Point State Park, Camp Hero Property, Montauk, New York.
- Cashin Associates, June 1998. New York State Office of Parks, Recreation and Historic Preservation. Amended Final, Camp Hero Feasibility Study, Hazardous Materials Survey, 7Preliminary Report, Montauk, New York.
- New York State Department of Environmental Conservation, January 1994. Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels.
- New York State Department of Environmental Conservation, August 1999. Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.

Figures

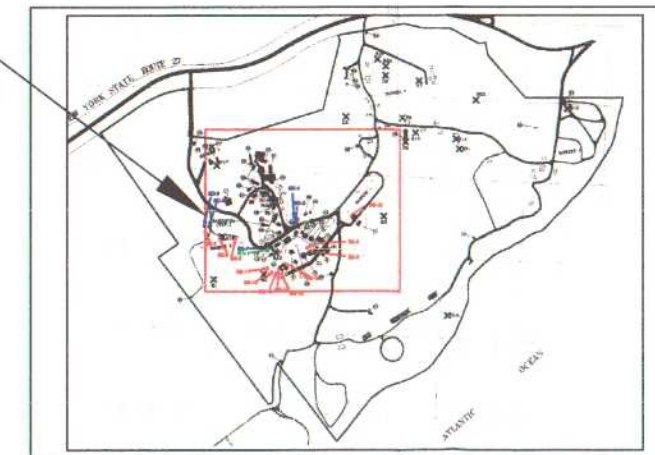
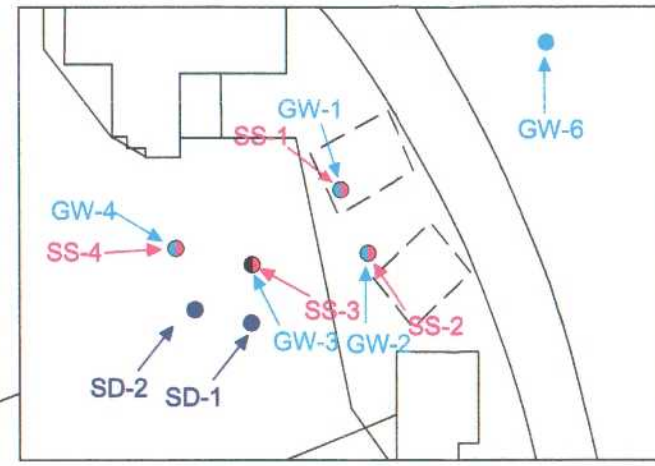
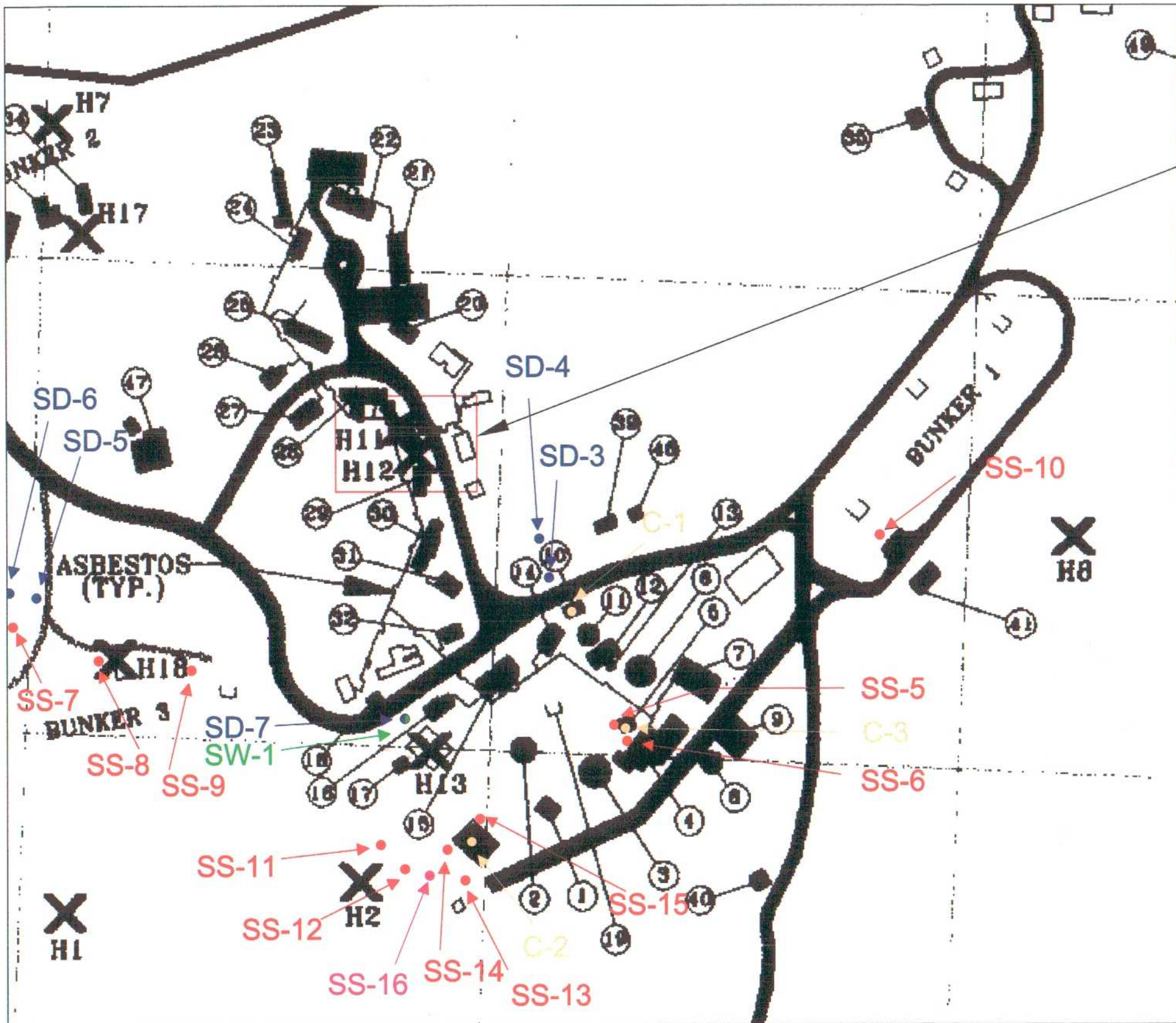


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 DRAWN BY: B. TURNER

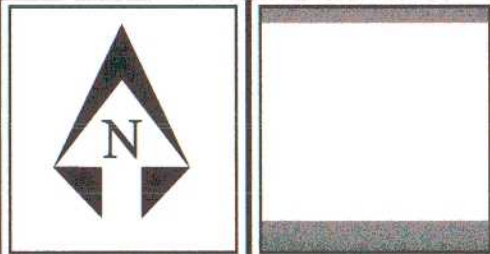


PROJECT NAME:
DATA COLLECTION REPORT
 MONTAUK, NEW YORK
 CLIENT NAME: U.S. ARMY CORPS OF ENGINEERS
 NEW YORK DISTRICT

SITE LOCATION MAP
 DATE: JUNE 2000
 FIGURE #: 1-1



- LEGEND:
- SD-1 SEDIMENT SAMPLE LOCATION
 - SS-5 SURFACE SOIL SAMPLE LOCATION
 - SS-1 SUB-SURFACE SOIL SAMPLE LOCATION
 - GW-1 GROUNDWATER SAMPLE LOCATION
 - C-1 CONCRETE CHIP SAMPLE LOCATION
 - SW-1 SURFACE WATER SAMPLE LOCATION



CLIENT NAME:
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PROJECT NAME:
CAMP HERO DATA COLLECTION REPORT
MONTAUK, NEW YORK

Roy F. Weston, Inc.
 Raritan Plaza III, Suite 2B
 101 Fieldcrest Avenue
 Edison, New Jersey 08837-3622
 TEL: 732-417-5800
 FAX: 732-417-5801
<http://www.rfweston.com>

DRAWING TITLE:
SAMPLE LOCATION MAP

WORK ORDER No.:	11901-001-013-0001	PROJECT MANAGER:	P. BOVITZ
DRAWN BY:	B. TURNER	CHECKED BY:	P. BOVITZ
DRAWING NAME:	00281	DIRECTORY/FOLDER:	P/NEA_USCOE
CONTRACT No.:		DELIVERY ORDER No.:	
SCALE:	Not to Scale	REPORT DATE:	JUNE 2000
DATE:	6/14/00	REVISION No.:	1
		FIGURE No.:	2-1

Tables

TABLE 2-1
SUMMARY OF SAMPLING PROGRAM
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

BUILDING	LOCATION	NUMBER OF SAMPLES	ANALYTICAL PARAMETERS
Radar Tower	Building 1	1 Chip 4 Surficial Soil, 1 MS/MSD 1 Subsurface Soil	PCBs PCBs PCBs
Near Radar Tower	Site of UST 16	1 Surficial Soil	PCBs
Near Radar Tower	Site of UST 18	1 Surficial Soil	PCBs
Near Radar Tower	Site of Building 203	1 Sediment 1 Surface Water	PCBs PCBs, SVOCs, PP Metals
Bunker B-1	Old Equipment Room	1 Surficial Soil	PCBs
Bunker B-3	Electrical Equipment Room	3 Surficial Soil 2 Sediment, 1 MS/MSD	PCBs PCBs
Electrical Substation	Building 5	1 Chip 2 Surficial Soil, 1 MS/MSD	PCBs PCBs
Water Filtration Building	Building 10	1 Chip 2 Sediment	PCBs PCBs
Former Power Plant	Area of Concern (H-1)	5 Groundwater, 1MS/MSD 2 Surficial Soil 2 Subsurface Soil 2 Subsurface Soil 2 Sediment	PCBs, SVOCs, PP Metals PCBs PCBs, SVOCs, PP Metals PCBs PCBs

TABLE 3-1
 SUMMARY OF PCB CONCRETE CHIP SAMPLES
 CAMP HERO SITE - MONTAUK, NEW YORK
 APRIL, 2000

SAMPLE ID	C-1	C-2	C-3
DATE COLLECTED	4/12/00	4/12/00	4/12/00
SAMPLE DEPTH	NA	NA	NA
LOCATION	Building 10	Radar Tower	Building 5
UNITS	ug/kg	ug/kg	ug/kg
Aroclor-1260	70 U	1600	400 U
Aroclor-1254	70 U	4100	4700
Aroclor-1268	70 U	550	400 U

TABLE 3-2
SUMMARY OF PCB DETECTIONS IN SOIL
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

SAMPLE ID	SS-1 0.5-1.0	SS-1 7.5-8.0	SS-2 2.5-3.0	SS-2 6.0-6.5	SS-3 4.5-5.0	SS-4 5.5-6.0	SS-5	SS-6	SS-7	Soil Cleanup Criteria to Protect Groundwater (mg/kg)	Regulatory Criteria ¹ (mg/kg)
DATE COLLECTED	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00		
SAMPLE DEPTH	0.5'-1.0'	7.5'-8.0'	2.5'-3.0'	6.0'-6.5'	4.5'-5.0'	5.5'-6.0'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'		
LOCATION	Power Plant	Power Plant	Power Plant	Power Plant	Power Plant	Power Plant	Building 5	Building 5	Building 3		
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Aroclor-1260	0.076 U	0.27	0.075 U	0.083 U	0.082 U	0.076 U	0.083 U	0.082 U	0.084 U	10	1*
Aroclor-1262	0.076 U	0.074 U	0.075 U	0.083 U	0.082 U	0.076 U	0.083 U	0.082 U	0.19	10	1*
Aroclor-1248	0.076 U	0.074 U	0.075 U	0.083 U	0.082 U	0.076 U	0.083 U	0.082 U	0.084 U	10	1*
Aroclor-1254	0.076 U	0.074 U	0.075 U	0.083 U	0.082 U	0.076 U	0.083 U	0.082 U	0.084 U	10	1*
Aroclor-1268	0.076 U	0.074 U	0.075 U	0.083 U	0.082 U	0.076 U	0.083 U	0.082 U	0.084 U	10	1*

¹Recommended Soil Cleanup Objectives, NYSDEC 24 January 1994 TAGM, "Determination of Soil Cleanup Objectives".

SB - Site Background.

Shaded concentrations indicate exceedences of the regulatory criteria.

* - 1 ug/kg for surface soil, 10 ug/kg for sub-surface soils.

TABLE 3-2 (continued)
SUMMARY OF PCB DETECTIONS IN SOIL
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

SAMPLE ID	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16 0.25-0.75'	SS-16 11.5-12.0'	Soil Cleanup Criteria to Protect Groundwater (mg/kg)	Regulatory Criteria ¹ (mg/kg)
DATE COLLECTED	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00		
SAMPLE DEPTH	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.0'-0.5'	0.25'-0.75'	11.5'-12.0'		
LOCATION	Building 3	Building 3	Building 10	Radar Tower	Radar Tower	Radar Tower	Radar Tower	Radar Tower	Cesspool	Cesspool		
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Aroclor-1260	0.08 U	0.1 U	0.3	0.08 U	0.08 U	0.08 U	0.09 U	0.08 U	0.075 U	0.082 U	10	1*
Aroclor-1262	0.08 U	0.1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.09 U	0.08 U	0.075 U	0.082 U	10	1*
Aroclor-1248	0.08 U	0.1 U	0.08 U	0.08 U	0.08 U	0.38	0.09 U	0.08 U	0.075 U	0.082 U	10	1*
Aroclor-1254	0.08 U	0.1 U	0.08 U	0.08 U	0.08 U	0.95	1.4	0.08 U	0.075 U	0.082 U	10	1*
Aroclor-1268	0.08 U	0.1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.09 U	0.08 U	0.075 U	0.082 U	10	1*

¹Recommended Soil Cleanup Objectives, NYSDEC 24 January 1994 TAGM, "Determination of Soil Cleanup Objectives".

SB - Site Background.

Shaded concentrations indicate exceedences of the regulatory criteria.

* - 1 ug/kg for surface soil, 10 ug/kg for sub-surface soils.

TABLE 3-3
SUMMARY OF METAL DETECTIONS IN SOIL
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

SAMPLE ID	SS-1 7.5-8.0	SS-2 6.0-6.5	Regulatory Criteria ¹ (mg/kg)
DATE COLLECTED	4/12/00	4/12/00	
SAMPLE DEPTH	7.5'-8.0'	6.0'-6.5'	
LOCATION	Power Plant	Power Plant	
UNITS	mg/kg	mg/kg	
LEAD	2.3	2.6	SB
BERYLLIUM	0.25 B	0.068 U	0.16 or SB
CHROMIUM	9.9	7.6	10 or SB
COPPER	5.7	4.1 B	25 or SB
ZINC	17.0	7.2	20 or SB
NICKEL	6.3 B	3.2 B	13 or SB
ARSENIC	0.7 U	0.96 B	7.5 or SB

¹Recommended Soil Cleanup Objectives, NYSDEC 24 January 1994 TAGM, "Determination of Soil Cleanup Objectives".
SB - Site Background.
Shaded concentrations indicate exceedences of the regulatory criteria.

TABLE 3-4
SUMMARY OF SVOC DETECTIONS IN GROUNDWATER
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

SAMPLE ID	GW-1	GW-2	GW-3	GW-4	GW-6	Regulatory Criteria ¹ ug/L
DATE COLLECTED	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	
LOCATION	Power Plant	Power Plant	Power Plant	Power Plant	Background	
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	
Diethylphthalate	0.6	0.4 U	0.4 U	0.4 U	0.6 U	NS
Fluoranthene	0.6 U	0.7	0.5 U	0.5 U	0.7 U	NS
bis(2-ethylhexyl)phthalate	2.3 U	2.3 U	2.2	2.2 U	2.8 U	NS

¹New York State Surface Water and Groundwater Quality Standards.
Shaded concentrations indicate exceedences of the regulatory
criteria.
NS - No Standard

TABLE 3-5
SUMMARY OF TOTAL METAL DETECTIONS IN GROUNDWATER
CAMP HERO SITE - MONTAUK, NEW YORK
APRIL, 2000

SAMPLE ID	GW-1	GW-2	GW-3	GW-4	GW-6	Regulatory Criteria ¹ ug/L
DATE COLLECTED	4/12/00	4/12/00	4/12/00	4/12/00	4/12/00	
LOCATION	Power Plant	Power Plant	Power Plant	Power Plant	Background	
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	
NICKEL	5.9	22.1	6.9	10.0	6.6	100
BERYLLIUM	0.2 U	0.77	0.28	0.36	0.41	NS
ZINC	22.8	64.2	20.6	29.5	19.8	NS
CHROMIUM	3.3	56.9	2.7	9.1	10.9	50
LEAD	2.1 U	25.6	2.1 U	2.1 U	2.1 U	25
MERCURY	0.1 U	0.12	0.1 U	0.1 U	0.1 U	0.7
COPPER	2.7 U	31.5	2.7 U	7.8	9.9	200
ARSENIC	3.6 U	22.1	3.6 U	3.6	3.6 U	25

¹New York State Surface Water and Groundwater Quality Standards.

SB - Site Background.

Shaded concentrations indicate exceedences of the regulatory criteria.

NS - No standard.

TABLE 3-6
 SUMMARY OF TOTAL METAL DETECTIONS IN SURFACE WATER
 CAMP HERO SITE - MONTAUK, NEW YORK
 APRIL, 2000

SAMPLE ID	SW-1	Regulatory Criteria ¹ ug/L
DATE COLLECTED	4/12/00	
LOCATION	Building 203	
UNITS	ug/L	
ZINC	13.7	66
ARSENIC	4.1	63*

¹New York State Surface Water and Groundwater Quality Standards.

SB - Site Background.

Shaded concentrations indicate exceedences of the regulatory criteria.

* - Dissolved arsenic form.

APPENDIX A
SOIL BORING LOGS

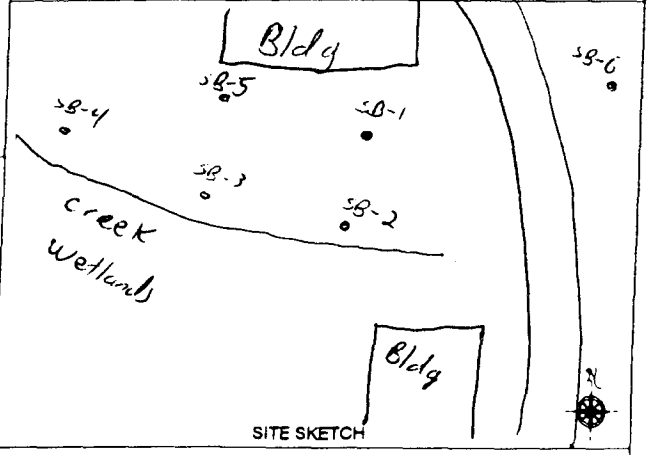
GEOLOGIC Location Identification Form

CLIENT: NEA - USACE
 PROJECT: Camp Hero Data Collection
 PROPERTY: Camp Hero, Montauk, NY
 SITE / AREA: Former Power Plant
 LOCATION ID: SB-1
 BEGIN DATE: 4/12/00
 END DATE: 4/12/00
 LOGGER: Brad W. Turner

QUALITY LEVEL: 1 - 2 - 3
 UNIT SYSTEM: ENGLISH - METRIC



LOCATION TYPE: BOR - PIZ - WEL - PIT -
 TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M
 BOREHOLE COMPLETED IN: OVERBURDEN - BEDROCK
 BEDROCK CONFIRMED: NOT - DRL - SPS - AUG - COR - CUT
 TOTAL DEPTH: _____ FT/M BGS
 DEPTH TO BEDROCK: unknown FT/M BGS
 BOREHOLE DIAMETER No. 1: 1 IN/CM
 INTERVAL: 0 TO 12 FT/M BGS



METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: Geoprobe
 FLUID: AIR - WATER - MUD - FOAM - NONE

SURFACE ELEVATION: ESTIMATED _____ SURVEYED _____
 N. COORDINATE: _____
 E. COORDINATE: _____
 MEASURING POINT ELEVATION: _____
 WELL PERMIT No. _____
 ALIAS ID/WELL RECORDATION No.: _____

BOREHOLE DIAMETER No. 2: _____ IN/CM
 INTERVAL: _____ TO _____ FT/M BGS
 METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: _____
 FLUID: AIR - WATER - MUD - FOAM - NONE

HOLE ABANDONED? YES - NO (IF YES DESCRIBE IN COMMENTS)
 WELL INSTALLED? YES - NO
 WELL CLUSTER? YES - NO No. OF WELLS: _____
 WELL NEST? YES - NO No. OF WELLS: _____

BOREHOLE DIAMETER No. 3: _____ IN/CM
 INTERVAL: _____ TO _____ FT/M BGS
 METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: _____
 FLUID: AIR - WATER - MUD - FOAM - NONE

PUMPS INSTALLED? YES NO
 TYPE _____ DEPTH _____
 PURGE: _____
 SAMPLE: _____

DRILLING/EXCAVATING CO: Aquifer Drilling and Testing
 DRILLER/OPERATOR: Lloyd
 EQUIPMENT/RIG: Truck mounted Geoprobe

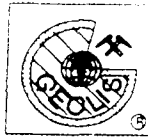
BOREHOLE TESTING
 BOREHOLE GEOPHYSICS? YES - NO
 SLUG TESTS? YES - NO
 PACKER TESTS? YES - NO
 PUMPING TESTS? YES - NO

COMMENTS: _____

DATA ENTRY BY: _____ QC REVIEW BY: _____ QA REVIEW BY: _____
 DATE ENTERED: _____ REVIEW DATE: _____
 QC REPORTS PRINTED? YES - NO APPROVED WITH - WITHOUT REVISIONS APPROVED WITH - WITHOUT REVISIONS


GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-1</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>
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SAMPLING METHOD SPS - OSS - STB - OTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY/LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
SAMPLING INTERVAL <u>0</u> TO <u>4</u> FT/M BGS RECOVERY <u>3.5</u> <u>4</u> FT/M NA	TYPE/LAB <u>UND - DS - CMP / MOB - GEO - CHM -</u>
BLOW COUNT: [] [] [] [] [] / [] N/CM NA ROD: _____ % NA	TYPE/LAB <u>UND - DIS - CMP / MOB - GEO - CHM -</u>


SAMPLING INTERVAL No: <u>1</u> LITHOLOGIC INTERVAL No: <u>1</u> LITHOLOGIC INTERVAL: <u>0</u> TO <u>0.4</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: <u>NATURAL</u> - <u>CELL</u> - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE: <u>PID</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____
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OVERBURDEN	GRAPHIC LOG	BEDROCK		
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>M. Brown</u> COLORATION: <u>GN</u> - STN - MOT - VAR TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ <u>20</u> % _____ % SILT: _____ <u>10</u> % _____ % CLAY: _____ <u>30</u> % _____ % ORGANIC: _____ <u>40</u> % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA SAND: ANG - SUB <u>RND</u> - NA SORTING: WEL - MOD <u>MOD</u> - NA PLASTICITY: NON - <u>LOW</u> - MOD - HGH - NA MOISTURE: DRY - <u>MS</u> - WET - SAT - NA CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA MATRIX: <u>MSM</u> - OSM - CAL - OXD - <u>ARG</u> - SIL - NA STRENGTH: <u>COH</u> / NOC STF - FRM <u>SF</u> - LSE - NA UPPER CONTACT: SHP - GRD - DIF - SME - <u>NA</u> BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA		SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER: _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BSL - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BIO - NA MATRIX: CAL - M.C - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: VUG - FRC - BED - NA - OTHER POROSITY: HGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HGH - CPL - NA		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH


NEXT INTERVAL	SAMP/LITH No	DEPTH INTERVAL	NOT SAMPLED
			NO RECOVERY

COMMENTS (1) _____
 (2) _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-1</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>																										
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																									
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA RQD: _____ % NA		TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____																									
SAMPLING INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>0.4</u> TO <u>4</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL <u>NATURAL</u> - <u>FLI</u> - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>RTO</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING: _____																									
<h3 style="text-align: center;">OVERBURDEN</h3> SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>Orange</u> COLORATION: <u>LN</u> - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ <u>20</u> % _____ % SAND: <u>90 30</u> _____ <u>70</u> % _____ % SILT: _____ <u>10</u> % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - <u>SUB</u> - RND - NA _____ SORTING: <u>WEL</u> - MOD - POR - NA _____ PLASTICITY: <u>NON</u> - LOW - MOD - HGH - NA _____ MOISTURE: DRY - <u>MS</u> - WET - SAT - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA _____ MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA _____ STRENGTH: <u>COH</u> / <u>NOC</u> - STF - FRM - <u>SF</u> - LSE - NA _____ UPPER CONTACT: SHP - <u>GRD</u> - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG	<h3 style="text-align: center;">BEDROCK</h3> SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MB - GN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/SLT MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BIO - NA _____ MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____																									
NATURAL FRACTURE SETS																											
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> </tbody> </table>	INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
NEXT SAMPLING No. _____ DEPTH INTERVAL _____ NO SAMPLED INTERVAL _____ TO _____ NO RECOVERY																											
COMMENTS (1) _____ (2) _____																											

GEOLIS_® Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u>	LOCATION ID <u>SB-1</u>	
CLIENT <u>NEA - USACE</u>	DATE <u>4/12/00</u>	
PROJECT <u>Camp Hero Data Collection</u>	LOGGER <u>Brad W. Turner</u>	
SITE / AREA <u>Camp Hero / Former Power Plant</u>	SIGNATURE <u>[Signature]</u>	

SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COP - NS OTHER <u>Geoprobe</u>	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
SAMPLING INTERVAL <u>4</u> TO <u>8</u> FT/M BGS RECOVERY <u>4</u> / <u>4</u> FT/M NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
ROD _____ % NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____

SAMPLING INTERVAL No.: <u>2</u> LITHOLOGIC INTERVAL No.: <u>1</u> LITHOLOGIC INTERVAL: <u>4</u> TO <u>8</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE _____ READING: _____ INSTRUMENT 2 TYPE _____ READING: _____
--	---	---


OVERBURDEN	GRAPHIC LOG	BEDROCK
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR MUN - GSA <u>Orange</u> COLORATION: <u>UN</u> - STN - MOT - VAR TEXTURE <u>C - M - F</u> GRAVEL: _____ % _____ % SAND <u>35</u> <u>30</u> <u>15</u> <u>80</u> % _____ % SILT: <u>15</u> % _____ % CLAY _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - <u>RND</u> - NA SAND: ANG - SUB - <u>RND</u> - NA SORTING: WEL <u>MOD</u> - POR - NA PLASTICITY: <u>NON</u> - LOW - MOD - HGH - NA MOISTURE: DRY - MST <u>WE</u> - SAT - NA CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA STRENGTH: <u>COH</u> - NOC - STF - FRM - <u>SF</u> - LSE - NA UPPER CONTACT: SHP - GRD - DIF - <u>SME</u> - NA BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA	 GRAPHIC LOG 	SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL IGN: GRN - RHY - BS - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/ME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BIO - NA MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: VUG - FRG - BED - NA - OTHER POROSITY: HGH - MOD - LOW WEATHERING: FRG - SLT - MOD - HGH - CPL - NA

NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
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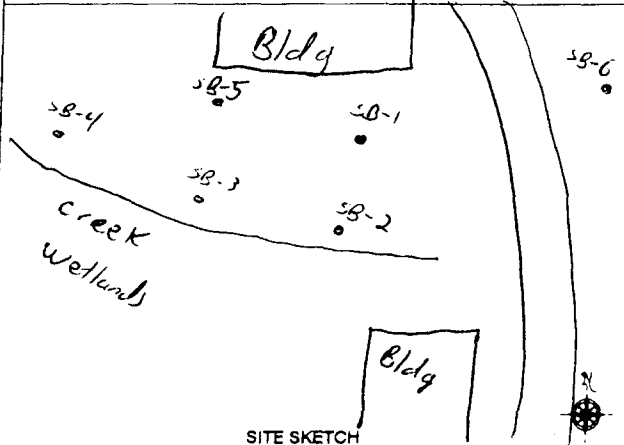
NEXT INTERVAL: _____ / _____ TO _____ SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED _____ NO RECOVERY _____

COMMENTS (1) gray banding
 (2) _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-1</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>			
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____		
SAMPLING INTERVAL <u>8</u> TO <u>12</u> FT/M BGS RECOVERY <u>2</u> <u>4</u> FT/M NA		TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____		
BLOW COUNT: [] [] [] [] / [] N/CM NA RQD: _____ % NA		TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____		
SAMPLING INTERVAL No <u>3</u> LITHOLOGIC INTERVAL No <u>1</u> LITHOLOGIC INTERVAL: <u>8</u> TO <u>12</u> FT/M BGS		MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>RIO</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING: _____		
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>m grey</u> COLORATION: <u>UM</u> - STN - MOT - VAR TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: <u>40</u> % _____ % CLAY: <u>40</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS GRAVEL: FAC - STR - ANG - <u>SUB</u> - RND - NA SAND: ANG <u>SUB</u> - RND - NA SORTING: WEL - MOD - <u>POOR</u> - NA PLASTICITY: <u>NON</u> - LOW - MOD - HIGH - NA MOISTURE: <u>DRY</u> - MST - WET - SAT - NA CEMENTATION: NON - SLT - <u>MCS</u> - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA MATRIX: <u>MSM</u> - CSM - CAL - OXD - <u>ARG</u> - SIL - NA STRENGTH: <u>CO</u> / <u>NOC</u> STF <u>FRM</u> - SFT - LSE - NA UPPER CONTACT: <u>SHP</u> - GRD - DIF - SME - NA BEDDING THICKNESS _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA	GRAPHIC LOG	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BSL - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BIO - NA MATRIX: CAL - MIC - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - WVK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: VUG - FRO - BED - NA - OTHER POROSITY: HIGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HIGH - CPL - NA		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRP ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRP ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRP ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRP ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
NEXT INTERVAL <u>1</u> TO _____ NO RECOVERY				
COMMENTS (1) <u>Set temp. pres. at 20' and collected groundwater samples</u> <u>Collected soil samples at 0.5' - 1.0' and 7.5 - 8.0' bgs</u> (2) _____				

GEOLIS Location Identification Form

<p>CLIENT: <u>NEA - USACE</u></p> <p>PROJECT: <u>Camp Hero Data Collection</u></p> <p>PROPERTY: <u>Camp Hero, Montauk, NY</u></p> <p>SITE / AREA: <u>Former Power Plant</u></p> <p>LOCATION ID: <u>SB-2</u></p> <p>BEGIN DATE: <u>4/12/00</u></p> <p>END DATE: <u>4/12/00</u></p> <p>LOGGER: <u>Brad W. Turner</u></p>	<p>QUALITY LEVEL: 1 - 2 - 3</p> <p>UNIT SYSTEM: <u>ENGLISH</u> - METRIC</p> 						
<p>LOCATION TYPE: <u>(BOR)</u> PIZ - WEL - PIT - _____</p> <p>TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M</p> <p>BOREHOLE COMPLETED IN: <u>OVERBURDEN</u> BEDROCK</p> <p>BEDROCK CONFIRMED: <u>(NOT)</u> DRL - SPS - AUG - COR - CUT</p> <p>TOTAL DEPTH: _____ FT/M BGS</p> <p>DEPTH TO BEDROCK: <u>unknown</u> FT/M BGS</p> <p>BOREHOLE DIAMETER No.1: <u>1</u> IN/CM</p> <p>INTERVAL: <u>0</u> TO <u>12</u> FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: <u>Geoprobe</u></p> <p>FLUID: AIR - WATER - MUD - FOAM - <u>(NONE)</u></p>	 <p style="text-align: center;">SITE SKETCH</p>						
<p>BOREHOLE DIAMETER No.2: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>SURFACE ELEVATION: _____ ESTIMATED SURVEYED</p> <p>N. COORDINATE: _____</p> <p>E. COORDINATE: _____</p> <p>MEASURING POINT ELEVATION: _____</p> <p>WELL PERMIT No.: _____</p> <p>ALIAS ID/WELL RECORDATION No.: _____</p> <p>HOLE ABANDONED? <u>(YES)</u> - NO (IF YES DESCRIBE IN COMMENTS)</p> <p>WELL INSTALLED? YES - <u>(NO)</u></p> <p>WELL CLUSTER? YES - <u>(NO)</u> No. OF WELLS: _____</p> <p>WELL NEST? YES - <u>(NO)</u> No. OF WELLS: _____</p> <p>PUMPS INSTALLED? YES <u>(NO)</u></p> <table style="width:100%;"> <tr> <td>PURGE</td> <td>TYPE</td> <td>DEPTH</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table> <p>SAMPLE: _____</p>	PURGE	TYPE	DEPTH	_____	_____	_____
PURGE	TYPE	DEPTH					
_____	_____	_____					
<p>BOREHOLE DIAMETER No.3: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>BOREHOLE TESTING</p> <p>BOREHOLE GEOPHYSICS? YES - <u>(NO)</u></p> <p>SLUG TESTS? YES - <u>(NO)</u></p> <p>PACKER TESTS? YES - <u>(NO)</u></p> <p>PUMPING TESTS? YES - <u>(NO)</u></p>						
<p>DRILLING/EXCAVATING CO: <u>Aquifer Drilling and Testing</u></p> <p>DRILLER/OPERATOR: <u>Lloyd</u></p> <p>EQUIPMENT/RIG: <u>Truck mounted Geoprobe</u></p> <p>COMMENTS: _____</p> <p>_____</p> <p>_____</p>							
<p>DATA ENTRY BY: _____</p> <p>DATE ENTERED: _____</p> <p>QC REPORTS PRINTED? YES - NO</p>	<p>QC REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>	<p>QA REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>					

GEOLIS Borehole Logging Form

COMPANY Roy F. Weston, Inc LOCATION SB-2
 CLIENT NEA - USACE DATE 4/12/00
 PROJECT Camp Hero Data Collection LOGGER Brad W. Turner
 SITE / AREA Camp Hero / Former Power Plant SIGNATURE [Signature]



SAMPLING METHOD SPS - CSS - STB - CYS - CUL - COR - NS
 OTHER Geoprobe FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM
 SAMPLING INTERVAL 0 TO 4 FT/M BGS ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
 RECOVERY 3 4 FT/M NA TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
 BLOW COUNT: [] [] [] [] / [] N/CM NA TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
 ROD: _____ % NA

SAMPLING INTERVAL No. 1 LITHOLOGY ARCHIVED? _____ MATERIAL NATURAL - FILL - UNCERTAIN
 LITHOLOGIC INTERVAL No. 1 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____
 LITHOLOGIC INTERVAL 0 TO 2.5 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE P10 READING 0
 INSTRUMENT 2 TYPE _____ READING _____

OVERBURDEN		GRAPHIC LOG	BEDROCK	
SECONDARY TYPE	NA - BED - CLS - MIX		SECONDARY TYPE	NA - BED - VEN - MIX
COLOR	MUN - GSA <u>Black</u>		COLOR	MUN - GSA _____
COLORATION	UNI - STN - MOT - VAR _____		ROCK TYPE	OTHER _____
TEXTURE	<u>C - M - F</u>		SED	SHL - SLT - SST - CGL - LST - DOL - COL
GRAVEL	_____ % _____ %		MET	SLA - PHY - SHS - GNS - HRN - QZT - MBL
SAND	_____ % _____ %		GN	GRN - RHY - BSL - GBR - TUF - BRC
SILT	_____ % _____ %		TEXTURE	<u>C - M - F</u> NA
CLAY	_____ % _____ %		GRAVEL	_____ % _____ %
ORGANIC	_____ % _____ %		SAND	_____ % _____ %
ROUNDNESS			SILT	_____ % _____ %
GRAVEL	FAC - STR - ANG - SUB - RND - NA		CLAY/VE MUD	_____ % _____ %
SAND	ANG - SUB - RND - NA		GRAIN TYPE	QZT - FRG - FOS - BIO - NA
SORTING	WEL - MOD - POR - NA		MATRIX	CAL - M - C - OXD - ARG - SIL - ORG - NA
PLASTICITY	NON - LOW - MOD - HIGH - NA		STRENGTH	EWK - VWK - WEK - MOD STR - VST - EST
MOISTURE	DRY - MST - WET - SAT - NA		UPPER CONTACT	SHP - GRD - DIF - SAM - NA
CEMENTATION	NON - SLT - MOD - WEL - NA		SECONDARY	VUG - FAC - BED - NA - OTHER
GRAIN TYPE	QZT - FRG - FOS - BO - NA		POROSITY	HGH - MOD - LOW
MATRIX	MSM - GSM - CAL - OXD - ARG - SIL - NA		WEATHERING	FRS - SLT - MOD - HGH - CPL - NA
STRENGTH	COH/NOG STF - FRM - SFT - LSE - NA			
UPPER CONTACT	SHP - GRD - DIF - SME - NA			


NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT
				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT
				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT

STRAT UNIT: _____
 NOTE LINE: _____
 NEXT SAMPLING No. _____ DEPTH INTERVAL _____ NOT SAMPLED
 INTERVAL 1 TO _____ NO RECOVERY

COMMENTS (1) degraded coal. Chunks of coal at the surface, and degrading to a black silt and clay to 2.5' bgs.
 (2) _____

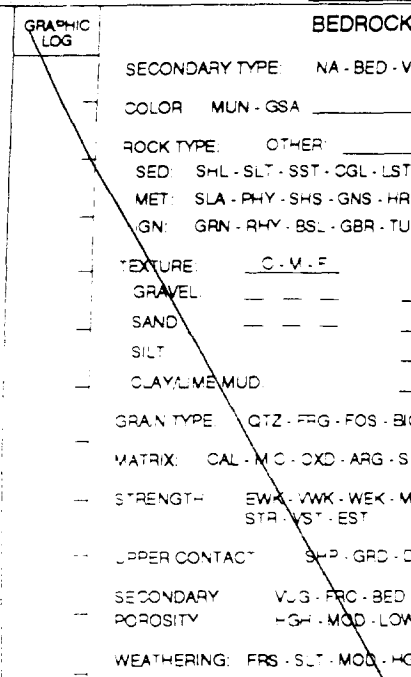
GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-2</u> DATE <u>4/12/00</u> LOGGER <u>Riad W. Turner</u> SIGNATURE <u>[Signature]</u>
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SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u> SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA RQD _____ % NA	FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____ TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____
--	--

SAMPLING INTERVAL No: <u>1</u> LITHOLOGIC INTERVAL No: <u>2</u> LITHOLOGIC INTERVAL <u>2.5</u> TO <u>4.0</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: NATURAL - <u>FILL</u> - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE: <u>P10</u> READING: <u>0</u> INSTRUMENT 2 TYPE: _____ READING: _____
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OVERBURDEN	GRAPHIC LOG	BEDROCK		
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>Orange</u> COLORATION: UN - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ <u>15</u> % _____ % SAND: _____ <u>80</u> % _____ % SILT: _____ <u>15</u> % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG <u>SUB</u> - RND - NA SAND: ANG <u>SUB</u> - RND - NA SORTING: WEL <u>MOD</u> - POR - NA PLASTICITY: <u>NOM</u> - LOW - MOD - HIGH - NA MOISTURE: <u>DRY</u> - MST - WET - SAT - NA CEMENTATION: <u>NOM</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BO - NA MATRIX: MSM - <u>CSM</u> - CAL - OXD - <u>ARG</u> - SIL - NA STRENGTH: <u>COH</u> / <u>NOC</u> - STF - FRM - <u>SFT</u> - USE - NA UPPER CONTACT: <u>SHP</u> - GRD - DIF - SME - NA BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA STRAT UNIT: _____ NOTE LINE: _____		SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER: _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BSL - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BO - NA MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: <u>SHP</u> - GRD - DIF - SAM - NA SECONDARY POROSITY: VUG - FRC - BED - NA - OTHER: _____ WEATHERING: FRG - SLT - MOD - HIGH - CPL - NA		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH

NEXT INTERVAL	SAMP/LITH No	DEPTH INTERVAL	NOT SAMPLED
_____ / _____	_____	_____ TO _____	NO RECOVERY


COMMENTS (1) _____

(2) _____

GEOLIS[®] Borehole Logging Form


COMPANY <u>Roy F. Weston, Inc</u>		LOCATION ID <u>SB-2</u>	
CLIENT <u>NEA - USACE</u>		DATE <u>4/12/00</u>	
PROJECT <u>Camp Hero Data Collection</u>		LOGGER <u>Brad W. Turner</u>	
SITE / AREA <u>Camp Hero / Former Base Plant</u>		SIGNATURE <u>[Signature]</u>	
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM
SAMPLING INTERVAL <u>4</u> TO <u>8</u> FT/M BGS		ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____	
RECOVERY <u>3.2</u> <u>4</u> FT/M NA		TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____	
BLOW COUNT: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> N/CM NA		TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____	
ROD _____ % NA		TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____	
SAMPLING INTERVAL No. <u>2</u>		LITHOLOGY ARCHIVED? YES - NO	
LITHOLOGIC INTERVAL No. <u>1</u>		MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN	
LITHOLOGIC INTERVAL: <u>4</u> TO <u>6.5</u> FT/M BGS		OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____	
NO RECOVERY		INSTRUMENT 1 TYPE: <u>PID</u> READING: <u>0</u>	
		INSTRUMENT 2 TYPE _____ READING: _____	
OVERBURDEN		BEDROCK	
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY		SECONDARY TYPE NA - BED - VEN - MIX SECONDARY	
COLOR: MUN - GSA <u>0 - Gray</u>		COLOR: MUN - GSA _____	
COLORATION: <u>LN</u> - STN - MOT - VAR _____		ROCK TYPE: OTHER _____	
TEXTURE: <u>C - M - F</u>		SED: SHL - SLT - SST - CGL - LST - DOL - COL _____	
GRAVEL: _____ % _____ %		MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____	
SAND: _____ % _____ %		IGN: GRN - RHY - BSL - GBR - TUF - BRC _____	
SILT: <u>10</u> % _____ %		TEXTURE: <u>C - M - F</u> NA	
CLAY: <u>30</u> % _____ %		GRAVEL: _____ % _____ %	
ORGANIC: <u>45</u> % _____ %		SAND: _____ % _____ %	
ROUNDNESS: _____ % _____ %		SILT: _____ % _____ %	
GRAVEL: FAC - STR - ANG - SUB - RND - NA		CLAY/LIME MUD _____ % _____ %	
SAND: ANG - SUB - <u>RND</u> - NA		GRAIN TYPE: QZ - FRG - FOS - BO - NA	
SORTING: WEL - <u>MOD</u> - POR - NA		MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA	
PLASTICITY: NON - LOW - <u>MOD</u> - HIGH - NA		STRENGTH: EWK - WVK - WEK - MOD STR - VST - EST	
MOISTURE: DRY - MST - WET - <u>SAT</u> - NA		UPPER CONTACT: SHP - GRD - DIF - SAM - NA	
CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA		SECONDARY POROSITY: VUG - FRC - BED - NA - OTHER _____	
GRAIN TYPE: <u>QZ</u> - FRG - FOS - BO - NA		WEATHERING: FRG - SLT - MOD - HIGH - CPL - NA	
MATRIX: <u>MSM</u> - GSM - CAL - OXD - <u>ARG</u> - SIL - NA		NATURAL FRACTURE SETS	
STRENGTH: <u>COH</u> / NOC - STF - FRM - <u>SFT</u> - LSE - NA		INTERVAL (FT/M BGS) #/FT-M DIP DIR FILL/SHAPE/ROUGH/SURFACE	
UPPER CONTACT: SHP - <u>GRD</u> - DIF - SME - NA		FILL: OPN - PRT - FUL	
BEDDING THICKNESS: _____ IN/CM		SHAPE: PLN - CUR - UND - STP - RR	
NUMBER: _____		ROUGH: SMH - MOD - RGH	
TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA		SURFACE: CLN - MIN - OXD - STN - WTH	
STRAT UNIT: _____		FILL: OPN - PRT - FUL	
NOTE LINE: _____		SHAPE: PLN - CUR - UND - STP - RR	
		ROUGH: SMH - MOD - RGH	
		SURFACE: CLN - MIN - OXD - STN - WTH	
		FILL: OPN - PRT - FUL	
		SHAPE: PLN - CUR - UND - STP - RR	
		ROUGH: SMH - MOD - RGH	
		SURFACE: CLN - MIN - OXD - STN - WTH	
NEXT SAMP/LITH No _____ DEPTH INTERVAL _____ NOT SAMPLED		FILL: OPN - PRT - FUL	
INTERVAL _____ TO _____ NO RECOVERY		SHAPE: PLN - CUR - UND - STP - RR	
		ROUGH: SMH - MOD - RGH	
		SURFACE: CLN - MIN - OXD - STN - WTH	
COMMENTS (1) _____			
(2) _____			

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-2</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>																										
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>																											
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA		FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																									
BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA		TYPE / LAB: UND - DS - CMP / MOB - GEO - CHM - _____																									
RQD: _____ % NA		TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____																									
SAMPLING INTERVAL No.: <u>2</u> LITHOLOGIC INTERVAL No.: <u>2</u> LITHOLOGIC INTERVAL: <u>6.5</u> TO <u>8.0</u> FT/M BGS		MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE: <u>P20</u> READING: <u>0</u> INSTRUMENT 2 TYPE: _____ READING: _____																									
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>Orange - grey</u> COLORATION: UN - STN <u>MOD</u> - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ <u>15</u> % _____ % SILT: _____ <u>40</u> % _____ % CLAY: _____ <u>45</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB - <u>RND</u> - NA _____ SORTING: WEL <u>MOD</u> - POR - NA _____ PLASTICITY: NON - LOW <u>MOD</u> - HIGH - NA _____ MOISTURE: <u>DRY</u> - MST - WET - SAT - NA _____ CEMENTATION: <u>NOX</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>GTZ</u> - FRG - FOS - BO - NA _____ MATRIX: <u>MSM</u> - CSM - CAL - OXD - <u>ARG</u> - SIL - NA _____ STRENGTH: <u>SOH</u> / <u>NOC</u> - STF - FRM - <u>SF7</u> - LSE - NA _____ UPPER CONTACT: SHP - <u>GRD</u> - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - NC - _____ MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - OGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BS - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/ME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BO - NA _____ MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: <u>HGH</u> - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____																									
NATURAL FRACTURE SETS																											
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> </tbody> </table>			INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH	-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																							
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-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																							
NEXT SAMPLING No. _____ DEPTH INTERVAL _____ NOT SAMPLED INTERVAL _____ TO _____ NO RECOVERY																											
COMMENTS (1) _____ _____ (2) _____																											


GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-2</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>
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SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY: _____ FT/M BGS _____ GPM LOSS ZONES _____ FT/M BGS _____ GPM
SAMPLING INTERVAL <u>8</u> TO <u>12</u> FT/M BGS	ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
RECOVERY <u>2</u> <u>4</u> FT/M NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
BLOW COUNT: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> N/CM NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
RQD: _____ % NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____

SAMPLING INTERVAL No.: <u>3</u> LITHOLOGIC INTERVAL No.: _____ LITHOLOGIC INTERVAL: <u>8</u> TO <u>12</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>PID</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING: _____
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OVERBURDEN	GRAPHIC LOG	BEDROCK		
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>H. gray</u> COLORATION: <u>LN</u> STN - MOT - VAR TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA SAND: ANG - SUB - <u>RND</u> - NA SORTING: WEL - <u>MOD</u> - POR - NA PLASTICITY: NON - <u>LOW</u> - MOD - HGH - NA MOISTURE: <u>DRY</u> - MST - WET - SAT - NA CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA MATRIX: <u>MSM</u> - CSM - CAL - OXD - <u>ARG</u> - SIL - NA STRENGTH: COH/NOC STF <u>FRM</u> - SFT - LSE - NA UPPER CONTACT: SHP - GRD - DIF - <u>SMB</u> - NA BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA		SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL IGN: GRN - RHY - BSL - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BIO - NA MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: CGL - FRC - BED - NA - OTHER POROSITY: HGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HGH - CPL - NA		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-


NEXT INTERVAL	SAMP/LITH No	DEPTH INTERVAL	NO SAMPLED
_____	_____	_____ TO _____	NO RECOVERY

COMMENTS (1) Collected groundwater sample at ~6' bgs.
Collected soil samples at 2.5'-3.0' and 6.0'-6.5' bgs.
 (2) _____

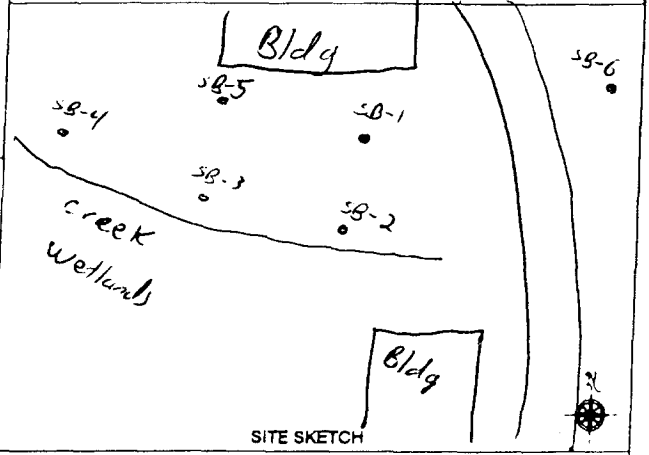
GEOLIS Location Identification Form

CLIENT: NEA - USACE
 PROJECT: Camp Hero Data Collection
 PROPERTY: Camp Hero, Montauk, NY
 SITE / AREA: Former Power Plant
 LOCATION ID: SB-3
 BEGIN DATE: 4/12/00
 END DATE: 4/12/00
 LOGGER: Brad W. Turner

QUALITY LEVEL: 1 - 2 - 3
 UNIT SYSTEM: ENGLISH - METRIC



LOCATION TYPE: BOR PIZ - WEL - PIT -
 TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M
 BOREHOLE COMPLETED IN: OVERBURDEN BEDROCK
 BEDROCK CONFIRMED: NOT DRL - SPS - AUG - COR - CUT
 TOTAL DEPTH: _____ FT/M BGS
 DEPTH TO BEDROCK: unknown FT/M BGS



BOREHOLE DIAMETER No.1: 1 IN/CM
 INTERVAL: 0 TO 8 FT/M BGS
 METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: Geoprobe
 FLUID: AIR - WATER - MUD - FOAM - NONE

SURFACE ELEVATION: _____ ESTIMATED SURVEYED
 N COORDINATE: _____
 E COORDINATE: _____
 MEASURING POINT ELEVATION: _____
 WELL PERMIT No.: _____

BOREHOLE DIAMETER No.2 _____ IN/CM
 INTERVAL: _____ TO _____ FT/M BGS
 METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: _____
 FLUID: AIR - WATER - MUD - FOAM - NONE

ALIAS ID/WELL RECORDATION No.: _____
 HOLE ABANDONED? YES - NO (IF YES DESCRIBE IN COMMENTS)
 WELL INSTALLED? YES - NO
 WELL CLUSTER? YES - NO No. OF WELLS: _____
 WELL NEST? YES - NO No. OF WELLS: _____
 PUMPS INSTALLED? YES NO

BOREHOLE DIAMETER No.3 _____ IN/CM
 INTERVAL: _____ TO _____ FT/M BGS
 METHOD: HSA SSA BKA JET
 DRT RRT COR DAW
 CBT DCD DHH SON
 OTHER: _____
 FLUID: AIR - WATER - MUD - FOAM - NONE

PURGE: _____ TYPE _____ DEPTH _____
 SAMPLE: _____



DRILLING/EXCAVATING CO: Aquifer Drilling and Testing
 DRILLER/OPERATOR: Lloyd
 EQUIPMENT/RIG: Truck mounted Geoprobe

BOREHOLE TESTING
 BOREHOLE GEOPHYSICS? YES - NO
 SLUG TESTS? YES - NO
 PACKER TESTS? YES - NO
 PUMPING TESTS? YES - NO

COMMENTS: _____

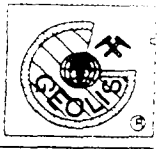
DATA ENTRY BY: _____ QC REVIEW BY: _____ QA REVIEW BY: _____
 DATE ENTERED: _____ REVIEW DATE: _____ REVIEW DATE: _____
 QC REPORTS PRINTED? YES - NO APPROVED WITH - WITHOUT REVISIONS APPROVED WITH - WITHOUT REVISIONS

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-3</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>			
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____			
SAMPLING INTERVAL <u>0</u> TO <u>4</u> FT/M BGS RECOVERY <u>3</u> <u>4</u> FT/M NA BLOW COUNT: [] [] [] [] / [] N/CM NA RQD: _____ % NA	TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____			
SAMPLING INTERVAL No: <u>1</u> LITHOLOGIC INTERVAL No: <u>1</u> LITHOLOGIC INTERVAL: <u>0</u> TO <u>0.5</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL NATURAL - <u>(FILE)</u> - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>RTO</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____		
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR MUN - GSA <u>Black</u> COLORATION UNF - STN - MOT - VAR _____ TEXTURE <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB - RND - NA _____ SORTING WEL - MOD - POR - NA _____ PLASTICITY NON - LOW - MOD - HGH - NA _____ MOISTURE DRY - MST - WET - SAT - NA _____ CEMENTATION: NON - SLT - MOD - WEL - NA _____ GRAIN TYPE QTZ - FRG - FOS - BO - NA _____ MATRIX MSM - CSM - CAL - OXD - ARG - SIL - NA _____ STRENGTH COH/NOC STF - FRM - SFT - LSE - NA _____ UPPER CONTACT SHP - GRD - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG 	BEDROCK SECONDARY TYPE NA - BED - VEN - MIX SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/IME MUD: _____ % _____ % GRAIN TYPE QTZ - FRG - FOS - BO - NA _____ MATRIX CAL - M - C - OXD - ARG - SIL - ORG - NA _____ STRENGTH EWK - WVK - WEK - MOD STR - VS - EST _____ UPPER CONTACT SHP - GRD - DIF - SAM - NA _____ SECONDARY VUG - FRG - BED - NA - OTHER _____ POROSITY HGH - MOD - LOW _____ WEATHERING FRG - SLT - MOD - HGH - CPL - NA _____		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
STRAT UNIT: [] NOTE LINE: []				
NEXT INTERVAL	SAMP/LTH No	DEPTH INTERVAL	NOT SAMPLED	
_____ / _____	_____	_____ TO _____	NO RECOVERY	
COMMENTS (1) <u>Coal layer</u> (2) _____				

GEOLIS Borehole Logging Form

COMPANY Roy F. Weston, Inc LOCATION ID _____
 CLIENT NEA - USACE DATE 4/12/00
 PROJECT Camp Hero Data Collection LOGGER Brad W. Turner
 SITE / AREA Camp Hero / Former Power Plant SIGNATURE [Signature]



SAMPLING METHOD SPS - OSS - STB - CTS - CLT - COP - NS FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM
 OTHER Geoprobe ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
 SAMPLING INTERVAL _____ TO _____ FT/M BGS
 RECOVERY _____ FT/M NA _____
 BLOW COUNT: [] [] [] [] / [] N/CM NA _____
 RQD: _____ % NA _____

SAMPLING INTERVAL No. 1 LITHOLOGY ARCHIVED? MATERIAL NATURAL - U - UNCERTAIN
 LITHOLOGIC INTERVAL No. 2 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____
 LITHOLOGIC INTERVAL: 0.5 TO 4 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE RID READING 0
 INSTRUMENT 2 TYPE _____ READING: _____


OVERBURDEN		GRAPHIC LOG	BEDROCK	
SECONDARY TYPE	NA - BED - CLS - MIX		SECONDARY TYPE	NA - BED - VEN - MIX
COLOR	MUN - GSA <u>orange - gray</u>		COLOR	MUN - GSA _____
COLORATION	UN - STN - MOT - VAR _____		ROCK TYPE	OTHER _____
TEXTURE	<u>C - M - F</u>		SED	SHL - SLT - SST - CGL - LST - DOL - COL
GRAVEL	_____ % _____ %		MET	SLA - PHY - SHS - GNS - HRN - QZT - MBL
SAND	_____ % <u>50</u> % _____ %		GN	GRN - RHY - BSL - GBR - TUF - BRC
SILT	_____ % <u>30</u> % _____ %		TEXTURE	<u>C - M - F</u> NA _____ %
CLAY	_____ % <u>20</u> % _____ %		GRAVEL	_____ % _____ %
ORGANIC	_____ % _____ %		SAND	_____ % _____ %
ROUNDNESS			SILT	_____ % _____ %
GRAVEL	FAC - STR - ANG - SUB - RND - NA _____		CLAY/LIME MUD	_____ % _____ %
SAND	ANG - SUB - <u>ANG</u> - NA _____		GRAIN TYPE	QZT - FRG - FOS - BO - NA _____
SORTING	WEL <u>MOD</u> - POR - NA _____		MATRIX	CAL - MO - OXD - ARG - SIL - ORG - NA _____
PLASTICITY	NON - <u>LOW</u> - MOD - HGH - NA _____		STRENGTH	EWK - VWK - WEK - MOD STR - VST - EST _____
MOISTURE	<u>DRY</u> - MST - WET - SAT - NA _____		UPPER CONTACT	SHP - GRD - DIF - SAM - NA _____
CEMENTATION	<u>NON</u> - SLT - MOD - WEL - NA _____		SECONDARY POROSITY	VUG - FOC - BED - NA - OTHER _____
GRAIN TYPE	<u>QZT</u> - FRG - FOS - BO - NA _____		WEATHERING	FRS - SLT - MOD - HGH - CPL - NA _____
MATRIX	MSM - <u>CSM</u> - CAL - OXD - <u>ARG</u> - SIL - NA _____			
STRENGTH	<u>COH</u> - NOC - STF - FRM - <u>SF</u> - LSE - NA _____			
UPPER CONTACT	<u>SHP</u> - GRD - DIF - SME - NA _____			

NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT


NEXT SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED _____
 INTERVAL 1 TO _____ NO RECOVERY _____

COMMENTS (1) 1" layer of part at 4'
 (2) _____


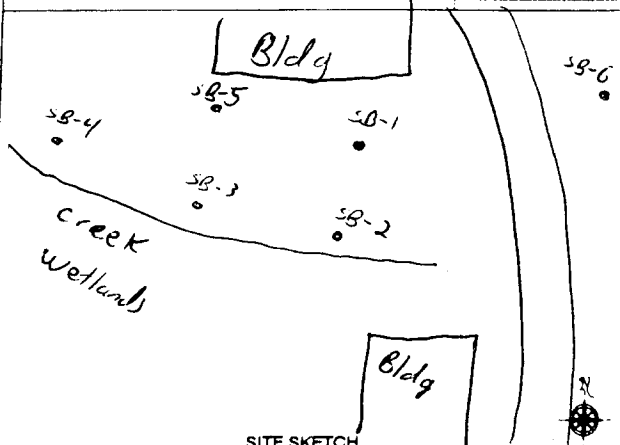
GEOLIS[®] Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Base Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>			
SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____			
SAMPLING INTERVAL <u>4</u> TO <u>8</u> FT/M BGS RECOVERY <u>4</u> / <u>4</u> FT/M NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____ / _____			
BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA ROD _____ % NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____ / _____			
SAMPLING INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL <u>4</u> TO <u>6.25</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>PJO</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING: _____		
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>DK gray</u> COLORATION: <u>UN</u> STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: <u>40</u> % _____ % CLAY: <u>40</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB <u>RND</u> - NA _____ SORTING: WEL - <u>MOZ</u> - POR - NA _____ PLASTICITY: NON - LOW - <u>MOZ</u> - HIGH - NA _____ MOISTURE: DRY - MST - WET <u>SAT</u> - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>QZ</u> - FRG - FOS - BIO - NA _____ MATRIX: <u>MSM</u> - CSM - CAL - OXD - ARG <u>SL</u> - NA _____ STRENGTH: <u>COM</u> / NOC - STF - FRM - SFT - <u>LS</u> - NA _____ UPPER CONTACT: SHP - GRD - DIF - <u>SME</u> - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ BED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/ME MUD: _____ % _____ % GRAIN TYPE: QZ - FRG - FOS - BIO - NA _____ MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - WVK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HIGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HIGH - CPL - NA _____		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT-
NEXT INTERVAL _____ / _____ TO _____ NO RECOVERY				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RQH SURFACE: CLN - MIN - OXD - STN - WT-
COMMENTS (1) _____ _____ (2) _____				


GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																									
																										
SAMPLING METHOD SPS · OSS · STB · CTS · CUT · COR · NS OTHER <u>Geoprobe</u>	FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																									
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: [] [] [] [] / [] N/CM NA RQD _____ % NA	TYPE / LAB / UND · DS · CMP / MOB · GEO · CHM · _____ TYPE / LAB / UND · DS · CMP / MOB · GEO · CHM · _____																									
SAMPLING INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>6.25</u> TO <u>8</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY MATERIAL <u>NATURAL</u> · FILL · UNCERTAIN OBSERVED: STN · SHN · ODR · PRD · NA · OTHER _____ INSTRUMENT 1 TYPE <u>PTD</u> READING <u>C</u> INSTRUMENT 2 TYPE _____ READING _____																									
OVERBURDEN SECONDARY TYPE: NA · BED · CLS · MIX _____ SECONDARY _____ COLOR MUN · GSA <u>Orange - Grey</u> COLORATION: <u>UNI</u> · STN · MOT · VAR _____ TEXTURE <u>C · M · F</u> GRAVEL: _____ % _____ % SAND _____ <u>70</u> % _____ % SILT _____ <u>20</u> % _____ % CLAY _____ <u>10</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS GRAVEL FAC · STR · ANG · SUB · RND · NA _____ SAND ANG · SUB · <u>NO</u> · NA _____ SORTING WEL · <u>MOD</u> · POR · NA _____ PLASTICITY <u>NON</u> · LOW · MOD · HGH · NA _____ MOISTURE DRY · MST · WET · <u>SAT</u> · NA _____ CEMENTATION NON · <u>SL</u> · MOD · WEL · NA _____ GRAIN TYPE <u>QTZ</u> · FRG · FOS · BIO · NA _____ MATRIX MSM · <u>CSM</u> · CAL · OXD · ARG <u>S</u> · NA _____ STRENGTH <u>COH</u> · NOC · STF · <u>SPM</u> · SFT · LSE · NA _____ UPPER CONTACT SHP · GRD · DIF · SME · NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD · RPL · HOR · NC · _____ MAS · LAM · GRU · GRD · NA _____	BEDROCK SECONDARY TYPE NA · BED · VEN · MIX _____ SECONDARY _____ COLOR MUN · GSA _____ ROCK TYPE: OTHER _____ SED: SHL · SLT · SST · CGL · LST · DOL · COL _____ MET: SLA · PHY · SHS · GNS · HRN · QZT · MBL _____ GN: GRN · RHY · BSL · GBR · TUF · BRC _____ TEXTURE <u>C · M · F</u> NA GRAVEL: _____ % _____ % SAND _____ % _____ % SILT _____ % _____ % CLAY/ME MUD _____ % _____ % GRAIN TYPE QTZ · FRG · FOS · BIO · NA _____ MATRIX CAL · MC · OXD · ARG · SIL · ORG · NA _____ STRENGTH EWK · VWK · WEK · MOD STR · VST · EST _____ UPPER CONTACT SHP · GRD · DIF · SAM · NA _____ SECONDARY VLG · FRC · BED · NA · OTHER _____ POROSITY HGH · MOD · LOW _____ WEATHERING FRS · SLT · MOD · HGH · CPL · NA _____																									
NATURAL FRACTURE SETS																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT</td> </tr> <tr> <td style="text-align: center;">-</td> <td></td> <td></td> <td></td> <td>FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT</td> </tr> </tbody> </table>		INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	-				FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT	-				FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT	-				FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT	-				FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT
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-				FILL: OPN · PRT · FUL SHAPE: PLN · CUR · UND · STP · FR ROUGH: SMH · MOD · RQH SURFACE: CLN · MIN · OXD · STN · WT																						
NEXT SAMP/LITH No. _____ DEPTH INTERVAL _____ NO. SAMPLED _____ INTERVAL _____ TO _____ NO RECOVERY _____																										
COMMENTS: (1) <u>Cementation increasing with depth.</u> <u>Groundwater sample collected at 7' bgs.</u> (2) <u>Soil sample collected at 4.5-5.0'</u>																										

GEOLIS Location Identification Form


<p>CLIENT: <u>NEA - USACE</u></p> <p>PROJECT: <u>Camp Hero Data Collection</u></p> <p>PROPERTY: <u>Camp Hero, Montauk, NY</u></p> <p>SITE / AREA: <u>Former Power Plant</u></p> <p>LOCATION ID: <u>SB-4</u></p> <p>BEGIN DATE: <u>4/12/00</u></p> <p>END DATE: <u>4/12/00</u></p> <p>LOGGER: <u>Brad W. Turner</u></p>	<p>QUALITY LEVEL: 1 - 2 - 3</p> <p>UNIT SYSTEM: <u>ENGLISH</u> - METRIC</p> 				
<p>LOCATION TYPE: <input checked="" type="radio"/> BOR - <input type="radio"/> PIZ - <input type="radio"/> WEL - <input type="radio"/> PIT - _____</p> <p>TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M</p> <p>BOREHOLE COMPLETED IN: <input checked="" type="radio"/> OVERBURDEN - <input type="radio"/> BEDROCK</p> <p>BEDROCK CONFIRMED: <input checked="" type="radio"/> NOT - <input type="radio"/> DRL - <input type="radio"/> SPS - <input type="radio"/> AUG - <input type="radio"/> COR - <input type="radio"/> CUT</p> <p>TOTAL DEPTH: _____ FT/M BGS</p> <p>DEPTH TO BEDROCK: <u>unknown</u> FT/M BGS</p> <p>BOREHOLE DIAMETER No.1: <u>1</u> IN/CM</p> <p>INTERVAL: <u>0</u> TO <u>8</u> FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: <u>Geoprobe</u></p> <p>FLUID: AIR - WATER - MUD - FOAM - <input checked="" type="radio"/> NONE</p>	 <p style="text-align: center;">SITE SKETCH</p>				
<p>BOREHOLE DIAMETER No.2: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>SURFACE ELEVATION: _____ ESTIMATED SURVEYED</p> <p>N. COORDINATE: _____</p> <p>E. COORDINATE: _____</p> <p>MEASURING POINT ELEVATION: _____</p> <p>WELL PERMIT No.: _____</p> <p>ALIAS ID/WELL RECORDATION No.: _____</p> <p>HOLE ABANDONED? <input checked="" type="radio"/> YES - <input type="radio"/> NO (IF YES DESCRIBE IN COMMENTS)</p> <p>WELL INSTALLED? YES - <input checked="" type="radio"/> NO</p> <p>WELL CLUSTER? YES - <input checked="" type="radio"/> NO No. OF WELLS: _____</p> <p>WELL NEST? YES - <input checked="" type="radio"/> NO No. OF WELLS: _____</p> <p>PUMPS INSTALLED? YES <input checked="" type="radio"/> NO</p> <table style="width:100%;"> <tr> <td style="width:50%;">PURGE: _____</td> <td style="width:50%;">DEPTH: _____</td> </tr> <tr> <td>SAMPLE: _____</td> <td></td> </tr> </table>	PURGE: _____	DEPTH: _____	SAMPLE: _____	
PURGE: _____	DEPTH: _____				
SAMPLE: _____					
<p>BOREHOLE DIAMETER No.3: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>BOREHOLE TESTING</p> <p>BOREHOLE GEOPHYSICS? YES - <input checked="" type="radio"/> NO</p> <p>SLUG TESTS? YES - <input checked="" type="radio"/> NO</p> <p>PACKER TESTS? YES - <input checked="" type="radio"/> NO</p> <p>PUMPING TESTS? YES - <input checked="" type="radio"/> NO</p>				
<p>DRILLING/EXCAVATING CO: <u>Aquifer Drilling and Testing</u></p> <p>DRILLER/OPERATOR: <u>Lloyd</u></p> <p>EQUIPMENT/RIG: <u>Truck mounted Geoprobe</u></p> <p>COMMENTS: _____</p>					
<p>DATA ENTRY BY: _____</p> <p>DATE ENTERED: _____</p> <p>QC REPORTS PRINTED? YES - <input type="radio"/> NO</p>	<p>QC REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>	<p>QA REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>			

GEOLIS₃ Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u>		LOCATION ID <u>SB-4</u>									
CLIENT <u>NEA - USACE</u>		DATE <u>4/12/00</u>									
PROJECT <u>Camp Hero Data Collection</u>		LOGGER <u>Brad W. Turner</u>									
SITE / AREA <u>Camp Hero / Former Power Plant</u>		SIGNATURE <u>[Signature]</u>									
SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS		FLUID ENTRY/ LOSS ZONES		FT/M BGS _____ GPM _____							
OTHER <u>Geoprobe</u>		ANALYTICAL SAMPLE ID		FT/M BGS _____ GPM _____							
SAMPLING INTERVAL <u>0</u> TO <u>4</u> FT/M BGS		INTERVAL (FT/M BGS)		_____							
RECOVERY <u>4</u> <u>4</u> FT/M NA		TYPE / LAB		UND - DS - CMP / MOB - GEO - CHM - _____							
BLOW COUNT: [] [] [] [] [] / [] N/CM NA		TYPE / LAB		UND - DIS - CMP / MOB - GEO - CHM - _____							
RQD _____ % NA		TYPE / LAB		UND - DIS - CMP / MOB - GEO - CHM - _____							
SAMPLING INTERVAL No. <u>1</u>		LITHOLOGY ARCHIVED? YES - NO		MATERIAL: NATURAL - <u>FILL</u> - UNCERTAIN							
LITHOLOGIC INTERVAL No. <u>1</u>		NO RECOVERY		OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____							
LITHOLOGIC INTERVAL: <u>0</u> TO <u>0.5</u> FT/M BGS		INSTRUMENT 1 TYPE <u>R10</u> READING <u>0</u>		INSTRUMENT 2 TYPE _____ READING _____							
OVERBURDEN		GRAPHIC LOG	BEDROCK								
SECONDARY TYPE: NA - BED - CLS - MIX <u>SECONDARY</u>			SECONDARY TYPE: NA - BED - VEN - MIX <u>SECONDARY</u>								
COLOR: MUN - GSA <u>Black</u>		COLOR: MUN - GSA _____									
COLORATION: UNI - STN - MOT - VAR _____		ROCK TYPE: OTHER _____									
TEXTURE: <u>C - M - F</u>		SED: SHL - SLT - SST - CGL - LST - DOL - COL									
GRAVEL: _____ % _____ %		MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL									
SAND: _____ % _____ %		GN: GRN - RHY - BS - GBR - TUF - BRC									
SILT: _____ % _____ %		TEXTURE: <u>C - M - F</u> NA									
CLAY: _____ % _____ %		GRAVEL: _____ % _____ %									
ORGANIC: _____ % _____ %		SAND: _____ % _____ %									
ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA		SILT: _____ % _____ %									
SAND: ANG - SUB - RND - NA		CLAY/LIME MUD: _____ % _____ %									
SORTING: WEL - MOD - POR - NA		GRAN TYPE: QTZ - FRG - FOS - BIO - NA									
PLASTICITY: NON - LOW - MOD - HGH - NA		MATRIX: CAL - M C - OXD - ARG - SIL - ORG - NA									
MOISTURE: DRY - MST - WET - SAT - NA		STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST									
CEMENTATION: NON - SLT - MOD - WEL - NA		UPPER CONTACT: SHP - GRD - DIF - SAM - NA									
GRAIN TYPE: QTZ - FRG - FOS - BIO - NA		SECONDARY: VUG - FRC - BED - NA - OTHER									
MATRIX: MSM - CSM - CAL - OXD - ARG - SIL - NA		POROSITY: HGH - MOD - LOW									
STRENGTH: COH/NOC STF - FRM - SFT - LSE - NA		WEATHERING: FRS - SLT - MOD - HGH - CPL - NA									
UPPER CONTACT: SHP - GRD - DIF - SME - NA		NATURAL FRACTURE SETS									
BEDDING THICKNESS: _____ IN/CM		INTERVAL (FT/M BGS)		#/FT-M		DIP		DIR		FILL/SHAPE/ROUGH/SURFACE	
NUMBER: _____		---		---		---		---		FILL: OPN - PRT - FUL	
TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA		---		---		---		---		SHAPE: PLN - CUR - UND - STP - RR	
STRAT UNIT: []		---		---		---		---		ROUGH: SMH - MOD - RGH	
NOTE LINE: []		---		---		---		---		SURFACE: CLN - MIN - OXD - STN - WTH	
NEXT INTERVAL: <u>1</u> TO _____		---		---		---		---		FILL: OPN - PRT - FUL	
NO RECOVERY		---		---		---		---		SHAPE: PLN - CUR - UND - STP - RR	
		---		---		---		---		ROUGH: SMH - MOD - RGH	
		---		---		---		---		SURFACE: CLN - MIN - OXD - STN - WTH	
COMMENTS (1) <u>Coal layer</u>											
COMMENTS (2) _____											

GEOLOGIC Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-4</u> DATE <u>4/12/00</u> LOGGER <u>Riad W. Turner</u> SIGNATURE <u>[Signature]</u>
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SAMPLING METHOD SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM _____ FT/M BGS _____ GPM
SAMPLING INTERVAL _____ TO _____ FT/M BGS	ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
RECOVERY _____ FT/M NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
BLOW COUNT: [] [] [] [] / [] N/CM NA	TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____
RQD _____ % NA	TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____

SAMPLING INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>0.5</u> TO <u>1</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL NATURAL - <u>FIL</u> - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>PID</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____
--	---	--

OVERBURDEN	GRAPHIC LOG	BEDROCK
SECONDARY TYPE: NA - BED - CLS - MIX _____ SECONDARY COLOR MUN - GSA <u>Orange</u> COLORATION: <u>LN</u> - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - <u>END</u> - NA _____ SAND: ANG - SUB - <u>END</u> - NA _____ SORTING: WEL - <u>MOD</u> - POR - NA _____ PLASTICITY: <u>NON</u> - LOW - MOD - HGH - NA _____ MOISTURE: <u>DRY</u> - MST - WET - SAT - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA _____ MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA _____ STRENGTH: <u>COH</u> / NOC - STF - FRM - SFT - <u>USE</u> - NA _____ UPPER CONTACT: <u>SHP</u> - GRD - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA _____	 GRAPHIC LOG 	SECONDARY TYPE NA - BED - VEN - MIX _____ SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ SED SHL - SLT - SST - CGL - LST - DOL - COL _____ MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____ GRN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA _____ GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY / LIME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BIO - NA _____ MATRIX: CAL - M - O - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HGH - MOD - LOW _____ WEATHERING: FRG - SLT - MOD - HGH - CPL - NA _____

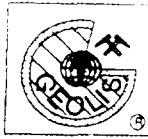
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

NEXT INTERVAL	SAMP/LITH No. <u>1</u>	DEPTH INTERVAL _____ TO _____	NOT SAMPLED _____ NO RECOVERY _____
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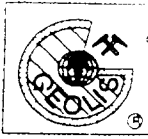
COMMENTS (1) _____

(2) _____


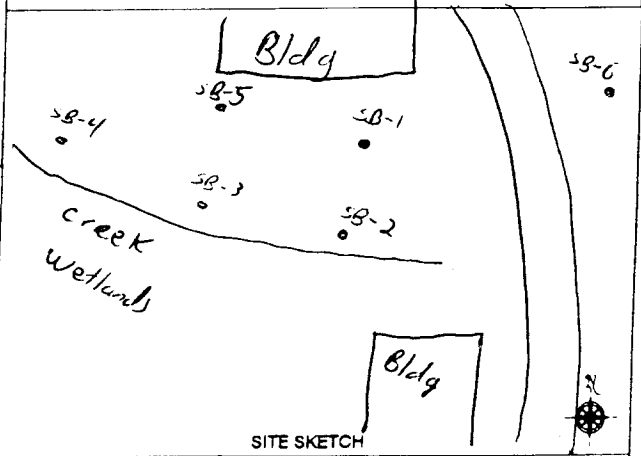
GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																															
SAMPLING METHOD SPS - OSS - STB - QTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																														
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: [] [] [] [] / [] N/CM NA RQD _____ % NA		TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____																														
SAMPLING INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL No. <u>3</u> LITHOLOGIC INTERVAL: <u>1</u> TO <u>2.5</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE <u>RID</u> READING <u>C</u> INSTRUMENT 2 TYPE _____ READING _____																														
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR MUN - GSA <u>DK grey</u> COLORATION: <u>LN</u> - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ <u>25</u> % _____ % SILT: _____ <u>25</u> % _____ % CLAY: _____ <u>30</u> % _____ % ORGANIC: _____ <u>20</u> % _____ % ROUNDNESS GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB <u>RND</u> - NA _____ SORTING: WEL <u>MOD</u> - POR - NA _____ PLASTICITY: <u>NON</u> - LOW - MOD - HGH - NA _____ MOISTURE: <u>DRY</u> - MST - WET - SAT - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BO - NA _____ MATRIX: <u>MSM</u> - CSM - CAL - OXD - <u>ARG</u> - SIL - NA _____ STRENGTH: <u>COH</u> / NOC - STF - FRM - <u>SFT</u> - LSE - NA _____ UPPER CONTACT: <u>SH3</u> - GRD - DIF - SME - NA _____ BEDDING THICKNESS _____ IN/CM NUMBER: _____ TYPE: XBO - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA _____	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BS - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY / IME MUD: _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BO - NA _____ MATRIX: CAL - MIC - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____																															
STRAT UNIT: _____ NOTE LINE: _____		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5">NATURAL FRACTURE SETS</th> </tr> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIP</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> </tbody> </table>	NATURAL FRACTURE SETS					INTERVAL (FT/M BGS)	#/FT-M	DIP	DIP	FILL/SHAPE/ROUGH/SURFACE	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT
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NEXT INTERVAL: _____ / _____ TO _____ NOT SAMPLED NC RECOVERY																																
COMMENTS (1) _____ (2) _____																																

GEOLIS Borehole Logging Form


COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																										
SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																									
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA RQD _____ % NA		TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____ TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____																									
SAMPLING INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL No. <u>3</u> LITHOLOGIC INTERVAL: <u>2.5</u> TO <u>4</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE <u>RID</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____																									
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX _____ SECONDARY COLOR MUN - GSA <u>Orange</u> COLORATION: <u>UN</u> - STN - MOT - VAR _____ TEXTURE <u>C - M - F</u> GRAVEL _____ % _____ % SAND _____ <u>90</u> % _____ % SILT _____ <u>10</u> % _____ % CLAY _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND ANG - SUB - <u>RND</u> - NA _____ SORTING <u>WEL</u> - MOD - POR - NA _____ PLASTICITY <u>NON</u> - LOW - MOD - HGH - NA _____ MOISTURE <u>DRY</u> - MST - WET - SAT - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE <u>QTZ</u> - FRG - FOS - BIO - NA _____ MATRIX MSM - <u>CSM</u> - CAL - OXD - ARG - <u>6</u> - NA _____ STRENGTH <u>COH</u> / <u>NOC</u> - STF - FRM - <u>SFT</u> - LSE - NA _____ UPPER CONTACT: <u>SHP</u> - GRD - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____ STRAT UNIT: _____ NOTE LINE: _____	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX _____ SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL _____ MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____ GN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE <u>C - M - F</u> NA GRAVEL _____ % _____ % SAND _____ % _____ % SILT _____ % _____ % CLAY / MUD _____ % _____ % GRAIN TYPE QTZ - FRG - FOS - BIO - NA _____ MATRIX CAL - M - C - OXD - ARG - SIL - ORG - NA _____ STRENGTH EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY VUG - FRC - BED - NA - OTHER _____ POROSITY HGH - MOD - LOW _____ WEATHERING FRS - SLT - MOD - HGH - CPL - NA _____																										
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NEXT SAMP/LITH No _____ DEPTH INTERVAL _____ NOT SAMPLED INTERVAL _____ TO _____ NO RECOVERY	COMMENTS (1) _____ (2) _____																										

GEOLIS[®] Location Identification Form

<p>CLIENT: <u>NEA - USACE</u></p> <p>PROJECT: <u>Camp Hero Data Collection</u></p> <p>PROPERTY: <u>Camp Hero, Montauk, NY</u></p> <p>SITE / AREA: <u>Former Power Plant</u></p> <p>LOCATION ID: <u>SB-5</u></p> <p>BEGIN DATE: <u>4/12/00</u></p> <p>END DATE: <u>4/12/00</u></p> <p>LOGGER: <u>Brad W. Turner</u></p>	<p>QUALITY LEVEL: 1 - 2 - 3</p> <p>UNIT SYSTEM: <u>ENGLISH</u> - METRIC</p> 						
<p>LOCATION TYPE: <input checked="" type="checkbox"/> BOR - <input type="checkbox"/> PIZ - <input type="checkbox"/> WEL - <input type="checkbox"/> PIT - _____</p> <p>TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M</p> <p>BOREHOLE COMPLETED IN: <input checked="" type="checkbox"/> OVERBURDEN <input type="checkbox"/> BEDROCK</p> <p>BEDROCK CONFIRMED: <input checked="" type="checkbox"/> NOT <input type="checkbox"/> DRL - <input type="checkbox"/> SPS - <input type="checkbox"/> AUG - <input type="checkbox"/> COR - <input type="checkbox"/> CUT</p> <p>TOTAL DEPTH: _____ FT/M BGS</p> <p>DEPTH TO BEDROCK: <u>unknown</u> FT/M BGS</p>	 <p style="text-align: center;">SITE SKETCH</p>						
<p>BOREHOLE DIAMETER No.1: <u>1</u> IN/CM</p> <p>INTERVAL: <u>0</u> TO <u>12</u> FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: <u>Geoprobe</u></p> <p>FLUID: AIR - WATER - MUD - FOAM - <input checked="" type="checkbox"/> NONE</p>	<p>SURFACE ELEVATION: _____ ESTIMATED SURVEYED</p> <p>N. COORDINATE: _____</p> <p>E. COORDINATE: _____</p> <p>MEASURING POINT ELEVATION: _____</p> <p>WELL PERMIT No.: _____</p> <p>ALIAS ID/WELL RECORDATION No.: _____</p>						
<p>BOREHOLE DIAMETER No.2: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>HOLE ABANDONED? <input checked="" type="checkbox"/> YES - <input type="checkbox"/> NO (IF YES DESCRIBE IN COMMENTS)</p> <p>WELL INSTALLED? YES - <input checked="" type="checkbox"/> NO</p> <p>WELL CLUSTER? YES - <input checked="" type="checkbox"/> NO No. OF WELLS: _____</p> <p>WELL NEST? YES - <input checked="" type="checkbox"/> NO No. OF WELLS: _____</p> <p>PUMPS INSTALLED? YES <input checked="" type="checkbox"/> NO</p> <table border="0" style="width:100%;"> <tr> <td style="width:50%;">PURGE</td> <td style="width:50%;">TYPE</td> <td style="width:50%;">DEPTH</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table> <p>SAMPLE: _____</p>	PURGE	TYPE	DEPTH	_____	_____	_____
PURGE	TYPE	DEPTH					
_____	_____	_____					
<p>BOREHOLE DIAMETER No.3: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>BOREHOLE TESTING</p> <p>BOREHOLE GEOPHYSICS? YES - <input checked="" type="checkbox"/> NO</p> <p>SLUG TESTS? YES - <input checked="" type="checkbox"/> NO</p> <p>PACKER TESTS? YES - <input checked="" type="checkbox"/> NO</p> <p>PUMPING TESTS? YES - <input checked="" type="checkbox"/> NO</p>						
<p>DRILLING/EXCAVATING CO: <u>Aquifer Drilling and Testing</u></p> <p>DRILLER/OPERATOR: <u>Lloyd</u></p> <p>EQUIPMENT/RIG: <u>Truck mounted Geoprobe</u></p>	<p>COMMENTS: <u>No analytical samples collected from SB-5</u></p>						
<p>DATA ENTRY BY: _____</p> <p>DATE ENTERED: _____</p> <p>QC REPORTS PRINTED? YES - NO</p>	<p>QC REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>	<p>QA REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>					

GEOLIS Borehole Logging Form

COMPANY Roy F. Weston, Inc LOCATION ID SB-5
 CLIENT NEA - USACE DATE 4/12/00
 PROJECT Camp Hero Data Collection LOGGER Brad W. Turner
 SITE / AREA Camp Hero / Former Base Plant SIGNATURE [Signature]



SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS
 OTHER Geoprobe FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM
 SAMPLING INTERVAL 0 TO 4 FT/M BGS ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
 RECOVERY 2.75 4 FT/M NA
 BLOW COUNT: [] [] [] [] [] N/CM NA TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM -
 RQD _____ % NA TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM -

SAMPLING INTERVAL No. 1 LITHOLOGY ARCHIVED? NATURAL - FIL - UNCERTAIN
 LITHOLOGIC INTERVAL No. 1 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____
 LITHOLOGIC INTERVAL: 0 TO 2.5 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE: PTD READING: 0
 INSTRUMENT 2 TYPE: _____ READING: _____

OVERBURDEN

SECONDARY TYPE: NA - BED - CLS - MIX **SECONDARY**

COLOR: MUN - GSA Orange

COLORATION: UN - STN - MOT - VAR _____

TEXTURE: C - M - F

GRAVEL: _____ % _____ %

SAND: _____ % 80 % _____ %

SILT: _____ % 10 % _____ %

CLAY: _____ % _____ %

ORGANIC: _____ % _____ %

ROUNDNESS:

GRAVEL: FAC - STR - ANG - SUB - RND - NA _____

SAND: ANG - SUB - RND - NA _____

SORTING: WEL - MOD - POR - NA _____

PLASTICITY: NON - LOW - MOD - HGH - NA _____

MOISTURE: DRY - MST - WET - SAT - NA _____

CEMENTATION: NON - SLT - MOD - WEL - NA _____

GRAIN TYPE: STZ - FRG - FOS - BIO - NA _____

MATRIX: MSM - CSM - CAL - OXD - ARG - S - NA _____

STRENGTH: COM - NOC - STF - FRM - SFT - LSE - NA _____

UPPER CONTACT: SHP - GRD - DIF - SME - NA _____

BEDDING THICKNESS _____ IN/CM

NUMBER: _____

TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA _____

BEDROCK

SECONDARY TYPE: NA - BED - VEN - MIX **SECONDARY**

COLOR: MUN - GSA _____

ROCK TYPE: OTHER _____

SED: SHL - SLT - SST - CGL - LST - DOL - COL _____

MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____

GN: GRN - RHY - BSL - GBR - TUF - BRC _____

TEXTURE: C - M - F NA

GRAVEL: _____ % _____ %

SAND: _____ % _____ %

SILT: _____ % _____ %

CLAY/LIME MUD: _____ % _____ %

GRAN TYPE: QZT - FRG - FOS - BIO - NA _____

MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA _____

STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____

UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____

SECONDARY: VCG - FRG - BED - NA - OTHER _____

POROSITY: HGH - MOD - LOW _____

WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____

NATURAL FRACTURE SETS

INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
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---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

NEXT SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED _____

INTERVAL 1 TO _____ NO RECOVERY _____

COMMENTS: (1) _____

(2) _____

GEOLIS Borehole Logging Form

COMPANY: Roy F. Weston, Inc LOCATION ID: _____
 CLIENT: NEA - USACE DATE: 4/12/00
 PROJECT: Camp Hero Data Collection LOGGER: Brad W. Turner
 SITE / AREA: Camp Hero / Former Power Plant SIGNATURE: _____



SAMPLING METHOD: SPS - CSS - STB - CTS - CUT - COR - NS
 OTHER: Geoprobe FLUID ENTRY/LOSS ZONES: _____ FT/M BGS _____ GPM
 SAMPLING INTERVAL: 4 TO 8 FT/M BGS ANALYTICAL SAMPLE ID: _____ INTERVAL (FT/M BGS): _____
 RECOVERY: 4 / 4 FT/M NA TYPE / LAB: _____ UND - DS - CMP / MOB - GEO - CHM - _____
 BLOW COUNT: _____ / _____ N/CM NA TYPE / LAB: _____ UND - DIS - CMP / MOB - GEO - CHM - _____
 RQD: _____ % NA

SAMPLING INTERVAL No.: 2 LITHOLOGY ARCHIVED? _____ MATERIAL: NATURAL - FILL - UNCERTAIN
 LITHOLOGIC INTERVAL No.: 1 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____
 LITHOLOGIC INTERVAL: 4 TO 6 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE: PID READING: 0
 INSTRUMENT 2 TYPE: _____ READING: _____

OVERBURDEN

SECONDARY TYPE: NA - BED - CLS - MIX **SECONDARY**

COLOR: MUN - GSA: Orange

COLORATION: CN - STN - MOT - VAR

TEXTURE: C - M - F

GRAVEL: _____ %

SAND: _____ %

SILT: 15 %

CLAY: 15 %

ORGANIC: _____ %

ROUNDNESS:

GRAVEL: FAC - STR - ANG - SUB - RND - NA

SAND: ANG - SUB - RND - NA

SORTING: WEL - MOD - POR - NA

PLASTICITY: NON - LOW - MOD - HGH - NA

MOISTURE: DRY - MST - WET - SAT - NA

CEMENTATION: NOV - SLT - MOD - WEL - NA

GRAIN TYPE: QTZ - FRG - FOS - BIO - NA

MATRIX: MSM - CSM - CAL - OXD - ARG - 6 - NA

STRENGTH: COH - NOC - STF - FRM - 6 - LSE - NA

UPPER CONTACT: SHP - GRD - DIF - SME - NA

BEDDING THICKNESS: _____ IN/CM

NUMBER: _____

TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA

BEDROCK

SECONDARY TYPE: NA - BED - VEN - MIX **SECONDARY**

COLOR: MUN - GSA: _____

ROCK TYPE: OTHER: _____

SED: SHL - SLT - SST - CGL - LST - DOL - COL

MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL

GN: GRN - RHY - BSL - GBR - TUF - BRC

TEXTURE: C - M - F NA

GRAVEL: _____ %

SAND: _____ %

SILT: _____ %

CLAY/ME MUD: _____ %

GRAIN TYPE: QTZ - FRG - FOS - BIO - NA

MATRIX: CAL - M - O - OXD - ARG - SIL - ORG - NA

STRENGTH: EWK - VWK - WEK - MOD STR - VS - EST

UPPER CONTACT: SHP - GRD - DIF - SAM - NA

SECONDARY: VUG - FRC - BED - NA - OTHER

POROSITY: HGH - MOD - LOW

WEATHERING: FRS - SLT - MOD - HGH - CPL - NA

NATURAL FRACTURE SETS


INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

NEXT SAMPLING LITH No: _____ DEPTH INTERVAL: _____ NOT SAMPLED
 INTERVAL: 1 TO _____ NO RECOVERY

COMMENTS (1): _____


(2): _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																					
SAMPLING METHOD: SPS - CSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																				
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: <input type="text"/> / <input type="text"/> N/CM NA RQD: _____ % NA		TYPE / LAB: UND - DS - CMP / MOB - GEO - CHM - _____ TYPE / LAB: UND - DIS - CMP / MOB - GEO - CHM - _____																				
SAMPLING INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>6</u> TO <u>8</u> FT/M BGS LITHOLOGY ARCHIVED? YES - NO NO RECOVERY		MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE: <u>PID</u> READING: <u>0</u> INSTRUMENT 2 TYPE: _____ READING: _____																				
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX _____ SECONDARY COLOR: MUN - GSA <u>grey - brown</u> COLORATION: UNI - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG <u>SUB</u> - RND - NA _____ SORTING: WEL <u>MOD</u> - POR - NA _____ PLASTICITY: NON <u>LOW</u> - MOD - HIGH - NA _____ MOISTURE: DRY <u>MOD</u> - WET - SAT - NA _____ CEMENTATION: NON <u>SL</u> - MOD - WEL - NA _____ GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA _____ MATRIX: <u>MSM</u> - CSM - CAL - OXD - ARG - <u>C</u> - NA _____ STRENGTH: <u>COH</u> / NOC - STF <u>EPM</u> - SFT - LSE - NA _____ UPPER CONTACT: SHP - <u>GRD</u> - DIF - SME - NA _____ BEDDING THICKNESS _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX _____ SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BS - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY / MUD: _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BIO - NA _____ MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - <u>GRD</u> - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HIGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HIGH - CPL - NA _____																				
NATURAL FRACTURE SETS																						
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NEXT INTERVAL: _____ / _____ TO _____ SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED NO RECOVERY																						
COMMENTS (1) _____ (2) _____																						


GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Date Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>
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SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
SAMPLING INTERVAL <u>3</u> TO <u>12</u> FT/M BGS RECOVERY <u>4</u> / <u>4</u> FT/M NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____ / _____
BLOW COUNT: [] [] [] [] [] N/CM NA RQD: _____ % NA	TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____ / _____

SAMPLING INTERVAL No. <u>3</u> LITHOLOGIC INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL <u>3</u> TO <u>12</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE <u>PJO</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING _____
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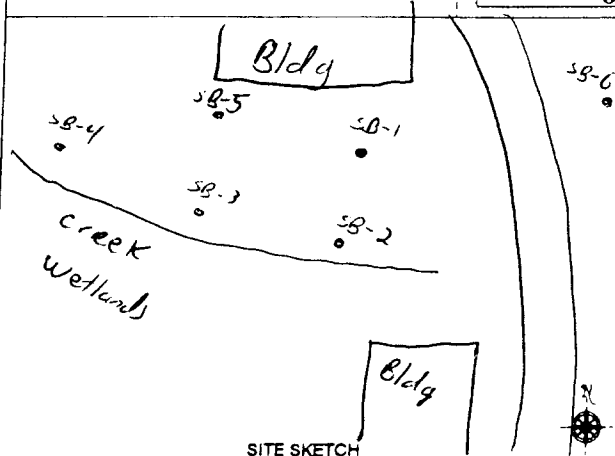
OVERBURDEN	GRAPHIC LOG	BEDROCK		
SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR MUN - GSA <u>m brown</u> COLORATION: <u>CO</u> - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL _____ <u>10</u> % _____ % SAND _____ <u>40</u> % _____ % SILT _____ <u>30</u> % _____ % CLAY _____ <u>20</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB - <u>RND</u> - NA _____ SORTING: WEL - <u>MOD</u> - POR - NA _____ PLASTICITY: NON - <u>CO</u> - MOD - HGH - NA _____ MOISTURE: DRY - <u>MS</u> - WET - SAT - NA _____ CEMENTATION: <u>NO</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BO - NA _____ MATRIX: <u>MSM</u> - OSM - CAL - OXD - ARG - <u>S</u> - NA _____ STRENGTH: <u>CO</u> / NOC - STF - <u>SPM</u> - SFT - LSE - NA _____ UPPER CONTACT: SHP - <u>GRD</u> - DIF - SME - NA _____ BEDDING THICKNESS _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____		SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL _____ MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____ GN: GRN - RHY - BS - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL _____ % _____ % SAND _____ % _____ % SILT _____ % _____ % CLAY/IVE MUD _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BO - NA _____ MATRIX: CAL - M C - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____		
NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - IRR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
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NEXT INTERVAL _____ / _____ TO _____	SAMP/LITH No. _____	DEPTH INTERVAL _____	NOT SAMPLED / NO RECOVERY
--------------------------------------	---------------------	----------------------	---------------------------



COMMENTS (1) _____

(2) _____

GEOLIS Location Identification Form


<p>CLIENT: <u>NEA - USACE</u></p> <p>PROJECT: <u>Camp Hero Data Collection</u></p> <p>PROPERTY: <u>Camp Hero, Montauk, NY</u></p> <p>SITE / AREA: <u>Former Power Plant</u></p> <p>LOCATION ID: <u>SB-6</u></p> <p>BEGIN DATE: <u>4/12/00</u></p> <p>END DATE: <u>4/12/00</u></p> <p>LOGGER: <u>Brad W. Turner</u></p>	<p>QUALITY LEVEL: 1 - 2 - 3</p> <p>UNIT SYSTEM: <u>ENGLISH</u> - METRIC</p> 																					
<p>LOCATION TYPE: <input checked="" type="checkbox"/> BOR <input type="checkbox"/> PIZ <input type="checkbox"/> WEL <input type="checkbox"/> PIT</p> <p>TEST PIT: LENGTH: _____ FT/M WIDTH: _____ FT/M</p> <p>BOREHOLE COMPLETED IN: <input checked="" type="checkbox"/> OVERBURDEN <input type="checkbox"/> BEDROCK</p> <p>BEDROCK CONFIRMED: <input checked="" type="checkbox"/> NOT <input type="checkbox"/> DRL <input type="checkbox"/> SPS <input type="checkbox"/> AUG <input type="checkbox"/> COR <input type="checkbox"/> CUT</p> <p>TOTAL DEPTH: _____ FT/M BGS</p> <p>DEPTH TO BEDROCK: <u>unknown</u> FT/M BGS</p>	 <p style="text-align: center;">SITE SKETCH</p>																					
<p>BOREHOLE DIAMETER No.1: _____ IN/CM</p> <p>INTERVAL: <u>0</u> TO <u>12</u> FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: <u>Geoprobe</u></p> <p>FLUID: AIR - WATER - MUD - FOAM - <input checked="" type="checkbox"/> NONE</p>	<table border="0" style="width:100%;"> <tr> <td style="width:30%;"></td> <td style="width:35%; text-align: center;">ESTIMATED</td> <td style="width:35%; text-align: center;">SURVEYED</td> </tr> <tr> <td>SURFACE ELEVATION:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>N. COORDINATE:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>E. COORDINATE:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>MEASURING POINT ELEVATION:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>WELL PERMIT No.:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>ALIAS ID/WELL RECORDATION No.:</td> <td>_____</td> <td>_____</td> </tr> </table>		ESTIMATED	SURVEYED	SURFACE ELEVATION:	_____	_____	N. COORDINATE:	_____	_____	E. COORDINATE:	_____	_____	MEASURING POINT ELEVATION:	_____	_____	WELL PERMIT No.:	_____	_____	ALIAS ID/WELL RECORDATION No.:	_____	_____
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WELL PERMIT No.:	_____	_____																				
ALIAS ID/WELL RECORDATION No.:	_____	_____																				
<p>BOREHOLE DIAMETER No.2: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>HOLE ABANDONED? <input checked="" type="checkbox"/> YES - <input type="checkbox"/> NO (IF YES DESCRIBE IN COMMENTS)</p> <p>WELL INSTALLED? YES - <input checked="" type="checkbox"/> NO</p> <p>WELL CLUSTER? YES - <input checked="" type="checkbox"/> NO No. OF WELLS: _____</p> <p>WELL NEST? YES - <input checked="" type="checkbox"/> NO No. OF WELLS: _____</p> <p>PUMPS INSTALLED? YES <input checked="" type="checkbox"/> NO</p> <table border="0" style="width:100%;"> <tr> <td style="width:30%;"></td> <td style="width:35%; text-align: center;">TYPE</td> <td style="width:35%; text-align: center;">DEPTH</td> </tr> <tr> <td>PURGE:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>SAMPLE:</td> <td>_____</td> <td>_____</td> </tr> </table>		TYPE	DEPTH	PURGE:	_____	_____	SAMPLE:	_____	_____												
	TYPE	DEPTH																				
PURGE:	_____	_____																				
SAMPLE:	_____	_____																				
<p>BOREHOLE DIAMETER No.3: _____ IN/CM</p> <p>INTERVAL: _____ TO _____ FT/M BGS</p> <p>METHOD: HSA SSA BKA JET DRT RRT COR DAW CBT DCD DHH SON OTHER: _____</p> <p>FLUID: AIR - WATER - MUD - FOAM - NONE</p>	<p>BOREHOLE TESTING</p> <p>BOREHOLE GEOPHYSICS? YES - <input checked="" type="checkbox"/> NO</p> <p>SLUG TESTS? YES - <input checked="" type="checkbox"/> NO</p> <p>PACKER TESTS? YES - <input checked="" type="checkbox"/> NO</p> <p>PUMPING TESTS? YES - <input checked="" type="checkbox"/> NO</p>																					
<p>DRILLING/EXCAVATING CO: <u>Aquifer Drilling and Testing</u></p> <p>DRILLER/OPERATOR: <u>Lloyd</u></p> <p>EQUIPMENT/RIG: <u>Truck mounted Geoprobe</u></p> <p>COMMENTS: <u>Up-gradient location</u></p>																						
<p>DATA ENTRY BY: _____</p> <p>DATE ENTERED: _____</p> <p>QC REPORTS PRINTED? YES - NO</p>	<p>QC REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>	<p>QA REVIEW BY: _____</p> <p>REVIEW DATE: _____</p> <p>APPROVED WITH - WITHOUT REVISIONS</p>																				

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-6</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE 																										
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SAMPLING INTERVAL <u>0</u> TO <u>4</u> FT/M BGS RECOVERY <u>2.75</u> <u>4</u> FT/M NA		TYPE / LAB <u>UND - DS - CMP / MOB - GEO - CHM -</u>																									
BLOW COUNT: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> N/CM NA ROD _____ % NA		TYPE / LAB <u>UND - DS - CMP / MOB - GEO - CHM -</u>																									
SAMPLING INTERVAL No. <u>1</u> LITHOLOGY ARCHIVED? _____ MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN LITHOLOGIC INTERVAL No. <u>1</u> YES - NO OBSERVED: <u>STN - SHN - ODR - PRD - NA - OTHER</u>		INSTRUMENT 1 TYPE <u>RID</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING _____																									
LITHOLOGIC INTERVAL: <u>0</u> TO <u>0.5</u> FT/M BGS NO RECOVERY																											
OVERBURDEN SECONDARY TYPE: <u>NA - BED - CLS - MIX</u> SECONDARY COLOR: MUN - GSA <u>Black</u> COLORATION: <u>LN</u> - STN - MO - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL _____ % _____ % SAND _____ % _____ % SILT <u>20</u> % _____ % CLAY <u>10</u> % _____ % ORGANIC: <u>40</u> % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA _____ SAND: ANG - SUB - <u>RND</u> - NA _____ SORTING: WEL - <u>MOD</u> - POR - NA _____ PLASTICITY: NON - <u>LOW</u> - MOD - HGH - NA _____ MOISTURE: DRY - <u>MSD</u> - WET - SAT - NA _____ CEMENTATION: <u>NON</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE: <u>FRG</u> - FOS - BO - NA _____ MATRIX: <u>MSM</u> - OSM - CAL - OXD - <u>ARG</u> - S - NA _____ STRENGTH: <u>CO</u> / NOC - STF - FRM - SFT - <u>LSZ</u> - NA _____ UPPER CONTACT: SHP - GRD - DIF - SME - <u>NA</u> _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - _____ MAS - LAM - GRU - GRD - NA _____	GRAPHIC LOG	BEDROCK SECONDARY TYPE: <u>NA - BED - VEN - MIX</u> SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL _____ MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL _____ GN: GRN - RHY - BSL - GBR - TUF - BRC _____ TEXTURE: <u>C - M - F</u> NA GRAVEL _____ % _____ % SAND _____ % _____ % SILT _____ % _____ % CLAY/LIME MUD _____ % _____ % GRAIN TYPE: QZT - FRG - FOS - BIO - NA _____ MATRIX: CAL - MO - OXD - ARG - SIL - ORG - NA _____ STRENGTH: EWK - <u>WVK</u> - WEK - MOD - STR - VS - EST _____ UPPER CONTACT: SHP - GRD - DIF - SAM - NA _____ SECONDARY: VUG - FRC - BED - NA - OTHER _____ POROSITY: HGH - MOD - LOW _____ WEATHERING: FRS - SLT - MOD - HGH - CPL - NA _____																									
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-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-																							
NEXT SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED INTERVAL _____ TO _____ NO RECOVERY																											
COMMENTS (1) <u>Organic layer</u> (2) _____																											

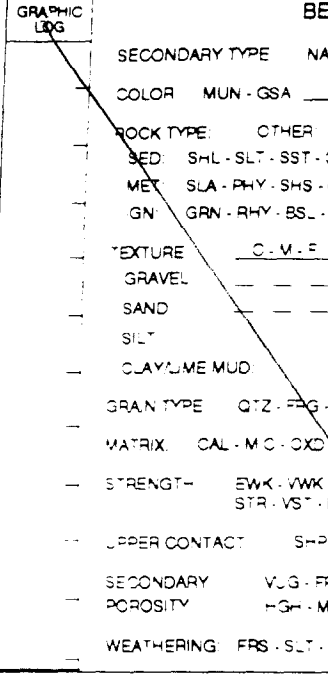
GEOLIS[®] Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-6</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE <u>[Signature]</u>
---	--



SAMPLING METHOD SPS - CSS - STB - CTS - CUL - COP - NS OTHER <u>Geoprobe</u>	FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA ROD: _____ % NA	TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____

SAMPLING INTERVAL No.: <u>1</u> LITHOLOGIC INTERVAL No.: <u>2</u> LITHOLOGIC INTERVAL: <u>0.5</u> TO <u>3.5</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY	MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE: <u>PID</u> READING: <u>0</u> INSTRUMENT 2 TYPE _____ READING _____
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OVERBURDEN	GRAPHIC LOG	BEDROCK
SECONDARY TYPE: NA - BED - CLS - MIX <u>SECONDARY</u> COLOR: MUN - GSA <u>m brown</u> COLORATION: <u>CR</u> - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % <u>40</u> % _____ % SILT: _____ % <u>35</u> % _____ % CLAY: _____ % <u>10</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - <u>SL</u> - RND - NA SAND: ANG - SUB - <u>SP</u> - NA SORTING: WEL - <u>MO</u> - POR - NA PLASTICITY: NON - <u>LO</u> - MOD - HGH - NA MOISTURE: DRY - MST - <u>WE</u> - SAT - NA CEMENTATION: <u>NO</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BO - NA MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA STRENGTH: <u>GN</u> / NOC - STF - FRM - <u>SP</u> - LSE - NA UPPER CONTACT: <u>SHP</u> - GRD - DIF - SME - NA BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - INC - MAS - LAM - GRU - GRD - NA		SECONDARY TYPE: NA - BED - VEN - MIX _____ COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - CCL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BS - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BO - NA MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: VUG - FRC - BED - NA - OTHER POROSITY: HGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HGH - CPL - NA

NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - PR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

NEXT INTERVAL	SAMP/LITH No. <u>1</u>	DEPTH INTERVAL _____ TO _____	NOT SAMPLED _____ NO RECOVERY _____	
---------------	------------------------	-------------------------------	--	--

COMMENTS (1) _____
 (2) _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Power Plant</u>	LOCATION ID <u>SB-6</u> DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE																					
SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>		FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																				
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA _____ BLOW COUNT: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> N/CM NA _____ RQD _____ % NA _____		TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB UND - DIS - CMP / MOB - GEO - CHM - _____																				
SAMPLING INTERVAL No. <u>1</u> LITHOLOGIC INTERVAL No. <u>3</u> LITHOLOGIC INTERVAL: <u>3.5</u> TO <u>4</u> FT/M BGS		MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE <u>RID</u> READING <u>C</u> INSTRUMENT 2 TYPE _____ READING _____																				
<p style="text-align: center;">OVERBURDEN</p> SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR MUN - GSA <u>m. brown</u> COLORATION: <u>GN</u> - STN - MOT - VAR _____ TEXTURE <u>C - M - F</u> GRAVEL _____ % _____ % SAND _____ % _____ % SILT <u>40</u> % _____ % CLAY <u>30</u> % _____ % ORGANIC: _____ % _____ % ROUNDNESS GRAVEL FAC - STR - ANG - SUB - RND - NA _____ SAND ANG - SUB - <u>RV</u> - NA _____ SORTING WEL - <u>NO</u> - POR - NA _____ PLASTICITY <u>NO</u> - LOW - MOD - HGH - NA _____ MOISTURE <u>DRY</u> - MST - WET - SAT - NA _____ CEMENTATION <u>NO</u> - SLT - MOD - WEL - NA _____ GRAIN TYPE <u>GTZ</u> - FRG - FOS - BIO - NA _____ MATRIX <u>MSM</u> - CSM - CAL - OXD - <u>RC</u> - S - L - NA _____ STRENGTH COH/NOC STF - <u>RM</u> - SFT - LSE - NA _____ UPPER CONTACT SHP - <u>GRD</u> - DIF - SME - NA _____ BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE XBD - RPL - HOR - NC - _____ MAS - LAM - GRU - GRD - NA _____	<p style="text-align: center;">BEDROCK</p> SECONDARY TYPE NA - BED - VEN - MIX SECONDARY COLOR MUN - GSA _____ ROCK TYPE: OTHER _____ BED SHL - SLT - SST - CGL - LST - DOL - COL _____ MET SLA - PHY - SHS - GNS - HRN - QZT - MBL _____ GN GRN - RHY - BS - GBR - TUF - BRC _____ TEXTURE <u>C - M - F</u> NA _____ GRAVEL _____ % _____ % SAND _____ % _____ % SILT _____ % _____ % CLAY/IME MUD _____ % _____ % GRAIN TYPE QZ - FRG - FOS - BIO - NA _____ MATRIX CAL - M - C - OXD - ARG - SIL - ORG - NA _____ STRENGTH EWK - VWK - WEK - MOD STR - VST - EST _____ UPPER CONTACT SHP - <u>GRD</u> - DIF - SAM - NA _____ SECONDARY VUG - FRC - BED - NA - OTHER _____ POROSITY HG - MOD - LOW _____ WEATHERING FRS - SLT - MOD - HGH - CPL - NA _____																					
STRAT UNIT: _____ NOTE LINE: _____		<p>NATURAL FRACTURE SETS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH</td> </tr> </tbody> </table>	INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE																		
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																		
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																		
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																		
NEXT INTERVAL _____ / _____ TO _____ NO RECOVERY		FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WTH																				
COMMENTS (1) _____ (2) _____																						

GEOLIS Borehole Logging Form

COMPANY Roy F. Weston, Inc LOCATION _____
 CLIENT NEA - USACE DATE 4/12/00
 PROJECT Camp Hero Data Collection LOGGER Brad W. Turner
 SITE / AREA Camp Hero / Former Power Plant SIGNATURE [Signature]



SAMPLING METHOD SPS - OSS - STB - CFS - CUT - COR - NS
 OTHER Geoprobe FLUID ENTRY / LOSS ZONES _____ FT/M BGS _____ GPM
 SAMPLING INTERVAL 4 TO 8 FT/M BGS ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____
 RECOVERY 4 / 7 FT/M NA TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
 BLOW COUNT: [] [] [] [] / [] N/CM NA TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____
 RQD: _____ % NA TYPE / LAB UND - DS - CMP / MOB - GEO - CHM - _____

SAMPLING INTERVAL No. 2 LITHOLOGY ARCHIVED? NATURAL - FILL - UNCERTAIN
 LITHOLOGIC INTERVAL No. 1 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____
 LITHOLOGIC INTERVAL 4 TO 7 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE RJD READING: 0
 INSTRUMENT 2 TYPE _____ READING: _____

OVERBURDEN

SECONDARY TYPE: NA - BED - CLS - MIX **SECONDARY**
 COLOR: MUN - GSA m. Brown
 COLORATION: UN - STN - MOT - VAR _____
 TEXTURE: C - M - F
 GRAVEL: _____ % _____ %
 SAND: _____ % _____ %
 SILT: _____ % _____ %
 CLAY: _____ % _____ %
 ORGANIC: _____ % _____ %
 ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA
 SAND: ANG - SUB - RND - NA
 SORTING: WEL - MOT - POR - NA
 PLASTICITY: NON - LOW - MOD - HGH - NA
 MOISTURE: DRY - VS - WET - SAT - NA
 CEMENTATION: NO - SLT - MOD - WEL - NA
 GRAIN TYPE: GTZ - FRG - FOS - BO - NA
 MATRIX: MSM - CSM - CAL - OXD - ARG - S - NA
 STRENGTH: CO / NOC - STF - FRN - SFT - LSE - NA
 UPPER CONTACT: SHP - GRD - DIF - EME - NA
 BEDDING THICKNESS: _____ IN/CM
 NUMBER: _____
 TYPE: XBD - RPL - HOR - NC - MAS - LAM - GRU - GRD - NA

BEDROCK

SECONDARY TYPE: NA - BED - VEN - MIX **SECONDARY**
 COLOR: MUN - GSA _____
 ROCK TYPE: OTHER _____
 SED: SHL - SLT - SST - CGL - LST - DOL - COL
 MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL
 GN: GRN - RHY - BS - GBR - TUF - BRC
 TEXTURE: C - M - F NA
 GRAVEL: _____ % _____ %
 SAND: _____ % _____ %
 SILT: _____ % _____ %
 CLAY/LOVE MUD: _____ % _____ %
 GRAIN TYPE: GTZ - FRG - FOS - BO - NA
 MATRIX: CAL - M - C - OXD - ARG - SIL - ORG - NA
 STRENGTH: EWK - WVK - WEK - MOD STR - VS - TEST
 UPPER CONTACT: SHP - GRD - DIF - SAM - NA
 SECONDARY: VLG - FRC - BED - NA - OTHER
 POROSITY: HGH - MOD - LOW
 WEATHERING: FRS - SLT - MOD - HGH - CPL - NA


NATURAL FRACTURE SETS

INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-				FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

STRAT UNIT: _____
 NOTE LINE: _____
 NEXT INTERVAL: _____ / _____ TO _____ NO RECOVERY


COMMENTS (1) _____
 (2) _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former Base Plot</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																				
																					
SAMPLING METHOD SPS - CSS - STB - CTS - CUL - COR - NS OTHER <u>Geoprobe</u>	FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																				
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA BLOW COUNT: <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> N/CM NA RQD: _____ % NA	TYPE / LAB. UND - DIS - CMP / MOB - GEO - CHM - _____ TYPE / LAB. UND - DIS - CMP / MOB - GEO - CHM - _____																				
SAMPLING INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>7</u> TO <u>8</u> FT/M BGS	MATERIAL: <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____ INSTRUMENT 1 TYPE <u>PLO</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____																				
<h3 style="text-align: center;">OVERBURDEN</h3> SECONDARY TYPE: NA - BED - CLS - MIX <u>SECONDARY</u> COLOR: MUN - GSA _____ COLORATION: UNI - STN - MOT - VAR _____ TEXTURE: <u>C - M - F</u> GRAVEL: _____ <u>10</u> % _____ % SAND: _____ <u>70</u> % _____ % SILT: _____ <u>20</u> % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG - SUB - RND - NA SAND: ANG - SUB - <u>NO</u> - NA SORTING: <u>WE</u> - MOD - POR - NA PLASTICITY: <u>NO</u> - LOW - MOD - HIGH - NA MOISTURE: DRY - MST - WET - <u>SA</u> - NA CEMENTATION: <u>NO</u> - SLT - MOD - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BIO - NA MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA STRENGTH: <u>CO</u> / <u>NO</u> - STF - FRM - SFT - <u>LSZ</u> - NA UPPER CONTACT: <u>SH</u> - GRD - DIF - SME - NA BEDDING THICKNESS: _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - NC - _____ MAS - LAM - GRU - GRD - NA	<h3 style="text-align: center;">BEDROCK</h3> SECONDARY TYPE: NA - BED - VEN - MIX <u>SECONDARY</u> COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MB GN: GRN - RHY - BSL - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/LIME MUD: _____ % _____ % GRAIN TYPE: QTZ - FRG - FOS - BIO - NA MATRIX: CAL - M - O - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VS - EST UPPER CONTACT: SH - GRD - DIF - SAM - NA SECONDARY: V - G - FRC - BED - NA - OTHER POROSITY: HIGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HIGH - CPL - NA																				
STRAT UNIT: _____ NOTE LINE: _____	<h3 style="text-align: center;">NATURAL FRACTURE SETS</h3> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT</td> </tr> </tbody> </table>	INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE																	
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT																	
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT																	
---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT																	
NEXT SAMP/LITH No. _____ DEPTH INTERVAL _____ NOT SAMPLED INTERVAL _____ TO _____ NO RECOVERY																					
COMMENTS (1) _____ _____ (2) _____																					

GEOLIS Borehole Logging Form

COMPANY: Roy F. Weston, Inc LOCATION: _____
 CLIENT: NEA - USACE DATE: 4/12/00
 PROJECT: Camp Hero Data Collection LOGGER: Brad W. Turner
 SITE/AREA: Camp Hero / Former Power Plant SIGNATURE: _____



SAMPLING METHOD: SPS - OSS - STB - CTS - CUT - COP - NS
 OTHER: Geoprobe FLUID ENTRY/LOSS ZONES: _____ FT/M BGS _____ GPM
 SAMPLING INTERVAL: 8 TO 12 FT/M BGS ANALYTICAL SAMPLE ID: _____ INTERVAL (FT/M BGS): _____
 RECOVERY: 4 4 FT/M NA
 BLOW COUNT: [] [] [] [] / [] N/CM NA
 RQD: _____ % NA


SAMPLING INTERVAL No.: 3 LITHOLOGY ARCHIVED? NO MATERIAL: NATURAL - FILL - UNCERTAIN
 LITHOLOGIC INTERVAL No.: 1 YES - NO OBSERVED: STN - SHN - ODR - PRD - NA - OTHER _____
 LITHOLOGIC INTERVAL: 8 TO 10 FT/M BGS NO RECOVERY INSTRUMENT 1 TYPE: RIO READING: 0
 INSTRUMENT 2 TYPE: _____ READING: _____

OVERBURDEN		GRAPHIC LOG	BEDROCK	
SECONDARY TYPE	NA - BED - CLS - MIX		SECONDARY TYPE	NA - BED - VEN - MIX
COLOR	MUN - GSA <u>m brown</u>		COLOR	MUN - GSA _____
COLORATION	<u>CO</u> - STN - MOT - VAR _____		ROCK TYPE	OTHER _____
TEXTURE	<u>C - M - F</u>		BED	SHL - SLT - SST - CGL - LST - DOL - COL _____
GRAVEL	_____ % _____ %		MET	SLA - PHY - SHS - GNS - HRN - QZT - MBL _____
SAND	_____ % <u>15</u> % _____ %		GN	GRN - RHY - BSL - GBR - TUF - BRC _____
SILT	_____ % <u>60</u> % _____ %		TEXTURE	<u>C - M - F</u> NA
CLAY	_____ % <u>20</u> % _____ %		GRAVEL	_____ % _____ %
ORGANIC	_____ % _____ %		SAND	_____ % _____ %
ROUNDNESS			SILT	_____ % _____ %
GRAVEL	FAC - STR - ANG <u>SUR</u> - RND - NA		CLAY/VE MUD	_____ % _____ %
SAND	ANG - SUB <u>RNZ</u> - NA		GRAIN TYPE	QTZ - FRG - FOS - BIO - NA
SORTING	WEL <u>MCO</u> - POR - NA		MATRIX	CAL - MCO - OXD - ARG - SIL - ORG - NA
PLASTICITY	<u>LOW</u> - MOD - HIGH - NA		STRENGTH	EWK - WVK - WEK - MOD STR - VST - EST
MOISTURE	DRY - MST - WET <u>SA</u> - NA		UPPER CONTACT	SHP - GRD - DIF - SAM - NA
CEMENTATION	<u>NO</u> - SLT - MOD - WEL - NA		SECONDARY POROSITY	VUG - FRC - BED - NA - OTHER _____
GRAIN TYPE	<u>QTZ</u> - FRG - FOS - BIO - NA		WEATHERING	FRS - SLT - MOD - HIGH - CPL - NA
MATRIX	MSM - <u>CSM</u> - CAL - OXD - ARG <u>CS</u> - NA			
STRENGTH	<u>CO</u> - NOC - STF - FRM - SFT <u>US</u> - NA			
UPPER CONTACT	SHP - <u>GRD</u> - DIF - SME - NA			

NATURAL FRACTURE SETS				
INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
-	-	-	-	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-

NEXT INTERVAL: _____ / _____ TO _____ NO RECOVERY
 COMMENTS (1): _____
 (2): _____

GEOLIS Borehole Logging Form

COMPANY <u>Roy F. Weston, Inc</u> CLIENT <u>NEA - USACE</u> PROJECT <u>Camp Hero Data Collection</u> SITE / AREA <u>Camp Hero / Former River Port</u>	LOCATION ID _____ DATE <u>4/12/00</u> LOGGER <u>Brad W. Turner</u> SIGNATURE _____																									
																										
SAMPLING METHOD SPS - OSS - STB - CTS - CUT - COR - NS OTHER <u>Geoprobe</u>																										
SAMPLING INTERVAL _____ TO _____ FT/M BGS RECOVERY _____ FT/M NA																										
BLOW COUNT: [] [] [] [] [] / [] N/CM NA RQD _____ % NA																										
FLUID ENTRY/ LOSS ZONES _____ FT/M BGS _____ GPM ANALYTICAL SAMPLE ID _____ INTERVAL (FT/M BGS) _____																										
TYPE/LAB UND - DS - CMP / MOB - GEO - CHM - _____ TYPE/LAB UND - DIS - CMP / MOB - GEO - CHM - _____																										
SAMPLING INTERVAL No. <u>3</u> LITHOLOGIC INTERVAL No. <u>2</u> LITHOLOGIC INTERVAL: <u>10</u> TO <u>12</u> FT/M BGS	LITHOLOGY ARCHIVED? YES - NO NO RECOVERY																									
MATERIAL <u>NATURAL</u> - FILL - UNCERTAIN OBSERVED: STN - SHN - ODR - PRD - NA - OTHER: _____ INSTRUMENT 1 TYPE <u>RTD</u> READING <u>0</u> INSTRUMENT 2 TYPE _____ READING _____																										
OVERBURDEN SECONDARY TYPE: NA - BED - CLS - MIX SECONDARY COLOR: MUN - GSA <u>m Brown</u> COLORATION: <u>N</u> - STN - MOT - VAR TEXTURE: <u>C - M - F</u> GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: <u>20</u> % _____ % CLAY: _____ % _____ % ORGANIC: _____ % _____ % ROUNDNESS: GRAVEL: FAC - STR - ANG <u>SUB</u> - RND - NA SAND: ANG - <u>SUB</u> - RND - NA SORTING: <u>WE</u> - MOD - POR - NA PLASTICITY: <u>NON</u> - LOW - MOD - HIGH - NA MOISTURE: DRY - MST - WET - <u>SAT</u> - NA CEMENTATION: NON - SLT - <u>MOS</u> - WEL - NA GRAIN TYPE: <u>QTZ</u> - FRG - FOS - BOC - NA MATRIX: MSM - <u>CSM</u> - CAL - OXD - ARG - <u>S</u> - NA STRENGTH: <u>COM</u> / NOC - STF - <u>FBM</u> - SFT - LSE - NA UPPER CONTACT: SHP - <u>SPD</u> - DIF - SME - NA BEDDING THICKNESS _____ IN/CM NUMBER: _____ TYPE: XBD - RPL - HOR - NC - MAS - LAM - GRU - GRD - NA	BEDROCK SECONDARY TYPE: NA - BED - VEN - MIX SECONDARY COLOR: MUN - GSA _____ ROCK TYPE: OTHER _____ SED: SHL - SLT - SST - CGL - LST - DOL - COL MET: SLA - PHY - SHS - GNS - HRN - QZT - MBL GN: GRN - RHY - BS - GBR - TUF - BRC TEXTURE: <u>C - M - F</u> NA GRAVEL: _____ % _____ % SAND: _____ % _____ % SILT: _____ % _____ % CLAY/ME MUD: _____ % _____ % GRAN TYPE: QTZ - FRG - FOS - BOC - NA MATRIX: CAL - MC - OXD - ARG - SIL - ORG - NA STRENGTH: EWK - VWK - WEK - MOD STR - VST - EST UPPER CONTACT: SHP - GRD - DIF - SAM - NA SECONDARY: VUG - FRC - BED - NA - OTHER POROSITY: HIGH - MOD - LOW WEATHERING: FRS - SLT - MOD - HIGH - CPL - NA																									
NATURAL FRACTURE SETS																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INTERVAL (FT/M BGS)</th> <th>#/FT-M</th> <th>DIP</th> <th>DIR</th> <th>FILL/SHAPE/ROUGH/SURFACE</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> <tr> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-</td> </tr> </tbody> </table>		INTERVAL (FT/M BGS)	#/FT-M	DIP	DIR	FILL/SHAPE/ROUGH/SURFACE	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-	---	---	---	---	FILL: OPN - PRT - FUL SHAPE: PLN - CUR - UND - STP - RR ROUGH: SMH - MOD - RGH SURFACE: CLN - MIN - OXD - STN - WT-
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NEXT SAMPLING INTERVAL: _____ TO _____ FT/M BGS NOT SAMPLED / NO RECOVERY																										
COMMENTS: (1) <u>Collected groundwater sample at 12' bgs</u> <u>collected soil sample at 0.5 - 1.0' bgs.</u> (2) _____																										

APPENDIX B
SITE PHOTOGRAPHS

Photograph

Description

1. Chip sampling (C-1) in Building 10.
2. Chip sampling (C-2) in Radar Tower.
3. Soil sampling and UXO survey at location SS-15 adjacent to Radar Tower.
4. Erosional area south of the Radar Tower near SS-12.
5. Degraded surface water sampled at SW-1 adjacent to Building 203.
6. Wetlands sediment sample SD-2 downgradient of former Power Plant (B-11).
7. View of south side of Radar Tower. Sample SS-14 is located near the lower left corner of the building.
8. Wetland drainage below Building 10, near SD-4.



Photograph 1 - Chip sampling (C-1) in Building 10.



Photograph 2 - Chip sampling (C-2) in Radar Tower.



Photograph 3 - Soil sampling and UXO survey at location SS-15 adjacent to Radar Tower.



Photograph 4 - Erosional area south of the Radar Tower near SS-12.



Photograph 5 - Degraded surface water sampled at SW-1 adjacent to Building 203.



Photograph 6 - Wetlands sediment sample SD-2 downgradient of former Power Plant (B-11).



Photograph 7 - View of south side of Radar Tower. Sample SS-14 is located near the lower left corner of the building.



Photograph 8 - Wetland drainage below Building 10, near SD-4.

APPENDIX C
ANALYTICAL DATA PACKAGE