FINAL

Remedial Investigation Report
And
Sediment Quality Evaluation

M-3 Landfill Site

U. S. Army Installation Fort Monmouth
Fort Monmouth, New Jersey

Directorate of Public Works

February 4, 2004

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, Pennsylvania 19044

Contract No. DACA51-00-D-0004
Delivery Order No. 17

United States Army
Fort Monmouth, New Jersey

Remedial Investigation Report and Sediment Quality Evaluation for the M-3 Landfill Site

Fort Monmouth, New Jersey

February 4, 2004

REMEDIAL INVESTIGATION REPORT AND SEDIMENT QUALITY EVALUATION FOR THE M-3 LANDFILL SITE FORT MONMOUTH, NEW JERSEY

PREPARED FOR:

UNITED STATES ARMY FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

Versar INC.

February 4, 2004

VERSAR PROJECT NO. 4936.117

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

Appendix A	Current Conditions Site Photographs
Appendix B	Sediment Sampling Plan for Nine Former Landfill Sites (TVS, March 2000)
Appendix C	Soil Boring Logs
Appendix D	Soil Laboratory Data Sheets

EXECUTIVE SUMMARY

VERSAR, Inc. (VERSAR) has been contracted by the United States (U.S.) Army Installation, Fort Monmouth (Fort Monmouth), Directorate of Public Works (DPW), Fort Monmouth, New Jersey, to prepare a Remedial Investigation Report (RIR) for data collected during recent sediment sampling events at the M-3 Landfill site. This report describes the remedial investigation activities performed at the site on April 19, 2000.

The site is located in the west-central portion of the Main Post Area of Fort Monmouth in an area located between North Drive and Lafetra Creek. The M-3 Landfill site occupies approximately 5.9 acres. According to the Roy F. Weston, Inc. (Weston) report, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report* (December 1995), the M-3 Landfill site was reportedly used between 1959 and 1964 for the general purpose disposal of domestic and industrial wastes, and has been inactive since approximately 1964. Weston performed surface geophysics surveys consisting of magnetometer and Ground Penetrating Radar (GPR) studies to define the approximate boundaries of the landfill and investigate the types of debris at the site. Three monitoring wells were sampled for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Pesticides, polychlorinated biphenyls (PCBs) and Target Analyte List (TAL) Metals during two sampling events in 1995 during the Weston Site Investigation (SI). Two surface water samples were also collected adjacent to the site, one upgradient and one downgradient, and analyzed for the same parameter list. Groundwater quality results indicated that chlorobenzene was detected in the downgradient well below laboratory quantitation limits, but slightly greater than the New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Criteria (GWQC). Lead was also detected at a concentration exceeding the GWQC. Weston recommended that a long-term groundwater and surface water monitoring program be developed and implemented at the site, but provided no recommendations related to site-specific sediment quality.

Other studies conducted at similar Main Post landfill sites (M-2 and M-8) found PCB-containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-3 Landfill site was included in the sediment sampling program to supplement the Weston findings related to soil and groundwater matrices.

To determine potential PCB-related impacts to sediments in Lafetra Creek from the adjacent M-3 Landfill site, the DPW obtained 25 sediment samples, including two duplicate samples for quality assurance/quality control (QA/QC) purposes, on April 19, 2000 from the surface and near-surface of Lafetra Creek. The samples were obtained along the 1,200-foot section of the creek that borders the M-3 Landfill site. All 25 sediment samples were analyzed for PCBs and compared to sediment sampling guidance

concentrations defined in the NJDEP *Guidance for Sediment Quality Evaluations* (November 1998). The analytical data is summarized in table form in this RIR. VERSAR developed this RIR based on the evaluation of these sediment data.

Data presented in **Section 3.0** of this RIR indicate that no PCBs were detected above the laboratory Method Detection Limit (MDL) in any of the 25 samples obtained from Lafetra Creek. Based on NJDEP guidelines, this conclusively indicates that there are no impacts by PCBs to sediments in Lafetra Creek associated with the adjacent M-3 Landfill site.

Based on the results of this sediment quality evaluation, no PCBs were detected above the MDL in any sample. Therefore, No Further Action (NFA) is recommended for the M-3 Landfill site related to potential PCBs impacts to the sediments of Lafetra Creek.

1.0 INTRODUCTION

VERSAR has been contracted by the U.S. Army Installation, Fort Monmouth DPW, Fort Monmouth, New Jersey to prepare an RIR and sediment quality evaluation for the M-3 Landfill site located at the Fort Monmouth Main Post Area. This report addresses the remedial investigation activities performed at this site on April 19, 2000.

1.1 Objectives

Other studies conducted at similar Main Post landfill sites (M-2 and M-8) found PCB-containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-3 Landfill site was included in the sediment sampling program to supplement the earlier Weston findings related to the soil and groundwater matrices.

The objective of this RIR is to determine potential PCB-related impacts to stream sediments in Lafetra Creek, which flows along the northern perimeter of the M-3 Landfill site. The remedial investigation was conducted in accordance with New Jersey Administrative Code (NJAC) 7:26E - *Technical Requirements for Site Remediation* (July 1999) and NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

The remedial investigation encompassed the following:

- Obtaining surface and near-surface sediment samples every 100 feet along the portion of Lafetra Creek adjacent to the northern boundary of the M-3 Landfill site.
- Analyzing the samples for PCBs by United States Environmental Protection Agency (USEPA) Method 8082.
- Comparing the analytical results to the screening level criteria defined in the NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

1.2 Report Organization

This report is organized to minimize repetition. **Section 2.0** provides background information and a general description of the M-3 Landfill site located at Fort Monmouth Main Post Area. **Section 3.0** describes and summarizes the sampling procedure and activities. **Section 4.0** presents analytical results and compares those results to NJDEP guidance criteria. **Section 5.0** provides a summary of the findings of the remedial investigation and requests an NFA determination from the NJDEP.

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

The following sections describe the site background and environmental setting of the area surrounding Fort Monmouth and the M-3 Landfill site. Included is a description of the site location, background, current conditions and environmental setting.

2.1 Site Location and Description

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (**Figure 2-1**). In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The Main Post encompasses approximately 630 acres and is generally bounded by State Highway 35, Parkers Creek, Lafetra Creek, the New Jersey Transit Railroad and a residential area to the south. The post was established in 1918 during World War I (WWI) as an Army Signal Corps training center. The Main Post currently provides administrative, training, and housing support functions, as well as providing many of the community facilities for Fort Monmouth. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant at Fort Monmouth.

The M-3 Landfill site is located between North Drive and Lafetra Creek in the west-central portion of the Main Post (**Figure 2-2**). The approximate area of the M-3 Landfill site is 257,890 ft^2 (5.9 acres). Lafetra Creek flows along the northern perimeter of the M-3 Landfill site for a distance of approximately 1,200 feet. The bank of the site at this location is covered with trees and bramble mixed with other vegetation.

The various landfill sites on the Main Post are identified on **Figure 2-3**. The map is provided to identify:

- the relative location of each of the former landfill sites due to the similarity of past site uses, the types debris deposited at these locations, and the nature of the contaminants identified in soil, groundwater, and/or sediment samples during the present and former investigations; and

- the proximity and interrelatedness of the adjacent surface water bodies.

2.2 Site Background

The Weston report, *Investigation of Suspected Waste Sites at Fort Monmouth* (1993), summarized surface water sampling events in Lafetra Creek that have been conducted since February 1986. These sampling events were part of a former New Jersey Pollutant Discharge Elimination System (NJPDES) Permit. From these sampling events, the 1993 Weston report indicated one VOC (tetrachloroethene) was detected at concentrations

above NJDEP surface-water criteria. Since the source of the VOC exceedence identified in the Weston report could not be identified, Weston collected two additional surface water samples (M6SW-1 and M10SW-1) in 1995. The results of this sampling event are documented in the Weston report, *Site Investigation - Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report* (December 1995). The surface water samples were sampled for VOCs, SVOCs, Pesticides, PCBs and TAL Metals. According to the Weston SI report, VOCs, SVOCs, and Pesticides and PCBs were not detected in either sample over two sampling events. For the TAL Metals analysis, only manganese was detected at a concentration slightly exceeding the NJDEP surface water criteria. However, the Weston SI notes that the detected concentration was below the maximum background levels established for the Main Post.

Weston performed surface geophysics surveys consisting of magnetometer and GPR studies to define the approximate boundaries of the landfill and investigate the types of debris at the site. Three monitoring wells were sampled for VOCs, SVOCs, Pesticides, PCBs, and TAL Metals during two sampling events in 1995 during the Weston SI. Groundwater quality results indicated that chlorobenzene was detected in the downgradient well below laboratory quantitation limits, but slightly greater than the NJDEP GWQC. Lead was also detected at a concentration exceeding the GWQC. The Weston SI report recommended the implementation of a long-term groundwater and surface water monitoring program due to the historical site use as a landfill. The present investigation was undertaken to further expand the Weston SI report and assess the potential PCB-related impacts to stream sediments based on past site use and findings at other Main Post landfill sites.

2.3 Current Conditions

VERSAR conducted a site walk on December 11, 2000 to assess current conditions at the M-3 Landfill site. The site consisted of an open field, which is maintained through landscaping. Also present was a picnic area located in the center of the site and along North Drive. Site photographs are provided in **Appendix A**.

2.4 Environmental Setting

The following is a description of the geological/hydrogeological setting of the area surrounding the M-3 Landfill site. Included is a description of the regional geology of the area surrounding Fort Monmouth, as well as descriptions of the hydrogeology of the Main Post Area.

2.4.1 Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The M-3 Landfill site is located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands. The geologic map of New Jersey is provided as **Figure 2-4**.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units, which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown and Navesink Formations). The individual thickness for these units varies greatly (e.g., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line (e.g., a boundary zone between older, resistant rocks and younger, softer plain sediments) to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank Sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank Sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica and glauconite.

The Tinton Sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic-quartz and glauconite-sand to a glauconitic-coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit. The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard, 1969). Groundwater occurs beneath the site at a depth of approximately 2 to 12 feet bgs.

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the Main Post and dips to the southeast at a slope of 20 feet per mile (Jablonski, 1968). The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown, fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County (Jablonski, 1968).

As presented in the *Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey*, prepared by Weston, Inc, December 1995 (Weston SI), several natural and anthropogenic factors contribute to the wide range in concentrations of metals in soils, which further impact the concentration of metals in groundwater. Soils derived from the glauconitic sands contain abundant aluminum, calcium, potassium, iron,

magnesium and manganese (among others), which are likely to be present at elevated concentrations in the groundwater, particularly when sediments are entrained in the collected groundwater samples.

2.4.2 Hydrogeology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region (Meisler et al., 1988). This groundwater region is underlain by undeformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as Red Bank, Tinton and Hornerstown Sands) is dominated by calcium, magnesium, manganese, aluminum and iron. The sediments in the area of Fort Monmouth were deposited in fluvial-deltaic to near shore environments.

The water table aquifer in the Main Post Area is identified as part of the "Navesink-Hornerstown Confining Units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation. These geologic formations comprise a "Composite Confining Bed" for the Wenonah Mount Laurel Aquifer (Zapecza, 1984).

Wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm) (Jablonski, 1968). Groundwater is typically encountered at the Main Post and in the surrounding areas at shallow depths below ground surface (2 to 9 feet bgs). Water in the surficial aquifer generally flows east toward the Atlantic Ocean.

Based on a review of the NJDEP GWQS (NJAC 7:9-6), January 7, 1993, Versar has determined that the site is underlain by a Class III-A aquifer. A formal presentation of this finding was made to the NJDEP on April 17, 2001. The primary designated use for Class III-A groundwater is the release or transmittal of groundwater to adjacent classification areas and surface water, as relevant. Secondary designated uses in Class III-A include any reasonable use.

Shallow groundwater may be locally influenced within the Main Post Area by the following factors:

- Tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- Topography
- Nature of the fill material within the Main Post Area
- Presence of clay and silt lenses in the natural overburden deposits
- Local groundwater recharge areas (e.g., streams, lakes)
- Roadways, utility conduits and stormwater culverts

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. The groundwater flow in the vicinity of the M-3 Landfill site is assumed to be north toward Lafetra Creek.

As presented in the Weston SI, the boring logs from monitoring well installations at M-3 indicate that the lithology consists of a thin soil cover (0.3 feet) underlain by fill material. The fill materials consist of a black slag material with camera film, rebar, and paper debris. Natural quartz sand, gravel, silt and clay were intermixed with the manmade materials. The monitoring well located upgradient of the fill encountered soil consisting of tight olive-green silty fine-grained sand with a clay matrix. Groundwater saturation was observed in the borehole during drilling activities at depths ranging from 8 to 10 feet below ground surface (bgs). Water-level elevation data collected during the Weston SI indicate that local groundwater flow is to the north in the direction of Lafetra Creek.

2.4.3 Soils

According to the U.S. Department of Agriculture (USDA), Soil Conservation Service, Monmouth County Soil Survey, the majority of the Main Post area is covered by urban land (**Figure 2-5**). The soil survey described urban land as areas where concrete, asphalt, buildings, shopping centers, airports or other impervious surfaces cover 80 percent or more of the surface. In addition, the survey indicated that the natural subsurface soils have largely been replaced with artificial or foreign fill materials (developed land with disturbed soils). The following soil series and classification units are mapped in the Main Post Area:

- DoB Downer sandy loam (with 2 to 5 percent slopes);
- FrB Freehold sandy loam (with 2 to 5 percent slopes);
- FUB Freehold sandy loam/urban land complex (0 to 10 percent slopes);
- HV Humaquepts, frequently flooded;
- KvA Kresson loam (with 0 to 5 percent slopes);
- UA Udorthents, smoothed; and
- UD Udorthents – urban land complex (with 0 to 3 percent slopes).

The Downer series soils are well-drained soils that are found on uplands and terraces. The soils are formed in acid, silty coastal plain sediments. The Freehold soils are also well drained and are formed in acid, loamy, coastal plain sediments that, by volume, are 1 to 10 percent glauconite and are found on uplands. The Humaquepts soils are somewhat poorly- to very poorly- drained soils that are formed in stratified, sandy, or loamy sediments of fluvial origins. The Humaquepts soils are located on the floodplain and are subject to flooding several times each year. The Kresson loam is a nearly level to gently sloping soil and is somewhat poorly drained. The soil is found on low divides and in depressions. The Udorthents soils have been altered by excavation or filling activities. In filled areas, these soils consist of loamy material that is more than 20 inches thick. The filled areas include floodplain, tidal marshes and areas with moderately, well drained to very poorly drained soils. Some Udorthent soils contain concrete, asphalt, metal, and

glass. The soils in the vicinity of the M-3 Landfill site are classified as HV – Humaquepts, frequently flooded.

2.4.5 Topography and Surface Drainage

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. The M-3 Landfill site is located on the floodplain of Lafetra Creek. The USGS topographic map (**Figure 2-1**) shows that the land surface of the site is relatively flat at an elevation of less than 20 feet above mean sea level (amsl).

Surface water bodies from the western part of the Main Post flow into the Lafetra Creek to the north or into the Mill Creek to the south. The USGS topographic map (**Figure 2-1**) shows the Lafetra Creek as Parkers Creek Branch and Mill Creek as Wampum. Both Mill Creek and Lafetra Creek originate off-post. Mill Creek flows along the southern boundary of the Main Post, turning north just past the Auto Craft Shop. Mill Creek is channelized and flows past the north side of the M-2 Landfill site. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the post. Most of Parkers Creek, Lafetra Creek and Mill Creek are tidally influenced.

The U.S Fish and Wildlife Service (FWS) National Wetland Inventory Long Branch quadrangle maps indicate the presence of wetlands at the Main Post. Parkers and Oceanport Creeks are classified as estuarine intertidal aquatic beds. The area of Parkers Creek and the part of Oceanport Creek/Husky Brook are classified as estuarine intertidal emergent wetlands. Lafetra Creek and Mill Creek are classified as riverine lower perennial open water/unknown bottom.

3.0 SEDIMENT SAMPLING ACTIVITIES

Fort Monmouth DPW conducted sediment sampling in Lafetra Creek to evaluate potential PCB-related impacts to stream sediments from the adjacent M-3 Landfill site. On April 19, 2000, 11 borings were installed approximately every 50 feet along the bottom of Lafetra Creek, as shown in **Figure 3-1**. The locations extended from downstream at Boring B-1 to upstream at Boring B-11, and were sampled accordingly in that order (see chain-of-custody records, **Appendix D**.). The sediment sampling was conducted in accordance with the *Installation Landfill Program Sediment Sampling Plan for Nine Former Landfill Sites* (TVS, March 2000) found in **Appendix B**. The Sediment Sampling Plan (SSP) was approved by the NJDEP on April 3, 2000.

Twenty-five samples, including two duplicate samples for QA/QC, were collected from 11 borings using a Wildco Sediment Sampler. The sediment samples were obtained along the 1,200-foot portion of Lafetra Creek that flows along the northern perimeter of the M-3 Landfill site. Sample depths ranged from surface (0-6 inches) to near-surface (6-12 inches bgs) at each boring location, with the exception of Boring B-8, which was also sampled at a depth of 12-24 inches bgs. The sediment samples consisted of silty and sandy clays with a fine texture with some organic material, as well as some roots and woody material, generally black to a dark brown in color. As required by the SSP, downstream samples were collected first beginning at location B-1 and proceeding upstream to location B-11. Boring logs are provided in **Appendix C**.

Sampling equipment was thoroughly decontaminated prior to, and after each use, in accordance with the SSP. The sediment samples were collected using a Wildco Sampler and immediately placed in laboratory-supplied bottleware. The sample containers were labeled, sealed, packed in ice and transported to the Fort Monmouth Environmental Testing Laboratory (FMETL), New Jersey Certification Number NJDEP 13461, under proper chain-of-custody procedures. The samples were analyzed by FMETL on April 19, 2000 for PCBs utilizing USEPA Method 8082. Copies of the chain-of-custody for the laboratory analysis can be found in **Appendix D**. A summary of the borings, including sample IDs, sample collection date/time, sample depths, northing/easting coordinates, analysis and general soil descriptions is provided in **Table 3-1**.

4.0 SITE CHEMICAL CHARACTERIZATION

On April 19, 2000, the DPW collected 25 sediment samples along the bottom of Lafetra Creek to evaluate potential PCB-related impacts to stream sediments from the adjacent M-3 Landfill site. Eleven borings were installed at the approximate rate of one per 50 feet along the bottom of Lafetra Creek. Twenty-five samples were collected from 11 borings at depths ranging from surface (0-6 inches) to near-surface (6-12 inches bgs). Boring B-8 was also sampled at a depth of 12-24 inches bgs. Samples were identified in the field with the following nomenclature: M3/1 0-6", M3/1 6"-12" to M3/11 0-6", M3/11 6"-12". Two duplicate samples (DUP 0-6", DUP 6"-12") were also obtained for QA/QC purposes. The samples were analyzed for PCBs utilizing USEPA Method 8082.

4.1 Chemical Characterization

The sediment laboratory analytical data were compared to the established screening level criteria as presented in the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998). This evaluation included at least two samples from each boring to assess the sampling data and to identify potential contaminants of concern. For marine/estuarine sediment screenings, the guidelines define two guidance concentrations for Total PCBs, an Effects Range-Low (ER-L) and an Effects Range-Medium (ER-M). The ER-L (0.023 mg/kg Total PCBs) represents the concentration at which adverse benthic effects are found in approximately 10% of studies. The ER-M (0.180 mg/kg Total PCBs) represents the concentration at which a greater than 50% incidence of adverse effects to sensitive species and/or life stages is likely to occur. The ER-L and ER-M are not regulatory cleanup standards. An exceedence indicates a potential risk to the benthic community and helps determine the need for further investigations (e.g., toxicity testing, tissue bioassays, etc.). However, an exceedence of the ER-L/ER-M criteria does not necessarily require a further investigations if the sediments proximal to the site have similar contaminant concentration ranges to upgradient sediments. As stated previously, the samples were collected beginning with the downstream location (B-1) and proceeding to the upstream location (B-11). Therefore, the upgradient sediments are most closely represented by the laboratory data results for Boring B-11 (see **Table 4-1**). No PCBs were detected in sediment samples collected at this location.

Based on the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998), the Lowest Effects Levels (LEL) and the Severe Effects Levels (SEL) are to be used as guidelines for individual Arochlors. Arochlor 1254 is the only Arochlor found at the landfill sites shown on **Figure 2-3**. The LEL indicates concentrations at which adverse benthic impacts may begin to occur (level tolerated by most benthic organisms). The SEL is a contamination level that indicates severe impacts to the benthic community in most cases studied. Both the LEL and the SEL are derived from freshwater sediment screening criteria; however, they are used in conjunction with the marine/estuarine ER-L and ER-M values for screening purposes. The ER-L and ER-M apply to Total PCBs, whereas the LEL and SEL can be used for screening purposes for individual Arochlors.

In the case of non-polar organic compounds, such as PCBs, it may be necessary to modify the SEL to create a site-specific SEL (SSEL) based on the Total Organic Carbon (TOC) fraction present in the sample. The TOC fraction is used to determine if the samples were collected in depositional zones, evidenced by a higher percentage of fine-grained particles. Depositional zones are generally the areas of highest potential contamination and are targeted during site sampling events. To calculate a SSEL, the SEL is multiplied by the TOC fraction. If the TOC of the samples is not measured during sampling, as is the case at the M-3 Landfill site, a default value of 1% is used. In this instance, each SEL is multiplied by 0.01 to derive the SSEL for comparison purposes. At M-3, no Arochlors were detected. However, at other Fort Monmouth landfill sites, the only Arochlor detected in the sediments was Arochlor 1254. The LEL, SEL and SSEL for Arochlor 1254 are shown below.

Polychlorinated Biphenyl	LEL (mg/kg, dry weight)	SEL (mg/kg organic carbon, dry weight)	SSEL (mg/kg)
Arochlor 1254	0.060	34	0.34

mg/kg=milligrams per kilogram

The USEPA, Region II, and the NJDEP Bureau of Environmental Evaluation and Risk Assessment/Environmental Toxicology and Risk Assessment (BEERA/ETRA) have discontinued the SSEL approach for general screening purposes except in cases of borderline screening exceedances and/or a weight of professional evidence suggesting that the SSEL is appropriate. The SSEL approach is discussed here for completeness, but was not otherwise used to formulate site-related environmental risk decisions or conclusions.

The results of the laboratory analysis indicate no detections of PCBs above the laboratory Method Detection Limit (MDL) in any of the 25 samples. Therefore, there were no exceedences of the NJDEP guidance criteria for sediment quality and no potential exists for long-term adverse benthic effects in Lafetra Creek associated with the M-3 Landfill site. The sample results are summarized in **Table 4-1**. The laboratory data sheets are available in **Appendix D**.

4.2 QA/QC

In order to verify the reliability of the analytical results, VERSAR reviewed the holding times for each sample and the results of the analysis of each sample. All samples were analyzed by the FMETL within the prescribed holding time requirements for each analytical method.

The analytical results for the both the duplicate samples and the original samples showed that PCB concentrations at the M-3 Landfill site are non-detect (ND). Therefore, relative percent differences (RPDs) were not calculated.

5.0 CONCLUSIONS

Based on the results of this sediment quality evaluation, no PCBs were detected above the MDL in any sample. Therefore, NFA is recommended for the M-3 Landfill site related to potential PCBs impacts to the sediments of Lafetra Creek.

6.0 REFERENCES

Fort Monmouth Environmental Testing Laboratory (FMETL), *Analytical Data Package – Stream Sediments – M3 Landfill*, April 19, 2000

Jablonski, L.A., 1968. *Groundwater Resources of Monmouth County, New Jersey. USGS Special Report 23*. USGS, Washington, DC.

Meisler, H., J.A. Miller, L.L. Knobel, and R.L. Wait. 1988. "Region 22, Atlantic and Eastern Gulf Coastal Plan." *In: Hydrogeology: The Geology of North America*, W. Back, J.S. Rosenhein, and P.R. Seaber, editors. Vol. 0-2. pp. 209-218.

Minard, J.P., 1969. Geology of Sandy Hook Quadrangle in Monmouth County, New Jersey. U.S. Government Printing Office, Washington, DC.

New Jersey Administrative Code (NJAC) 7:26E - *Technical Requirements for Site Remediation.*

New Jersey Department of Environmental Protection - *NJDEP Guidance for Sediment Quality Evaluations (November 1998)*.

New Jersey Geological Survey Map, 1994.

TVS (TECOM-Vinnell Services), 2000. *SITE INVESTIGATION PLAN – Installation Landfill Program Sediment Sampling Plan for Nine Former Landfill Sites*.

USGS (U.S. Geological Survey), 1981. Long Branch Quadrangle Map.

VERSAR, Inc. (VERSAR), September 8, 1999. Subject: *Indefinite Quantity Delivery Contract No. DACA51-98-D0006, Fort Monmouth, Contract Support Services Relating to the Development of Four Remedial Action Reports*.

WESTON (Roy F. Weston, Inc.), 1993. *Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey*.

WESTON (Roy F. Weston, Inc.), 1995. *Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey*, December 1995.

Zapecza, O. 1989. *Hydrogeologic Framework of the New Jersey Coastal Plain.* USGS Professional Paper 1404-B. U.S. Government Printing Office, Washington, DC.

TABLES

Table 3-1
Sediment Sampling Summary
M-3 Landfill Site
Fort Monmouth, New Jersey

Boring ID	Field Sample Location ID	Laboratory Sample ID	Date Collected	Time Collected	Sample Depth (in bgs)[1]	Coordinates Northing	Coordinates Easting	Analysis	General Soil Description
B-1	M3/ 1 0-6"	**5355.01**	4/19/2000	0817	0-6"	539585.238	617293.195	PCBs[2] (SW-846 Method 8082)	Clay, Dark Brown to Black/Olive - Roots
	M3/ 1 6-12"	**5355.02**	4/19/2000	0819	6"-12"				
B-2	M3/ 2 0-6"	**5355.03**	4/19/2000	0823	0-6"	539547.565	617209.477	PCBs (SW-846 Method 8082)	Silty Clay, Fine, Black to Dark Brown/Olive - Roots
	M3/ 2 6-12"	**5355.04**	4/19/2000	0825	6"-12"				
B-3	M3/ 3 0-6"	**5355.05**	4/19/2000	0830	0-6"	539514.078	617132.039	PCBs (SW-846 Method 8082)	Silty Clay, Fine, Olive & Dark Brown
	M3/ 3 6-12"	**5355.06**	4/19/2000	0832	6"-12"				
B-4	M3/ 4 0-6"	**5355.07**	4/19/2000	0835	0-6"	539478.499	617050.414	PCBs (SW-846 Method 8082)	Silt to Sandy Clay, Fine, Black to Dark Brown/Olive, Some Organic Material
	M3/ 4 6-12"	**5355.08**	4/19/2000	0837	6"-12"				
B-5	M3/ 5 0-6"	**5355.09**	4/19/2000	0843	0-6"	539442.919	616972.975	PCBs (SW-846 Method 8082)	Silty Sand, Black with some Organic Material
	M3/ 5 6-12"	**5355.10**	4/19/2000	0845	6"-12"				
B-6	M3/ 6 0-6"	**5355.11**	4/19/2000	0850	0-6"	539396.874	616889.258	PCBs (SW-846 Method 8082)	Silty Sand, Black w/Organic Material, Angulars & Woody Material
	M3/ 6 6-12"	**5355.12**	4/19/2000	0852	6"-12"				
B-7	M3/ 7 0-6"	**5355.13**	4/19/2000	0857	0-6"	539352.922	616795.076	PCBs (SW-846 Method 8082)	Silty Sand, Black w/Organic Material, Angulars & Woody Material
	M3/ 7 6-12"	**5355.14**	4/19/2000	0859	6"-12"				
B-8	M3/ 8 0-6"	**5355.15**	4/19/2000	0905	0-6"	539323.621	616694.615	PCBs (SW-846 Method 8082)	Sandy Clay, Fine, Dark Brown to Black - Roots
	M3/ 8 6-12"	**5355.16**	4/19/2000	0907	6"-12"				
	M3/ 8 18"-24"	**5355.17**	4/19/2000	0910	18"-24"				
B-9	M3/ 9 0-6"	**5355.18**	4/19/2000	0915	0-6"	539290.134	616596.247	PCBs (SW-846 Method 8082)	Sandy Clay, Fine, Dark Brown to Black/Olive - Bands Varying in Color
	M3/ 9 6-12"	**5355.19**	4/19/2000	0917	6"-12"				
B-10	M3/ 10 0-6"	**5355.20**	4/19/2000	0922	0-6"	539254.554	616499.971	PCBs (SW-846 Method 8082)	Sandy Clay, Fine, Dark Brown to Black/Olive - Bands Varying in Color
	M3/ 10 6-12"	**5355.21**	4/19/2000	0924	6"-12"				
B-11	M3/ 11 0-6"	**5355.22**	4/19/2000	0928	0-6"	539216.635	616409.976	PCBs (SW-846 Method 8082)	Sandy Clay, Fine, Dk Brown-Black/Olive - Bands Varying in Color, Sm Rounds
	M3/ 11 6-12"	**5355.23**	4/19/2000	0931	6"-12"				

[1] bgs = below ground surface

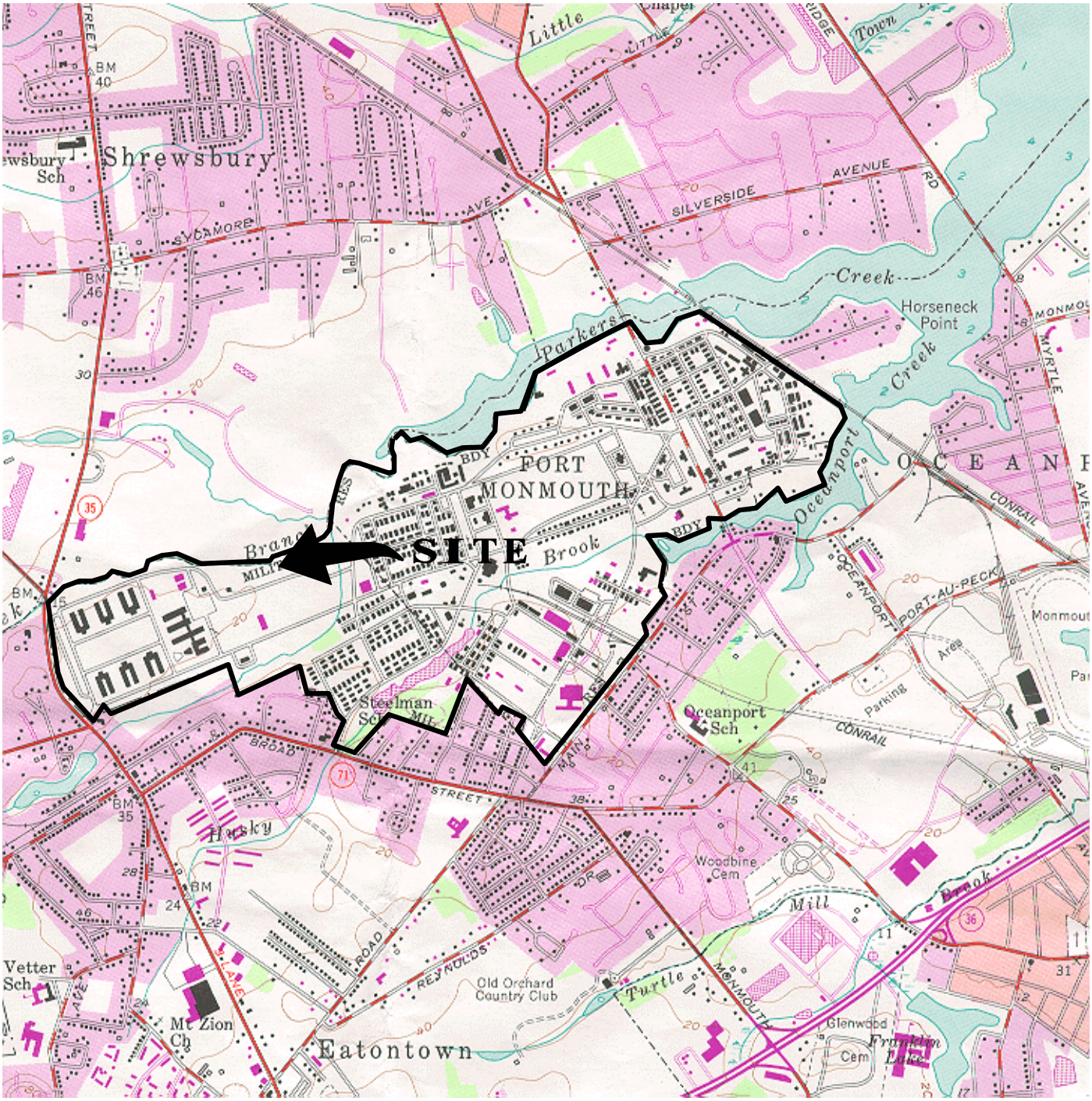
[2] PCBs = Polychlorinated Biphenyls

Table 4-1
PCB Sampling Results Summary
M-3 Landfill Site
Fort Monmouth, New Jersey

Boring ID	Sample Depth (bgs)	Field Sample Location ID	Lab Sample ID	Date Collected	Analytical Results[5]	MDL[6]
Total PCBs ER-L[1]					**0.023**	
Total PCBs ER-M[2]					**0.180**	
Arochlor 1254 LEL[3]					**0.060**	
Arochlor 1254 SEL[4]					**34**	
B-1	0-6"	M3/ 1 0-6"	5355.01	4/19/2000	ND	0.0143
	6"-12"	M3/ 1 6-12"	5355.02	4/19/2000	ND	0.0130
B-2	0-6"	M3/ 2 0-6"	5355.03	4/19/2000	ND	0.0111
	6"-12"	M3/ 2 6-12"	5355.04	4/19/2000	ND	0.0144
B-3	0-6"	M3/ 3 0-6"	5355.05	4/19/2000	ND	0.0156
	6"-12"	M3/ 3 6-12"	5355.06	4/19/2000	ND	0.0130
B-4	0-6"	M3/ 4 0-6"	5355.07	4/19/2000	ND	0.0118
	6"-12"	M3/ 4 6-12"	5355.08	4/19/2000	ND	0.0136
B-5	0-6"	M3/ 5 0-6"	5355.09	4/19/2000	ND	0.0151
	6"-12"	M3/ 5 6-12"	5355.10	4/19/2000	ND	0.0144
B-6	0-6"	M3/ 6 0-6"	5355.11	4/19/2000	ND	0.0110
	6"-12"	M3/ 6 6-12"	5355.12	4/19/2000	ND	0.0102
B-7	0-6"	M3/ 7 0-6"	5355.13	4/19/2000	ND	0.0101
	6"-12"	M3/ 7 6-12"	5355.14	4/19/2000	ND	0.0106
B-8	0-6"	M3/ 8 0-6"	5355.15	4/19/2000	ND	0.0127
	6"-12"	M3/ 8 6-12"	5355.16	4/19/2000	ND	0.0101
	18"-24"	M3/ 8 18"-24"	5355.17	4/19/2000	ND	0.0101
B-9	0-6"	M3/ 9 0-6"	5355.18	4/19/2000	ND	0.0111
	6"-12"	M3/ 9 6-12"	5355.19	4/19/2000	ND	0.0103
B-10	0-6"	M3/ 10 0-6"	5355.20	4/19/2000	ND	0.0097
	6"-12"	M3/ 10 6-12"	5355.21	4/19/2000	ND	0.0102
B-11	0-6"	M3/ 11 0-6"	5355.22	4/19/2000	ND	0.0099
	6"-12"	M3/ 11 6-12"	5355.23	4/19/2000	ND	0.0099
Duplicate	0-6"	DUP 0-6"	5355.24	4/19/2000	ND	0.0110
	6-12"	DUP 6-12"	5355.25	4/19/2000	ND	0.0102

Notes:
[1]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-L) - Effects Range-Low
[2]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-M) - Effects Range-Medium
[3]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (LEL) - Lowest Effects Level
[4]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (SEL) - Severe Effects Level
[5]All Results in milligrams per kilogram (mg/kg)
[6]Method Detection Limit (mg/kg) representing Total PCBs
ND = Analyte Not Detected in Sample
Exceedances of the NJDEP Guidances are shaded and printed in **bold-faced** type
PCBs = Polychlorinated Biphenyls

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

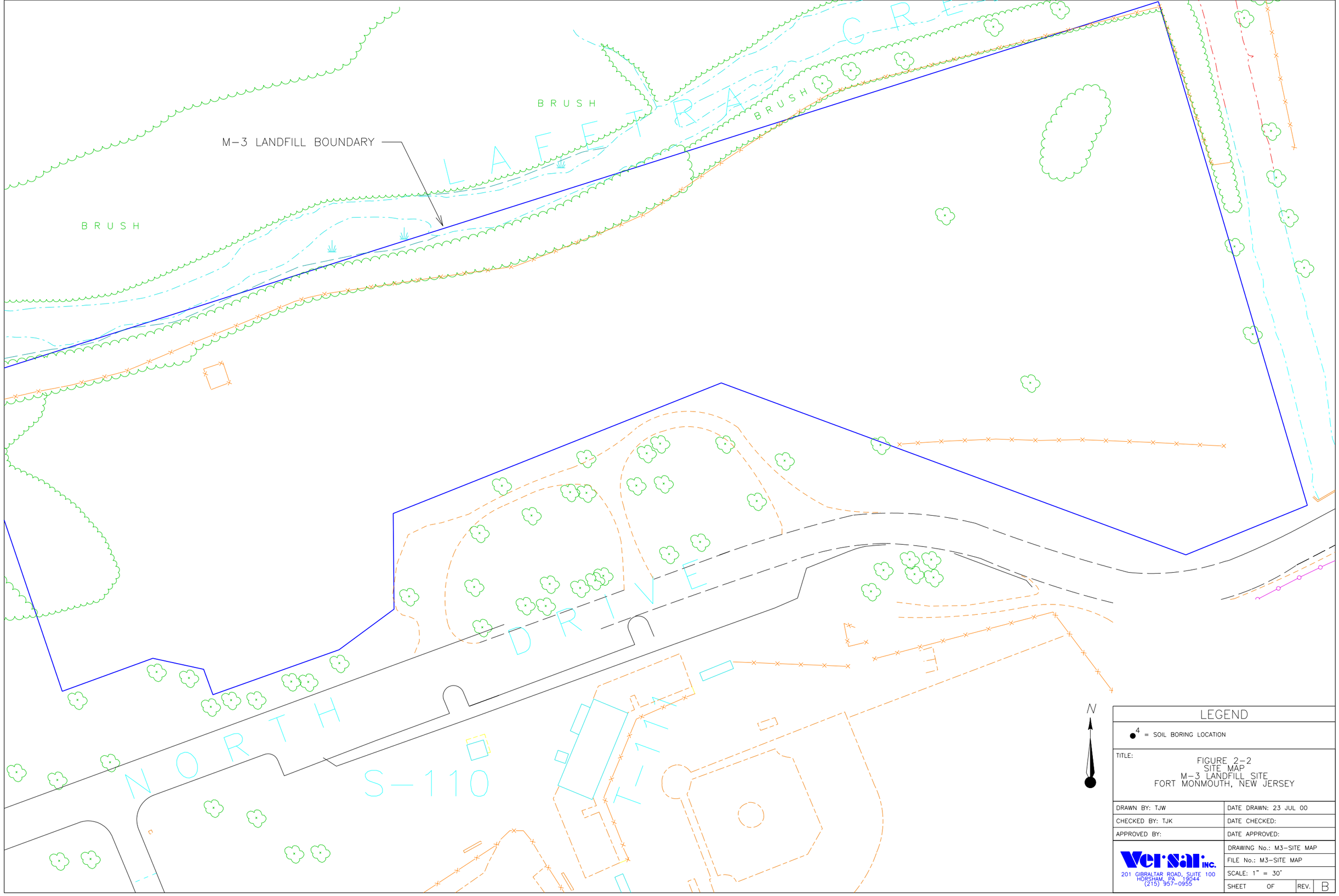
NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

Figure 2-1
Site Location Map
M-3 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955



LEGEND

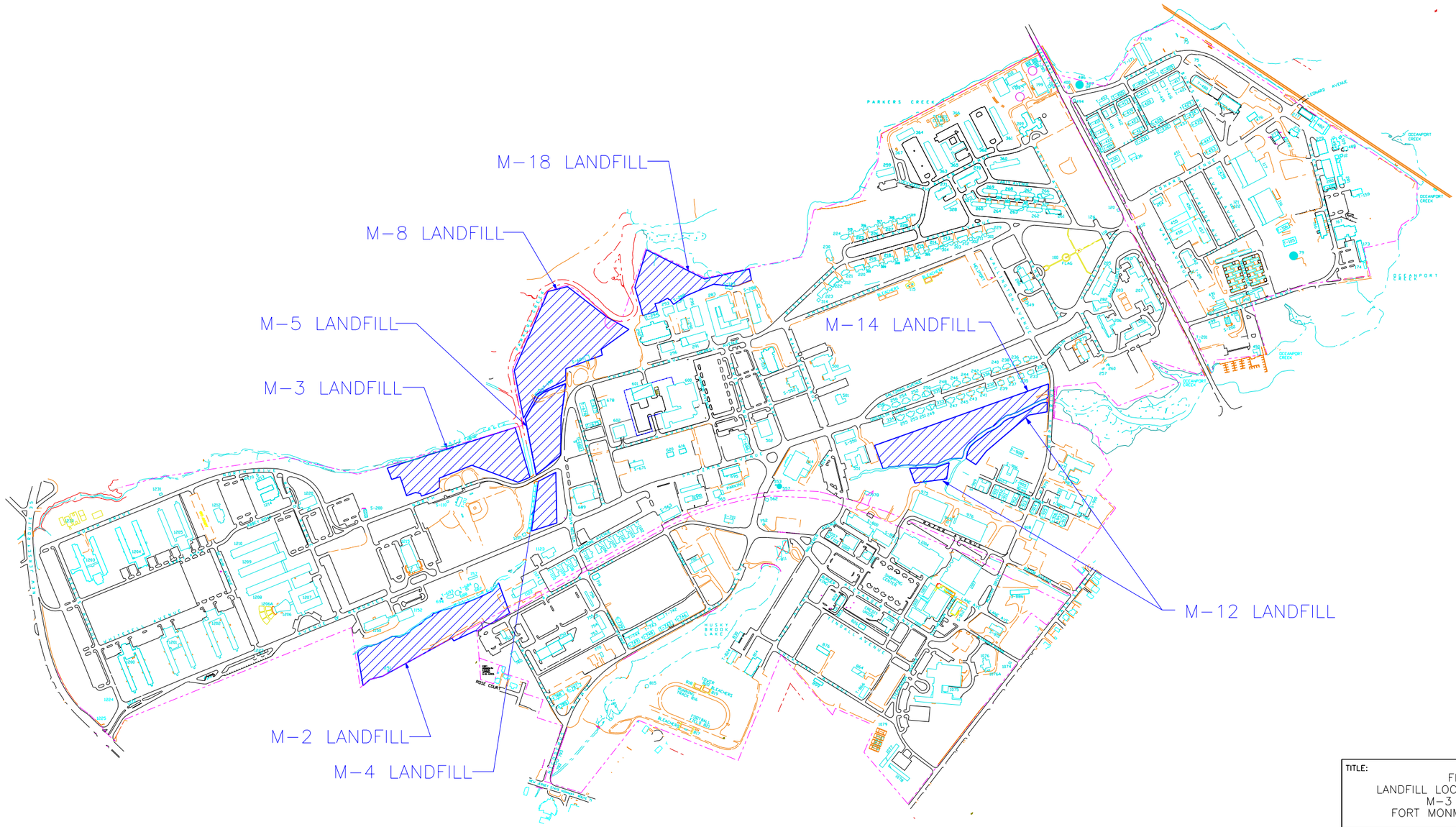
● 4 = SOIL BORING LOCATION

TITLE:

FIGURE 2-2
SITE MAP
M-3 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJW	DATE DRAWN: 23 JUL 00
CHECKED BY: TJK	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M3-SITE MAP
	FILE No.: M3-SITE MAP
	SCALE: 1" = 30'
	SHEET OF REV. B

Versar Inc.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957-0955



TITLE:

FIGURE 2-3
LANDFILL LOCATIONS ON MAIN POST
M-3 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: EPM	DATE DRAWN: 02 MARCH 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIG. 2-3
	FILE No.: M-3 FIG. 2-3
	SCALE: 1" = 800'
	SHEET OF REV.: A

Ver-Sal INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957-0955

Geologic Map of New Jersey

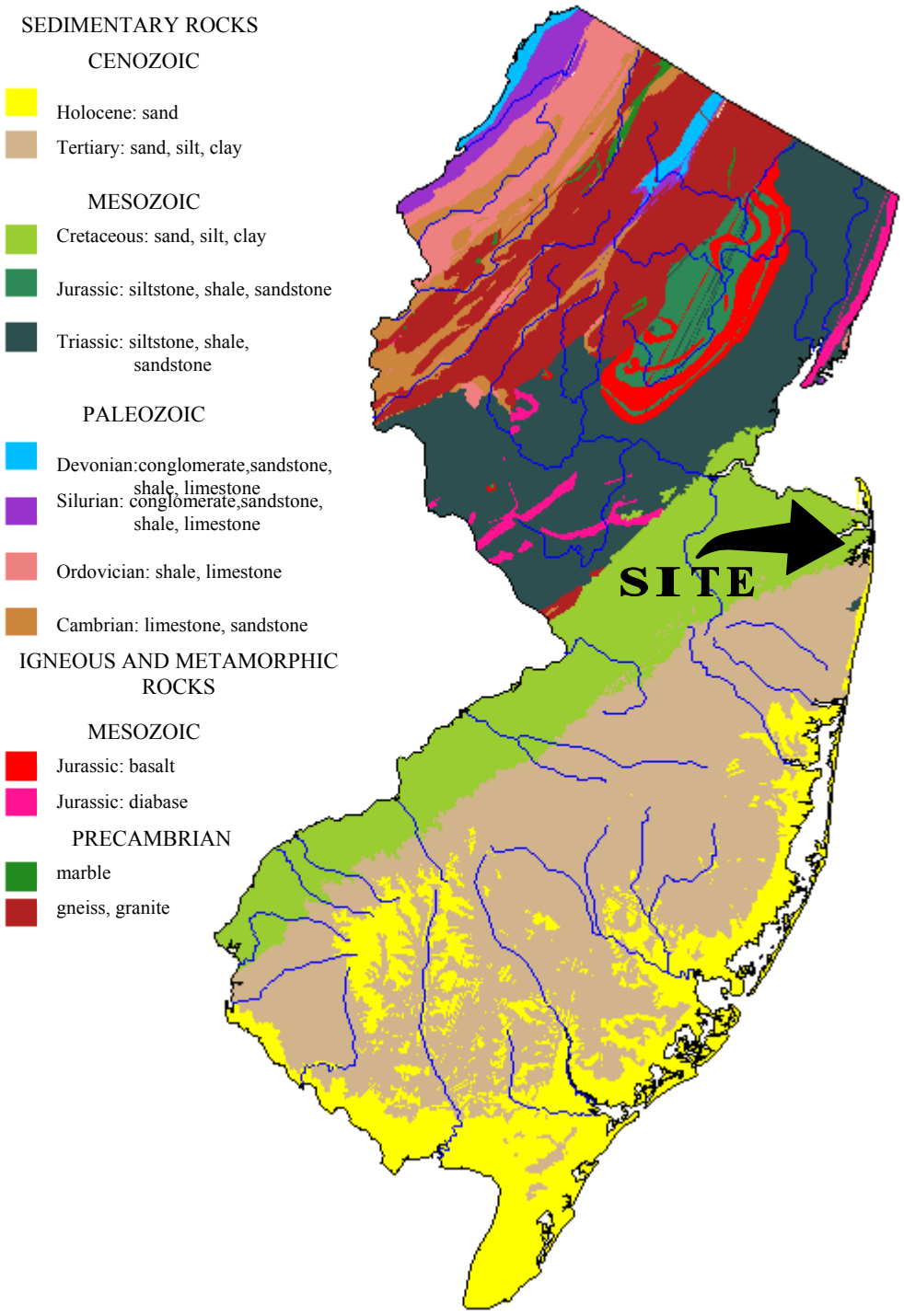
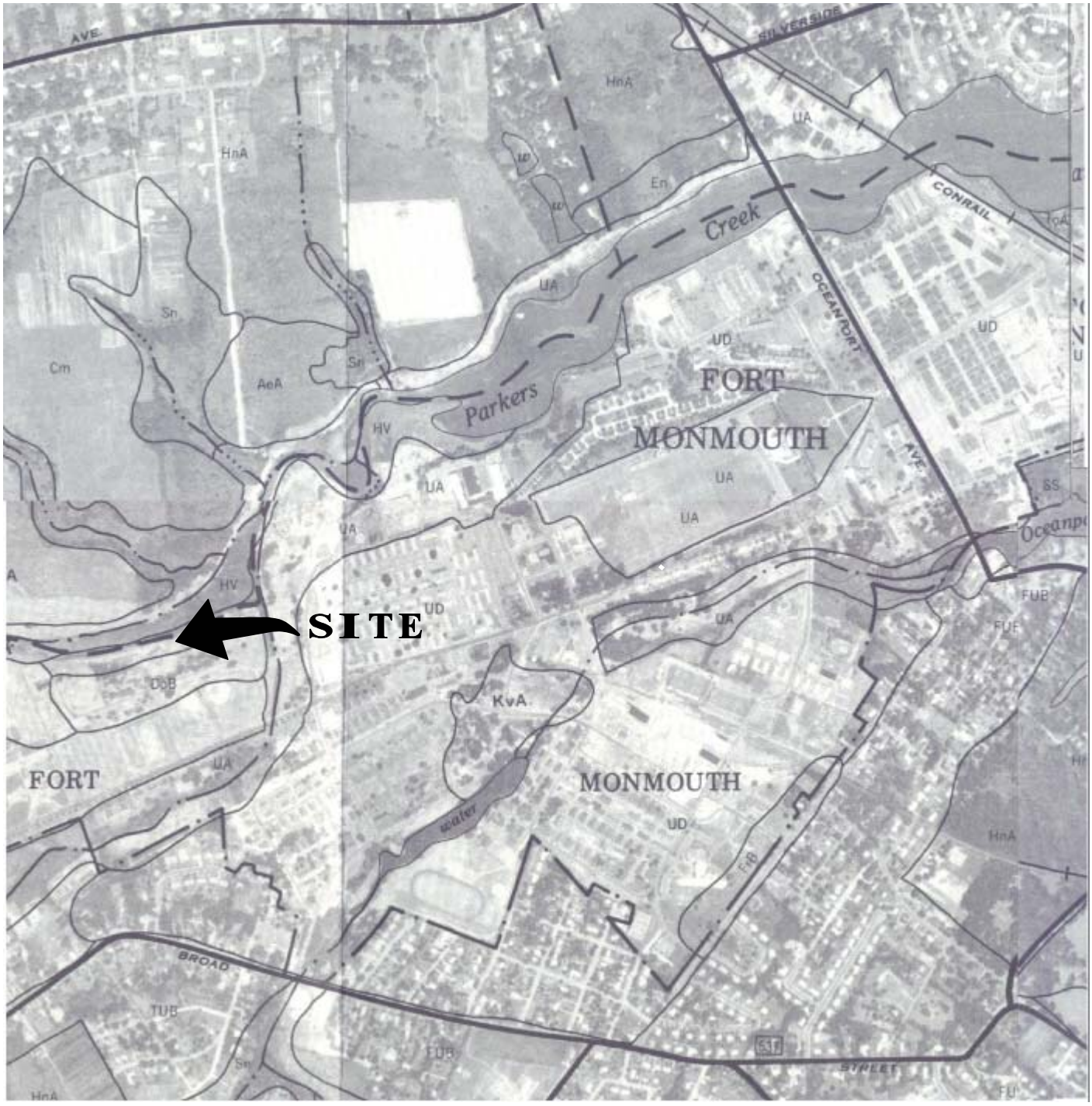


Figure 2-4
Geologic Map of New Jersey
M-3 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955

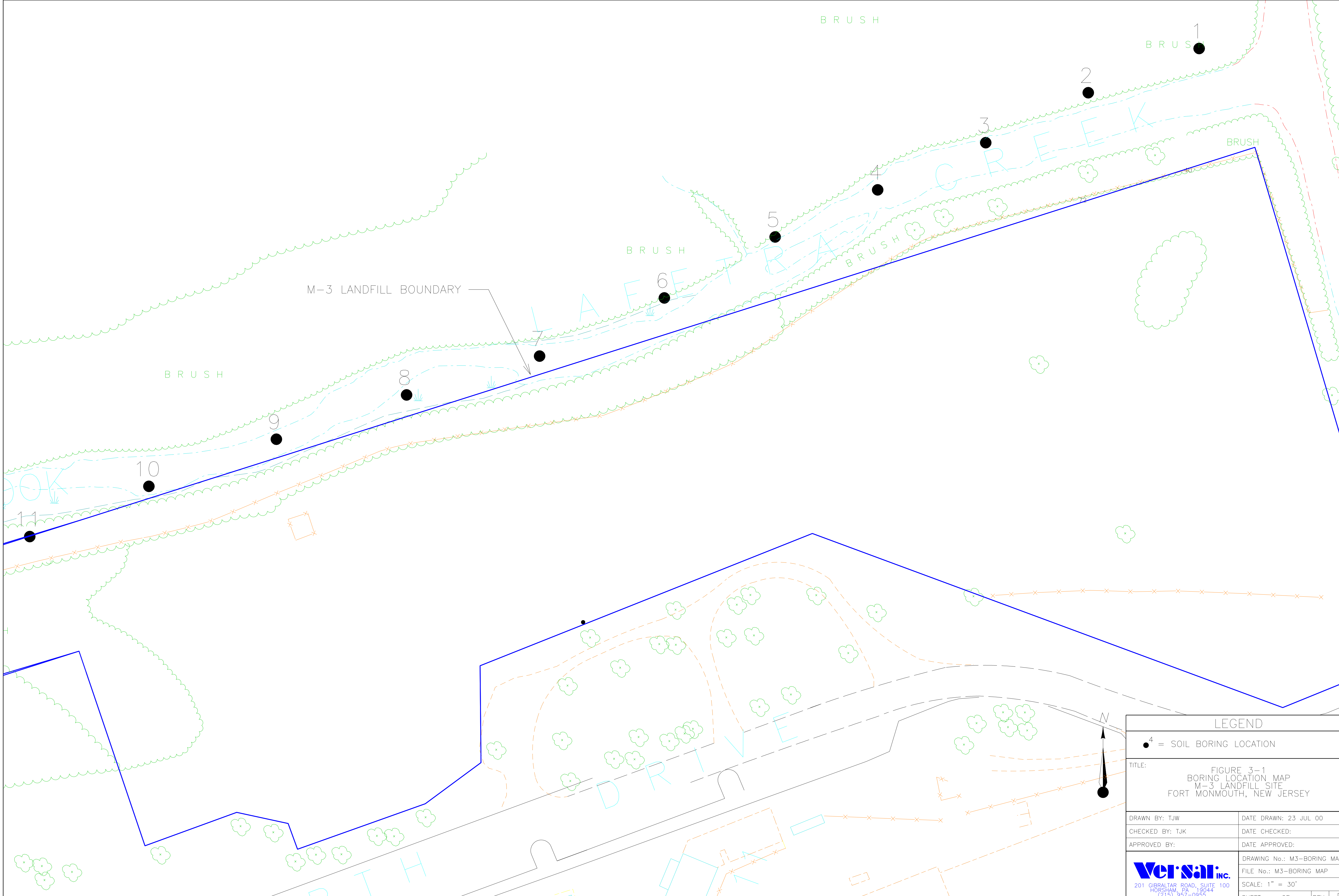
Source: New Jersey Gelolgic Survey, 1994, *Geologic Map of New Jersey*.



US Department of Agriculture
Soil Conservation Service
Soil Survey of Monmouth County, NJ
April 1989

Figure 2-5
Soil Map of Monmouth County
M-3 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955



LEGEND

● 4 = SOIL BORING LOCATION

TITLE:

FIGURE 3-1
BORING LOCATION MAP
M-3 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJW	DATE DRAWN: 23 JUL 00
CHECKED BY: TJK	DATE CHECKED:
APPROVED BY:	DATE APPROVED:

Versar INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957-0955

DRAWING No.: M3-BORING MAP			
FILE No.: M3-BORING MAP			
SCALE: 1" = 30'			
SHEET	OF	REV.	B

APPENDICES

Appendix A

Current Conditions Site Photographs

Appendix A
Current Conditions Site Photographs
M-3 Landfill Site
Fort Monmouth, New Jersey

Appendix B

Sediment Sampling Plan for Nine Former Landfill Sites (TVS, March 2000)

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. Joseph Fallon
Directorate of Public Works
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, NJ 07703 - 5101

APR 0 3 2000

Re: Sediment Sampling Plan
Sites M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A
Fort Monmouth Main Post/Charles Wood
Tinton Falls, Monmouth County

Dear Mr. Fallon:

The NJDEP has reviewed the March 29, 2000 Sediment sampling plan for the nine former landfill sites referenced above and we accept the plan as submitted.

The referenced document, developed with NJDEP using appropriate technical guidance documents and requirements, is specifically designed to determine if PCBs have impacted adjacent surface waters.

There are a few brief comments which we have previously discussed, but I wanted to note here as a reminder for you in this investigation.

- The NJDEP requires PCB method 8082 to be utilized.
- Approved sample preservation methods must be used if volatile compounds are to be investigated or reported on.
- Some discussion regarding the sediment criteria utilized along with a discussion on the application to the sample location and water body must be provided in the final report.
- Sampling must be performed on downgradient samples first.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH65IRC.DOC

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5101

REPLY TO
ATTENTION OF

Directorate of Public Works

March 29, 2000

State of New Jersey
Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Case Management
401 East State Street
ATTN: Ian Curtis
P. O. Box 028
Trenton, NJ 08625-0028

Re: Sediment Sampling Plan for Nine Former Landfill Sites
(i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 & CW-3A)
Main Post and Charles Wood Area, Fort Monmouth, New Jersey

Dear Mr. Curtis:

Submitted for your review and approval, please find a copy of the above referenced sampling plan. Said plan should enable the Directorate of Public Works to ascertain whether polychlorinated biphenyls are present within stream sediments bordering the nine referenced landfills. Future site work will be based upon the findings of this sampling initiative.

Should you have any questions or require any additional information regarding this plan, please contact the undersigned at the following telephone number: (732) 532-6223.

Sincerely,

Joseph M. Fallon

Joseph M. Fallon, CHMM
Environmental Protection Specialist
Directorate of Public Works

Encl.

United States Army
Directorate of Public Works
Fort Monmouth, New Jersey

Installation Restoration Program
Sediment Sampling Plan for
Nine Former Landfill Sites

March 2000

SITE INVESTIGATION PLAN

Installation Restoration Program
Sediment Sampling Plan for Nine Former Landfill Sites

PREPARED FOR:

JOSEPH FALLON
PROJECT MANAGER
Directorate of Public Works
BUILDING 173
FORT MONMOUTH, NJ 07703
(732)-532-6223

PREPARED BY:

TECOM-VINNELL SERVICES (TVS)
ENVIRONMENTAL OFFICE
BUILDING 173
FORT MONMOUTH, NJ 07703

TABLE OF CONTENTS

1.0 SAMPLING ACTIVITIES

1.1 OVERVIEW

This report provides details for a proposed sediment sampling plan as prepared by TECOM-Vinnell Services (TVS) on the behalf of the U.S. Army Fort Monmouth, Directorate of Public Works (DPW), Fort Monmouth, New Jersey. The purpose of this sampling initiative is to ascertain whether Polychlorinated Biphenyls (PCBs) are present within stream sediments which border nine former landfill sites (i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A). The streams associated with this investigation include Mill Creek, Lafetra Creek, Parkers Creek, Husky Brook, and an unnamed tributary of Wampum Brook (see attachments 1 & 2). The data generated from this study will be used in conjunction with other previously collected data involving surface soils, subsurface soils, ground water and surface water. As part of the larger, ongoing remedial investigation at these nine landfill sites, PCBs were identified within subsurface soils at landfill sites M-2 and M-8. The Final Site Investigation (SI) Report, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas (December 1995) identifies electronic components as one of the waste types being disposed of within the subject landfills. Said components (i.e. electrical ballasts) typically contained small quantities of insulating oil which may or may not have contained PCBs. Based upon the potential presence of electronic components at the other seven landfill sites, PCBs may also exist within subsurface soils at these locations. As part of previously conducted sampling initiatives, the DPW has been able to document that the PCBs identified at sites M-2 and M-8 have not impacted site ground water or surface water. Furthermore, PCBs have not been identified within site ground water or surface water at the other landfill sites. The overall goal of the proposed sampling plan is to document that the presence of PCBs at sites M-2 and M-8 have not impacted the nearby stream sediments.

This investigation will be conducted by TVS personnel in accordance with the specifications required for collecting sediment samples as determined by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May 1992) and the NJDEP Guidance For Sediment Quality Evaluations (November 1998).

1.2 SITE DESCRIPTION

Mill Creek is located along the northern side of the M-2 landfill (approximate distance 1,400 feet) and along the western side of the M-4 landfill (approximate distance 360 feet) and the M-5 landfill (approximate distance 570 feet). Lafetra Creek runs along the northern side of the M-3 landfill (approximate distance 1,200 feet), joining with Mill Creek to form Parkers Creek. Parkers Creek surrounds the M-8 landfill (approximate distance 1,500 feet) on the western, northern, and eastern sides. It then runs along the western side of the M-18 landfill (approximate distance 700 feet). Husky Brook runs along the northern side of the M-12 landfill, eventually running between the M-12 and M-14 landfills (combined approximate distance 1,700 feet) before flowing into Oceanport Creek. An unnamed tributary of Wampum Brook is located along the northern side of the CW-3A landfill (approximate distance 600 feet). Stream banks along the landfills vary from heavily vegetated with trees and bramble to simply grass. A stream bank restoration project is currently underway at the landfill sites located on the Main Post. The project entails stabilizing the stream banks through a combination of hard (rip-rap) and soft (vegetative plantings) engineering practices. All sites vary in steepness and have various access points. The streams flow constantly even in drought conditions and all but the unnamed tributary of Wampum Brook are tidally influenced. Currents and depth vary with tide.

1.3 HEALTH AND SAFETY

Before sampling activities commence, potential site hazards (physical, chemical and biological) will be evaluated by the TVS Health and Safety Office. A site specific Health and Safety Plan shall be prepared accordingly.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 CONTACTS AND PERSONNEL

The following is a listing of all contacts and personnel involved in the investigation. All analyses are to be performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, NJDEP- Certification # 13461. All sampling will be performed under the direct supervision of a NJDEP trained sample technician according to the methods described in the NJDEP Field Sampling Procedures Manual (1992) and as defined in this sampling plan.

The following parties are participants in this investigation:

- Environmental Protection Specialist: Joseph Fallon, CHMM
  Employer: U.S. Army, Fort Monmouth Phone Number: (732) 532-6223

- Field Technician: Corey McCormack
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989

- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
  Contact Person: Daniel Wright - Phone Number: (732) 532-4359
  Employer: TECOM-Vinnell Services
  NJDEP Certification No.: 13461

- Field Technician Supervisor: Mark Laura
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989

- Health and Safety Personnel: Bruce Wadlington, Chandra Jennings, and John Wierbowski. Employer: TVS - Phone Number: (732) 532-1706

2.2 SAMPLING PROCEDURES AND PROTOCOL

During the investigation, all samples will be collected with proper attention to quality assurance protocols and in accordance with the guidelines set forth by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May, 1992), the Technical Requirements for Site Remediation (NJAC 7:26E, June, 1993) and the NJDEP Guidance for Sediment Quality Evaluations (November 1998).

2.2.1 SITE ACTIVITES

Site activities shall include recording field conditions and other relevant observations, sampling sediments, plotting sample locations by use of our Global Positioning System (GPS), decontamination of equipment, and preservation and storage of samples.

2.2.2 SEDIMENT SAMPLING

Sample locations will be determined, sampled, and recorded in the following way:

1. Samples will be taken from clearly discernable depositional areas in and along the streams. In the event that no clear depositional areas can be located, a sample will be taken from the best possible stream bed point at the rate of 1 sample for every 100 feet.
2. Samples will be taken at a depth of 0-6 inches for surface deposits and 6-12 inches for subsurface deposits in each sampling event. Based upon the individual thickness of each depositional area, an 18-24 inch deep sample will also be taken if the desired depth is obtainable.
3. Sampling will commence from downstream, working upstream. Care will be taken to minimize disturbance of sediments and washing of samples as collected.
4. Tide, weather, recent activity, and notable observations will be recorded.
5. A boring log shall be created to note any layers, particle sizes, and defining aspects to each boring.
6. Sampling will be conducted using a hand core sediment sampler.
7. Samples for PCBs analysis will be collected into new, pre-cleaned, 4oz.clear glass jars with Teflon lined caps. All samples will be stored in a cooler at 4 degrees Celsius.
8. After each sampling event, equipment will be decontaminated as stated in section 2.3.
9. Each sample location will be plotted using our GPS.

2.2.3 QA/QC

Quality control samples are required to verify that the sample collection and handling process has not affected the quality of the sediment samples. All field quality control samples will be prepared exactly as regular investigation samples with regard to volume and containers. The following quality control samples will be collected for each batch of samples:

- Field duplicate daily or one every 20 samples; homogenized before splitting.

2.3 EQUIPMENT DECONTAMINATION

Decontamination will be done after every sampling event by the following procedure:

1. Alconox and water wash
2. Water rinse
3. Deionized water rinse
4. Air dry

Appendix C

Soil Boring Logs

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-1

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			CLAY. Dk. Brown. Roots.	
	5355.01	1	CLAY. Black.	0817
4				
			CLAY. Olive/DK. Brown.	
8	5355.02	2		0819
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI-1\M3-1.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-2

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.03	1	SILTY CLAY, Fine. Black. Roots.	0823
4			SILTY CLAY, Fine. Olive/Dk. Brown.	
8	5355.04	2	SILTY CLAY, Fine. Black. Roots.	0825
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-2.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-3

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.05	1	SILTY CLAY, Fine. Olive/Dk. Brown.	0830
4	5355.06	2		0832
8				
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-3.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-4

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SILT, VERY FINE. Black. Some Organic Material.	
	5355.07	1	SANDY CLAY, Fine. Olive/Dk. Brown.	0835
4			Oraganic Material. Black.	
			SANDY CLAY, Fine. Olive/DK. Brown.	
8	5355.08	2		0837
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-4.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-5

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.09	1	SILTY SAND, with Oraganic Material. Black.	0843
4				
8	5355.10	2		0845
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-5.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-6

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5355.11	1	SILTY SAND, with Oraganic Material. Black. Sm. Angulars. Black. Somw woody material scattered throughout.	0850
4				
8	5355.12	2		0852
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI-1\M3-6.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-7

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.13	1	SILTY SAND, with Oraganic Material. Black. Sm. Angulars. Black. Somw woody material scattered throughout.	0857
4				
8	5355.14	2		0859
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-7.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-8

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SANDY CLAY, Fine. Dk. Brown. Roots.	
	5355.15	1		0905
4			SANDY CLAY, Fine. Black.	
8			SANDY CLAY, Fine. Brown.	
	5355.16	2		0907
			CLAY. Black	
12			SANDY CLAY, Fine. Black	
16				
20	5355.17	3		0910
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-8.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-9

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.18	1	SANDY CLAY, Fine. Dk. Brown/Olive/Black. Thin bands varying in color throughout.	0915
4				
8	5355.19	2		0917
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-9.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-10

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SANDY CLAY, Fine. Dk. Brown/Olive/Black. Thin bands varying in color throughout.	
4	5355.20	1		0922
8	5355.21	2		0924
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI-1\M3-10.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-11

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M3 Landfill Sediments

DATE COMPLETED : 04/19/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M3

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5355.22	1	SANDY CLAY, Fine. Dk. Brown/Olive/Black. Thin bands varying in color throughout. Sm. Rounds.	0928
4	5355.23	2		0931
8				
12				
16				
20				
24				

04-20-2000 X:\MTECH5\LANDFI~1\M3-11.BOR

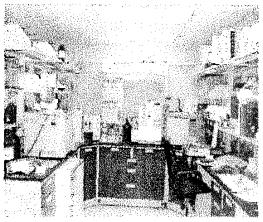
Appendix D

Soil Laboratory Data Sheets

(1)

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Stream Sediments

M3/Landfill

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
M3/ 1 0-6"	5355.01	Sediment	19-Apr-00 08:17	04/19/00
M3/ 1 6-12"	5355.02	Sediment	19-Apr-00 08:19	04/19/00
M3/ 2 0-6"	5355.03	Sediment	19-Apr-00 08:23	04/19/00
M3/ 2 6-12"	5355.04	Sediment	19-Apr-00 08:25	04/19/00
M3/ 3 0-6"	5355.05	Sediment	19-Apr-00 08:30	04/19/00
M3/ 3 6-12"	5355.06	Sediment	19-Apr-00 08:32	04/19/00
M3/ 4 0-6"	5355.07	Sediment	19-Apr-00 08:35	04/19/00
M3/ 4 6-12"	5355.08	Sediment	19-Apr-00 08:37	04/19/00
M3/ 5 0-6"	5355.09	Sediment	19-Apr-00 08:43	04/19/00
M3/ 5 6-12"	5355.10	Sediment	19-Apr-00 08:45	04/19/00
M3/ 6 0-6"	5355.11	Sediment	19-Apr-00 08:50	04/19/00
M3/ 6 6-12"	5355.12	Sediment	19-Apr-00 08:52	04/19/00
M3/ 7 0-6"	5355.13	Sediment	19-Apr-00 08:57	04/19/00
M3/ 7 6-12"	5355.14	Sediment	19-Apr-00 08:59	04/19/00
M3/ 8 0-6"	5355.15	Sediment	19-Apr-00 09:05	04/19/00
M3/ 8 6-12"	5355.16	Sediment	19-Apr-00 09:07	04/19/00
M3/ 8 18-24"	5355.17	Sediment	19-Apr-00 09:10	04/19/00
M3/ 9 0-6"	5355.18	Sediment	19-Apr-00 09:15	04/19/00
M3/ 9 6-12"	5355.19	Sediment	19-Apr-00 09:17	04/19/00
M3/ 10 0-6"	5355.20	Sediment	19-Apr-00 09:22	04/19/00
M3/ 10 6-12"	5355.21	Sediment	19-Apr-00 09:24	04/19/00
M3/ 11 0-6"	5355.22	Sediment	19-Apr-00 09:28	04/19/00
M3/ 11 6-12"	5355.23	Sediment	19-Apr-00 09:31	04/19/00
DUP. 0-6"	5355.24	Sediment	19-Apr-00	04/19/00
DUP. 6-12"	5355.25	Sediment	19-Apr-00	04/19/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
PCB's, %SOLIDS

5-15-00

Daniel Wright/Date
Laboratory Director

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. FALLON
Phone #: X2223
(X)DERA ( )OMA ( )Other:_____

Project No:
Location: M3 Landfill
Stream Sediments

Samplers Name / Company: Corey McCormack, TVS

Analysis Parameters: PCB's

Comments: < 4°C

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	PCB's	Remarks / Preservation Method
5355. .01	M3 1 0-6"	4/19/00	0817	Sed	1	✓	
.02	" 1 6-12"		0819			✓	
.03	M3 2 0-6"		0823			✓	
.04	" 2 6-12"		0825			✓	
.05	M3 3 0-6"		0830			✓	
.06	" 3 6-12"		0832			✓	
.07	M3 4 0-6"		0835			✓	
.08	" 4 6-12"		0837			✓	
.09	M3 5 0-6"		0843			✓	
.10	" 5 6-12"		0845			✓	
.11	M3 6 0-6"		0850			✓	
.12	" 6 6-12"		0852			✓	
.13	M3 7 0-6"		0857			✓	
.14	" 7 6-12"		0859			✓	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/19/00 1105	J. Wright			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 1WK Days, ( )ASAP Verbal ___ Hrs.

Remarks:
Tide: Low-Returning

print legibly

Coc.xls4/11/00

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. FALLON
Phone #: X26223
(X)DERA ( )OMA ( )Other:_____
Project No:
Location: M3 Landfill Stream Sediment Samples
Samplers Name / Company: Corey McCormack, TUS

Analysis Parameters: PCB's

Comments: 4 °C

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	PCB's	Remarks / Preservation Method
3355.15	M3 8 0-6"	4/19/00	0905	SED	1	✓	
.16	" 8 6-12"		0907			✓	
.17	" 8 18-24"		0910			✓	
.18	M3 9 0-6"		0915			✓	
.19	" 9 6-12"		0917			✓	
.20	M3 10 0-6"		0922			✓	
.21	" 10 6-12"		0924			✓	
.22	M3 11 0-6"		0928			✓	
.23	" 11 6-12"		0931	↓		✓	
.24	M3 Dupe 0-6"		—			✓	
.25	M3 Dupe 6-12"	↓	—	↓	↓	✓	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/19/00 1105				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 10 Days, ( )ASAP Verbal ____ Hrs.

Remarks:
Tide; Low → returning

Coc.xls3/16/00

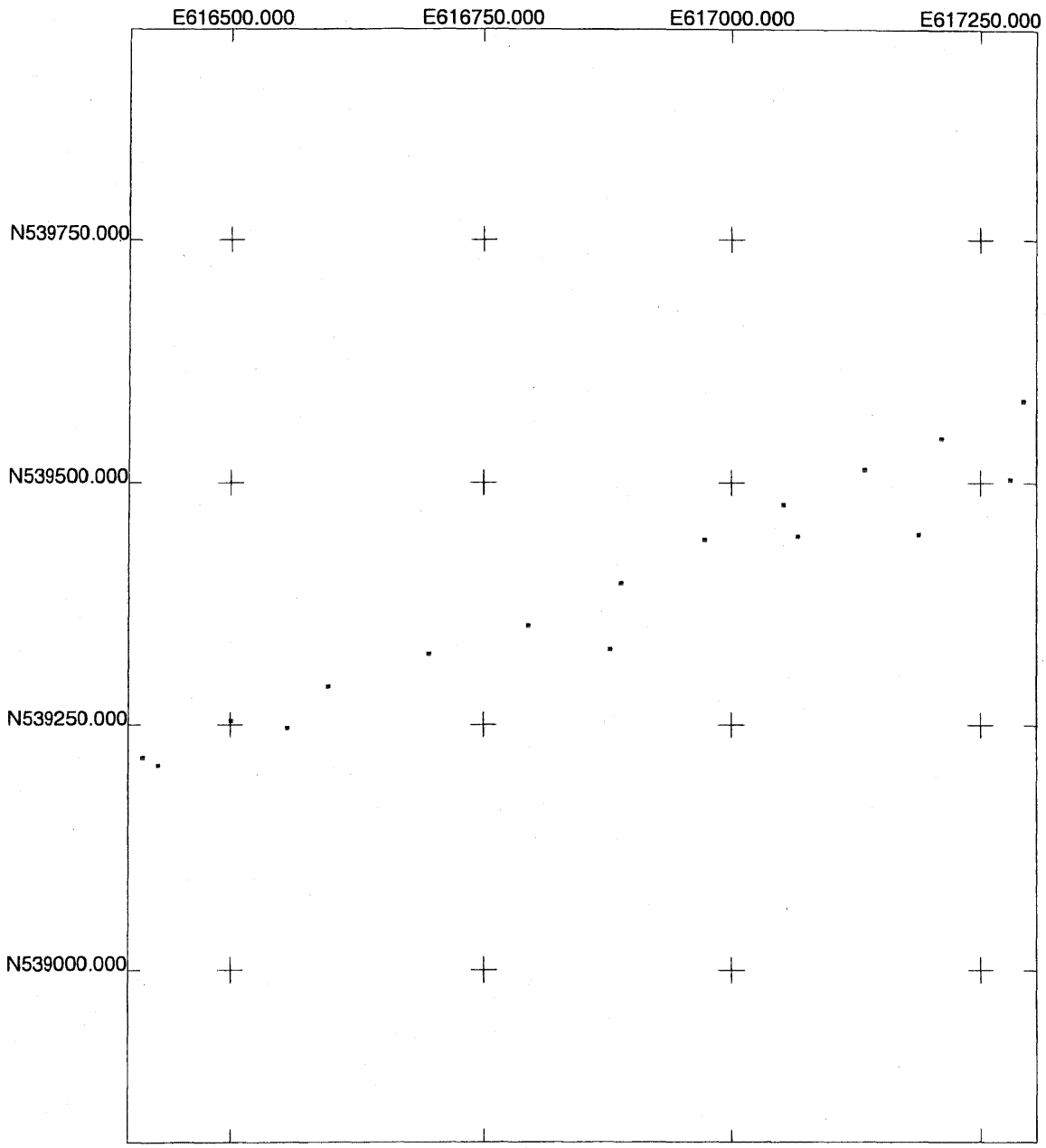
Landfill Stream Sediment PCB's Sample Event Site Field Summary for M3

Lafetra Creek runs along the northern side of the M3 landfill for approximately 1200 feet. The bank here is covered with trees and bramble mixed with other small vegetation. There has been only light stream bank restoration here.

Flow is constant and varies from less than .5 feet to 5 feet depending on tide. Weather at time of sampling was overcast with light mist. It had rained for two days prior to this sampling as well. Tide was low but coming in, and it should be noted that tides and runoff were high due to rain events.

There were few depositional areas, so samples were taken at the rate of 1 per every 100 feet of landfill bank.

GPS



M3 Landfill Stream Sediment PCB Samples GPS Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:2000
0 250.0
US Survey Feet

m3 r021218b.cor
04/27/2000
Pathfinder Office
Trimble

M3 LANDFILL STREAM SEDIMENT PCB'S SAMPLES GPS POSITIONS & COORDINATES

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
1	539585.238	617293.195
2	539547.565	617209.477
3	539514.078	617132.039
4	539478.499	617050.414
5	539442.919	616972.975
6	539396.874	616889.258
7	539352.922	616795.076
8	539323.621	616694.615
9	539290.134	616596.247
10	539254.554	616499.971
11	539216.635	616409.976

RFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
M3 MW07	539504.153	617279.822
M3 MW06	539448.424	617186.934
M5 MW08	539446.841	617064.824
M3 MW09	539328.318	616878.225
M5 MW10	539247.191	616555.661
M3 MW11	539208.571	616425.407

PCB's

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	PBLK513
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	
Matrix:	Sediment		
Analyst:	T. Frankovich	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	100.00	0.0011	ND	0.007	53.000	10.00
Arochlor 1221	0.1	100.00	0.0021	ND	NA	NA	10.00
Arochlor 1232	0.1	100.00	0.0014	ND	NA	NA	10.00
Arochlor 1242	0.1	100.00	0.0016	ND	NA	NA	10.00
Arochlor 1248	0.1	100.00	0.0006	ND	0.030	150.000	10.00
Arochlor 1254	0.1	100.00	0.0004	ND	0.060	34.000	10.00
Arochlor 1260	0.1	100.00	0.0004	ND	0.005	24.000	10.00
Total PCB	0.1	100.00	0.0076	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	PBLK514
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	
Matrix:	Sediment		
Analyst:	T. Frankovich	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**100.00**	**0.0011**	**ND**	**0.007**	**53.000**	**10.00**
Arochlor 1221	**0.1**	**100.00**	**0.0021**	**ND**	**NA**	**NA**	**10.00**
Arochlor 1232	**0.1**	**100.00**	**0.0014**	**ND**	**NA**	**NA**	**10.00**
Arochlor 1242	**0.1**	**100.00**	**0.0016**	**ND**	**NA**	**NA**	**10.00**
Arochlor 1248	**0.1**	**100.00**	**0.0006**	**ND**	**0.030**	**150.000**	**10.00**
Arochlor 1254	**0.1**	**100.00**	**0.0004**	**ND**	**0.060**	**34.000**	**10.00**
Arochlor 1260	**0.1**	**100.00**	**0.0004**	**ND**	**0.005**	**24.000**	**10.00**
Total PCB	**0.1**	**100.00**	**0.0076**	**ND**	**0.070**	**530.000**	**10.00**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.01
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 1 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**35.06**	**0.0021**	**ND**	**0.007**	**53.000**	**15.09**
Arochlor 1221	**0.1**	**35.06**	**0.0039**	**ND**	**NA**	**NA**	**15.09**
Arochlor 1232	**0.1**	**35.06**	**0.0026**	**ND**	**NA**	**NA**	**15.09**
Arochlor 1242	**0.1**	**35.06**	**0.0030**	**ND**	**NA**	**NA**	**15.09**
Arochlor 1248	**0.1**	**35.06**	**0.0012**	**ND**	**0.030**	**150.000**	**15.09**
Arochlor 1254	**0.1**	**35.06**	**0.0008**	**ND**	**0.060**	**34.000**	**15.09**
Arochlor 1260	**0.1**	**35.06**	**0.0007**	**ND**	**0.005**	**24.000**	**15.09**
Total PCB	**0.1**	**35.06**	**0.0143**	**ND**	**0.070**	**530.000**	**15.09**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 1 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**38.86**	**0.0019**	**ND**	**0.007**	**53.000**	**15.00**
Arochlor 1221	**0.1**	**38.86**	**0.0035**	**ND**	**NA**	**NA**	**15.00**
Arochlor 1232	**0.1**	**38.86**	**0.0024**	**ND**	**NA**	**NA**	**15.00**
Arochlor 1242	**0.1**	**38.86**	**0.0027**	**ND**	**NA**	**NA**	**15.00**
Arochlor 1248	**0.1**	**38.86**	**0.0011**	**ND**	**0.030**	**150.000**	**15.00**
Arochlor 1254	**0.1**	**38.86**	**0.0007**	**ND**	**0.060**	**34.000**	**15.00**
Arochlor 1260	**0.1**	**38.86**	**0.0006**	**ND**	**0.005**	**24.000**	**15.00**
Total PCB	**0.1**	**38.86**	**0.0130**	**ND**	**0.070**	**530.000**	**15.00**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.03
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 2 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**44.35**	**0.0016**	**ND**	**0.007**	**53.000**	**15.42**
Arochlor 1221	**0.1**	**44.35**	**0.0030**	**ND**	**NA**	**NA**	**15.42**
Arochlor 1232	**0.1**	**44.35**	**0.0020**	**ND**	**NA**	**NA**	**15.42**
Arochlor 1242	**0.1**	**44.35**	**0.0023**	**ND**	**NA**	**NA**	**15.42**
Arochlor 1248	**0.1**	**44.35**	**0.0009**	**ND**	**0.030**	**150.000**	**15.42**
Arochlor 1254	**0.1**	**44.35**	**0.0006**	**ND**	**0.060**	**34.000**	**15.42**
Arochlor 1260	**0.1**	**44.35**	**0.0005**	**ND**	**0.005**	**24.000**	**15.42**
Total PCB	**0.1**	**44.35**	**0.0111**	**ND**	**0.070**	**530.000**	**15.42**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 2 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**34.33**	**0.0021**	**ND**	**0.007**	**53.000**	**15.34**
Arochlor 1221	**0.1**	**34.33**	**0.0039**	**ND**	**NA**	**NA**	**15.34**
Arochlor 1232	**0.1**	**34.33**	**0.0027**	**ND**	**NA**	**NA**	**15.34**
Arochlor 1242	**0.1**	**34.33**	**0.0030**	**ND**	**NA**	**NA**	**15.34**
Arochlor 1248	**0.1**	**34.33**	**0.0012**	**ND**	**0.030**	**150.000**	**15.34**
Arochlor 1254	**0.1**	**34.33**	**0.0008**	**ND**	**0.060**	**34.000**	**15.34**
Arochlor 1260	**0.1**	**34.33**	**0.0007**	**ND**	**0.005**	**24.000**	**15.34**
Total PCB	**0.1**	**34.33**	**0.0144**	**ND**	**0.070**	**530.000**	**15.34**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.05
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 3 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**31.59**	**0.0023**	**ND**	**0.007**	**53.000**	**15.35**
Arochlor 1221	**0.1**	**31.59**	**0.0042**	**ND**	**NA**	**NA**	**15.35**
Arochlor 1232	**0.1**	**31.59**	**0.0029**	**ND**	**NA**	**NA**	**15.35**
Arochlor 1242	**0.1**	**31.59**	**0.0033**	**ND**	**NA**	**NA**	**15.35**
Arochlor 1248	**0.1**	**31.59**	**0.0013**	**ND**	**0.030**	**150.000**	**15.35**
Arochlor 1254	**0.1**	**31.59**	**0.0008**	**ND**	**0.060**	**34.000**	**15.35**
Arochlor 1260	**0.1**	**31.59**	**0.0007**	**ND**	**0.005**	**24.000**	**15.35**
Total PCB	**0.1**	**31.59**	**0.0156**	**ND**	**0.070**	**530.000**	**15.35**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 3 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**38.16**	**0.0019**	**ND**	**0.007**	**53.000**	**15.28**
Arochlor 1221	**0.1**	**38.16**	**0.0035**	**ND**	**NA**	**NA**	**15.28**
Arochlor 1232	**0.1**	**38.16**	**0.0024**	**ND**	**NA**	**NA**	**15.28**
Arochlor 1242	**0.1**	**38.16**	**0.0027**	**ND**	**NA**	**NA**	**15.28**
Arochlor 1248	**0.1**	**38.16**	**0.0011**	**ND**	**0.030**	**150.000**	**15.28**
Arochlor 1254	**0.1**	**38.16**	**0.0007**	**ND**	**0.060**	**34.000**	**15.28**
Arochlor 1260	**0.1**	**38.16**	**0.0006**	**ND**	**0.005**	**24.000**	**15.28**
Total PCB	**0.1**	**38.16**	**0.0130**	**ND**	**0.070**	**530.000**	**15.28**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.07
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 4 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	63.55	0.0017	ND	0.007	53.000	10.14
Arochlor 1221	0.1	63.55	0.0032	ND	NA	NA	10.14
Arochlor 1232	0.1	63.55	0.0022	ND	NA	NA	10.14
Arochlor 1242	0.1	63.55	0.0025	ND	NA	NA	10.14
Arochlor 1248	0.1	63.55	0.0010	ND	0.030	150.000	10.14
Arochlor 1254	0.1	63.55	0.0006	ND	0.060	34.000	10.14
Arochlor 1260	0.1	63.55	0.0006	ND	0.005	24.000	10.14
Total PCB	0.1	63.55	0.0118	ND	0.070	530.000	10.14

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 4 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**55.71**	**0.0020**	**ND**	**0.007**	**53.000**	**10.04**
Arochlor 1221	**0.1**	**55.71**	**0.0037**	**ND**	**NA**	**NA**	**10.04**
Arochlor 1232	**0.1**	**55.71**	**0.0025**	**ND**	**NA**	**NA**	**10.04**
Arochlor 1242	**0.1**	**55.71**	**0.0029**	**ND**	**NA**	**NA**	**10.04**
Arochlor 1248	**0.1**	**55.71**	**0.0011**	**ND**	**0.030**	**150.000**	**10.04**
Arochlor 1254	**0.1**	**55.71**	**0.0007**	**ND**	**0.060**	**34.000**	**10.04**
Arochlor 1260	**0.1**	**55.71**	**0.0006**	**ND**	**0.005**	**24.000**	**10.04**
Total PCB	**0.1**	**55.71**	**0.0136**	**ND**	**0.070**	**530.000**	**10.04**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.09
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 5 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	48.36	0.0022	ND	0.007	53.000	10.38
Arochlor 1221	0.1	48.36	0.0041	ND	NA	NA	10.38
Arochlor 1232	0.1	48.36	0.0028	ND	NA	NA	10.38
Arochlor 1242	0.1	48.36	0.0032	ND	NA	NA	10.38
Arochlor 1248	0.1	48.36	0.0013	ND	0.030	150.000	10.38
Arochlor 1254	0.1	48.36	0.0008	ND	0.060	34.000	10.38
Arochlor 1260	0.1	48.36	0.0007	ND	0.005	24.000	10.38
Total PCB	0.1	48.36	0.0151	ND	0.070	530.000	10.38

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 5 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**51.34**	**0.0021**	**ND**	**0.007**	**53.000**	**10.28**
Arochlor 1221	**0.1**	**51.34**	**0.0039**	**ND**	**NA**	**NA**	**10.28**
Arochlor 1232	**0.1**	**51.34**	**0.0027**	**ND**	**NA**	**NA**	**10.28**
Arochlor 1242	**0.1**	**51.34**	**0.0030**	**ND**	**NA**	**NA**	**10.28**
Arochlor 1248	**0.1**	**51.34**	**0.0012**	**ND**	**0.030**	**150.000**	**10.28**
Arochlor 1254	**0.1**	**51.34**	**0.0008**	**ND**	**0.060**	**34.000**	**10.28**
Arochlor 1260	**0.1**	**51.34**	**0.0007**	**ND**	**0.005**	**24.000**	**10.28**
Total PCB	**0.1**	**51.34**	**0.0144**	**ND**	**0.070**	**530.000**	**10.28**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.11
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 6 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	66.71	0.0016	ND	0.007	53.000	10.32
Arochlor 1221	0.1	66.71	0.0030	ND	NA	NA	10.32
Arochlor 1232	0.1	66.71	0.0020	ND	NA	NA	10.32
Arochlor 1242	0.1	66.71	0.0023	ND	NA	NA	10.32
Arochlor 1248	0.1	66.71	0.0009	ND	0.030	150.000	10.32
Arochlor 1254	0.1	66.71	0.0006	ND	0.060	34.000	10.32
Arochlor 1260	0.1	66.71	0.0005	ND	0.005	24.000	10.32
Total PCB	0.1	66.71	0.0110	ND	0.070	530.000	10.32

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 6 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**71.08**	**0.0015**	**ND**	**0.007**	**53.000**	**10.46**
Arochlor 1221	**0.1**	**71.08**	**0.0028**	**ND**	**NA**	**NA**	**10.46**
Arochlor 1232	**0.1**	**71.08**	**0.0019**	**ND**	**NA**	**NA**	**10.46**
Arochlor 1242	**0.1**	**71.08**	**0.0022**	**ND**	**NA**	**NA**	**10.46**
Arochlor 1248	**0.1**	**71.08**	**0.0009**	**ND**	**0.030**	**150.000**	**10.46**
Arochlor 1254	**0.1**	**71.08**	**0.0005**	**ND**	**0.060**	**34.000**	**10.46**
Arochlor 1260	**0.1**	**71.08**	**0.0005**	**ND**	**0.005**	**24.000**	**10.46**
Total PCB	**0.1**	**71.08**	**0.0102**	**ND**	**0.070**	**530.000**	**10.46**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.13
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 7 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**72.95**	**0.0015**	**ND**	**0.007**	**53.000**	**10.32**
Arochlor 1221	**0.1**	**72.95**	**0.0027**	**ND**	**NA**	**NA**	**10.32**
Arochlor 1232	**0.1**	**72.95**	**0.0019**	**ND**	**NA**	**NA**	**10.32**
Arochlor 1242	**0.1**	**72.95**	**0.0021**	**ND**	**NA**	**NA**	**10.32**
Arochlor 1248	**0.1**	**72.95**	**0.0009**	**ND**	**0.030**	**150.000**	**10.32**
Arochlor 1254	**0.1**	**72.95**	**0.0005**	**ND**	**0.060**	**34.000**	**10.32**
Arochlor 1260	**0.1**	**72.95**	**0.0005**	**ND**	**0.005**	**24.000**	**10.32**
Total PCB	**0.1**	**72.95**	**0.0101**	**ND**	**0.070**	**530.000**	**10.32**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 7 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**70.09**	**0.0016**	**ND**	**0.007**	**53.000**	**10.18**
Arochlor 1221	**0.1**	**70.09**	**0.0029**	**ND**	**NA**	**NA**	**10.18**
Arochlor 1232	**0.1**	**70.09**	**0.0020**	**ND**	**NA**	**NA**	**10.18**
Arochlor 1242	**0.1**	**70.09**	**0.0022**	**ND**	**NA**	**NA**	**10.18**
Arochlor 1248	**0.1**	**70.09**	**0.0009**	**ND**	**0.030**	**150.000**	**10.18**
Arochlor 1254	**0.1**	**70.09**	**0.0006**	**ND**	**0.060**	**34.000**	**10.18**
Arochlor 1260	**0.1**	**70.09**	**0.0005**	**ND**	**0.005**	**24.000**	**10.18**
Total PCB	**0.1**	**70.09**	**0.0106**	**ND**	**0.070**	**530.000**	**10.18**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/ 32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.15
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 8 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**39.72**	**0.0019**	**ND**	**0.007**	**53.000**	**15.02**
Arochlor 1221	**0.1**	**39.72**	**0.0035**	**ND**	**NA**	**NA**	**15.02**
Arochlor 1232	**0.1**	**39.72**	**0.0023**	**ND**	**NA**	**NA**	**15.02**
Arochlor 1242	**0.1**	**39.72**	**0.0027**	**ND**	**NA**	**NA**	**15.02**
Arochlor 1248	**0.1**	**39.72**	**0.0011**	**ND**	**0.030**	**150.000**	**15.02**
Arochlor 1254	**0.1**	**39.72**	**0.0007**	**ND**	**0.060**	**34.000**	**15.02**
Arochlor 1260	**0.1**	**39.72**	**0.0006**	**ND**	**0.005**	**24.000**	**15.02**
Total PCB	**0.1**	**39.72**	**0.0127**	**ND**	**0.070**	**530.000**	**15.02**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 8 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**73.36**	**0.0015**	**ND**	**0.007**	**53.000**	**10.24**
Arochlor 1221	**0.1**	**73.36**	**0.0027**	**ND**	**NA**	**NA**	**10.24**
Arochlor 1232	**0.1**	**73.36**	**0.0019**	**ND**	**NA**	**NA**	**10.24**
Arochlor 1242	**0.1**	**73.36**	**0.0021**	**ND**	**NA**	**NA**	**10.24**
Arochlor 1248	**0.1**	**73.36**	**0.0009**	**ND**	**0.030**	**150.000**	**10.24**
Arochlor 1254	**0.1**	**73.36**	**0.0005**	**ND**	**0.060**	**34.000**	**10.24**
Arochlor 1260	**0.1**	**73.36**	**0.0005**	**ND**	**0.005**	**24.000**	**10.24**
Total PCB	**0.1**	**73.36**	**0.0101**	**ND**	**0.070**	**530.000**	**10.24**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client:	U.S. Army	**Lab. ID # :**	5355.17
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 8 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	74.82	0.0015	ND	0.007	53.000	10.01
Arochlor 1221	0.1	74.82	0.0028	ND	NA	NA	10.01
Arochlor 1232	0.1	74.82	0.0019	ND	NA	NA	10.01
Arochlor 1242	0.1	74.82	0.0021	ND	NA	NA	10.01
Arochlor 1248	0.1	74.82	0.0009	ND	0.030	150.000	10.01
Arochlor 1254	0.1	74.82	0.0005	ND	0.060	34.000	10.01
Arochlor 1260	0.1	74.82	0.0005	ND	0.005	24.000	10.01
Total PCB	0.1	74.82	0.0101	ND	0.070	530.000	10.01

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 9 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	66.73	0.0016	ND	0.007	53.000	10.20
Arochlor 1221	0.1	66.73	0.0030	ND	NA	NA	10.20
Arochlor 1232	0.1	66.73	0.0021	ND	NA	NA	10.20
Arochlor 1242	0.1	66.73	0.0024	ND	NA	NA	10.20
Arochlor 1248	0.1	66.73	0.0009	ND	0.030	150.000	10.20
Arochlor 1254	0.1	66.73	0.0006	ND	0.060	34.000	10.20
Arochlor 1260	0.1	66.73	0.0005	ND	0.005	24.000	10.20
Total PCB	0.1	66.73	0.0111	ND	0.070	530.000	10.20

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.19
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 9 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	0.1	70.86	0.0015	ND	0.007	53.000	10.41
Arochlor 1221	0.1	70.86	0.0028	ND	NA	NA	10.41
Arochlor 1232	0.1	70.86	0.0019	ND	NA	NA	10.41
Arochlor 1242	0.1	70.86	0.0022	ND	NA	NA	10.41
Arochlor 1248	0.1	70.86	0.0009	ND	0.030	150.000	10.41
Arochlor 1254	0.1	70.86	0.0005	ND	0.060	34.000	10.41
Arochlor 1260	0.1	70.86	0.0005	ND	0.005	24.000	10.41
Total PCB	0.1	70.86	0.0103	ND	0.070	530.000	10.41

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/24/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 10 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**75.83**	**0.0014**	**ND**	**0.007**	**53.000**	**10.31**
Arochlor 1221	**0.1**	**75.83**	**0.0026**	**ND**	**NA**	**NA**	**10.31**
Arochlor 1232	**0.1**	**75.83**	**0.0018**	**ND**	**NA**	**NA**	**10.31**
Arochlor 1242	**0.1**	**75.83**	**0.0020**	**ND**	**NA**	**NA**	**10.31**
Arochlor 1248	**0.1**	**75.83**	**0.0008**	**ND**	**0.030**	**150.000**	**10.31**
Arochlor 1254	**0.1**	**75.83**	**0.0005**	**ND**	**0.060**	**34.000**	**10.31**
Arochlor 1260	**0.1**	**75.83**	**0.0005**	**ND**	**0.005**	**24.000**	**10.31**
Total PCB	**0.1**	**75.83**	**0.0097**	**ND**	**0.070**	**530.000**	**10.31**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.21
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/25/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 10 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**73.92**	**0.0015**	**ND**	**0.007**	**53.000**	**10.02**
Arochlor 1221	**0.1**	**73.92**	**0.0028**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1232	**0.1**	**73.92**	**0.0019**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1242	**0.1**	**73.92**	**0.0022**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1248	**0.1**	**73.92**	**0.0009**	**ND**	**0.030**	**150.000**	**10.02**
Arochlor 1254	**0.1**	**73.92**	**0.0005**	**ND**	**0.060**	**34.000**	**10.02**
Arochlor 1260	**0.1**	**73.92**	**0.0005**	**ND**	**0.005**	**24.000**	**10.02**
Total PCB	**0.1**	**73.92**	**0.0102**	**ND**	**0.070**	**530.000**	**10.02**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/25/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 11 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**75.17**	**0.0015**	**ND**	**0.007**	**53.000**	**10.14**
Arochlor 1221	**0.1**	**75.17**	**0.0027**	**ND**	**NA**	**NA**	**10.14**
Arochlor 1232	**0.1**	**75.17**	**0.0018**	**ND**	**NA**	**NA**	**10.14**
Arochlor 1242	**0.1**	**75.17**	**0.0021**	**ND**	**NA**	**NA**	**10.14**
Arochlor 1248	**0.1**	**75.17**	**0.0008**	**ND**	**0.030**	**150.000**	**10.14**
Arochlor 1254	**0.1**	**75.17**	**0.0005**	**ND**	**0.060**	**34.000**	**10.14**
Arochlor 1260	**0.1**	**75.17**	**0.0005**	**ND**	**0.005**	**24.000**	**10.14**
Total PCB	**0.1**	**75.17**	**0.0099**	**ND**	**0.070**	**530.000**	**10.14**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.23
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/25/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 11 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**76.08**	**0.0015**	**ND**	**0.007**	**53.000**	**10.11**
Arochlor 1221	**0.1**	**76.08**	**0.0027**	**ND**	**NA**	**NA**	**10.11**
Arochlor 1232	**0.1**	**76.08**	**0.0018**	**ND**	**NA**	**NA**	**10.11**
Arochlor 1242	**0.1**	**76.08**	**0.0021**	**ND**	**NA**	**NA**	**10.11**
Arochlor 1248	**0.1**	**76.08**	**0.0008**	**ND**	**0.030**	**150.000**	**10.11**
Arochlor 1254	**0.1**	**76.08**	**0.0005**	**ND**	**0.060**	**34.000**	**10.11**
Arochlor 1260	**0.1**	**76.08**	**0.0005**	**ND**	**0.005**	**24.000**	**10.11**
Total PCB	**0.1**	**76.08**	**0.0099**	**ND**	**0.070**	**530.000**	**10.11**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/25/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 Dupe 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**67.64**	**0.0016**	**ND**	**0.007**	**53.000**	**10.16**
Arochlor 1221	**0.1**	**67.64**	**0.0030**	**ND**	**NA**	**NA**	**10.16**
Arochlor 1232	**0.1**	**67.64**	**0.0020**	**ND**	**NA**	**NA**	**10.16**
Arochlor 1242	**0.1**	**67.64**	**0.0023**	**ND**	**NA**	**NA**	**10.16**
Arochlor 1248	**0.1**	**67.64**	**0.0009**	**ND**	**0.030**	**150.000**	**10.16**
Arochlor 1254	**0.1**	**67.64**	**0.0006**	**ND**	**0.060**	**34.000**	**10.16**
Arochlor 1260	**0.1**	**67.64**	**0.0005**	**ND**	**0.005**	**24.000**	**10.16**
Total PCB	**0.1**	**67.64**	**0.0110**	**ND**	**0.070**	**530.000**	**10.16**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5355.25
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/19/00
	Bldg. 173	**Extraction Date:**	4/21/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/25/00
Analysis:	SW-846 Method 8082	**Location :**	M3 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M3 Dupe 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**0.1**	**74.46**	**0.0015**	**ND**	**0.007**	**53.000**	**10.01**
Arochlor 1221	**0.1**	**74.46**	**0.0028**	**ND**	**NA**	**NA**	**10.01**
Arochlor 1232	**0.1**	**74.46**	**0.0019**	**ND**	**NA**	**NA**	**10.01**
Arochlor 1242	**0.1**	**74.46**	**0.0021**	**ND**	**NA**	**NA**	**10.01**
Arochlor 1248	**0.1**	**74.46**	**0.0009**	**ND**	**0.030**	**150.000**	**10.01**
Arochlor 1254	**0.1**	**74.46**	**0.0005**	**ND**	**0.060**	**34.000**	**10.01**
Arochlor 1260	**0.1**	**74.46**	**0.0005**	**ND**	**0.005**	**24.000**	**10.01**
Total PCB	**0.1**	**74.46**	**0.0102**	**ND**	**0.070**	**530.000**	**10.01**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um