FINAL

LANDFILL FEASIBILITY STUDY WORK PLAN
FOR
REMEDIAL INVESTIGATION /
FEASIBILITY STUDY / DECISION DOCUMENTS

FORT MONMOUTH, OCEANPORT,
MONMOUTH COUNTY, NEW JERSEY

BRAC 05 Facility
Contract W912DY-09-D-0062
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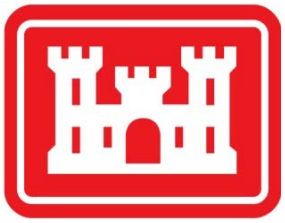

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LANDFILL FEASIBILITY STUDY WORK PLAN

Project Title:	**Remedial Investigation/Feasibility Study/Decision Documents, Fort Monmouth, Oceanport, Monmouth County, New Jersey**
Client Name:	**U.S. Army Engineering & Support Center (USAESCH)**
Contract Name:	**Remedial Investigation/Feasibility Study/Decision Documents, Fort Monmouth, Oceanport, Monmouth County, New Jersey**
Contract Number:	**W912DY-09-D-0062, Task Order 0012, Project No. 369857**
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LIST OF ACRONYMS

ACRONYM	DEFINITION
°F	degrees Fahrenheit
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
AMC	U.S. Fort Monmouth Material Command
amsl	above mean sea level
ARAR	applicable or relevant and appropriate requirement
AST	above-ground storage tanks
BEE	baseline ecological evaluation
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene, and xylenes
C4ISR	Command and Control Communications, Computers, Intelligence, Sensors and Reconnaissance
CD-ROM	compact disc
CECOM	U.S. Fort Monmouth Communications and Electronics Command
CENAE	U.S. Army Corps of Engineers New England District
CENAN	U.S. Army Corps of Engineers New York District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	common installation picture
CSDGM	Content Standards for Digital Geospatial Metadata
CSM	conceptual site model
CWA	Charles Wood Area
COPC	Contaminants of potential concern
COPEC	chemical of potential ecological concern
CZMP	Coastal Zone Management Program
DCE	Dichloroethene
DID	data item description
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DoD	Department of Defense
DPW	Department of Public Works
DQO	data quality objective
DVD-ROM	digital video disc
EA	Evans Area
ECP	Environmental Condition of Property

ACRONYM	DEFINITION
EM	engineering manual
ELAP	Environmental Laboratory Accreditation Program
EPH	extractable petroleum hydrocarbons
EPP	Environmental Protection Plan
ERPIMS	Environmental Resources Program Information Management System
ESC	ecological screening criteria
ESRI	Environmental Systems Research Institute
FFP	firm fixed price
FGDC	Federal Geographic Data Committee
FS	feasibility study
ft/day	feet per day
ft/ft	foot per foot
FMERA	Fort Monmouth Economic Revitalization Authority
FTMM	Fort Monmouth
GC/MS	gas chromatography/mass spectroscopy
GES	Groundwater & Environmental Services, Inc.
GFP	government-furnished property
GIS	geographic information system
gpm	gallons per minute
GPS	global positioning system
GWQS	Ground Water Quality Standard(s)
GWSL	Ground Water Screening Level(s)
HHRA	human health risk assessment
HTRW	hazardous, toxic, and radiological waste
IASLs	indoor air screening levels
IDW	investigation-derived waste
IRP	Installation Restoration Program
ISCO	in-situ chemical oxidation
LNAPL	light non-aqueous phase liquid
MDS	Mission Data Set
mg/kg	milligrams per kilogram
MNA	monitored natural attenuation
MP	Main Post
NAD83	North American Datum 1983
NCP	National Contingency Plan
NCR	nonconformance report

ACRONYM	DEFINITION
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
ORP	oxidation-reduction potential
PAH	polycyclic aromatic hydrocarbon
PCE	Tetrachloroethene
PDA	personal digital assistant
PDF	portable document format
PID	photoionization detector
PgM	program manager
PM	project manager
PMP	Project Management Plan
POC	point of contact
PP	priority pollutant(s)
PPE	personal protective equipment
PWS	Performance Work Statement
QA	quality assurance
QASP	Quality Assurance Surveillance Plan
QC	quality control
QCP	Quality Control Plan
R&D	research and development
RAGS	Risk Assessment Guidance for Superfund
RAO	remedial action objective
RAPR	Remedial Action Progress Report
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RCWM	recovered chemical warfare materiel
RDBMS	Relational Database Management System
RDCSRS	Residential Direct Contact Soil Remediation Standard
RI/FS	remedial investigation/feasibility study
SAP	Sampling and Analysis Plan
SDSFIE	Spatial Data Standards for Facilities Infrastructure and Environment
SGSL	soil gas screening level
SI	site investigation
SSHO	Site Safety and Health Officer
SHSP	Site Health and Safety Plan
SVE	soil vapor extraction

ACRONYM	DEFINITION
SVOCs	semi-volatile organic compounds
TAL	target analyte list
TBA	tert-butyl alcohol
TCE	Trichloroethene
TCL	target compound list
TICs	tentatively identified compounds
TPH	total petroleum hydrocarbons
UFP-QAPP	Uniform Federal Policy-Quality Assurance Project Plan
USACE	U.S. Army Corps of Engineers
USAEHA	U.S. Army Environmental Hygiene Agency
USAESCH	U.S. Army Engineering and Support Center, Huntsville
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VI	vapor intrusion
VOC	volatile organic compounds

SECTION 1
INTRODUCTION

1.1 PROJECT AUTHORIZATION

1.1.1 Parsons Government Services Inc. (Parsons) is serving as the prime contractor to the U.S. Army Engineering and Support Center, Huntsville (USAESCH) for the performance of a Remedial Investigation/Feasibility Study (RI/FS) to achieve acceptance of Decision Documents (DD) at the Fort Monmouth (FTMM) site in Oceanport, Monmouth County, New Jersey. This project is being performed under task order (TO) 0012 issued under the Worldwide Environmental Restoration Services (WERS) contract number W912DY-09-D-0062.

1.1.2 This TO was issued to address a number of environmental sites at FTMM that are in various stages of hazardous, toxic, and radiological waste (HTRW) investigation and remediation. Specific activities that will be performed under this delivery order include 1) performance of a remedial investigation (RI) and feasibility studies (FS) to achieve acceptance of DDs in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), 40 CFR Part 300 and to the extent possible to meet the requirements of New Jersey Administrative Code (NJAC) 7:26 E Technical Requirements for Site Remediation, and 2) supporting the closure of environmental sites, excluding the landfill sites to facilitate the efficient transfer of real property to other parties.

1.1.3 This work plan, which describes RI/FS activities to be performed at nine landfill sites designated as FTMM-02, FTMM-03, FTMM-04, FTMM-05, FTMM-08, FTMM-12, FTMM-14, FTMM-18 and FTMM-25, is to be executed in accordance with the Performance Work Statement (PWS) dated 30 August 2011 (**Appendix A**, included by reference only). Parsons will coordinate this effort with USAESCH, U.S. Army Corps of Engineers, New York District (CENAN), U.S. Army Corps of Engineers, New England District (CENAE), and FTMM. Project roles and responsibilities are outlined in the Project Management Plan (PMP) (Parsons, 2012a). (U.S. Army Corps of Engineers [USACE] is defined as USAESCH, CENAN, CENAE.)

1.2 PURPOSE AND SCOPE

1.2.1 Parsons will perform RI/FS activities for FTMM-02, FTMM-03, FTMM-04, FTMM-05, FTMM-08, FTMM-12, FTMM-14, FTMM-18 and FTMM-25 at FTMM. Extensive RI characterization and RI documents have already been completed for the nine sites. The supplemental RI activities will be limited to FTMM-02. Additional soil characterization may be required specifically along the former railroad track alignment south of the site to delineate the landfill. The RIs for the eight remaining landfill sites are complete and will be moving directly into the evaluation of the human health risk assessment (HHRA) and FS phases. After completion of the RI at FTMM-02, the HHRA and FS phases for this landfill will be prepared. Supporting plans, including the Accident Prevention Plan (APP), which contains the Site Health and Safety Plan (SHSP), and Sampling and Analysis Plan (SAP) have been prepared separately as stand-alone documents and are included in this work plan by reference only.

1.2.2 The work plan is a living document and may be updated via slip pages if warranted. Once this work plan is approved for implementation, a dated summary page listing

revised pages will be used to document associated changes and will be included with each revision.

1.2.3 The primary objective and purpose of the RI/FS stage is to safely characterize contamination, identify and quantify associated risk(s), and provide documentation supporting necessary response action planning. Following completion of the RI activities, site-specific RI/FS reports will be produced that incorporate any new RI data collected as part of this TO (FTMM-02 only), evaluate risks posed by site-related contamination, evaluate remedial alternatives, and document the recommended remedial alternative. The overall goal of this process is to obtain New Jersey Department of Environmental Protection (NJDEP) concurrence on a final RI/FS report for each site, and if appropriate, provide sufficient data to facilitate the future remedial action. The objective of the RI/FS portion of this project will be met when the following tasks have been accomplished:

- A work plan has been prepared in accordance with the PWS that references governing regulations and requirements, identifies appropriate activities for the RI, and defines and presents an effective approach to the planning and implementation of these activities that will meet the requirements of the RI/FS; and
- A RI is completed that is sufficient to characterize the nature and extent of potential contamination risks and support a FS for remedial action that identifies at least one appropriate, applicable, cost-effective, implementable remedy.

1.3 WORK PLAN ORGANIZATION

1.3.1 The work plan is organized to be compliant with relevant portions of Data Item Description (DID) WERS-001.01 (Explosives Management Plan, Interim Holding Facility Siting Plan for Recovered Chemical Warfare Materiel (RCWM) Projects, and Physical Security Plan for RCWM Project Sites). The work plan comprises several sub plans, each discussing a different aspect of the RI/FS and is summarized below. Sections 5, 8, and 9 of WERS-001.01 are not applicable to this project, and therefore are not included in this work plan.

- Introduction: Section 1 details the overall scope and objective of the project, presents the organization of the work plan, and presents an overview of the site and its history for the nine landfills, and previous investigations and historical data for FTMM-02. Previous investigations and historical data for the other eight landfills will be presented in the RI/FS report for each site;
- Technical Management Plan: Section 2 details the organizational structure, lines of authority, and communication of the project team. Given that much of the information in this chapter is also included in the PMP prepared under separate cover, the PMP is referenced where appropriate to avoid duplication of effort;
- Investigation Plan: Section 3 describes the specific RI activities planned for FTMM-02, the approach to risk characterization and analysis, and evaluation of remedial technologies and alternatives;
- Quality Control Plan (QCP): Section 4 describes Parsons' procedures for controlling and measuring the quality of work performed, including the organization, responsibilities, and policies. Additional information is included in the Uniform

Federal Policy-Quality Assurance Project Plan (UFP-QAPP) prepared as part of the SAP and included by reference as **Appendix E**;

- Environmental Protection Plan (EPP): Section 5 describes the procedures and methods to be implemented to minimize pollution; protect and conserve natural, cultural, archaeological, and water resources; restore damage; and control noise and dust within reasonable limits;
- Property Management Plan (PMP): Section 6 describes how Parsons will manage Government Furnished Property (GFP); and
- References: Section 7 includes a list of references used in the preparation of this work plan.

1.3.2 Additional information is attached to this work plan as appendices (some of which are included by reference as indicated below):

- **Appendix A** – Performance Work Statement (included by reference only);
- **Appendix B** – Field Forms: Relevant field forms that will be used by the sampling team are provided in the SAP Appendix B (included by reference only);
- **Appendix C** – Historical Information: Selected tables and figures from historical reports that illustrate previously-collected site characterization information;
- **Appendix D** – APP (included by reference only); and
- **Appendix E** – SAP (included by reference only).

1.4 PROJECT LOCATION

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City, New York, 70 miles northeast of Philadelphia, Pennsylvania, and 40 miles east of Trenton, New Jersey. The Atlantic Ocean is approximately 3 miles to the east. The location of FTMM and the nine landfill sites discussed in this work plan are shown on **Figures 1.1 through 1.3**.

1.5 SITE DESCRIPTION

1.5.1 Site Location

1.5.1.1 FTMM occupies approximately 1,126 acres and was comprised of two areas, including the Main Post (MP) and the Charles Wood Area (CWA). The EA was located approximately 8 miles to the south of the MP and CWA and was formerly used for administrative, research and development (R&D), and some training. FTMM falls within the Boroughs of Eatontown, Oceanport, and Tinton Falls. The 637-acre MP is located in the Eatontown and Oceanport Boroughs. The 489-acre CWA is located in the Eatontown and Tinton Falls Boroughs.

1.5.1.2 FTMM-02, also known as the M-2 Landfill Site, is located at the southwest corner of the MP, south of and adjacent to Mill Creek which flows eastward into Parkers Creek. The landfill is bounded to the north by Mill Creek, to the east by Building 1122, to the west by an open grassed area, and to the south by an abandoned railroad track bed. The approximate area of the M-2 Landfill Site is approximately 6.5 acres. The location of the M-2 Landfill Site is shown

on **Figure 1.2**. The M-2 Landfill Site currently supports vegetative growth and (i.e., grass, trees, brush) adjoins Mill Creek to the north (Versar, 2001).

1.5.1.3 FTMM-03, also known as the M-3 Landfill Site, is located between North Drive and Lafetra Creek in the west-central portion of the MP. Lafetra Creek flows along the northern perimeter of the M-3 Landfill Site for a distance of approximately 1,200 feet. The approximate area of the M-3 Landfill Site is approximately 8.0 acres. The location of the M-3 Landfill Site is shown on **Figure 1.2.**

1.5.1.4 FTMM-04, also known as the M-4 Landfill Site, is located in the MP Area and bounded by the Avenue of Memories to the south, North Drive to the north, Mill Creek to the west, and Wilson Avenue to the east. An approximate 360 foot section of Mill Creek flows along the western perimeter of the landfill and has reinforced concrete plates which are covered with grass, various plants and bramble. The approximate size of the M-4 Landfill Site is 61,800 square feet (1.4 acres). The location of the M-4 Landfill Site is shown on **Figure 1.2.**

1.5.1.5 FTMM-05, also known as M-5 Landfill Site, is located in the western portion of the MP, north of the M-4 Landfill Site and south of the M-8 Landfill Site. The M-5 Landfill Site is bounded to the south by North Drive, to the north by an unpaved road, Wilson Avenue to the east and Mill Creek and Parkers Creek to the west. A portion of Mills Creek is adjacent to the bounds of the western side of the site. The approximate size of the M-5 Landfill Site is 138,200 square feet (3.2 acres). The location of the M-5 Landfill Site is shown on **Figure 1.2.**

1.5.1.6 FTMM-08, also known as the M-8 Landfill Site, is located on the north-central portion of the MP, north of Buildings T-692 and S-697 and south of and adjacent to Parkers Creek. The M-5 Landfill Site is adjacent to the southern boundary of the M-8 Landfill Site. The approximate size of the M-8 Landfill Site is 315,000 square feet (7.2 acres). The location of the M-8 Landfill Site is shown on **Figure 1.2.**

1.5.1.7 FTMM-12, also known as the M-12 Landfill Site, is located on the central portion of the MP, south and adjacent to Husky Brook, and west of Murphy Drive. The M-12 Landfill Site is approximately 7.1 acres. The location of the M-12 Landfill Site is shown on **Figure 1.2.**

1.5.1.8 FTMM-14, also known as the M-14 Landfill Site, is located on the MP, on the north bank of Husky Brook, and west of Murphy Drive. The approximate size of the M-14 Landfill Site is 300,000 square feet (6.9 acres). The location of the M-14 Landfill Site is shown on **Figure 1.2.**

1.5.1.9 FTMM-18, also known as the M-18 Landfill Site, is located on the northern part of the MP, between Parkers Creek to the north and Buildings 283, T-294, T-293, S-289 and Sherrill Avenue to the south. The size of the M-18 Landfill Site area is approximately 4.85 acres. The location of the M-18 Landfill Site is shown on **Figure 1.2**.

1.5.1.10 FTMM-25, also known as the CW-3A Landfill Site, is located in the CWA. The CW-3A Landfill Site is bounded by Pearl Harbor Avenue to the west, Shrewsbury Creek to the north, a wooded area to the east and the Pulse Power Facility (Building 2707) to the south. The Shrewsbury Creek abuts the northern boundary of the CW-3A Landfill Site for approximately 600 feet. The CW-3A Landfill Site currently consists of a partially wooded lot with tall grass to the center and trees to the north, east and west. The size of the CW-3A Landfill Site is approximately 3.1 acres. The location of the CW-3A Landfill Site is shown on **Figure 1.3**.

1.5.2 Physiography, Topography and Vegetation

1.5.2.1 Both the MP and CWA are located within New Jersey's Coastal Plains Physiographic Province, which is described as gently dipping to the southeast. The Coastal Plains Physiographic Province is characterized by sedimentary beds dissected by meandering rivers that drain to the Raritan or Delaware River. The topography of the installation is relatively flat, and has an elevation of 20 to 25 feet above mean sea level (amsl) (AECOM, 2012).

1.5.2.2 Major vegetation zones at FTMM consist of landscaped areas, estuarine and fresh water wetlands, riparian areas, upland forests, and old field habitats (Shaw, 2011). Much of the upland areas of the MP and CWA consist of extensive areas of regularly mowed lawns and landscaped areas. The vegetation information summarized in the following paragraphs is primarily from the Baseline Ecological Evaluation Report (Shaw, 2011).

1.5.2.3 Areas of wetlands are present on both the MP and CWA. Estuarine wetlands on the MP are associated with the tidal brackish waters of Parkers and Oceanport Creeks. Where present on the MP, estuarine wetlands are dominated by common reed. Fresh water wetlands occur on both the MP and CWA. The most extensive of these are forested wetlands, with areas of emergent wetlands associated with the fresh water portions of the several creeks that traverse the MP and CWA. Forested wetlands in the area are typically dominated by red maple (*Acer rubrum*) and other hardwoods, including sweetgum (*Liquidambar styraciflua*), and black gum (*Nyssa sylvatica*). Shrubs/vines include arrowwood (*Viburnum dentatum*), coastal sweet pepperbush (*Clethra alnifolia*), and greenbrier (*Smilax rotundifolia*). Herbaceous species found in these forested wetlands include smartweed (*Polygonum sp.*), jewelweed (*Impatiens capensis*), violets (*Viola sp.*), asters, sedges and ferns. Fresh water emergent vegetation includes cattail (*Typha latifolia*), water smartweed (*Polygonum amphibium*), arrowhead (*Sagittaria sp.*), pondweed (*Potamogeton sp.*), sedges, and rushes.

1.5.2.4 In many areas of the MP, steep banks along the creeks limit the extent of the riparian zone and thereby prevent the formation of extensive wetlands. These areas have a narrow riparian zone dominated by marsh elder, also known as high-tide bush.

1.5.2.5 Although most upland areas of the MP and CWA are developed, patches of upland forest are present in several areas. Dominant tree species include red oak (*Quercus rubra*), chestnut oak (*Quercus prinus*), tuliptree (*Liriodendron tulipifera*), and sweetgum (*Liquidambar styraciflua*). Understory species include sassafras (*Sassafras albidum*), flowering dogwood (*Cornus florida*), and black cherry (*Prunus serotina*).

1.5.2.6 Old field habitats include formerly mowed areas where the vegetation includes grasses, forbes and often immature trees. Old field habitats at the MP include grasses, many forbes including Queen Ann's lace (*Daucus carota*), pokeweed (*Phytolacca americana*), goldenrod (*Solidago sp.*), milkweed (*Asclepias syriaca*), and sparse saplings of tree species including eastern red cedar (*Juniperus virginiana*) and winged sumac (*Rhus copallinum*).

1.5.2.7 FTMM-02

1.5.2.7.1 The vegetative cover at the M-2 Landfill Site is mostly cut field with isolated areas of wood shrub habitat. Habitats along Mill Creek are comprised of silver maple (*Acer saccharinum*), viburnum (*Viburnum* sp.), smartwood (*Polygon* sp.), and blackgum (*Nyssa sylvatica*). The upland portions of the M-2 Landfill Site contain black walnut (*juglans nigra*),

silver maple, boxwood (*Buxus* sp.), catalpa (*Catalpa speciosa*), and black locust (*Robinia pseuocacia*) (Shaw, 2012).

1.5.2.7.2 Geographic Information Systems (GIS) digital data available through the NJDEP indicate the presence of deciduous wetlands along Mill Creek and to the east and west of the M-2 Landfill Site and herbaceous wetlands across the site. Previous site visits confirmed the presence of deciduous wetlands bordering Mill Creek and the M-2 Landfill Site; however the site was typical of upland habitat and not herbaceous wetlands (Shaw, 2012).

1.5.3 Climate

The climate in the Fort Monmouth area is typically humid subtropical and is impacted by continental and oceanic influences. The proximity of the Atlantic Ocean tends to minimize seasonal temperature fluctuations as compared to interior regions of the state. Based on data obtained from the National Weather Service, the temperature at Fort Monmouth ranges from 20 degrees Fahrenheit (^{o}F) to 90^{o}F (average of 57^{o}F), and precipitation averages 42 inches per year. Winter is typically cold with occasional Nor'easters, resulting in rain along the coast; springs are mild, with the average temperature in the 50s and common thunderstorms; summers are hot and humid, with rare hurricanes; and autumns are similar to spring in terms of temperature and precipitation, although unpredictable weather is common (AECOM, 2012).

1.5.4 Geology and Hydrogeology

1.5.4.0.1 The MP and CWA are situated on Coastal Plain deposits that thicken to the southeast. Versar (2005) states that 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 from several feet to several hundred feet. A regional geologic cross-section for the FTMM vicinity is provided in **Appendix C**. This cross-section was obtained from a RI report for FTMM-59 prepared by Versar (2005). This cross-section indicated that the depth to bedrock at FTMM is approximately 1,000 feet and therefore is not a geologic unit of concern at FTMM.

1.5.4.0.2 Based on a regional geologic map prepared by Jablonski (1968) and presented in Versar (2005), the Cretaceous Age Red Bank and Tinton Sands (both unconsolidated) outcrop at the Main Post. The Red Bank Sand conformably overlies the unconsolidated 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. The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite (Versar, 2005).

1.5.4.0.3 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 Sand is often highly oxidized and iron oxide encrusted (Versar, 2005).

1.5.4.0.4 The water table aquifer in the MP 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 underlying Wenonah Mount Laurel Aquifer (Zapecza, 1984 as reported by Versar, 2005) (see regional geologic cross-section in **Appendix C**). Wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm) (Jablonski, 1968). The shallow water table conditions in the Tinton and Red Bank Sands, and the similar composition of these sands within the Kirkwood Formation, suggest that the Tinton-Red Bank-Kirkwood sequence forms a single, laterally continuous aquifer. Groundwater in this water table aquifer flows east towards the Atlantic Ocean. However, local topography tends to deflect the flow toward local depressions (Versar, 2005).

1.5.4.0.5 Groundwater is typically encountered at the MP and in the surrounding areas at shallow depths (2 to 9 feet bgs); groundwater elevations fluctuate with the tidal action in area creeks (AECOM, 2012). A pumping test performed at FTMM in 1992 yielded a hydraulic conductivity of 32 gallons per day per square foot (4.3 feet per day [ft/day]) (Groundwater & Environmental Services, Inc. [GES] 1999). The location of the pumping test and the geologic unit tested are not known. Additional hydraulic conductivity information for the MP area is provided in Appendix IV of the *MODFLOW Groundwater Modeling* report prepared by Brinkerhoff Environmental Services, Inc. (Brinkerhoff, 2010). A table summarizing this additional hydraulic conductivity information is provided in **Appendix C**. Twenty-one hydraulic conductivity values derived from slug tests performed in monitoring wells installed at various building areas ranged from 0.3 ft/day to 31.7 ft/day with an average value of 5.3 ft/day.

1.5.4.0.6 Shallow groundwater in the MP area is locally influenced by the following factors (GES, 1999):

- Tides (based on proximity to the Atlantic Ocean, rivers and tributaries);
- Topography;
- Nature of the fill material within the MP area;
- Presence of clay and silt lenses in the natural overburden deposits; and
- Local groundwater recharge areas (e.g., streams, lakes).

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), GES (1999) concluded that shallow groundwater flow direction is best determined on a case-by-case basis.

1.5.4.0.7 NJAC 7:9-6, Groundwater Quality Standards (GWQS), establishes groundwater quality criteria for different classes of groundwater. Class II-A, which is defined as all groundwater that is not classified as one of the other special classes, is the appropriate class for groundwater at Fort Monmouth. The primary designated use for Class II-A groundwater is potable water; secondary uses include agricultural and industrial water.

1.5.4.0.8 The chemistry of the groundwater 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 and Tinton Sands) is dominated by calcium, magnesium, and iron (Shaw, 2011). Glauconitic soils, such as those present in the Cretaceous Age Red Bank and

Tinton Sands of the FTMM area, can exhibit high concentrations of naturally occurring metals such as arsenic, beryllium, and lead (Dooley, 2001), and the upper part of the Tinton Sand is often highly iron-oxide encrusted.

1.5.4.1 FTMM-02

1.5.4.1.1 Site lithology for the M-2 Landfill Site reportedly consists of a thin soil cover (approximately 0.2 feet), underlain by fill material (Versar, 2001). The thickness of the fill ranges between 2 feet and 20 feet thick where encountered, with an average thickness of 9 feet and generally consists of organic debris and coal fragments intermixed with sand, silt and clay. Naturally occurring silty sand was encountered underlying the fill (Versar, 2001).

1.5.4.1.2 Groundwater was observed at a depth of approximately 8 feet below ground surface (bgs) across the site (Versar, 2004). Water level elevations collected during previous investigations indicate that the local groundwater flow is towards Mill Creek. The U.S. Geological Society (USGS) topographic map shows that the land surface of the M-2 Landfill Site is relatively flat at an elevation of less than 20 feet amsl (Versar, 2004).

1.5.4.2 FTMM-03

1.5.4.2.1 Site lithology for the M-3 Landfill Site reportedly consists of a thin soil cover (approximately 0.3 feet), underlain by fill material consisting of organic debris and slag intermixed with gravel, sand, silt and clay. Naturally occurring sand and silty clay were encountered underlying the fill at depths ranging from 1 to 2 feet bgs (Versar, 2004).

1.5.4.2.2 Groundwater was observed at depths ranging from approximately 2 to 12 feet bgs across the M-3 Landfill Site (Versar, 2004). Water level elevations collected during previous investigations indicate that local groundwater flow is to the north towards Lafetra Creek. USGS topographic maps show that the land surface of the site is relatively flat at an elevation of less than 20 feet amsl (Versar, 2004).

1.5.4.3 FTMM-04

1.5.4.3.1 Site lithology at the M-4 Landfill Site reportedly consists of a 0.4-foot thick soil cover overlaying fill material which generally consists of sand, silt, crushed concrete, gravel and organic matter (Versar, 2004). Naturally occurring sand and silty clay was encountered underlying the fill material at a depth of 18 feet bgs (Versar, 2005).

1.5.4.3.2 Groundwater was encountered at depths ranging from 5 to 10 feet bgs at the M-4 Landfill Site. The groundwater underlying the M-4 Landfill Site appears to be flowing in a westerly direction, towards Mill Creek. USGS topographic maps show that the land surface of the site is relatively flat at an elevation of less than 20 feet amsl (Versar, 2005). The M-4 Landfill Site is located within the Navesink-Hornerstown confining unit aquitard. The thickness and low hydraulic conductivity of the aquitard at the M-4 Landfill Site is classified as a Class III-A aquifer in accordance with NJDEP GWQS (NJAC 7:9-6, January 7, 1993). While the FTMM-04 landfill is located within the horizontal limits of the Hornerstown Formation (an aquitard with a Class-III-A designation as defined in N.J.A.C. 7:9C-1.5([f]), the groundwater criteria for the Hornerstown Formation under FTMM are the Class II-A Ground Water Quality Criteria. If additional investigation work is performed to demonstrate that the criteria in N.J.A.C. 7:9C-1.7(e) are met, groundwater standards may be based on the Class III-A narrative standards.

1.5.4.4 FTMM-05

1.5.4.4.1 Site lithology at the M-5 Landfill Site reportedly consists of a thin soil cover (approximately 0.5 feet) underlain by fill material (Versar, 2004). The fill materials observed consisted of coal, glass and plastic fragments intermixed with a silty sand and clay matrix (Versar, 2004).

1.5.4.4.2 Groundwater was observed at depths ranging from 2 to 10 feet bgs at the M-5 Landfill Site. Water-level elevation data collected indicated that local groundwater flow is to the west, towards Mill Creek (Versar, 2004). USGS topographic maps show that the land surface of the M-5 Landfill Site is relatively flat at an elevation of less than 20 feet amsl.

1.5.4.5 FTMM-08

1.5.4.5.1 Site lithology at the M-8 Landfill Site reportedly consists of a thin soil cover (approximately 0.4 feet), overlaying fill material. The fill material consists of wood, glass and wire fragments intermixed with silty sand and clay (Versar, 2004).

1.5.4.5.2 Groundwater was observed at depths ranging from approximately 2 to 8 feet bgs across the M-8 Landfill Site. Water-level elevation data collected indicated that local groundwater flow is to the north, toward Parkers Creek (Versar, 2004). USGS topographic maps show that the land surface of the M-8 Landfill Site is relatively flat at an elevation of less than 20 feet amsl (Versar, 2004).

1.5.4.6 FTMM-12

1.5.4.6.1 Site lithology at the M-12 Landfill Site reportedly consists of fill material, fine sand, silt and clay. The fill materials consisted of organic debris and coal fragments intermixed with a moderately to poorly sorted olive-green-brown, silty, medium to fine grained sand with clay lenses (Versar, 2003). Naturally occurring sand silt and clay was encountered below the fill at depths ranging between 4 to 10 feet bgs (Versar, 2003).

1.5.4.6.2 The groundwater underlying the M-12 Landfill Site appears to be flowing to the northwest into Husky Brook (Versar, 2003). USGS topographic maps show that the land surface of the M-12 Landfill Site is relatively flat at an elevation of less than 20 feet amsl (Versar, 2003).

1.5.4.7 FTMM-14

1.5.4.7.1 Site lithology at the M-14 Landfill Site reportedly consists of a thin soil cover (0.4 feet) underlain by fill material. The fill materials include concrete rubble, charcoal, wood and glass fragments intermixed with greenish-gray silty, coarse to fine sand with little clay and gravel (Versar, 2005).

1.5.4.7.2 Groundwater was observed at depths ranging between approximately 2 to 12 feet bgs) across the M-14 Landfill Site. Water-level elevation data collected indicated that the local groundwater flow is to the south toward Husky Brook (Versar, 2005). USGS topographic maps show that the land surface of the M-14 Landfill Site is relatively flat at an elevation of less than 20 feet amsl.

1.5.4.8 FTMM-18

1.5.4.8.1 Site lithology at the M-18 Landfill Site consists of asphalt, wood fragments and roof shingles intermixed with poorly sorted gray-olive brown, silty fine-coarse-grained sand with

trace amounts of clay (Versar, 2004). Surface water runoff from the M-18 Landfill Site is likely to flow northward into Parkers Creek.

1.5.4.8.2 Groundwater was observed at depths ranging between approximately 3.5 to 7 feet bgs. USGS topographic maps show that the land surface of the M-18 Landfill Site is relatively flat at an elevation of less than 20 feet amsl.

1.5.4.9 FTMM-25

1.5.4.9.1 Soil lithology at the CW-3A Landfill Site consists of a thin soil cover (0.4 feet) underlain by alternating layers of reworked sand, silt and broken concrete gravel pieces with interbedded plant/root fragments (Versar, 2005).

1.5.4.9.2 Groundwater saturation was observed at depths ranging between 6 to 12 feet bgs. The groundwater flow in the vicinity of the CW-3A Landfill Site is assumed to be north towards Shrewsbury Creek. USGS topographic maps show that the land surface at the CW-3A Landfill Site is relatively flat at an elevation of 30 to 60 feet amsl.

1.5.5 Site Soil

According to the Monmouth County Soil Survey (U.S. Department of Agriculture [USDA], 2008), much of the MP is covered by urban, developed land with disturbed soils, whereas the CWA is covered by less urban land complexes than the MP (Shaw, 2011). Surface soils in the vicinity of the MP and CWA generally consist of sandy loams ranging in depth from 9 to 12 inches. The surface soils are underlain by sandy loam, sandy clay loam, or loam that may grade to loamy sand at a depth of approximately 5 feet bgs. Some areas at the MP and CWA are covered by impermeable surfaces such as roads, parking lots, and buildings (AECOM, 2012).

1.5.6 Hydrology

1.5.6.1 The northeastern and southeastern portions of the MP are bordered by Parkers Creek and Oceanport Creek, respectively, and the southern portion of the MP is bordered by Husky Brook. The Shrewsbury River is located within one mile to the east of the MP. Wampum Brook is located to the south of the CWA, and Shrewsbury Creek traverses the CWA from west to east. Shrewsbury Creek and Wampum Brook merge approximately 300 feet east of the CWA to form Mill Creek. No other surface water bodies were identified within one mile of the CWA (AECOM, 2012).

1.5.6.2 Identified surface water bodies ultimately drain into the Shrewsbury Bay, situated adjacent to the eastern edge of the MP. Shrewsbury Bay is separated from the Atlantic Ocean by a barrier island. However, channels through the barrier island ensure hydraulic connection between Shrewsbury Bay and the Atlantic Ocean. As a result, the water in Shrewsbury Bay is tidally-influenced and is brackish to saline. Water in the tributary streams to Shrewsbury Bay is also tidally-influenced, and is fresh water to brackish at low tide and brackish to saline at high tide. Stormwater at FTMM drains to municipal drainage systems via overland flow (AECOM, 2012).

1.5.6.3 The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory indicates the presence of wetlands at the MP. Parkers and Oceanport Creeks are classified as estuarine and marine deepwater with estuarine and marine wetland areas. Husky Brook and Lafetra Creek are classified predominantly as fresh water riverine, emergent wetland, and forested/shrub wetland. Husky Brook Lake is classified as a fresh water pond. Several CWA

wetland areas are identified on the USFWS National Wetland Inventory. Most of Shrewsbury Creek and Wampum Brook are classified as fresh water forested/shrub wetland, and the open water in the golf course in the eastern portion of the CWA is classified as a fresh water pond (Shaw, 2011).

1.6 SITE HISTORY

1.6.0.1 The MP of FTMM was established in 1917 as Camp Little Silver. The name of the Camp was changed after three months to Camp Alfred Vail. The initial mission of the Camp was to train Signal Corps operators for service in World War I. After the war, Camp Vail was designated as the site of the Signal Corps School. In 1925, the facility became a permanent post, and its name was changed to Fort Monmouth.

1.6.0.2 Camp Charles Wood was purchased in 1941 and opened in 1942. The eastern half of the property was formerly a golf course, and the western half was residential property and farmland. During World War II, the Camp was used for training Signal Corpsmen. A R&D facility, the Myer Center (Building 2700), was completed in 1954. Laboratories within the Myer Center facility developed state-of-the-art electronic and communications equipment for use by the U.S. Armed Forces.

1.6.0.3 The primary mission of FTMM was to provide command, administrative, and logistical support for Headquarters, U.S. Fort Monmouth Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Fort Monmouth Material Command (AMC) and was the host activity. Fort Monmouth was the center for the development of the Fort Monmouth's Command and Control Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) systems, formerly the primary tenants of the Fort. FTMM has a long history of research and development activity, mostly related to communications and electronic equipment. For the completion of these research activities, FTMM has operated a variety of laboratories. Additionally, FTMM has a significant history of training and housing troops. In support of these activities, FTMM has had a full complement of support activities including vehicle maintenance, warehousing, medical and dental services, photo processing, printing, historic solid waste handling methods (e.g., landfills), and facility infrastructure (e.g., underground storage tanks [USTs]). Former activities have resulted in environmental releases that are being addressed within the Installation Restoration Program (IRP) and BRAC Environmental Condition of Property (ECP) processes.

1.6.1 FTMM-02

According to the Installation Assessment (IA) (USATE-IAMA, 1980), the M-2 Landfill Site was in operation between 1964 and 1968 and was reportedly used for the general disposal of domestic and industrial wastes. Types of wastes reportedly disposed at the M-2 Landfill Site include oil in cans, oil burner filters and soot (Versar, 2001). The banks along Mill Creek towards the west end of the landfill were reportedly covered with building rubble (concrete and cinder blocks) to stabilize the bank (Versar, 2001).

1.6.2 FTMM-03

According to the IA, the M-3 Landfill Site was in use between 1959 and 1964, and was reportedly used for the general purpose disposal of domestic and industrial wastes, specifically wood and coal ash from furnaces and boilers (ATC, 2000).

1.6.3 FTMM-04

The M-4 Landfill Site was in use as a landfill between 1955 and 1956, and was reportedly used for the disposal of building demolition debris. Aerial photographs dating back to 1940 show a swamp at this location prior to the operations of the landfill (Versar, 2005).

1.6.4 FTMM-05

The M-5 Landfill Site was in use as a landfill between 1952 and 1959, and was reportedly used for the disposal of automobiles (ATC, 2000).

1.6.5 FTMM-08

The M-8 Landfill Site was in use as a landfill between 1962 and 1981, and was reportedly used for the disposal of domestic and industrial wastes (ATC, 2000).

1.6.6 FTMM-12

The M-12 Landfill Site was in use as a landfill between 1950 and 1966, and was reportedly used for the disposal of automobiles, domestic and industrial wastes (Versar, 2003).

1.6.7 FTMM-14

The M-14 Landfill Site was in use as a landfill between 1965 and 1966, and was reportedly used for the disposal of domestic and industrial wastes.

1.6.8 FTMM-18

The period of operation of the M-18 Landfill Site is unknown, however the site has reportedly been in use as a military training area since 1919 (Versar, 2004). Possible sources of contamination in or adjacent to the M-18 Landfill Site include spills from diesel and gasoline generators used to support field exercises, and from a riot control agent used in this area for troop protective mask training (Versar, 2003).

1.6.9 FTMM-25

The CW-3A Landfill Site was in use as a landfill between 1955 and 1956, and was reportedly used for the disposal of debris from the demolition of buildings at CWA (Versar, 2004).

1.7 CURRENT AND PROJECTED LAND USE

The 637-acre MP provided supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for FTMM. These facilities are distributed across the property, with no distinct clustering of functions. Approximately 397 buildings and structures are present at the MP. The CWA was used primarily for R&D, testing, housing, and recreation. The former CWA research, development, and testing facilities occupy the southwest corner of CWA. The northwest corner formerly consisted of residential units but is currently undeveloped. Residential units currently occupy the southeastern boundary and the golf course occupies the northeast corner. The CWA contains approximately 241 buildings and structures.

1.7.1 FTMM-02

The M-2 Landfill Site is currently vacant and covered with vegetation (i.e., grass, trees and brush). The M-2 Landfill Site is projected to consist of an open field maintained through

landscaping with a multi-purpose trail traversing the site from east to west along the northern boundary (EDAW, 2008).

1.7.2 FTMM-03

The M-3 Landfill Site currently consists of an open field and is maintained through landscaping. The M-3 Landfill Site is projected to consist of an open field maintained through landscaping with a multi-purpose trail traversing the southern boundary of the M-3 Landfill Site (EDAW, 2008).

1.7.3 FTMM-04

The M-4 Landfill Site currently consists of an open field maintained through landscaping (Versar, 2005). The M-4 Landfill Site is projected to consist of an open field maintained through landscaping, with a multi-purpose trail traversing the western border of the M-4 Landfill Site (EDAW, 2008).

1.7.4 FTMM-05

The M-5 Landfill Site currently consists of an open field which is maintained through landscaping (Versar, 2004). The M-5 Landfill Site is projected to consist of an open field maintained through landscaping, with a multi-purpose trail traversing the western border of the M-5 Landfill Site (EDAW, 2008).

1.7.5 FTMM-08

The M-8 Landfill Site currently consists of vegetative cover (i.e., grass, trees and bushes) (RAPR, 2012). The M-8 Landfill Site is projected to consist of an open space maintained through landscaping, with a multi-purpose trail traversing the site from east to west, and two pedestrian trails one along the western boundary and one along the eastern boundary of the M-8 Landfill Site (EDAW, 2008).

1.7.6 FTMM-12

The western portion of the M-12 Landfill Site was found to be backfilled and graded with dark organic soil fill material with no vegetation present, with the exception of areas along Husky Brook which was bounded with trees. The eastern portion of the M-12 Landfill Site currently consists of open field of grass (Versar, 2003). The M-12 Landfill Site is projected to consist of an open space maintained through landscaping, with a multi-purpose trail traversing the northern boundary of the M-12 Landfill Site (EDAW, 2008).

1.7.7 FTMM-14

There is no documentation available regarding the current conditions at the M-14 Landfill Site. Aerial imagery shows the M-14 Landfill Site currently consists of vegetative cover (i.e., grass, trees and shrubs) over the eastern portion of the M-14 Landfill Site, and a partially wooded area over the western portion of the M-14 Landfill Site. The M-14 Landfill Site is projected to consist of an open space maintained through landscaping, with a multi-purpose trail traversing the southern boundary of the M-14 Landfill Site (EDAW, 2008).

1.7.8 FTMM-18

The M-18 Landfill Site currently consists of a partially wooded lot with tall grasses in the center and trees along Parkers Creek, which is located to the north, and was bounded by a fence

to the south (Versar, 2004). The M-18 Landfill Site is projected to consist of an open space maintained through landscaping with a multi-purpose trail traversing the site from east to west (EDAW, 2008).

1.7.9 FTMM-25

The CW-3A Landfill Site currently consists of a partially wooded lot with tall grass to the center and trees to the north, east and west, and a parking area for the Pulse Power Facility to the south (Versar, 2005). The M-25 Landfill Site is projected to consist of an open space maintained through landscaping (EDAW, 2008).

1.8 PREVIOUS INVESTIGATIONS AND HISTORICAL DATA

Consistent with the discussion in Section 1.2.1, previous investigation and historical data information will only be presented for the M-2 Landfill Site for this section. Details of previous investigations and historical data for the other landfill sites are presented in the RIs that have been previously completed.

1.8.1 FTMM-02

1.8.1.1 A Site Investigation (SI) of the M-2 Landfill Site was performed in 1995. The SI activities included surface water sampling and installation and sampling of three groundwater monitoring wells. Soil characterization was not performed during the SI. Groundwater analytical data from the monitoring wells indicated that chlorobenzene concentrations exceeded the NJDEP Ground Water Quality Criteria (GWQC). There were no detections of semi volatile organic compounds (SVOCs), pesticides or cyanide above the NJDEP GWQC. Twenty metals were detected in site groundwater; however, only five (aluminum, arsenic, iron, manganese, and lead) were found at concentrations exceeding the NJDEP GWQC, but were detected at concentrations below the maximum background concentrations established in the SI report (Weston, 1995) and are therefore not identified as Contaminants of Potential Concern (COPCs).

1.8.1.2 A Remedial Investigation (RI) that included soil (surficial, shallow and deep) and groundwater characterization of the M-2 Landfill Site was performed from May 1997 through June 2000 to determine the extent of the impacts of polychlorinated biphenyls (PCBs) and benzene found at the M-2 Landfill Site during the expanded SI (Versar, 2001).

1.8.1.3 As part of the PCBs soil investigation, 73 Geoprobe® borings were advanced in the eastern and westerns portions of the M-2 Landfill Site. Samples were collected continuously to the groundwater table, approximately 8 feet bgs. Soil samples were collected and analyzed for total PCBs using EPA Method 8082. The PCBs detected were primarily Aroclor 1016 and Aroclor 1260, although Aroclors 1242 and 1254 were also occasionally detected. The analysis of samples from a boring typically continued if a detection for PCBs was reported in a sample, the next sample depth interval was then analyzed until either non-detect (ND) or a result below the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) was found. The PCB concentrations greater than the RDCSCC ranged from 0.496 mg/kg to 805.06 mg/kg and were detected at depths that ranged from 0.5 to 8.5 ft bgs. Soil boring information shows PCB concentrations appear to be randomly distributed both within and among the soil borings, therefore, no specific PCB source area was identified at the M-2 Landfill Site (Versar, 2001).

1.8.1.4 Grab groundwater samples were collected from 45 of the 73 Geoprobe® soil borings and analyzed for total PCBs. PCBs were detected in 14 of the groundwater samples and

eight of the samples exceeded NJDEP GWQC for PCBs (0.5 µg/L). Of the eight grab samples exceeding NJDEP GWQC, two of the samples were located within the eastern portion of the M-2 Landfill Site, and six of the samples were located within the western portion of the M-2 Landfill Site. The PCB detected in the grab groundwater samples were more likely entrained onto the sediment particulates contained in the sample (due to the sampling method) and do not represent actual groundwater conditions (Versar, 2001).

1.8.1.5 Following the PCB investigation, a soil investigation was conducted to delineate VOC (benzene and chlorobenzene) concentrations in the soil and shallow groundwater of the M-2 Landfill Site. Samples were collected continuously from the ground surface to the groundwater table, which was approximately 8 feet bgs. A total of 208 Geoprobe® soil samples were collected in March 1999 as a part of the investigation for the analysis of VOCs at depths ranging from 1 foot to 9 feet bgs. Ten VOCs were detected in the soil samples including methylene chloride, carbon disulfide, chlorobenzene, benzene, ethyl-benzene, total xylenes, 2-butanone, toluene, acetone, and chloroform. None of the 10 VOCs detected were above their respective NJDEP RDCSCC (Versar, 2001).

1.8.1.6 A groundwater investigation was conducted at the M-2 Landfill Site in conjunction with the investigation of the soils for VOCs in March 1999. Groundwater samples were collected from 185 Geoprobe® borings and analyzed for VOC. Twenty (20) VOCs were detected in the groundwater samples including methylene chloride, carbon disulfide, chlorobenzene, benzene, ethylbenzene, total xylenes, toluene, acetone, chloroform, 1,4-dichlorobenzene (DCB), 1,2-DCB, 1,3-DCB, PCE, TCE, vinyl chloride (VC), trans-1,2-dichloroethane (DCE), 2-butanone, tert-butyl alcohol (TBA) , and methyl-tert-butyl ether). Of the VOCs detected, three (methylene chloride, chloroform, and acetone) were also detected in the field blanks and were considered to be present due to laboratory introduction; seven VOCs (ethylbenzene, xylenes, toluene, 1,4-DCB, 1,2-DCB, 1,3-DCB, 2-butanone) were below their respective GWQC; three VOC (carbon disulfide, tert-butyl alcohol [TBA], and methyl-tert-butyl ether [MTBE]) had no established GWQC at the time of the investigation, but now do have criteria values in New Jersey; and two VOCs (chlorobenzene and benzene) were detected above their respective GWQC. Six VOCs (benzene, chlorobenzene, PCE, TCE, cis 1,2-DCE and VC) were detected above their respective GWQC. Benzene and chlorobenzene were detected at concentrations that exceed their respective GWQC at multiple locations and are considered COPCs. PCE, TCE, cis 1,2-DCE, and VC were detected at concentrations that exceed their respective GWQC at one boring location and are generally not considered COPC (Versar, 2001).

1.8.1.7 A total of 193 borings were advanced at the M-2 Landfill Site between November 1998 and June 1999 to characterize the near surface soils (0 to 2 feet bgs) and assess potential risks to human health or the environment. Soil samples were analyzed for VOCs, SVOCs, pesticides, PCBs and metals. No VOCs exceeded their respective RDCSCC. Seven SVOCs were detected at concentrations exceeding the NJDEP RDCSCC at 12 boring locations scattered across the landfill. Three pesticides (4,4'-DDT, Dieldrin, and 4,4'-DDE) and four PCB compounds (Aroclor 1242, 1254, 1258, and 1260) were detected at concentrations exceeding the respective RDCSCC at 11 boring locations scattered across the landfill. Seven metals (arsenic, beryllium, cadmium, nickel, zinc, lead, and mercury) exceeded their respective RDCSCC at 19 boring locations. Sample locations with exceedences were generally scattered along the northern edge of the landfill with some also located along the southern edge (Versar, 2004).

1.8.1.8 Although exceedences of NJDEP RDCSCC are identified in the near surface soils for SVOC, pesticides/PCB, and metals within the landfill, evaluation of the analytical results did not define a "source area" or level of contamination that necessitated the identification and evaluation of potential remedial actions (Versar, 2001). No further action is warranted for the near surface soils because either the specific calculated compliance average was below the respective RDCSCC, the exceedence was considered marginal, or an isolated location and a de minimis quantity was detected (Versar, 2004). In a NJDEP comment letter on the Remedial Investigation Report for Near-Surface Soils and four Remedial Action Progress Reports (RAPR) dated June 26, 2009, NJDEP stated that the "averaging policy is applied incorrectly" at the M2-Landfill Site. In addition, NJDEP stated in the comment later dated November 20, 2013 that they did not agree that the near surface soils had "marginal" exceedences and they did not agree that the exceedences were of "an isolated nature and a de minimis quantity."

1.8.1.9 A total of 24 groundwater monitoring wells were installed and incorporated into the LTM program at the M-2 Landfill Site. Initially, three wells were installed in 1994 during the SI to characterize the groundwater at the M-2 Landfill Site. An additional seven wells were installed during the third and fourth quarters of 1998. The final 14 wells were installed during the PCB investigation performed in April 2000 (Versar, 2001). The wells were installed to characterize the shallow groundwater at two distinct depth intervals: approximately 13 to 22 ft bgs, a depth interval considered to be within the fill, and 30 to 50 ft bgs, a depth considered to be below any fill material. Groundwater analytical data indicated 20 VOCs were detected but only two compounds (benzene and chlorobenzene) were identified in the groundwater at concentrations that exceeded their respective GWQC (Versar, 2004).

1.8.1.10 In October 2002, the NJDEP approved the implementation of an Enzyme-Enhanced Bioremediation (EEB) program, supplemented by Oxygen Release Compounds (ORC), to remediate benzene and chlorobenzene identified in shallow groundwater at the M-2 Landfill Site. (The EEB program was documented in the January 2001 Remedial Investigation Report (RIR)/Remedial Action Work Plan (RAWP) prepared by Versar, Inc.). The EEB/ORC program targeted six distinct areas in and around the M-2 Landfill Site where elevated concentrations of benzene and chlorobenzene were detected in the shallow groundwater. Four ORC injections events were performed at the landfill from March 2001 through July 2005 (RAPR, 2012).

1.8.1.11 TBA has been included as a COPC for the M-2 Landfill Site because there was no NJDEP GWQS prior to November 2005 established for the compound.

1.8.1.12 LTM of the groundwater at the M-2 Landfill Site has been performed since May 1997. Concentrations of the three COPCs have decreased since initiation of monitoring although the concentrations have fluctuated with time and continue to exceed the GWQS (RAPR, 2010). SVOCs and pesticides were eliminated from the monitoring program after the March 2009 event. Metals detected in the groundwater are believed to be naturally occurring.

SECTION 2
TECHNICAL MANAGEMENT PLAN

2.1 INTRODUCTION

The purpose of this Technical Management Plan is to provide the approach and procedures that will be used to execute the tasks required to perform a RI/FS for FTMM-02, FTMM-03, FTMM-04, FTMM-05, FTMM-08, FTMM-12, FTMM-14, FTMM-18 and FTMM-25. This section focuses on the project objectives, organization, personnel, communication and reporting, deliverables, schedule, billing, public relations, duties and responsibilities, and the functional relationship between the different organizations. Much of the information included in this section is also provided in the PMP (Parsons, 2012). The project objectives are provided below.

2.2 PROJECT OBJECTIVE

The overall objective and purpose of this task order is to perform a RI/FS for FTMM-02, FTMM-03, FTMM-04, FTMM-05, FTMM-08, FTMM-12, FTMM-14, FTMM-18 and FTMM-25. Following completion of the field investigation phase, if warranted, for only FTMM-02, a RI/FS report will be produced for each site that characterizes the nature and extent of COPCs at the sites, compiles information to fill data gaps remaining from previous investigations, evaluates the potential risk to human health and the environment, evaluates remedial alternatives, and recommends a preferred alternative. Based on discussions and correspondence with the NJDEP that the preferred remedial alternative will consist of placement of a vegetated soil cover over the existing landfill area. The overall goal of this process is to obtain NJDEP concurrence on the final RI/FS reports, and if appropriate, provide sufficient data to facilitate future remedial actions. The specific project objectives are also subsection 1.2.

SECTION 3
INVESTIGATION PLAN

This Investigation Plan outlines the specific activities that Parsons will perform during the supplemental RI at the M-2 Landfill Site. The purpose of these activities are to evaluate if the M-2 Landfill Site extends under the former railroad tracks. The Investigation Plan includes discussion of the conceptual site model (CSM), historical research to be performed, and potential field data collection activities. Sampling procedures are discussed in detail in the SAP (**Appendix E**), which has been prepared as a separate, stand-alone document. This section also includes the approach to risk characterization and analysis, and FS evaluation of remedial technologies and alternatives.

3.1 CONCEPTUAL SITE MODEL

3.1.1 A CSM is a description of a site and its environment that can be used to depict the nature of potential contamination, its location, and the possible interactions of human and environmental receptors with that contamination. The CSM summarizes which potential receptor exposure pathways for contaminants are (or may be) complete and which are (and are likely to remain) incomplete. An exposure pathway is considered incomplete unless the four of the following elements are present (USEPA, 1989): (1) a source of contamination; (2) an environmental transport and/or exposure medium; (3) a point of exposure at which the contaminant can interact with a receptor; and (4) a receptor and a likely route of exposure at the exposure point. If any single factor is not present, the pathway is incomplete. An incomplete exposure pathway indicates that there are no current means by which a receptor (human or ecological) can come into contact with contaminants; therefore, no hazards or risks from exposure to contaminants would be expected. This information can be used to focus the investigation of the site by suggesting which complete or potentially complete exposure pathways need to be evaluated. The CSM is a 'living document' that is based on existing knowledge and therefore, can and should be updated throughout the course of the project as more data become available.

3.1.2 For the purposes of this RI/FS, a preliminary CSM was developed for the M-2 Landfill Site in accordance with Engineering Manual (EM) 1110-1-1200. This CSM is presented as a summary table **(Table 3.1)** that indicates the known or suspected contamination sources, the potential/suspected locations and distribution of contamination, the related source or exposure media, the current and future receptors, and the potentially complete exposure pathways. The CSM for the M-2 Landfill Site is also presented as a flow chart that depicts the possible contaminant migration and exposure pathways for the various site receptors **(Figure 3.1)**. The contamination sources, the locations and distribution of contamination, the related source and exposure media, the current and future receptors, and the complete exposure pathways for the other eight landfill sites have been fully characterized and therefore no CSMs were developed as part of this RI/FS Work Plan. The finalized CSMs for the landfill sites will be presented in RI/FS reports for each site and will be based on existing site data and information contained in the BEE Report (Shaw, 2012).

3.1.3 The preliminary CSM for the M-2 Landfill Site indicates adequate delineation and characterization except for the area along the southern boundary adjacent to former railroad tracks. The CSM assumes the railroad bed and tracks were constructed before the M-2 Landfill

Site was operational based on the age of the base and the assumption that railroad was the primary mode of transportation at the time. Based on the topographic data this would provide a delineation of the southern extents of the M-2 Landfill Site. Previous subsurface investigations indicate that VOC (chlorobenzene and benzene) concentrations in subsurface soils exceeded NJDEP criteria only in the center and northwestern portions of the M-2 Landfill Site. Six metals (arsenic, beryllium, cadmium, lead, mercury, and nickel) in shallow soils at a few locations exceeded NJDEP criteria only along the northern edge and the southeast corner of the M-2 Landfill Site. Six SVOCs (PAHs) were detected at concentrations exceeding NJDEP criteria in the near surface soils at 39 locations scattered across the M-2 Landfill Site. Pesticide concentrations in shallow soils exceeded NJDEP criteria only toward the southern edge of the M-2 Landfill Site. The source of the pesticides may be associated either with the adjacent residences south of the abandoned railroad tracks, or past pesticide spraying for mosquito control. PCB concentrations which exceed NJDEP criteria are present in both shallow and subsurface soils at several locations toward the northwest, northeast and southeast corners of the M-2 Landfill Site. No PCB concentrations exceeded NJDEP criteria toward the southwest corner of the M-2 Landfill Site. Three VOCs (benzene, chlorobenzene, and TBA) and metals are present in shallow groundwater at concentrations that exceed NJDEP criteria, however the metals are believed to be naturally occurring. As noted on **Figure 3.1**, groundwater at the M-2 Landfill Site is not a source of drinking water, and the site will not be transferred for residential use, therefore there is no risk of a groundwater exposure scenario. If it has been determined that the railroad was installed after the landfill was operational based on historical research then soil samples will be collected to confirm the delineation of the southern boundary of the M-2 Landfill Site along the railroad bed. If soil samples are collected to determine the southern extent of the landfill boundary then data regarding VOC, PCB and metal concentrations in soil would also be collected to assess current concentrations to confirm they do not exceed NJDEP criteria. Potentially, complete exposure pathways are present at the site that might result in intrusive site workers being exposed to VOC, PCB and/or metals if contaminated soil and/or groundwater is encountered during intrusive activities.

Table 3.1
Overview of Preliminary Conceptual Site Model and Supplemental Remedial Investigation Technical Approach
Fort Monmouth, New Jersey

SITE DETAILS	PRELIMINARY CONCEPTUAL SITE MODEL SUMMARY					REMEDIAL INVESTIGATION TECHNICAL APPROACH			
	Known or Suspected Contamination Source (s)	**Location and Extent of Contamination**	**Source or Exposure Medium: COPCs**	**Current and Future Receptors**	**Potentially Complete Exposure Pathways**	**Investigation Method**	**Investigation Location(s)**	**Proposed Samples**	**Number of Samples**
NAME: FTMM-02 (also known as M-2 LANDFILL SITE) **HISTORICAL LAND USE:** LANDFILL USED FOR DISPOSAL OF DOMESTIC AND INDUSTRIAL WASTES **CURRENT LAND USE:** VACANT FIELD **FUTURE LAND USE:** UNKNOWN	M-2 Landfill Site is located in the southwest corner of the Main Post and was historically used for general disposal of domestic and industrial wastes. M-2 Landfill site encompasses 280,400 square feet (6.5 acres) and was operational from 1964 to 1968. Known wastes disposed of at this site include oil in cans, oil burner filters and soot.	Soil samples detected VOCs, PAHs, PCBs and metals concentrations that exceeded NJDEP criteria. Groundwater samples detected some VOC and elevated metal concentrations (metal concentrations may be representative of natural background conditions). The southern extent of the landfill has not been defined.	Subsurface soil: VOCs, PCBs, and metals. Groundwater: Benzene, Chlorobenzene, TBA. (20 Metals detected in site groundwater above NJDEP GWQC, however only five were above maximum levels established in the SI report [Weston, 1995] and are therefore not COPCs).	Intrusive workers, non-intrusive workers, and occasional users (visitors, recreational)	Incidental ingestion of subsurface soil and groundwater, dust inhalation, dermal contact with subsurface soil and groundwater by intrusive workers.	Historical review: Review of aerial photos and historical documents to determine date of railroad installation Subsurface soil: Collect discrete subsurface soil samples for visual characterization and laboratory analyses using direct push techniques. Groundwater: Samples from the existing monitoring wells will be collected under the long term monitoring (LTM) plan.	Collect soil samples along the length of the abandoned railroad track to the south, and groundwater samples in existing monitoring wells under the long term monitoring program.	Geoprobe® borings will be advanced along the northern edge of the abandoned railroad bed. Two soil samples will be collected from each sampling location. If samples suggest landfill material present then additional step out borings will be performed.	Characterization of surficial soils has been performed at the M-2 Landfill Site during a previous RI, therefore surface soil (0 to 2 feet) will not be sampled unless there is field evidence of contamination. One soil sample shall be collected from the equivalent depth of 5 feet into the landfill (approximately 15 feet bgs). A second sample will be collected if there is visual or olfactory evidence of contamination and/or elevated PID headspace readings. The analytical results will be used during the FS to evaluate remedial alternatives for the site.

3.2 GENERAL TECHNICAL APPROACH

This subsection describes the general sequence of execution and activities that Parsons will use to successfully complete the investigation for the M-2 Landfill Site. The detailed field procedures to be used for the activities described in the following technical approach are described in the SAP (**Appendix E**). The supplemental RI data will be used to support evaluation (in the planned FS) of potential corrective actions at the M-2 Landfill Site.

3.2.1 FTMM-2 Investigation Plan

3.2.1.1 Historical Research

Research will be conducted to determine if the railroad was constructed before or after operations began at the M-2 Landfill Site. Historical information to be researched may include aerial photographs, deed records and records of easement if available. If the historical research shows that the railroad was installed prior to operations at the M-2 Landfill Site, no soil investigation will be conducted.

3.2.1.2 Soil and Groundwater Investigation

3.2.1.2.1 If the historical research is inconclusive or shows that the railroad bed was constructed after the landfill, a soil investigation will be performed to confirm that landfill material is not located under the former railroad bed and tracks. The objectives of the RI field work at the M-2 Landfill Site will be to:

- Confirm delineation of the southern boundary through visual characterization and chemical analysis of subsurface soils.

The specific activities that will be performed to meet these objectives are described in the following paragraphs.

3.2.1.2.2 Soil borings, spaced at approximately 150 feet apart, will be advanced along the southern boundary of the M-2 Landfill Site (**Figure 3.2**) (Locations may change based on actual field conditions). The railroad bed has a higher elevation than the ground surface at the M-2 Landfill Site, with the difference in elevation ranging between approximately 10 feet towards the west, to approximately 3 feet towards the eastern end of the M-2 Landfill Site. One soil sample will be collected at each boring location, at an equivalent depth of 5 feet into the landfill (approximately 15 feet bgs). A second sample will be collected based on presence of visual or olfactory evidence of contamination and/or elevated PID headspace readings. Each sample will be visually characterized for soil composition and waste debris, and analyzed in a laboratory for PCBs, VOCs and metals.

3.2.1.2.3 Additional step-out soil borings will be performed south of the railroad bed if landfill waste is visually observed in the borings and the analytical results indicate similar chemical properties from within the footprint of the landfill.

3.2.1.2.4 A long-term groundwater monitoring program will continue to be implemented at the M-2 Landfill Site. Groundwater will be sampled from existing monitoring wells as part of this program and analyzed for VOCs (specifically benzene and chlorobenzene) and TICs. The existing monitoring well network is shown on **Figure 3.2**. The groundwater data will be incorporated into the RI/FS Report.

3.2.2 Data Quality Objectives

3.2.2.1 Data Quality Objectives (DQOs) are qualitative and quantitative statements that specify the quality and level of data required to support the decision-making processes for a project. Guidance for DQO development is contained in Chapter 4 of EM 200-1-2 Technical Project Planning Process (USACE, 1998), Guidance for Performing Site Inspections Under CERCLA (USEPA, 1992), and Guidance on the Data Quality Objectives Process (USEPA, 2006).

3.2.2.2 The overall project DQOs are to obtain additional data to delineate the southern extents of the M-2 Landfill Site, thus they are a subset of the DQOs. The data obtained must also be sufficient to assess site-specific human health risks to facilitate development of a future FS. Specific DQOs have been established for the RI and are presented in **Table 3.2**. In addition, analytical measurement performance criteria have been developed for target analytes as presented in the UFP-QAPP in Part II of the SAP (**Appendix E**).

3.2.3 Data Incorporation into RI/FS Reports

3.2.3.1 Parsons will prepare and submit a supplemental RI report that fully documents the M-2 Landfill Site investigation activities and provides subsequent evaluations and recommendations. This report will describe the site history and the work conducted under this delivery order and present conclusions regarding the nature/extent of contamination at the site, an updated CSM, a risk assessment (discussed in Section 3.5), and recommendations for any future work that might be required. The supplemental RI report will be supported as necessary with accompanying maps, charts, and tables to fully describe and document the work performed and conclusions presented.

3.2.3.2 Parsons will prepare and submit a FS report that provides the necessary information to select a final remedy for each site. The primary objective of the FS is to ensure that appropriate remedial alternatives are developed and evaluated, and an appropriate remedy recommended. Alternatives that will most likely be evaluated include: no action (required for comparison purposes), capping and monitoring. The FS will be conducted in accordance with CERCLA requirements which suggest a formal process including establishing remedial action objectives (RAOs), identifying and screening technologies, and conducting detailed analysis of alternatives using specified criteria. Remedial alternatives will be screened to ensure compliance with CERCLA statutory provisions, which include protection of human health and the environment, compliance with applicable or relevant and appropriate requirements (ARARs), cost effectiveness, and a preference for permanence and for treatment that reduces toxicity, mobility, or volume. Also evaluated will be the reuse of material from both onsite and offsite sources to promote sustainable practices and minimize costs; alternate cap configurations that achieve ARARs while minimizing the amount of fill material required and consolidating landfills to minimize cover material required and potentially making more land available for wetlands restoration or development. Economic analysis information developed to compare restricted use closure to unrestricted use closure will also be evaluated in accordance with FS guidance to enable selection of a cost effective remedial alternative. This will include a complete life-cycle cost analyses for each alternative based on a 30-year present worth.

Table 3.2
Data Quality Objective Statements for Supplemental Remedial Investigation and Feasibility Study
Fort Monmouth, New Jersey

Site ID	INTENDED DATA USE(S)	DATA NEED REQUIREMENTS						APPROPRIATE SAMPLING AND ANALYSIS METHODS	
	Project Objective(s) Satisfied	Data User Perspective(s)	Contaminant or Characteristic of Interest Identified	Media of Interest Identified	Required Sampling Areas or Locations and Depths Identified	Amount of Sampling / Number of Samples Required	Reference Concentration of Interest or Other Performance Criteria	Sampling Method Identified	Analytical Method Identified
FTMM-02 (M-2 LANDFILL SITE)	Complete delineation of the landfill and perform additional soil characterization of landfill soils along southern landfill boundary. (If railroad was built before the landfill operations then no soil investigation will be conducted.)	Risk (RI) and remedy (FS)	VOCs, PCBs, and metals	Subsurface soil	Along northern edge of former railroad bed along FTMM-02 southern boundary.	Two samples per boring. Total number of borings TBD	NJDEP RDCSRS	Collection of discrete soil samples using direct push techniques	VOCs using USEPA Method SW8260C, total metals using USEPA method SW6010C and 7471B, PCBs using USEPA Method 8082

3.3 GEOSPATIAL INFORMATION, DIGITAL FIELD DATA COLLECTION, AND ELECTRONIC SUBMITTALS

Parsons will perform activities related to gathering and maintaining geospatial information in accordance with the PWS.

3.3.1 Geospatial Information

Geospatial information will be collected and maintained in accordance with PWS and the Data Management Plan (DMP).

3.3.2 Digital Field Data Collection Methodology

Field documentation including photographs is discussed in the SAP (**Appendix E**).

3.3.3 Electronic Submittals

Electronic submittals are discussed in the PMP.

3.4 WASTE MANAGEMENT PLAN

Investigation derived wastes (IDW) generated during the field activities will be managed in accordance with the procedures provided in the SAP (**Appendix E**).

3.5 RISK CHARACTERIZATION AND ANALYSIS

3.5.1 The validated laboratory data will be used to conduct a HHRA for each of the nine RI sites compatible with Risk Assessment Guidance for Superfund (RAGS) and USACE EM 200-1-4, Volume I. This risk assessment which will be included in the RI/FS reports for each site, will include a screening step during which site concentrations will be compared to screening levels for human health and ecological risks, current and future risks, and media, pathways and exposure scenarios. Residential criteria will be used for human health-based risk analysis.

3.5.2 Data evaluation will also consist of discussions related to the probable fate and transport of constituents that pose a concern at the site. This discussion in the RI/FS report will include transport pathways, receptors, and exposure pathways.

3.6 MOBILIZATION/DEMOBILIZATION

3.6.1 Preparation

Preparations for mobilization will commence upon approval of this work plan. Upon receipt of the approval, the field team will be notified and the requisite copies of the applicable documents assembled. The field team will have already reviewed the available site documentation, the work plan, and any additional data obtained during previous site visits.

3.6.2 Equipment Mobilization

Equipment and materials will be sent to the site via commercial carrier, transported to the site by the field team, or obtained locally. Equipment is limited to sampling supplies, documents, first aid kit, fire extinguisher, GPS, digital camera, etc. Appropriate field vehicles will be rented that will accommodate site personnel and equipment. FTMM access and security requirements are detailed in the PMP.

3.6.3 Right-of-Entry

The soil investigation assumes FTMM will be able to secure access to the area from the appropriate landowners. Access to FTMM will be requested in accordance with the procedures outlined in the SAP (**Appendix E**).

3.6.4 Communications

The field team will remain in contact together throughout field activities. Members of the field team will have operational mobile phones available for emergency use.

3.6.5 Training and Briefing

Training and briefing will be performed in accordance with the APP provided in **Appendix D**.

SECTION 4
QUALITY CONTROL PLAN

4.1 GENERAL

The purpose of the Quality Control Plan (QCP) is to provide the approach and procedures used to ensure quality throughout the execution of the tasks required by the PWS. The QCP provides organization, responsibilities, policies, and procedures for maintaining the highest possible standards. The QCP applies to work performed by Parsons and its subcontractors. Additional QC information is provided in the QAPP, which is included as Section 7 in the SAP (**Appendix E**).

4.2 CORPORATE POLICY

4.2.1 Parsons recognizes that the USACE is responsible for quality assurance (QA); however, Parsons also has a QA process at the corporate level with the commitment and involvement of its top management. The process provides a permanent and workable system that allows each employee to understand the job performance expected. The Parsons QA and improvement process ensures that every employee is supported by the actions, procedures, tools, and training required to perform their job according to the requirements. By promoting teamwork and by focusing attention on the solutions, the quality of work can be increased and assured throughout the project.

Parsons Corporation Quality Policy

We are committed to providing quality services and products. We will, as a corporation and as individuals, meet the mutually agreed-to requirements the first time and strive for continuous improvement of our work processes.

4.2.2 The Parsons QA Policy is based on the work and concepts of several recognized authorities on quality management in the United States, especially Mr. Philip Crosby, Dr. W.E. Deming, and Dr. J.M. Juran. These three experts each have different methods of addressing and resolving problems. Parsons has taken unique portions of their concepts and tailored them to corporate work processes. As a result, Parsons has placed a greater emphasis on the actual elements pertaining to work processes, project requirements, and lessons learned from past performances. These concepts have been developed into a systematic and practical approach for improving quality.

4.2.3 Generally, the Parsons QA Policy relies on four fundamentals, termed the "absolutes of quality." They answer these questions:

- What is quality? Conformance to Requirements;
- How do we achieve it? Prevention;
- What is our performance standard? Zero Defects; and
- How can we measure quality? Cost of Doing Things Wrong.

4.3 REQUIREMENTS

The Parsons QCP for the RI/FS at FTMM project sites has been written to encourage positive communication throughout the Parsons project team. It is also intended to foster clear

communication between Parsons, USACE, and FTMM. Honest and effective communication among the project team requires that parties clearly understand the project requirements. QC reports and documents will be kept onsite and accessible for review upon request. Copies of QC reports and documents will be transmitted to the Parsons PM for inclusion in the project file.

4.4 QUALITY CONTROL OBJECTIVES

4.4.1 The QC procedures described in this section will be used for the activities performed during the RI. These procedures were designed to manage, control, and document performance of work efforts. This section of the QCP will achieve the following objectives:

- Identify QC procedures and responsibilities for the RI/FS;
- Ensure USACE, FTMM, and Parsons notifications are performed as required by the PWS;
- Document the quality of work efforts via audits and independent staff reviews of deliverables;
- Ensure data integrity through implementation of data management QC procedures;
- Ensure data precision through implementation of field equipment maintenance and use procedures; and
- Outline an inspection system.

4.4.2 Project quality is the responsibility of the entire project team. The team's comprehension of this QCP is of primary importance for quality objectives to be accomplished; thus, training and indoctrination of key personnel in the quality objectives will be conducted. The project organization is headed by the Parsons PM; the single focal point for successful accomplishment of the phases of the project. The Parsons PM is given full authority and responsibility for project execution, and the Parsons PM is supported by direct line managers with functions and responsibilities outlined below.

4.4.3 The Parsons Project Manager (PM) approves the QCP, implements procedures, and has direct responsibility for day-to-day management of the project. The Parsons PM's responsibilities related to QC include, but are not limited to:

- Implementation of applicable Parsons policies and procedures;
- Timely submission of contract deliverables; and
- Analyzing QC failures with the QC Manager and the appropriate QC person and implementing corrective actions.

4.4.4 The Project QC Manager communicates with the PM on project-related QC matters. The Project QC Manager, as a management representative, has the following authorities and responsibilities:

- Ensuring that the QCP has been established, maintained, and implemented;
- Establishing guidelines to assist in the development of program, project, site, and task-specific QC policies and procedures;
- Initiating, recommending, approving, and providing solutions to the quality problems identified in the QCP during system audits;

- Conducting periodic audits/inspections of the project and submitting reports to the Parsons Sector Manager with copies to the PM; and
- Reporting the adequacy, status, and effectiveness of ongoing projects to the Parsons Sector Manager.

4.4.5 The Field Team Leader reports to the Project QC Manager on quality matters, is the key QC person onsite, and has responsibility for overall quality of work performed on site. The responsibilities include, but are not limited to:

- Developing QC procedures to implement the QCP;
- Verifying implementation of corrective actions;
- Initiating actions to identify and prevent the occurrence of nonconformance relating to the services and QCP;
- Authorizing the cessation of nonconforming work;
- Ensuring that QC procedures are being followed and are appropriate in demonstrating data validity sufficient to meet DQOs;
- Recommending actions to be taken in the event of QC failures, both to the PM and the Project QC Manager;
- Reporting non-compliance with QC criteria to the PM and Project QC Manager;
- Authorizing suspension of project activities when a condition adverse to quality is identified and notifying the PM and senior personnel responsible for clearance activities when such action is required;
- Conducting daily QC audits and inspections; and
- Conducting weekly and monthly QC Compliance Inspections.

4.5 QUALITY CONTROL FOR INSTRUMENT AND EQUIPMENT TESTING

Instruments and equipment used to gather and generate environmental data will be calibrated in accordance with the procedures outlined in the SAP (**Appendix E**).

4.5.1 Digital Camera Quality Control

The digital camera will be checked each day prior to use during the project. The battery level will be checked and, as needed, the batteries recharged or replaced. Before work begins each morning, team lead will verify that camera functions are working properly, that the date/time setting on the camera is correct, and the available memory space on the camera is sufficient for a complete day of site photography.

4.5.2 Cell Phone Quality Control

The team will keep at least one cell phone with them for emergency use. The cell phone will be checked each day prior to use during the project. The battery level will be checked and, as needed, the batteries recharged or replaced. In addition, the team will verify that cell phone coverage is adequate at the site. If at any time during the project it is determined that cell phone communication is not available at any portion of the site, an alternative method of emergency communication will be investigated.

4.5.3 Field Measurement Instrumentation Control

Field measurement instrumentation will be performed in accordance with the procedures outlined in the SAP (**Appendix E**).

4.6 INSTRUMENT/EQUIPMENT MAINTENANCE

Maintenance of instruments and equipment will be performed in accordance with the procedures outlined in the SAP (**Appendix E**).

4.7 DATA MANAGEMENT

4.7.1 Data Reduction

4.7.1.1 Any raw data from field measurements will be appropriately recorded in field notebooks. Records (field data forms and field note copies) will be maintained onsite in a portable file. Records will be stored such that they can be found using the date they were created, the team who created them and a site identification number. If the data are to be used in the project reports, they will be reduced and summarized, and the reduction method will be documented in the report.

4.7.1.2 Reduction of the laboratory data from environmental sampling activities is discussed in the SAP (**Appendix E**).

4.7.2 Field Data Storage

Data collected in the field will be stored electronically in the collecting instrument's data logger or recorded manually on hardcopy field forms. Data loggers, if used, will be synchronized with the field computer daily. Upon completion of the project, data will be transferred to the Parsons PM's office for storage and archiving.

4.7.3 Data Validation

Information in the project database will be validated in accordance with the DMP. Laboratory data validation is discussed in the SAP (**Appendix E**).

4.8 FIELD OPERATIONS DOCUMENTATION

4.8.1 Daily Field Activity Records

Daily field activity records will be prepared in accordance with the procedures outlined in the SAP (**Appendix E**).

4.9 NONCONFORMING ITEMS OR ACTIVITIES AND CORRECTIVE ACTIONS

4.9.1 Identification

Circumstances that prevent a work process from conforming to the contract requirements will be promptly identified, documented, investigated, and corrected appropriately. Project personnel have the responsibility, as part of their normal work duties, to promptly identify and report conditions adverse to quality. The status of nonconformance reports (NCR) will be maintained in a log, and progress of their resolutions will be documented and reviewed monthly to ensure prompt attention to their conclusion.

4.9.2 Resolution, Corrective Action, and Verification

The appropriate level of management is responsible for evaluating the cause of a NCR and will recommend solutions for correcting the deficiency identified. Actions and technical justifications for an action proposed to resolve the corrective action will be reviewed and approved by personnel responsible for the technical aspect of the work. The QC organization will be responsible for verifying implementation of corrective action, monitoring the effectiveness of preventive action, and reporting any findings to the QC Manager.

4.9.3 Material and Item Nonconformance

The QC Manager ensures that:

- Items that do not conform to prescribed technical and/or quality requirements are tagged or otherwise identified, documented, and reported as nonconforming. The documentation will include the following information:
  - Identification of the nonconforming activity, material, or item;
  - Identification of the technical and quality requirement(s) with which the activity, material, or item is not in compliance;
  - Identification of the current status of the activity, material, or item (i.e. whether the item is on hold or whether its use is conditional);
  - Names and dates of the individuals identifying the nonconformance;
  - Identification of the individual(s) or organization(s) responsible for resolution;
  - Indication of the severity of the nonconformance(s); and
  - Indication regarding the continuance or stoppage of work associated with each nonconforming activity, material, or item.
- Nonconforming materials and items are segregated, when possible, from conforming materials and/or items to the extent necessary to preclude their inadvertent use; and
- The status of nonconforming activities, materials, and items and the progress of their resolution are documented and routinely reviewed to ensure prompt attention to conclusion.

4.9.4 Review and Disposition of Nonconformance

The review is conducted by the PM, QC Manager, and Field Team Leader (if applicable) to ensure that:

- The responsibility for review and disposition of nonconformance is defined;
- Nonconforming materials and items are reviewed in accordance with procedures. Nonconformance can be evaluated according to four criteria:
  - Reworked to meet the original requirements;
  - Accepted with or without repair;
  - Regraded for alternative applications; and
  - Rejected or scrapped.

- Repaired or reworked materials items are re-inspected; and
- Each document used to identify and correct nonconforming conditions allows for the evaluation and approval of proposed actions by the appropriate authority.

4.9.5 Trend Analysis and Root Cause Analysis

4.9.5.1 The trend analysis of QC audits, subcontractor/supplier surveillance reports, and identified nonconformance (if any) will include the following information:

- Total number of audit findings and observations, surveillance reports, and NCRs for each area of the QCP;
- A summary of the root cause for the nonconformance consolidated for each area of the QCP; and
- Trends that are developing or that have developed.

4.9.5.2 The PM will perform the trend analysis once every year. QC will verify the implementation of any preventive actions resulting from the trend analysis. The QC Manager is responsible for evaluating on a semiannual basis NCRs affecting quality and will recommend solutions, as well as steps for verifying their implementation.

4.9.6 Lessons Learned

Opportunities to share lessons learned with the RI/FS project team include monthly telecoms to discuss issues and concerns, as well as quarterly internal project review meetings. Additionally, Parsons will compile internal lessons learned and provide a forum for dissemination between project team members and distribute to other applicable Parsons project locations.

4.10 AUDITS AND SURVEILLANCES

4.10.1 Audit Planning

4.10.1.1 The QC Manager, or designee(s), will perform audits of the project activities and, as required, audits of subcontractors/suppliers in the manner specified in Parsons' corporate procedure Q-021, Quality System Audits.

4.10.1.2 The Lead Auditor will prepare the audit plan. The plan will be reviewed and approved by the QC Manager before execution. The audit plan will include the following information:

- Identification of the organization and work areas to be audited;
- Identification of location, times, and dates of duration of the audit;
- Identification of the documents that specify the criteria against which the work will be measured;
- Checklists prepared as a guide during the audit;
- Identification of auditing personnel; and
- Signatures and dates approving the audit.

4.10.1.3 The organization to be audited will be notified of the impending audits at least 15 days in advance.

4.10.2 Audit Execution

A pre-audit briefing and a post-audit briefing will be conducted to inform key management personnel or to confirm results of the audit, including concerns and findings. Daily briefings may be conducted, as needed, to inform the audited organizations of the progress of the audit and potential findings or concerns.

4.10.3 Audit Reporting

4.10.3.1 The audit results approved by the Lead Auditor will include the following information:

- Reference to audit plan;
- Identification of and justification for any differences that occurred between the audit plan and the actual conduct of the audit;
- Synopsis of the audit results;
- Description of nonconformity (identified as findings and observations); and
- Completed audit checklist and documentation (objective evidence) supporting the discovery of the nonconformity.

4.10.3.2 Conditions determined to be in nonconformance with the contract, procedure, or other specified requirements, are identified as findings. Conditions not in nonconformance when first identified, but could lead to nonconformance if left uncorrected, are identified as observations. Formal responses are required for findings only. Corrective action is required for both findings and observations.

4.10.3.3 For internal audits, the lead auditor will issue the audit report to the Parsons PM, QC Manager, and the responsible Program Manager. For audits of suppliers or subcontractors, the Lead Auditor will issue the report to the Parsons PM and QC Manager, who will issue the audit report to the audited subcontractors and suppliers.

4.10.4 Review, Approval, and Verification of Recommended Action Response

4.10.4.1 The recommended corrective action proposed by the management of the organization audited in response to the nonconformity will be reviewed and approved by the QC Manager. Justification for rejection of the response will be documented by the QC Manager and transmitted to the organization providing the response.

4.10.4.2 Management of the organization being audited will report the implementation of corrective action to close out the audit nonconformity. The Lead Auditor or the QC Manager will verify a closeout action at the time of the next scheduled audit.

4.10.4.3 Verification of closeout action will be documented to ensure the satisfactory closure of the audit nonconformity and will be reported to the Parsons PM and to the management of the organization audited, when applicable.

4.11 QUALITY CONTROL REPORTS

4.11.1 During the project, the QC Manager, or designee, will prepare at least one QC report to discuss:

- The periodic assessment and measurement of data accuracy, precision, and completeness; and/or
- Significant QA problems and corrective actions taken.

4.11.2 In addition, the Parsons PM will receive periodic updates concerning QC associated with the field activities, laboratory analyses, and the data processing.

4.12 DOCUMENTS AND SUBMITTALS

4.12.1 Process

Documents and submittals prepared for the RI/FS at FTMM will be the result of a collaborative effort by key personnel dedicated to the project. Qualified individuals from each major discipline represented in the deliverable will compose the applicable portion of the document.

4.12.2 Review

Documents and submittals will be reviewed for technical accuracy and editorial merit by qualified peers and/or the appropriate Technical Director(s). The Parsons PM will collect and retain records of these reviews. The QC Manager will audit the project files to ensure that final reports and deliverables have gone through peer review.

4.12.3 Document Distribution and Retrieval

4.12.3.1 The current revisions of documents that prescribe technical, management, and quality requirements are internally and externally distributed to the applicable project personnel. These personnel are responsible for the document's implementation and its verification for implementation.

4.12.3.2 The obsolete documents that prescribe obsolete technical and quality requirements are clearly marked and returned to the Parsons PM upon receipt of any revised document. The recipient must also immediately conduct a page change for affected documents by inserting the revised document or slip pages in place of the obsolete. The Parsons PM will maintain a complete list of revisions and will include a summary of the revisions with the document revision submittals.

4.13 PERSONNEL SELECTION

4.13.1 Key personnel will be designated by the PM. Those requiring licenses, certification, or other forms of qualifications necessary to perform their work will be selected and evaluated periodically or on each change of task assignment by program management to ensure that their credentials are current to perform the pre-established job description, meeting the contract requirements.

4.13.2 Project personnel performing functions that affect quality will receive, prior to assuming duty, indoctrination and training. The job description, indoctrination, training, and certification will be maintained in the project files. To ensure quality and consistency

throughout the duration of the FTMM RI/FS, Parsons will maintain a dedicated group of qualified, trained project personnel to conduct the various tasks associated with this project.

4.14 PERSONNEL QUALIFICATIONS AND TRAINING

Qualifications and training of project personnel will comply with the requirements specified in the PWS and the APP (**Appendix D**).

4.15 CHEMICAL DATA QUALITY MANAGEMENT PLAN

The QCP procedures for the Chemical Data Quality Management Plan are discussed in the SAP (**Appendix E**). Parsons-specific QC procedures will be included in the SAP (**Appendix E**).

SECTION 5
ENVIRONMENTAL PROTECTION PLAN

5.1 INTRODUCTION

This EPP has been prepared for the FTMM RI/FS project activities in accordance with the PWS. The purpose of the EPP is to establish general procedures for avoiding, minimizing, and mitigating potential impacts to environmental and cultural resources during field activities.

5.2 SENSITIVE RESOURCES

5.2.1 Threatened and Endangered Species

Except for occasional transient species, no federally listed or proposed threatened or endangered flora or fauna are known to exist on FTMM. There was one observance in 1992 of a New Jersey listed endangered species, the clustered sedge. In addition, no federal or state listed species were observed during the baseline ecological evaluation site visit conducted on the MP and CWA on September 15, 2009 (Shaw, 2011). Due to the developed, urbanized nature of the RI/FS sites and the nature of the work to be performed, no listed threatened and endangered species are anticipated to be encountered or adversely impacted by the RI effort.

5.2.2 Sensitive Environments

5.2.2.1 Areas of wetlands are present on both the MP and CWA, with both estuarine and fresh water wetlands present on the MP. The USFWS National Wetland Inventory maps have designated wetland areas at the MP and CWA. Areas along Oceanport Creek and Parkers Creek are designated estuarine and marine wetlands or open waters; areas along Mill Creek, Husky Brook, Lafetra and Shrewsbury Creeks are fresh water emergent or forested/shrub wetlands.

5.2.2.2 RI work to be performed at the M-2 Landfill Site may occur in designated wetland areas or other areas considered to be important ecological places. The RI site is vacant however its surrounding areas are developed and urbanized. The RI team will be cautioned to avoid disturbance or impact to the wetland area during the RI activities.

5.2.3 Cultural and Archaeological Resources

The RI site does not contain any registered or otherwise recognized cultural or archaeological resources. Nevertheless, if an archaeological remnant is discovered or suspected during the RI effort, activities in that area will be halted. It is Parsons' policy to note in the field log the location of any archaeologically significant item found by the field team, and to notify USACE and FTMM personnel. Photographs of any archaeological or cultural item found may be included in the RI/FS report.

5.2.4 Water Resources

A discussion of water resources at FTMM can be found in subsections 1.5.4 and 1.5.6.

5.2.5 Coastal Zones

The RI site is not located within a Coastal Zone Management Area because it is not located on a tidally influenced shoreline. Therefore, the site is also not within a National Marine Sanctuary, Marine Protected Area, or the National Estuarine Research Reserve System.

5.2.6 Waste Disposal Sites

Based on the history and usage of the RI sites, there are no known munitions storage areas at these locations. No use of chemical warfare material has been reported at the sites.

5.3 MITIGATION PROCEDURES

Various measures will be used to mitigate the environmental impacts of RI field activities. The following general measures will be taken during onsite activities:

- Site-specific training will be given on awareness of nearby wetland areas (FTMM-02);
- Areas that have been disturbed as a result of field activities will be restored to the previously existing condition to the extent practicable;
- No burning activities will take place during this project;
- Emissions sources will consist of any motorized equipment used onsite, including crew vehicles, generators, and drilling rigs. Vehicles and equipment will be in good working order and will meet applicable vehicle emissions requirements; and
- Fueling for small equipment, such as generators, will be performed onsite (via small volume fuel containers). If a leak of fuel or other fluid such as hydraulic or transmission fluid occurs in the field, the following should be implemented:
  - Promptly berm the area with soil so that the fuel or fluid does not spread along the ground surface;
  - Apply oil-absorbing material such as sawdust or kitty litter to the spill; and
  - Report the spill to the Site Superintendent and follow instructions for clean up. It is anticipated that this will involve digging up and drumming contaminated soil followed by its proper disposal.

SECTION 6
PROPERTY MANAGEMENT PLAN

Government furnished equipment will not be used during the RI. Therefore, a Property Management Plan will not be required and this section serves as a placeholder only.

SECTION 7
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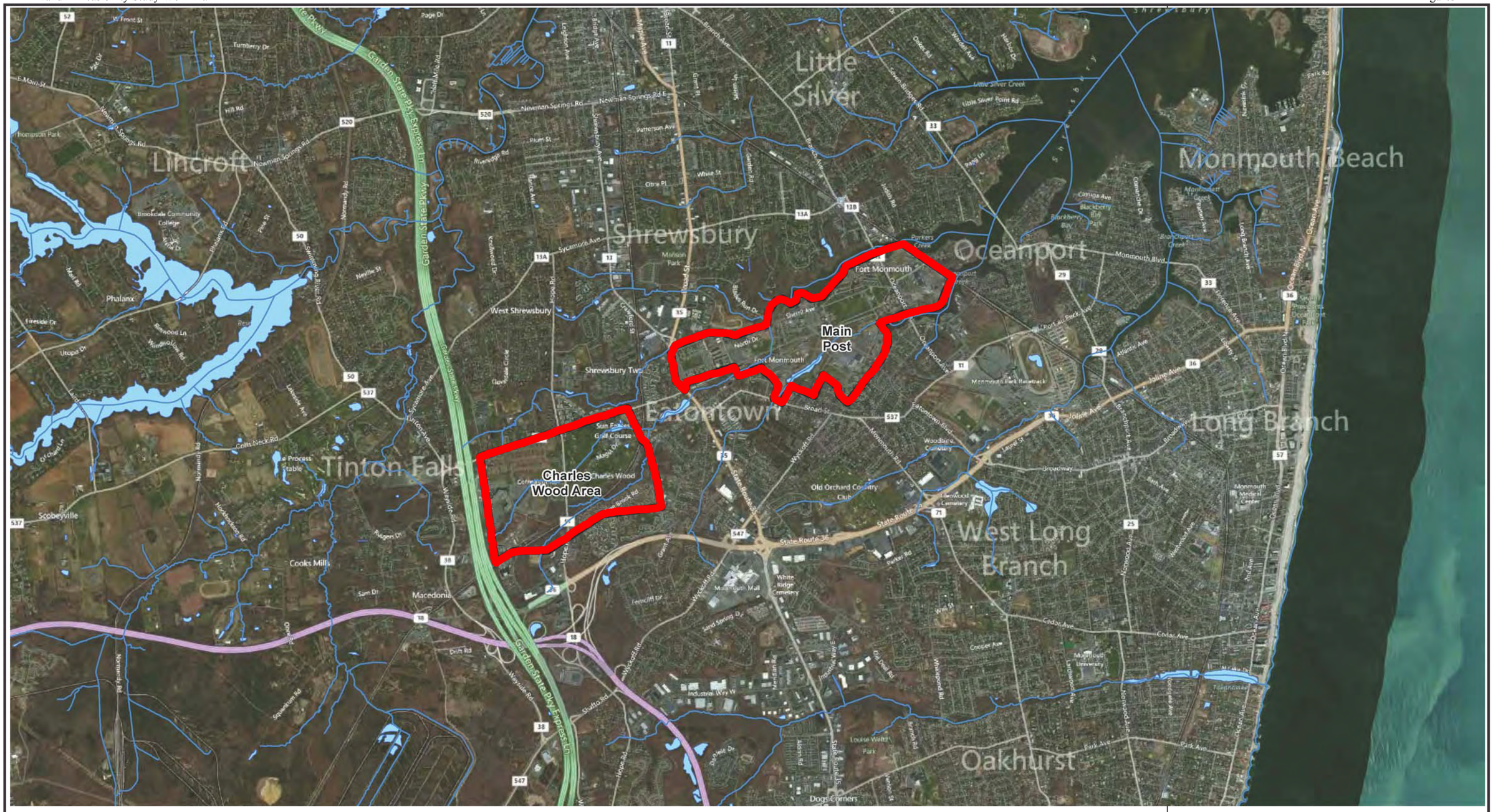
FIGURES



Source: AECOM, 2012.

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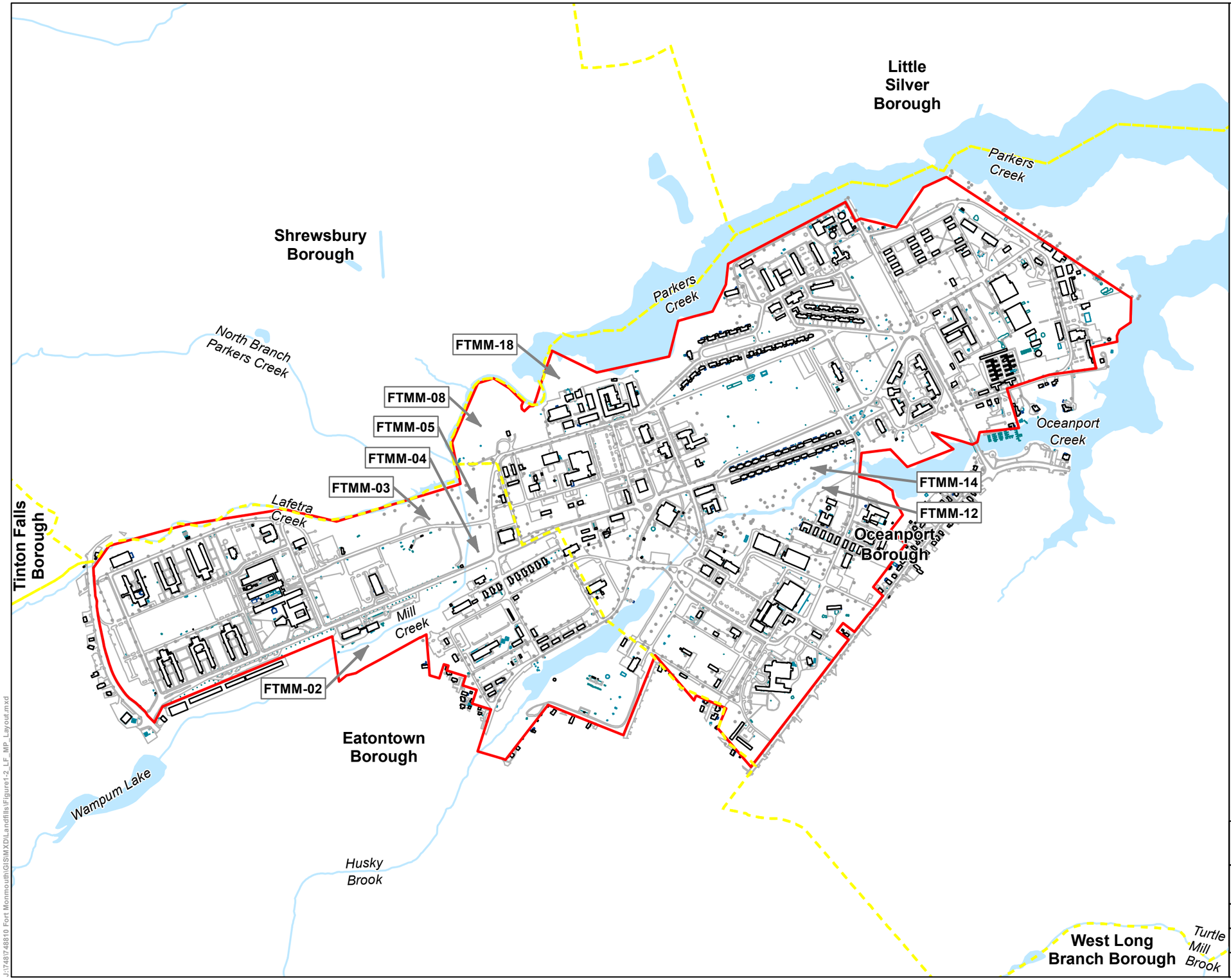
PROJECT NUMBER: 748810.01000	Created by: TRM



Legend

- Surface Water Feature
- Municipal Boundary
- Installation Boundary

N

1 inch = 1,000 feet

0 250 500 1,000 1,500 2,000 2,500 Feet

Source: FTMM Supplied CAD; ESRI Data and Maps 2011; USGS NHD.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
Main Post Layout	
CREATED BY: TS	REVIEWED BY: JH
DATE: February 2013	FIGURE NUMBER: Figure 1.2
PROJECT NUMBER: 748810.01000	FILE: Figure1-2_LF_MP_Layout.mxd

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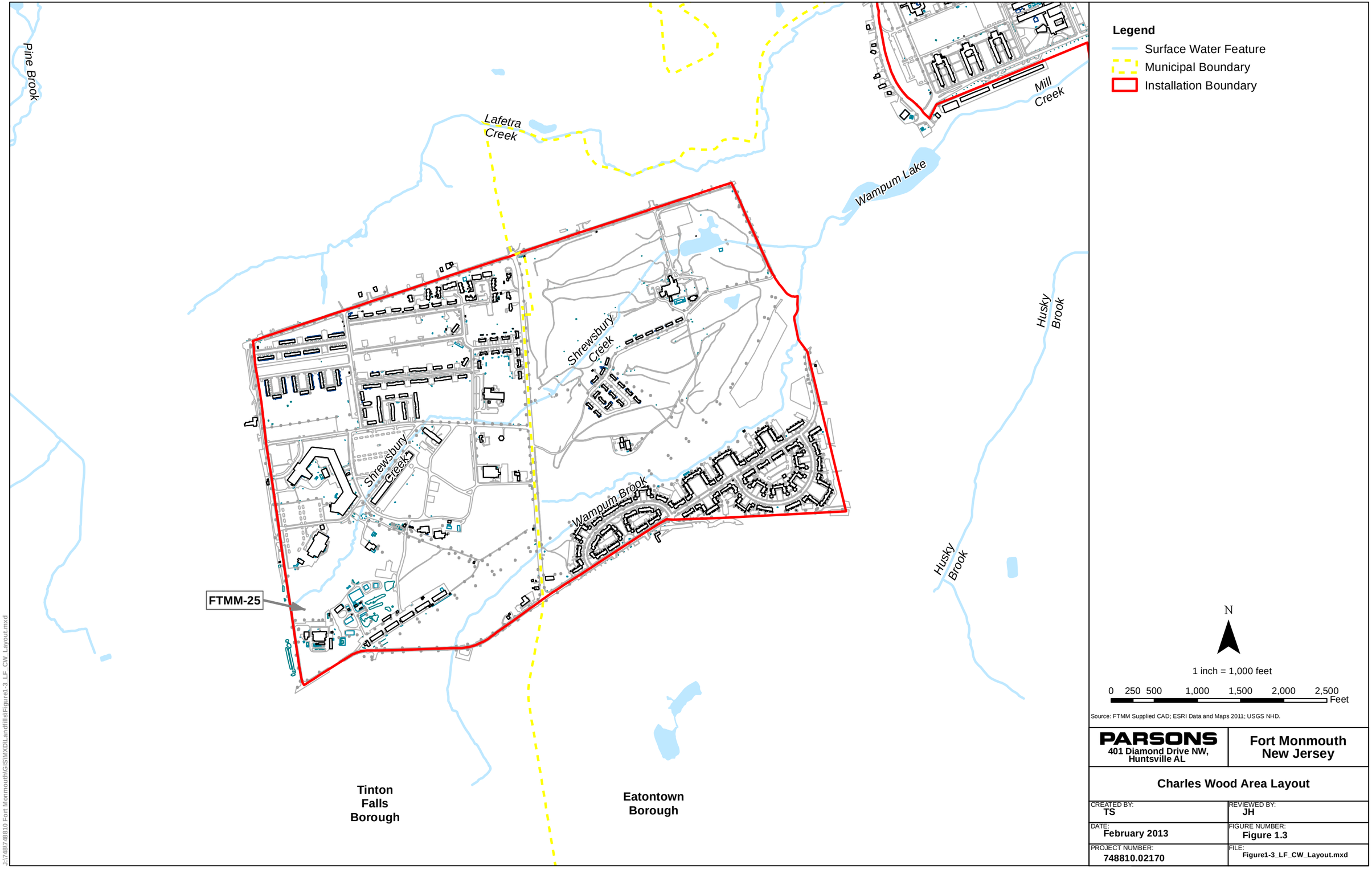
Pine Brook
Lafetra Creek
Mill Creek
Wampum Lake
Husky Brook
Shrewsbury Creek
Wampum Brook
FTMM-25
Tinton Falls Borough
Eatontown Borough
Legend
Surface Water Feature
Municipal Boundary
Installation Boundary
N
1 inch = 1,000 feet
0 250 500 1,000 1,500 2,000 2,500
Feet
Source: FTMM Supplied CAD; ESRI Data and Maps 2011; USGS NHD.
PARSONS
401 Diamond Drive NW, Huntsville AL
Fort Monmouth New Jersey
Charles Wood Area Layout
CREATED BY: TS
REVIEWED BY: JH
DATE: February 2013
FIGURE NUMBER: Figure 1.3
PROJECT NUMBER: 748810.02170
FILE: Figure1-3_LF_CW_Layout.mxd
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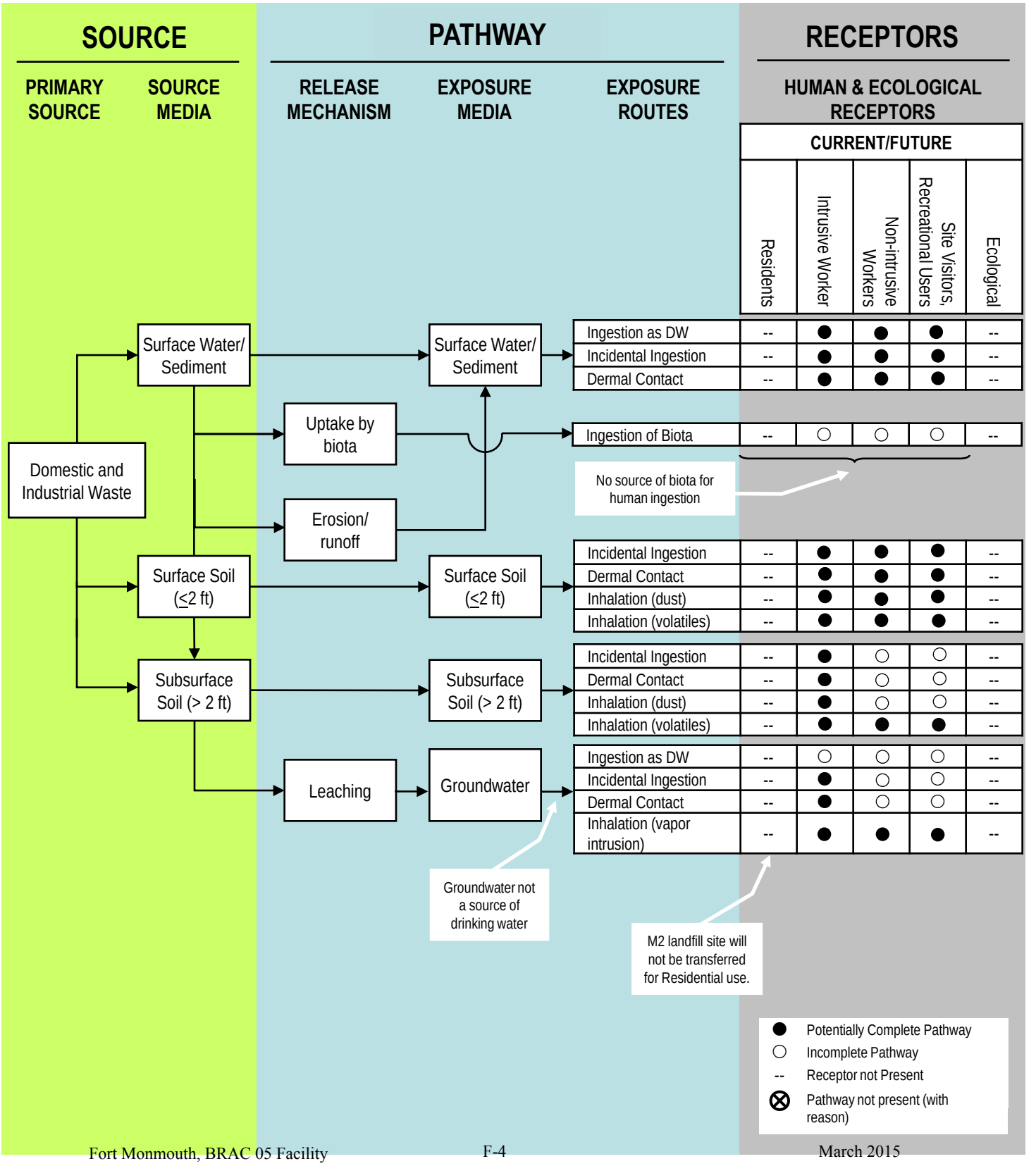
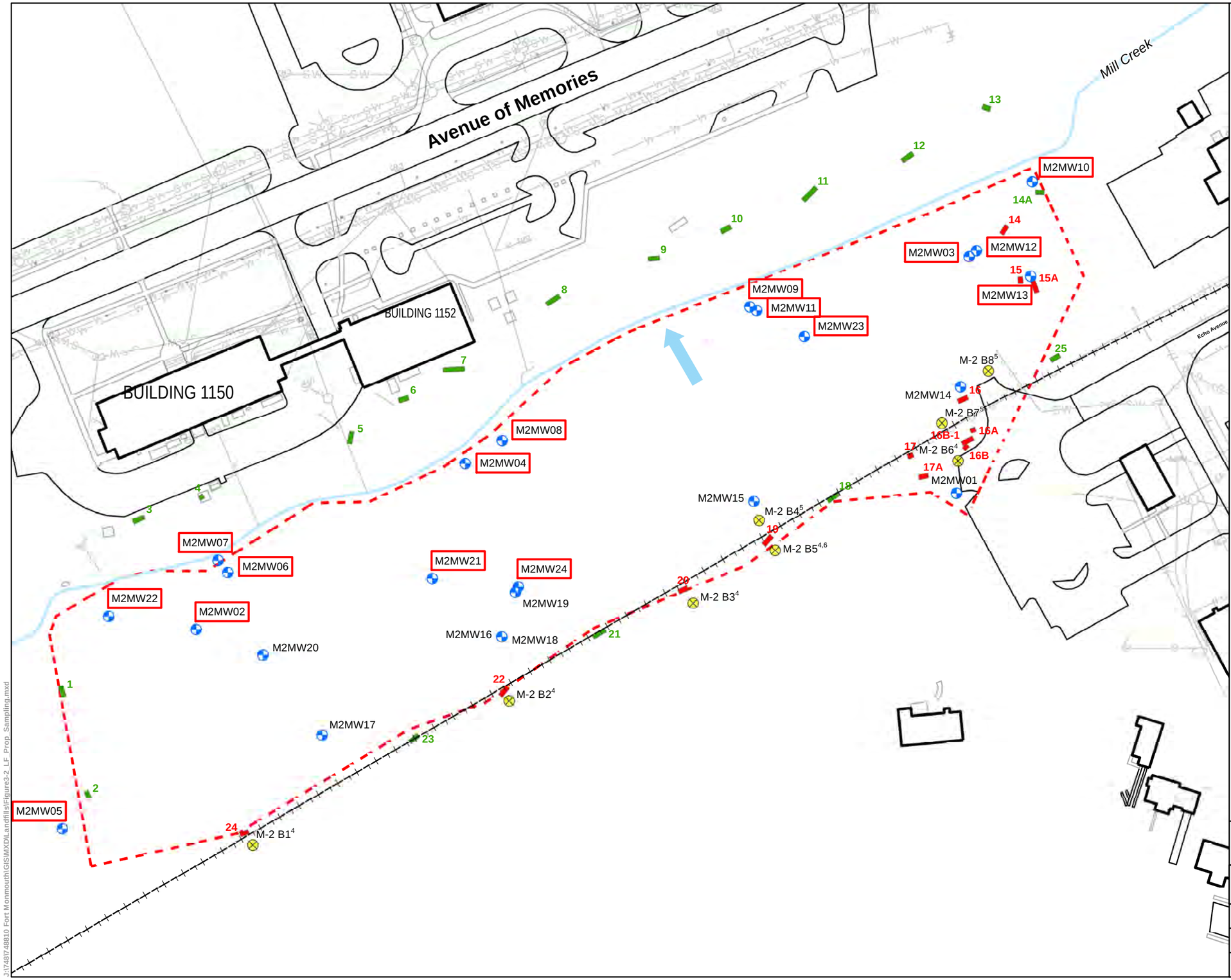
Figure 3.1
PRELIMINARY CONCEPTUAL SITE MODEL DIAGRAM FOR FTMM-02

Site Name: Fort Monmouth, New Jersey, FTMM-02 (M2 Landfill Site)

Completed By: Cindy Conway ***Date Completed:*** February 07, 2013





Legend

- Shallow Monitoring Well
- Proposed Parsons RI Soil Boring
- Landfill Trench wo Debris[1]
- Landfill Trench w Debris[1,2]
- M-2 Landfill Boundary
- railroad_centerline
- W Water Line
- S Sanitary Sewer Line
- S W Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction
- M2MW02 Monitoring well to be sampled during long-term groundwater monitoring program.

Notes:
1. Location of landfill trenches and determination of presence/absence of debris is as described in the report titled "M-2 Landfill (FTMM-02) Remedial Investigation of Landfill Cover Requirements", (Brinkerhoff, May 2011).
2. Debris where encountered in the trenches was observed at depths ranging from 1-foot to 3-feet below ground surface and consisted mainly of ash and coal with sporadic pieces of broken bottles and plastic.
3. The proposed boring locations may change based on actual field conditions.
4. If it has been determined that the railroad was installed prior to operations at M-2 landfill, no soil investigation will be conducted.
4a. If it has been determined that the railroad was installed after the landfill was operational, then the primary purpose of these borings (in addition to analytical analysis) will be to delineate the limits of the landfill waste. Additional soil borings (step outs) will be performed if landfill waste is visually observed in the proposed boring locations and the analytical results indicate similar chemical properties from within the footprint of the landfill.
5. Primary purpose of these borings (if installed) are to delineate soil concentrations to confirm they do not exceed NJDEP RDCSCC criteria.
6. Denotes alternate boring to be advanced if landfill waste is observed in test boring M-2 B4 and additional delineation is required.

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS
401 Diamond Drive NW, Huntsville AL

Fort Monmouth New Jersey

Proposed RI Soil Borings at FTMM-02

CREATED BY:	REVIEWED BY:
TS	DN
DATE: March 2015	FIGURE NUMBER: Figure 3.2
PROJECT NUMBER: 748810.01000	FILE: Figure3-2_LF_Prop_Sampling.mxd

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APPENDICES

APPENDIX A

PERFORMANCE WORK STATEMENT

(This is a placeholder only; included as reference only)

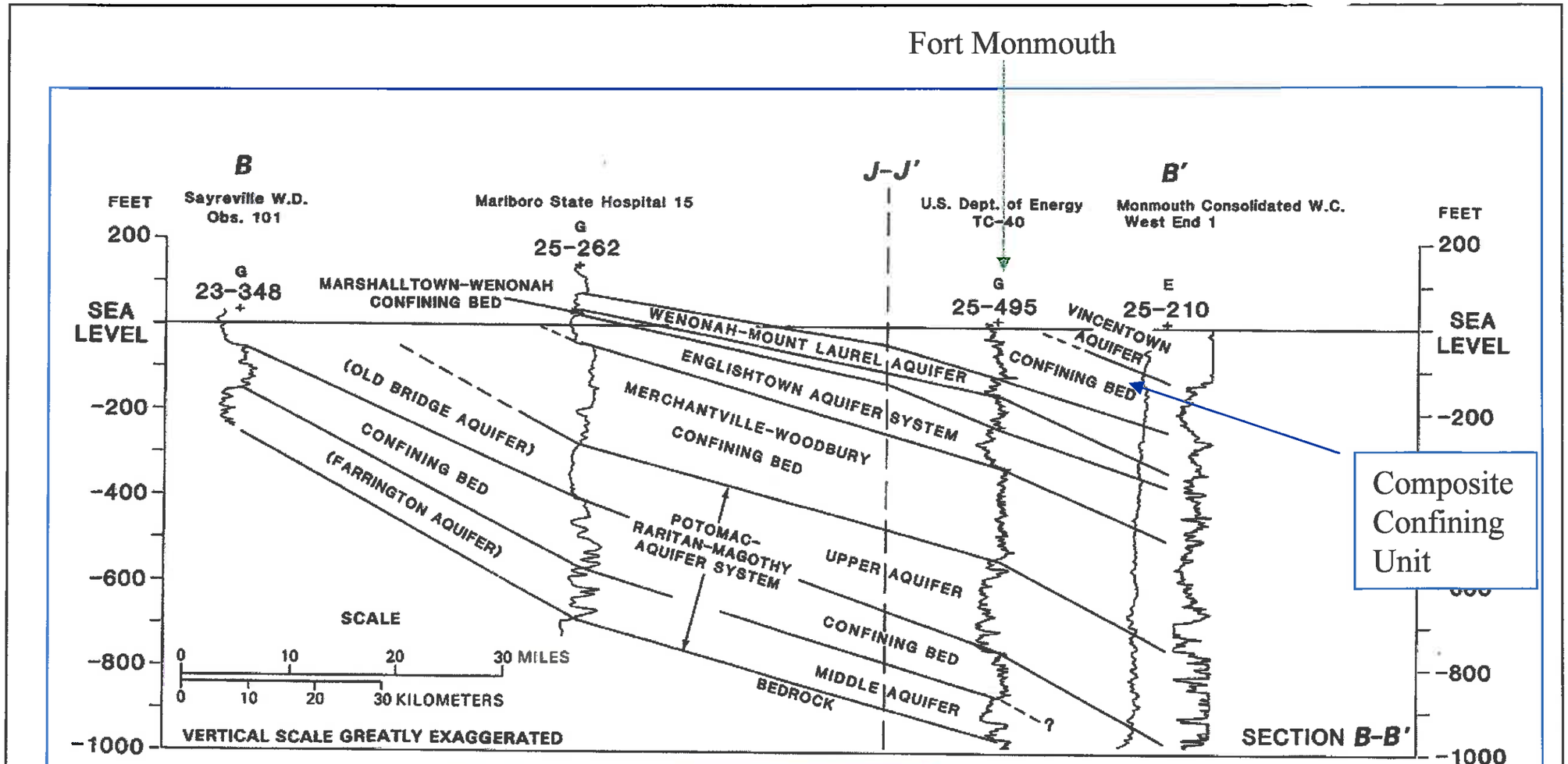
APPENDIX B

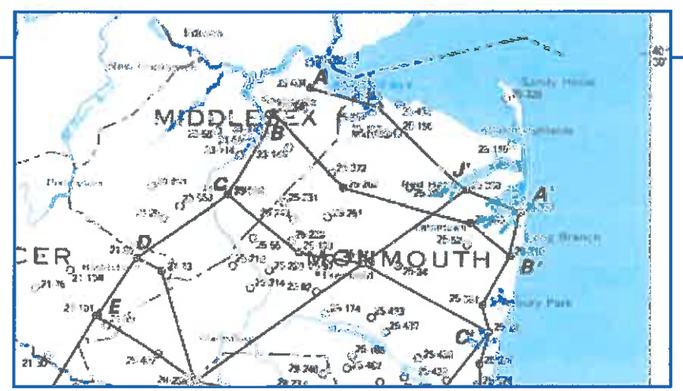
FIELD FORMS

(This is a placeholder only; field forms are provided in the Sampling and Analysis Plan)

APPENDIX C

HISTORICAL INFORMATION



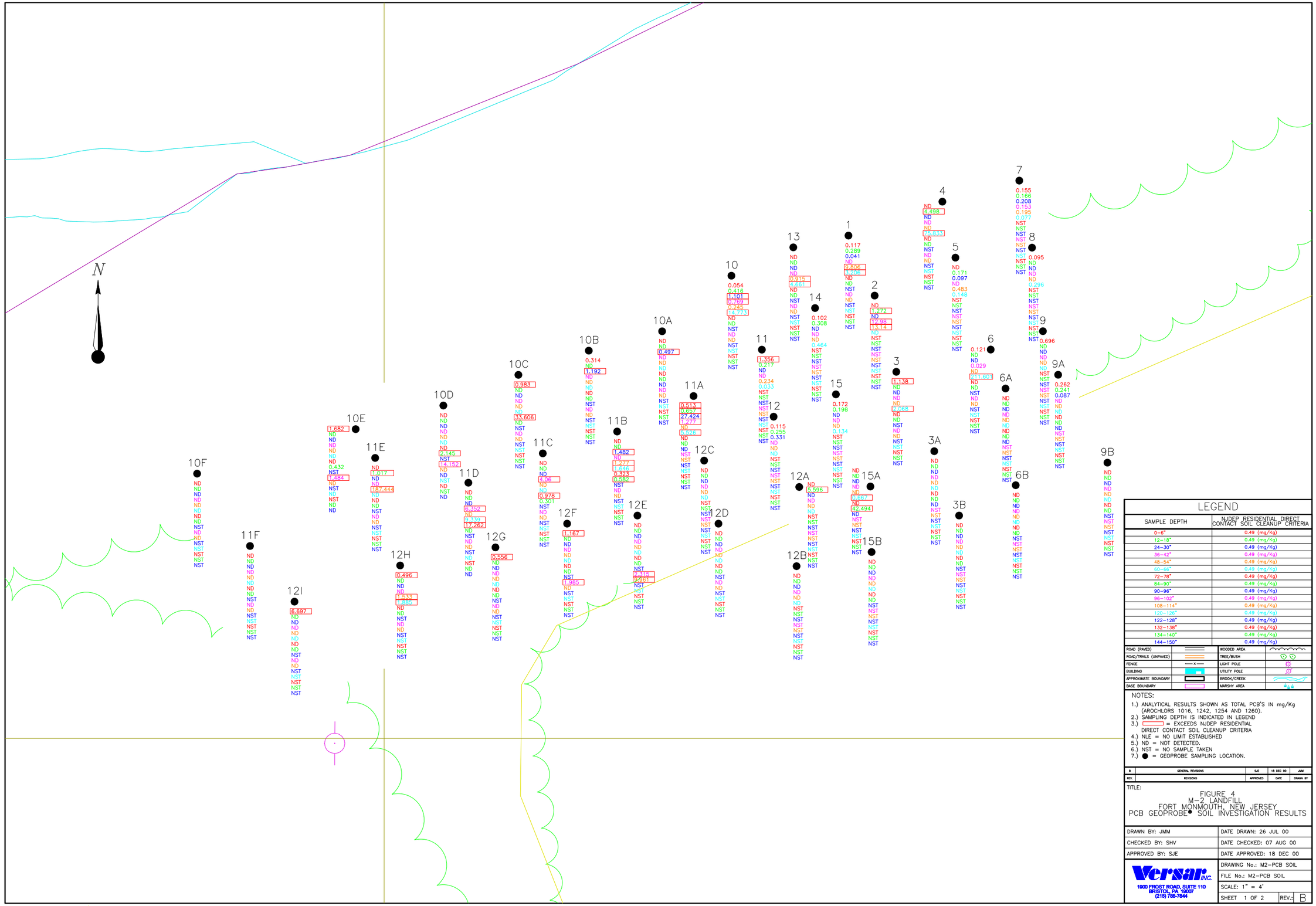


Source: Zapecza, O. 1989. *Hydrogeologic Framework of the New Jersey Coastal Plain.* USGS Professional Paper 1404-B. U.S. Government Printing Office, Washington, DC.

FIGURE 6-1

Regional Geologic Cross-Section
Site 1122 – Main Post
Fort Monmouth, New Jersey

Versar INC.
2558 Pearl Buck Road, Suite 1
Bristol, PA 19007
(215) 788-7844



LEGEND

SAMPLE DEPTH	NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
0–6"	0.49 (mg/Kg)
12–18"	0.49 (mg/Kg)
24–30"	0.49 (mg/Kg)
36–42"	0.49 (mg/Kg)
48–54"	0.49 (mg/Kg)
60–66"	0.49 (mg/Kg)
72–78"	0.49 (mg/Kg)
84–90"	0.49 (mg/Kg)
90–96"	0.49 (mg/Kg)
96–102"	0.49 (mg/Kg)
108–114"	0.49 (mg/Kg)
120–126"	0.49 (mg/Kg)
122–128"	0.49 (mg/Kg)
132–138"	0.49 (mg/Kg)
134–140"	0.49 (mg/Kg)
144–150"	0.49 (mg/Kg)

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—×—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

1.) ANALYTICAL RESULTS SHOWN AS TOTAL PCB'S IN mg/Kg (AROCHLORS 1016, 1242, 1254 AND 1260).
2.) SAMPLING DEPTH IS INDICATED IN LEGEND
3.) ▭ = EXCEEDS NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
4.) NLE = NO LIMIT ESTABLISHED
5.) ND = NOT DETECTED.
6.) NST = NO SAMPLE TAKEN
7.) ● = GEOPROBE SAMPLING LOCATION.

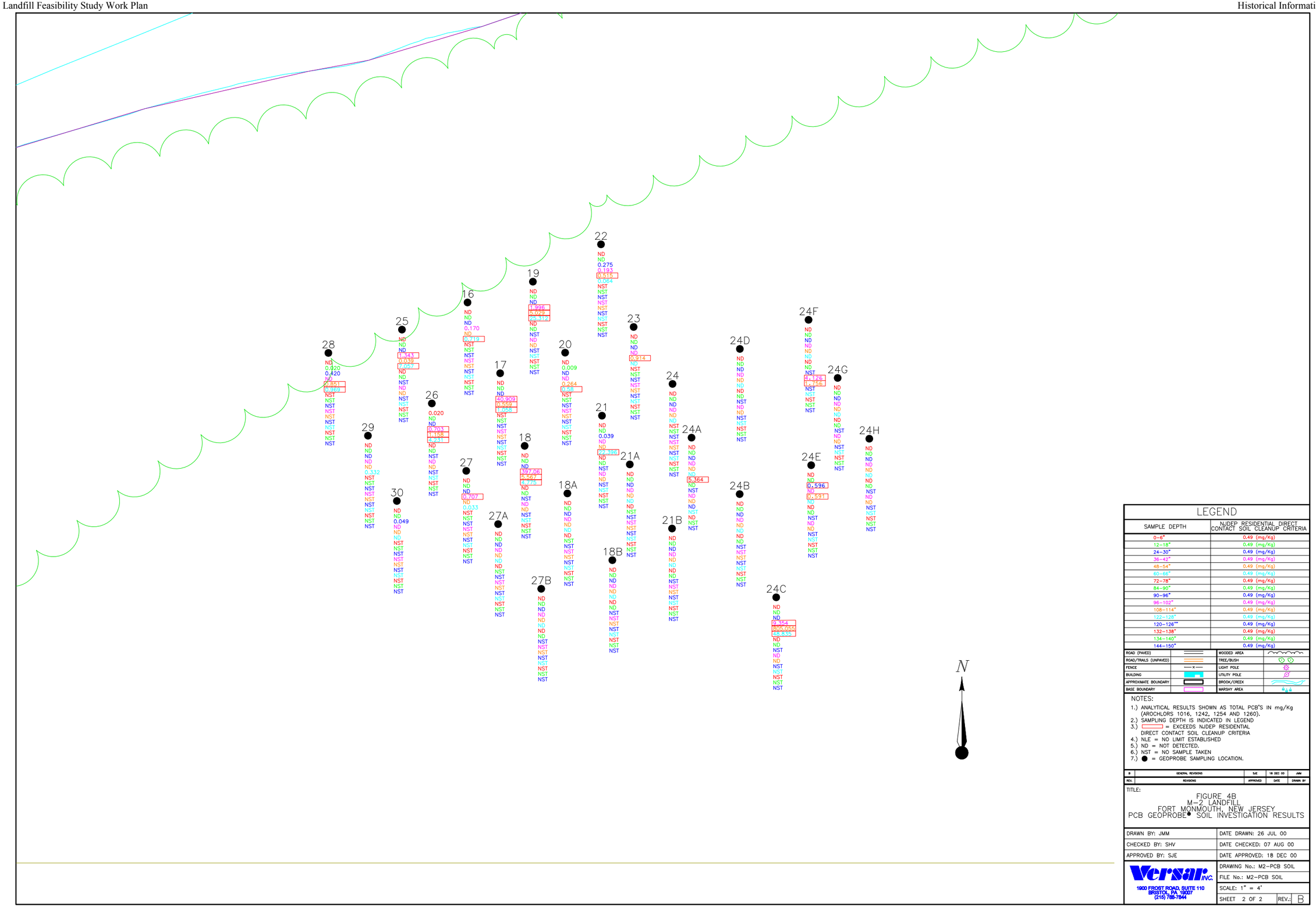
REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	GENERAL REVISIONS	SJE	18 DEC 00	JMM

TITLE:

FIGURE 4
M-2 LANDFILL
FORT MONMOUTH, NEW JERSEY
PCB GEOPROBE® SOIL INVESTIGATION RESULTS

DRAWN BY: JMM	DATE DRAWN: 26 JUL 00
CHECKED BY: SHV	DATE CHECKED: 07 AUG 00
APPROVED BY: SJE	DATE APPROVED: 18 DEC 00
	DRAWING No.: M2-PCB SOIL
	FILE No.: M2-PCB SOIL
	SCALE: 1" = 4'
	SHEET 1 OF 2 REV.: B

Versar INC.
1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 785-7844



LEGEND

SAMPLE DEPTH	NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
0–6"	0.49 (mg/Kg)
12–18"	0.49 (mg/Kg)
24–30"	0.49 (mg/Kg)
36–42"	0.49 (mg/Kg)
48–54"	0.49 (mg/Kg)
60–66"	0.49 (mg/Kg)
72–78"	0.49 (mg/Kg)
84–90"	0.49 (mg/Kg)
90–96"	0.49 (mg/Kg)
96–102"	0.49 (mg/Kg)
108–114"	0.49 (mg/Kg)
122–128"	0.49 (mg/Kg)
120–126""	0.49 (mg/Kg)
132–138"	0.49 (mg/Kg)
134–140"	0.49 (mg/Kg)
144–150"	0.49 (mg/Kg)

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE		LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

1.) ANALYTICAL RESULTS SHOWN AS TOTAL PCB'S IN mg/Kg (AROCHLORS 1016, 1242, 1254 AND 1260).
2.) SAMPLING DEPTH IS INDICATED IN LEGEND
3.) ▭ = EXCEEDS NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
4.) NLE = NO LIMIT ESTABLISHED
5.) ND = NOT DETECTED.
6.) NST = NO SAMPLE TAKEN
7.) ● = GEOPROBE SAMPLING LOCATION.

REV.	REVISIONS	APPROVED	DATE	DRAWN BY
0	GENERAL REVISIONS	SJE	18 DEC 00	JMM

TITLE:

FIGURE 4B
M-2 LANDFILL
FORT MONMOUTH, NEW JERSEY
PCB GEOPROBE● SOIL INVESTIGATION RESULTS

DRAWN BY: JMM	DATE DRAWN: 26 JUL 00
CHECKED BY: SHV	DATE CHECKED: 07 AUG 00
APPROVED BY: SJE	DATE APPROVED: 18 DEC 00
	DRAWING No.: M2-PCB SOIL
	FILE No.: M2-PCB SOIL
	SCALE: 1" = 4'
	SHEET 2 OF 2 REV.: B

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1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 788-7844

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
1	0-6"	4281.03	2/17/99	0.063	ND	ND	0.054	0.117
1	12-18"	4281.04	2/17/99	0.053	ND	ND	0.236	0.289
1	24-30"	4281.05	2/17/99	ND	ND	ND	0.041	0.041
1	36-42"	4281.06	2/17/99	ND	ND	ND	ND	ND
1	48-54"	4281.07	2/17/99	**8.669**	ND	ND	**1.137**	**9.806**
1	60-66"	4281.08	2/17/99	ND	ND	ND	**3.206**	**3.206**
1	72-78"	5119.25	1/24/00	ND	ND	ND	ND	ND
1	84-90"	5119.26	1/24/00	ND	ND	ND	ND	ND
1	96-102"	5119.27	1/24/00	ND	ND	ND	ND	ND
1	108-114"	5119.28	1/24/00	ND	ND	ND	ND	ND
2	0-6"	4281.09	2/17/99	ND	ND	ND	ND	ND
2	12-18"	4281.10	2/17/99	**1.162**	ND	ND	0.110	**1.272**
2	24-30"	4281.11	2/17/99	ND	ND	ND	ND	ND
2	36-42"	4281.12	2/17/99	**12.481**	ND	ND	**0.499**	**12.980**
2	48-54"	4281.13	2/17/99	**12.413**	ND	ND	**0.727**	**13.140**
2	60-66"	4281.14	2/17/99	ND	ND	ND	ND	ND
3	0-6"	4281.15	2/17/99	**0.967**	ND	ND	0.171	**1.138**
3	12-18"	4281.16	2/17/99	ND	ND	ND	ND	ND
3	24-30"	4281.17	2/17/99	ND	ND	ND	ND	ND
3	36-42"	4281.18	2/17/99	ND	ND	ND	ND	ND
3	48-54"	4281.19	2/17/99	ND	ND	ND	ND	ND
3	60-66"	4281.20	2/17/99	**1.935**	ND	ND	0.133	**2.068**
3	72-78"	5119.29	1/24/00	ND	ND	ND	ND	ND
3	84-90"	5119.30	1/24/00	ND	ND	ND	ND	ND
3	96-102"	5119.31	1/24/00	ND	ND	ND	ND	ND
3	108-114"	5119.32	1/24/00	ND	ND	ND	ND	ND
3A	0-6"	4890.28	10/27/99	ND	ND	ND	ND	ND
3A	12-18"	4890.29	10/27/99	ND	ND	ND	ND	ND
3A	24-30"	4890.30	10/27/99	ND	ND	ND	ND	ND
3A	36-42"	4890.31	10/27/99	ND	ND	ND	ND	ND
3A	48-54"	4890.32	10/27/99	ND	ND	ND	ND	ND
3A	60-66"	4890.33	10/27/99	ND	ND	ND	ND	ND
3A	72-78"	4890.34	10/27/99	ND	ND	ND	ND	ND
3A	84-90"	4890.35	10/27/99	ND	ND	ND	ND	ND
3A	90-96"	4890.36	10/27/99	ND	ND	ND	ND	ND
3B	0-6"	4963.20	11/23/99	ND	ND	ND	ND	ND
3B	12-18"	4963.21	11/23/99	ND	ND	ND	ND	ND
3B	24-30"	4963.22	11/23/99	ND	ND	ND	ND	ND
3B	36-42"	4963.23	11/23/99	ND	ND	ND	ND	ND
3B	48-54"	4963.24	11/23/99	ND	ND	ND	ND	ND
3B	60-66"	4963.25	11/23/99	ND	ND	ND	ND	ND
3B	72-78"	4963.26	11/23/99	ND	ND	ND	ND	ND
3B	84-90"	4963.27	11/23/99	ND	ND	ND	ND	ND
4	0-6"	4281.21	2/17/99	ND	ND	ND	ND	ND
4	12-18"	4281.22	2/17/99	**4.219**	ND	ND	0.279	**4.498**
4	24-30"	4281.23	2/17/99	ND	ND	ND	ND	ND
4	36-42"	4281.24	2/17/99	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
4	48-54"	4281.25	2/17/99	ND	ND	ND	ND	ND
4	60-66"	4281.26	2/17/99	**65.402**	ND	ND	**10.431**	**75.833**
4	72-78"	5119.33	1/24/00	ND	ND	ND	ND	ND
4	84-90"	5119.34	1/24/00	ND	ND	ND	ND	ND
4	96-102"	5119.35	1/24/00	ND	ND	ND	ND	ND
4	108-114"	5119.36	1/24/00	ND	ND	ND	ND	ND
5	0-6"	4285.02	2/19/99	ND	ND	ND	ND	ND
5	12-18"	4285.03	2/19/99	0.117	ND	ND	0.054	0.171
5	24-30"	4285.04	2/19/99	0.050	ND	ND	0.047	0.097
5	36-42"	4285.05	2/19/99	ND	ND	ND	ND	ND
5	48-54"	4285.06	2/19/99	ND	ND	ND	0.483	0.483
5	60-66"	4285.07	2/19/99	ND	ND	ND	0.148	0.148
6	0-6"	4285.08	2/19/99	0.081	ND	ND	0.040	0.121
6	12-18"	4285.09	2/19/99	ND	ND	ND	ND	ND
6	24-30"	4285.10	2/19/99	ND	ND	ND	ND	ND
6	36-42"	4285.11	2/19/99	ND	ND	ND	0.029	0.029
6	48-54"	4285.12	2/19/99	ND	ND	ND	ND	ND
6	60-66"	4285.13	2/19/99	**208.421**	ND	ND	**3.180**	**211.601**
6	72-78"	5119.37	1/24/00	ND	ND	ND	ND	ND
6	84-90"	5119.38	1/24/00	ND	ND	ND	ND	ND
6	96-102"	5119.39	1/24/00	ND	ND	ND	ND	ND
6	108-114"	5119.40	1/24/00	ND	ND	ND	ND	ND
6A	0-6"	4890.37	10/27/99	ND	ND	ND	ND	ND
6A	12-18"	4890.38	10/27/99	ND	ND	ND	ND	ND
6A	24-30"	4890.39	10/27/99	ND	ND	ND	ND	ND
6A	36-42"	4890.40	10/27/99	ND	ND	ND	ND	ND
6A	48-54"	4890.41	10/27/99	ND	ND	ND	ND	ND
6A	60-66"	4890.42	10/27/99	ND	ND	ND	ND	ND
6A	72-78"	4890.43	10/27/99	ND	ND	ND	ND	ND
6A	84-90"	4890.44	10/27/99	ND	ND	ND	ND	ND
6A	90-96"	4890.45	10/27/99	ND	ND	ND	ND	ND
6B	0-6"	4963.11	11/23/99	ND	ND	ND	ND	ND
6B	12-18"	4963.12	11/23/99	ND	ND	ND	ND	ND
6B	24-30"	4963.13	11/23/99	ND	ND	ND	ND	ND
6B	36-42"	4963.14	11/23/99	ND	ND	ND	ND	ND
6B	48-54"	4963.15	11/23/99	ND	ND	ND	ND	ND
6B	60-66"	4963.16	11/23/99	ND	ND	ND	ND	ND
6B	72-78"	4963.17	11/23/99	ND	ND	ND	ND	ND
6B	84-90"	4963.18	11/23/99	ND	ND	ND	ND	ND
7	0-6"	4285.14	2/19/99	0.108	ND	ND	0.047	0.155
7	12-18"	4285.15	2/19/99	0.152	ND	ND	0.014	0.166
7	24-30"	4285.16	2/19/99	ND	ND	ND	0.208	0.208
7	36-42"	4285.17	2/19/99	0.115	ND	ND	0.038	0.153
7	48-54"	4285.18	2/19/99	0.153	ND	ND	0.042	0.195
7	60-66"	4285.19	2/19/99	0.046	ND	ND	0.031	0.077
8	0-6"	4290.02	2/22/99	0.047	ND	ND	0.048	0.095
8	12-18"	4290.03	2/22/99	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
8	24-30"	4290.04	2/22/99	ND	ND	ND	ND	ND
8	36-42"	4290.05	2/22/99	ND	ND	ND	ND	ND
8	48-54"	4290.06	2/22/99	ND	ND	ND	ND	ND
8	60-66"	4290.07	2/22/99	ND	ND	ND	0.296	0.296
9	0-6"	4290.08	2/22/99	0.465	ND	ND	0.231	**0.696**
9	12-18"	4290.09	2/22/99	ND	ND	ND	ND	ND
9	24-30"	4290.10	2/22/99	ND	ND	ND	ND	ND
9	36-42"	4290.11	2/22/99	ND	ND	ND	ND	ND
9	48-54"	4290.12	2/22/99	ND	ND	ND	ND	ND
9	60-66"	4290.13	2/22/99	ND	ND	ND	ND	ND
9A	0-6"	4890.46	10/27/99	ND	ND	ND	0.262	0.262
9A	12-18"	4890.47	10/27/99	ND	ND	ND	0.241	0.241
9A	24-30"	4890.48	10/27/99	ND	ND	ND	0.087	0.087
9A	36-42"	4890.49	10/27/99	ND	ND	ND	ND	ND
9A	48-54"	4890.50	10/27/99	ND	ND	ND	ND	ND
9A	60-66"	4890.51	10/27/99	ND	ND	ND	ND	ND
9A	72-78"	4890.52	10/27/99	ND	ND	ND	ND	ND
9A	84-90"	4890.53	10/27/99	ND	ND	ND	ND	ND
9A	90-96"	4890.54	10/27/99	ND	ND	ND	ND	ND
9B	0-6"	4963.02	11/23/99	ND	ND	ND	ND	ND
9B	12-18"	4963.03	11/23/99	ND	ND	ND	ND	ND
9B	24-30"	4963.04	11/23/99	ND	ND	ND	ND	ND
9B	36-42"	4963.05	11/23/99	ND	ND	ND	ND	ND
9B	48-54"	4963.06	11/23/99	ND	ND	ND	ND	ND
9B	60-66"	4963.07	11/23/99	ND	ND	ND	ND	ND
9B	72-78"	4963.08	11/23/99	ND	ND	ND	ND	ND
9B	84-90"	4963.09	11/23/99	ND	ND	ND	ND	ND
10	0-6"	4290.14	2/22/99	ND	ND	ND	0.054	0.054
10	12-18"	4290.15	2/22/99	0.379	ND	ND	0.037	0.416
10	24-30"	4290.16	2/22/99	**1.042**	ND	ND	0.059	**1.101**
10	36-42"	4290.17	2/22/99	**0.704**	ND	ND	0.065	**0.769**
10	48-54"	4290.18	2/22/99	0.159	ND	ND	0.086	0.245
10	60-66"	4290.19	2/22/99	**6.392**	ND	ND	**8.381**	**14.773**
10	72-78"	5119.41	1/24/00	ND	ND	ND	ND	ND
10	84-90"	5119.42	1/24/00	ND	ND	ND	ND	ND
10	96-102"	5119.43	1/24/00	ND	ND	ND	ND	ND
10	108-114"	5119.44	1/24/00	ND	ND	ND	ND	ND
10A	0-6"	4890.01	10/27/99	ND	ND	ND	ND	ND
10A	12-18"	4890.02	10/27/99	ND	ND	ND	ND	ND
10A	24-30"	4890.03	10/27/99	ND	ND	ND	**0.497**	**0.497**
10A	36-42"	4890.04	10/27/99	ND	ND	ND	ND	ND
10A	48-54"	4890.05	10/27/99	ND	ND	ND	ND	ND
10A	60-66"	4890.06	10/27/99	ND	ND	ND	ND	ND
10A	72-78"	4890.07	10/27/99	ND	ND	ND	ND	ND
10A	84-90"	4890.08	10/27/99	ND	ND	ND	ND	ND
10A	90-96"	4890.09	10/27/99	ND	ND	ND	ND	ND
10B	0-6"	5148.19	2/7/00	ND	0.314	ND	ND	0.314

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
10B	12-18"	5148.20	2/7/00	ND	ND	ND	ND	ND
10B	24-30"	5148.21	2/7/00	ND	**1.192**	ND	ND	**1.192**
10B	36-42"	5148.22	2/7/00	ND	ND	ND	ND	ND
10B	48-54"	5148.23	2/7/00	ND	ND	ND	ND	ND
10B	60-66"	5148.24	2/7/00	ND	ND	ND	ND	ND
10B	72-78"	5148.25	2/7/00	ND	ND	ND	ND	ND
10B	84-90"	5148.26	2/7/00	ND	ND	ND	ND	ND
10B	96-102"	5148.27	2/7/00	ND	ND	ND	ND	ND
10B	108-114"	5148.28	2/7/00	ND	ND	ND	ND	ND
10C	0-6"	5148.29	2/7/00	ND	**0.983**	ND	ND	**0.983**
10C	12-18"	5148.30	2/7/00	ND	ND	ND	ND	ND
10C	24-30"	5148.31	2/7/00	ND	ND	ND	ND	ND
10C	36-42"	5148.32	2/7/00	ND	ND	ND	ND	ND
10C	48-54"	5148.33	2/7/00	ND	ND	ND	ND	ND
10C	60-66"	5148.34	2/7/00	ND	ND	ND	ND	ND
10C	72-78"	5148.35	2/7/00	ND	**33.606**	ND	ND	**33.606**
10C	84-90"	5148.36	2/7/00	ND	ND	ND	ND	ND
10C	96-102"	5148.37	2/7/00	ND	ND	ND	ND	ND
10C	108-114"	5148.38	2/7/00	ND	ND	ND	ND	ND
10D	0-6"	5207.01	2/29/00	ND	ND	ND	ND	ND
10D	12-18"	5207.02	2/29/00	ND	ND	ND	ND	ND
10D	24-30"	5207.03	2/29/00	ND	ND	ND	ND	ND
10D	36-42"	5207.04	2/29/00	ND	ND	ND	ND	ND
10D	48-54"	5207.05	2/29/00	ND	ND	ND	ND	ND
10D	60-66"	5207.06	2/29/00	ND	ND	ND	ND	ND
10D	72-78"	5207.07	2/29/00	ND	ND	ND	ND	ND
10D	84-90"	5207.08	2/29/00	ND	**2.145**	ND	ND	**2.145**
10D	96-102"	5207.09	2/29/00	ND	**14.152**	ND	ND	**14.152**
10D	108-114"	5228.01	3/8/00	ND	ND	ND	ND	ND
10D	120-126"	5228.02	3/8/00	ND	ND	ND	ND	ND
10D	132-138"	5228.03	3/8/00	ND	ND	ND	ND	ND
10D	144-150"	5228.04	3/8/00	ND	ND	ND	ND	ND
10E	0-6"	5228.05	3/8/00	ND	ND	**1.682**	ND	**1.682**
10E	12-18"	5228.06	3/8/00	ND	ND	ND	ND	ND
10E	24-30"	5228.07	3/8/00	ND	ND	ND	ND	ND
10E	36-42"	5228.08	3/8/00	ND	ND	ND	ND	ND
10E	48-54"	5228.09	3/8/00	ND	ND	ND	ND	ND
10E	60-66"	5228.10	3/8/00	ND	ND	ND	ND	ND
10E	72-78"	5228.11	3/8/00	ND	ND	ND	ND	ND
10E	84-90"	5228.12	3/8/00	ND	ND	0.432	ND	0.432
10E	96-102"	5228.13	3/8/00	ND	ND	**1.484**	ND	**1.484**
10E	108-116"	5228.14	3/8/00	ND	ND	ND	ND	ND
10E	122-128"	5228.15	3/8/00	ND	ND	ND	ND	ND
10E	134-140"	5228.16	3/8/00	ND	ND	ND	ND	ND
10E	144-150"	5228.17	3/8/00	ND	ND	ND	ND	ND
10F	0-6"	5272.01	3/22/00	ND	ND	ND	ND	ND
10F	12-18"	5272.02	3/22/00	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
10F	24-30"	5272.03	3/22/00	ND	ND	ND	ND	ND
10F	36-42"	5272.04	3/22/00	ND	ND	ND	ND	ND
10F	48-54"	5272.05	3/22/00	ND	ND	ND	ND	ND
10F	60-66"	5272.06	3/22/00	ND	ND	ND	ND	ND
10F	72-78"	5272.07	3/22/00	ND	ND	ND	ND	ND
10F	84-90"	5272.08	3/22/00	ND	ND	ND	ND	ND
10F	96-102"	5272.09	3/22/00	ND	ND	ND	ND	ND
10F	108-114"	5272.10	3/22/00	ND	ND	ND	ND	ND
11	0-6"	4290.20	2/22/99	**1.230**	ND	ND	0.126	**1.356**
11	12-18"	4290.21	2/22/99	0.157	ND	ND	0.060	0.217
11	24-30"	4290.22	2/22/99	ND	ND	ND	ND	ND
11	36-42"	4290.23	2/22/99	ND	ND	ND	ND	ND
11	48-54"	4290.24	2/22/99	ND	ND	ND	0.234	0.234
11	60-66"	4290.25	2/22/99	ND	ND	ND	0.033	0.033
11A	0-6"	4890.10	10/27/99	ND	ND	**0.513**	ND	**0.513**
11A	12-18"	4890.11	10/27/99	ND	ND	**0.657**	ND	**0.657**
11A	24-30"	4890.12	10/27/99	ND	**27.424**	ND	ND	**27.424**
11A	36-42"	4890.13	10/27/99	**0.745**	ND	ND	**0.532**	**1.277**
11A	48-54"	4890.14	10/27/99	ND	ND	ND	ND	ND
11A	60-66"	4890.15	10/27/99	ND	**5.526**	ND	ND	**5.526**
11A	72-78"	4890.16	10/27/99	ND	ND	ND	ND	ND
11A	84-90"	4890.17	10/27/99	ND	ND	ND	ND	ND
11A	90-96"	4890.18	10/27/99	ND	ND	ND	ND	ND
11B	0-6"	5119.01	1/24/00	ND	ND	ND	ND	ND
11B	12-18"	5119.02	1/24/00	ND	ND	ND	ND	ND
11B	24-30"	5119.03	1/24/00	ND	**1.482**	ND	ND	**1.482**
11B	36-42"	5119.04	1/24/00	ND	ND	ND	ND	ND
11B	48-54"	5119.05	1/24/00	ND	**1.277**	ND	ND	**1.277**
11B	60-66"	5119.06	1/24/00	ND	**1.646**	ND	ND	**1.646**
11B	72-78"	5148.01	2/7/00	ND	0.323	ND	ND	0.323
11B	84-90"	5148.02	2/7/00	ND	**0.582**	ND	ND	**0.582**
11B	96-102"	5148.03	2/7/00	ND	ND	ND	ND	ND
11B	108-114"	5148.04	2/7/00	ND	ND	ND	ND	ND
11C	0-6"	5148.39	2/7/00	ND	ND	ND	ND	ND
11C	12-18"	5148.40	2/7/00	ND	ND	ND	ND	ND
11C	24-30"	5148.41	2/7/00	ND	ND	ND	ND	ND
11C	36-42"	5148.42	2/7/00	ND	**4.060**	ND	ND	**4.060**
11C	48-54"	5148.43	2/7/00	ND	ND	ND	ND	ND
11C	60-66"	5148.44	2/7/00	ND	ND	ND	ND	ND
11C	72-78"	5148.45	2/7/00	ND	**0.978**	ND	ND	**0.978**
11C	84-90"	5148.46	2/7/00	ND	0.301	ND	ND	0.301
11C	96-102"	5148.47	2/7/00	ND	ND	ND	ND	ND
11C	108-114"	5148.48	2/7/00	ND	ND	ND	ND	ND
11D	0-6"	5228.18	3/8/00	ND	ND	ND	ND	ND
11D	12-18"	5228.19	3/8/00	ND	ND	ND	ND	ND
11D	24-30"	5228.20	3/8/00	ND	ND	ND	ND	ND
11D	36-42"	5228.21	3/8/00	ND	**6.352**	ND	ND	**6.352**

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
11D	48-54"	5228.22	3/8/00	ND	ND	ND	ND	ND
11D	60-66"	5228.23	3/8/00	ND	**9.339**	ND	ND	**9.339**
11D	72-78"	5228.24	3/8/00	ND	**17.262**	ND	ND	**17.262**
11D	84-90"	5228.25	3/8/00	ND	ND	ND	ND	ND
11D	96-102"	5228.26	3/8/00	ND	ND	ND	ND	ND
11D	108-116"	5228.27	3/8/00	ND	ND	ND	ND	ND
11D	122-128"	5228.28	3/8/00	ND	ND	ND	ND	ND
11D	134-140"	5228.29	3/8/00	ND	ND	ND	ND	ND
11D	144-150"	5228.30	3/8/00	ND	ND	ND	ND	ND
11E	0-6"	5251.01	3/16/00	ND	ND	ND	ND	ND
11E	12-18"	5251.02	3/16/00	ND	**1.017**	ND	ND	**1.017**
11E	24-30"	5251.03	3/16/00	ND	ND	ND	ND	ND
11E	36-42"	5251.04	3/16/00	ND	ND	ND	ND	ND
11E	48-54"	5251.05	3/16/00	ND	**187.444**	ND	ND	**187.444**
11E	60-66"	5251.06	3/16/00	ND	ND	ND	ND	ND
11E	72-78"	5251.07	3/16/00	ND	ND	ND	ND	ND
11E	84-90"	5251.08	3/16/00	ND	ND	ND	ND	ND
11E	96-102"	5251.09	3/16/00	ND	ND	ND	ND	ND
11E	108-114"	5251.10	3/16/00	ND	ND	ND	ND	ND
11F	0-6"	5272.11	3/22/00	ND	ND	ND	ND	ND
11F	12-18"	5272.12	3/22/00	ND	ND	ND	ND	ND
11F	24-30"	5272.13	3/22/00	ND	ND	ND	ND	ND
11F	36-42"	5272.14	3/22/00	ND	ND	ND	ND	ND
11F	48-54"	5272.15	3/22/00	ND	ND	ND	ND	ND
11F	60-66"	5272.16	3/22/00	ND	ND	ND	ND	ND
11F	72-78"	5272.17	3/22/00	ND	ND	ND	ND	ND
11F	84-90"	5272.18	3/22/00	ND	ND	ND	ND	ND
11F	96-102"	5272.19	3/22/00	ND	ND	ND	ND	ND
11F	108-114"	5272.20	3/22/00	ND	ND	ND	ND	ND
12	0-6"	4290.26	2/22/99	0.079	ND	ND	0.036	0.115
12	12-18"	4290.27	2/22/99	0.195	ND	ND	0.060	0.255
12	24-30"	4290.28	2/22/99	0.272	ND	ND	0.059	0.331
12	36-42"	4290.29	2/22/99	ND	ND	ND	ND	ND
12	48-54"	4290.30	2/22/99	ND	ND	ND	ND	ND
12	60-66"	4290.31	2/22/99	ND	ND	ND	ND	ND
12A	0-6"	5119.07	1/24/00	ND	ND	ND	ND	ND
12A	12-18"	5119.08	1/24/00	ND	**5.596**	ND	ND	**5.596**
12A	24-30"	5119.09	1/24/00	ND	ND	ND	ND	ND
12A	36-42"	5119.10	1/24/00	ND	ND	ND	ND	ND
12A	48-54"	5119.11	1/24/00	ND	ND	ND	ND	ND
12A	60-66"	5119.12	1/24/00	ND	ND	ND	ND	ND
12B	0-6"	5119.13	1/24/00	ND	ND	ND	ND	ND
12B	12-18"	5119.14	1/24/00	ND	ND	ND	ND	ND
12B	24-30"	5119.15	1/24/00	ND	ND	ND	ND	ND
12B	36-42"	5119.16	1/24/00	ND	ND	ND	ND	ND
12B	48-54"	5119.17	1/24/00	ND	ND	ND	ND	ND
12B	60-66"	5119.18	1/24/00	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
12C	0-6"	5119.19	1/24/00	ND	ND	ND	ND	ND
12C	12-18"	5119.20	1/24/00	ND	ND	ND	ND	ND
12C	24-30"	5119.21	1/24/00	ND	ND	ND	ND	ND
12C	36-42"	5119.22	1/24/00	ND	ND	ND	ND	ND
12C	48-54"	5119.23	1/24/00	ND	ND	ND	ND	ND
12C	60-66"	5119.24	1/24/00	ND	ND	ND	ND	ND
12D	0-6"	5148.09	2/7/00	ND	ND	ND	ND	ND
12D	12-18"	5148.10	2/7/00	ND	ND	ND	ND	ND
12D	24-30"	5148.11	2/7/00	ND	ND	ND	ND	ND
12D	36-42"	5148.12	2/7/00	ND	ND	ND	ND	ND
12D	48-54"	5148.13	2/7/00	ND	ND	ND	ND	ND
12D	60-66"	5148.14	2/7/00	ND	ND	ND	ND	ND
12D	72-78"	5148.15	2/7/00	ND	ND	ND	ND	ND
12D	84-90"	5148.16	2/7/00	ND	ND	ND	ND	ND
12D	96-102"	5148.17	2/7/00	ND	ND	ND	ND	ND
12D	108-114"	5148.18	2/7/00	ND	ND	ND	ND	ND
12E	0-6"	5148.49	2/7/00	ND	ND	ND	ND	ND
12E	12-18"	5148.50	2/7/00	ND	ND	ND	ND	ND
12E	24-30"	5148.51	2/7/00	ND	ND	ND	ND	ND
12E	36-42"	5148.52	2/7/00	ND	ND	ND	ND	ND
12E	48-54"	5148.53	2/7/00	ND	ND	ND	ND	ND
12E	60-66"	5148.54	2/7/00	ND	ND	ND	ND	ND
12E	72-78"	5148.55	2/7/00	ND	ND	ND	ND	ND
12E	84-90"	5148.56	2/7/00	ND	ND	ND	ND	ND
12E	96-102"	5148.57	2/7/00	ND	ND	ND	**2.315**	**2.315**
12E	108-114"	5148.58	2/7/00	ND	ND	**9.961**	ND	**9.961**
12F	0-6"	5148.59	2/7/00	ND	**1.167**	ND	ND	**1.167**
12F	12-18"	5148.60	2/7/00	ND	ND	ND	ND	ND
12F	24-30"	5148.61	2/7/00	ND	ND	ND	ND	ND
12F	36-42"	5148.62	2/7/00	ND	ND	ND	ND	ND
12F	48-54"	5148.63	2/7/00	ND	ND	ND	ND	ND
12F	60-66"	5148.64	2/7/00	ND	ND	ND	ND	ND
12F	72-78"	5148.65	2/7/00	ND	ND	ND	ND	ND
12F	84-90"	5148.66	2/7/00	ND	ND	ND	ND	ND
12F	96-102"	5148.67	2/7/00	ND	ND	**1.985**	ND	**1.985**
12F	108-114"	5148.68	2/7/00	ND	ND	ND	ND	ND
12G	0-6"	5272.41	3/22/00	ND	ND	**0.556**	ND	**0.556**
12G	12-18"	5272.42	3/22/00	ND	ND	ND	ND	ND
12G	24-30"	5272.43	3/22/00	ND	ND	ND	ND	ND
12G	36-42"	5272.44	3/22/00	ND	ND	ND	ND	ND
12G	48-54"	5272.45	3/22/00	ND	ND	ND	ND	ND
12G	60-66"	5272.46	3/22/00	ND	ND	ND	ND	ND
12G	72-78"	5272.47	3/22/00	ND	ND	ND	ND	ND
12G	84-90"	5272.48	3/22/00	ND	ND	ND	ND	ND
12G	96-102"	5272.49	3/22/00	ND	ND	ND	ND	ND
12G	108-114"	5272.50	3/22/00	ND	ND	ND	ND	ND
12H	0-6"	5272.31	3/22/00	ND	**0.496**	ND	ND	**0.496**

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
12H	12-18"	5272.32	3/22/00	ND	ND	ND	ND	ND
12H	24-30"	5272.33	3/22/00	ND	ND	ND	ND	ND
12H	36-42"	5272.34	3/22/00	ND	ND	ND	ND	ND
12H	48-54"	5272.35	3/22/00	ND	ND	**1.533**	ND	**1.533**
12H	60-66"	5272.36	3/22/00	ND	ND	**1.885**	ND	**1.885**
12H	72-78"	5272.37	3/22/00	ND	ND	ND	ND	ND
12H	84-90"	5272.38	3/22/00	ND	ND	ND	ND	ND
12H	96-102"	5272.39	3/22/00	ND	ND	ND	ND	ND
12H	108-114"	5272.40	3/22/00	ND	ND	ND	ND	ND
12I	0-6"	5272.21	3/22/00	ND	ND	**6.697**	ND	**6.697**
12I	12-18"	5272.22	3/22/00	ND	ND	ND	ND	ND
12I	24-30"	5272.23	3/22/00	ND	ND	ND	ND	ND
12I	36-42"	5272.24	3/22/00	ND	ND	ND	ND	ND
12I	48-54"	5272.25	3/22/00	ND	ND	ND	ND	ND
12I	60-66"	5272.26	3/22/00	ND	ND	ND	ND	ND
12I	72-78"	5272.27	3/22/00	ND	ND	ND	ND	ND
12I	84-90"	5272.28	3/22/00	ND	ND	ND	ND	ND
12I	96-102"	5272.29	3/22/00	ND	ND	ND	ND	ND
12I	108-114"	5272.30	3/22/00	ND	ND	ND	ND	ND
13	0-6"	4294.02	2/23/99	ND	ND	ND	ND	ND
13	12-18"	4294.03	2/23/99	ND	ND	ND	ND	ND
13	24-30"	4294.04	2/23/99	ND	ND	ND	ND	ND
13	36-42"	4294.05	2/23/99	ND	ND	ND	ND	ND
13	48-54"	4294.06	2/23/99	**0.915**	ND	ND	ND	**0.915**
13	60-66"	4294.07	2/23/99	**3.170**	ND	ND	**1.491**	**4.661**
13	72-78"	5119.45	1/24/00	ND	ND	ND	ND	ND
13	84-90"	5119.46	1/24/00	ND	ND	ND	ND	ND
13	96-102"	5119.47	1/24/00	ND	ND	ND	ND	ND
13	108-114"	5119.48	1/24/00	ND	ND	ND	ND	ND
14	0-6"	4294.08	2/23/99	ND	ND	ND	0.102	0.102
14	12-18"	4294.09	2/23/99	0.236	ND	ND	0.072	0.308
14	24-30"	4294.10	2/23/99	ND	ND	ND	ND	ND
14	36-42"	4294.11	2/23/99	ND	ND	ND	ND	ND
14	48-54"	4294.12	2/23/99	ND	ND	ND	ND	ND
14	60-66"	4294.13	2/23/99	0.402	ND	ND	0.062	0.464
15	0-6"	4294.14	2/23/99	0.083	ND	ND	0.089	0.172
15	12-18"	4294.15	2/23/99	0.140	ND	ND	0.058	0.198
15	24-30"	4294.16	2/23/99	ND	ND	ND	ND	ND
15	36-42"	4294.17	2/23/99	ND	ND	ND	ND	ND
15	48-54"	4294.18	2/23/99	ND	ND	ND	ND	ND
15	60-66"	4294.19	2/23/99	ND	ND	ND	0.134	0.134
15A	0-6"	4890.19	10/27/99	ND	ND	ND	ND	ND
15A	12-18"	4890.20	10/27/99	ND	ND	ND	ND	ND
15A	24-30"	4890.21	10/27/99	ND	ND	ND	ND	ND
15A	36-42"	4890.22	10/27/99	ND	ND	ND	ND	ND
15A	48-54"	4890.23	10/27/99	ND	ND	ND	ND	ND
15A	60-66"	4890.24	10/27/99	ND	ND	ND	**0.667**	**0.667**

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
15A	72-78"	4890.25	10/27/99	ND	ND	ND	ND	ND
15A	84-90"	4890.26	10/27/99	ND	ND	**42.494**	ND	**42.494**
15A	90-96"	4890.27	10/27/99	ND	ND	ND	ND	ND
15B	0-6"	4963.29	11/23/99	ND	ND	ND	ND	ND
15B	12-18"	4963.30	11/23/99	ND	ND	ND	ND	ND
15B	24-30"	4963.31	11/23/99	ND	ND	ND	ND	ND
15B	36-42"	4963.32	11/23/99	ND	ND	ND	ND	ND
15B	48-54"	4963.33	11/23/99	ND	ND	ND	ND	ND
15B	60-66"	4963.34	11/23/99	ND	ND	ND	ND	ND
15B	72-78"	4963.35	11/23/99	ND	ND	ND	ND	ND
15B	84-90"	4963.36	11/23/99	ND	ND	ND	ND	ND
16	0-6"	4294.23	2/23/99	ND	ND	ND	ND	ND
16	12-18"	4294.24	2/23/99	ND	ND	ND	ND	ND
16	24-30"	4294.25	2/23/99	ND	ND	ND	ND	ND
16	36-42"	4294.26	2/23/99	0.116	ND	ND	0.054	0.170
16	48-54"	4294.27	2/23/99	ND	ND	ND	ND	ND
16	60-66"	4294.28	2/23/99	**0.590**	ND	ND	0.129	**0.719**
17	0-6"	4307.01	3/1/99	ND	ND	ND	ND	ND
17	12-18"	4307.02	3/1/99	ND	ND	ND	ND	ND
17	24-30"	4307.03	3/1/99	ND	ND	ND	ND	ND
17	36-42"	4307.04	3/1/99	**40.042**	ND	ND	**0.867**	**40.909**
17	48-54"	4307.05	3/1/99	**0.518**	ND	ND	0.041	**0.559**
17	60-66"	4307.06	3/1/99	**1.058**	ND	ND	ND	**1.058**
18	0-6"	4307.07	3/1/99	ND	ND	ND	ND	ND
18	12-18"	4307.08	3/1/99	ND	ND	ND	ND	ND
18	24-30"	4307.09	3/1/99	ND	ND	ND	ND	ND
18	36-42"	4307.10	3/1/99	**394.167**	ND	ND	**2.893**	**397.060**
18	48-54"	4307.11	3/1/99	**5.089**	ND	ND	0.478	**5.567**
18	60-66"	4307.12	3/1/99	**4.733**	ND	ND	0.042	**4.775**
18	72-78"	5119.49	1/24/00	ND	ND	ND	ND	ND
18	84-90"	5119.50	1/24/00	ND	ND	ND	ND	ND
18	96-102"	5119.51	1/24/00	ND	ND	ND	ND	ND
18	108-114"	5119.52	1/24/00	ND	ND	ND	ND	ND
18A	0-6"	4903.16	11/1/99	ND	ND	ND	ND	ND
18A	12-18"	4903.17	11/1/99	ND	ND	ND	ND	ND
18A	24-30"	4903.18	11/1/99	ND	ND	ND	ND	ND
18A	36-42"	4903.19	11/1/99	ND	ND	ND	ND	ND
18A	48-54"	4903.20	11/1/99	ND	ND	ND	ND	ND
18A	60-66"	4903.21	11/1/99	ND	ND	ND	ND	ND
18A	72-78"	4903.22	11/1/99	ND	ND	ND	ND	ND
18B	0-6"	4963.47	11/23/99	ND	ND	ND	ND	ND
18B	12-18"	4963.48	11/23/99	ND	ND	ND	ND	ND
18B	24-30"	4963.49	11/23/99	ND	ND	ND	ND	ND
18B	36-42"	4963.50	11/23/99	ND	ND	ND	ND	ND
18B	48-54"	4963.51	11/23/99	ND	ND	ND	ND	ND
18B	60-66"	4963.52	11/23/99	ND	ND	ND	ND	ND
18B	72-78"	4963.53	11/23/99	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
18B	84-90"	4963.54	11/23/99	ND	ND	ND	ND	ND
19	0-6"	4307.13	3/1/99	ND	ND	ND	ND	ND
19	12-18"	4307.14	3/1/99	ND	ND	ND	ND	ND
19	24-30"	4307.15	3/1/99	ND	ND	ND	ND	ND
19	36-42"	4307.16	3/1/99	**1.892**	ND	ND	0.104	**1.996**
19	48-54"	4307.17	3/1/99	**4.111**	ND	ND	**0.918**	**5.029**
19	60-66"	4307.18	3/1/99	**24.754**	ND	ND	**0.558**	**25.312**
19	72-78"	5119.53	1/24/00	ND	ND	ND	ND	ND
19	84-90"	5119.54	1/24/00	ND	ND	ND	ND	ND
19	96-102"	5119.55	1/24/00	ND	ND	ND	ND	ND
19	108-114"	5119.56	1/24/00	ND	ND	ND	ND	ND
20	0-6"	4307.19	3/1/99	ND	ND	ND	ND	ND
20	12-18"	4307.20	3/1/99	ND	ND	ND	0.009	0.009
20	24-30"	4307.21	3/1/99	ND	ND	ND	ND	ND
20	36-42"	4307.22	3/1/99	ND	ND	ND	ND	ND
20	48-54"	4307.23	3/1/99	ND	ND	0.264	ND	0.264
20	60-66"	4307.24	3/1/99	ND	ND	**0.580**	ND	**0.580**
21	0-6"	4313.02	3/2/99	ND	ND	ND	ND	ND
21	12-18"	4313.03	3/2/99	ND	ND	ND	ND	ND
21	24-30"	4313.04	3/2/99	ND	ND	ND	0.039	0.039
21	36-42"	4313.05	3/2/99	ND	ND	ND	ND	ND
21	48-54"	4313.06	3/2/99	ND	ND	ND	ND	ND
21	60-66"	4313.07	3/2/99	**21.553**	ND	ND	**0.843**	**22.396**
21	72-78"	5119.57	1/24/00	ND	ND	ND	ND	ND
21	84-90"	5119.58	1/24/00	ND	ND	ND	ND	ND
21	96-102"	5119.59	1/24/00	ND	ND	ND	ND	ND
21	108-114"	5119.60	1/24/00	ND	ND	ND	ND	ND
21A	0-6"	4903.09	11/1/99	ND	ND	ND	ND	ND
21A	12-18"	4903.10	11/1/99	ND	ND	ND	ND	ND
21A	24-30"	4903.11	11/1/99	ND	ND	ND	ND	ND
21A	36-42"	4903.12	11/1/99	ND	ND	ND	ND	ND
21A	48-54"	4903.13	11/1/99	ND	ND	ND	ND	ND
21A	60-66"	4903.14	11/1/99	ND	ND	ND	ND	ND
21A	72-78"	4903.15	11/1/99	ND	ND	ND	ND	ND
21B	0-6"	4965.02	11/24/99	ND	ND	ND	ND	ND
21B	12-18"	4965.03	11/24/99	ND	ND	ND	ND	ND
21B	24-30"	4965.04	11/24/99	ND	ND	ND	ND	ND
21B	36-42"	4965.05	11/24/99	ND	ND	ND	ND	ND
21B	48-54"	4965.06	11/24/99	ND	ND	ND	ND	ND
21B	60-66"	4965.07	11/24/99	ND	ND	ND	ND	ND
21B	72-78"	4965.08	11/24/99	ND	ND	ND	ND	ND
21B	84-90"	4965.09	11/24/99	ND	ND	ND	ND	ND
22	0-6"	4313.11	3/2/99	ND	ND	ND	ND	ND
22	12-18"	4313.12	3/2/99	ND	ND	ND	ND	ND
22	24-30"	4313.13	3/2/99	0.185	ND	ND	0.090	0.275
22	36-42"	4313.14	3/2/99	0.193	ND	ND	ND	0.193
22	48-54"	4313.15	3/2/99	0.429	ND	ND	0.086	**0.515**

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Data (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
22	60-66"	4313.16	3/2/99	ND	ND	ND	0.064	0.064
23	0-6"	4313.18	3/2/99	ND	ND	ND	ND	ND
23	12-18"	4313.19	3/2/99	ND	ND	ND	ND	ND
23	24-30"	4313.20	3/2/99	ND	ND	ND	ND	ND
23	36-42"	4313.21	3/2/99	ND	ND	ND	ND	ND
23	48-54"	4313.22	3/2/99	**0.831**	ND	ND	0.083	**0.914**
23	60-66"	4313.23	3/2/99	ND	ND	ND	ND	ND
24	0-6"	4316.02	3/3/99	ND	ND	ND	ND	ND
24	12-18"	4316.03	3/3/99	ND	ND	ND	ND	ND
24	24-30"	4316.04	3/3/99	ND	ND	ND	ND	ND
24	36-42"	4316.05	3/3/99	ND	ND	ND	ND	ND
24	48-54"	4316.06	3/3/99	ND	ND	ND	ND	ND
24	60-66"	4316.07	3/3/99	ND	ND	ND	ND	ND
24A	0-6"	4903.02	11/1/99	ND	ND	ND	ND	ND
24A	12-18"	4903.03	11/1/99	ND	ND	ND	ND	ND
24A	24-30"	4903.04	11/1/99	ND	ND	ND	ND	ND
24A	36-42"	4903.05	11/1/99	ND	ND	ND	ND	ND
24A	48-54"	4903.06	11/1/99	ND	ND	ND	ND	ND
24A	60-66"	4903.07	11/1/99	ND	ND	ND	ND	ND
24A	72-78"	4903.08	11/1/99	ND	**5.364**	ND	ND	**5.364**
24A	84-90"	5119.69	1/24/00	ND	ND	ND	ND	ND
24A	96-102"	5119.70	1/24/00	ND	ND	ND	ND	ND
24A	108-114"	5119.71	1/24/00	ND	ND	ND	ND	ND
24A	120-126"	5119.72	1/24/00	ND	ND	ND	ND	ND
24A	132-138"	5119.73	1/24/00	ND	ND	ND	ND	ND
24B	0-6"	4965.11	11/24/99	ND	ND	ND	ND	ND
24B	12-18"	4965.12	11/24/99	ND	ND	ND	ND	ND
24B	24-30"	4965.13	11/24/99	ND	ND	ND	ND	ND
24B	36-42"	4965.14	11/24/99	ND	ND	ND	ND	ND
24B	48-54"	4965.15	11/24/99	ND	ND	ND	ND	ND
24B	60-66"	4965.16	11/24/99	ND	ND	ND	ND	ND
24B	72-78"	4965.17	11/24/99	ND	ND	ND	ND	ND
24B	84-90"	4965.18	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	0-6"	4965.20	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	12-18"	4965.21	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	24-30"	4965.22	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	36-42"	4965.23	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	48-54"	4965.24	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	60-66"	4965.25	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	72-78"	4965.26	11/24/99	ND	ND	ND	ND	ND
24B Field Dup	84-90"	4965.27	11/24/99	ND	ND	ND	ND	ND
24C	0-6"	5119.74	1/24/00	ND	ND	ND	ND	ND
24C	12-18"	5119.75	1/24/00	ND	ND	ND	ND	ND
24C	24-30"	5119.76	1/24/00	ND	ND	ND	ND	ND
24C	36-42"	5119.77	1/24/00	ND	**9.354**	ND	ND	**9.354**
24C	48-54"	5119.78	1/24/00	ND	**805.055**	ND	ND	**805.055**
24C	60-66"	5119.79	1/24/00	ND	**48.835**	ND	ND	**48.835**

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
24C	72-78"	5148.05	2/7/00	ND	ND	ND	ND	ND
24C	84-90"	5148.06	2/7/00	ND	ND	ND	ND	ND
24C	96-102"	5148.07	2/7/00	ND	ND	ND	ND	ND
24C	108-114"	5148.08	2/7/00	ND	ND	ND	ND	ND
24D	0-6"	5148.69	2/7/00	ND	ND	ND	ND	ND
24D	12-18"	5148.70	2/7/00	ND	ND	ND	ND	ND
24D	24-30"	5148.71	2/7/00	ND	ND	ND	ND	ND
24D	36-42"	5148.72	2/7/00	ND	ND	ND	ND	ND
24D	48-54"	5148.73	2/7/00	ND	ND	ND	ND	ND
24D	60-66"	5148.74	2/7/00	ND	ND	ND	ND	ND
24D	72-78"	5148.75	2/7/00	ND	ND	ND	ND	ND
24D	84-90"	5148.76	2/7/00	ND	ND	ND	ND	ND
24D	96-102"	5148.77	2/7/00	ND	ND	ND	ND	ND
24D	108-114"	5148.78	2/7/00	ND	ND	ND	ND	ND
24E	0-6"	5148.79	2/7/00	ND	ND	ND	ND	ND
24E	12-18"	5148.80	2/7/00	ND	ND	ND	ND	ND
24E	24-30"	5148.81	2/7/00	ND	ND	**0.596**	ND	**0.596**
24E	36-42"	5148.82	2/7/00	ND	ND	ND	ND	ND
24E	48-54"	5148.83	2/7/00	ND	ND	ND	**0.591**	**0.591**
24E	60-66"	5148.84	2/7/00	ND	ND	ND	ND	ND
24E	72-78"	5148.85	2/7/00	ND	ND	ND	ND	ND
24E	84-90"	5148.86	2/7/00	ND	ND	ND	ND	ND
24E	96-102"	5148.87	2/7/00	ND	ND	ND	ND	ND
24E	108-114"	5148.88	2/7/00	ND	ND	ND	ND	ND
24F	0-6"	5148.89	2/7/00	ND	ND	ND	ND	ND
24F	12-18"	5148.90	2/7/00	ND	ND	ND	ND	ND
24F	24-30"	5148.91	2/7/00	ND	ND	ND	ND	ND
24F	36-42"	5148.92	2/7/00	ND	ND	ND	ND	ND
24F	48-54"	5148.93	2/7/00	ND	ND	ND	ND	ND
24F	60-66"	5148.94	2/7/00	ND	ND	ND	ND	ND
24F	72-78"	5148.95	2/7/00	ND	ND	ND	ND	ND
24F	84-90"	5148.96	2/7/00	ND	ND	ND	ND	ND
24F	96-102"	5148.97	2/7/00	ND	ND	ND	**4.126**	**4.126**
24F	108-114"	5148.98	2/7/00	ND	ND	ND	**1.756**	**1.756**
24G	0-6"	5148.99	2/7/00	ND	ND	ND	ND	ND
24G	12-18"	5148.100	2/7/00	ND	ND	ND	ND	ND
24G	24-30"	5148.101	2/7/00	ND	ND	ND	ND	ND
24G	36-42"	5148.102	2/7/00	ND	ND	ND	ND	ND
24G	48-54"	5148.103	2/7/00	ND	ND	ND	ND	ND
24G	60-66"	5148.104	2/7/00	ND	ND	ND	ND	ND
24G	72-78"	5148.105	2/7/00	ND	ND	ND	ND	ND
24G	84-90"	5148.106	2/7/00	ND	ND	ND	ND	ND
24G	96-102"	5148.107	2/7/00	ND	ND	ND	ND	ND
24G	108-114"	5148.108	2/7/00	ND	ND	ND	ND	ND
24H	0-6"	5148.109	2/7/00	ND	ND	ND	ND	ND
24H	12-18"	5148.110	2/7/00	ND	ND	ND	ND	ND
24H	24-30"	5148.111	2/7/00	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
24H	36-42"	5148.112	2/7/00	ND	ND	ND	ND	ND
24H	48-54"	5148.113	2/7/00	ND	ND	ND	ND	ND
24H	60-66"	5148.114	2/7/00	ND	ND	ND	ND	ND
24H	72-78"	5148.115	2/7/00	ND	ND	ND	ND	ND
24H	84-90"	5148.116	2/7/00	ND	ND	ND	ND	ND
24H	96-102"	5148.117	2/7/00	ND	ND	ND	ND	ND
24H	108-114"	5148.118	2/7/00	ND	ND	ND	ND	ND
24H Field Dup	72-78"	5148.119	2/7/00	ND	ND	ND	ND	ND
24H Field Dup	84-90"	5148.120	2/7/00	ND	ND	ND	ND	ND
24H Field Dup	96-102"	5148.121	2/7/00	ND	ND	ND	ND	ND
24H Field Dup	108-114"	5148.122	2/7/00	ND	ND	ND	ND	ND
25	0-6"	4316.09	3/3/99	ND	ND	ND	ND	ND
25	12-18"	4316.10	3/3/99	ND	ND	ND	ND	ND
25	24-30"	4316.11	3/3/99	ND	ND	ND	ND	ND
25	36-42"	4316.12	3/3/99	**0.653**	ND	ND	**0.690**	**1.343**
25	48-54"	4316.13	3/3/99	ND	ND	ND	0.039	0.039
25	60-66"	4316.14	3/3/99	ND	ND	**7.057**	ND	**7.057**
25	72-78"	5119.61	1/24/00	ND	ND	ND	ND	ND
25	84-90"	5119.62	1/24/00	ND	ND	ND	ND	ND
25	96-102"	5119.63	1/24/00	ND	ND	ND	ND	ND
25	108-114"	5119.64	1/24/00	ND	ND	ND	ND	ND
26	0-6"	4316.16	3/3/99	ND	ND	ND	0.020	0.020
26	12-18"	4316.17	3/3/99	ND	ND	ND	ND	ND
26	24-30"	4316.18	3/3/99	ND	ND	ND	ND	ND
26	36-42"	4316.19	3/3/99	0.320	ND	ND	0.383	**0.703**
26	48-54"	4316.20	3/3/99	**1.132**	ND	ND	0.026	**1.158**
26	60-66"	4316.21	3/3/99	**4.231**	ND	ND	ND	**4.231**
26	72-78"	5119.65	1/24/00	ND	ND	ND	ND	ND
26	84-90"	5119.66	1/24/00	ND	ND	ND	ND	ND
26	96-102"	5119.67	1/24/00	ND	ND	ND	ND	ND
26	108-114"	5119.68	1/24/00	ND	ND	ND	ND	ND
27	0-6"	4316.23	3/3/99	ND	ND	ND	ND	ND
27	12-18"	4316.24	3/3/99	ND	ND	ND	ND	ND
27	24-30"	4316.25	3/3/99	ND	ND	ND	ND	ND
27	36-42"	4316.26	3/3/99	ND	ND	ND	**0.707**	**0.707**
27	48-54"	4316.27	3/3/99	ND	ND	ND	ND	ND
27	60-66"	4316.28	3/3/99	ND	ND	ND	0.033	0.033
27A	0-6"	4903.23	11/1/99	ND	ND	ND	ND	ND
27A	12-18"	4903.24	11/1/99	ND	ND	ND	ND	ND
27A	24-30"	4903.25	11/1/99	ND	ND	ND	ND	ND
27A	36-42"	4903.26	11/1/99	ND	ND	ND	ND	ND
27A	48-54"	4903.27	11/1/99	ND	ND	ND	ND	ND
27A	60-66"	4903.28	11/1/99	ND	ND	ND	ND	ND
27A	72-78"	4903.29	11/1/99	ND	ND	ND	ND	ND
27B	0-6"	4963.38	11/23/99	ND	ND	ND	ND	ND
27B	12-18"	4963.39	11/23/99	ND	ND	ND	ND	ND
27B	24-30"	4963.40	11/23/99	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 1
PCB Geoprobe Soil Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (mg/Kg)*				0.49	0.49	0.49	0.49	0.49
27B	36-42"	4963.41	11/23/99	ND	ND	ND	ND	ND
27B	48-54"	4963.42	11/23/99	ND	ND	ND	ND	ND
27B	60-66"	4963.43	11/23/99	ND	ND	ND	ND	ND
27B	72-78"	4963.44	11/23/99	ND	ND	ND	ND	ND
27B	84-90"	4963.45	11/23/99	ND	ND	ND	ND	ND
27A Field Dup	0-6"	4903.34	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	12-18"	4903.35	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	24-30"	4903.36	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	36-42"	4903.37	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	48-54"	4903.38	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	60-66"	4903.39	11/1/99	ND	ND	ND	ND	ND
27A Field Dup	72-78"	4903.40	11/1/99	ND	ND	ND	ND	ND
28	0-6"	4320.04	3/5/99	ND	ND	ND	ND	ND
28	12-18"	4320.05	3/5/99	ND	ND	ND	0.020	0.020
28	24-30"	4320.06	3/5/99	0.224	ND	ND	0.196	0.420
28	36-42"	4320.07	3/5/99	ND	ND	ND	ND	ND
28	48-54"	4320.08	3/5/99	**0.620**	ND	ND	0.231	**0.851**
28	60-66"	4320.09	3/5/99	**0.654**	ND	ND	0.315	**0.969**
29	0-6"	4320.10	3/5/99	ND	ND	ND	ND	ND
29	12-18"	4320.11	3/5/99	ND	ND	ND	ND	ND
29	24-30"	4320.12	3/5/99	ND	ND	ND	ND	ND
29	36-42"	4320.13	3/5/99	ND	ND	ND	ND	ND
29	48-54"	4320.14	3/5/99	ND	ND	ND	ND	ND
29	60-66"	4320.15	3/5/99	0.216	ND	ND	0.116	0.332
30	0-6"	4320.16	3/5/99	ND	ND	ND	ND	ND
30	12-18"	4320.17	3/5/99	ND	ND	ND	ND	ND
30	24-30"	4320.18	3/5/99	ND	ND	ND	0.049	0.049
30	36-42"	4320.19	3/5/99	ND	ND	ND	ND	ND
30	48-54"	4320.20	3/5/99	ND	ND	ND	ND	ND
30	60-66"	4320.21	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	0-6"	4320.22	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	12-18"	4320.23	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	24-30"	4320.24	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	36-42"	4320.25	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	48-54"	4320.26	3/5/99	ND	ND	ND	ND	ND
30 Field Dup	60-66"	4320.27	3/5/99	ND	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
* Regulatory levels are based on NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).
Exceedances of the RDCSCC are highlighted and printed in **bold-faced** type.
ND: Not Detected

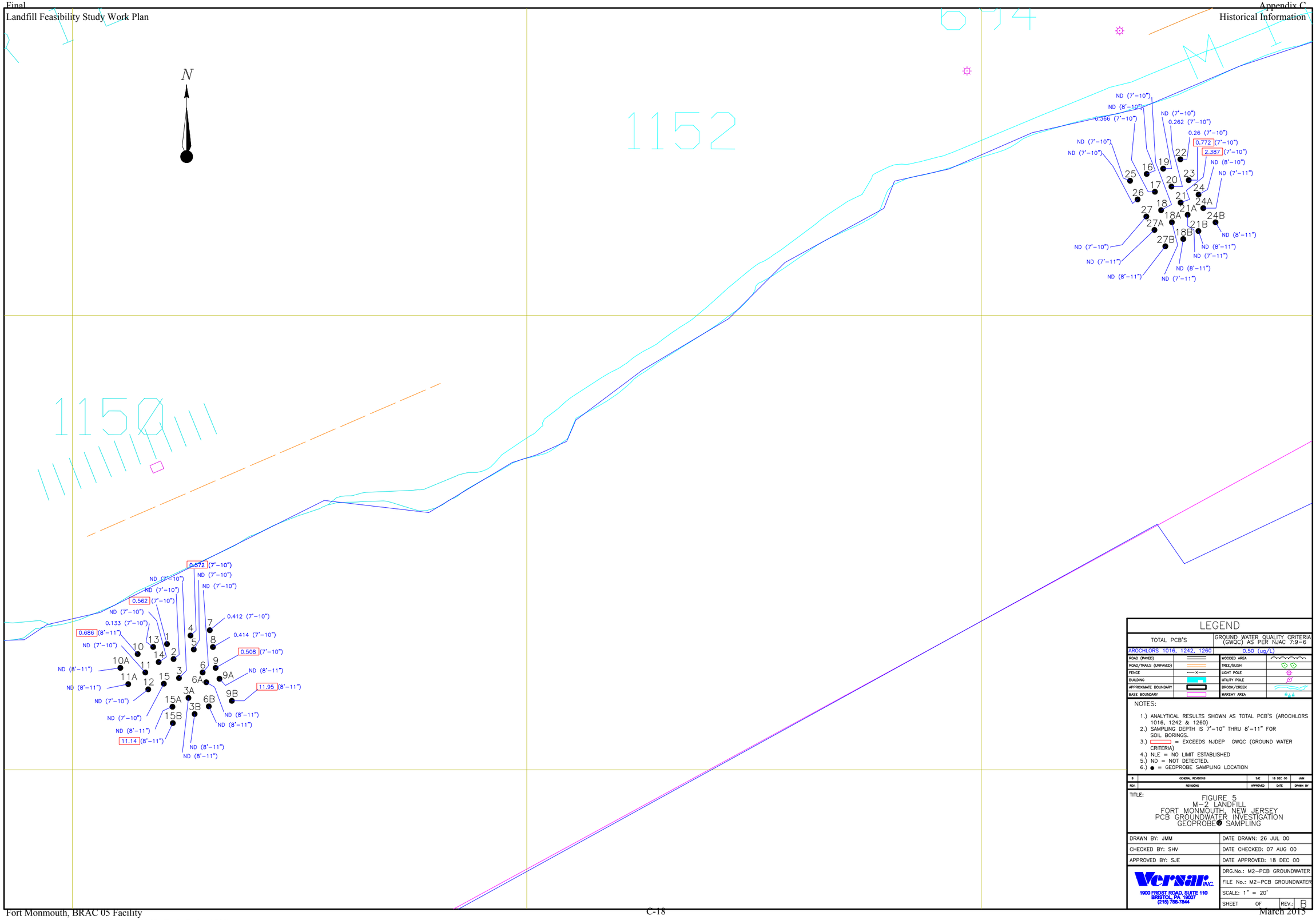
N
1152
1150
ND (7'-10")
ND (8'-10")
0.366 (7'-10")
ND (7'-10")
ND (7'-10")
0.262 (7'-10")
0.26 (7'-10")
0.772 (7'-10")
2.387 (7'-10")
ND (8'-10")
ND (7'-11")
25
16
19
22
23
20
17
24
26
21
18
24A
27
21A
18A
24B
27A
21B
18B
ND (8'-11")
27B
ND (7'-10")
ND (8'-11")
ND (7'-11")
ND (7'-11")
ND (8'-11")
ND (8'-11")
ND (7'-11")
0.572 (7'-10")
ND (7'-10")
ND (7'-10")
ND (7'-10")
0.562 (7'-10")
ND (7'-10")
0.133 (7'-10")
0.412 (7'-10")
0.686 (8'-11")
ND (7'-10")
0.414 (7'-10")
0.508 (7'-10")
ND (8'-11")
ND (8'-11")
11.95 (8'-11")
ND (7'-10")
ND (7'-10")
ND (8'-11")
ND (8'-11")
11.14 (8'-11")
ND (8'-11")
ND (8'-11")
LEGEND
TOTAL PCB'S
GROUND WATER QUALITY CRITERIA (GWQC) AS PER NJAC 7:9-6
AROCHLORS 1016, 1242, 1260
0.50 (ug/L)
ROAD (PAVED)
ROAD/TRAILS (UNPAVED)
FENCE
BUILDING
APPROXIMATE BOUNDARY
BASE BOUNDARY
WOODED AREA
TREE/BUSH
LIGHT POLE
UTILITY POLE
BROOK/CREEK
MARSHY AREA
NOTES:
1.) ANALYTICAL RESULTS SHOWN AS TOTAL PCB'S (AROCHLORS 1016, 1242 & 1260)
2.) SAMPLING DEPTH IS 7'-10" THRU 8'-11" FOR SOIL BORINGS.
3.) = EXCEEDS NJDEP GWQC (GROUND WATER CRITERIA)
4.) NLE = NO LIMIT ESTABLISHED
5.) ND = NOT DETECTED.
6.) ● = GEOPROBE SAMPLING LOCATION
B GENERAL REVISIONS SJE 18 DEC 00 JMM
REV. REVISIONS APPROVED DATE DRAWN BY
TITLE:
FIGURE 5
M-2 LANDFILL
FORT MONMOUTH, NEW JERSEY
PCB GROUNDWATER INVESTIGATION
GEOPROBE® SAMPLING
DRAWN BY: JMM
DATE DRAWN: 26 JUL 00
CHECKED BY: SHV
DATE CHECKED: 07 AUG 00
APPROVED BY: SJE
DATE APPROVED: 18 DEC 00
Versar INC.
1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 788-7844
DRG.No.: M2-PCB GROUNDWATER
FILE No.: M2-PCB GROUNDWATER
SCALE: 1" = 20'
SHEET OF REV.: B

Table 2
PCB Geoprobe Groundwater Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1260	Total PCB
Regulatory Level (ug/L)*				0.50	0.50	0.50	0.50
1	7-10'	4281.27	2/17/99	0.33	ND	0.232	**0.562**
2	7-10'	4281.28	2/17/99	ND	ND	ND	ND
3	7-10'	4281.29	2/17/99	ND	ND	ND	ND
3A	8-11'	4897.04	10/29/99	ND	ND	ND	ND
3B	8-11'	4963.28	11/23/99	ND	ND	ND	ND
4	7-10'	4281.30	2/17/99	**0.572**	ND	ND	**0.572**
5	7-10'	4285.20	2/19/99	ND	ND	ND	ND
6	7-10'	4285.21	2/19/99	ND	ND	ND	ND
6A	8-11'	4897.06	10/29/99	ND	ND	ND	ND
6B	8-11'	4963.19	11/23/99	ND	ND	ND	ND
7	7-10'	4285.22	2/19/99	0.412	ND	ND	0.412
8	7-10'	4290.32	2/22/99	0.414	ND	ND	0.414
9	7-10'	4290.33	2/22/99	**0.508**	ND	ND	**0.508**
9A	8-11'	4897.07	10/29/99	ND	ND	ND	ND
9B	8-11'	4963.10	11/23/99	ND	**11.950**	ND	**11.950**
10	7-10'	4290.34	2/22/99	**0.686**	ND	ND	**0.686**
10A	8-11'	4897.02	10/29/99	ND	ND	ND	ND
11	7-10'	4290.35	2/22/99	ND	ND	ND	ND
11A	8-11'	4897.03	10/29/99	ND	ND	ND	ND
12	7-10'	4290.36	2/22/99	ND	ND	ND	ND
13	7-10'	4294.20	2/23/99	0.133	ND	ND	0.133
14	7-10'	4294.21	2/23/99	ND	ND	ND	ND
15	7-10'	4294.22	2/23/99	ND	ND	ND	ND
15A	8-11'	4897.05	10/29/99	ND	ND	ND	ND
15B	8-11'	4963.37	11/23/99	ND	**11.140**	ND	**11.140**
16	8-10'	4299.02	2/24/99	ND	ND	ND	ND
17	7-10'	4320.02	3/5/99	0.366	ND	ND	0.366
18	7-10'	4320.03	3/5/99	ND	ND	ND	ND
18A	7-11'	4903.32	11/1/99	ND	ND	ND	ND
18B	8-11'	4963.55	11/23/99	ND	ND	ND	ND
19	7-10'	4313.08	3/2/99	ND	ND	ND	ND
20	7-10'	4313.09	3/2/99	0.262	ND	ND	0.262
21	7-10'	4313.10	3/2/99	**2.235**	ND	0.152	**2.387**
21A	7-11'	4903.31	11/1/99	ND	ND	ND	ND
21B	8-11'	4965.10	11/24/99	ND	ND	ND	ND
22	7-10'	4313.17	3/2/99	0.260	ND	ND	0.260
23	7-10'	4313.24	3/2/99	**0.772**	ND	ND	**0.772**
24	8-10'	4316.08	3/3/99	ND	ND	ND	ND
24A	7-11'	4903.30	11/1/99	ND	ND	ND	ND
24B	8-11'	4965.19	11/24/99	ND	ND	ND	ND
25	7-10'	4316.15	3/3/99	ND	ND	ND	ND
26	7-10'	4316.22	3/3/99	ND	ND	ND	ND
27	7-10'	4316.29	3/3/99	ND	ND	ND	ND
27A	7-11'	4903.33	11/1/99	ND	ND	ND	ND
27B	8-11'	4963.46	11/23/99	ND	ND	ND	ND
Field Dup	7-11'	4903.41	11/1/99	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Criteria (GWQC) as per NJAC 7:9-6.
Exceedances of the GWQC are highlighted and printed in **bold-faced** type.
ND: Not Detected

Table 2
PCB Geoprobe Groundwater Investigation Results
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	Arochlor 1016	Arochlor 1242	Arochlor 1260	Total PCB
Regulatory Level (ug/L)*				0.50	0.50	0.50	0.50
24B Field Dup	8-11'	4965.28	11/24/99	ND	ND	ND	ND
Field Blank	-	4281.02	2/17/99	ND	ND	ND	ND
Field Blank	-	4285.01	2/19/99	ND	ND	ND	ND
Field Blank	-	4290.01	2/22/99	ND	ND	ND	ND
Field Blank	-	4294.01	2/23/99	ND	ND	ND	ND
Field Blank	-	4299.01	2/24/99	ND	ND	ND	ND
Field Blank	-	4313.01	3/2/99	ND	ND	ND	ND
Field Blank	-	4316.01	3/3/99	ND	ND	ND	ND
Field Blank	-	4320.01	3/5/99	ND	ND	ND	ND
Field Blank	-	4897.01	10/29/99	ND	ND	ND	ND
Field Blank	-	4903.01	11/1/99	ND	ND	ND	ND
Field Blank	-	4963.01	11/23/99	ND	ND	ND	ND
Field Blank	-	4965.01	11/24/99	ND	ND	ND	ND

Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Criteria (GWQC) as per NJAC 7:9-6.
Exceedances of the GWQC are highlighted and printed in **bold-faced** type.
ND: Not Detected

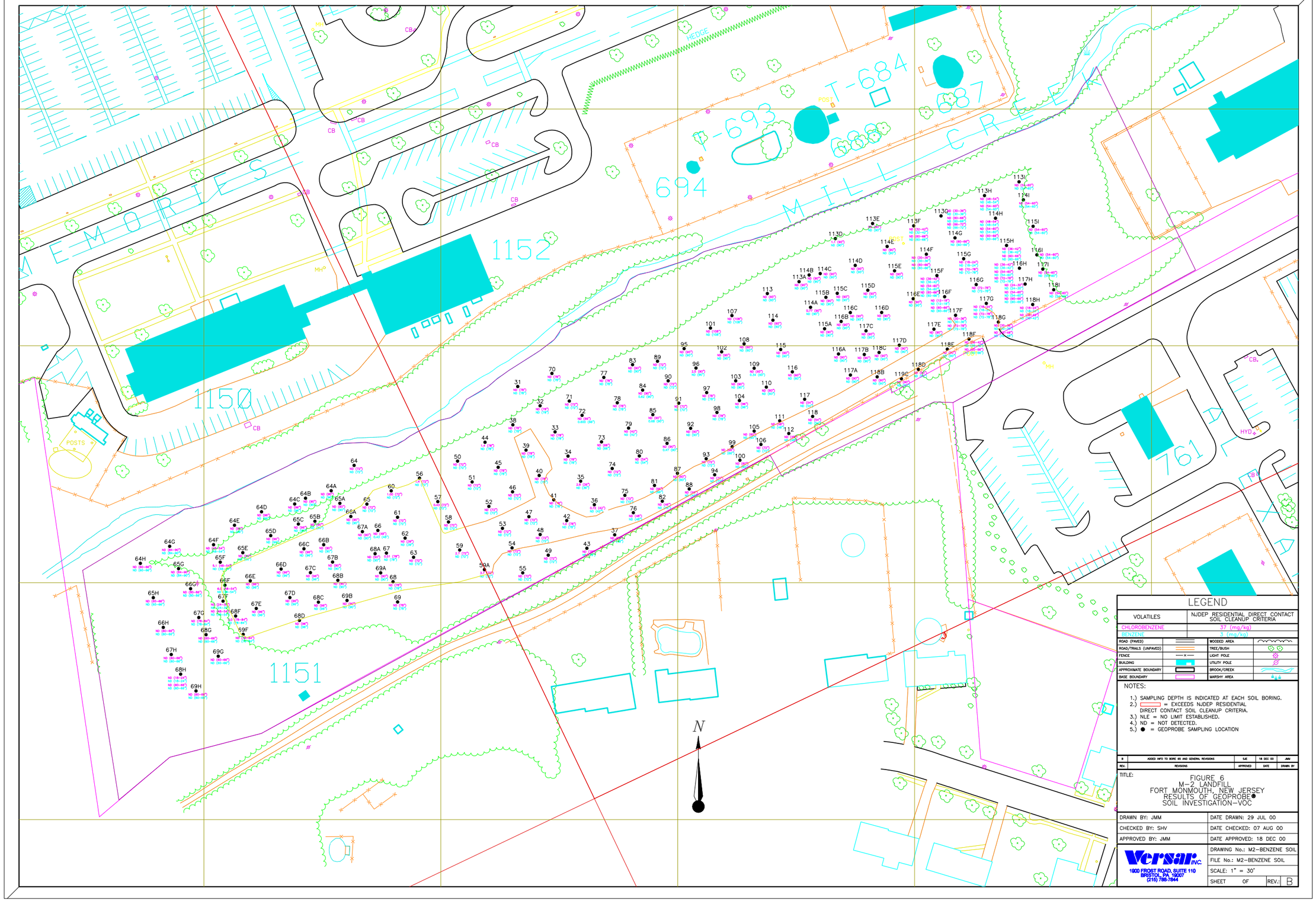
MEMORIES
1152
1150
1151
694
MILL CREEK
T-693
T-684
687
761
HEDGE
POST
POSTS
MH
CB
HYD
N
LEGEND
VOLATILES
NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
CHLOROBENZENE
37 (mg/kg)
BENZENE
3 (mg/kg)
ROAD (PAVED)
ROAD/TRAILS (UNPAVED)
FENCE
BUILDING
APPROXIMATE BOUNDARY
BASE BOUNDARY
WOODED AREA
TREE/BUSH
LIGHT POLE
UTILITY POLE
BROOK/CREEK
MARSHY AREA
NOTES:
1.) SAMPLING DEPTH IS INDICATED AT EACH SOIL BORING.
2.) = EXCEEDS NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA.
3.) NLE = NO LIMIT ESTABLISHED.
4.) ND = NOT DETECTED.
5.) ● = GEOPROBE SAMPLING LOCATION
B ADDED INFO TO BORE 65 AND GENERAL REVISIONS SJE 18 DEC 00 JMM
REV. REVISIONS APPROVED DATE DRAWN BY
TITLE:
FIGURE 6
M-2 LANDFILL
FORT MONMOUTH, NEW JERSEY
RESULTS OF GEOPROBE●
SOIL INVESTIGATION-VOC
DRAWN BY: JMM
DATE DRAWN: 29 JUL 00
CHECKED BY: SHV
DATE CHECKED: 07 AUG 00
APPROVED BY: JMM
DATE APPROVED: 18 DEC 00
Versar INC.
1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 788-7844
DRAWING No.: M2-BENZENE SOIL
FILE No.: M2-BENZENE SOIL
SCALE: 1" = 30'
SHEET OF REV.: B

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
31	78"	4328.03	3/8/99	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
32	78"	4328.05	3/8/99	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
33	78"	4328.07	3/8/99	0.510 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
34	78"	4332.03	3/9/99	0.940	ND	ND	ND	ND	ND	ND	ND	ND	ND
35	36"	4332.05	3/9/99	ND	ND	2.8	ND	ND	ND	ND	ND	ND	ND
36	42"	4332.07	3/9/99	0.85	ND	0.72	ND	ND	ND	ND	ND	ND	ND
37	78"	4332.09	3/9/99	0.82	ND	ND	ND	ND	ND	ND	ND	ND	ND
38	78"	4334.03	3/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
39	78"	4334.05	3/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
40	78"	4334.07	3/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
41	78"	4334.09	3/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
42	78"	4334.11	3/10/99	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND
43	78"	4339.03	3/11/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
44	78"	4339.05	3/11/99	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND
45	78"	4350.03	3/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
46	72"	4350.05	3/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
47	72"	4350.07	3/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
48	72"	4350.09	3/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
49	72"	4355.03	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
50	72"	4355.05	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
51	72"	4355.07	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
52	72"	4355.09	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
53	72"	4355.11	3/17/99	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
54	72"	4355.13	3/17/99	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
55	72"	4355.15	3/17/99	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	72"	4355.17	3/17/99	0.56 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
56	72"	4358.03	3/18/99	ND	1.5	1.4	ND	ND	ND	ND	ND	ND	ND
57	72"	4358.05	3/18/99	ND	ND	0.43	ND	ND	ND	ND	ND	ND	ND
58	72"	4358.07	3/18/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
59	72"	4358.09	3/18/99	ND	ND	2.7	ND	ND	ND	ND	ND	ND	ND
59A	72"	4368.03	3/23/99	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND
60	72"	4368.05	3/23/99	ND	ND	1.00	ND	ND	0.710 J	ND	ND	ND	ND
61	72"	4368.07	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
62	39"	4368.09	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
63	72"	4368.11	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64	72"	4368.13	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65	72"	4368.15	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
66	78"	4381.03	3/30/99	ND	ND	ND	0.43	ND	ND	ND	ND	ND	ND
67	78"	4381.05	3/30/99	ND	ND	0.51	ND	0.4 J	0.55	ND	ND	ND	ND
68	48"	4381.07	3/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69	48"	4381.09	3/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
70	78"	4381.11	3/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
71	72"	4396.03	4/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
72	66"	4396.05	4/6/99	ND	ND	ND	0.600	0.680 J	2.75	ND	0.420	ND	ND
73	66"	4396.07	4/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
74	72"	4407.03	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
75	72"	4407.05	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
76	48"	4407.07	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	48"	4407.09	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
77	78"	4414.03	4/13/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
78	78"	4414.05	4/13/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
79	42"	4414.07	4/13/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
80	54"	4414.09	4/13/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
81	66"	4417.03	4/14/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
82	46"	4417.05	4/14/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
83	90"	4417.07	4/14/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
84	90"	4417.09	4/14/99	1.6	ND	ND	0.62	0.41 J	2.5	ND	2	ND	ND
85	90"	4417.11	4/14/99	ND	ND	ND	0.68	ND	ND	ND	ND	ND	ND
86	90"	4417.13	4/14/99	ND	ND	ND	0.47	ND	ND	ND	ND	ND	ND
87	60"	4422.03	4/16/99	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
88	46"	4422.05	4/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
89	72"	4422.07	4/16/99	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
90	72"	4422.09	4/16/99	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
91	72"	4422.11	4/16/99	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
92	90"	4433.03	4/21/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
93	72"	4433.05	4/21/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
94	72"	4433.07	4/21/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
95	90"	4433.09	4/21/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
96	90"	4433.11	4/21/99	ND	ND	2.5	ND	ND	ND	ND	ND	ND	ND
97	78"	4442.03	4/26/99	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
98	78"	4442.05	4/26/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
99	66"	4442.07	4/26/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
100	60"	4442.09	4/26/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
101	108"	4442.11	4/26/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
102	90"	4445.03	4/27/99	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
103	90"	4445.05	4/27/99	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
104	96"	4445.07	4/27/99	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
105	60"	4445.09	4/27/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
106	72"	4445.11	4/27/99	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
107	108"	4445.13	4/27/99	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	90"	4445.15	4/27/99	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
108	60"	4461.03	5/4/99	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
109	60"	4461.05	5/4/99	1.1	ND	ND	0.34	ND	ND	ND	ND	ND	ND
110	60"	4461.07	5/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
111	48"	4461.09	5/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
112	48"	4461.11	5/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113	60"	4465.03	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114	60"	4465.05	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	4.6	ND
115	60"	4465.07	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	5.0	ND
116	60"	4465.09	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND
117	54"	4465.11	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	5.5	ND
118	54"	4465.13	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	60"	4465.15	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	5.9	ND
64A	90"	4912.03	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65A	90"	4912.05	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66A	90"	4912.07	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67A	90"	4912.09	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68A	90"	4912.11	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69A	90"	4912.13	11/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64B	90"	4915.03	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65B	90"	4915.05	11/4/99	0.99	ND	ND	ND	ND	ND	ND	ND	ND	ND
66B	90"	4915.07	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67B	90"	4915.09	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68B	90"	4915.11	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69B	90"	4915.13	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113A	90"	4931.03	11/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114A	90"	4931.05	11/8/99	ND	ND	0.77	ND	ND	ND	ND	ND	ND	ND
115A	90"	4931.07	11/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116A	90"	4931.09	11/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117A	90"	4933.03	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114B	90"	4933.05	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
115B	90"	4933.07	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116B	90"	4933.09	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117B	90"	4933.11	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118B	90"	4933.13	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	90"	4933.15	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114C	90"	4968.03	11/30/99	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
115C	90"	4968.05	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116C	90"	4968.07	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117C	90"	4968.09	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118C	90"	4968.11	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
119C	90"	4968.13	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113D	90"	4971.03	12/1/99	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND
114D	90"	4971.05	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115D	90"	4971.07	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116D	90"	4971.09	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117D	90"	4971.11	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35
118D	90"	4972.03	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113E	90"	4972.05	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39
114E	90"	4972.07	12/2/99	ND	ND	ND	ND	1.1	4	ND	0.54	ND	0.49
115E	90"	4972.09	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116E	90"	4972.11	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	90"	4972.13	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117E	90"	4979.03	12/3/99	5.0	ND	ND	ND	ND	ND	ND	ND	ND	0.31
118E	90"	4979.05	12/3/99	1.2	ND	ND	ND	ND	ND	ND	ND	ND	0.29
64C	96"	4979.07	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65C	96"	4979.09	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66C	96"	4979.11	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67C	96"	4979.13	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68C	96"	4979.15	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64D	96"	4990.03	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65D	96"	4990.05	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66D	96"	4990.07	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67D	96"	4990.09	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68D	96"	4995.03	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55
64E	96"	4995.05	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43
65E	96"	4995.07	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34
66E	96"	4995.09	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.33

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
67E	96"	4995.11	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.41
Field Dup	96"	4995.13	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44
113F	32-42"	5058.03	1/3/00	ND	ND	ND	ND	ND	ND	6.7	ND	ND	0.55
113F	60-66"	5058.04	1/3/00	ND	ND	ND	ND	ND	ND	7.3	ND	ND	0.76
114F	30-36"	5058.05	1/3/00	ND	ND	ND	ND	ND	ND	7.6	ND	ND	0.86
114F	60-66"	5058.06	1/3/00	ND	ND	ND	ND	ND	ND	7.5	ND	ND	0.83
115F	36-42"	5058.07	1/3/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115F	54-60"	5058.08	1/3/00	ND	ND	ND	ND	ND	ND	6.2	ND	ND	0.77
115F	60-66"	5058.09	1/3/00	ND	ND	ND	ND	ND	ND	7.2	ND	ND	0.84
116F	12-18"	5058.10	1/3/00	ND	ND	ND	ND	ND	ND	7.00	ND	ND	0.78
116F	60-66"	5058.11	1/3/00	ND	ND	ND	ND	ND	ND	5.00	ND	ND	0.52
117F	30-36"	5058.12	1/3/00	0.67	ND	ND	ND	ND	ND	4.9	ND	ND	0.59
117F	72-78"	5058.13	1/3/00	0.37 J	ND	ND	ND	ND	ND	4.5	ND	ND	0.68
118F	36-42"	5058.14	1/3/00	ND	ND	ND	ND	ND	ND	4.7	ND	ND	0.67
118F	60-66"	5058.15	1/3/00	ND	ND	ND	ND	ND	ND	4.5	ND	ND	0.74
113G	30-36"	5064.03	1/4/00	0.64	ND	ND	ND	ND	ND	1.7	ND	ND	1.4
113G	60-66"	5064.04	1/4/00	ND	ND	ND	ND	ND	ND	1.6	ND	2.3	1.5
113G	66-72"	5064.05	1/4/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
114G	60-66"	5064.06	1/4/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0
115G	18-24'	5064.07	1/4/00	ND	ND	ND	ND	ND	ND	1.4	ND	ND	1.5
115G	72-78"	5064.08	1/4/00	ND	ND	ND	ND	ND	ND	1.6	ND	2.4	1.7
116G	72-78"	5064.09	1/4/00	ND	ND	ND	ND	ND	ND	1.5	ND	ND	1.5
117G	18-24"	5064.10	1/4/00	ND	ND	ND	ND	ND	ND	1.5	ND	ND	1.3
117G	72-78"	5064.11	1/4/00	ND	ND	ND	ND	ND	ND	1.6	ND	2.6	1.6
118G	30-36"	5064.18	1/4/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9
118G	42-48"	5064.19	1/4/00	ND	ND	ND	ND	ND	ND	1.5	ND	2.5	1.6
115H	36-42"	5072.03	1/5/00	ND	ND	ND	ND	ND	ND	1.4	ND	2.8	0.40
115H	60-66"	5072.04	1/5/00	ND	ND	ND	ND	ND	ND	2.2	ND	4.7	0.52
116H	36-42"	5072.05	1/5/00	ND	ND	ND	ND	ND	ND	1.4	ND	2.8	0.44
116H	54-60"	5072.06	1/5/00	ND	ND	ND	ND	ND	ND	1.7	ND	3.5	0.52
116H	72-78"	5072.07	1/5/00	ND	ND	ND	ND	ND	ND	1.7	ND	3.5	0.50
117H	24-30"	5072.08	1/5/00	ND	ND	ND	ND	ND	ND	1.5	ND	3.3	0.44
117H	54-60"	5072.09	1/5/00	ND	0.99	ND	ND	ND	ND	4.5	ND	10	1.3
117H	60-66"	5072.10	1/5/00	ND	ND	ND	ND	ND	ND	1.8	ND	3.3	ND
118H	18-24"	5072.11	1/5/00	ND	ND	ND	ND	ND	ND	1.8	ND	4.2	0.42
118H	36-42"	5072.12	1/5/00	ND	ND	ND	ND	ND	ND	2.4	ND	5.3	0.52
113H	48-54"	5072.13	1/5/00	ND	ND	ND	ND	ND	ND	2.0	ND	4.3	0.54

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

Table 3
Results of Geoprobe Soil Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon Dl	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	2-Butanone	Toluene	Acetone	Chloroform
NJDEP RDCSCC*				49	NLE	37	3	1000	410	1000	1000	1000	19
113H	54-60"	5072.14	1/5/00	ND	ND	0.84	ND	ND	ND	2.7	ND	5.6	0.93
114H	24-30"	5072.15	1/5/00	ND	ND	ND	ND	ND	ND	ND	ND	3.5	0.56
114H	54-60'	5072.16	1/5/00	ND	ND	ND	ND	ND	ND	1.7	ND	3.6	0.59
114H	60-66"	5072.17	1/5/00	ND	ND	ND	ND	ND	ND	1.5	ND	ND	0.33
118I	54-60"	5075.03	1/6/00	ND	ND	ND	ND	ND	ND	1.4	ND	2.7	0.55
116I	54-60"	5075.04	1/6/00	ND	ND	ND	ND	ND	ND	4.6	ND	9.5	0.98
113I	54-60"	5075.05	1/6/00	ND	ND	ND	ND	ND	ND	1.7	ND	ND	0.81
114I	54-60"	5075.06	1/6/00	ND	ND	ND	ND	ND	ND	1.5	ND	ND	0.63
115I	54-60"	5075.07	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	5.1	0.68
117I	54-60"	5075.08	1/6/00	ND	ND	ND	ND	ND	ND	1.3	ND	ND	0.62
67F	24-30"	5085.02	1/10/00	ND	ND	ND	ND	ND	ND	1.2	ND	2.4	0.49
67F	48-54"	5085.03	1/10/00	ND	ND	ND	ND	ND	ND	0.99	ND	1.7	0.48
65F	48-54"	5085.04	1/10/00	ND	ND	5.1	ND	ND	ND	1.6 J	ND	2.8	0.86
64F	48-54"	5085.05	1/10/00	ND	ND	ND	ND	ND	ND	0.97	ND	1.8	0.44
66F	48-54"	5085.06	1/10/00	ND	ND	6.0	ND	ND	ND	1.0	ND	2.0	0.51
68F	78-84"	5091.03	1/11/00	3.0	ND	5.0	ND	ND	ND	2.4	ND	5.3	1.2
69F	78-84"	5091.04	1/11/00	1.1	ND	ND	ND	ND	ND	1.2	ND	3.0	0.53
64G	84-90"	5091.05	1/11/00	0.94	ND	ND	ND	ND	ND	1.1	ND	2.3	0.49
65G	84-90"	5091.06	1/11/00	0.81	ND	ND	ND	ND	ND	1.8	ND	3.9	0.55
66G	80-86"	5091.07	1/11/00	0.84	ND	ND	ND	ND	ND	0.88 J	ND	1.7	0.5
67G	78-84"	5091.08	1/11/00	0.96	ND	ND	ND	ND	ND	ND	ND	2.0	0.51
69G	60-66"	5096.03	1/12/00	ND	ND	ND	ND	ND	0.35 J	ND	ND	ND	0.87
68G	60-66"	5096.04	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86
64H	60-66"	5096.05	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5
65H	60-66"	5096.06	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	4.1	1.0
66H	60-66"	5096.07	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	3.2	0.85
67H	60-66"	5096.08	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	4.9	1.4
H68	18-24"	5102.03	1/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H68	60-66"	5102.04	1/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
H69	60-66"	5102.05	1/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:
Only detected compounds are listed.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
*NJDEP RDCSCC - NJDEP Residential Direct Contact Soil Cleanup Criteria
Exceedances of the NJDEP RDCSCC are highlighted and printed in **bold-faced** type.
J: Compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.

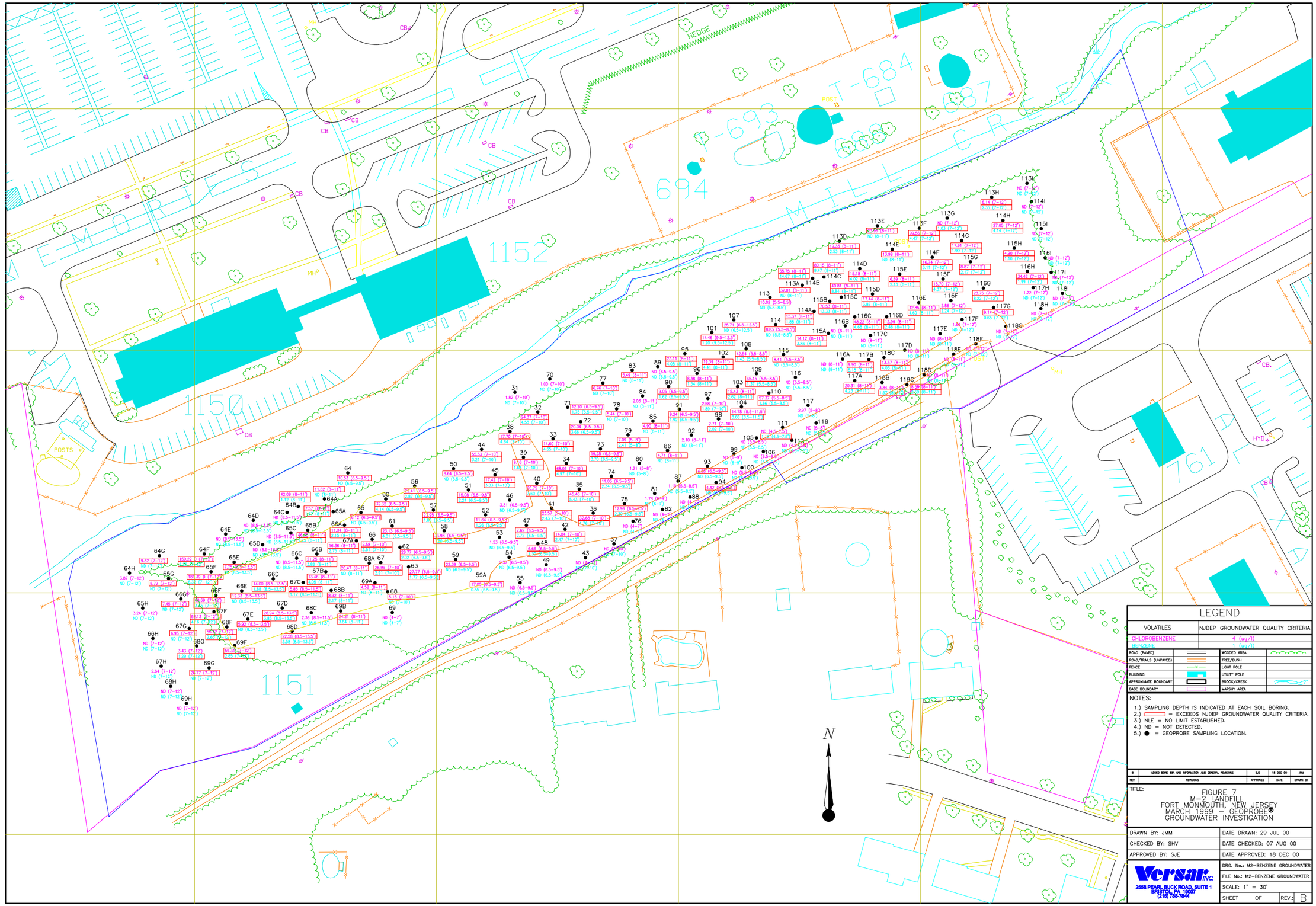
EMORTES
1150
1151
1152
694
693
684
687
761
HEDGE
POST
POSTS
MH
CB
HYD
N
LEGEND
VOLATILES
NJDEP GROUNDWATER QUALITY CRITERIA
CHLOROBENZENE
4 (ug/l)
BENZENE
1 (ug/l)
ROAD (PAVED)
ROAD/TRAILS (UNPAVED)
FENCE
BUILDING
APPROXIMATE BOUNDARY
BASE BOUNDARY
WOODED AREA
TREE/BUSH
LIGHT POLE
UTILITY POLE
BROOK/CREEK
MARSHY AREA
NOTES:
1.) SAMPLING DEPTH IS INDICATED AT EACH SOIL BORING.
2.) = EXCEEDS NJDEP GROUNDWATER QUALITY CRITERIA.
3.) NLE = NO LIMIT ESTABLISHED.
4.) ND = NOT DETECTED.
5.) = GEOPROBE SAMPLING LOCATION.
B ADDED BORE SUM AND INFORMATION AND GENERAL REVISIONS SJE 18 DEC 00 JMM
REV. REVISIONS APPROVED DATE DRAWN BY
TITLE:
FIGURE 7
M-2 LANDFILL
FORT MONMOUTH, NEW JERSEY
MARCH 1999 - GEOPROBE®
GROUNDWATER INVESTIGATION
DRAWN BY: JMM
DATE DRAWN: 29 JUL 00
CHECKED BY: SHV
DATE CHECKED: 07 AUG 00
APPROVED BY: SJE
DATE APPROVED: 18 DEC 00
Versar INC.
2558 PEARL BUCK ROAD, SUITE 1
BRISTOL, PA 19007
(215) 788-7844
DRG. No.: M2-BENZENE GROUNDWATER
FILE No.: M2-BENZENE GROUNDWATER
SCALE: 1" = 30'
SHEET OF REV.: B

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
31	7-10'	4328.04	3/8/99	ND	ND	1.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
32	7-10'	4328.06	3/8/99	ND	ND	**24.37**	**4.58**	ND	ND	ND	ND	ND	4.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
33	7-10'	4328.08	3/8/99	ND	ND	**14.60**	**4.65**	ND	ND	ND	ND	ND	2.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
34	7-10'	4332.04	3/9/99	ND	ND	**68.09**	**4.97**	ND	ND	ND	ND	ND	10.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
35	7-10'	4332.06	3/9/99	ND	ND	**45.46**	**5.43**	ND	ND	ND	ND	ND	7.70	ND	2.81	ND	ND	ND	ND	ND	ND	ND	ND
36	7-10'	4332.08	3/9/99	ND	ND	**32.68**	**1.76**	ND	ND	ND	ND	ND	9.57	ND	2.61	ND	ND	ND	ND	ND	ND	ND	ND
37	7-10'	4332.10	3/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
38	7-10'	4334.04	3/10/99	ND	ND	**17.70**	**4.64**	1.12	7.82	ND	ND	ND	4.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
39	7-10'	4334.06	3/10/99	ND	ND	**9.16**	**1.63**	ND	ND	ND	ND	ND	2.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
40	7-10'	4334.08	3/10/99	ND	ND	**20.75**	**3.60**	ND	ND	ND	ND	ND	4.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
41	7-10'	4334.10	3/10/99	ND	ND	**23.57**	**2.43**	ND	ND	ND	ND	ND	7.52	ND	1.70	ND	ND	ND	ND	ND	ND	ND	ND
42	7-10'	4334.12	3/10/99	ND	ND	**14.84**	**2.47**	ND	ND	ND	ND	ND	5.78	ND	1.21	ND	ND	ND	ND	ND	ND	ND	ND
43	7-10'	4339.04	3/11/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
44	7-10'	4339.06	3/11/99	ND	ND	**55.53**	**3.21**	ND	ND	ND	ND	ND	5.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
45	7-10'	4350.04	3/16/99	ND	ND	**17.42**	**3.03**	ND	ND	ND	ND	ND	2.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
46	6.5-9.5'	4350.06	3/16/99	ND	ND	3.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
47	6.5-9.5'	4350.08	3/16/99	ND	ND	**7.62**	**2.72**	ND	ND	ND	ND	ND	3.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
48	6.5-9.5'	4350.10	3/16/99	ND	ND	**6.66**	**1.30**	ND	ND	ND	ND	ND	5.16	ND	ND	**6.51**	**16.71**	**15.75**	2.62	**72.00**	ND	ND	ND
49	6.5-9.5'	4355.04	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
50	6.5-9.5'	4355.06	3/17/99	ND	ND	**8.64**	ND	ND	ND	1.06	ND	ND	3.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
51	6.5-9.5'	4355.08	3/17/99	ND	ND	**15.08**	**2.24**	ND	ND	ND	ND	ND	5.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
52	6.5-9.5'	4355.10	3/17/99	ND	ND	**11.64**	**1.26**	ND	ND	ND	ND	ND	3.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
53	6.5-9.5'	4355.12	3/17/99	ND	ND	1.53	ND	ND	ND	ND	ND	ND	1.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
54	6.5-9.5'	4355.14	3/17/99	ND	ND	2.57	ND	ND	ND	ND	ND	ND	3.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
55	6.5-9.5'	4355.16	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	6.5-9.5'	4355.18	3/17/99	ND	ND	**11.68**	**1.32**	ND	ND	ND	ND	ND	4.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
56	6.5-9.5'	4358.04	3/18/99	ND	ND	**22.41**	**2.87**	ND	ND	ND	ND	ND	4.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
57	6.5-9.5'	4358.06	3/18/99	ND	ND	**23.95**	**1.88**	ND	ND	ND	ND	ND	2.45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
58	6.5-9.5'	4358.08	3/18/99	ND	ND	**33.98**	**1.50**	ND	ND	ND	ND	ND	3.24	ND	2.09	ND	ND	ND	ND	ND	ND	ND	ND
59	6.5-9.5'	4358.10	3/18/99	ND	ND	**22.39**	ND	ND	ND	ND	ND	ND	7.66	ND	1.91	ND	ND	ND	ND	ND	ND	ND	ND
59A	6.5-9.5'	4368.04	3/23/99	ND	ND	**17.00**	0.55	ND	ND	ND	ND	ND	5.42	ND	1.49	ND	ND	ND	ND	ND	ND	ND	ND
60	6.5-9.5'	4368.06	3/23/99	ND	ND	**32.32**	**4.14**	ND	ND	ND	ND	ND	4.73	1.10	1.38	ND	ND	ND	ND	ND	ND	ND	ND
61	6.5-9.5'	4368.08	3/23/99	ND	ND	**23.13**	**4.01**	ND	ND	ND	ND	ND	4.15	0.93	0.84	ND	ND	ND	ND	ND	ND	ND	ND
62	6.5-9.5'	4368.10	3/23/99	ND	ND	**28.77**	**2.02**	ND	ND	ND	ND	ND	2.96	ND	1.12	ND	ND	ND	ND	ND	ND	ND	ND
63	6.5-9.5'	4368.12	3/23/99	ND	ND	**27.77**	**1.77**	ND	ND	ND	ND	ND	3.00	ND	1.28	ND	ND	ND	ND	ND	ND	ND	ND
64	6.5-9.5'	4368.14	3/23/99	ND	ND	**10.53**	ND	ND	ND	ND	ND	ND	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65	6.5-9.5'	4368.16	3/23/99	ND	ND	**6.12**	ND	ND	ND	ND	ND	ND	1.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Quality Criteria as per NJAC 7;9-6
Exceedances of the NJDEP GWQC are highlighted and printed in **bold-faced** type.
D = Results are from a Dilution of the Sample
J = compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.
PQL: Practical Quantitation Limit

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
66	7-10'	4381.04	3/30/99	ND	ND	2.58	**3.51**	3.15	6.29	1.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67	7-10'	4381.06	3/30/99	ND	ND	**26.99**	**2.91**	ND	ND	ND	ND	ND	6.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68	7-10'	4381.08	3/30/99	ND	ND	**5.13**	ND	ND	ND	ND	ND	ND	2.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69	4-7'	4381.10	3/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
70	7-10'	4381.12	3/30/99	ND	ND	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
71	6.5-9.5'	4396.04	4/6/99	ND	ND	**12.20**	**1.75**	ND	ND	ND	ND	ND	1.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
72	6-9'	4396.06	4/6/99	ND	ND	**20.04**	**3.66**	ND	ND	ND	ND	ND	2.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
73	6-9'	4696.08	4/6/99	ND	ND	**19.28**	**3.70**	ND	1.68	5.65	ND	ND	3.03	ND	1.02	ND	ND	ND	ND	ND	ND	ND	ND
74	6.5-9.5'	4407.04	4/9/99	ND	ND	**11.03**	**2.34**	ND	ND	ND	ND	ND	3.13	ND	3.20	ND	ND	ND	ND	ND	ND	ND	ND
75	6.5-9.5'	4407.06	4/9/99	ND	ND	**12.96**	**2.39**	ND	ND	ND	ND	ND	3.48	1.12	1.09	ND	ND	ND	ND	ND	ND	ND	ND
76	4-7'	4407.08	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	4-7'	4407.10	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
77	7-10'	4414.04	4/13/99	ND	ND	**6.76**	ND	ND	ND	ND	ND	ND	2.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
78	7-10'	4414.06	4/13/99	ND	1.25	**5.44**	ND	ND	ND	ND	ND	ND	1.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
79	5-8'	4414.08	4/13/99	ND	ND	**7.09**	**2.41**	ND	ND	ND	ND	ND	1.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
80	5-8'	4414.10	4/13/99	ND	ND	1.21	ND	ND	ND	ND	24.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
81	6-9'	4417.04	4/14/99	ND	ND	1.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
82	4-7'	4417.06	4/14/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
83	8-11'	4417.08	4/14/99	ND	ND	**5.49**	ND	ND	ND	ND	ND	ND	1.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
84	8-11'	4417.10	4/14/99	ND	ND	2.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
85	8-11'	4417.12	4/14/99	ND	ND	**4.90**	ND	ND	ND	ND	ND	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
86	8-11'	4417.14	4/14/99	ND	ND	**4.74**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
87	5.5-8.5'	4422.04	4/16/99	ND	ND	1.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
88	4-7'	4422.06	4/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
89	6.5-9.5'	4422.08	4/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
90	6.5-9.5'	4422.10	4/16/99	ND	ND	**9.05**	**1.62**	ND	ND	ND	ND	ND	2.24	ND	2.29	ND	ND	ND	ND	ND	ND	ND	ND
91	6.5-9.5'	4422.12	4/16/99	ND	ND	**9.24**	**1.92**	ND	ND	ND	ND	ND	3.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
92	8-11'	4433.04	4/21/99	ND	ND	2.10	ND	ND	ND	ND	ND	ND	2.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
93	6.5-9.5'	4433.06	4/21/99	ND	ND	**4.88**	ND	ND	ND	ND	ND	ND	3.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
94	6.5-9.5'	4433.08	4/21/99	ND	ND	**4.42**	ND	ND	ND	ND	ND	ND	3.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
95	8-11'	4433.10	4/21/99	ND	2.05	**23.11**	**4.08**	ND	ND	ND	ND	ND	3.13	1.47	1.27	ND	ND	ND	ND	ND	ND	ND	ND
96	8-11'	4433.12	4/21/99	ND	ND	**8.38**	**1.54**	ND	ND	ND	ND	ND	1.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
97	7-10'	4442.04	4/26/99	ND	ND	2.58	**1.89**	ND	ND	ND	7.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
98	7-10'	4442.06	4/26/99	ND	ND	2.71	**2.02**	ND	ND	ND	9.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
99	6-9'	4442.08	4/26/99	ND	ND	ND	ND	ND	ND	ND	10.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
100	5.5-8.5'	4442.10	4/26/99	ND	ND	ND	ND	ND	ND	ND	11.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
101	9.5-12.5'	4442.12	4/26/99	ND	ND	**14.46**	**1.20**	ND	ND	ND	12.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Quality Criteria as per NJAC 7;9-6
Exceedances of the NJDEP GWQC are highlighted and printed in **bold-faced** type.
D = Results are from a Dilution of the Sample
J = compound Identified Below Detection Limit
ND: Not Detected
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PQL: Practical Quantitation Limit

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
102	8-11'	4445.04	4/27/99	ND	ND	**19.39**	**4.41**	ND	ND	1.68	ND	ND	3.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
103	8-11'	4445.06	4/27/99	ND	ND	**15.43**	**2.62**	ND	ND	1.15	4.82	ND	4.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
104	8.5-11.5'	4445.08	4/27/99	ND	1.72	**14.78**	**3.68**	ND	ND	ND	8.05	ND	9.00	1.63	1.17	ND	ND	ND	ND	ND	2.46	ND	ND
105	5.5-8.5'	4445.10	4/27/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
106	6.5-9.5'	4445.12	4/27/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
107	9.5-12.5'	4445.144	4/27/99	ND	ND	**25.71**	ND	ND	ND	ND	ND	ND	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	8-11'	4445.16	4/27/99	ND	ND	**16.63**	**3.01**	ND	ND	1.35	4.74	ND	3.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
108	5.5-8.5'	4461.04	5/4/99	ND	ND	**42.54**	**1.43**	ND	ND	ND	9.08	ND	3.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
109	5.5-8.5'	4461.06	5/4/99	ND	ND	**45.15**	**1.37**	ND	ND	ND	7.72	ND	7.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
110	5.5-8.5'	4461.08	5/4/99	ND	ND	**57.37**	**1.66**	ND	ND	ND	2.39	ND	8.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
111	4.5-7.5'	4461.10	5/4/99	ND	ND	ND	**1.12**	ND	ND	ND	3.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
112	4.5-7.5'	4461.12	5/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113	5.5-8.5'	4465.04	5/6/99	ND	ND	**10.02**	ND	ND	ND	ND	ND	ND	2.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114	5.5-8.5'	4465.06	5/6/99	ND	ND	**8.83**	ND	ND	ND	ND	ND	ND	1.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115	5.5-8.5'	4465.08	5/6/99	ND	ND	**8.41**	ND	ND	ND	ND	ND	ND	2.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116	5.5-8.5'	4465.10	5/6/99	ND	ND	ND	ND	ND	ND	ND	4.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117	5-8'	4465.12	5/6/99	ND	ND	2.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118	5-8'	4465.14	5/6/99	ND	ND	ND	ND	ND	ND	ND	2.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	5.5-8.5'	4465.16	5/6/99	ND	ND	**9.66**	ND	ND	ND	ND	ND	ND	2.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64A	8-11'	4912.04	11/3/99	ND	ND	**11.62**	ND	ND	ND	ND	12.02	ND	1.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65A	8-11'	4912.06	11/3/99	ND	ND	**7.57**	**1.17**	ND	ND	ND	ND	ND	2.71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66A	8-11'	4912.08	11/3/99	ND	ND	**11.94**	**2.15**	1.42	2.49	1.62	53.79	ND	1.90	ND	ND	ND	ND	ND	ND	ND	186.75 D	ND	ND
67A	8-11'	4912.10	11/3/99	ND	ND	**16.36**	**2.75**	ND	3.93	1.31	ND	ND	3.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68A	8-11'	4912.12	11/3/99	ND	ND	**20.47**	ND	ND	ND	ND	ND	ND	2.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69A	8-11'	4912.14	11/3/99	ND	ND	**4.52**	ND	ND	1.39	ND	ND	ND	2.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64B	8-11'	4915.04	11/4/99	ND	ND	**42.09**	**1.12**	ND	ND	ND	ND	ND	3.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65B	8-11'	4915.06	11/4/99	ND	ND	**46.35**	**1.25**	ND	ND	ND	ND	ND	3.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66B	8-11'	4915.08	11/4/99	ND	ND	**21.25**	**3.82**	ND	ND	ND	ND	ND	4.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67B	8-11'	4915.10	11/4/99	ND	1.10	**13.46**	**4.05**	ND	ND	ND	ND	ND	3.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68B	8-11'	4915.12	11/4/99	ND	ND	**8.92**	**2.17**	ND	ND	ND	ND	ND	2.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69B	8-11'	4915.14	11/4/99	ND	1.71	**24.21**	**3.84**	ND	ND	ND	ND	ND	4.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113A	8-11'	4931.04	11/8/99	ND	ND	**32.01**	ND	ND	ND	ND	ND	ND	10.36	2.27	1.88	ND	ND	ND	ND	ND	ND	ND	ND
114A	8-11'	4931.06	11/8/99	ND	ND	**15.37**	**1.88**	ND	ND	ND	10.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115A	8-11'	4931.08	11/8/99	ND	ND	**14.12**	**3.86**	ND	ND	ND	ND	ND	1.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116A	8-11'	4931.10	11/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117A	8-11'	4933.04	11/10/99	ND	ND	**20.31**	**4.23**	ND	ND	ND	ND	ND	2.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114B	8-11'	4933.06	11/10/99	ND	ND	**65.75**	**14.67**	ND	ND	ND	ND	ND	3.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
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PQL: Practical Quantitation Limit

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
Field Dup	8-11'	4933.16	11/10/99	ND	ND	**61.73**	**12.70**	ND	ND	ND	10.89	**26.80**	2.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115B	8-11'	4933.08	11/10/99	ND	ND	**70.53**	**13.33**	ND	ND	ND	ND	**26.06**	4.02	ND	1.20	ND	ND	ND	ND	ND	ND	ND	ND
116B	8-11'	4933.10	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117B	8-11'	4933.12	11/10/99	ND	ND	**9.90**	**5.18**	ND	ND	ND	ND	ND	1.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118B	8-11'	4933.14	11/10/99	ND	ND	3.84	**1.57**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114C	8-11'	4968.04	11/30/99	ND	ND	**80.15**	**9.47**	ND	3.48	2.29	ND	ND	11.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115C	8-11'	4968.06	11/30/99	ND	ND	**40.81**	**8.84**	ND	ND	ND	ND	ND	2.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116C	8-11'	4968.08	11/30/99	ND	ND	**48.22**	**4.68**	ND	ND	ND	8.40	ND	2.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117C	8-11'	4968.10	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118C	8-11'	4968.12	11/30/99	ND	ND	**13.57**	**4.03**	ND	ND	ND	18.59	ND	3.45	ND	ND	ND	ND	ND	ND	ND	6.40	ND	ND
119C	8-11'	4968.14	11/30/99	ND	ND	**8.58**	**2.59**	ND	ND	ND	8.83	ND	2.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113D	8-11'	4971.04	12/1/99	ND	ND	**19.33**	**2.53**	ND	ND	ND	ND	ND	1.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114D	8-11'	4971.06	12/1/99	ND	ND	**15.18**	**4.02**	ND	ND	1.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115D	8-11'	4971.08	12/1/99	ND	1.13	**17.44**	**3.87**	ND	ND	ND	ND	ND	1.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116D	8-11'	4971.10	12/1/99	ND	ND	**12.99**	**2.46**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117D	8-11'	4971.12	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118D	8-11'	4972.04	12/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113E	8-11'	4972.06	12/2/99	ND	ND	**23.96**	ND	ND	ND	ND	ND	ND	6.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114E	8-11'	4972.08	12/2/99	ND	ND	**13.98**	ND	ND	ND	ND	ND	ND	3.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115E	8-11'	4972.10	12/2/99	ND	1.60	**6.69**	**2.13**	ND	ND	ND	ND	ND	1.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116E	8-11'	4972.12	12/2/99	ND	ND	**12.85**	**4.60**	ND	ND	ND	ND	ND	2.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	8-11'	4972.14	12/2/99	ND	ND	**9.47**	ND	ND	ND	ND	ND	ND	3.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117E	8-11'	4979.04	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118E	8-11'	4979.06	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64C	8.5-11.5'	4979.08	12/3/99	ND	ND	ND	ND	ND	ND	ND	3.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65C	8.5-11.5'	4979.10	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	1.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66C	8.5-11.5'	4979.12	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	1.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67C	8.5-11.5'	4979.14	12/3/99	ND	ND	**5.85**	**1.12**	ND	ND	ND	ND	ND	1.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68C	8.5-11.5'	4979.16	12/3/99	ND	ND	2.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64D	8.5-13.5'	4990.04	12/6/99	ND	ND	ND	ND	ND	ND	ND	3.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65D	8.5-13.5'	4990.06	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66D	8.5-13.5'	4990.08	12/6/99	ND	ND	**14.00**	**1.88**	ND	ND	ND	ND	ND	2.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67D	8.5-13.5'	4990.10	12/6/99	ND	ND	**28.94**	**3.83**	ND	ND	ND	ND	ND	4.87	1.80	1.22	ND	ND	ND	ND	ND	ND	ND	ND
68D	8.5-13.5'	4995.04	12/7/99	ND	ND	**22.58**	**3.58**	ND	ND	ND	11.21	ND	5.12	1.40	1.13	ND	ND	ND	ND	ND	ND	ND	ND
64E	8.5-13.5'	4995.06	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65E	8.5-13.5'	4995.08	12/7/99	ND	ND	**7.75**	ND	ND	ND	ND	ND	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	53.08	ND
66E	8.5-13.5'	4995.10	12/7/99	ND	ND	**12.33**	ND	ND	ND	ND	ND	ND	1.76	ND	ND	ND	ND	ND	ND	ND	ND	91.11	ND

NOTES
Only detected compounds are listed.
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M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
67E	8.5-13.5'	4995.12	12/7/99	ND	ND	**5.92**	ND	ND	1.99	ND	ND	ND	1.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Dup	8.5-13.5'	4995.14	12/7/99	ND	ND	**13.87**	ND	ND	ND	ND	ND	ND	1.97	ND	ND	ND	ND	ND	ND	ND	ND	88.24	ND
113F	7-12'	5058.16	1/3/00	ND	3.35	**99.56**	**4.47**	ND	ND	ND	ND	ND	5.14	ND	2.26	ND	ND	ND	ND	ND	ND	ND	ND
114F	7-12'	5058.17	1/3/00	ND	20.61	**16.74**	**3.11**	ND	ND	ND	ND	ND	2.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115F	7-12'	5058.18	1/3/00	ND	4.64	**15.70**	**4.37**	ND	ND	ND	5.06	ND	2.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116F	7-12'	5058.19	1/3/00	ND	ND	2.86	**2.24**	ND	ND	ND	7.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117F	7-12'	5058.20	1/3/00	ND	2.39	1.66	ND	ND	ND	ND	6.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118F	7-12'	5058.21	1/3/00	ND	2.75	ND	ND	ND	ND	ND	8.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113G	7-12'	5064.12	1/4/00	ND	ND	ND	**1.03**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114G	7-12'	5064.13	1/4/00	ND	17.05	**17.61**	**1.99**	ND	ND	ND	ND	ND	6.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115G	7-12'	5064.14	1/4/00	ND	ND	**8.87**	**2.17**	ND	ND	ND	ND	ND	5.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.31
116G	7-12'	5064.15	1/4/00	ND	1.69	**23.75**	**8.22**	ND	ND	ND	5.96	ND	11.01	ND	ND	ND	ND	ND	ND	ND	6.35	ND	ND
117G	7-12'	5064.16	1/4/00	ND	15.71	**9.14**	0.65	ND	ND	ND	ND	ND	5.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.04
118G	7-12'	5064.17	1/4/00	ND	10.77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113H	7-12'	5072.18	1/5/00	ND	3.70	**6.14**	**2.35**	ND	ND	ND	ND	ND	3.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114H	7-12'	5072.19	1/5/00	ND	1.69	**27.05**	**4.14**	ND	1.94	ND	4.02	ND	4.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115H	7-12'	5072.20	1/5/00	ND	ND	**4.90**	**1.10**	ND	ND	ND	ND	ND	6.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116H	7-12'	5072.21	1/5/00	ND	1.66	**34.42**	**1.99**	ND	ND	ND	ND	ND	17.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117H	7-12'	5072.22	1/5/00	ND	3.76	1.22	ND	ND	ND	ND	ND	ND	2.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118H	7-12'	5072.23	1/5/00	ND	ND	ND	ND	ND	ND	ND	2.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
113I	7-12'	5075.14	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114I	7-12'	5075.10	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
115I	7-12'	5075.11	1/6/00	ND	1.86	ND	ND	ND	ND	ND	ND	ND	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
116I	7-12'	5075.12	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
117I	7-12'	5075.13	1/6/00	ND	ND	ND	ND	ND	ND	ND	19.22	ND	1.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
118I	7-12'	5075.09	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64F	7-12'	5091.09	1/11/00	ND	ND	**159.22 D**	**2.25**	ND	ND	ND	ND	ND	8.34	1.90	2.23	ND	ND	ND	ND	ND	ND	ND	ND
65F	7-12'	5091.10	1/11/00	ND	ND	**181.39 D**	**6.32**	ND	ND	ND	ND	ND	9.32	2.05	4.76	ND	ND	ND	ND	ND	ND	ND	ND
66F	7-12'	5091.11	1/11/00	ND	1.15	**69.69**	**3.45**	ND	ND	ND	ND	ND	10.63	2.51	3.15	ND	ND	ND	ND	ND	ND	ND	ND
67F	7-12'	5091.12	1/11/00	ND	1.34	**92.13**	**4.16**	ND	ND	ND	2.23	ND	11.15	1.43	2.98	ND	ND	ND	ND	ND	ND	ND	ND
68F	7-12'	5091.13	1/11/00	ND	1.91	**55.12**	**2.60**	ND	ND	ND	ND	ND	14.12	0.98	4.87	ND	ND	ND	ND	ND	ND	ND	ND
69F	7-12'	5091.14	1/11/00	ND	1.39	**59.31**	**2.85**	ND	ND	ND	ND	ND	12.82	1.45	4.18	ND	ND	ND	ND	ND	ND	ND	ND
64G	7-12'	5091.15	1/11/00	ND	1.47	**9.32**	ND	ND	ND	ND	4.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65G	7-12'	5091.16	1/11/00	ND	1.44	**6.72**	ND	ND	ND	ND	ND	ND	3.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
67G	7-12'	5091.17	1/11/00	ND	ND	**6.93**	ND	ND	ND	ND	ND	ND	3.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66G	7-12'	5091.18	1/11/00	ND	1.17	**7.45**	ND	ND	ND	ND	ND	ND	3.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68G	7-12'	5096.09	1/12/00	ND	ND	3.43	**1.29**	ND	ND	ND	ND	ND	7.92	1.29	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Quality Criteria as per NJAC 7;9-6
Exceedances of the NJDEP GWQC are highlighted and printed in **bold-faced** type.
D = Results are from a Dilution of the Sample
J = compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.
PQL: Practical Quantitation Limit

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
69G	7-12'	5096.10	1/12/00	ND	1.73	**26.77**	ND	ND	ND	ND	ND	ND	3.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
64H	7-12'	5096.11	1/12/00	ND	ND	3.87	ND	ND	3.27	ND	ND	ND	2.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
65H	7-12'	5096.12	1/12/00	ND	ND	3.24	ND	ND	ND	ND	ND	ND	1.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
66H	7-12'	5096.13	1/12/00	ND	ND	ND	ND	ND	ND	ND	9.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.49	ND	ND
67H	7-12'	5096.14	1/12/00	ND	18.11	2.64	ND	ND	ND	ND	1.95	ND	2.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
68H	7-12'	5102.06	1/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
69H	7-12'	5102.07	1/13/00	ND	1.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4328.02	3/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4332.02	3/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4334.02	3/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4339.02	3/11/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4350.02	3/16/99	3.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4355.02	3/17/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4358.02	3/18/99	4.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4368.02	3/23/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4381.02	3/30/99	3.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4396.02	4/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4407.02	4/9/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4414.02	4/13/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4417.02	4/14/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4422.02	4/16/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4433.02	4/21/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4442.02	4/26/99	ND	ND	ND	ND	ND	ND	ND	11.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4445.02	4/27/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4461.02	5/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4465.02	5/6/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4912.02	11/3/99	5.00	ND	ND	ND	ND	ND	ND	13.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4915.02	11/4/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4931.02	11/8/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4933.02	11/10/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4968.02	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4971.02	12/1/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4972.02	12/2/99	3.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4979.02	12/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4990.02	12/6/99	ND	ND	ND	ND	ND	ND	ND	ND	1.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	4995.02	12/7/99	ND	ND	ND	ND	ND	ND	ND	ND	1.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5058.02	1/3/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Quality Criteria as per NJAC 7;9-6
Exceedances of the NJDEP GWQC are highlighted and printed in **bold-faced** type.
D = Results are from a Dilution of the Sample
J = compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.
PQL: Practical Quantitation Limit

Table 4
Results of Geoprobe Groundwater Investigation - VOC
M-2 Landfill
Ft. Monmouth, New Jersey

Boring	Depth	Lab I.D.	Sample Date	MeCl	Carbon DiSulfide	Chloro-benzene	Benzene	Ethyl-benzene	Total Xylenes	Toluene	Acetone	Chloroform	1,4-DCB	1,2-DCB	1,3-DCB	PCE	TCE	Vinyl Chloride	trans-1,2-DCE	cis-1,2-DCE	2-Butanone	tert-Butyl alcohol	Methyl-tert-Butyl ether
Regulatory Level (ug/L)*				2	NLE	4	1	700	40	1000	700	6	75	600	600	1	1	5	100	10	1000	NLE	NLE
Field Blank	-	5064.02	1/4/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5072.02	1/5/00	2.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5075.02	1/6/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5091.02	1/11/00	ND	ND	ND	ND	ND	ND	ND	ND	4.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5096.02	1/12/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Field Blank	-	5102.02	1/13/00	ND	ND	ND	ND	ND	ND	ND	ND	3.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
* Regulatory level shown is higher of PQL and Ground Water Quality Criteria as per NJAC 7;9-6
Exceedances of the NJDEP GWQC are highlighted and printed in **bold-faced** type.
D = Results are from a Dilution of the Sample
J = compound Identified Below Detection Limit
ND: Not Detected
NLE: No regulatory limit has been established for this parameter.
PQL: Practical Quantitation Limit

M-2 LANDFILL BOUNDARY

1152

1150

1151

694

T-693

T-687

RIES

MILL

CREEK

N

LEGEND

● 4 = SOIL BORING LOCATION

NOTES:

REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	REVIEW EDITS		10 SEPT 02	TJW

TITLE:
FIGURE 3-1
SOIL BORING LOCATION MAP
M-2 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.: M2-BORING LOCATION
	FILE No.: M2-BORING LOCATION
	SCALE: 1" = 30'
	SHEET OF REV. B

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

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4286.02	4286.03	4286.04	4286.05	4286.06	4286.07	4295.02	4295.03	4295.04	4295.05	4295.06	4295.07	4298.02	4298.03	4298.04	4298.05
Field Sample Location		B4 (6-12")	B4 (24")	B5 (6-12")	B5 (24")	B6 (6-12")	B6 (24")	B13 (6-12")	B13 (24")	B14 (6-12")	B14 (24")	B15 (6-12")	B15 (24")	B19 (6-12")	B19 (24")	B20 (6-12")	B20 (24")
Sample Date		2/19/1999	2/19/1999	2/19/1999	2/19/1999	2/19/1999	2/19/1999	2/23/1999	2/23/1999	2/23/1999	2/23/1999	2/23/1999	2/23/1999	2/24/1999	2/24/1999	2/24/1999	2/24/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.87		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		0.39 J		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.28JB		0.28JB		0.84JB		0.74JB		1.3B		0.43JB		0.88JB		0.68JB	
Fluoranthene	2300	ND		ND		0.17J		ND		0.46J		ND		ND		ND	
Pyrene	1700	ND		ND		0.15 J		ND		0.46 J		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		0.22J		ND		ND		ND	
Chrysene	9	ND		ND		0.17J		ND		0.44J		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	0.23JB		0.12JB		0.14JB		0.11J		0.16 J		0.21J		0.14J		0.16J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		0.16J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		0.18J		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		0.2J		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		0.12 J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		0.13J		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	ND		0.016		0.019		ND		0.069		0.072		0.11		0.012	
Dieldrin	0.042	ND		ND		ND		ND		ND		0.03		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		ND		0.021		ND		0.069		0.113		0.04		0.032	
4,4'-DDT	2	ND		0.04		ND		ND		0.079		ND		0.176		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	**1.0**		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	8220		3930		14800		4850		11100		17400		4370		5320	
Antimony	14	1.1		1.4		0.941		0.653		0.919		2.04		0.48		0.527	
Arsenic	20	8.01		11.2		12.7		5.41		12.3		**22.5**		2.22		3.68	
Barium	700	29.6		12.9		46.3		9.51		68.3		198		7.44		12.6	
Beryllium	2	0.871		0.488		1.49		0.492		**2.11**		**2.67**		0.177		0.394	
Cadmium	39	0.245		0.525		0.506		0.158		0.674		4.17		0.384		0.248	
Calcium	NLE	521		275		1900		212		1030		1830		92.4		372	
Chromium	NLE	99.3		69.6		88.9		81.5		106		182		19.4		29.7	
Cobalt	NLE	2.1		2.26		3.81		0.918		3.72		8.88		0.86		1.08	
Copper	600	41.3		29.6		16.4		7.61		35.6		391		66.6		69.8	
Iron	NLE	26000		16700		39900		18800		34000		74600		7890		12000	
Lead	400	31.7		28.9		21.1		8.5		48.7		187		4.46		27.7	
Magnesium	NLE	1930		986		3310		1170		2650		4490		437		742	
Manganese	NLE	51.5		2450		89.5		14		49.1		242		12.3		13.2	
Mercury	14	1.58		0.39		0.14		0.64		0.61		4.73		0.09		0.04	
Nickel	250	6.59		7.16		15.1		3.11		15.4		32.8		2.51		3.55	
Potassium	NLE	4450		2430		6950		3040		5140		8990		849		1530	
Selenium	63	1.03		1.66		0.727		0.65		1.31		2.53		ND		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	171		80.2		110		58.6		76.4		164		146		223	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	78.9		51.7		60.3		69.7		58.5		91.5		17.9		23.7	
Zinc	1500	122		**2720**		242		42.8		187		605		9.61		41	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4298.06	4298.07	4298.08	4298.09	4298.10	4298.11	4298.12	4298.13	4327.02	4327.03	4327.04	4327.05	4327.06	4327.07	4331.02	4331.03
Field Sample Location		B21 (6-12")	B21 (24")	B25 (6-12")	B25 (24")	B26 (6-12")	B26 (24")	B27 (6-12")	B27 (24")	B31 (6-12")	B31 (24")	B32 (6-12")	B32 (24")	B33 (6-12")	B33 (24")	B34 (6-12")	B34 (24")
Sample Date		2/24/1999	2/24/1999	2/24/1999	2/24/1999	2/24/1999	2/24/1999	2/24/1999	2/24/1999	3/8/1999	3/8/1999	3/8/1999	3/8/1999	3/8/1999	3/8/1999	3/9/1999	3/9/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.68		ND		ND		ND		8.10		1.50		1.80		1.20
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		0.64 J		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	0.42J		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		0.11 J		0.32JB		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		0.14 J		ND		0.32 J		0.11 J		0.24 J		ND	
Anthracene	10,000	0.3J		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	1.3B		1.1JB		0.21JB		0.29JB		1.2JB		0.64JB		0.58JB		0.36JB	
Fluoranthene	2300	1.4		ND		0.24J		0.22J		0.6 J		0.17J		0.42 J		0.14J	
Pyrene	1700	1.9		ND		0.26 J		0.23 J		0.67 J		0.15 J		0.37 J		0.15 J	
Benzo[a]anthracene	0.9	**2.7**		ND		0.14J		0.15 J		0.34 J		ND		0.18 J		ND	
Chrysene	9	6.3		ND		0.31J		0.34 J		0.68J		0.17J		0.36 J		0.16 J	
bis(2-Ethylhexyl)phthalate	49	0.18J		0.22J		0.2J		0.28 J		0.53JB		0.13JB		0.2JB		0.19JB	
Benzo[b]fluoranthene	0.9	**4.5**		ND		0.2J		0.22 J		0.34 J		ND		0.17 J		ND	
Benzo[k]fluoranthene	0.9	**3.1**		ND		0.17J		0.28 J		0.4 J		ND		0.18 J		ND	
Benzo[a]pyrene	0.66	**2.9**		ND		0.17J		0.19 J		0.39 J		ND		0.19 J		ND	
Indeno[1,2,3-cd]pyrene	0.9	**1.5**		ND		ND		0.12 J		0.21 J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	**0.81J**		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	1.5		ND		0.12J		0.12 J		0.2 J		ND		0.12 J		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.128		0.063		0.22		0.05		0.052		0.041		0.015		0.028	
Dieldrin	0.042	ND		ND		ND		ND		0.040		0.014		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.078		ND		0.086		0.021		0.042		0.092		0.022		0.031	
4,4'-DDT	2	0.199		0.092		0.61		0.064		0.044		0.037		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	11400		16300		9000		7550		25400		10400		13000		9360	
Antimony	14	0.527		0.492		0.555		0.54		2.48		2.31		ND		ND	
Arsenic	20	10.8		19		10.2		8.33		**37.7**		10.2		16.3		11	
Barium	700	54.3		28		45.6		40		226		40.6		73.1		109	
Beryllium	2	1.31		1.53		0.954		0.823		**7.22**		1.25		1.85		1.42	
Cadmium	39	0.181		ND		**505**		0.58		11.4		0.917		ND		ND	
Calcium	NLE	2050		434		2680		1970		2750		1500		958		1320	
Chromium	NLE	145		153		98.7		76.8		165		379		228		156	
Cobalt	NLE	1.55		1.86		3.33		1.56		35.9		2.46		0.948		1.2	
Copper	600	71.5		72.6		161		64.2		337		153		66.5		48.2	
Iron	NLE	35900		42600		29900		24500		118000		25900		51200		34500	
Lead	400	62.4		31.6		80.1		38.4		163		**897**		20.6		9.81	
Magnesium	NLE	4990		5230		4670		2820		3740		2480		7330		4770	
Manganese	NLE	57.4		51.1		117		65.4		775		23.5		24.7		28.5	
Mercury	14	0.15		0.05		0.24		0.13		1.87		1.07		0.04		0.04	
Nickel	250	6.69		7.38		9.68		5.39		100		14.1		4.79		5.19	
Potassium	NLE	10600		11200		7280		5980		7240		5350		17800		11200	
Selenium	63	0.977		1.29		0.863		0.982		3.72		0.704		1.4		1.09	
Silver	110	ND		ND		ND		ND		ND		1.15		ND		ND	
Sodium	NLE	140		155		236		126		233		208		128		141	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	60.3		81.9		53.3		41.5		123		49.7		82.4		51.7	
Zinc	1500	140		50.4		102		66.9		683		106		72.6		65.4	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4331.04	4331.05	4331.06	4331.07	4331.08	4331.09	4335.02	4335.03	4335.04	4335.05	4335.06	4335.07	4335.08	4335.09	4335.10	4335.11
Field Sample Location		B35 (6-12")	B35 (24")	B36 (6-12")	B36 (24")	B37 (6-12")	B37 (24")	B38 (6-12")	B38 (24")	B39 (6-12")	B39 (24")	B40 (6-12")	B40 (24")	B41 (6-12")	B41 (24")	B42 (6-12")	B42 (24")
Sample Date		3/9/1999	3/9/1999	3/9/1999	3/9/1999	3/9/1999	3/9/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999	3/10/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		0.58		ND		ND		ND
Chlorobenzene	37		1.50		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		0.21J	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		0.16J	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.3 J		ND		0.23 J		ND		0.18 J		0.15 J		2.4	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		0.7J	
Di-n-butylphthalate	5700	0.62JB		0.6JB		ND		1.6B		0.89JB		0.4JB		1.1JB		0.33JB	
Fluoranthene	2300	0.19 J		0.46 J		ND		0.2 J		ND		0.21 J		0.17 J		5.5	
Pyrene	1700	0.15 J		0.37 J		ND		0.27 J		ND		0.25 J		0.19 J		4.1	
Benzo[a]anthracene	0.9	ND		0.2 J		ND		0.12 J		ND		0.11 J		ND		**2.2**	
Chrysene	9	0.17 J		0.35 J		ND		0.28 J		ND		0.24 J		0.2 J		3.7	
bis(2-Ethylhexyl)phthalate	49	0.18JB		0.29JB		ND		0.22JB		ND		0.14JB		0.14JB		0.15JB	
Benzo[b]fluoranthene	0.9	ND		0.21 J		ND		ND		ND		ND		ND		**2.1**	
Benzo[k]fluoranthene	0.9	0.12 J		0.18 J		ND		0.12 J		ND		ND		ND		**1.8**	
Benzo[a]pyrene	0.66	ND		0.21 J		ND		0.12 J		ND		0.12 J		ND		**2.2**	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.14 J		ND		ND		ND		ND		ND		**1.3**	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		0.64J	
Benzo[g,h,I]perylene	NLE	ND		0.14 J		ND		ND		ND		ND		ND		1.3	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.02		0.027		ND		0.048		0.015		0.083		0.04		0.029	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		0.062		ND		0.035		0.022		0.087		0.059		0.023	
4,4'-DDT	2	ND		0.126		ND		0.187		ND		ND		ND		ND	
gamma-Chlordane	NLE	ND		0.029		ND		ND		ND		ND		ND		0.013	
alpha-Chlordane	NLE	ND		0.024		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	7460		4470		5850		9820		18400		9770		8030		12200	
Antimony	14	ND		0.698		0.571		ND		ND		ND		ND		ND	
Arsenic	20	7.62		5.81		4.3		11.4		11.7		10.3		10.3		13.5	
Barium	700	22.2		15.8		22.1		54.1		117		64.3		58.1		77.8	
Beryllium	2	0.649		0.366		0.504		1.31		**2.71**		1.39		1.11		1.81	
Cadmium	39	0.207		0.322		4.97		26.3		0.166		1.17		ND		ND	
Calcium	NLE	885		767		461		1050		1810		4230		862		1630	
Chromium	NLE	66.1		40.7		49.7		132		326		143		125		191	
Cobalt	NLE	1.45		1.13		1.09		1.31		0.756		1.73		1.45		1.72	
Copper	600	44		45.6		43.2		54.8		43.6		45.7		41.2		46.2	
Iron	NLE	18900		13400		14400		30800		60200		31900		31700		44000	
Lead	400	18.6		16.4		3.88		17.3		4.27		19.2		26.4		17.8	
Magnesium	NLE	1700		726		1520		3950		10600		4410		3860		6130	
Manganese	NLE	41.9		21.2		20.1		32.5		33.1		27.3		17.9		42.7	
Mercury	14	0.09		0.05		0.04		0.08		0.03		0.07		0.05		0.03	
Nickel	250	5.08		4.57		3.04		4.87		5.1		8.43		9.16		6.54	
Potassium	NLE	4040		1450		3400		9150		25800		10300		8540		14400	
Selenium	63	ND		ND		ND		1.13		2.01		1.07		1.19		1.25	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	194		96.8		75.9		124		243		188		124		176	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	51.2		37.5		28.7		58.6		116		58.4		49.8		70.6	
Zinc	1500	44.6		38.2		20.8		57.4		122		61.5		41.6		95.6	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4340.02	4340.03	4340.04	4340.05	4349.02	4349.03	4349.04	4349.05	4349.06	4349.07	4349.08	4349.09	4356.02	4356.03	4356.04	4356.05
Field Sample Location		B43 (6-12")	B43 (24")	B44 (6-12")	B44 (24")	B45 (6-12")	B45 (24")	B46 (6-12")	B46 (24")	B47 (6-12")	B47 (24")	B48 (6-12")	B48 (24")	B49 (6-12")	B49 (24")	B50 (6-12")	B50 (24")
Sample Date		3/11/1999	3/11/1999	3/11/1999	3/11/1999	3/16/1999	3/16/1999	3/16/1999	3/16/1999	3/16/1999	3/16/1999	3/16/1999	3/16/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		0.16J		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		0.13 J		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		1.2		0.18 J		0.3 J		ND		0.14 J		ND		0.2 J	
Anthracene	10,000	ND		0.35 J		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.98JB		0.38JB		0.3JB		0.76JB		038JB		0.55JB		0.38JB		0.7JB	
Fluoranthene	2300	0.13 J		1.8		0.38 J		0.27 J		0.15 J		0.23 J		ND		0.37 J	
Pyrene	1700	0.15 J		1.5		0.36 J		0.39 J		0.18 J		0.25 J		0.17 J		0.42 J	
Benzo[a]anthracene	0.9	ND		0.84 J		0.19J		0.19 J		ND		0.14 J		0.18 J		0.26 J	
Chrysene	9	0.19 J		1.5		0.38 J		0.4 J		0.61 J		0.28 J		0.61 J		0.53 J	
bis(2-Ethylhexyl)phthalate	49	0.15JB		0.15JB		ND		0.32JB		ND		0.19JB		ND		0.19JB	
Benzo[b]fluoranthene	0.9	ND		0.7 J		0.2 J		0.12 J		0.13 J		0.14 J		0.32 J		0.29 J	
Benzo[k]fluoranthene	0.9	ND		0.81 J		0.24 J		0.16 J		0.14 J		0.16 J		0.29 J		0.21 J	
Benzo[a]pyrene	0.66	0.14 J		**0.86 J**		0.21 J		0.17 J		0.66 J		0.17 J		0.17 J		0.31 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.48 J		0.14 J		ND		ND		ND		0.14 J		0.21 J	
Dibenz[a,h]anthracene	0.66	ND		0.22 J		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		0.49 J		0.15 J		0.12 J		0.16 J		ND		0.13 J		0.32 J	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		0.009		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.078		0.041		0.095		0.098		0.05		0.032		0.158		0.109	
Dieldrin	0.042	**0.091**		ND		ND		0.015		0.019		ND		**0.074**		ND	
Endrin	17	ND		ND		ND		ND		0.019		ND		ND		ND	
4,4'-DDD	3	0.173		0.043		ND		0.116		0.038		0.029		0.195		0.133	
4,4'-DDT	2	0.047		ND		ND		0.058		0.305		ND		0.105		0.116	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		0.021		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		0.017		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		0.329	
Metals (mg/kg)																	
Aluminum	NLE	12200		7990		11600		8680		11400		8380		12500		6730	
Antimony	14	1.34		ND		ND		ND		0.475		ND		ND		ND	
Arsenic	20	7.23		7.93		9.04		15		13.2		13.9		12.4		7.92	
Barium	700	34.6		53		95		54.9		47.7		69.6		27.1		54.3	
Beryllium	2	1.73		1.12		**2.03**		1.15		1.52		1.32		1.47		1.16	
Cadmium	39	ND		0.30		0.756		ND		ND		0.431		ND		ND	
Calcium	NLE	1260		1280		1740		1040		1770		1570		1920		907	
Chromium	NLE	160		108		196		126		139		118		163		89.3	
Cobalt	NLE	1.14		1.12		1.65		1.27		1.53		1.26		2.29		1.01	
Copper	600	383		38.4		35.6		27.2		34.6		44		11.6		6.23	
Iron	NLE	36600		24200		44500		31400		40400		29900		37700		23000	
Lead	400	38.1		17.6		16.2		20		16.2		28.3		21.7		15.8	
Magnesium	NLE	5030		3300		6620		3840		4960		3870		4610		2530	
Manganese	NLE	14.7		26.5		27.3		21.4		29.6		40.3		41.4		19.9	
Mercury	14	0.39		0.07		0.22		0.10		0.06		0.05		0.089		0.052	
Nickel	250	6.95		5.24		11.1		5.35		7.59		5.7		8.21		5.1	
Potassium	NLE	12200		7630		15200		8900		11700		9240		11100		6300	
Selenium	63	ND		1.09		1.7		1.72		0.818		1.63		2.02		1.67	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	106		195		207		292		147		178		253		97.9	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	74.4		47.4		85.9		51.3		76.4		43		45.2		30.9	
Zinc	1500	48.7		62.1		240		49.2		76.8		82.4		91.8		54.6	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4356.06	4356.07	4356.08	4356.09	4356.10	4356.11	4356.12	4356.13	4356.14	4356.15	4359.02	4359.03	4359.04	4359.05	4359.06	4359.07
Field Sample Location		B51 (6-12")	B51 (24")	B52 (6-12")	B52 (24")	B53 (6-12")	B53 (24")	B54 (6-12")	B54 (24")	B55 (6-12")	B55 (24")	B56 (6-12")	B56 (24")	B57 (6-12")	B57 (24")	B58 (6-12")	B58 (24")
Sample Date		3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/17/1999	3/18/1999	3/18/1999	3/18/1999	3/18/1999	3/18/1999	3/18/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		0.13 J		ND		ND		ND		ND		0.25 J	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.16JB		0.83 JB		ND		0.64 JB		0.43JB		0.13JB		0.4JB		0.15JB	
Fluoranthene	2300	0.15 J		ND		0.20 J		ND		0.78 J		0.23 J		ND		0.46 J	
Pyrene	1700	0.19 J		ND		0.27 J		ND		0.63 J		0.22 J		ND		0.4 J	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		0.88 J		0.13 J		ND		0.22 J	
Chrysene	9	0.18 J		ND		0.20 J		ND		1.5		0.22 J		ND		0.42 J	
bis(2-Ethylhexyl)phthalate	49	0.15JB		ND		ND		0.15 JB		0.14 J		0.19 J		0.15 J		0.13 J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		**1.1 J**		ND		ND		0.25 J	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		**0.97 J**		ND		ND		0.2 J	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		**1.0 J**		0.12 J		ND		0.24 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		0.78 J		ND		ND		0.14 J	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		0.25 J		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		0.76 J		ND		ND		0.15 J	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.047		0.031		0.048		0.014		0.028		0.018		0.016		0.033	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.106		0.024		0.037		ND		0.015		0.017		0.023		0.03	
4,4'-DDT	2	0.083		0.052		ND		ND		ND		ND		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	7310		8120		5860		5840		6320		4140		4690		4590	
Antimony	14	ND		ND		ND		ND		ND		0.677		ND		ND	
Arsenic	20	10.4		8.57		11.1		6.67		6.67		9.78		6.36		5.85	
Barium	700	67.3		48.6		63.6		36.3		26.2		46.5		34.5		19.1	
Beryllium	2	1.19		0.966		1.00		0.637		0.669		0.535		0.741		0.569	
Cadmium	39	ND		ND		ND		0.219		ND		0.323		ND		ND	
Calcium	NLE	1130		611		2910		5050		767		4310		629		459	
Chromium	NLE	101		104		72.7		63.7		56.9		49.5		64.6		58.4	
Cobalt	NLE	1.17		0.964		2.49		1.4		1.02		1.49		0.83		0.804	
Copper	600	7.88		4.99		11.7		20.5		2.17		33.4		6.75		6.88	
Iron	NLE	24900		24000		21300		19300		19700		15900		17700		13800	
Lead	400	18.1		16.2		18.1		36.7		5.27		41.9		8.49		13	
Magnesium	NLE	2480		2720		1900		2350		1790		1770		1860		1480	
Manganese	NLE	20.1		16.4		28.2		123		39.6		83.4		13.3		8.5	
Mercury	14	0.026		0.027		0.027		0.216		ND		0.401		0.078		0.091	
Nickel	250	5.72		4.33		9.07		6.42		3.81		5.9		3.69		3.44	
Potassium	NLE	5980		6180		4900		4890		4270		3300		4400		3510	
Selenium	63	2.12		1.56		1.94		1.28		ND		1.11		1.41		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	103		91.8		103		120		45.1		165		94.4		118	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	38.1		41.8		26.2		30.7		27.6		25.9		25.9		26.5	
Zinc	1500	50.4		42.2		49.6		96.8		20.8		126		34.7		27.9	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4359.08	4359.09	4367.02	4367.03	4367.04	4367.05	4367.06	4367.07	4367.08	4367.09	4367.10	4367.11	4367.12	4367.13	4367.14	4367.15
Field Sample Location		B59 (6-12")	B59 (24")	B59A (6-12")	B59A(24")	B60 (6-12")	B60 (24")	B61 (6-12")	B61 (24")	B62 (6-12")	B62 (24")	B63 (6-12")	B63 (24")	B64 (6-12")	B64 (24")	B65 (6-12")	B65 (24")
Sample Date		3/18/1999	3/18/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999	3/23/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		1.00		0.92		1.30		ND		1.90		1.30
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.15 J		0.14 J		ND		0.89 J		0.15 J		0.17 J		ND		0.82 J	
Anthracene	10,000	ND		ND		ND		0.23 J		ND		ND		ND		0.24 J	
Di-n-butylphthalate	5700	ND		0.16JB		0.18JB		0.12JB		0.13JB		0.77JB		1.5JB		0.13JB	
Fluoranthene	2300	0.15 J		0.14 J		0.18 J		1.5		0.28 J		0.25 J		ND		1.3	
Pyrene	1700	0.23 J		0.22 J		0.21 J		1.3		0.27 J		0.26 J		ND		1.3	
Benzo[a]anthracene	0.9	0.12 J		ND		0.13 J		0.67 J		0.18 J		0.16 J		ND		0.75 J	
Chrysene	9	0.2 J		0.18 J		0.18 J		0.9 J		0.27 J		0.28 J		ND		1.2	
bis(2-Ethylhexyl)phthalate	49	ND		0.11 J		ND		ND		ND		0.18 J		0.2 J		0.22J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		0.41 J		0.12 J		0.14 J		ND		0.58 J	
Benzo[k]fluoranthene	0.9	ND		ND		ND		0.44 J		0.13 J		0.15 J		ND		0.53 J	
Benzo[a]pyrene	0.66	ND		ND		ND		0.51 J		0.15 J		0.14 J		ND		0.6 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		0.31 J		ND		ND		ND		0.23 J	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		0.36 J		ND		ND		ND		0.24 J	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.028		0.026		ND		0.017		0.024		0.025		0.015		0.019	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		0.012	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.046		0.047		0.044		0.02		0.047		0.03		ND		0.131	
4,4'-DDT	2	0.041		0.065		ND		0.026		ND		ND		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		**0.651**		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	8650		7740		6100		10400		2990		5320		32000		4540	
Antimony	14	ND		ND		ND		0.903		0.529		0.516		ND		0.538	
Arsenic	20	11.8		12.3		8.53		11.4		3.34		3.72		**26.8**		2.58	
Barium	700	57.3		60		38.1		39.8		19.2		13.3		220		159	
Beryllium	2	1.41		1.26		0.92		1.66		0.255		0.304		**10.6**		0.662	
Cadmium	39	0.484		ND		ND		0.225		0.655		0.27		1.36		0.578	
Calcium	NLE	1220		990		759		1390		299		483		325		2170	
Chromium	NLE	133		118		89.4		126		14.3		22.2		271		11.9	
Cobalt	NLE	1.37		1.19		0.93		1.45		0.727		1.11		13.1		7.29	
Copper	600	11.5		10.2		7.05		12.8		10.6		5.18		134		48	
Iron	NLE	30000		28400		23800		31200		4420		7850		89600		7670	
Lead	400	13.8		17.1		13.8		18.2		22.7		7.45		119		6.85	
Magnesium	NLE	3710		3220		2450		3880		285		506		4960		544	
Manganese	NLE	19.1		19.2		16.9		31.5		9.40		15.5		42.5		29.4	
Mercury	14	0.071		0.079		0.06		0.133		0.074		0.08		**16.7**		0.173	
Nickel	250	5.9		5.18		3.97		6.85		3.47		5.93		70.7		19.6	
Potassium	NLE	8580		7640		5710		8710		479		903		8570		274	
Selenium	63	1.8		1.66		1.29		0.938		ND		ND		2.01		1.06	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	219		225		89.7		160		84		113		291		358	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	44.7		43.8		32		46.8		11		16.3		189		17.3	
Zinc	1500	62.8		61.4		55.6		85		30.2		25.6		283		61.8	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4380.02	4380.03	4380.04	4380.05	4380.06	4380.07	4380.08	4380.09	4380.10	4380.11	4395.02	4395.03	4395.04	4395.05	4395.06	4395.07
Field Sample Location		B66 (6-12")	B66 (24")	B67 (6-12")	B67 (24")	B68 (6-12")	B68 (24")	B69 (6-12")	B69 (24")	B70 (6-12")	B70 (24")	B71 (6-12")	B71 (24")	B72 (6-12")	B72 (24")	B73 (6-12")	B73 (24")
Sample Date		3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	4/6/1999	4/6/1999	4/6/1999	4/6/1999	4/6/1999	4/6/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		0.420 J		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		0.69		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		0.17 J		ND		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.47JB		0.21JB		0.68JB		0.13JB		1.5B		2.6 B		0.12JB		0.38JB	
Fluoranthene	2300	ND		0.14 J		ND		0.16 J		0.22 J		ND		ND		0.22 J	
Pyrene	1700	0.13 J		0.13 J		ND		0.19 J		0.23 J		0.14 J		ND		0.23J	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		0.12 J	
Chrysene	9	0.16 J		0.14 J		ND		0.19 J		0.34 J		0.15 J		ND		0.25 J	
bis(2-Ethylhexyl)phthalate	49	ND		0.14JB		0.16JB		ND		0.33 JB		ND		ND		0.18 J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		0.19 J		ND		ND		0.13 J	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		0.15 J		ND		ND		0.12 J	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		0.13 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.041		0.016		0.012		0.023		0.056		0.028		0.072		0.049	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		0.024		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.025		ND		ND		0.062		0.14		0.059		0.295		0.081	
4,4'-DDT	2	0.051		ND		ND		0.044		ND		ND		ND		0.032	
gamma-Chlordane	NLE	ND		ND		0.022		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		0.021		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	8390		8220		8220		10300		15300		8120		2400		7890	
Antimony	14	0.788		0.49		ND		0.432		0.913		ND		ND		0.856	
Arsenic	20	2.16		9.76		8.46		9.48		9.34		8.68		2.15		**81.3**	
Barium	700	17.1		48.6		56.2		53.2		97.1		49.9		22.8		76.6	
Beryllium	2	0.246		1.05		1.3		1.08		**2.73**		1.03		0.409		1.06	
Cadmium	39	0.157		ND		ND		ND		ND		ND		1.7		ND	
Calcium	NLE	267		1250		864		819		660		1050		482		1340	
Chromium	NLE	21.5		99.4		134		102		81.8		104		5.69		115	
Cobalt	NLE	0.988		1.21		1.39		2.00		8.05		1.12		3.32		0.861	
Copper	600	13.4		10.3		8.25		16.8		34		3.97		18.9		3.19	
Iron	NLE	6840		25600		28500		26000		29400		25200		3110		36400	
Lead	400	6.86		25		19.1		24.4		46.8		17.9		3.73		15.1	
Magnesium	NLE	507		2720		3480		2830		2640		3110		341		3730	
Manganese	NLE	19		18.8		21.9		28.9		42.5		18.7		15.5		18	
Mercury	14	0.078		0.117		0.062		0.13		0.161		0.066		0.092		0.051	
Nickel	250	4.44		5.9		6.21		7.69		31.6		4.33		12.5		3.86	
Potassium	NLE	1080		6160		7660		5960		5820		8650		246		11700	
Selenium	63	ND		1.57		1.56		1.3		1.78		1.08		ND		1.45	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	133		148		117		119		240		290		142		301	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	17.1		39.6		56		49.3		52.2		37.4		12.8		33	
Zinc	1500	30.4		53.3		46.4		52.5		108		41.6		47		47.9	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4406.02	4406.03	4406.04	4406.05	4406.06	4406.07	4415.02	4415.03	4415.04	4415.05	4415.06	4415.07	4415.08	4415.09	4418.02	4418.03
Field Sample Location		B74 (6-12")	B74 (24")	B75 (6-12")	B75 (24")	B76 (6-12")	B76 (24")	B77 (6-12")	B77 (24")	B78 (6-12")	B78 (24")	B79 (6-12")	B79 (24")	B80 (6-12")	B80 (24")	B81 (6-12")	B81 (24")
Sample Date		4/9/1999	4/9/1999	4/9/1999	4/9/1999	4/9/1999	4/9/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/14/1999	4/14/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		1.10		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		0.3 J		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		0.27 J		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		0.3 J		2.0		0.27 J		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		0.55 J		0.15 J		ND		ND		ND	
Di-n-butylphthalate	5700	0.3JB		0.6JB		0.79JB		2.3B		0.62JB		0.18JB		0.23JB		2.B	
Fluoranthene	2300	ND		0.21 J		0.4 J		3.4		0.64 J		0.15 J		ND		ND	
Pyrene	1700	ND		0.34 J		0.32 J		2.7		0.76 J		0.18 J		ND		ND	
Benzo[a]anthracene	0.9	ND		0.19 J		0.17 J		**1.4**		0.51 J		ND		ND		ND	
Chrysene	9	ND		0.45 J		0.3 J		2.4		0.84 J		0.18 J		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		0.18 J		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		0.19 J		0.18 J		**1.1 J**		0.68 J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		0.19 J		0.14 J		**1.2 J**		0.74 J		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		0.24 J		0.17 J		**1.4**		**0.73 J**		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.2 J		ND		0.78 J		0.34 J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		0.31 J		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		0.25 J		ND		0.83 J		0.38 J		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.038		0.013		0.03		0.039		0.028		0.028		0.047		0.087	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.168		ND		0.021		0.056		0.024		0.023		0.043		0.065	
4,4'-DDT	2	0.057		ND		0.073		0.028		ND		ND		0.035		ND	
gamma-Chlordane	NLE	0.019		ND		ND		ND		0.018		ND		ND		ND	
alpha-Chlordane	NLE	0.022		ND		0.013		ND		0.017		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	9570		3670		12400		9740		6670		6570		7540		13900	
Antimony	14	ND		2.31		ND		ND		0.753		ND		ND		0.782	
Arsenic	20	9.55		15.1		9.54		11.9		6.13		6.87		15.5		18.4	
Barium	700	23.8		13.2		40.5		60.4		45.2		37.9		34.4		80.9	
Beryllium	2	0.896		0.332		0.928		1.14		0.499		0.574		0.68		1.59	
Cadmium	39	ND		ND		ND		2.89		0.742		0.408		ND		ND	
Calcium	NLE	1810		493		1350		4930		10100		6570		1950		4200	
Chromium	NLE	101		32.5		77.8		95.1		55.6		53.1		89.6		189	
Cobalt	NLE	1.53		3.58		3.38		2.59		2.11		2.11		1.01		1.42	
Copper	600	16.1		55.4		14.1		27		26.7		99		11.7		9.12	
Iron	NLE	25700		45400		32200		26800		18000		17600		24100		45000	
Lead	400	32.3		24.2		21.2		54		87.2		57.7		18.5		38.6	
Magnesium	NLE	2760		443		2190		3780		2390		2580		2110		6090	
Manganese	NLE	87.8		184		98		685		311		158		31.2		34.1	
Mercury	14	0.103		0.058		0.083		0.623		0.31		0.376		0.083		0.117	
Nickel	250	6.18		6.72		10		11.9		8.11		6.97		4.9		7.61	
Potassium	NLE	6440		863		4600		7500		3540		4440		5070		13100	
Selenium	63	0.759		ND		ND		1.23		ND		ND		0.93		1.97	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	188		166		494		151		115		158		252		203	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	61.8		31.7		74.6		42.7		30.5		30		78.9		70.1	
Zinc	1500	63.7		43.6		80.5		422		145		126		46.1		74.4	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4418.04	4418.05	4418.06	4418.07	4418.08	4418.09	4418.10	4418.11	4418.12	4418.13	4423.02	4423.03	4423.04	4423.05	4423.06	4423.07
Field Sample Location		B82 (6-12")	B82 (24")	B83 (6-12")	B83 (24")	B84 (6-12")	B84 (24")	B85 (6-12")	B85 (24")	B86 (6-12")	B86 (24")	B87 (6-12")	B87 (24")	B88 (6-12")	B88 (24")	B89 (6-12")	B89 (24")
Sample Date		4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/16/1999	4/16/1999	4/16/1999	4/16/1999	4/16/1999	4/16/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		1.40		1.60		1.40
Toluene	1000		ND		ND		0.36		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	1.5		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.22 J		0.16 J		0.1 J		0.39 J		ND		ND		ND		ND	
Anthracene	10,000	0.78 J		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.26 JB		0.17JB		1.2JB		22 BD		0.84JB		0.22JB		1.1JB		0.2JB	
Fluoranthene	2300	5.4		0.27 J		0.23 J		0.25 J		ND		ND		0.18 J		0.15 J	
Pyrene	1700	12 D		0.3 J		0.25 J		0.38 J		ND		0.13 J		0.19 J		0.2 J	
Benzo[a]anthracene	0.9	**9.5**		0.16 J		0.14 J		0.14 J		ND		ND		ND		ND	
Chrysene	9	**14 D**		0.26 J		0.24 J		0.31 J		ND		0.12 J		0.23 J		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		0.18 J		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	0.9	**13 D**		0.15 J		0.15 J		ND		ND		ND		0.13 J		ND	
Benzo[k]fluoranthene	0.9	**11 D**		0.15 J		0.14 J		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	**10 D**		0.15 J		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	**5.7 D**		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	**3.5 D**		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	2.7		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.088		0.038		0.055		0.068		0.098		0.044		0.089		ND	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		0.018		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.142		0.018		0.017		0.098		0.14		0.149		0.13		0.014	
4,4'-DDT	2	0.114		0.027		0.085		ND		ND		ND		0.171		ND	
gamma-Chlordane	NLE	0.016		ND		0.028		ND		ND		ND		ND		0.014	
alpha-Chlordane	NLE	0.018		ND		0.02		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	5470		7290		5280		6500		6390		9620		8960		12700	
Antimony	14	0.669		1.1		1.46		0.629		0.775		1.00		1.02		0.863	
Arsenic	20	6.31		14		7.15		12.7		12.7		15.3		8.91		9.98	
Barium	700	27.2		47.5		48.8		88.7		74.1		47.3		43.8		49.4	
Beryllium	2	0.647		0.915		0.571		1.14		1.6		0.944		1.23		1.12	
Cadmium	39	0.112		0.22		0.771		0.174		2.94		ND		0.286		0.353	
Calcium	NLE	621		2240		4870		8710		5160		1430		1290		3940	
Chromium	NLE	56.3		102		52.8		92.4		75.5		66.9		105		104	
Cobalt	NLE	1.1		1.34		3.5		1.73		2.53		1.31		1.65		1.83	
Copper	600	6.57		17.6		38.6		7.22		7.53		12.3		9.7		20.2	
Iron	NLE	18200		25200		17600		25500		18700		20900		26000		30800	
Lead	400	11.3		42.8		89.9		33.4		21.4		38.9		19.6		36.1	
Magnesium	NLE	1650		2770		1870		2900		2200		1860		3200		3590	
Manganese	NLE	19.3		102		198		28.7		22.5		28		31.3		62.4	
Mercury	14	0.119		0.566		0.254		0.097		0.121		0.136		0.034		0.034	
Nickel	250	4.39		5.65		12.9		6.44		15.7		7.53		7.71		8.31	
Potassium	NLE	3340		5950		2760		6990		5020		3800		6130		7710	
Selenium	63	0.787		1.44		1.37		2.5		2.49		1.77		1.62		0.837	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	93.4		116		185		380		648		544		141		770	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	26.2		53.7		28.3		22.1		20.6		27.1		41		52.7	
Zinc	1500	59.6		82.1		215		81.8		106		56.7		91		99.9	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4423.08	4423.09	4423.10	4423.11	4434.02	4434.03	4434.04	4434.05	4434.06	4434.07	4434.08	4434.09	4434.10	4434.11	4443.02	4443.03
Field Sample Location		B90 (6-12")	B90 (24")	B91 (6-12")	B91 (24")	B92 (6-12")	B92 (24")	B93 (6-12")	B93 (24")	B94 (6-12")	B94 (24")	B95 (6-12")	B95 (24")	B96 (6-12")	B96 (24")	B97 (6-12")	B97 (24")
Sample Date		4/16/1999	4/16/1999	4/16/1999	4/14/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/20/1999	4/26/1999	4/26/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		1.50		1.50		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		0.16 J		ND	
Azobenzene	NLE	ND		ND		ND		ND		0.099 J		ND		ND		ND	
Phenanthrene	NLE	0.44 J		ND		0.29 J		ND		0.12 J		ND		2.8		ND	
Anthracene	10,000	ND		ND		ND		ND		0.12 J		ND		0.47 J		ND	
Di-n-butylphthalate	5700	1.0 JB		0.56JB		ND		0.51JB		0.21JB		0.44JB		0.62JB		0.19JB	
Fluoranthene	2300	0.77 J		0.15 J		0.39 J		ND		0.17 J		ND		3.6		0.3 J	
Pyrene	1700	0.96 J		0.18 J		0.43 J		ND		0.18 J		ND		3.3		0.31 J	
Benzo[a]anthracene	0.9	0.5 J		ND		0.19 J		ND		0.13 J		ND		**1.4**		0.44 J	
Chrysene	9	0.82 J		0.15 J		0.34 J		ND		0.23 J		ND		2.4		0.5 J	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		0.18JB		0.18JB		ND		0.21JB		2.0 B	
Benzo[b]fluoranthene	0.9	0.44 J		ND		0.21 J		ND		0.12 J		ND		**1.0 J**		0.33 J	
Benzo[k]fluoranthene	0.9	0.49 J		ND		0.21 J		ND		0.15 J		ND		**1.1 J**		0.38 J	
Benzo[a]pyrene	0.66	0.48 J		ND		0.21 J		ND		ND		ND		**1.0 J**		0.38 J	
Indeno[1,2,3-cd]pyrene	0.9	0.29 J		ND		ND		ND		ND		ND		0.47 J		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		0.54 J		0.15 J	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.055		0.018		0.055		0.022		0.095		0.066		0.066		0.082	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		ND		0.037		0.027		0.118		ND		0.041		0.033	
4,4'-DDT	2	0.066		0.037		0.031		ND		ND		0.044		0.194		0.225	
gamma-Chlordane	NLE	ND		ND		0.041		ND		ND		0.028		0.013		ND	
alpha-Chlordane	NLE	0.022		ND		0.046		ND		ND		0.029		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	11600		13100		11000		6590		8610		12000		10700		11300	
Antimony	14	1.02		1.78		1.16		0.525		0.728		1.62		1.15		3.19	
Arsenic	20	7.36		14.9		10.6		9.64		9.41		9.77		7.74		9.27	
Barium	700	53.3		34		75.4		44.8		39.2		104		44.2		41.3	
Beryllium	2	0.843		1.08		0.983		1.19		1.35		1.07		0.835		0.83	
Cadmium	39	1.17		ND		0.287		0.639		0.171		0.772		**156**		2.68	
Calcium	NLE	7830		1940		5850		769		1550		14900		3110		3770	
Chromium	NLE	79.1		114		99.4		92.8		119		86.3		81.4		80.9	
Cobalt	NLE	3.7		1.84		2.42		1.69		2.34		3.06		2.48		2.53	
Copper	600	25.4		15.4		39.6		7.38		9.85		53.7		33.4		30.6	
Iron	NLE	27000		31200		29600		21500		28700		29800		24400		27600	
Lead	400	76.6		122		74.9		17.6		23.4		121		59.6		69.4	
Magnesium	NLE	4180		3810		3830		2350		3580		4170		2970		3130	
Manganese	NLE	131		71.5		123		20.7		27.9		362		204		121	
Mercury	14	0.034		0.034		0.332		0.108		0.135		0.458		0.259		0.146	
Nickel	250	15		7.75		16.6		7.3		9.14		14.4		9.31		8.83	
Potassium	NLE	5300		7020		6700		5050		7410		6760		5560		5170	
Selenium	63	1.39		1.28		1.27		1.97		1.76		1.25		ND		1.19	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	328		113		279		101		142		217		165		143	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	77.8		58.4		52		39.4		45.4		49.8		43.5		47.9	
Zinc	1500	150		84.9		294		63.4		81.1		273		131		164	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4443.04	4443.05	4443.06	4443.07	4443.08*	4443.09	4443.10	4443.11	4446.02	4446.03	4446.04	4446.05	4446.06	4446.07	4446.08	4446.09
Field Sample Location		B98 (6-12")	B98 (24")	B99 (6-12")	B99 (24")	B100 (6-12")	B100 (24")	B101 (6-12")	B101 (24")	B102 (6-12")	B102 (24")	B103 (6-12")	B103 (24")	B104 (6-12")	B104 (24")	B105 (6-12")	B105 (24")
Sample Date		4/26/1999	4/26/1999	4/26/1999	4/26/1999	4/26/1999	4/26/1999	4/26/1999	4/26/1999	4/27/1999	4/27/1999	4/27/1999	4/27/1999	4/27/1999	4/27/1999	4/27/1999	4/27/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		2.20		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.33JB		0.14JB		0.17JB		ND		ND		0.31 J		0.3 J		0.24 J	
Fluoranthene	2300	0.18 J		0.13 J		0.12 J		0.16 J		ND		ND		ND		ND	
Pyrene	1700	0.17 J		0.17 J		0.13 J		0.16 J		ND		ND		0.13 J		ND	
Benzo[a]anthracene	0.9	0.15 J		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	0.22 J		0.17 J		0.17 J		0.17 J		ND		ND		0.14 J		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		0.12JB		ND		0.14 J		0.23 J		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.067		0.044		0.119		0.03		0.028		0.014		0.027		0.295	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.026		0.088		0.186		ND		0.482		ND		0.021		0.299	
4,4'-DDT	2	0.076		0.047		0.073		ND		ND		0.031		ND		0.036	
gamma-Chlordane	NLE	0.027		ND		ND		ND		0.025		ND		ND		ND	
alpha-Chlordane	NLE	0.023		ND		ND		ND		0.017		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	7130		12700		7660		10800		14100		14200		14800		15200	
Antimony	14	1.34		0.731		0.665		1.06		0.495		0.665		1.16		0.692	
Arsenic	20	7.03		11.3		7.18		7.9		9.09		13.6		13		10.5	
Barium	700	47.7		31.1		27.9		50.1		86.4		46.6		39		35	
Beryllium	2	0.651		1.67		0.959		0.757		1.21		1.65		1.43		1.15	
Cadmium	39	0.71		0.384		ND		0.177		0.687		ND		ND		ND	
Calcium	NLE	5210		1060		576		8560		3540		1750		1790		1180	
Chromium	NLE	59.9		188		108		70.9		110		166		91.6		96.2	
Cobalt	NLE	2.15		0.852		0.742		2.45		3.15		1.85		2.49		2.56	
Copper	600	27.2		8.96		6.09		26		20.8		15.8		16.3		9.13	
Iron	NLE	19200		42600		27700		24400		24100		47000		40700		35100	
Lead	400	147		14.9		9.58		57.6		77.2		21.9		69.9		49.7	
Magnesium	NLE	2520		5910		3170		4290		3090		5810		2640		3480	
Manganese	NLE	195		26.6		14.7		267		95.9		68.2		84.6		37.4	
Mercury	14	0.177		0.092		0.041		0.228		0.119		0.052		8.091		5.465	
Nickel	250	7.52		5.04		3.41		9.28		11.2		9.29		9.15		8.63	
Potassium	NLE	4280		13700		7170		5130		6480		12600		4900		8100	
Selenium	63	ND		1.1		1.16		1.05		1.35		0.936		0.763		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		5.08	
Sodium	NLE	197		118		104		227		432		124		142		142	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	32.7		64.8		41		43.4		54.6		77.6		74.8		61.6	
Zinc	1500	208		70.9		51.4		130		101		95.9		99.6		117	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4446.10	4446.11	4446.12	4446.13	4462.02	4462.03	4462.04	4462.05	4462.06	4462.07	4462.08	4462.09	4462.10	4462.11	4466.02	4466.03
Field Sample Location		B106 (6-12")	B106 (24")	B107 (6-12")	B107 (24")	B108 (6-12")	B108 (24")	B109 (6-12")	B109 (24")	B110 (6-12")	B110 (24")	B111 (6-12")	B111 (24")	B112 (6-12")	B112 (24")	B113 (6-12")	B113 (24")
Sample Date		4/27/1999	4/27/1999	4/27/1999	4/27/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/4/1999	5/6/1999	5/6/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		4.10
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.18 J		0.37 J		0.4 J		0.61 J		0.3 J		0.65 J		ND		0.35JB	
Fluoranthene	2300	ND		ND		ND		0.14 J		ND		ND		ND		0.18 J	
Pyrene	1700	ND		ND		ND		0.16 J		ND		ND		0.13 J		0.19 J	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	0.17 J		ND		ND		0.15 J		ND		0.12 J		0.2 J		0.22 J	
bis(2-Ethylhexyl)phthalate	49	ND		ND		0.22 J		0.13 J		0.18 J		0.17 J		0.13 J		0.12 J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	0.12 J		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.257		ND		ND		0.011		ND		0.02		0.173		0.079	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.941		ND		ND		ND		ND		0.029		0.156		0.02	
4,4'-DDT	2	0.293		ND		ND		ND		ND		ND		0.121		0.121	
gamma-Chlordane	NLE	0.046		ND		ND		ND		ND		ND		ND		0.014	
alpha-Chlordane	NLE	0.048		ND		ND		ND		ND		ND		ND		0.014	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	13100		8810		13500		17600		5290		11700		8390		8310	
Antimony	14	0.781		0.903		0.939		0.952		0.954		0.765		2.1		1.11	
Arsenic	20	11.9		7.07		11.9		12.4		4.43		7.79		**23.7**		8.96	
Barium	700	18.3		34.7		41.9		31.8		16.4		21		200		28.4	
Beryllium	2	1.28		0.708		1.34		1.42		0.377		0.892		0.99		0.702	
Cadmium	39	ND		ND		ND		ND		8.11		ND		0.569		ND	
Calcium	NLE	695		4140		356		1200		5850		1420		2730		1350	
Chromium	NLE	147		59.7		124		148		41.8		79.8		80.6		64.9	
Cobalt	NLE	0.955		2.97		1.36		1.72		1.62		1.89		2.56		1.72	
Copper	600	9.69		35.9		6.28		8.48		14.5		7.48		79.9		19.5	
Iron	NLE	36700		23400		38700		40400		13500		26800		24900		18800	
Lead	400	22.7		52.5		10.5		17		40.5		16.4		107		48.1	
Magnesium	NLE	3950		3060		3650		4590		1400		2290		2180		1680	
Manganese	NLE	21.8		83.9		32.5		53.6		60		48.7		551		49.9	
Mercury	14	0.315		0.071		0.046		0.04		0.045		0.031		0.267		0.153	
Nickel	250	5.9		12.2		6.48		7.49		5.26		9.73		8.21		6.4	
Potassium	NLE	8980		4270		10200		11800		2420		5630		5900		4080	
Selenium	63	1.05		0.704		1.03		1.04		ND		ND		1.66		1.07	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	125		146		112		104		105		97.1		147		89.1	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	57.8		45.7		53.2		67.5		24.7		77.5		31.4		33.4	
Zinc	1500	58.6		105		56		89.8		47.7		47.6		606		95.5	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4466.04	4466.05	4466.06	4466.07	4466.08	4466.09	4466.10	4466.11	4466.12	4466.13	4468.02	4468.03	4468.04	4468.05	4468.06	4468.07
Field Sample Location		B114 (6-12")	B114 (24")	B115 (6-12")	B115 (24")	B116 (6-12")	B116 (24")	B117 (6-12")	B117 (24")	B118 (6-12")	B118 (24")	B119 (6-12")	B119 (24")	B120 (6-12")	B120 (24")	B121 (6-12")	B121 (24")
Sample Date		5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/6/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999
Volatiles (mg/kg)																	
Acetone	1000		4.40		4.20		4.30		ND		4.70		3.70		4.30		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.14 J		0.26 J		ND		ND		ND		ND		0.2 J	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.34JB		0.54JB		0.54JB		0.13JB		0.7JB		0.87JB		0.22JB		0.67JB	
Fluoranthene	2300	0.12 J		0.17 J		0.27 J		ND		ND		0.13 J		0.15 J		0.25 J	
Pyrene	1700	0.15 J		0.15 J		0.36 J		ND		ND		0.14 J		0.21 J		0.24 J	
Benzo[a]anthracene	0.9	ND		ND		0.18 J		ND		ND		ND		ND		0.14 J	
Chrysene	9	0.14 J		ND		0.3 J		ND		ND		ND		0.18 J		0.24 J	
bis(2-Ethylhexyl)phthalate	49	ND		0.19 J		0.14 J		0.18 J		0.12 J		0.32 J		ND		0.12 J	
Benzo[b]fluoranthene	0.9	ND		ND		0.14 J		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		0.14 J		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		0.17 J		ND		ND		ND		ND		0.11 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		0.15 J		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.044		0.013		ND		ND		ND		0.34		0.019		0.023	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.027		ND		ND		ND		ND		0.172		0.022		0.014	
4,4'-DDT	2	0.028		0.034		ND		ND		ND		1.836		0.124		0.057	
gamma-Chlordane	NLE	0.024		ND		ND		ND		ND		ND		0.012		ND	
alpha-Chlordane	NLE	0.017		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		**1.764**		ND	
Metals (mg/kg)																	
Aluminum	NLE	9570		11500		5010		16200		10100		18400		13200		17700	
Antimony	14	1.24		0.72		1.28		0.789		0.538		1.25		0.913		0.942	
Arsenic	20	8.85		10.7		4.37		17.1		5.19		17.7		15.5		12.4	
Barium	700	26.3		32.6		11.5		42.5		21.7		19.7		29.8		37.4	
Beryllium	2	0.754		0.762		0.327		1.38		0.383		1.52		1.19		1.13	
Cadmium	39	4.3		ND		ND		ND		0.802		ND		ND		ND	
Calcium	NLE	1790		3650		852		2850		275		868		1640		1170	
Chromium	NLE	64.1		79.7		58.3		143		44		135		128		111	
Cobalt	NLE	2.74		2.32		1.15		2.46		1.39		2.02		1.38		2.39	
Copper	600	26.6		15.1		15.2		29		7.12		12.9		21.8		20	
Iron	NLE	26000		25600		14000		40600		15400		45400		33200		33300	
Lead	400	37.9		30.4		16.1		42.1		8.74		30.4		30.1		32	
Magnesium	NLE	2140		2190		799		4660		899		4540		3770		3310	
Manganese	NLE	69.7		212		41.4		153		54.7		52.9		57		51.8	
Mercury	14	0.073		0.071		ND		0.08		0.035		0.043		0.063		0.269	
Nickel	250	7.32		7.96		3.01		69.4		4.46		8.97		6.78		7.78	
Potassium	NLE	4490		4130		1880		11300		2320		11600		9600		8270	
Selenium	63	0.781		0.808		ND		0.897		ND		1.34		0.817		0.913	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	178		201		218		215		58.2		132		247		203	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	44.9		43.3		43.1		59.8		35.6		63.1		51.1		65.2	
Zinc	1500	83.9		87.2		52.4		102		35.2		70.5		71.7		62.3	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4468.08	4468.09	4468.10	4468.11	4468.12	4468.13	4468.14	4468.15	4468.16	4468.17	4468.18	4468.19	4472.02	4472.03	4472.04	4472.05
Field Sample Location		B122 (6-12")	B122 (24")	B123 (6-12")	B123 (24")	B124 (6-12")	B124 (24")	B125 (6-12")	B125 (24")	B126 (6-12")	B126 (24")	B127 (6-12")	B127 (24")	B128 (6-12")	B128 (24")	B129 (6-12")	B129 (24")
Sample Date		5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/7/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		0.16 J		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		1.3		ND		ND		ND		0.21 J		0.18 J	
Anthracene	10,000	ND		ND		0.23 J		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.17JB		0.25JB		ND		ND		0.29JB		0.56JB		0.67JB		0.61JB	
Fluoranthene	2300	ND		ND		1.6		0.2 J		ND		ND		0.35 J		0.3 J	
Pyrene	1700	ND		ND		1.8		0.27 J		ND		ND		0.38 J		0.32 J	
Benzo[a]anthracene	0.9	ND		ND		0.72 J		0.15 J		ND		ND		0.18 J		0.19 J	
Chrysene	9	ND		ND		1.1 J		0.25 J		ND		ND		0.41 J		0.37 J	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		0.39 J		ND		ND		0.26 J		0.27 J	
Benzo[b]fluoranthene	0.9	ND		ND		0.44 J		0.14 J		ND		ND		0.17 J		0.18 J	
Benzo[k]fluoranthene	0.9	ND		ND		0.44 J		0.13 J		ND		ND		0.18 J		0.15 J	
Benzo[a]pyrene	0.66	ND		ND		0.54 J		0.16 J		ND		ND		0.19 J		0.19 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		0.34 J		ND		ND		ND		0.13 J		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		0.44 J		ND		ND		ND		0.14 J		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	ND		0.013		0.012		0.026		ND		0.013		0.021		0.035	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		ND		ND		0.022		ND		0.017		0.025		0.059	
4,4'-DDT	2	ND		ND		ND		ND		ND		0.038		ND		0.04	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		0.015	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		0.013	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	12000		17200		18600		12800		5780		12600		11000		10500	
Antimony	14	0.57		1.12		0.932		1.1		1.02		1.1		1.43		0.861	
Arsenic	20	10.1		13.2		15.6		10.4		4.47		**21.2**		10.3		8.7	
Barium	700	20.4		38.7		49.9		37.6		9.7		19.2		33.8		35.3	
Beryllium	2	1.18		1.32		1.68		0.949		0.29		1.01		0.907		0.816	
Cadmium	39	ND		ND		0.885		ND		ND		ND		1.34		0.595	
Calcium	NLE	705		3480		2810		2710		111		1260		2530		1930	
Chromium	NLE	99		157		136		97.5		30.9		103		170		81.4	
Cobalt	NLE	1.86		2.88		3.64		2.84		1.08		1.3		2.46		2.29	
Copper	600	9.03		25.5		21.4		22.9		4.32		12.1		20.5		19.9	
Iron	NLE	34500		40400		48900		30700		13100		29000		28500		25500	
Lead	400	9.95		36.5		43.3		47.6		5.27		18.7		41.9		72.7	
Magnesium	NLE	3180		4520		4670		3320		575		2430		3590		2800	
Manganese	NLE	37.5		298		147		175		35.3		56.1		164		66	
Mercury	14	0.04		0.054		0.099		0.101		0.066		0.153		0.619		1.571	
Nickel	250	6.58		9.28		11.2		17		3.53		6.12		9.27		7.78	
Potassium	NLE	9010		10100		12700		7370		1450		5980		6860		5660	
Selenium	63	ND		1.08		1.02		0.902		0.711		2.28		1.27		1.36	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	131		222		199		222		94.4		111		141		158	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	50.7		65.6		63.1		49.9		26.5		40		48.3		50	
Zinc	1500	54.1		95.6		125		125		29.6		72		83.7		87.4	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4472.06	4472.07	4472.08	4472.09	4472.10	4472.11	4472.12	4472.13	4472.14	4472.15	4472.16	4472.17	4472.18	4472.19	4472.20	4472.21
Field Sample Location		B130 (6-12")	B130 (24")	B131 (6-12")	B131 (24")	B132 (6-12")	B132 (24")	B133 (6-12")	B133 (24")	B134 (6-12")	B134 (24")	B135 (6-12")	B135 (24")	B136 (6-12")	B136 (24")	B137 (6-12")	B137 (24")
Sample Date		5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		0.4 J		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		0.16 J		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		0.58 J		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		0.31 J		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		0.11 J		ND		0.17 J		ND		ND	
Fluorene	2300	ND		0.5 J		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.16 J		4.0		0.71 J		ND		ND		ND		ND		0.21 J	
Anthracene	10,000	ND		0.75 J		0.21 J		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.19JB		0.81JB		0.48JB		0.16JB		0.55JB		0.45JB		0.88JB		0.93JB	
Fluoranthene	2300	0.26 J		4.2		1.9		ND		ND		0.23 J		ND		0.34 J	
Pyrene	1700	0.29 J		3.4		1.5		ND		ND		0.2 J		ND		0.29 J	
Benzo[a]anthracene	0.9	0.17 J		**1.6**		0.84 J		ND		ND		ND		ND		0.18 J	
Chrysene	9	0.33 J		2.8		1.4		ND		ND		0.29 J		ND		0.34 J	
bis(2-Ethylhexyl)phthalate	49	0.15 J		0.12 J		0.16 J		ND		0.14 J		0.22 J		0.17 J		0.15 J	
Benzo[b]fluoranthene	0.9	0.18 J		**1.3**		0.68 J		ND		ND		0.12 J		ND		0.15 J	
Benzo[k]fluoranthene	0.9	0.18 J		**1.3**		0.63 J		ND		ND		ND		ND		0.15 J	
Benzo[a]pyrene	0.66	0.21 J		**1.6**		**0.77 J**		ND		ND		ND		ND		0.17 J	
Indeno[1,2,3-cd]pyrene	0.9	0.15 J		0.9 J		0.44 J		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		0.29 J		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	0.16 J		0.93 J		0.45 J		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.014		0.01		0.018		ND		ND		0.029		0.021		0.018	
Dieldrin	0.042	ND		ND		ND		ND		ND		0.029		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.019		ND		ND		ND		ND		0.044		0.08		0.033	
4,4'-DDT	2	ND		ND		ND		ND		ND		0.032		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	12100		17300		12500		5940		8930		12500		7700		9250	
Antimony	14	1.1		1.16		0.712		ND		ND		1.19		0.903		0.971	
Arsenic	20	19.4		15.1		11		4.56		4.2		16.2		14.9		6.79	
Barium	700	42.5		54.3		32.4		24		16.8		29.6		83.4		27.2	
Beryllium	2	1.15		1.82		1.28		0.331		0.359		1.06		1.12		0.697	
Cadmium	39	0.699		0.697		0.563		0.246		0.217		1.21		0.413		0.681	
Calcium	NLE	5190		800		2610		353		180		1910		2110		1710	
Chromium	NLE	175		235		104		37.3		37.6		115		113		63.8	
Cobalt	NLE	2.13		1.04		2.63		1.52		1.46		1.72		1.24		2.08	
Copper	600	24.3		11.8		11		10.8		4.3		28.8		11		11.9	
Iron	NLE	44500		56500		39300		14400		15100		33100		32000		23400	
Lead	400	29.8		11.2		28.4		10.5		5.79		36.9		13.4		40.4	
Magnesium	NLE	4380		7390		4170		899		993		3750		3950		2400	
Manganese	NLE	503		31		87.8		65.2		38.6		66.2		50.5		62.6	
Mercury	14	0.585		0.292		0.244		0.161		0.241		0.627		0.202		0.19	
Nickel	250	7.67		7.75		9.48		3.71		4.0		8.01		5.68		7.74	
Potassium	NLE	8260		16900		9620		1930		2330		7480		9840		5040	
Selenium	63	2.7		3.06		1.02		0.808		ND		1.74		3.15		1.15	
Silver	110	ND		ND		ND		ND		ND		1.58		ND		ND	
Sodium	NLE	928		869		367		419		78.6		888		159		162	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	52.6		71.9		53.6		32.9		32.7		59.5		31		52.1	
Zinc	1500	90.3		81		66.4		51.7		18.4		78.3		109		63.7	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4472.22	4472.23	4472.24	4472.25	4472.26	4472.27	4472.28	4472.29	4472.30	4472.31	4475.02	4475.03	4475.04	4475.05
Field Sample Location		B138 (6-12")	B138 (24")	B139 (6-12")	B139 (24")	B140 (6-12")	B140 (24")	B141 (6-12")	B141 (24")	B142 (6-12")	B142 (24")	B142A (6-12")	B142A (24")	B143 (6-12")	B143 (24")
Sample Date		5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/10/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999
Volatiles (mg/kg)															
Acetone	1000		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		3.20		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)															
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		0.18 J		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		0.11 J		0.11 J		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.23JB		0.41JB		0.23JB		0.81JB		0.15JB		0.24JB		0.41JB	
Fluoranthene	2300	ND		0.34 J		0.16 J		0.24 J		ND		ND		ND	
Pyrene	1700	ND		0.33 J		0.15 J		0.25 J		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		0.24 J		ND		0.13 J		ND		ND		ND	
Chrysene	9	ND		0.46 J		0.18 J		0.28 J		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		0.13 J		0.21 J		0.33 J		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		0.26 J		ND		0.13 J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		0.23 J		ND		0.12 J		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		0.27 J		ND		0.15 J		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.18 J		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		0.17 J		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)															
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.056		0.019		0.01		0.061		ND		**3.705**		0.018	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.21		0.033		ND		0.101		ND		1.75		0.022	
4,4'-DDT	2	ND		0.028		ND		0.083		ND		**6.811**		ND	
gamma-Chlordane	NLE	0.019		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)															
Aluminum	NLE	6700		12000		4170		7960		5100		6510		10700	
Antimony	14	3.4		0.868		ND		0.681		ND		0.939		1.3	
Arsenic	20	6.9		13.7		5.02		7.29		3.81		7.77		11.5	
Barium	700	38.8		40.1		17.5		44.6		8.96		13.2		46.5	
Beryllium	2	0.564		1.12		0.399		0.66		0.281		0.751		1.18	
Cadmium	39	0.328		0.573		0.382		0.406		0.252		0.369		0.616	
Calcium	NLE	1710		1820		6300		1410		117		384		1380	
Chromium	NLE	41.9		99.7		41.7		62.3		32.1		54.7		107	
Cobalt	NLE	4.96		2.61		1.71		2.17		1.32		1.31		1.43	
Copper	600	51.8		11.2		14.7		11.8		3.93		9.12		43.2	
Iron	NLE	20300		35900		14600		18800		13600		18200		34700	
Lead	400	37.4		18		30		29.2		4.95		38.6		39.1	
Magnesium	NLE	2160		4090		3700		2020		696		1060		3520	
Manganese	NLE	59.4		68.7		120		90.7		33.6		11.9		27.2	
Mercury	14	0.522		0.282		0.207		0.213		0.161		0.605		5.836	
Nickel	250	8.55		8.1		5.56		6.06		3.28		6.5		6.33	
Potassium	NLE	3070		9380		2790		4070		1480		2160		7830	
Selenium	63	ND		1.57		0.708		1.01		ND		1.44		1.75	
Silver	110	ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	197		150		334		245		110		96		133	
Thallium	2	ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	31.2		51.6		22.6		36.3		28.6		51.5		48.9	
Zinc	1500	122		94.6		56.5		54.9		15.6		52.4		55.2	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4475.06		4475.07		4475.08		4475.09		4475.10		4475.11		4475.12		4475.13		4475.14		4475.15		4475.16		4475.17		4475.18		4475.19		4475.20		4475.21	
Field Sample Location		B144 (6-12")		B144 (24")		B145 (6-12")		B145 (24")		B146 (6-12")		B146 (24")		B147 (6-12")		B147 (24")		B148 (6-12")		B148 (24")		B149 (6-12")		B149 (24")		B150 (6-12")		B150 (24")		B151 (6-12")		B151 (24")	
Sample Date		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999		5/11/1999	
Volatiles (mg/kg)																																	
Acetone	1000			ND				ND				ND				ND				ND				ND				ND				ND	
Methylene Chloride	49			ND				ND				ND				ND				ND				ND				ND				ND	
Toluene	1000			ND				ND				ND				ND				ND				ND				ND				ND	
Chlorobenzene	37			ND				ND				ND				ND				ND				ND				ND				ND	
Semi-Volatiles (mg/kg)																																	
Naphthalene	230	ND				ND				ND				ND				ND				ND				ND				ND			
2-Methylnaphthalene	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
Acenaphthylene	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
Acenaphthene	3400	ND				ND				ND				ND				ND				ND				ND				ND			
Dibenzofuran	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
Diethylphthalate	10,000	ND				ND				ND				ND				ND				ND				ND				ND			
Fluorene	2300	ND				ND				ND				ND				ND				ND				ND				ND			
Azobenzene	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
Phenanthrene	NLE	0.15 J				ND				ND				ND				ND				ND				ND				0.65 J			
Anthracene	10,000	3.4				ND				ND				ND				ND				ND				ND				0.17 J			
Di-n-butylphthalate	5700	0.25JB				0.96JB				0.22JB				0.67JB				0.58JB				0.52JB				0.82JB				0.83JB			
Fluoranthene	2300	0.3 J				0.26 J				0.18 J				0.12 J				ND				ND				0.2 J				0.84 J			
Pyrene	1700	0.25 J				0.26 J				0.17 J				0.13 J				ND				ND				0.18 J				0.61 J			
Benzo[a]anthracene	0.9	0.19 J				0.2 J				0.11 J				ND				ND				ND				0.13 J				0.36 J			
Chrysene	9	1.1 J				0.53 J				0.21 J				0.17 J				ND				ND				0.26 J				0.62 J			
bis(2-Ethylhexyl)phthalate	49	ND				0.16 J				ND				ND				ND				ND				ND				0.18 J			
Benzo[b]fluoranthene	0.9	0.28 J				0.28 J				0.11 J				ND				ND				ND				0.14 J				0.32 J			
Benzo[k]fluoranthene	0.9	0.27 J				0.2 J				ND				ND				ND				ND				0.11 J				0.31 J			
Benzo[a]pyrene	0.66	0.21 J				0.21 J				0.11 J				ND				ND				ND				0.13 J				0.33 J			
Indeno[1,2,3-cd]pyrene	0.9	ND				ND				ND				ND				ND				ND				ND				0.18 J			
Dibenz[a,h]anthracene	0.66	ND				ND				ND				ND				ND				ND				ND				ND			
Benzo[g,h,I]perylene	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
Pesticides/PCBs (mg/kg)																																	
gamma-BHC	0.52	ND				ND				ND				ND				ND				ND				ND				ND			
Heptachlor Epoxide	NLE	ND				ND				ND				ND				ND				ND				ND				ND			
4,4'-DDE	2	0.044				0.06				0.052				0.018				ND				ND				0.074				0.039			
Dieldrin	0.042	ND				ND				ND				ND				ND				ND				ND				ND			
Endrin	17	ND				ND				ND				ND				ND				ND				ND				ND			
4,4'-DDD	3	0.058				0.055				0.041				0.021				ND				ND				0.135				0.045			
4,4'-DDT	2	0.881				ND				ND				0.264				ND				ND				0.141				0.033			
gamma-Chlordane	NLE	ND				ND				0.019				ND				ND				ND				ND				0.016			
alpha-Chlordane	NLE	ND				ND				0.028				ND				ND				ND				ND				0.013			
Arochlor 1016	0.49	ND				ND				ND				ND				ND				ND				ND				ND			
Arochlor 1242	0.49	ND				ND				ND				ND				ND				ND				ND				ND			
Arochlor 1248	0.49	ND				ND				ND				ND				ND				ND				ND				ND			
Arochlor 1254	0.49	ND				ND				ND				ND				ND				ND				ND				ND			
Arochlor 1260	0.49	ND				ND				ND				ND				ND				ND				ND				ND			
Metals (mg/kg)																																	
Aluminum	NLE	6430				5810				12100				9420				5030				7100				12400				9880			
Antimony	14	0.881				1.51				0.818				0.752				0.681				3.21				1.13				0.99			
Arsenic	20	15.1				6.54				8.66				6.38				4.28				**27.4**				9.48				7.41			
Barium	700	68.4				33.6				39.5				30.4				19.2				453				51.7				78.4			
Beryllium	2	1.02				0.593				1.22				0.90				0.291				0.769				1.23				0.641			
Cadmium	39	0.723				1.03				0.675				0.492				0.735				2.53				0.724				1.15			
Calcium	NLE	2580				3760				1590				874				317				4200				769				1940			
Chromium	NLE	81.8				49.8				113				84.8				32.3				67.6				135				65.5			
Cobalt	NLE	1.55				2.17				1.84				1.42				1.1				3.28				1.58				1.94			
Copper	600	9.73				22.6				23.1				5.32				6.29				266				13.1				14.8			
Iron	NLE	25700				18000				35600				25600				13400				20300				37500				19500			
Lead	400	21.2				48.8				22.6				20.3				7.38				189				26.5				61			
Magnesium	NLE	2760				1870				4190				3030				766				1900				3660				2450			
Manganese	NLE	69.3				85				56.2				31.9				50.1				4680				16.2				82.6			
Mercury	14	0.731				0.461				0.366				0.345				0.249				1.686				0.538				1.396			
Nickel	250	6.8				8.21				6.74				5.12				3.03				7.94				7.28				6.14			
Potassium	NLE	6910				3720				9750				7180				1660				2240				8250				3750			
Selenium	63	1.98				1.38				1.04				1.06				1.05				1.82				1.5				0.928			
Silver	110	ND				ND				ND				ND				ND				0.63				ND				ND			
Sodium	NLE	164				446				180				156				393				122				116				218			
Thallium	2	ND				ND				ND				ND				ND				ND				ND				ND			
Vanadium	370	25.3				32				54.7				43.5				28.9				28.1				84.4				38			
Zinc	1500	67.6				117				107				38.1				25				**4510**				57.2				68.5			

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4475.22	4475.23	4475.24	4475.25	4475.26	4475.27	4475.28	4475.29	4475.30	4475.31	4475.32	4475.33	4485.02	4485.03	4485.04	4485.05
Field Sample Location		B152 (6-12")	B152 (24")	B153 (6-12")	B153 (24")	B154 (6-12")	B154 (24")	B155 (6-12")	B155 (24")	B156 (6-12")	B156 (24")	B157 (6-12")	B157 (24")	B158 (6-12")	B158 (24")	B159 (6-12")	B159 (24")
Sample Date		5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/11/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	0.26 J		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	0.14 J		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	0.31 J		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	4.1		ND		0.17 J		ND		ND		ND		1.2 J		0.28 J	
Anthracene	10,000	0.99		ND		ND		ND		ND		ND		0.31 J		ND	
Di-n-butylphthalate	5700	0.65JB		0.9JB		0.76JB		0.64JB		ND		1.0 B		0.21 JB		0.15JB	
Fluoranthene	2300	6.2		0.18 J		0.27 J		0.12 J		ND		0.15 J		2.6		0.67 J	
Pyrene	1700	4.4		0.16 J		0.29 J		0.13 J		ND		0.13 J		1.8 J		0.51 J	
Benzo[a]anthracene	0.9	**2.4**		ND		0.13 J		ND		ND		ND		**0.98 J**		0.33 J	
Chrysene	9	3.7		ND		0.28 J		ND		ND		0.17 J		1.4		0.55 J	
bis(2-Ethylhexyl)phthalate	49	ND		ND		0.35 J		ND		ND		ND		0.2 J		0.13 J	
Benzo[b]fluoranthene	0.9	**1.9**		ND		0.17 J		ND		ND		ND		0.85 J		0.31 J	
Benzo[k]fluoranthene	0.9	**1.3**		ND		0.12 J		ND		ND		ND		0.63 J		0.24 J	
Benzo[a]pyrene	0.66	**1.9**		ND		0.14 J		ND		ND		0.099 J		**0.84 J**		0.31 J	
Indeno[1,2,3-cd]pyrene	0.9	**1.1**		ND		ND		ND		ND		ND		0.5 J		ND	
Dibenz[a,h]anthracene	0.66	0.28 J		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,i]perylene	NLE	1.0		ND		ND		ND		ND		ND		0.46 J		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.049		0.112		0.047		ND		0.336		0.257		0.086		0.051	
Dieldrin	0.042	ND		ND		ND		ND		**0.068**		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.087		0.153		0.13		0.076		1.163		0.675		0.027		0.029	
4,4'-DDT	2	0.029		0.044		0.033		ND		1.163		0.741		0.085		ND	
gamma-Chlordane	NLE	0.025		0.027		0.017		ND		ND		ND		0.015		0.013	
alpha-Chlordane	NLE	0.018		0.017		0.016		ND		ND		ND		0.017		0.015	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		**1.672**		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	9750		14200		6460		10200		15000		12100		8310		6430	
Antimony	14	0.875		2.03		0.851		2.57		0.863		1.54		ND		ND	
Arsenic	20	6.16		14.3		6.04		**67.1**		15.1		9.62		9.26		6.63	
Barium	700	35.7		81.2		26.5		501		20.8		33.6		56.5		38.8	
Beryllium	2	0.671		1.48		0.587		1.34		**2.00**		1.18		0.758		0.663	
Cadmium	39	0.544		1.00		0.882		1.29		1.52		0.472		0.831		0.477	
Calcium	NLE	1920		3310		1980		3390		501		1050		4000		3630	
Chromium	NLE	71.5		153		53.1		81.9		153		90.8		69.2		46.2	
Cobalt	NLE	2.85		3.1		1.83		4.46		2.88		2.86		2.87		3.61	
Copper	600	31.8		32.3		14.8		87.8		5.62		41.7		26.6		40.4	
Iron	NLE	21700		42500		18800		32800		57100		31600		21700		16400	
Lead	400	50.7		190		30.8		88.2		11.2		39		81.8		93.5	
Magnesium	NLE	2600		5730		2370		3760		6300		3590		2350		1660	
Manganese	NLE	186		177		62.4		1080		44.2		37		133		81.6	
Mercury	14	0.398		0.371		0.80		0.756		0.46		1.214		0.059		0.147	
Nickel	250	7.49		9.65		6.3		11.4		10.4		9.45		11.4		14.8	
Potassium	NLE	3700		12400		4200		5070		16900		6990		4760		2670	
Selenium	63	1.32		1.67		0.698		1.9		2.06		1.82		1.19		1.18	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	183		381		692		447		115		130		206		139	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	41.5		52.4		30.5		42.7		39.4		52.7		30.8		22.9	
Zinc	1500	88		217		68.7		532		72.9		63.3		161		202	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4485.06	4485.07	4485.08	4485.09	4485.10	4485.11	4485.12	4485.13	4485.14	4485.15	4485.16	4485.17	4485.18	4485.19	4485.20	4485.21
Field Sample Location		B160 (6-12")	B160 (24")	B161 (6-12")	B161 (24")	B162 (6-12")	B162 (24")	B163 (6-12")	B163 (24")	B164 (6-12")	B164 (24")	B165 (6-12")	B165 (24")	B166 (6-12")	B166 (24")	B167 (6-12")	B167 (24")
Sample Date		5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.21 J		0.39 J		0.25 J		ND		ND		ND		0.13 J		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.45JB		0.56JB		0.59JB		0.81JB		0.6JB		0.58JB		0.68JB		0.35JB	
Fluoranthene	2300	0.39 J		0.62 J		0.4 J		ND		0.25 J		ND		0.34 J		0.17 J	
Pyrene	1700	0.34 J		0.58 J		0.42 J		ND		0.26 J		ND		0.3 J		0.17 J	
Benzo[a]anthracene	0.9	0.19 J		0.37 J		0.2 J		ND		0.19 J		ND		0.18 J		ND	
Chrysene	9	0.32 J		0.78 J		0.36 J		ND		0.39 J		ND		0.33 J		ND	
bis(2-Ethylhexyl)phthalate	49	0.12 J		0.12 J		0.15 J		0.15 J		0.12 J		ND		0.19 J		ND	
Benzo[b]fluoranthene	0.9	0.16 J		0.49 J		0.2 J		ND		0.19 J		ND		0.2 J		ND	
Benzo[k]fluoranthene	0.9	0.13 J		0.4 J		0.16 J		ND		0.16 J		ND		0.17 J		ND	
Benzo[a]pyrene	0.66	0.17 J		0.55 J		0.2 J		ND		0.19 J		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.29 J		ND		ND		0.13 J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		0.29 J		ND		ND		0.15 J		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.023		0.032		ND		ND		0.042		ND		0.079		0.019	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		0.028		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.028		0.047		0.043		0.015		0.048		0.105		0.037		0.031	
4,4'-DDT	2	ND		ND		ND		ND		0.037		0.056		0.036		ND	
gamma-Chlordane	NLE	0.015		0.015		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	0.011		0.013		ND		ND		ND		ND		0.017		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		**3.082**		ND		ND	
Arochlor 1254	0.49	ND		ND		**1.929**		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	4760		5590		9010		12000		14000		9650		11800		12000	
Antimony	14	ND		0.612		1.06		0.553		1.17		8.45		1.57		0.82	
Arsenic	20	4.64		4.64		6.92		10.6		11.2		9.32		13.9		9.03	
Barium	700	23.3		49.5		31.3		39.4		51.5		39.1		57		39.4	
Beryllium	2	0.343		0.368		0.696		0.918		1.22		1.01		1.12		0.957	
Cadmium	39	0.352		0.465		0.666		0.478		0.922		1.24		1.11		0.568	
Calcium	NLE	1120		1170		1650		1610		908		1440		3300		1520	
Chromium	NLE	26.9		27.6		68		63.4		122		87.5		120		64.5	
Cobalt	NLE	1.65		1.54		2.4		3.31		2.12		5.22		3.41		3.7	
Copper	600	16.6		17.2		70.2		6.94		49.6		90		26.3		16.7	
Iron	NLE	11800		11500		22700		28500		33500		27500		29200		27100	
Lead	400	37.5		58.8		40.6		20.8		39.1		63.3		170		28.2	
Magnesium	NLE	950		979		2260		2600		4090		2900		3420		2560	
Manganese	NLE	61		63.9		78.6		87.9		45.5		180		141		87	
Mercury	14	0.16		0.193		0.255		0.285		4.75		3.85		1.2		2.628	
Nickel	250	4.98		5.23		7.37		9.39		8.24		9.52		13.7		8.92	
Potassium	NLE	1270		1350		4300		5840		9380		6530		7030		5720	
Selenium	63	0.665		0.869		1.26		0.915		1.5		1.24		1.32		1.29	
Silver	110	ND		ND		ND		ND		ND		1.11		2.65		ND	
Sodium	NLE	94.5		125		571		191		183		126		187		128	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	19.6		20.7		50		45.4		63.8		48.2		48.7		44.7	
Zinc	1500	61.6		114		182		90.1		175		444		129		105	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4485.22	4485.23	4485.24	4485.25	4485.26	4485.27	4491.02	4491.03	4491.04	4491.05	4491.06	4491.07	4491.08	4491.09	4491.10	4491.11
Field Sample Location		B168 (6-12")	B168 (24")	B169 (6-12")	B169 (24")	B170 (6-12")	B170 (24")	B171 (6-12")	B171 (24")	B172 (6-12")	B172 (24")	B173 (6-12")	B173 (24")	B174 (6-12")	B174 (24")	B175 (6-12")	B175 (24")
Sample Date		5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/14/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		0.16 J		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.3JB		0.7JB		ND		0.71JB		1.2 B		0.27JB		0.38JB		0.69JB	
Fluoranthene	2300	ND		ND		ND		ND		0.24 J		ND		ND		ND	
Pyrene	1700	ND		ND		ND		ND		0.29 J		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		0.18 J		ND		ND		ND	
Chrysene	9	ND		ND		ND		ND		0.33 J		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		0.11 J		ND		ND		0.54 J		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		0.18 J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		0.13 J		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		0.18 J		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.018		ND		ND		0.047		0.04		0.015		0.018		0.013	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.037		0.017		ND		0.048		0.077		0.02		ND		0.017	
4,4'-DDT	2	0.285		ND		ND		0.038		0.025		ND		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	12400		10100		7490		12200		12100		6100		8620		10600	
Antimony	14	0.579		ND		ND		2.04		1.61		0.884		1.02		0.51	
Arsenic	20	6.78		6.00		5.39		**31.4**		11.8		6.39		4.73		8.21	
Barium	700	41.1		33.5		23.9		40		62.6		22.6		30.6		58.4	
Beryllium	2	0.654		0.605		0.441		1.62		1.36		0.541		0.596		0.694	
Cadmium	39	0.411		0.338		0.288		2.17		2.71		1.35		0.866		0.995	
Calcium	NLE	1390		1120		1190		743		2220		767		1090		1190	
Chromium	NLE	44.8		38.9		34.5		121		121		42.9		50.6		37.6	
Cobalt	NLE	2.52		2.93		1.68		3.94		3.44		1.54		1.87		2.79	
Copper	600	11.9		8.46		6.49		114		53		93.1		18.7		14.3	
Iron	NLE	19800		16800		13700		37900		33400		15700		16500		21000	
Lead	400	51.5		26		13.3		116		52.5		24.9		46.5		126	
Magnesium	NLE	1950		1560		1320		4090		4050		1410		1810		1550	
Manganese	NLE	114		68		39.1		57.1		98.2		66.1		49.2		163	
Mercury	14	0.512		0.399		0.224		0.883		0.713		0.063		ND		0.144	
Nickel	250	6.55		5.92		4.33		8.64		14.3		4.1		5.42		8.02	
Potassium	NLE	3740		2950		2890		9360		9360		2560		3230		2080	
Selenium	63	ND		0.984		ND		1.59		1.78		0.85		1.01		0.872	
Silver	110	ND		ND		ND		1.2		ND		ND		ND		ND	
Sodium	NLE	205		172		139		109		249		89.7		126		121	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	38.5		29.6		23.3		61.6		60.1		29.8		35.4		42.2	
Zinc	1500	56.4		43.6		25.3		110		228		54.3		64		83.5	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4491.12	4491.13	4491.14	4491.15	4491.16	4491.17	4491.18	4491.19	4491.20	4491.21	4491.22	4491.23	4491.24	4491.25	4491.26	4491.27
Field Sample Location		B176 (6-12")	B176 (24")	B177 (6-12")	B177 (24")	B178 (6-12")	B178 (24")	B179 (6-12")	B179 (24")	B180 (6-12")	B180 (24")	B181 (6-12")	B181 (24")	B182 (6-12")	B182 (24")	B183 (6-12")	B183 (24")
Sample Date		5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999	5/17/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		0.12JB		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.16 J		ND		ND		ND		ND		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.2JB		1.JB		1.2B		0.32JB		0.12JB		ND		0.23JB		0.15JB	
Fluoranthene	2300	0.27 J		ND		ND		ND		ND		ND		ND		0.13 J	
Pyrene	1700	0.24 J		ND		ND		0.11 J		ND		ND		ND		0.13 J	
Benzo[a]anthracene	0.9	0.14 J		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	0.26 J		ND		ND		ND		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		0.12 J		ND		ND		ND		ND		0.13 J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.014		0.017		0.056		0.055		0.152		0.024		0.034		0.027	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.017		0.02		0.023		0.036		0.067		ND		ND		0.015	
4,4'-DDT	2	ND		ND		0.055		0.035		0.42		ND		0.04		ND	
gamma-Chlordane	NLE	0.013		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		**5.983**		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	8970		10500		2330		2030		1290		1470		2070		1430	
Antimony	14	1.05		1.53		1.39		0.967		0.827		0.793		0.583		0.916	
Arsenic	20	8.91		7.03		5.95		5.21		7.52		3.35		9.57		4.12	
Barium	700	39.3		36.1		31.8		16.2		18.1		13.6		8.78		22.7	
Beryllium	2	0.717		0.793		0.243		0.525		0.218		0.147		0.171		0.192	
Cadmium	39	1.12		1.06		1.42		0.666		0.797		0.536		0.565		1.1	
Calcium	NLE	1790		2040		1050		611		1500		742		357		1800	
Chromium	NLE	59.9		69.4		16.1		17.3		9.21		9.27		13.7		6.03	
Cobalt	NLE	2.11		2.38		0.557		0.757		0.752		0.38		0.41		0.733	
Copper	600	21		24.1		16.8		33.2		26.8		13		11		18.9	
Iron	NLE	22800		22000		6590		7080		5970		3710		8760		5690	
Lead	400	68.8		61.7		12.7		22.9		21.1		12.6		9.58		62	
Magnesium	NLE	2270		2460		191		165		136		139		96.4		198	
Manganese	NLE	81.3		85.4		46.9		19.3		30.5		17.8		15.3		36.3	
Mercury	14	0.089		0.125		ND		1.9		0.805		1.11		0.361		0.545	
Nickel	250	10.4		7.65		6.38		2.14		2.79		1.35		1.2		2.91	
Potassium	NLE	4460		4760		224		210		278		134		140		283	
Selenium	63	1.28		0.908		ND		0.816		ND		ND		ND		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	151		142		82.2		78.9		101		73.6		58.8		83.8	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	40		47.6		13.3		17.9		9.45		10		14.2		10.6	
Zinc	1500	75.6		82.4		161		33.3		47.1		24.6		18		47.6	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4491.28	4491.29	4494.02	4494.03	4494.04	4494.05	4494.06	4494.07	4494.08	4494.09	4494.10	4494.11	4494.12	4494.13	4494.14	4494.15
Field Sample Location		B184 (6-12")	B184 (24")	B185 (6-12")	B185 (24")	B186 (6-12")	B186 (24")	B187 (6-12")	B187 (24")	B188 (6-12")	B188 (24")	B189 (6-12")	B189 (24")	B190 (6-12")	B190 (24")	B191 (6-12")	B191 (24")
Sample Date		5/17/1999	5/17/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		0.14 J		ND		ND		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.12JB		0.2JB		0.14JB		0.32JB		0.33JB		0.15JB		0.51JB		0.41JB	
Fluoranthene	2300	ND		ND		0.14 J		0.3 J		ND		ND		ND		ND	
Pyrene	1700	ND		ND		0.17 J		0.31 J		ND		ND		0.12 J		0.14 J	
Benzo[a]anthracene	0.9	ND		ND		ND		0.19 J		ND		ND		ND		ND	
Chrysene	9	ND		ND		ND		0.35 J		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		ND		ND		ND		0.12JB	
Benzo[b]fluoranthene	0.9	ND		ND		ND		0.24 J		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		0.17 J		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.082		ND		0.016		0.04		0.029		ND		0.071		0.052	
Dieldrin	0.042	ND		ND		ND		0.019		ND		ND		ND		0.02	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		ND		0.017		0.045		0.08		ND		ND		0.057	
4,4'-DDT	2	0.102		ND		ND		ND		ND		ND		ND		0.096	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		**5.806**		ND	
Metals (mg/kg)																	
Aluminum	NLE	1620		1620		914		11800		6550		9120		9390		11300	
Antimony	14	0.402		ND		0.605		5.58		0.62		0.835		0.882		1.02	
Arsenic	20	5.91		3.67		8.39		12.3		5.95		9.82		8.3		12	
Barium	700	17.5		11.4		42.7		122		34.7		56.9		142		95.2	
Beryllium	2	0.194		0.228		0.209		1.26		0.606		1.19		1.26		1.5	
Cadmium	39	0.626		0.669		0.459		1.83		1.35		1.2		1.94		3.72	
Calcium	NLE	969		434		1180		3680		2300		1090		797		1150	
Chromium	NLE	11.4		11.7		94.3		129		60		135		124		169	
Cobalt	NLE	0.578		0.481		6.51		4.69		2.47		1.44		1.71		1.46	
Copper	600	11.5		7.61		17.8		46.1		12.1		6.18		59.9		14.6	
Iron	NLE	5470		6370		7410		33800		17500		29900		28900		39200	
Lead	400	56.3		22.6		18.7		84.6		21.2		11.5		37.7		12.7	
Magnesium	NLE	212		84.2		2010		4400		1770		3770		3770		5210	
Manganese	NLE	39.6		9.83		64.8		122		39.5		18.1		48		28.9	
Mercury	14	0.965		1.32		1.69		2.09		0.275		0.254		0.365		0.378	
Nickel	250	1.57		1.96		**1760**		11.4		9.21		6.14		9.52		7.17	
Potassium	NLE	189		71.4		623		9540		3740		8560		8500		12300	
Selenium	63	ND		ND		ND		1.95		1.52		2.18		2.01		2.61	
Silver	110	ND		11.1		ND		ND		ND		ND		ND		ND	
Sodium	NLE	356		221		144		369		146		108		124		151	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	10		7.99		9.93		60.4		33.3		54.7		53.3		72.4	
Zinc	1500	32.6		23.5		110		305		59.8		55.6		178		114	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4494.16	4494.17	4494.18	4494.19	4494.20	4494.21	4527.02	4527.03	4527.04	4527.05	4527.06	4527.07	4527.08	4527.09	4527.10	4527.11
Field Sample Location		B192 (6-12")	B192 (24")	B193 (6-12")	B193 (24")	B194 (6-12")	B194 (24")	B195 (6-12")	B195 (24")	B196 (6-12")	B196 (24")	B197 (6-12")	B197 (24")	B198 (6-12")	B198 (24")	B199 (6-12")	B199 (24")
Sample Date		5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	5/18/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.17 J		0.12 J		ND		0.12 J		ND		ND		0.41 J		0.24 J	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.42JB		0.16JB		0.19JB		0.73JB		0.12JB		0.19JB		0.42JB		0.86JB	
Fluoranthene	2300	0.34 J		0.14 J		0.17 J		0.21 J		ND		ND		0.38 J		0.28 J	
Pyrene	1700	0.32 J		0.18 J		0.18 J		0.2 J		ND		ND		0.52 J		0.3 J	
Benzo[a]anthracene	0.9	0.21 J		ND		ND		0.12 J		ND		ND		0.24 J		0.15 J	
Chrysene	9	0.4 J		ND		0.2 J		0.21 J		ND		ND		0.52 J		0.29 J	
bis(2-Ethylhexyl)phthalate	49	0.14JB		ND		ND		ND		ND		ND		0.12JB		0.12JB	
Benzo[b]fluoranthene	0.9	0.22 J		ND		ND		ND		ND		ND		0.18 J		0.12 J	
Benzo[k]fluoranthene	0.9	0.17 J		ND		ND		ND		ND		ND		0.16 J		0.11 J	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		0.21 J		0.13 J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		0.13 J		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		0.15 J		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.043		0.027		0.078		0.022		ND		0.013		0.075		0.086	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.034		0.031		0.036		0.029		ND		0.054		0.074		0.17	
4,4'-DDT	2	0.158		0.035		0.26		ND		ND		ND		0.102		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	8010		9510		1080		1210		851		1050		1520		1510	
Antimony	14	0.848		0.937		0.874		0.579		ND		0.464		1.46		0.915	
Arsenic	20	17.6		10.3		16		6.35		0.664		4.58		5.2		8.96	
Barium	700	52.9		57.4		73		14.6		3.67		30		40.9		38.5	
Beryllium	2	1.33		1.33		0.119		0.44		ND		0.221		0.473		0.85	
Cadmium	39	1.28		1.09		0.52		0.959		0.196		0.485		0.524		2.43	
Calcium	NLE	1750		1500		892		580		155		1400		1170		711	
Chromium	NLE	93.4		113		12.2		16.2		3.61		7.2		21.7		18.6	
Cobalt	NLE	1.93		1.84		0.512		0.483		0.257		0.755		0.593		0.975	
Copper	600	23		10.6		11.2		6.66		10.3		25.1		10.2		11.4	
Iron	NLE	24900		26200		9820		6940		507		3950		7270		7420	
Lead	400	29.1		23.7		36.4		16.8		5.81		16.7		25.3		24.5	
Magnesium	NLE	2980		3430		135		66.6		35.3		89		95.9		64.9	
Manganese	NLE	142		24.1		8.35		5.05		2.44		15.6		5.6		6.00	
Mercury	14	0.433		0.283		0.68		0.222		0.169		0.202		0.508		0.294	
Nickel	250	8.87		7.86		1.92		3.67		2.28		3.32		3.31		5.23	
Potassium	NLE	6250		7020		767		279		59		165		110		141	
Selenium	63	1.41		1.63		1.68		0.816		ND		ND		1.04		0.937	
Silver	110	ND		ND		ND		ND		ND		ND		1.84		0.786	
Sodium	NLE	248		167		99.1		92.6		98		70.4		71.1		70.8	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	45.5		52.1		10.8		11.6		3.26		11		15		14.9	
Zinc	1500	282		57.5		42.5		69.7		27.8		22.7		26.3		35.6	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

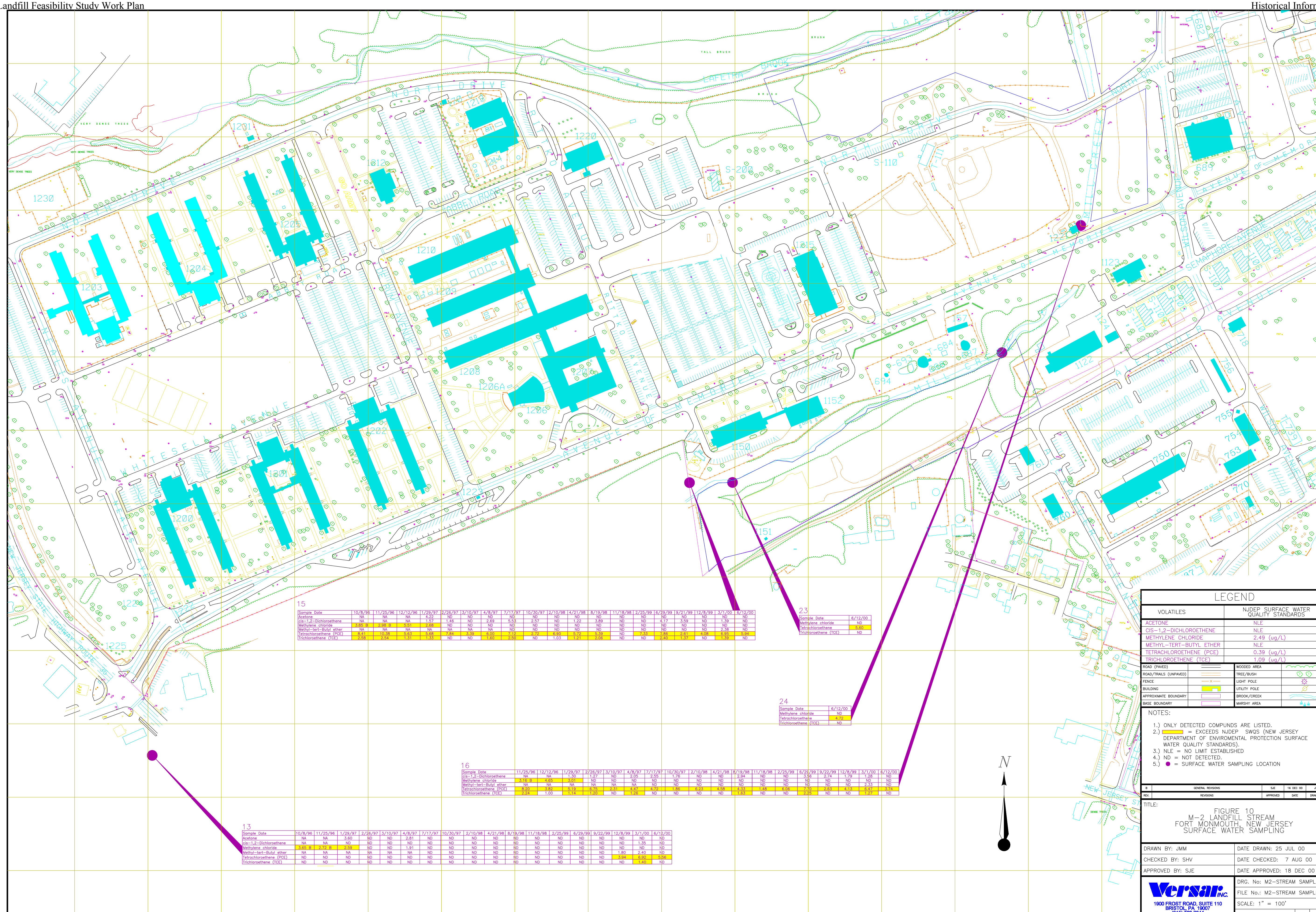
Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4527.12	4527.13	4527.14	4527.15	4527.16	4527.17	4527.18	4527.19	4530.02	4530.03	4530.04	4530.05	4530.06	4530.07	4530.08	4530.09
Field Sample Location		B200 (6-12")	B200 (24")	B201 (6-12")	B201 (24")	B202 (6-12")	B202 (24")	B203 (6-12")	B203 (24")	B204 (6-12")	B204 (24")	B205 (6-12")	B205 (24")	B206 (6-12")	B206 (24")	B207 (6-12")	B207 (24")
Sample Date		6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/1/1999	6/2/1999	6/2/1999	6/2/1999	6/2/1999	6/2/1999	6/2/1999	6/2/1999	6/2/1999
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Chlorobenzene	37		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10,000	ND		ND		ND		ND		ND		ND		0.19 J		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.13 J		ND		0.26 J		0.47 J		ND		0.13 J		ND		ND	
Anthracene	10,000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.27JB		0.21JB		0.6JB		0.61JB		ND		0.2JB		0.19 JB		0.22JB	
Fluoranthene	2300	0.26 J		ND		0.34 J		0.74 J		ND		0.23 J		ND		0.11 J	
Pyrene	1700	0.26 J		ND		0.36 J		0.69 J		ND		0.2 J		ND		ND	
Benzo[a]anthracene	0.9	0.14 J		ND		0.18 J		0.38 J		ND		0.12 J		ND		ND	
Chrysene	9	0.31 J		ND		0.37 J		0.76 J		ND		0.23 J		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		0.11JB		ND		0.14JB		ND		0.14JB		ND		0.15JB	
Benzo[b]fluoranthene	0.9	0.18 J		ND		0.14 J		0.35 J		ND		0.11 J		ND		ND	
Benzo[k]fluoranthene	0.9	0.13 J		ND		0.15 J		0.3 J		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	0.15 J		ND		0.16 J		0.36 J		ND		0.11 J		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	0.12 J		ND		ND		0.24 J		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	0.13 J		ND		0.12 J		0.27 J		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor Epoxide	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	2	0.183		ND		0.08		0.234		0.023		0.094		0.117		0.077	
Dieldrin	0.042	0.021		ND		ND		ND		0.02		0.013		ND		ND	
Endrin	17	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.207		ND		0.091		0.348		0.101		0.077		0.03		0.026	
4,4'-DDT	2	0.118		ND		0.067		0.233		0.027		0.055		0.214		0.105	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1016	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1242	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1248	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1254	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Arochlor 1260	0.49	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	1120		499		910		5860		10400		9730		9240		8230	
Antimony	14	ND		ND		ND		0.658		0.513		0.757		0.629		0.657	
Arsenic	20	6.85		ND		7.98		7.34		7.89		10.3		8.64		7.18	
Barium	700	22.9		6.43		37.9		33.9		41.2		46.3		29.7		27.9	
Beryllium	2	0.289		ND		0.302		0.929		0.99		0.873		0.739		0.659	
Cadmium	39	0.898		0.181		0.733		1.25		1.21		1.62		2.08		0.658	
Calcium	NLE	1290		482		706		653		1530		1050		711		959	
Chromium	NLE	10.7		5.96		49.1		65.4		83.1		67.9		41.9		43.1	
Cobalt	NLE	0.695		ND		1.29		1.38		3.77		3.61		2.81		2.54	
Copper	600	20.4		3.05		7.64		13.1		25.1		9.47		10.5		6.89	
Iron	NLE	6170		791		6040		18000		30100		30100		19300		18400	
Lead	400	36.7		2.02		18.5		49		22.8		23.1		23.9		20.5	
Magnesium	NLE	145		50.7		287		1690		3400		2430		1730		1450	
Manganese	NLE	22.9		3.66		6.73		25		58.7		77.6		115		93.1	
Mercury	14	0.592		0.265		0.222		0.413		0.207		0.292		0.215		0.242	
Nickel	250	3.85		1.06		**410**		7.36		11.7		10.3		8.2		7.3	
Potassium	NLE	168		139		419		3490		6680		5290		2440		2340	
Selenium	63	ND		ND		ND		1.58		1.33		1.09		1.12		0.914	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	94.3		158		126		113		231		99.8		334		110	
Thallium	2	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	370	11.9		3.52		9.31		34.7		60.8		49.2		35.2		37.5	
Zinc	1500	58.7		20.5		53.9		63.8		63.9		90.1		48.5		40.3	

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100

Table 4-1
Soil Sampling Analytical Results
M-2 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID Field Sample Location Sample Date	NJDEP Cleanup Criteria (mg/kg)	4530.10 B208 (6-12") 6/2/1999		4530.11 B208 (24") 6/2/1999		4530.12 B209 (6-12") 6/2/1999		4530.13 B209 (24") 6/2/1999		4530.14 B210 (6-12") 6/2/1999		4530.15 B210 (24") 6/2/1999		4530.16 B211 (6-12") 6/2/1999		4530.17 B211 (24") 6/2/1999	
Volatiles (mg/kg)																	
Acetone	1000			ND				ND				ND				ND	
Methylene Chloride	49			1.1B				1.2B				1.0 B				1.2B	
Toluene	1000			ND				ND				ND				ND	
Chlorobenzene	37			ND				ND				ND				ND	
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND				ND				ND				ND			
2-Methylnaphthalene	NLE	ND				ND				ND				ND			
Acenaphthylene	NLE	ND				ND				0.16 J				0.12 J			
Acenaphthene	3400	ND				ND				ND				ND			
Dibenzofuran	NLE	ND				ND				ND				ND			
Diethylphthalate	10,000	ND				ND				ND				ND			
Fluorene	2300	ND				ND				ND				ND			
Azobenzene	NLE	ND				ND				ND				ND			
Phenanthrene	NLE	ND				0.46 J				0.45 J				0.57 J			
Anthracene	10,000	ND				ND				ND				ND			
Di-n-butylphthalate	5700	0.65JB				0.51JB				0.49JB				0.72JB			
Fluoranthene	2300	ND				0.56 J				0.73 J				0.57 J			
Pyrene	1700	ND				0.6 J				0.84 J				0.68 J			
Benzo[a]anthracene	0.9	ND				0.3 J				0.56 J				0.31 J			
Chrysene	9	ND				0.61 J				1.1 J				0.68 J			
bis(2-Ethylhexyl)phthalate	49	0.12JB				0.13JB				0.12JB				0.15JB			
Benzo[b]fluoranthene	0.9	ND				0.24 J				0.49 J				0.26 J			
Benzo[k]fluoranthene	0.9	ND				0.23 J				0.49 J				0.23 J			
Benzo[a]pyrene	0.66	ND				0.27 J				0.6 J				0.3 J			
Indeno[1,2,3-cd]pyrene	0.9	ND				0.17 J				0.35 J				0.18 J			
Dibenz[a,h]anthracene	0.66	ND				ND				0.15 J				ND			
Benzo[g,h,I]perylene	NLE	ND				0.2 J				0.38 J				0.2 J			
Pesticides/PCBs (mg/kg)																	
gamma-BHC	0.52	ND				ND				ND				ND			
Heptachlor Epoxide	NLE	ND				ND				ND				ND			
4,4'-DDE	2	0.012				0.07				0.057				0.058			
Dieldrin	0.042	ND				ND				ND				ND			
Endrin	17	ND				ND				ND				ND			
4,4'-DDD	3	0.015				0.114				0.071				0.043			
4,4'-DDT	2	ND				0.037				0.037				0.086			
gamma-Chlordane	NLE	ND				ND				ND				ND			
alpha-Chlordane	NLE	ND				ND				ND				ND			
Arochlor 1016	0.49	ND				ND				ND				ND			
Arochlor 1242	0.49	ND				ND				ND				ND			
Arochlor 1248	0.49	ND				ND				ND				ND			
Arochlor 1254	0.49	ND				ND				ND				ND			
Arochlor 1260	0.49	ND				ND				ND				ND			
Metals (mg/kg)																	
Aluminum	NLE	6530				5390				7020				7810			
Antimony	14	0.485				1.18				0.734				1.09			
Arsenic	20	5.16				8.4				6.11				8.35			
Barium	700	17.8				44				42.3				38.7			
Beryllium	2	0.607				1.01				1.35				1.23			
Cadmium	39	0.79				1.42				1.66				1.7			
Calcium	NLE	323				928				532				679			
Chromium	NLE	50.6				65.6				72				76.3			
Cobalt	NLE	3.04				2.03				1.88				2.19			
Copper	600	344				47.5				12.8				15			
Iron	NLE	17800				18500				18800				28800			
Lead	400	15.7				23.6				25				31.8			
Magnesium	NLE	1290				1610				1590				1680			
Manganese	NLE	158				20.5				22.2				21.6			
Mercury	14	1.017				0.346				0.287				0.288			
Nickel	250	6.82				6.98				11				8.69			
Potassium	NLE	2780				3360				2980				3220			
Selenium	63	0.867				1.26				1.35				2.00			
Silver	110	ND				ND				ND				ND			
Sodium	NLE	75.4				114				165				86.3			
Thallium	2	ND				ND				ND				1.03			
Vanadium	370	35.5				33.6				39.7				43			
Zinc	1500	112				71.3				57.9				45.5			

Notes:
All concentrations in milligrams per kilogram (mg/kg)
E = Value exceeded linear range
D = Value from dilution
B = Compound in related blank
NS:= Not Sampled
ND:= Analyte not detected in sample
NLE:= No cleanup standard exists for this analyte
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte; however, the result is less than the method detection limit, but greater than zero.
N = Presumptive evidence of a compound
*Resample for 4443.08 for Pest/PCB ref#4526.01 B100



15

Sample Date	10/8/96	11/25/96	12/12/96	1/29/97	2/26/97	3/10/97	4/8/97	7/17/97	10/30/97	2/10/98	4/21/98	8/19/98	11/18/98	2/25/99	6/29/99	9/21/99	12/8/99	3/1/00	6/12/00
Acetone	NA	NA	NA	4.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NA	NA	NA	1.57	1.46	ND	2.69	5.53	2.57	ND	1.22	3.89	ND	ND	4.17	3.59	ND	1.39	ND
Methylene chloride	3.85 B	2.98 B	5.51	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.38	ND
Tetrachloroethene (PCE)	8.41	10.38	5.63	5.68	7.84	3.39	6.00	7.12	2.72	6.90	5.72	5.39	ND	7.33	7.86	2.61	4.08	6.95	5.94
Trichloroethene (TCE)	2.58	2.54	1.31	1.33	ND	ND	1.60	2.50	ND	1.03	1.21	2.06	ND	ND	2.40	1.37	ND	1.39	ND

23

Sample Date	6/12/00
Methylene chloride	ND
Tetrachloroethene	5.60
Trichloroethene (TCE)	ND

24

Sample Date	6/12/00
Methylene chloride	ND
Tetrachloroethene	4.72
Trichloroethene (TCE)	ND

16

Sample Date	11/25/96	12/12/96	1/29/97	2/26/97	3/10/97	4/8/97	7/17/97	10/30/97	2/10/98	4/21/98	8/19/98	11/18/98	2/25/99	6/29/99	9/22/99	12/8/99	3/1/00	6/12/00
cis-1,2-Dichloroethene	NA	NA	1.30	1.27	ND	2.05	2.55	1.76	ND	ND	2.94	ND	ND	3.56	2.74	1.79	1.28	ND
Methylene chloride	3.16 B	4.65	3.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33	ND
Tetrachloroethene (PCE)	8.20	3.82	5.19	6.75	2.31	4.47	4.72	1.86	6.23	4.58	4.33	1.48	6.06	7.70	2.63	4.13	6.47	3.74
Trichloroethene (TCE)	2.24	1.00	1.14	1.20	ND	1.26	ND	ND	ND	ND	1.63	ND	ND	2.25	ND	ND	1.27	ND

13

Sample Date	10/8/96	11/25/96	1/29/97	2/26/97	3/10/97	4/8/97	7/17/97	10/30/97	2/10/98	4/21/98	8/19/98	11/18/98	2/25/99	6/29/99	9/22/99	12/8/99	3/1/00	6/12/00
Acetone	NA	NA	3.60	ND	ND	2.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.35	ND
Methylene chloride	3.65 B	2.72 B	2.59	ND	ND	1.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.80	2.40	ND
Tetrachloroethene (PCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.94	6.92	5.56
Trichloroethene (TCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.40	ND

LEGEND

VOLATILES	NJDEP SURFACE WATER QUALITY STANDARDS
ACETONE	NLE
CIS-1,2-DICHLOROETHENE	NLE
METHYLENE CHLORIDE	2.49 (ug/L)
METHYL-TERT-BUTYL ETHER	NLE
TETRACHLOROETHENE (PCE)	0.39 (ug/L)
TRICHLOROETHENE (TCE)	1.09 (ug/L)

ROAD (PAVED) · ROAD/TRAILS (UNPAVED) · FENCE · BUILDING · APPROXIMATE BOUNDARY · BASE BOUNDARY · WOODED AREA · TREE/BUSH · LIGHT POLE · UTILITY POLE · BROOK/CREEK · MARSHY AREA

NOTES:

1.) ONLY DETECTED COMPUNDS ARE LISTED.
2.) [yellow box] = EXCEEDS NJDEP SWQS (NEW JERSEY DEPARTMENT OF ENVIROMENTAL PROTECTION SURFACE WATER QUALITY STANDARDS).
3.) NLE = NO LIMIT ESTABLISHED
4.) ND = NOT DETECTED.
5.) ● = SURFACE WATER SAMPLING LOCATION

REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	GENERAL REVISIONS	SJE	16 DEC 00	JMM

TITLE:
FIGURE 10
M-2 LANDFILL STREAM
FORT MONMOUTH, NEW JERSEY
SURFACE WATER SAMPLING

DRAWN BY: JMM	DATE DRAWN: 25 JUL 00
CHECKED BY: SHV	DATE CHECKED: 7 AUG 00
APPROVED BY: SJE	DATE APPROVED: 18 DEC 00

Versar INC.
1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 788-7844

DRG. No: M2-STREAM SAMPLING
FILE No.: M2-STREAM SAMPLING
SCALE: 1" = 100'
SHEET OF REV.: B

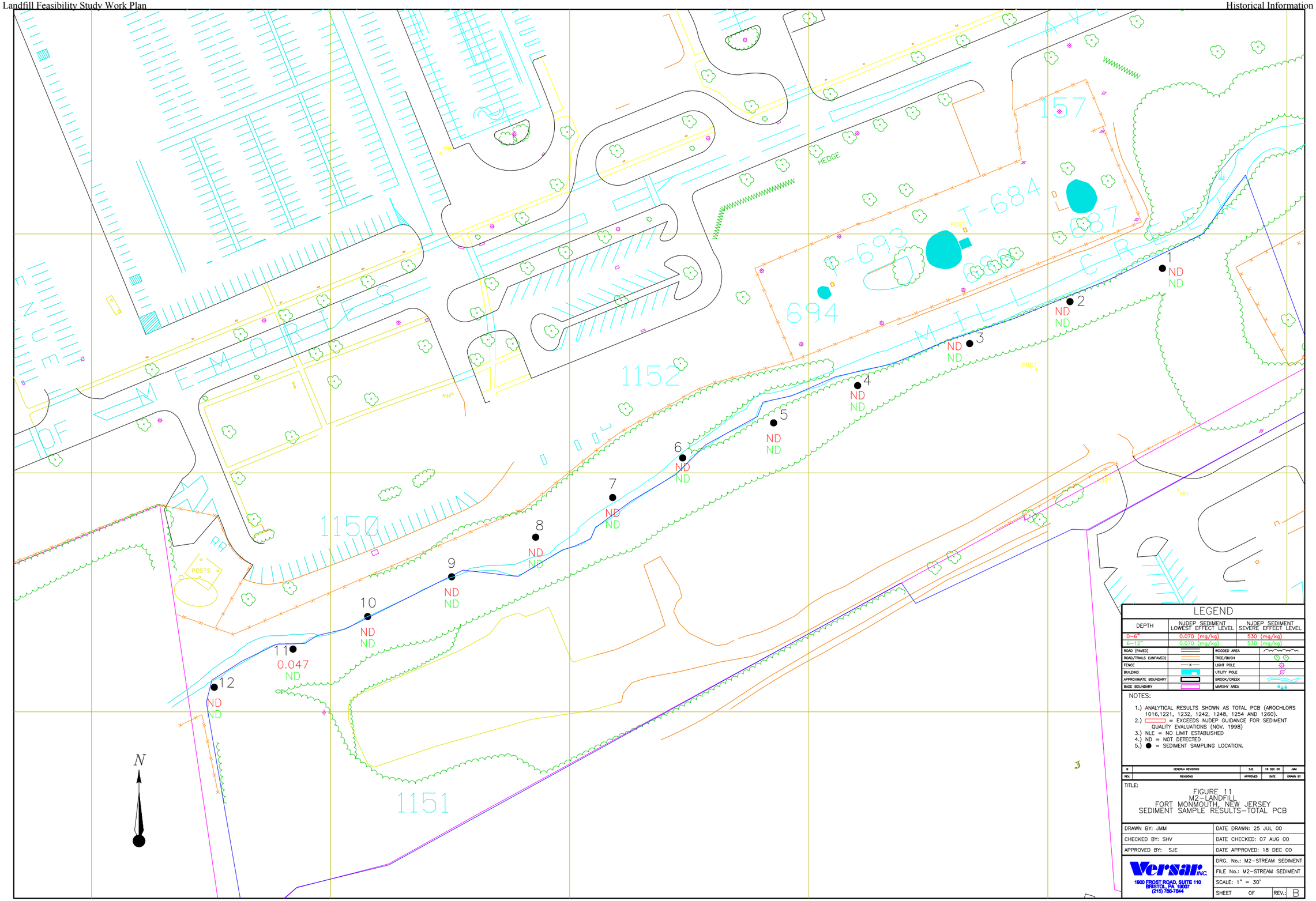

1152
1150
1151
694
693
684
687
157
HEDGE
POST
MH
POSTS
1
ND
ND
2
ND
ND
3
ND
ND
4
ND
ND
5
ND
ND
6
ND
ND
7
ND
ND
8
ND
ND
9
ND
ND
10
ND
ND
11
0.047
ND
12
ND
ND
N
LEGEND
DEPTH
NJDEP SEDIMENT LOWEST EFFECT LEVEL
NJDEP SEDIMENT SEVERE EFFECT LEVEL
0–6" 0.070 (mg/kg) 530 (mg/kg)
6–12" 0.070 (mg/kg) 530 (mg/kg)
ROAD (PAVED)
ROAD/TRAILS (UNPAVED)
FENCE
BUILDING
APPROXIMATE BOUNDARY
BASE BOUNDARY
WOODED AREA
TREE/BUSH
LIGHT POLE
UTILITY POLE
BROOK/CREEK
MARSHY AREA
NOTES:
1.) ANALYTICAL RESULTS SHOWN AS TOTAL PCB (AROCHLORS 1016,1221, 1232, 1242, 1248, 1254 AND 1260).
2.) = EXCEEDS NJDEP GUIDANCE FOR SEDIMENT QUALITY EVALUATIONS (NOV. 1998)
3.) NLE = NO LIMIT ESTABLISHED
4.) ND = NOT DETECTED
5.) = SEDIMENT SAMPLING LOCATION.
B GENERAL REVISIONS SJE 18 DEC 00 JMM
REV. REVISIONS APPROVED DATE DRAWN BY
TITLE:
FIGURE 11
M2–LANDFILL
FORT MONMOUTH, NEW JERSEY
SEDIMENT SAMPLE RESULTS–TOTAL PCB
DRAWN BY: JMM
DATE DRAWN: 25 JUL 00
CHECKED BY: SHV
DATE CHECKED: 07 AUG 00
APPROVED BY: SJE
DATE APPROVED: 18 DEC 00
Versar INC.
1900 FROST ROAD, SUITE 110
BRISTOL, PA 19007
(215) 788-7844
DRG. No.: M2–STREAM SEDIMENT
FILE No.: M2–STREAM SEDIMENT
SCALE: 1" = 30'
SHEET OF REV.: B

Table 6
Stream Sampling Analytical Results
Main Post - M2 Landfill
Fort Monmouth, New Jersey

Stream Sampling Location - Site #13
October 1996 - June 2000

Lab Sample ID Sample Date	2178.13 10/8/96	2223.17 11/25/96	2298.17 1/29/97	2361.17 2/26/97	2375.17 3/10/97	2439.17 4/8/97	2810.17 7/17/97	3121.17 10/30/97	3331.17 2/10/98	3499.17 4/21/98	3816.17 8/19/98	4069.11 11/18/98	4300.17 2/25/99	4579.19 6/29/99	4806.10 9/22/99	4997.16 12/8/99	5211.16 3/1/00	5468.13 6/12/00	NJDEP SWQS (ug/L)
Acetone	NA	NA	3.60	ND	ND	2.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NLE
cis-1,2-Dichloroethene	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.35	ND	NLE
Methylene chloride	**3.76 B**	**2.72 B**	**2.59**	ND	ND	1.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.49
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.80	2.40	ND	NLE
Tetrachloroethene (PCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.94**	**6.92**	**5.56**	0.39
Trichloroethene (TCE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.40**	ND	1.09

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
Exceedances of the NJDEP Surface Water Quality Standards (SWQS) are highlighted and printed in bold-faced type.
NA: Sample not analyzed for this parameter.
ND: Analyte not detected in sample.
B: Found in the Blank.
NLE: No regulatory limit has been established for this parameter.

Table 6 (continued)
Stream Sampling Analytical Results
Main Post - M2 Landfill
Fort Monmouth, New Jersey

Stream Sampling Location - Site #15

October 1996 - June 2000

Lab Sample ID	2178.15	2223.09	2246.09	2298.09	2361.09	2375.09	2439.09	2810.09	3121.09	3331.09	3499.09	3816.09	4069.08	4300.09	4579.11	4802.11	4997.17	5211.17	5468.12	NJDEP SWQS
Sample Date	10/8/96	11/25/96	12/12/96	1/29/97	2/26/97	3/10/97	4/8/97	7/17/97	10/30/97	2/10/98	4/21/98	8/19/98	11/18/98	2/25/99	6/29/99	9/21/99	12/8/99	3/1/00	6/12/00	(ug/L)
Acetone	NA	NA	NA	4.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NLE
cis-1,2-Dichloroethene	NA	NA	NA	1.57	1.46	ND	2.69	5.53	2.57	ND	1.22	3.89	ND	ND	4.17	3.59	ND	1.39	ND	NLE
Methylene chloride	**3.85 B**	**2.98 B**	**5.51**	**2.68**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.49
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.38	ND	NLE
Tetrachloroethene (PCE)	**8.41**	**10.38**	**5.63**	**5.68**	**7.84**	**3.39**	**6.00**	**7.12**	**2.72**	**6.90**	**5.72**	**5.39**	ND	**7.33**	**7.86**	**2.61**	**4.08**	**6.95**	**5.94**	0.39
Trichloroethene (TCE)	**2.58**	**2.54**	**1.31**	**1.33**	ND	ND	**1.60**	**2.50**	ND	1.03	**1.21**	**2.06**	ND	ND	**2.40**	**1.37**	ND	**1.39**	ND	1.09

Stream Sampling Location - Site #16

November 1996 - June 2000

Lab Sample ID	2223.10	2246.10	2298.10	2361.10	2375.10	2439.10	2810.10	3121.10	3331.10	3499.10	3816.10	4069.06	4300.10	4579.12	4806.03	4997.12	5211.13	5468.14	NJDEP SWQS
Sample Date	11/25/96	12/12/96	1/29/97	2/26/97	3/10/97	4/8/97	7/17/97	10/30/97	2/10/98	4/21/98	8/19/98	11/18/98	2/25/99	6/29/99	9/22/99	12/8/99	3/1/00	6/12/00	(ug/L)
cis-1,2-Dichloroethene	NA	NA	1.30	1.27	ND	2.05	2.55	1.76	ND	ND	2.94	ND	ND	3.56	2.74	1.79	1.28	ND	NLE
Methylene chloride	**3.16 B**	**4.65**	**3.01**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.49
Methyl-tert-Butyl ether	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.33	ND	NLE
Tetrachloroethene (PCE)	**8.20**	**3.82**	**5.19**	**6.75**	**2.31**	**4.47**	**4.72**	**1.86**	**6.23**	**4.58**	**4.33**	**1.48**	**6.06**	**7.70**	**2.63**	**4.13**	**6.47**	**3.74**	0.39
Trichloroethene (TCE)	**2.24**	1.00	**1.14**	**1.20**	ND	**1.26**	ND	ND	ND	ND	**1.63**	ND	ND	**2.25**	ND	ND	**1.27**	ND	1.09

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
Exceedances of the NJDEP Surface Water Quality Standards (SWQS) are highlighted and printed in bold-faced type.
NA: Sample not analyzed for this parameter.
ND: Analyte not detected in sample.
B: Found in the Blank.
NLE: No regulatory limit has been established for this parameter.

Table 6 (continued)
Stream Sampling Analytical Results
Main Post - M2 Landfill
Fort Monmouth, New Jersey

Stream Sampling Location - Site #23
June 2000

Lab Sample ID Sample Date	5468.21 6/12/00	NJDEP SWQS (ug/L)
Methylene chloride	ND	2.49
Tetrachloroethene	**5.60**	0.39
Trichloroethene (TCE)	ND	1.09

Stream Sampling Location - Site #24
June 2000

Lab Sample ID Sample Date	5468.22 6/12/00	NJDEP SWQS (ug/L)
Methylene chloride	ND	2.49
Tetrachloroethene	**4.72**	0.39
Trichloroethene (TCE)	ND	1.09

NOTES
Only detected compounds are listed.
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
Exceedances of the NJDEP Surface Water Quality Standards (SWQS) are highlighted and printed in **bold-faced** type.
NA: Sample not analyzed for this parameter.
ND: Analyte not detected in sample.
B: Found in the Blank.
NLE: No regulatory limit has been established for this parameter.

Table 7
Sediment Sampling Results
PCB Analysis - April 2000
Main Post - M2 Landfill
Fort Monmouth, New Jersey

Field ID Sample Location	Depth	Lab I.D.	Sample Time	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
Lowest Effect Level (LEL)*	-	-	-	0.007	NA	NA	NA	0.030	0.060	0.005	0.070
Severe Effects Level (SEL)*	-	-	-	53.000	NA	NA	NA	150.000	34.000	24.000	530.000
1	0-6"	5346.01	13:33	ND	ND	ND	ND	ND	ND	ND	ND
1	6-12"	5346.02	13:35	ND	ND	ND	ND	ND	ND	ND	ND
2	0-6"	5346.03	13:37	ND	ND	ND	ND	ND	ND	ND	ND
2	6-12"	5346.04	13:39	ND	ND	ND	ND	ND	ND	ND	ND
3	0-6"	5346.05	13:41	ND	ND	ND	ND	ND	ND	ND	ND
3	6-12"	5346.06	13:43	ND	ND	ND	ND	ND	ND	ND	ND
4	0-6"	5346.07	13:48	ND	ND	ND	ND	ND	ND	ND	ND
4	6-12"	5346.08	13:50	ND	ND	ND	ND	ND	ND	ND	ND
5	0-6"	5346.09	13:53	ND	ND	ND	ND	ND	ND	ND	ND
5	6-12"	5346.10	13:55	ND	ND	ND	ND	ND	ND	ND	ND
6	0-6"	5346.11	13:58	ND	ND	ND	ND	ND	ND	ND	ND
6	6-12"	5346.12	14:00	ND	ND	ND	ND	ND	ND	ND	ND
7	0-6"	5346.13	14:05	ND	ND	ND	ND	ND	ND	ND	ND
7	6-12"	5346.14	14:07	ND	ND	ND	ND	ND	ND	ND	ND
8	0-6"	5346.15	14:10	ND	ND	ND	ND	ND	ND	ND	ND
8	6-12"	5346.16	14:12	ND	ND	ND	ND	ND	ND	ND	ND
9	0-6"	5346.17	14:14	ND	ND	ND	ND	ND	ND	ND	ND
9	6-12"	5346.18	14:16	ND	ND	ND	ND	ND	ND	ND	ND
10	0-6"	5346.19	14:22	ND	ND	ND	ND	ND	ND	ND	ND
10	6-12"	5346.20	14:24	ND	ND	ND	ND	ND	ND	ND	ND
11	0-6"	5346.21	14:30	ND	ND	ND	ND	ND	0.047	ND	0.047
11	6-12"	5346.22	14:33	ND	ND	ND	ND	ND	ND	ND	ND
12	0-6"	5346.23	14:35	ND	ND	ND	ND	ND	ND	ND	ND
12	6-12"	5346.24	14:38	ND	ND	ND	ND	ND	ND	ND	ND
DUP	0-6"	5346.25	-	ND	ND	ND	ND	ND	0.055	ND	0.055
DUP	6-12"	5346.26	-	ND	ND	ND	ND	ND	ND	ND	ND

* NJDEP Guidance For Sediment Quality Evaluations, November 1998
Exceedances of the NJDEP Guidances are highlighted and printed in **bold-faced** type.
All concentrations are given in milligrams per kilogram (mg/Kg), equivalent to parts per million (ppm).
NA = Not Applicable
ND = Analyte Not Detected in Sample.

Table 8
Additional Surface Water Sampling Results
PCB Analysis
May - June 2000
Main Post - M2 Landfill
Fort Monmouth, New Jersey

#15 Upgradient to M2 Landfill

Field ID Sample Location	Lab I.D.	Sample Datw	Sample Time	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (ug/L) *				0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Round 1											
#15 Stream Enter M2	5442.02	5/31/00	8:43	ND	ND	ND	ND	ND	ND	ND	ND
#15 Stream Enter M2	5449.04	6/1/00	14:55	ND	ND	ND	ND	ND	ND	ND	ND
Round 2											
#15 Stream Enter M2	5462.04	6/8/00	11:10	ND	ND	ND	ND	ND	ND	ND	ND
#15 Stream Enter M2	5474.02	6/14/00	8:56	ND	ND	ND	ND	ND	ND	ND	ND

* Regulatory level shown is higher of PQL and Ground Water Quality Criteria (GWQC) as per NJAC 7:9-6
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
ND: Analyte Not Detected in Sample.
PQL: Practical Quantitation Limit

Table 8 (continued)
Additional Surface Water Sampling Results
PCB Analysis
May - June 2000
Main Post - M2 Landfill
Fort Monmouth, New Jersey

#24 Downgradient to M2 Landfill

Field ID Sample Location	Lab I.D.	Sample Datw	Sample Time	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (ug/L) *				0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Round 1											
#24 Stream Exit M2	5442.01	5/31/00	8:30	ND	ND	ND	ND	ND	ND	ND	ND
#24 Stream Exit M2	5449.06	6/1/00	15:14	ND	ND	ND	ND	ND	ND	ND	ND
Round 2											
#24 Stream Exit M2	5462.06	6/8/00	10:57	ND	ND	ND	ND	ND	ND	ND	ND
#24 Stream Exit M2	5474.01	6/14/00	8:56	ND	ND	ND	ND	ND	ND	ND	ND

* Regulatory level shown is higher of PQL and Ground Water Quality Criteria (GWQC) as per NJAC 7:9-6
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
ND: Analyte Not Detected in Sample.
PQL: Practical Quantitation Limit

Table 8 (continued)
Additional Surface Water Sampling Results
PCB Analysis
May - June 2000
Main Post - M2 Landfill
Fort Monmouth, New Jersey

#23 Downgradient to Sediment Sample #11

Field ID Sample Location	Lab I.D.	Sample Datw	Sample Time	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Total PCB
Regulatory Level (ug/L) *				0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Round 1											
#23 Below Sed. Sample #11	5442.03	5/31/00	8:37	ND	ND	ND	ND	ND	ND	ND	ND
#23 Below Sed. Sample #11	5449.05	6/1/00	15:02	ND	ND	ND	ND	ND	ND	ND	ND
Round 2											
#23 Below Sed. Sample #11	5462.05	6/8/00	11:02	ND	ND	ND	ND	ND	ND	ND	ND
#23 Below Sed. Sample #11	5474.03	6/14/00	9:06	ND	ND	ND	ND	ND	ND	ND	ND

* Regulatory level shown is higher of PQL and Ground Water Quality Criteria (GWQC) as per NJAC 7:9-6
All concentrations are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).
ND: Analyte Not Detected in Sample.
PQL: Practical Quantitation Limit

APPENDIX D

ACCIDENT PREVENTION PLAN

(This is a placeholder only; the Accident Prevention Plan was prepared under separate cover)

APPENDIX E

SAMPLING AND ANALYSIS PLAN

(This is a placeholder only; the Sampling and Analysis Plan was prepared under separate cover)