REMEDIAL ACTION REPORT
ASBESTOS DUMP OU-1 SUPERFUND SITE
MILLINGTON, NEW JERSEY

CONTRACT NO. DACW41-94-D9013
DELIVERY ORDER 0009

200739

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Final

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List of Acronyms

ACM	asbestos-containing materials
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended
CFR	Code of Federal Regulations
ChDAP	Chemical Data Acquisition Plan
CIH	Certified Industrial Hygienist
CQCP	Contractor Quality Control Plan
DNCR	Deficiency/Nonconformance Report
FS	Feasibility Study
ft	feet (foot)
IDW	Investigation Derived Waste
in.	inch(es)
IT	IT Corporation
mg/m^3	milligram(s) per cubic meter (of air)
OSHA	Occupational Safety and Health Administration
OU	operable unit
PPE	personal protective equipment
ppm	parts per million
PVC	polyvinyl chloride
QA	Quality assurance
QC	Quality control
QCSM	Quality Control System Manager
RI	Remedial Investigation
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TEM	Trans Electron Microscopy
TSP	total suspended particulates
TWA	Time-Weighted Average
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

Executive Summary

IT Corporation (IT) prepared this Report for the U.S. Environmental Protection Agency (USEPA), Region II under contract number DACW41-94-D-9013, Delivery Order D0009. The remedial action was conducted pursuant to EPA's September 1988 Record of Decision and in accordance with the approved 1998 Final Design Report. The U.S. Army Corps of Engineers (USACE) Kansas City and New York District, administered the contract and provided 100% construction oversite during all remedial activities. This report presents a summary of the remedial action, which took place at the Asbestos Dump Operable Unit (OU)-1 Site located in Millington, New Jersey. In support of these efforts, the USACE contracted IT to complete the remedial action in accordance with the contract documents and all applicable state and federal regulations.

The Asbestos Dump OU-1 Site is an 11 acre commercial property located at 50A Division Avenue in Millington, Morris County, New Jersey.

Remedial Action Report Objective

The objectives of this Remedial Action report include, but are not limited to, the following:

- X Provide a summary of the background information including a site description and site history
- X Present a detailed chronology of events
- X Present an overview of the project organization
- X Present an overview of the quality control and health and safety programs
- X Present a summary of the pre-remedial and remedial action activities over the course of the project
- X Present a summary of ITs operation and maintenance obligations.

Pre-Construction Activities

Prior to construction activities, IT completed the preparation of project plans, general procurement, and the initial sampling of off site borrow source material. A Pre-Construction meeting was held on June 7, 1999, at the USACE Environmental Resident Office in East Brunswick, New Jersey. The meeting provided a general overview of the plans submitted by IT. In addition, a meeting of mutual understanding was held to develop understandings of IT's roles and responsibilities as they related to the Contractor Quality Control System. In the meeting, definable features of work were provided, which outlined the project activities.

Notice to Proceed was issued on June 8, 1999, the official start of site activities. Construction activities were substantially completed on December 22, 1999, and site restoration activities were completed on May 15, 2000. In addition, an approximate one-year operation and maintenance of the subject site was completed on May 18, 2001.

The remedial action was completed in accordance with site-specific project plans prepared by IT to meet the requirements presented in the contract specifications and drawings. Each plan was submitted to the USACE for acceptance prior to the start of work activities. The following is a list of the project plans, which contributed to the overall quality objectives for the project.

- X Contractor Quality Control Plan (IT, 1999a)
- X Environmental Protection Plan (IT, 1999d)
- X Soil Erosion and Sediment Control Plan (IT, 1999e)
- X Spill Prevention and Control Plan (IT, 1999f)
- X Site Safety and Health Plan (IT, 1999c)
- X Asbestos Sampling and Analysis Plan (IT, 1999g)
- X Chemical Data Acquisition Plan (IT, 1999b)
- X Operations and Maintenance Plan (IT, 1999h)
- X Waste Management and Disposal Plan (IT, 1999j)
- X Transportation and Traffic Control Plan (IT, 1999k).

Each plan was transmitted to the USACE and USEPA in accordance with the submittal procedures outlined in Section 01300 of the contract specification.

A summary of the principal remedial activities completed is presented below.

Mobilization

Mobilization activities began on June 17, 1999, with general material deliveries and delivery of heavy equipment. All necessary labor, materials, and equipment to perform the work were coordinated by the Project Manager and implemented by the Site Engineer. Activities also consisted of electrical hook ups, set up of site trailers, installation of the telephone system, and erection of flagpoles.

Soil Erosion and Sediment Control Measures

Soil erosion and sediment control measures were initiated during mobilization activities and were maintained throughout the duration of the project. Soil erosion and sediment control measures included the installation of a visibility barrier around the site perimeter, installation of silt fence in required areas, placement of ConCover material on sloped surfaces, and the placement of backfill where required. ConCover is a cellulose based material that was applied to exposed areas of asbestos for dust suppression purposes. Work was performed in accordance with the Morris County Soil Erosion and Sediment Control Equivalency permit.

Clearing and Grubbing

Clearing and grubbing activities started on June 22, 1999, and consisted of the removal and disposal of stumps, roots, and buried logs. In the area of the asbestos mound all roots, lateral roots, and any projections over 1 inch in diameter were removed. To prevent the unnecessary cutting of trees throughout the site, IT and USACE personnel marked trees with caution tape prior to the start of clearing and grubbing operations.

Vegetative matter generated during the clearing and grubbing operations was chipped and disposed within the on-site disposal area or rinsed clean of asbestos material prior to disposal off site. All equipment involved with the clearing and grubbing operations was decontaminated and inspected prior to demobilization in accordance with the Site Safety and Health Plan (IT, 1999e).

Site Debris Removal

On July 27, 1999, IT Corporation personnel removed the existing Investigation Derived Waste (IDW). The IDW consisted of 32, 55-gallon drums containing personal protective equipment (PPE), soil boring cuttings, and decontamination fluids. IT Corporation verified the number of drums and their contents prior to implementing drum-handling operations. Soil boring cuttings and decontamination fluids were disposed of in the on site disposal area. The existing IDW was

combined with PPE and asbestos containing waste generated during site operations and was transported off-site to an approved disposal facility. All drum carcasses were cleaned, crushed, and transported to an off site scrap metal recycling facility. Additionally, IT demolished and removed the concrete slab on-grade and chain-link fence material at the north end of the site. Visible Asbestos Containing Material (ACM) chips were also removed along the north side of fence line and disposed within the on-site disposal area.

Access Road Construction

For improved access into the site, IT graded and compacted the north, south, and east roadways in accordance with the contract drawings and specifications. Access road construction activities began on July 8, 1999, with the south access road. Prior to implementing roadway construction activities silt fence was installed to provide temporary erosion control measures as presented in the Soil Erosion and Sediment Control Plan (IT, 1999c). Access road construction activities were completed on December 22, 1999.

Retaining Wall Construction

Upon completion of the working platform, IT installed a retaining wall on the western side of the asbestos mound for stabilization purposes. The wall was an average of ten feet in height and 516 feet long. Work activities associated with the installation of the retaining wall began on July 26, 1999. Retaining wall construction consisted of pier location surveying, shaft drilling, installation of structural steel columns to a minimum depth of nine feet into the bedrock, placement of concrete in the drilled shaft to support the structural steel, and installation of pre-cast concrete panels between the structural steel columns. The retaining wall was installed by IT's subcontractor, Creamer Environmental, Inc. Work activities were concluded on May 15, 2000 with final prime/painting activities.

Waste Transportation and Disposal

IT Corporation managed the transportation and disposal of PPE contaminated with ACM generated during site activities, general construction debris, and investigative derived wastes. Drummed soil and liquid wastes were placed in the on site disposal area. The asbestos contaminated PPE was transported and disposed of at an approved disposal facility. A total of 48, 12-mil poly bags, totaling 15 cubic yards, were transported to GROWS landfill facility, 200 Bordentown Road, Tullytown, PA 19007.

A copy of the asbestos waste manifest was submitted to the USACE and USEPA (copy attached in appendix K).

Closure Cap Construction

Capping activities which began on August 16, 1999, consisted of relocating excavated material that included approximately 9,300 cubic yards of ACM, closing the asbestos mound, grading the ACM to the required elevations, installation of a layer of geotextile and geogrid material, and the placement and grading of a 2 foot soil cover. On sloped surfaces, the cap consisted of a 4 inch layer of crushed stone, followed by geotextile fabric, geogrid, a second layer of crushed stone, structural fill material, and topsoil. On level surfaces, the cap consists of a layer of controlled fill, geotextile fabric, embedded portion of the geogrid, a second layer of controlled fill, and topsoil. Capping material was compacted in accordance with specification requirements.

Additional activities associated with cap construction included the extension of monitoring wells MW902, MW903, and MW904. Work activities began on December 3, 1999 and were concluded on December 4, 1999. The work consisted of welding a stainless steel coupling to the end of the existing well and adding a stainless steel riser to the required height. A concrete footer was then poured around the base of each of the three monitoring wells. In addition, steel pipes filled with concrete were installed around each of the five monitoring wells for protection during maintenance activities.

Upon completion of the cap construction on December 22, 1999, IT closed the site for the winter.

Site Restoration and Project Closeout

IT returned to the site in the spring of 2000 to perform site restoration and project closeout activities. Site restoration consisted of the following : final site grading, placement and grading of topsoil, landscaping and planting, a final verification survey, site maintenance and cleanup, paving and asphalt patching activities, that included repairs to the northern construction entrance and areas where fence posts were removed, and demobilization of all temporary facilities and utilities. Site restoration activities began on April 3, 2000 and were concluded on May 15, 2000.

Health and Safety

A comprehensive Site Health and Safety Program was implemented at the Millington Asbestos

Dump Site that encompassed the objectives outlined in Appendix A of the contract specification. Strict adherence to these guidelines enabled IT to complete the field activities with 22,285 man-hours without a lost time injury or accident.

IT Corporation was awarded the District Health and Safety award on May 25, 2000 from the New York District of the USACE, in recognition of its site safety and health program at the Millington site. A review of the site safety and health program is presented in Chapter 4.0 of this document.

Additional Work Activities

Additional work activities were performed during the duration of field activities, which resulted in modifications to the contract. Modifications included the following : additional winterization of site facilities, revised sampling and testing protocols, mobilization of additional materials, accelerated schedule costs, additional over excavation of asbestos containing material, revisions to the wetland channel design, construction revisions to the north roadway, additional site restoration, additional drainage control plans, preparation of the operations and maintenance plan, and excavation of additional ACM at the southeast corner of the site and subsequent backfilling of the area with clean fill.

Operation and Maintenance

IT Corp was responsible for the Operations and Maintenance activities of the site for one year beginning in May 2000. After May 2001, the O&M responsibilities were transferred to NJDEP. A detailed discussion of the operations and maintenance program is included in the Operations and Maintenance Plan (IT, 2001h), which was finalized in September 2001.

IT Corporation and USACE personnel conducted periodic inspections throughout the duration of the Operations and Maintenance contract to ensure the integrity of the planted trees/vegetation, retaining wall and cap. Additional activities consisted of cutting grass areas periodically, watering grass areas and vegetation, and maintenance of drainage/soil erosion controls.

1.0 Introduction

This Remedial Action Report presents a summary of the work activities performed by IT Corporation (IT) at the Asbestos Dump OU-1 Site located in Millington, New Jersey. Figure 1-1 presents a general site location map. This document has been prepared by IT in accordance with the requirements set forth under the U.S. Army Corps of Engineers (USACE), Contract No. DACW 41-94-D-9013, delivery order D0009.

This chapter presents a site description, site history, a review of the project objective, and a discussion of the remedial action report objectives. Chapter 2.0 provides a chronology of events for the project. Chapter 3.0 presents a discussion of performance standards and construction quality control (QC) for the project. Chapter 4.0 summarizes the site health and safety program. A discussion of the construction activities is presented in Chapter 5.0. Chapter 6.0 presents a summary of the final inspection and Chapter 7.0 describes IT's operation and maintenance responsibilities. Chapter 8.0 summarizes the project costs.

1.1 Site Description and History

The Asbestos Dump site is an 11-acre commercial property located at 50A Division Avenue in Millington, Morris County, New Jersey. The site is bounded on the west by the Passaic River, on the north by the NJ Transit Millington Train Station and a single-family residence, on the east by commercial businesses, and the south by private residences. Currently the site is owned by Tifa Limited and used for commercial leasing to various businesses. The site was formerly utilized as an asbestos processing plant that was owned by National Gypsum Company and previously, by other manufacturers of asbestos products.

Manufacturing of asbestos products at the Millington Site began in 1927 by Asbestos, Ltd., which engaged in the fiberization and sale of asbestos until 1946. From 1946 until 1953, the plant was owned and operated under Smith Asbestos, Inc., a manufacturer of asbestos roofing and siding. During this later period, asbestos sediment from wastewater settling ponds was disposed of onsite and covered with soil.

In May 1953, the property was acquired by National Gypsum, which manufactured cement asbestos siding and roofing sheets at the plant until 1975. During this period, waste products, consisting of broken siding and asbestos fibers were dumped on a 5-acre area of the property. This included a 330-by-75-foot (ft) area (referred to as the asbestos mound) where predominantly

asbestos fibers were disposed. From 1959 until 1972, National Gypsum used phenylmercuric acetate as a fungicide to coat asbestos shingles. Waste generated by the cleaning of coating equipment was disposed of in small pits located west of the plant.

During the period August 1986 through November 1987, the U.S. Environmental Protection Agency (USEPA) performed a remedial investigation and feasibility study (RI/FS) for the site. During the RI/FS, extensive soil sampling was performed to characterize areas contaminated with asbestos. Air sampling was also performed. In addition, remedial alternatives were developed and evaluated for the site during the FS.

1.1.1 Site Geology

The Millington site is located between the Second and Third Watchung Basalts (Preakness and Hook Mountain, respectively). The bedrock geology in this area consists of coarse-grained silt stone of the Towaco formation. The overall geology at the site consists of fill that is situated on a silt-clay deposit that directly overlies bedrock. Bedrock is shallowest at the eastern section of the site at approximately 4½ ft below ground surface. The bedrock slopes westward toward the Passaic River where it lies approximately 32 ft below the asbestos mound.

The overlying fill deposit consists of yellow, medium grained sand in the vicinity of MW-901 and reddish-brown silty clayey topsoil fill, with a slight veneer of asbestos waste products (i.e., broken tiles, shingles, and siding) at the surface, throughout the remainder of the site. This unit ranges from ½ ft thick at MW-901 and increases in mass to 6 ft at MW-906 and is only 2 ft thick at MW-903. Below this upper fill deposit is a deposit consisting solely of loose asbestos fiber. The asbestos waste layer was identified at MW-906 where 9 ft was encountered and on the asbestos waste mound at MW-903. Figure 1-2, Figure 1-5 and Appendix H presents the locations of the seven monitoring wells. Underlying the asbestos waste is the silt-clay unit, which is observed throughout the site. Below this unit lies the silt stone bedrock.

Elevation of the mound ranged from 253 ft to 250 ft above MSL along the flanks. The geology of the mound consists of four units. The upper most unit consists of a veneer of silt to clayey fill material approximately 6 to 8 in. thick. Beneath the fill layer lies the asbestos deposit. This deposit makes up the majority of the mound and is responsible for the existence of the mound itself. The asbestos deposit consists of pure, loose, asbestos fibers. The unit ranges from

28 ft thick in the center to 24 ft thick toward the edges. The following underlying unit is made up of a coarse textured, reddish brown silt-clay to clayey silt. This layer averages between 4 to 7 ft in thickness and probably formed by weathering of the underlying bedrock unit. The silt stone bedrock is shallowest in the vicinity of the river. The upper foot to 6 ft of this unit is extremely weathered, which has helped make it a water bearing zone. The exact thickness of the bedrock at the site is not known but has reported to be up to 340-ft thick in this vicinity. A copy of the preconstruction geotechnical boring results completed by the remedial design team in 1997 is attached as Figure 6-1, 6-2 and 6-3. The final elevations of the mound are as indicated on Figure 5-1 ("AS BUILT PLAN showing TOPOGRAPHIC FEATURES", dated June 29,2000).

1.1.2 Site Hydrology

The Passaic River in the vicinity of Millington, New Jersey has a drainage area of approximately 55.4 square miles. The ultimate source of water in the Passaic River and its tributaries is precipitation. Not all precipitation becomes stream flow because of evaporation. The estimated water loss in the Passaic River Basin in the headwaters near Millington is 25 to 26 inches per year. The Passaic River is classified as an FW2-NT (Fresh water, Non-Trout bearing) surface water. This designation signifies that the surface water body is not designated FW1 or Pinelands Water. The following lists the designated uses of all FW2 waters:

- Maintenance, migration and propagation of the natural and established biota
- Primary and secondary contact recreation
- Industrial and agricultural water supply
- Public potable water supply after such treatment as required by law or regulation
- Any other reasonable uses.

Primary contact recreation is defined as recreational activities that involve significant ingestion risks and includes but is not limited to, wading, swimming, diving, surfing, and water skiing. Secondary contact recreation means recreational activities where the probability of water ingestion is minimal and includes, but is not limited to, boating and fishing. The direction of river flow at the Millington Site is north to south. River flow data indicate that precipitation is the controlling factor on water flow quantity and flow velocity. Periods of low precipitation (usually during the summer) are characterized by low flow rates and discharge of water volume. High precipitation experienced during the fall and spring results in an increase in both the flow volume and rate. The average flow rate of the Passaic River near the Millington Site is 83.6 cubic feet per second.

Data on the regional surface water quality of the part of the Passaic River near the Millington site is limited to the concentration of ions and trace elements. The Millington site is located within the Piedmont Lowland part of the Passaic River Basin characterized by a dissolved solids content ranging between 100 to 400 milligrams per liter. The predominant cations are the alkaline earth's ranging from 40 to 70 percent. Consequently, the percentages (30 to 60) of alkali metal in the region are the highest observed in the basin. The predominant anions in this region are those associated with salinity, principally sulfate and chloride, but also nitrate and minor amounts of fluoride.

The western-most section of the Asbestos Dump OU-1 Site lies within the flood plain of the Passaic River. Of special concern is the asbestos mound, which is situated directly on the flood plain rising approximately 30 ft above the Passaic River. Conversations with residents along the Passaic River adjacent to the Millington site, reveal that local, annual flooding occurs one to three times per year.

Drainage at the Millington site is a relatively simple process consisting of direct surface runoff or transport via groundwater or a storm sewer network. Surface runoff is controlled by topography of the site. The overall topography slopes east-west towards the Passaic River. It is expected that rainwater would runoff as overland flow towards the Passaic River after the soils reach their saturation point and rainwater ceases infiltrating into the ground. Surface runoff also occurs on the asbestos mound and a slightly pronounced network of rills has been established on the slope facing the Passaic River. Rainwater percolating through the site will become entrained in the local groundwater flow direction, which is towards the Passaic River, located just west of the site.

1.2 Project Objective

Approximately 5 acres of the site comprising the asbestos mound was to undergo remedial action developed in accordance with the requirements of the Record of Decision issued by the U.S. Environmental Protection Agency in September 1988 and in accordance with the 1998 Final Remedial Design Report. The scope of work covered by these contract documents at the Asbestos Dump OU-1 Site included, but is not limited to, the installation of a 2-ft soil cover, construction of slope protection stabilization, and construction of surface water run-off controls. These activities included, construction of a retaining wall and on-site relocation of asbestos-containing material (ACM).

The work was performed in accordance with the contract documents, including the General Conditions for Construction (IT, 1990a), a guide to effective Contractor QC (IT, 1990b).

1.3 Remedial Action Report Objectives

The objectives of this Remedial Action report are as follows:

- X Provide a summary of the background information including a site description and site history
- X Present a detailed chronology of events
- X Present an overview of the project organization
- X Present a summary of the pre-remedial and remedial action activities over the course of the project
- X Present an overview of the QC and health and safety programs.

Additionally, this remedial action report will present a summary of ITs operation and maintenance obligations.

2.0 Chronology of Events

Activities were initiated on March 6, 1999, which included the preparation of project plans, procurement activities and the initial sampling of off site borrow source material. Work activities associated with the contract began with a Pre-Construction Meeting held on June 7, 1999. Notice to Proceed was awarded on June 8, 1999, which was the official start date for field activities. Mobilization activities were initiated on June 16, 1999, with site orientation and health and safety training. Substantial construction activities were finished on December 22, 1999, and site restoration activities were completed on May 15, 2000. The following is a summary of the activities completed as part of the remedial action effort.

Start Date	End Date	Activity
Pre-Notice to Proceed Activities		
June 1998	June 1998	Award of D009 and Preparation of Project Plans and Permit Procurement
March 4, 1999	March 4, 1999	Award of D009 and Preparation of Project Plans and Permit Procurement
March 6, 1999	March 6, 1999	Pre-Construction video and photographs and background asbestos air sampling
June 7, 1999	June 7, 1999	Pre-Construction Conference and Meeting of Mutual understanding
June 8, 1999	June 8, 1999	Notice to Proceed Awarded
Pre-Remedial and Remedial Activities		
June 15, 1999	June 15, 1999	Initial off-site borrow source sampling event
June 16, 1999	June 16, 1999	Site orientation, Site Health and Safety, and Asbestos awareness training
June 17, 1999	July 27, 1999	Mobilization

Start Date	End Date	Activity
June 21, 1999	December 10,1999	Asbestos Air Monitoring Program
June 22, 1999	July 2, 1999	Electrical Hookup of Site Facilities
June 22, 1999	June 23, 1999	Initial Site Survey
June 22, 1999	July 20, 1999	Clearing and grubbing of asbestos mound and slope area
June 24, 1999	December 17, 1999	Site Security Operations
July 8, 1999	December 22, 1999	Access road construction to include associated compaction testing
July 12, 1999	July 23, 1999	Excavation and relocation of ACM at toe of slope to include construction of working platform
July 26, 1999	July 26, 1999	Mobilization of drill rig and support equipment
July 27, 1999	August 27, 1999	Drilling associated with the installation of the retaining wall
August 4, 1999	August 28, 1999	Subgrade preparation associated with Cap Construction
August 10, 1999	August 17, 1999	Second round of sampling for Controlled Fill Material.
August 18, 1999	September 30, 1999	Steel Erection associated with Retaining Wall Construction
August 18, 1999	December 12, 1999	Wetland Channel Construction
August 20, 1999	September 30, 1999	Placement of Cast In-place Concrete associated with Retaining Wall Construction
September 16, 1999	September 17, 1999	Hurricane Floyd, work activities postponed through 9/21/99
September 20, 1999	September 20, 1999	Second Round of sampling of Structural Fill Material

Start Date	End Date	Activity
September 22, 1999	September 22, 1999	Survey controls reestablished
September 27, 1999	September 29, 1999	Final Fitting and surveying activities associated with steel erection activities
October 1, 1999	October 1, 1999	Placement of Precast Concrete Panels
October 14, 1999	December 21, 1999	Cap Construction
October 26, 1999	October 27, 1999	USACE Quality Assurance (QA) Audit
November 2, 1999	November 24, 1999	ACM removal along South Access Road
November 8, 1999	November 12, 1999	Construction of access road along retaining wall
November 16, 1999	November 16, 1999	Initial Round of Sampling for Topsoil
December 9,1999	December 9,1999	Loadout and transportation of asbestos contaminated personnel protective equipment (PPE)
December 22,1999	December 22,1999	Substantial completion of construction activities
April 3, 1999	May 15, 2000	Site restoration
May 15, 2000	May 18, 2001	One Year Operation and Maintenance of project site

3.0 Project Organization and Construction Quality Control

Throughout the duration of the project, IT implemented a stringent QC program that met and exceeded the contract specification. This program was executed to ensure that the remedial action was completed in accordance with the contract specification and contract drawings and that workmanship standards and worker safety were maintained.

A summary of the QC organization and QC program, including a discussion of the sampling policies and procedures and sampling QC, is presented below.

3.1 Quality Control Organization

The project organization chart, Figure 3-1, defines the lines of authority as well as reporting functions of personnel that performed quality control activities.

The following paragraphs provide a summary of the responsibilities of key project personnel performing activities that affected the quality of the project.

3.1.1 Quality Assurance/Quality Control Director

The IT Project Operations QA/QC Director for this project was Mr. Raymond Lion. Mr. Lion reported to the IT Vice President, Quality and Health Services for direction on all quality matters. Mr. Lion was responsible for the planning, development, implementation, and effectiveness of the project-specific QC program included in the Contractor QC Plan (CQCP) (IT, 1999a). Mr. Pete Hunter, IT QA/QC manager, Trenton, New Jersey office, served as a local liaison for Mr. Lion and provided the following support.

- X Reviewed and approved the project-specific CQCP (IT, 1999a) and all revisions
- X Reviewed and approved the supporting QC procedures
- X Evaluated effectiveness of the Quality Program
- X Directed and supported the project QC management staff

Mr. Hunter provided support throughout the duration of the project.

3.1.2 Quality Control System Manager

The QC System Manager (QCSM) for this project was Mr. David Ambrose.
Mr. Ambrose reported directly to the QA/QC Director on all matters within the scope of the project QC Program. The QCSM was responsible to ensure that the frequency, type, and methods for all testing were compliant with applicable test standards (i.e., American Society for Testing and Materials, American Concrete Institute, etc.) and that all testing and results were validated prior to the acceptance and placement of any material.

The QCSM did not have any other duties or responsibilities other than those defined in the project CQCP (IT, 1999a). Duties of the QCSM included, but were not limited to, the following:

X Implementing the project CQCP

- Identifying and reporting nonconforming items or activities
- Initiating or recommending corrective actions
- Verifying implementation of corrective actions
- Directing site or office project QC staff
- Monitoring on-site and off-site subcontractors
- Evaluating effectiveness of the project CQCP
- Preparing QC reports as required by contract specifications
- Notifying the QA/QC Director of conditions adverse to quality that cannot be resolved at the project level
- Performing and documenting construction inspection activities
- Monitoring operation activities for compliance with contract requirements
- Performing or monitoring sampling activities
- Monitoring laboratory testing activities
- Identifying and reporting nonconforming conditions.

Mr. Ambrose was present at the project site whenever field activities were in progress.

3.1.3 Project Manager

The Project Managers for this project were Mr. Keith Walker and Mr. Chip Strotz. Mr. Strotz replaced Mr. Walker as acting Project Manager during field activities. The Project Manager had the overall responsibility to manage the project. He acted as the main liaison between IT and the USACE Contracting Officer Representative (COR). The Project Manager was ultimately responsible for ensuring that all project activities were completed in accordance with the requirements and procedures of the contract and the Chemical Data Acquisition Plan (ChDAP) (IT, 1999b).

3.1.4 Site Engineer

The Site Engineer, for this project was Mr. Chip Strotz. Mr. Strotz was replaced by Frank Russo during the progress of field activities. The site engineer directly supervised all site operations and was responsible to enforce all regulations regarding the safe handling, characterization, and disposal of all site wastes. He was responsible for implementation of the Site Safety and Health Plan (SSHP) (IT, 1999c), including communication of site requirements to all IT site personnel and subcontractors.

The site engineer was responsible to consult with the Site Safety and Health Officer (SSHO) and implement the approved health and safety procedures for all site operations. Additionally, the site engineer was responsible for the procurement, receipt, and distribution of site inventory throughout the contract period of performance.

3.1.5 Site Safety and Health Officer

The SSHO position for the project was shared by Mr. Tracey Estes, Mr. Ross DeAmbrogio, and Mr. Ersin Yalsin. The SSHO was responsible for technical and regulatory health and safety aspects of the project, including review and approval of the SSHP (IT, 1999c). Inquiries regarding IT policies, procedures, and other technical or regulatory issues were addressed by the SSHO. The SSHO supervised all monitoring activities and prepared and presented the daily Tailgate Safety Meeting. Additionally, the SSHO conducted periodic site safety audits with the support of the site Certified Industrial Hygienist (CIH), Mr. Kevin McMahon.

3.2 Quality Control Program

The project QC program included inspection and documentation of site activities to ensure compliance with the remedial action contract. The program established the measures for management and control of items or activities affecting quality and to verify and document compliance to the specified requirements as outlined in the contract specification. The measures included, but were not limited to, the following:

- X Design control
- X Project planning
- X Document/record controls
- X Nonconforming conditions/deficiency corrective actions
- X Chemical/analytical testing
- X Subcontractor controls
- X Inspections/audits
- X Investigation and studies
- X Use of standard QA/QC forms.

The QCSM was responsible for the implementation and management of the QC Program. Regularly scheduled project progress meetings were held by IT at the USACE trailer over the course of the field effort on a weekly basis. Minutes were prepared for each meeting and submitted to the USACE and EPA for approval. These meetings provided a forum for IT, the USACE; and the USEPA to discuss recently completed work, contractor performance, near-term field activities, project schedule, problems encountered, approval of the previous weeks meeting minutes and general contract administration-related issues.

3.2.1 Project Plans

As required by contract specifications, IT submitted to the USACE for review and acceptance 11 site-specific project plans. The QCSM was responsible to ensure that the field activities were completed in accordance with these contract documents. The following is a list of the project plans that contributed to the overall quality objectives for the project.

- X CQCP (IT, 1999a)
- Environmental Protection Plan (IT, 1999d)
- Soil Erosion and Sediment Control Plan (IT, 1999e)
- Spill Prevention and Control Plan (IT, 1999f)
- SSHP (IT, 1999c)
- Asbestos Sampling and Analysis Plan (IT, 1999g)
- ChDAP (IT, 1999b)
- Operations and Maintenance Plan (IT, 2001h)

- Restoration and Closeout Plan (IT, 1999i)
- Waste Management and Disposal Plan(IT, 1999j)
- Transportation and Traffic Control Plan (IT, 1999k).

The CQCP established the measures required to verify the quality of work performed and compliance to the specified requirements, including the inspection of materials and workmanship before, during, and after each definable feature of work (IT, 1999a). A detailed discussion of the QC program, to include a review of the documentation procedures, is presented in the CQCP.

3.2.2 Document Control

The QCSM established a document control system to provide measures for the distribution, storage, and maintenance of documents relating to the QC system. These controls were extended to include documents of subcontractors, off-site fabricators, laboratory suppliers, and vendors. Preparation, review, issuance, and revisions to controlled documents were a contract requirement. Controlled documents included but were not limited to the following.

- Plans and procedures
- Contract drawings
- Daily QC Reports
- Field Activity Daily Logs
- Weekly progress meeting minutes
- Submittal Register
- Transmittal Activities Log
- Calibration Logs.

The QCSM was responsible to prepare and review these documents to verify the inclusion of QC requirements. A review of the documentation procedures is presented in the CQCP (IT, 1999a).

3.2.3 Inspections

Inspections and tests were performed for those activities as stated in the remedial design contract specifications, and conducted in accordance with the USACE's three-phase-inspection procedure. Preparatory, initial, and follow-up inspections were performed for each of the definable features of work and were mutually agreed to by USACE and IT at the Meeting of Mutual Understanding held June 7, 1999.

Implementation of the inspection program was the responsibility of the QCSM. A project final inspection will be formally scheduled to coincide with the completion of project activities. Each phase of the inspection process is discussed in detail in the CQCP (IT, 1999a).

3.2.4 Sampling Program

In addition to performance of inspection and test activities to ensure QC, sampling was performed to assure that materials were in compliance with the contract specification. The scope items for this project requiring testing included the following:

- X Chemical and physical testing of off-site borrow source material, which included controlled fill, structural fill, and topsoil
- X Properties testing of geotextile and geogrid material
- X On-site nuclear density testing of fill material
- X QC concrete field testing.

Asbestos air sampling was performed in accordance with the health and safety plan and the contract specification and is addressed in Chapter 4.0 of this report.

Specific sample collection methodologies and procedures as well as analytical methodologies, detection limits, and reporting requirements are discussed in detail in ITs ChDAP (1999b). Sampling activities and results of tests and monitoring activities were included in the Daily QC Report.

IT Corporation's quality objective as it relates to field screening and sampling activities was to obtain precise, accurate, complete, and defensible data for the required scope items for the project. The following sections provide a summary of the sampling activities and a brief discussion of the results.

3.2.4.1 Chemical and Geotechnical Analysis

Chemical and geotechnical testing for offsite borrow source material was performed in accordance with the methods and procedures specified in the project ChDAP (1999b) and in accordance with the contract Specification Sections 01450 and 02560. The ChDAP discussed sampling activities to include sampling procedures, QC practices, documentation procedures, and the sample nomenclature protocols.

Test reports and other forms used to document sampling activities were maintained by the QCSM. Examples of the forms are included in the ChDAP (1999b). Tests performed and the results of the tests were included in the Daily QC Report.

Offsite borrow source material sampled included controlled fill, structural fill, and topsoil. Each was sampled at a rate of one sample per 5,000 cubic yards of material brought on site. Initial sampling of controlled and structural fill was performed on June 15, 1999. Each sample was chemically tested for volatile organic analysis, Base/Neutral Acid Extractable (B/NAE), polychlorinated biphenyls, pesticides, herbicides, metals, corrosivity, ignitability, reactive cyanide, reactive sulfide, and radium-226. In addition, each sample was analyzed for geotechnical parameters that included gradation, liquid limit, plasticity index, and maximum dry density. Topsoil samples were collected on November 16, 1999 and March 15, 2000 and analyzed for the chemical parameters listed above. Topsoil was also analyzed for organic content, gradation, and pH.

A total of 7,671 cubic yards of controlled fill were brought on site, which resulted in the collection of two individual samples. A total of 2,370 cubic yards of structural fill were brought on site, which resulted in the collection of one sample.

Results of the chemical and geotechnical testing of the off site borrow source materials were acceptable to IT and USACE personnel prior to use of the material. Appendix A presents the analytical testing results for the off-site borrow source material.

3.2.4.2 Material Testing

The contract specifications required that the following materials be tested and accepted prior to placement: geogrid, geotextile, off site-borrow source material, and cast in place concrete. The tests performed are presented in Table 5-1 of the CQCP (IT, 1999a) and outlined in the contract specification.

Geotextile was sampled at a rate of one sample per 25,000 square feet of material placed. The material was utilized during construction of the landfill cap and the access roads. A total of 11 samples were collected during the course of the project. Each sample was tested for uniformity, thickness, and tensile properties. Samples met the minimum requirement outlined in the contract

specification and results were transmitted to the USACE and accepted prior to placement. A copy of the testing results is presented in Appendix B.

Geogrid was sampled at a rate of one sample per 10,000 square feet of material placed. The material was placed on sloped surfaces greater than 3:1 for stabilization relating to cap construction activities. A total of six samples of geogrid were collected during the duration of the project. Each sample was tested for tensile strength at 2 percent strain, tensile strength at 5 percent strain, ultimate tensile strength, and junction tensile strength. Samples met the minimum requirement outlined in the contract specification and results were transmitted to the USACE and accepted prior to placement. A copy of the testing results is presented in Appendix C.

In order to determine the compaction percentage of in-place material, nuclear density testing was performed on controlled and structural fill. The materials were placed in conjunction with the construction of the landfill cap and access roads. Testing was performed at a minimum rate of one test for every 5,000 square feet and for every 1 ft of material placed. The minimum compaction requirements were 90 percent for controlled fill and 85 percent for structural fill. All minimum requirements were met prior to placement of additional fill. Appendix D presents a copy of the compaction testing reports which includes maps of sampling locations.

Quality control testing was performed on all cast in place concrete as required by the contract specification. Testing consisted of the collection of air entrainment, slump, and compressive strength values. At a minimum, one round of tests were completed for every 50 cubic yards of concrete placed or at a rate of one per day. Air entrainment and slump tests were performed immediately prior to and during placement activities. The acceptable range of air entrainment results were between 2 and 7 percent while the maximum slump value accepted was 4 in. Concrete that did not meet these requirements was rejected by the QCSM and USACE personnel. Approximately 10 cubic yards of concrete were rejected throughout the duration of the project. Concrete testing results were submitted to the USACE on the Daily Quality Control Summary Report and are included in Appendix E

In addition, cylinders were collected for compressive strength tests during placement activities. Cylinders collected were tested on a 3, 7, 28, and 90 day break schedule. All cylinders collected passed the minimum strength requirement of 3,000 pounds per square inch at the 28 day break. The results are included in Appendix E

3.2.5 Nonconformance and Corrective Actions

Work or materials that did not conform to the specifications or contract requirements, including noncompliance and deficiencies identified by the QCSM and USACE, were identified and documented on a Deficiency/Nonconformance Report (DNCR) as indicated on Figure 7-1 of the CQCP (IT, 1999a). As a minimum, the DNCR detailed the nonconforming condition, recommended corrective action(s), and disposition of the corrective action(s). The DNCR remained open until the nonconforming condition had been satisfactorily resolved and verified as acceptable by the QCSM and USACE personnel. A copy of DNCR is included in Appendix F.

3.2.6 Project Audits and Surveillance

On October 26, 1999, Mr. Guy Jean-Baptiste of the USACE, performed a site audit to evaluate the effectiveness of the QC system and to review remediation activities. Mr. Baptiste inspected the existing site conditions and the project files in addition to the health and safety program. Mr. Baptiste reported that he did not observe any deficiencies at the time of his visit and that the QC system was well organized. In addition, on 27 April 2000, Mr. Guy Jean-Baptiste and George Van Cook of the USACE performed a site inspection.

3.2.7 USACE Oversight Duties

The USACE provided technical oversight and project management for the USEPA during the duration of the project. Specific responsibilities included daily inspections of work activities, verification and acceptance of completed work, and review and acceptance of contract deliverables, which included contract submittals and work plans.

4.0 Site Safety and Health Program

An intensive, pro-active Site Safety and Health Program was implemented that encompassed all of the requirements presented in Appendix B of the project specifications. Strict adherence to the Health and Safety Program enabled IT to complete the 11 month effort to install a landfill cap without any lost-time injuries, lost work day incidents, or a first aid case.

4.1 Site Safety and Health Plan

IT Corporation's Site-Specific Health and Safety Plan (IT, 1999c) was prepared to incorporate the requirements of Appendix A of the project specifications, USACE Safety and Health Requirements Manual, Engineering Manual (EM) 358-1-1 (USACE, 1996), and IT Health and Safety Policies and Procedures. The SSHP was amended over the course of the project to address all changes in site conditions during completion of site remedial activities.

4.2 Project Training Requirements

All site personnel who entered the work zone were required to provide the SSHO with copies of the following certifications:

- X Initial Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulation (CFR) 1910.120 40-hour hazardous waste training certificate
- X Current OSHA 29 CFR 1910.120 8-hour hazardous waste refresher training certificate
- X Current medical surveillance clearances
- X Current respirator fit-test record (quantitative fit-test).

The SSHO reviewed and approved these records for each individual prior to initial entry into the work zone. The SSHO performed a respirator fit test on any individual who did not possess a current fit test record on an as needed basis. Fit tests were completed quantitatively due to the fit factor required on site. All subcontractors provided the IT SSHO with copies of applicable initial 40-hour OSHA HAZWOPER and current 8-hour refresher training certificates. These documents were reviewed and verified by IT prior to the contractor initiating the work.

4.3 Site Orientation

The project CIH and the SSHO conducted a joint safety and health orientation briefing on June 16, 1999. The USACE, IT, and various subcontractor personnel attended this orientation. The purpose of this meeting was to familiarize site workers of the following site-specific information relative to health and safety related concerns and procedures:

X SSHP sign off

X Sign in/out procedures

X Site background

X Chain of command

X Rules and regulations

X Hours of work

X Absence

X Equipment

X Emergency information
- Emergency signal
- Gathering point
- Responsibilities/roles
- Emergency phone numbers

X Work zones

X Contaminants and Material Safety Data Sheets (Hazardous Communication Program)

X Job Safety Analysis (JSA) (Phase Safety Plans)

X Forms, site-specific

X Incident reporting.

Special emphasis was placed on ensuring the safety of the public who regularly visited the site. The IT SSHO conducted subsequent site orientation training sessions for new personnel, subcontractors, and visitors as required.

4.4 Daily Safety Briefing

The SSHO conducted a daily safety meeting each morning that was attended by all site workers. These meetings addressed the hazards associated with ongoing and near term scheduled work. A summary of the topics addressed at each safety briefing was included in a safety report prepared by IT and submitted to the USACE on a daily basis.

4.5 Project Certified Industrial Hygienist Oversight

The project CIH, visited the site on a weekly basis to review ongoing site operations relative to safety and health related concerns. The CIH reviewed the procedures used to complete field activities against the SSHP (IT, 1999c). Each CIH inspection was documented and subsequently provided to the USACE and the SSHO for review. Noted deficiencies were corrected immediately. The IT field team, in turn, took recommendations for safer work practices under advisement, implementing those recommendations that facilitated both worker safety and project schedule upon approval by the USACE.

4.6 Medical Surveillance Program

All IT employed field team members and local union employees that were involved in work zone field activities participated in the IT Medical Surveillance Program. This program included a baseline physical and a second, post-field activity physical completed either upon termination (union hall personnel were terminated by IT upon completing of project commitment obligations) or upon the 1 year anniversary of a previous IT physical. The Continuum Health Center located in Somerset (near the IT office) was contracted through IT to perform physicals on all new project hires. Both the pre-employment and post-field activity physical complied with project specifications and OSHA 29 CFR 1910.120 requirements. Employees were not permitted to participate in field activities until IT received a written opinion from the examining physician on the fitness of the employee to conduct site work. Recommended work limitations observed during the physical were noted on the physician's statement of the affected employee and the affected employees were prohibited from performing any activity that could potentially aggravate the recorded work limitation.

4.7 Personal Protective Equipment

Site workers donned Level C and Modified Level D PPE to complete the majority of project tasks within the Exclusion Zone. Level C PPE included the use of a full-face air purifying respirator equipped with chemical-resistant cartridges and a chemical-resistant suit to guard against the inhalation and absorption of organic compounds and inorganic constituent contaminated dust. Other standard health and safety clothing articles worn as part of the Level C PPE ensemble included steel-toed work boots, chemical resistant gloves, and a hard hat.

Modified Level D PPE included the use of the above identified items (and safety glasses) minus the respirator. Modified Level D PPE was worn toward the end of the job, until downgraded to Level D. This occurred consistently with the SSHO recommendations to down grade the PPE level. Conversely, the PPE level was also, on occasion, adjusted up from Modified Level D to Level C PPE by the SSHO in response to real-time (qualitative) air monitoring results obtained from within the work zone.

Level D PPE (i.e., work clothes, safety glasses, hard hat, chemical resistant gloves, and steel-toe boots) was worn following the geo-fabric cover on the asbestos mound and following the removal or covering of contaminated materials from the site and during the completion of site activities outside of the work zone.

4.8 Air Monitoring and Sampling

IT Corporation executed an extensive site-specific air monitoring and sampling program designed to accurately quantify the nature and concentration of airborne contaminants adhering to fugitive dust, and the total mass of fugitive dust generated during the completion of subsurface activities at the site. This program consisted of the regular collection of quantitative site perimeter, work zone, and personal monitoring samples. These results triggered PPE modifications and engineering controls (e.g., spraying exposed soil with water mist for dust suppression purposes) to ensure the safety of both site workers and the general public. A tabular summary of the air monitoring data collected over the course of the remedial action effort contains data on standard deviation, high and low levels, and median points. A discussion of the air monitoring and sampling program is presented below.

4.8.1 Perimeter and Work Zone Air Monitoring and Sampling Quantitative Air Monitoring and Sampling Program

The quantitative air monitoring program included collection of volatile organic compounds (VOC) and total suspended particulates (TSP) or dust, air samples from a total of four site perimeter air monitoring stations located at the North, South, East, and West areas of the boundary fence. These pumps were pre and post-calibrated daily to ensure accurate readings. At no time was the Time Weighed Average (TWA) reached during the course of the project.

Total dust was sampled using a MIE Data-Ram, which was calculated daily. All total dust samples were taken during intrusive activities. At no time did the total dust level exceed 0.15 milligrams per cubic meter (mg/m^3) TWA.

Quantitative site perimeter samples were collected daily and corresponding results were analyzed the next day to ensure compliance. All samples were analyzed under the phase contrast microscopy (PCM) National Institute for Occupational Safety and Health method. Air analysis for asbestos consisted of Trans Electron Microscopy (TEM) which was conducted when the action level was reached for asbestos or when samples were taken from personnel in the field. Samples were submitted to the appropriate USACE validated laboratory for the day with the greatest potential for employee exposure (24-hour turnaround). The potential for exposure was determined through the review of daily qualitative real-time air monitoring data as well as meteorological data collected from the on-site weather monitoring station. A total of 583 sets of quantitative perimeter and personnel air monitoring samples were submitted for analysis over the course of the field effort.

4.8.2 Qualitative Air Monitoring and Sampling Program

Qualitative, real-time sample data was collected daily from within the work zone and at various locations along the site perimeter to monitor for VOC vapors and contaminant-bearing fugitive dust. Real-time VOC and dust values were, in turn, compared against the contract action levels. Site-specific VOC action levels and the corresponding means of response are presented below:

X Work Zone

- 0 parts per million (ppm) to 5 ppm above background for 303 sustained minutes - use a minimum of Level C PPE protection

- 5 ppm to 500 ppm above background for 30 sustained minutes - upgrade to Level B PPE protection
- Greater than 500 ppm above background for 30 sustained minutes - evacuation of the work area; notification of the Site Supervisor, the USACE, and the Project Manager regarding the need for an upgrade to Level A PPE protection was initiated.

X Site Perimeter

- Greater than 1 ppm and less than 5 ppm above background for 30 sustained minutes - conduct additional investigations and consult with the QCSM.

- Greater than 5 ppm above background for 30 sustained minutes - stop work and institute engineering control.

A hand-held Photovac Microtip (Model HL-2000) photoionization detector (PID) was used to record real-time VOC concentrations. These instruments were calibrated daily in accordance with manufacturer's sheets. Real-time VOC measurements were recorded daily either in the field logbook or on log sheets. Real-time VOC data was also archived. These data were provided to the USACE as an attachment to the daily health and safety report.

The site-specific quantitative fugitive dust action levels for the site were as follows:

X Work Zone

- Less than 0.15 mg/m^3 (TWA) - all employees can stay in Level D

- Greater than 0.16 mg/m^3 but less than 1.0 mg/m^3 - employees were upgraded to Level C.

X Site Perimeter

- Greater than or equal to 0.075 mg/m^3 above background for 30 sustained minutes - stop work and institute engineering controls.

A MIE Airborne Particulates Monitor (MODEL pDR-1000) was used to measure real-time dust. The instrument was calibrated daily in accordance with manufacturer's specifications. Real-time dust measurements were recorded daily either in the field logbook or on log sheets. Real-time was also archived daily using the MIE instrument. These data were provided to the USACE, along with real-time VOC data, as an attachment to the daily health and safety report.

Measurements for percent oxygen, the lower explosive limit of airborne VOCs, and hydrogen sulfide were also recorded for Hot Work Permitting. Hot Work Permitting is a series of test to determine if an area is safe for a open flame to be used for work activities (ie torch cutting). A factory-calibrated MSA ELE-02-H2S monitor was use to record these data. These data were provided to the USACE, along with record real-time VOC and dust data, as an attachment to the daily health and safety report.

4.8.3 Personal Air Monitoring and Sampling

The quantitative personal air-monitoring program monitored the potential for employee exposure to inorganic contaminants (i.e., asbestos). Quantitative low flow personal sample VOC data were collected in a German Sciences 37 millimeter polyvinyl chloride cassette (5 micrometer pore size). Each cassette was connected to a Gillian air-sampling pump by a short length to Tyron tubing. Real-time air monitoring was conducted concurrent with the collection of the quantitative personal air samples to further assess the quality of ambient conditions within the work zone.

Cassette samples were submitted to EMSL Analytical. As discussed earlier, a Phase Contrast Microscopy (PCM) analysis was conducted on every sample. A TEM analysis was conducted once every 2 weeks as agreed upon with the USACE and USEPA, or when a sample was on a person.

4.8.4 Perimeter Quantitative Air Monitoring Results Summary

No reportable concentrations of VOCs were detected in the results for charcoal tube VOC samples collected from the perimeter air monitoring stations that surrounded the site. These data are substantiated by very low and sporadic detection of VOCs obtained using qualitative hand-held instruments at the same perimeter locations.

The TSP results were equally innocuous. The TSP in perimeter ambient air failed to meet the 0.15 mg/m^3 site limit in the results of all of the perimeter samples, including during intrusive activities. A maximum TSP concentration of 0.075 mg/m^3 was detected in the result for the TSP sample collected during intrusive activities on site, in particular during the excavation of the temporary containment pond area located at the Southeastern portion of the site. The containment pond was excavated to control storm water runoff from the adjacent Tifa Building and parking lot. Furthermore, at no time during the perimeter air monitoring program did

qualitative ambient VOC and total dust readings exceed site limits for a period of 30 sustained minutes, or longer.

4.8.5 Quantitative Personal Air Monitoring Results Summary

A review of personal air sample results collected over the course of the project indicated that employee exposure to site contaminants was minimal. The VOCs were not detected in personal air monitoring samples.

All quantitative personal air-monitoring samples were collected by site workers that wore, at a minimum, Level C PPE. As such, site workers were sufficiently protected against the flow level exposures to VOCs and total dust identified in the quantitative laboratory data. Appendix G presents a summary of the air monitoring results.

4.9 Personnel Decontamination

Personnel decontamination was performed upon exit from the Exclusion Zone at the conclusion of each work shift, or upon change-out of torn or damaged PPE. Personnel donned-off soiled PPE into receptacle and personnel decontamination trailer, a facility equipped with shower amenities, to change into street clothes prior to re-entry to the Project Support Zone.

4.10 Vehicle and Equipment Decontamination

All vehicles and large engine-driven equipment were inspected regularly for mechanical malfunctions. Equipment Inspection Check-Lists were completed daily on engine-driven field equipment by the machine operator. Observed or pending malfunctions were promptly repaired by IT or the equipment vendor. The driver for each vehicle that arrived on-site to haul away contaminated materials or import borrow source materials was required to complete an Equipment Inspection Check-List on a weekly basis. These documents were submitted to the USACE as an attachment to the daily safety report.

5.0 Construction Activities

This chapter of the report presents a summary of the project construction activities. It includes a review of the project objective, a discussion of the preparatory and remedial construction activities, a review of the site restoration activities, and a section describing the lessons learned for the project. Figure 5-1 presents the plan view as-built drawing and Appendix H the detail as-built drawings.

5.1 Project Objective

The project objective was to complete the remedial action outlined in the project specification and contract drawings. The remedial action was conducted pursuant to EPA's September 1988 Record of Decision and in accordance with the approved 1998 Final Design Report. The scope of work consisted of the installation of a 2-ft soil cover, construction of slope protection and stabilization, construction of surface water run-off controls, and site restoration activities.

5.2 Preparatory Construction Activities

The following sections provide a summary of the preparatory construction activities. Preparatory Construction Activities included mobilization, an initial site survey, implementation of soil erosion and sediment control measures, site debris removal, clearing and grubbing operations, and support zone preparation. Preparatory Construction Activities began on March 6, 1999, and were completed on July 27, 1999.

5.2.1 Mobilization

Mobilization activities began on June 17, 1999, with general material deliveries and delivery of heavy equipment. All necessary labor, materials, and equipment to perform the work were coordinated by the Project Manager and implemented by the Site Engineer. Activities also consisted of electrical hook ups, installation of the telephone system, and erection of flagpoles.

5.2.2 Pre/Post Construction Video and Photographs

On March 6, 1999, the QCSM conducted a site walk and obtained a pre-construction video and photographs in accordance with Section 01340 of the contract specification. The pre-construction video and 15 five by seven photographs were submitted to the USACE and USEPA. Post construction video and photographs were obtained upon completion of the project activities

and submitted to the USACE and USEPA for review. Appendix I, presents a copy of photographs taken during the course of the project.

5.2.3 Initial Site Survey

The initial site survey was conducted by GEOD Corporation on June 22, 1999, in accordance with the specification Section 01550. The survey crew located on-site control points and verified the existing site conditions, contours, and location of structures within the construction limits defined on the contract drawings. The data acquired was transmitted to IT and subsequently transmitted to the USACE.

5.2.4 Soil Erosion and Sediment Control Measures

Soil erosion and sediment control measures were initiated during mobilization activities and were maintained throughout the duration of the project. Soil erosion and sediment control measures included the installation of a visibility barrier around the site perimeter, installation of silt fence in required areas, placement of ConCover material on sloped surfaces, and the placement of backfill where required. ConCover is a cellulose based material that was applied to exposed areas for dust suppression. Work was performed in accordance with the Morris County Soil Erosion and Sediment Control permit.

5.2.5 Debris Removal

IT Corporation personnel inventoried, removed, and disposed of the 32 existing 55-gallon drums containing Investigation Derived Waste (IDW) on July 27, 1999. The drums consisted of PPE, soil boring cuttings and decontamination fluids and were generated during prior site investigations. IT Corporation verified the number of drums and their contents prior to implementing drum handling operations. Soil boring cuttings and decontamination fluids were disposed of in the on site disposal area. The IDW PPE was combined with PPE and asbestos containing waste generated during site operations and was transported off site to an approved disposal facility. Drum carcasses were cleaned, crushed, and transported off site as scrap metal. In addition, IT demolished and removed the concrete slab on-grade and chain-link fence material at the north end of the site.

5.2.6 Clearing and Grubbing

Clearing and grubbing activities started on June 22, 1999, and consisted of the removal and disposal of stumps, roots, and buried logs. In the area of the asbestos mound all roots, lateral

roots, and any projections over 1 ½ inch in diameter were removed. To prevent the unnecessary cutting of trees throughout the site, IT and USACE personnel marked trees with caution tape prior to the start of clearing and grubbing operations. Water was sprayed during clearing and grubbing activities in an effort to prevent the potential release of asbestos fibers into the environment.

5.2.7 Support Zone Preparation

Support zone preparation activities were initiated on June 17, 1999, and consisted of construction of the break area, construction of the decontamination pad, set up of the shower trailer, and construction of the drum staging area. Work was completed on July 14, 1999.

5.3 Remedial Construction Activities

The primary remedial construction activities included, but were not limited to access road construction, retaining wall construction for slope stabilization, and cap construction operations. These activities include movement of contaminated soil, intrusion of the surface soil, construction of drainage channels, wetland channel construction, and on-site relocation of asbestos-containing material.

5.3.1 Access Road Construction

For improved access into the site, IT graded and compacted the north, south, and east roadways in accordance with the contract drawings and specifications. Access road construction activities began on July 8, 1999, with the south access road. Prior to implementing roadway construction activities, silt fence was installed to provide temporary erosion control measures as presented in the Soil Erosion and Sediment Control Plan (IT, 1999e).

5.3.2 Retaining Wall Construction

Upon completion of the working platform, IT installed a retaining wall at the toe of the asbestos mound for stabilization purposes. The wall was on average ten feet in height and 516 feet long. Work activities associated with the installation of the retaining wall began on July 26, 1999. Retaining wall construction consisted of pier location surveying, shaft drilling, installation of structural steel columns, placement of concrete in the drilled shaft to support the structural steel, and installation of pre-cast concrete panels between the structural steel columns. Appendix J presents a copy of the Drill Inspection Forms. The retaining wall was installed by IT's subcontractor, Creamer Environmental, Inc.

During construction of the retaining wall, Hurricane Floyd impacted the site on September 16, 1999. No adverse impacts occurred to the site and a portion of work activities where postponed for two days as a result of the flooding.

Work activities were concluded on May 15, 2000, with final prime/painting activities.

Work was completed, in accordance with the revised contract drawings, to reduce the width of access road at the base of the retaining wall, from twelve feet to five feet wide.
The 5-ft path was installed between the base of the wall and the edge of the Passaic River to allow for access during operations and maintenance activities. The access path consists of a rip-rap base sloping towards the river covered by crushed stone. Live plantings of black willow stakes along the river/access road bank were completed during site restoration activities. Work activities associated with the access path were started on November 8, 1999, and were completed on November 12, 1999, in accordance with the revised contract drawings.

5.3.3 Drainage Construction Controls

Surface water runoff controls consisted of the construction of drainage channels and the installation of drains to divert runoff from the asbestos mound. Drainage construction controls were initiated on August 10, 1999, and were completed on December 22, 1999. A grass lined drainage channel was constructed on top of the asbestos mound. The cap was graded towards the grass lined channel to collect water from the top of the cap. A drainage channel was constructed along the northern edge of the south access road to divert water from the grass-lined channel. In addition, runoff from the disposal area was diverted into a corrugated metal pipe (CMP), which emptied into the wetland channel. Figure 5-1 presents the as-built drainage construction controls features.

As part of placement of the pre-cast concrete panels a total of ten drains were installed behind the retaining wall evenly spaced along its length. The drains consisted of a 10-ft length of schedule 80 polyvinyl chloride (PVC) pipe that was coupled to a 4-ft length of PVC pipe by a 90 degree elbow. The 3-ft length of pipe was installed underneath the retaining wall to allow for water to be diverted from the western slope to the Passaic River.

5.3.4 Relocation of Asbestos Containing Material

ACM was relocated from the base of the asbestos mound along the river to the on site disposal area. This work was completed in order to install the retaining wall and to adjust the slope of the mound for stabilization purposes. Approximately 9000 cubic yards of asbestos contaminated material was relocated. Relocation activities were started on July, 13 1999, and were completed on November 23, 1999. Upon completion of the relocation activities, IT crew graded the asbestos mound and disposal area in preparation for cap construction activities.

5.3.5 Cap Construction

Capping activities, which began on August 16, 1999, included, but were not limited to, closing the asbestos mound, relocating approximately 9300 cubic yards of ACM, grading the ACM to the required elevations, installation of a layer of geotextile and geogrid material, and the placement and grading of a 2-ft soil cover. On sloped surfaces, the cap consisted of a 4 in. layer of crushed stone, followed by geotextile fabric, geogrid, a second layer of crushed stone, structural fill material, and topsoil. On level surfaces, the cap consists of a layer of controlled fill, geotextile fabric, embedded portion of the geogrid, a second layer of controlled fill, and topsoil. Figure 2-2 and 2-3 presents the minimum 2-ft soil cover. Figure 5-1 presents the as built plan showing the final topographic features of the cap construction. Capping material was compacted in accordance with specification requirements.

Additional activities associated with cap construction included the extension of monitoring wells MW902, MW903, and MW904. Work activities began on December 2, 1999 and were concluded on December 3, 1999. The work consisted of welding a stainless steel coupling to the end of the existing well and adding a stainless steel riser to the required height. A concrete footer was then poured around the base of each of the three monitoring wells. In addition, bollards filled with concrete were installed around each of the five monitoring wells for protection during maintenance activities.

5.3.6 Wetland Channel Construction

Prior to construction activities GEOD Corporation surveyed the layout of the wetland channel in accordance with the revised contract drawings. Work activities consisted of removal of the existing soil, properly grading the channel and channel side slopes, and installing riprap and the required erosion control measures. Construction activities began on August 18, 1999, and were completed on December 3, 1999. In addition, the field crew constructed gabbion baskets at the

headwall of the 48-in. concrete pipe for stabilization purposes. Figure 5-1 presents the as-built plan showing the features of the wetland channel.

5.3.7 Waste Transportation and Disposal

IT Corporation managed the transportation and disposal of PPE contaminated with ACM generated during site activities, general construction debris, and investigative derived wastes. Drummed soil and liquid wastes were placed in the on site disposal area. The asbestos contaminated PPE was transported and disposed of at an approved disposal facility. A total of 48, 12-mil poly bags, totaling 15 cubic yards, were transported to GROWS landfill facility, 200 Bordentown Road, Tullytown, PA 19007. Appendix K presents a copy of the asbestos waste manifest.

5.4 Site Restoration Activities

Upon completion of the cap construction activities, IT performed site restoration and project closeout activities. Site restoration consisted of final site grading, drainage ditch construction, placement of topsoil, seeding, landscaping and planting, paving activities, that included repairs to the northern construction entrance and areas where fence posts were removed, a final verification survey, site maintenance and cleanup, and demobilization of all temporary facilities and utilities. Site restoration activities began on April 1, 2000, and were concluded on May 15, 2000. Figure 5-1 presents the post construction topographic plan. Subsequent to May 15, 2000 during the 90 day vegetation establishment, minor improvements to site drainage were completed.

5.5 Landscape Activities

To offset the impact of the vegetative areas disturbed by the closure of the site landfill, landscaping was performed at the conclusion of the project. The following is a description of the landscape activities that were conducted at the site. The wetland was designed to increase vegetative species diversity and composition. The wetland was designed to receive, store, and discharge storm water runoff in a similar fashion to the area previously disturbed.

The area was planted in Spring 2000. A list of species, quantities, and sizes of vegetation originally planted is provided in the table below.

TABLE 5-1

BOTANICAL NAME	COMMON NAME	QTY	SIZE
P. QUINQUEFOLIA	VIRGINIA CREEPER	136	bareroot
U. FULVA	SLIPPERY ELM	1	6'-8'
B. NIGRA	RIVER BIRCH	7	6'-8'
P. OCCIDENTALIS	SYCAMORE	8	6'-8'
A. RUBRUM	RED MAPLE	6	6'-8'
F. PENNSYLVANICA var. LANCEOLATA	GREEN ASH	9	6'-8'
Q. BOREALIS	RED OAK	4	25'+
S. NIGRA	BLACK WILLOW	250	LIVE STAKES
V. DENTATUM	NORTHERN ARROWWOOD	48	1 GAL
L. BENZOIN	SPICEBUSH	48	1 GAL
C. STOLONIFERA	RED OSIER DOGWOOD	48	1 GAL
S. CANADENSIS	COMMON ELDERBERRY	48	1 GAL

Virginia creeper was installed along the top of the retaining wall to breakup the hard lines of the wall. The swales, channels and Passaic River's bank were planted with Slippery Elm, River Birch, Sycamore, Red Maple, and Green Ash. The rip-rapped portion of the riverbank was planted with three rows of Black Willow, live stakes. The wetland area south of the landfill was enhanced by the installation of Northern Arrowwood, Spicebush, Red Osier Dogwood, and Common Elderberry.

5.6 Lessons Learned

This section provides a summary of the lessons that were learned through the duration of the project. Frequent communication between IT, USACE, EPA, subcontractors, and community officials contributed to the overall success of the project. Understanding each of the individuals needs and expectations allowed tasks to be completed in an efficient and cost effective manner. Developing a working relationship with the community also proved to be invaluable. For example, a collective agreement concerning the color of the retaining wall was reached that allowed for completion of the retaining wall in the required time. Effective communication between all parties proved to be the key factor in the success of the project.

5.7 Additional Work Activities

Additional work was performed during the duration of field activities that resulted in modifications to the contract. Modifications included the following :

- X Additional winterization of site facilities
- X Revised sampling and testing protocols
- X Mobilization of additional materials
- X Accelerated schedule costs
- X Additional excavation of ACM at foot print of access path along the Passaic River followed by placement of clean fill
- X Revisions to the wetland channel design
- X Construction revisions to the north roadway
- X Preparation of the operations and maintenance plan
- X Additional site restoration
- X Additional surveying
- X Excavation of additional ACM at the southeast corner of the site and subsequent backfilling of the area with clean fill.

A summary of the costs associated with each modification is presented in section 8.0 of this report.

6.0 Final Inspection

This section of the report provides a description of the final inspections conducted by the EPA, USACE, and IT Corporation.

6.1 Pre-final inspection

On December 15, 1999, the pre-final site inspection was conducted by the USEPA Project Manager, the USACE QAR, the IT QCSM and IT Project Manager. In addition, the USEPA Project Manager and the NJDEP Site Manager conducted a pre-final site inspection on January 19, 2000. The purpose of the pre-final site inspection was to identify any punch list items. The punch list items identified include the following.

- X Repairs (i.e., chips) to pre-cast concrete panels
- X Grind, prime, and paint H-pile faces. In addition, flanges at end of wall will be painted the same color as the faces
- X Final placement of structural fill on disposal area and western slope to include associated compaction tests
- X Placement of top soil in accordance with contract drawings
- X Completion of drain pipes to require elevation to include installation of grates
- X Submit required as-built drawings.

The majority of the punch list items were completed during site restoration activities from April 3, 1999 to May 15, 2000 and all punch list items were completed by May 18, 2001. In addition, a final inspection of site activities was completed on April 25th and April 27th 2001.

6.2 Final Inspection

In April 2000 a final inspection was conducted by the USEPA Project Manager, the USACE QAR, the IT QCSM and IT Project Manager. The purpose of this inspection was to ensure that the work activities were completed in accordance with the project specifications. As part of the May 2000 final site inspection, the USEPA Project Manager and the NJDEP Site Manager determined that the remedy is operational and functional. IT Corp is responsible for the Operations and Maintenance activities of the site for one year beginning in May 2000. After the first year, the O&M responsibilities will be transferred to NJDEP. A final walk through was conducted on April 25, 2001 and April 27, 2001 by USACE and USEPA personnel. A copy of the Final Inspection Notice Letter is provided in Appendix L.

7.0 Operation and Maintenance

IT Corp was responsible for the Operations and Maintenance activities of the site for one year beginning in May 2000. After May 2001, the O&M responsibilities were transferred to NJDEP. A detailed discussion of the operations and maintenance program is included in the Operations and Maintenance Plan (IT, 2001h), which was finalized in September 2001.

IT Corporation and USACE personnel conducted periodic inspections throughout the duration of the Operations and Maintenance contract to ensure the integrity of the planted trees/vegetation, retaining wall and cap. Additional activities consisted of cutting grass areas periodically, watering grass areas and vegetation, and maintenance of drainage/soil erosion controls.

8.0 Summary Of Project Costs

This section of the report provides a summary of the IT project costs to include a summary of the contract modifications.

8.1 Contract and Contract Modification Summary

Work activities were completed under Delivery Order D0009 to include the completion of project plans and the remedial action. Delivery Order D0009 was issued on March 8, 1999 and was valued at $3,793,305.00. A notice to proceed was issued to IT Corp on 8 June 1999. The discovery of additional asbestos containing material and revisions in the design and schedule prompted the release of eleven contract modifications. The contract modification resulted in an increased value to the contract to $4,183,826.00.

A summary of the contract modifications and their related costs is presented in Table 8-1.

Table 8-1
Asbestos Dump OU-1 Site
Project Cost Summary
Millington, NJ

Contract Modification Number	Date of Contracting Officer Signature	Modification Amount Of Contract Value	Contract Modification Description
DACW41-94-D9013-0009	March 08, 1999	$3,793,305.00	Original Delivery Order
MOD P00001	March 17, 1999	$0.00	Transfer from KC-USACE to NY-USACE
MOD P00002	November 08, 1999	$ 97,972.00	Miscellaneous Activities (Winterization, design revised vegetation, revised sampling and testing, additional mobilization)
MOD P00003	November 08, 1999	$ 74, 679.00	Revised Retaining Wall Schedule
MOD P00004	November 08, 1999	$0.00	Revised Access Road
MOD P00005	December 15, 1999	$ 93,490.00	Site Revisions (O&M Plan, North Access Road, Wetland Channel, Retaining Wall, Design Collection Pond)
MOD P00006	December 16, 1999	$ 53,185.00	Excavation of Additional ACM
MOD P00007	February 22, 2000	$ 0.00	Extension Of Contract Time to May 15, 2000
MOD P000908	May 15, 2000	$ 0.00	O&M Option Extension of Contract Time to May 15, 2001
MOD P000909	May 12, 2000	$ 95,610.00	Additional Site Restoration
MOD P000910	June 2001	$7,066.00	Additional Survey
MOD P000911	July 2001	- $31,481.00	Reduction in contract amount And MOD P00002

9.0 References

IT Corporation (IT), 1999a, *Contractor Quality Control Plan*

IT Corporation (IT), 1999b, *Chemical Data Acquisition Plan*

IT Corporation (IT), 1999c, *Site Safety and Health Plan*

IT Corporation (IT), 1999d, *Environmental Protection Plan*

IT Corporation (IT), 1999e, *Soil Erosion and Sediment Control Plan*

IT Corporation (IT), 1999f, *Spill Prevention and Control Plan*

IT Corporation (IT), 1999g, *Asbestos Sampling and Analysis Plan*

IT Corporation (IT), 2001h, *Operations and Maintenance Plan*

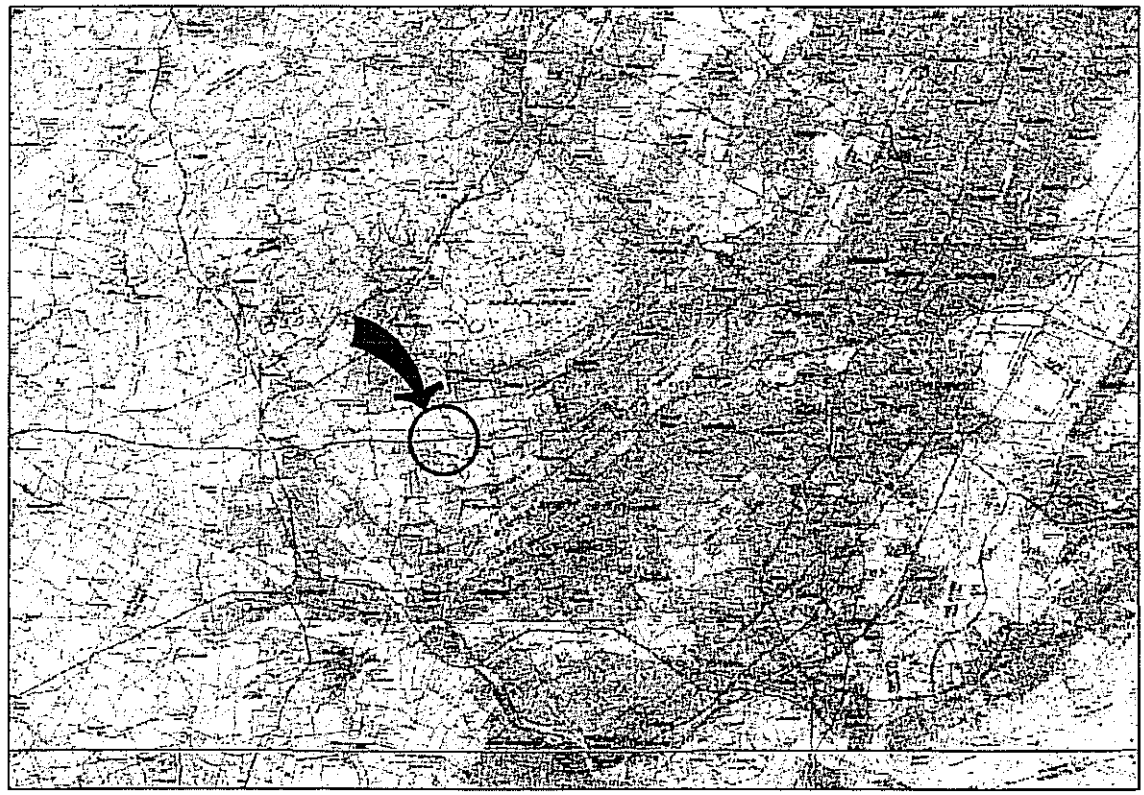
IT Corporation (IT), 1999i, *Restoration and Closeout Plan*

IT Corporation (IT), 1999j, *Waste Management and Disposal Plan*

IT Corporation (IT), 1999k, *Transportation and Traffic Control Plan*

IT Corporation (IT), 1990a, *Conditions for Construction,*

IT Corporation (IT), 1990b, *Contractor Quality Control*



NEW JERSEY

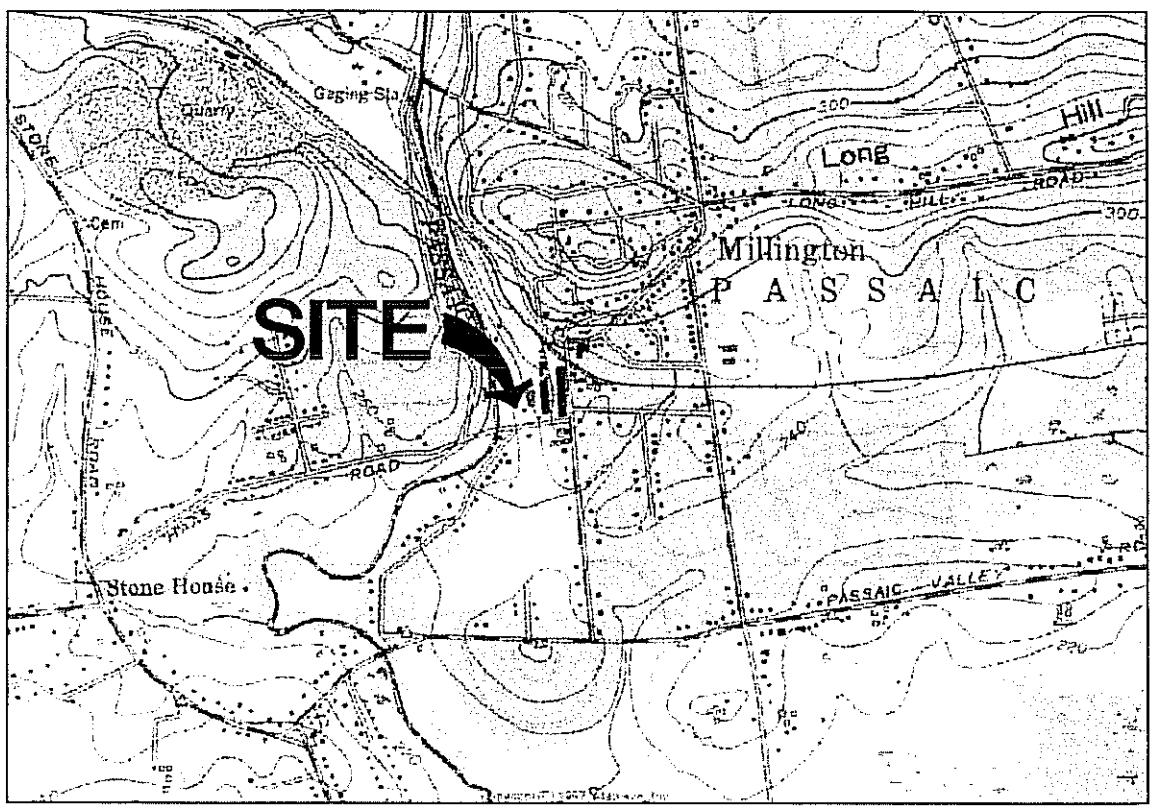


IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY	APPROVED BY	DRAWING NUMBER
LOC-2	----	SOM	J. DANZA	3/28/00			780601-A1
LOC-3							

780601a1-1.dwg 03/29/00 3:36pm J.R.D.

REFERENCE:

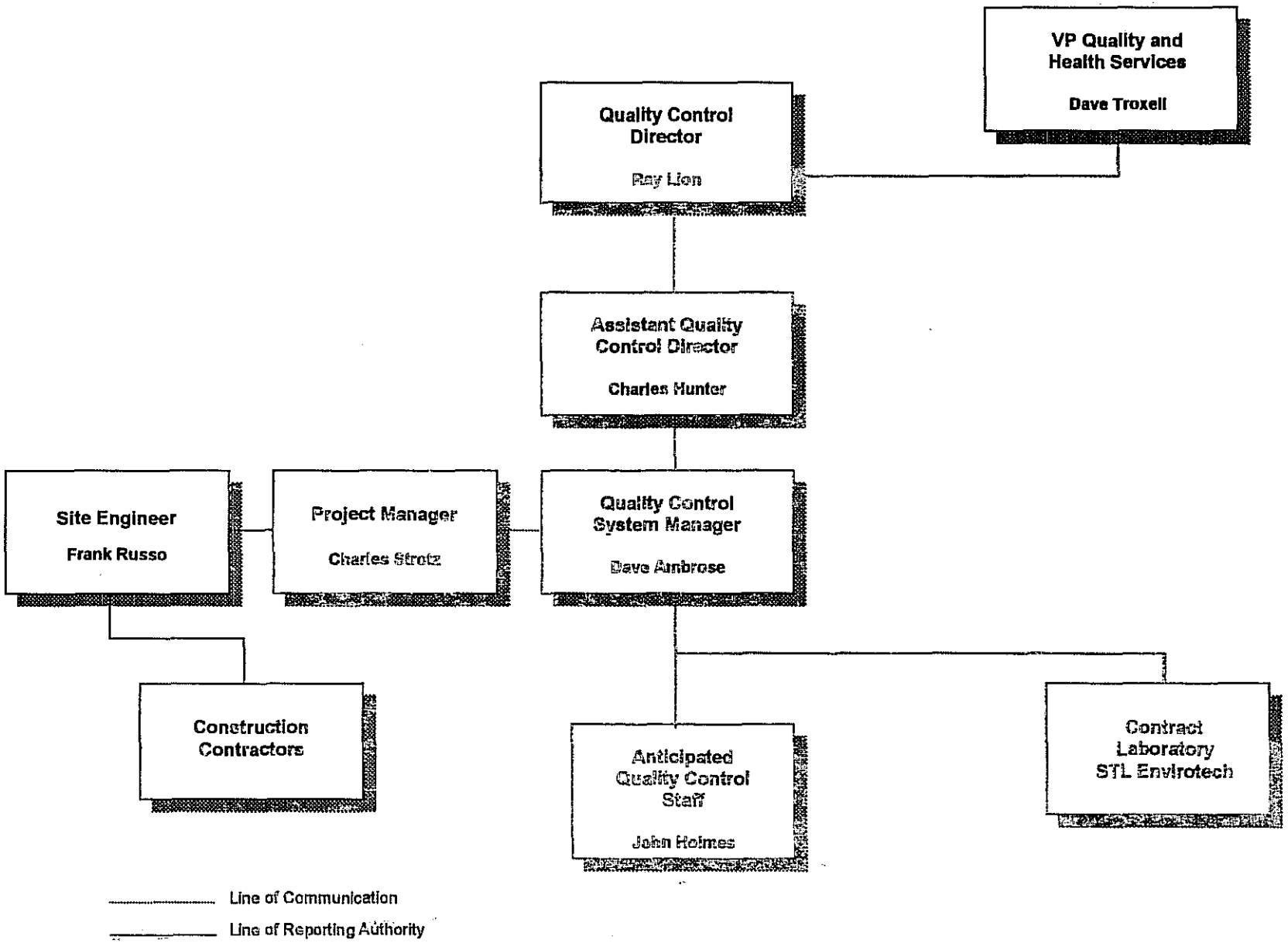
MAPTECH – TERRAIN NAVIGATOR
MILLINGTON AREA
LONG HILL TOWNSHIP, NEW JERSEY

IT CORPORATION

ASBESTOS DUMP LANDFILL OU-1
MILLINGTON, NEW JERSEY

FIGURE 1-1
SITE LOCATION MAP
ASBESTOS DUMP LANDFILL OU-1
MILLINGTON, NEW JERSEY

Figure 3-1
Quality Control Organization Chart



Appendix A

U.S. Army Corps of Engineers comparison of analytical test results conducted by the contractor (IT, Inc.) and U.S.A.C.E Quality Assurance (QA) of material brought on-site to Asbestos Dump OU-1 Superfund Site

Sample I.D.	Type of Material
SF008SL	Structural Fill
CF009SL	Common Fill
CF011SL	Common Fill
SB010SL	Sand in sandbags utilized to hold geotextile for ACM landfill Cap in place
TS014SL	Topsoil placed during site restoration
TS016SL	Topsoil placed during site restoration

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
PREPARATION METHOD:	NA	PREPARATION METHOD:	NR
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.58		NR		2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	3/30/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	9012A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.61			0.48	0

SEE APPENDIX A FOR KEY TO COMMENTS

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/22/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	CLP-IFB
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.56		< 0.5		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/25/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	CLP-IFB
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.58		< 0.5		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/15/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	CLP-IFB
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.58		< 0.5		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	CLP-IFB
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.61		< 0.25		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	3/30/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	9012A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.61			0.48	0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
PREPARATION METHOD:	NA	PREPARATION METHOD:	NR
ANALYSIS METHOD:	9010	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Cyanide (CN)	< 0.58		NR		2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	7/7/1999	CONTRACTOR'S ANALYSIS DATE:	6/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	8082
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOP	COMPARISON CODE
Aroclor-1016	< 17		< 70		0
Aroclor-1221	< 17		< 70		0
Aroclor-1232	< 17		< 70		0
Aroclor-1242	< 17		< 70		0
Aroclor-1248	< 17		< 70		0
Aroclor-1254	< 17		< 70		0
Aroclor-1260	< 17		< 70		0
Aroclor-1262	NR		< 70		2
Aroclor-1268	NR		< 70		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	108	111	Tetrachloro-m-xylene(30-150)	NR	NR
Decachlorobiphenyl (30-140)	108	117	Decachlorobiphenyl (29-124)	94	99

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	7/7/1999	CONTRACTOR'S ANALYSIS DATE:	6/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	8082
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aroclor-1016	< 17		< 71		0
Aroclor-1221	< 17		< 71		0
Aroclor-1232	< 17		< 71		0
Aroclor-1242	< 17		< 71		0
Aroclor-1248	< 17		< 71		0
Aroclor-1254	< 17		< 71		0
Aroclor-1260	< 17		< 71		0
Aroclor-1262	NR		< 71		2
Aroclor-1268	NR		< 71		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	115	115	Tetrachloro-m-xylene(30-150)	NR	NR
Decachlorobiphenyl (30-140)	113	122	Decachlorobiphenyl (29-124)	97	91

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/14/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	8082
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aroclor-1016	< 17		< 71		0
Aroclor-1221	< 17		< 71		0
Aroclor-1232	< 17		< 71		0
Aroclor-1242	< 17		< 71		0
Aroclor-1248	< 17		< 71		0
Aroclor-1254	< 17		< 71		0
Aroclor-1260	< 17		< 71		0
Aroclor-1262	NR		< 71		2
Aroclor-1268	NR		< 71		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	90	93	Tetrachloro-m-xylene(30-150)	NR	NR
Decachlorobiphenyl (30-140)	101	100	Decachlorobiphenyl (29-124)	77	63

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	8082
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aroclor-1016	< 22		< 36		0
Aroclor-1221	< 22		< 73		0
Aroclor-1232	< 22		< 36		0
Aroclor-1242	< 22		< 36		0
Aroclor-1248	< 22		< 36		0
Aroclor-1254	< 22		< 36		0
Aroclor-1260	< 22		< 36		0
Aroclor-1262	NR		NR		2
Aroclor-1268	NR		NR		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	122	122	Tetrachloro-m-xylene(30-150)	57	64
Decachlorobiphenyl (30-140)	126	125	Decachlorobiphenyl (29-124)	72	79

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	4/3/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	8082
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aroclor-1016	< 22		< 44		0
Aroclor-1221	< 22		< 89		0
Aroclor-1232	< 22		< 44		0
Aroclor-1242	< 22		< 44		0
Aroclor-1248	< 22		< 44		0
Aroclor-1254	< 22		< 44		0
Aroclor-1260	< 22		< 44		0
Aroclor-1262	NR		NR		2
Aroclor-1268	NR		NR		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	84	87	Tetrachloro-m-xylene(20-109)	115*	78
Decachlorobiphenyl (30-140)	92	80	Decachlorobiphenyl (41-116)	83	82

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8082	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aroclor-1016	< 17		NR		2
Aroclor-1221	< 17		NR		2
Aroclor-1232	< 17		NR		2
Aroclor-1242	< 17		NR		2
Aroclor-1248	< 17		NR		2
Aroclor-1254	< 17		NR		2
Aroclor-1260	< 17		NR		2
Aroclor-1262	NR		NR		2
Aroclor-1268	NR		NR		2

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	93	89	Tetrachloro-m-xylene(20-109)	NR	NR
Decachlorobiphenyl (30-140)	110	101	Decachlorobiphenyl (41-116)	NR	NR

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/29/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3350B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8081A	ANALYSIS METHOD:	8081A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	RESULTS CONTRACTOR	CONTRACTOR LRL	COMPARISON CODE
alpha-BHC	< 1.8			< 7.0	0
beta-BHC	< 1.8			< 7.0	0
delta-BHC	< 1.8			< 7.0	0
gamma-BHC	< 1.8			< 7.0	0
Heptachlor	< 1.8			< 7.0	0
Aldrin	< 1.8			< 7.0	0
Heptachlor epoxide	< 1.8			< 7.0	0
Endosulfan 1	< 1.8			< 7.0	0
Dieldrin	< 3.5			< 7.0	0
4,4'-DDE	< 3.5			< 7.0	0
Endrin	< 3.5			< 7.0	0
Endosulfan 2	< 3.5			< 7.0	0
4,4-DDD	< 3.5			< 7.0	0
Endosulfan sulfate	< 3.5			< 7.0	0
4,4'-DDT	< 3.5			< 7.0	0
Methoxychlor	< 18			< 7.0	0
Endrin ketone	< 3.5			< 7.0	0
Endrin aldehyde	< 3.5			< 7.0	0
alpha-Chlordane	NR			NR	2
gamma-Chlordane	NR			NR	2
technical-Chlordane	< 18			< 70	0
Toxaphene	< 180			< 70	0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	103	99	Tetrachloro-m-xylene(29-120)	76	70
Decachlorobiphenyl (30-140)	91	104	Decachlorobiphenyl (57-135)	88	93

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3350B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8081A	ANALYSIS METHOD:	8081A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
alpha-BHC	< 1.8		< 7.0		0
beta-BHC	< 1.8		< 7.0		0
delta-BHC	< 1.8		< 7.0		0
gamma-BHC	< 1.8		< 7.0		0
Heptachlor	< 1.8		< 7.0		0
Aldrin	< 1.8		< 7.0		0
Heptachlor epoxide	< 1.8		< 7.0		0
Endosulfan I	< 1.8		< 7.0		0
Dieldrin	< 3.5		< 7.0		0
4,4'-DDE	< 3.5		< 7.0		0
Endrin	< 3.5		< 7.0		0
Endosulfan 2	< 3.5		< 7.0		0
4,4-DDD	< 3.5		< 7.0		0
Endosulfan sulfate	< 3.5		< 7.0		0
4,4'-DDT	< 3.5		< 7.0		0
Methoxychlor	< 18		< 7.0		0
Endrin ketone	< 3.5		< 7.0		0
Endrin aldehyde	< 3.5		< 7.0		0
alpha-Chlordane	NR		NR		2
gamma-Chlordane	NR		NR		2
technical-Chlordane	< 18		< 70		0
Toxaphene	< 180		< 70		0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	110	106	Tetrachloro-m-xylene(29-120)	92	86
Decachlorobiphenyl (30-140)	100	111	Decachlorobiphenyl (57-135)	98	97

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/14/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3350B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8081A	ANALYSIS METHOD:	8081A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
alpha-BHC	< 1.8		< 7.0		0
beta-BHC	< 1.8		< 7.0		0
delta-BHC	< 1.8		< 7.0		0
gamma-BHC	< 1.8		< 7.0		0
Heptachlor	< 1.8		< 7.0		0
Aldrin	< 1.8		< 7.0		0
Heptachlor epoxide	< 1.8		< 7.0		0
Endosulfan 1	< 1.8		< 7.0		0
Dieldrin	< 3.5		< 7.0		0
4,4'-DDE	< 3.5		< 7.0		0
Endrin	< 3.5		< 7.0		0
Endosulfan 2	< 3.5		< 7.0		0
4,4-DDD	< 3.5		< 7.0		0
Endosulfan sulfate	< 3.5		< 7.0		0
4,4'-DDT	< 3.5		< 7.0		0
Methoxychlor	< 18		< 7.0		0
Endrin ketone	< 3.5		< 7.0		0
Endrin aldehyde	< 3.5		< 7.0		0
alpha-Chlordane	NR		NR		2
gamma-Chlordane	NR		NR		2
technical-Chlordane	< 18		< 70		0
Toxaphene	< 180		< 70		0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	89	87	Tetrachloro-m-xylene(29-120)	80	80
Decachlorobiphenyl (30-140)	94	95	Decachlorobiphenyl (57-135)	83	83

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3350B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8081A	ANALYSIS METHOD:	8081A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
alpha-BHC	< 2.2		< 1.8		0
beta-BHC	< 2.2		< 1.8		0
delta-BHC	< 2.2		< 1.8		0
gamma-BHC	< 2.2		< 1.8		0
Heptachlor	< 2.2		< 1.8		0
Aldrin	< 2.2		< 1.8		0
Heptachlor epoxide	< 2.2		< 1.8		0
Endosulfan 1	< 2.2		< 1.8		0
Dieldrin	< 4.4		< 3.6		0
4,4'-DDE	< 4.4		< 3.6		0
Endrin	< 4.4		< 3.6		0
Endosulfan 2	< 4.4		< 3.6		0
4,4-DDD	< 4.4		< 3.6		0
Endosulfan sulfate	< 4.4		< 3.6		0
4,4'-DDT	< 4.4		< 3.6		0
Methoxychlor	< 22		< 18		0
Endrin ketone	< 4.4		< 3.6		0
Endrin aldehyde	< 4.4		< 3.6		0
alpha-Chlordane	NR		< 1.8		2
gamma-Chlordane	NR		< 1.8		2
technical-Chlordane	< 22		NR		0
Toxaphene	< 220		< 180		0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	97	102	Tetrachloro-m-xylene(30-150)	61	54
Decachlorobiphenyl (30-140)	110	111	Decachlorobiphenyl (30-150)	62	62

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	4/3/2000
QA LABORATORY:	STL, WF	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3350B	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8081A	ANALYSIS METHOD:	8081A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
alpha-BHC	< 2.2		< 2.2		0
beta-BHC	< 2.2		< 2.2		0
delta-BHC	< 2.2		< 2.2		0
gamma-BHC	< 2.2		< 2.2		0
Heptachlor	< 2.2		< 2.2		0
Aldrin	< 2.2		< 2.2		0
Heptachlor epoxide	< 2.2			2.3	0
Endosulfan 1	< 2.2		< 2.2		0
Dieldrin	< 4.3		< 4.4		0
4,4'-DDE	< 4.3		< 4.4		0
Endrin	< 4.3		< 4.4		0
Endosulfan 2	< 4.3		< 4.4		0
4,4-DDD	< 4.3		< 4.4		0
Endosulfan sulfate	< 4.3		< 4.4		0
4,4'-DDT	< 4.3		< 4.4		0
Methoxychlor	< 22		< 22		0
Endrin ketone	< 4.3		< 4.4		0
Endrin aldehyde	< 4.3		< 4.4		0
alpha-Chlordane	NR		< 2.2		2
gamma-Chlordane	NR		< 2.2		2
technical-Chlordane		75	< 2.2		4
Toxaphene	< 220		< 19		0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
Tetrachloro-m-xylene(36-132)	85	80	Tetrachloro-m-xylene(20-109)	115*	78
Decachlorobiphenyl (30-140)	88	88	Decachlorobiphenyl (41-116)	83	82

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FIELD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	7/8/1999	CONTRACTOR'S ANALYSIS DATE:	6/24/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	6010B, Hg-7471A
%SOLIDS:	97.0	% SOLIDS:	94.3

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 6/28/1999

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aluminum		10400		9370	0
Antimony		2.4 B	< 0.95		3
Arsenic		2.9		6.2	3
Barium		45.8		183	4
Beryllium		0.26 B		0.47	0
Cadmium		0.93		0.27	4
Calcium		11200		9490	0
Chromium		5.8		4.7	0
Colbolt		22.4		18.9	0
Copper		144		134	0
Iron		34900		39200	0
Lead		1.8		2.4	0
Magnesium		7600		8590	0
Manganese		430		439	0
Mercury	< 0.02		< 0.018		0
Nickel		21.4		22.5	0
Potassium	< 36.7		< 208		0
Selenium	< 0.25		< 0.95		0
Silver	< 0.13		< 0.23		0
Sodium		361 B		1390	4
Thallium		3.1	< 0.87		4
Vanadium		103		93.5	0
Zinc		60.2		55.1	0

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FIELD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	7/8/1999	CONTRACTOR'S ANALYSIS DATE:	6/24/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	6010B, Hg-7471A
%SOLIDS:	96.6	% SOLIDS:	95.2

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 6/28/1999

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aluminum		11600		5550	3
Antimony		2.8 B	< 0.95		3
Arsenic		4.5		4.2	0
Barium		99.8		63.8	0
Beryllium		0.32 B		0.32	0
Cadmium		1.4		0.22	4
Calcium		13500		8730	0
Chromium		5.8		4.8	0
Colbolt		24.5		13.9	0
Copper		145		109	0
Iron		38500		27000	0
Lead		2.2		1.9	0
Magnesium		9140		6210	0
Manganese		552		284	0
Mercury	< 0.02		< 0.018		0
Nickel		22.0		16.5	0
Potassium		80.3 B	< 206		0
Selenium	< 0.23		< 0.95		0
Silver	< 0.12		< 0.23		0
Sodium		1030		1380	0
Thallium		3.6	< 0.86		4
Vanadium		122		68.0	0
Zinc		360		78.2	4

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FIELD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	8/17/1999	CONTRACTOR'S ANALYSIS DATE:	8/14/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	6010B, Hg-7471A
%SOLIDS:	96.3	% SOLIDS:	95.8

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 8/10/1999

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aluminum		10400		13400	0
Antimony		1.2 B	< 0.18		0
Arsenic		1.7	< 1.0		0
Barium		28.3		32	0
Beryllium		0.46 B		0.22	3
Cadmium	< 0.04		< 0.13		0
Calcium		16000		36000	3
Chromium		5.4		6.0	0
Colbolt		19.1		19.0	0
Copper		109		113	0
Iron		34700		41800	0
Lead		1.3		4.0	4
Magnesium		8790		9560	0
Manganese		429		752	0
Mercury	< 0.02		< 0.017		0
Nickel		18.2		22.9	0
Potassium	< 44.2			133	4
Selenium	< 0.30		< 1.3		0
Silver	< 0.15		< 0.44		0
Sodium		877		3560	4
Thallium		2.6	< 1.5		0
Vanadium		82.5		89.0	0
Zinc		47.3		56.3	0

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	T12610
QA FIELD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	########	CONTRACTOR'S ANALYSIS DATE:	11/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	6010B, Hg-7471A
%SOLIDS:	77.5	% SOLIDS:	82.6

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 11/16/1999

UNITS: mg/Kg

PARAMETER	QA LAB LRL	QA LAB RESULTS	CONTRACTOR LRL	CONTRACTOR RESULTS	COMPARISON CODE
Aluminum		14600		10500	0
Antimony		1.1 B		0.86	0
Arsenic		5		2.7	0
Barium		62.8		62.8	0
Beryllium		0.89		0.55 B	0
Cadmium	< 0.04			0.34 B	4
Calcium		681		815	0
Chromium		52.9		34.5	0
Colbolt		16.0		10.6	0
Copper		24.0		16.1	0
Iron		28200		22100	0
Lead		28.2		19.1	0
Magnesium		2800		3230	0
Manganese		742		393	0
Mercury		0.04 B		0.13 B	4
Nickel		17.8		17.8	0
Potassium		563 B		835	0
Selenium		0.87		0.66	0
Silver	< 0.22		< 0.19		0
Sodium	< 52.6			162	4
Thallium		3.4		0.19	4
Vanadium		64.8		48.4	0
Zinc		43.6		44.9	0

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	T02581
QA FIELD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	4/24/2000	CONTRACTOR'S ANALYSIS DATE:	4/1/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	6010B, Hg-7471A
%SOLIDS:	78.2	% SOLIDS:	75.5

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 4/17/2000

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aluminum		22000		16400	0
Antimony		2.9 B		1.7	0
Arsenic		5.8		4.9	0
Barium		120		86.6	0
Beryllium		0.78		0.51 B	0
Cadmium	< 0.04		< 0.03		0
Calcium		2970		2160	0
Chromium		104		88.1	0
Colbolt		27.0		24.1	0
Copper		54.2		42.7	0
Iron		39000		33300	0
Lead		117		70.8	0
Magnesium		3940		2920	0
Manganese		1400		1080	0
Mercury		0.35		0.13 B	3
Nickel		32.8		24.9	0
Potassium		713		444	0
Selenium		2.2		1.7	0
Silver	< 0.24		< 1.1		0
Sodium	< 52.3			168	4
Thallium		4.3	< 0.20		4
Vanadium		117		93.4	0
Zinc		104		76.4	0

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FIELD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	7/8/1999	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
DIGESTION METHOD:	3050B	DIGESTION METHOD:	NR
ANALYSIS METHOD:	6010B,Hg-7471A	ANALYSIS METHOD:	NR
%SOLIDS:	96.3	% SOLIDS:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: 6/30/1999

UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Aluminum		13000		NR	2
Antimony		2.9 B		NR	2
Arsenic		2.4		NR	2
Barium		49.5		NR	2
Beryllium		0.27 B		NR	2
Cadmium		1.1		NR	2
Calcium		12700		NR	2
Chromium		3.5		NR	2
Colbolt		22.9		NR	2
Copper		137.0		NR	2
Iron		39900		NR	2
Lead		1.1		NR	2
Magnesium		8650		NR	2
Manganese		415		NR	2
Mercury	< 0.02			NR	2
Nickel		23.8		NR	2
Potassium	< 36.1			NR	2
Selenium	< 0.24			NR	2
Silver	< 0.12			NR	2
Sodium		1550		NR	2
Thallium		2.9		NR	2
Vanadium		105		NR	2
Zinc		121		NR	2

NR=NOT REPORTED

NA=NOT ANALYZED

B=< CRDL, BUT > IDL

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	1010
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	> 150		> 160		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/16/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	1010
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	> 150		> 160		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/11/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	1010
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	> 150		> 160		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	1010
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	110	NEGATIVE			0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	3/31/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	1020
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION:	SOIL
DATE SAMPLED:	#######
UNITS:	degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	86	NEGATIVE			0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	7/8/1999	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
PREPARATION METHOD:	NA	PREPARATION METHOD:	NR
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	> 150		NR		2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	7/8/1999	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
PREPARATION METHOD:	NA	PREPARATION METHOD:	NR
ANALYSIS METHOD:	1010	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: degrees F

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Ignitability (F)	> 150		NR		2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/23/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NA
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	8151A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-D	< 62		< 18		0
2,4,5-TP (Silvex)	< 4.9		< 18		0
2,4,5-T	< 4.9		< 18		0

SURROGATE RECOVERIES (%)	QA			CONTRACTOR	
	column 1	column 2		column 1	column 2
DCAA (41-159)	74	73	DCAA (23-133)	93	102

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/26/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NA
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	8151A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-D	< 62		< 18		0
2,4,5-TP (Silvex)	< 4.9		< 18		0
2,4,5-T	< 4.9		< 18		0

SURROGATE RECOVERIES (%)	QA column 1	QA column 2	CONTRACTOR column 1	CONTRACTOR column 2
DCAA (41-159)	53	54	96	105
DCAA (23-133)				

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/16/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NA
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	8151A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-D	< 62		< 18		0
2,4,5-TP (Silvex)	< 4.9		< 18		0
2,4,5-T	< 4.9		< 18		0

SURROGATE RECOVERIES (%)		QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
	DCAA (41-159)	102	116	DCAA (23-133)	87	106

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NA
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	8151A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Dalapon	< 160		< 240		0
Dicamba	< 6.1		< 24		0
MCPP	< 11000		< 18000		0
MCPA	< 11000		< 18000		0
Dichlorprop	< 61		< 240		0
2,4-D	< 78		< 120		0
2,4,5-TP (Silvex)	< 6.2		< 24		0
2,4,5-T	< 6.2		< 24		0
Dinoseb	< 30		< 120		0
2,4-DB	< 78		< 240		0
Pentachlorophenol	< 22		< 24		0
Picloram	< 6.1		< 240		0
3,5-Dichlorobenzoic acid	< 60		NR		2
4-Nitrophenol	< 120		NR		2
Chloramben	< 7.0		NR		2
Bentazon	< 80		NR		2
DCPA	< 6.5		NR		2
Acifluorfen	< 6.2		NR		2

SURROGATE RECOVERIES (%)		QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
	DCAA (41-159)	95	96	DCAA (50-130)	77	75

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	4/1/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NA
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	8151A
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Dalapon	< 150		< 270		0
Dicamba	< 6.0		< 27		0
MCPP	< 10000		< 20000		0
MCPA	< 10000		< 20000		0
Dichlorprop	< 60		< 270		0
2,4-D	< 77		< 130		0
2,4,5-TP (Silvex)	< 6.1		< 27		0
2,4,5-T	< 6.1		< 27		0
Dinoseb	< 30		< 130		0
2,4-DB	< 77		< 270		0
Pentachlorophenol	< 22		< 27		0
Picloram		11	< 270		0
3,5-Dichlorobenzoic acid	< 60		NR		2
4-Nitrophenol	< 120		NR		2
Chloramben		22 P	NR		2
Bentazon	< 79		NR		2
DCPA	< 6.4		NR		2
Acifluorfen	< 6.1		NR		2

SURROGATE RECOVERIES (%)	QA			CONTRACTOR	
		column 1	column 2	column 1	column 2
DCAA (41-159)		98	85	71	74

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
EXTRACTION METHOD:	NA	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8151A	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	RESULTS CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Dalapon	< 120		NR		2
Dicamba	< 4.9		NR		2
MCPP	< 8500		NR		2
MCPA	< 8500		NR		2
Dichlorprop	< 49		NR		2
2,4-D	< 62		NR		2
2,4,5-TP (Silvex)	< 4.9		NR		2
2,4,5-T	< 4.9		NR		2
Dinoseb	< 24		NR		2
2,4-DB	< 62		NR		2
Pentachlorophenol	< 18		NR		2
Picloram	< 4.9		NR		2
3,5-Dichlorobenzoic acid	< 48		NR		2
4-Nitrophenol	< 95		NR		2
Chloramben	< 5.6		NR		2
Bentazon	< 64		NR		2
DCPA	< 5.2		NR		2
Acifluorfen	< 5.0		NR		2

SURROGATE RECOVERIES (%)		QA column 1	QA column 2		CONTRACTOR column 1	CONTRACTOR column 2
	DCAA (41-159)	90	83	DCAA (50-130)	NR	NR

D=SURROGATE DILUTED OUT

*=Surrogate recoveries outside acceptance limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FEILD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/21/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	9045
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	9.61		9.79		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FEILD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	6/16/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	9045
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. Units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	9.62		9.31		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FEILD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/11/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	9045
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. Units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	10.19		9.88		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FEILD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	9045
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. Units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	6.11		5.86		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	3/24/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	9045
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. Units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	6.15		5.90		0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FEILD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	7/1/1999	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
PREPARATION METHOD:	NA	PREPARATION METHOD:	NR
ANALYSIS METHOD:	9045	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: std. Units

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Corrosivity (pH)	9.94		NR		2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	140148
QA FIELD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	6/29/1999	CONTRACTOR'S ANALYSIS DATE:	6/29/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	5035
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	8260B
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 9.2		< 5.2		0
Bromomethane	< 9.2		< 5.2		0
Vinyl Chloride	< 9.2		< 5.2		0
Chloroethane	< 9.2		< 5.2		0
Methylene Chloride	< 9.2			1.6 JB	0
Acetone		11		30	0
Carbon Disulfide	< 9.2		< 5.2		0
1,1-Dichloroethene	< 9.2		< 2.1		0
1,1-Dichloroethane	< 9.2		< 5.2		0
trans-1,2-Dichloroethene	< 9.2		< 5.2		0
cis-1,2-Dichloroethene	< 9.2		< 5.2		0
Chloroform	< 9.2		< 5.2		0
1,2-Dichloroethane	< 9.2		< 2.1		0
2-Butanone	< 9.2		< 5.2		0
1,1,1-Trichloroethane	< 9.2		< 5.2		0
Carbon Tetrachloride	< 9.2		< 2.1		0
Bromodichloromethane	< 9.2		< 1.0		0
1,2-Dichloropropane	< 9.2		< 1.0		0
cis-1,3-Dichloropropene	< 9.2		< 5.2		0
Trichloroethene	< 9.2		< 1.0		0
Dibromochloromethane	< 9.2		< 5.2		0
1,1,2-Trichloroethane	< 9.2		< 3.1		0
Benzene	< 9.2			0.7 J	0
trans-1,3-Dichloropropene	< 9.2		< 5.2		0
Bromoform	< 9.2		< 4.2		0
4-Methyl-2-pentanone	< 9.2		< 5.2		0
2-Hexanone	< 9.2		< 5.2		0
Tetrachloroethene	< 9.2		< 1.0		0
1,1,1,2-Tetrachloroethane	< 9.2		< 1.0		0
Toluene	< 9.2		< 5.2		0
Chlorobenzene	< 9.2		< 5.2		0
Ethylbenzene	< 9.2		< 4.2		0
Styrene	< 9.2		< 5.2		0
Xylene (total)	< 9.2		< 5.2		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	93	1,2-Dichloroethane-d4 (74-136)	121
1,2-Dichloroethane-d4 (80-120)	109	Toluene d8 (77-137)	93
Bromofluorobenzene (74-121)	100	Bromofluorobenzene (71-158)	112
1,2-Dichlorobenzene-d4 (80-120)	105		

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FIELD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	6/29/1999	CONTRACTOR'S ANALYSIS DATE:	6/16/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	5035
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	8260B
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 6.4		< 4.6		0
Bromomethane	< 6.4		< 4.6		0
Vinyl Chloride	< 6.4		< 4.6		0
Chloroethane	< 6.4		< 4.6		0
Methylene Chloride	< 6.4			3.6 B	0
Acetone	< 6.4		< 4.6		0
Carbon Disulfide	< 6.4		< 4.6		0
1,1-Dichloroethene	< 6.4		< 1.9		0
1,1-Dichloroethane	< 6.4		< 4.6		0
trans-1,2-Dichloroethene	< 6.4		< 4.6		0
cis-1,2-Dichloroethene	< 6.4		< 4.6		0
Chloroform	< 6.4		< 4.6		0
1,2-Dichloroethane	< 6.4		< 1.9		0
2-Butanone	< 6.4		< 4.6		0
1,1,1-Trichloroethane	< 6.4		< 4.6		0
Carbon Tetrachloride	< 6.4		< 1.9		0
Bromodichloromethane	< 6.4		< 0.9		0
1,2-Dichloropropane	< 6.4		< 0.9		0
cis-1,3-Dichloropropene	< 6.4		< 4.6		0
Trichloroethene	< 6.4		< 0.9		0
Dibromochloromethane	< 6.4		< 4.6		0
1,1,2-Trichloroethane	< 6.4		< 2.8		0
Benzene	< 6.4		< 0.9		0
trans-1,3-Dichloropropene	< 6.4		< 4.6		0
Bromoform	< 6.4		< 3.7		0
4-Methyl-2-pentanone	< 6.4		< 4.6		0
2-Hexanone	< 6.4		< 4.6		0
Tetrachloroethene	< 6.4		< 0.9		0
1,1,1,2-Tetrachloroethane	< 6.4		< 0.9		0
Toluene	< 6.4		< 4.6		0
Chlorobenzene	< 6.4		< 4.6		0
Ethylbenzene	< 6.4		< 3.7		0
Styrene	< 6.4		< 4.6		0
Xylene (total)	< 6.4		< 4.6		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	97	1,2-Dichloroethane-d4 (74-136)	102
1,2-Dichloroethane-d4 (80-120)	105	Toluene d8 (77-137)	99
Bromofluorobenzene (74-121)	105	Bromofluorobenzene (71-158)	102
1,2-Dichlorobenzene-d4 (80-120)	106		

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FIELD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	8/16/1999	CONTRACTOR'S ANALYSIS DATE:	8/16/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	5035
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	8260B
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 11		< 7.2		0
Bromomethane	< 11		< 7.2		0
Vinyl Chloride	< 11		< 7.2		0
Chloroethane	< 11		< 7.2		0
Methylene Chloride		5.2 J		2.9 JB	0
Acetone		22 B	< 7.2		0
Carbon Disulfide	< 11		< 7.2		0
1,1-Dichloroethene	< 11		< 2.9		0
1,1-Dichloroethane	< 11		< 7.2		0
trans-1,2-Dichloroethene	< 11		< 7.2		0
cis-1,2-Dichloroethene	< 11		< 7.2		0
Chloroform	< 11		< 7.2		0
1,2-Dichloroethane	< 11		< 2.9		0
2-Butanone	< 11		< 7.2		0
1,1,1-Trichloroethane	< 11		< 7.2		0
Carbon Tetrachloride	< 11		< 2.9		0
Bromodichloromethane	< 11		< 1.4		0
1,2-Dichloropropane	< 11		< 1.4		0
cis-1,3-Dichloropropene	< 11		< 7.2		0
Trichloroethene	< 11		< 1.4		0
Dibromochloromethane	< 11		< 7.2		0
1,1,2-Trichloroethane	< 11		< 4.3		0
Benzene	< 11		< 1.4		0
trans-1,3-Dichloropropene	< 11		< 7.2		0
Bromoform	< 11		< 5.8		0
4-Methyl-2-pentanone	< 11		< 7.2		0
2-Hexanone	< 11		< 7.2		0
Tetrachloroethene	< 11		< 1.4		0
1,1,1,2-Tetrachloroethane	< 11		< 1.4		0
Toluene	< 11		< 7.2		0
Chlorobenzene	< 11		< 7.2		0
Ethylbenzene	< 11		< 5.8		0
Styrene	< 11		< 7.2		0
Xylene (total)	< 11		< 7.2		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	100	1,2-Dichloroethane-d4 (74-136)	123
1,2-Dichloroethane-d4 (80-120)	127*	Toluene d8 (77-137)	92
Bromofluorobenzene (74-121)	109	Bromofluorobenzene (71-158)	101
1,2-Dichlorobenzene-d4 (80-120)	109		

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	402332	CONTRACTORS SAMPLE No.:	993071A-01
QA FIELD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	11/23/1999	CONTRACTOR'S ANALYSIS DATE:	11/17/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	5035
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	8260B
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: ########

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 11		< 10		0
Bromomethane	< 11		< 10		0
Vinyl Chloride	< 11		< 10		0
Chloroethane	< 11		< 10		0
Methylene Chloride	< 11			8	0
Acetone		220 B	< 10		4
Carbon Disulfide	< 11		< 5.0		0
1,1-Dichloroethene	< 11		< 5.0		0
1,1-Dichloroethane	< 11		< 5.0		0
trans-1,2-Dichloroethene	< 11		< 5.0		0
cis-1,2-Dichloroethene	< 11		< 5.0		0
Chloroform	< 11		< 5.0		0
1,2-Dichloroethane	< 11		< 5.0		0
2-Butanone		55	< 10		4
1,1,1-Trichloroethane	< 11		< 5.0		0
Carbon Tetrachloride	< 11		< 5.0		0
Bromodichloromethane	< 11		< 5.0		0
1,2-Dichloropropane	< 11		< 5.0		0
cis-1,3-Dichloropropene	< 11		< 5.0		0
Trichloroethene	< 11		< 5.0		0
Dibromochloromethane	< 11		< 5.0		0
1,1,2-Trichloroethane	< 11		< 5.0		0
Benzene	< 11		< 5.0		0
trans-1,3-Dichloropropene	< 11		< 5.0		0
Bromoform	< 11		< 5.0		0
4-Methyl-2-pentanone	< 11		< 10		0
2-Hexanone	< 11		< 10		0
Tetrachloroethene	< 11		< 5.0		0
1,1,1,2-Tetrachloroethane	< 11		< 5.0		0
Toluene		280		190	0
Chlorobenzene	< 11		< 5.0		0
Ethylbenzene	< 11		< 5.0		0
Styrene	< 11		< 5.0		0
Xylene (total)	< 11		< 5.0		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	100	Toluene d8 (81-117)	111
1,2-Dichloroethane-d4 (80-120)	100	Bromofluorobenzene (74-121)	92
Bromofluorobenzene (74-121)	100	1,2-Dichloroethane-d4 (70-121)	117
1,2-Dichlorobenzene-d4 (80-120)	91		

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FIELD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	4/26/2000	CONTRACTOR'S ANALYSIS DATE:	3/28/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	5035
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	8260B
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: ########

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 7.8		< 9		0
Bromomethane	< 7.8		< 9		0
Vinyl Chloride	< 7.8		< 9		0
Chloroethane	< 7.8		< 9		0
Methylene Chloride	< 7.8		< 9		0
Acetone		320 E		78	4
Carbon Disulfide	< 7.8		< 9		0
1,1-Dichloroethene	< 7.8		< 9		0
1,1-Dichloroethane	< 7.8		< 9		0
trans-1,2-Dichloroethene	< 7.8		< 9		0
cis-1,2-Dichloroethene	< 7.8		< 9		0
Chloroform	< 7.8		< 9		0
1,2-Dichloroethane	< 7.8		< 9		0
2-Butanone	< 7.8			13 J	0
1,1,1-Trichloroethane	< 7.8		< 9		0
Carbon Tetrachloride	< 7.8		< 9		0
Bromodichloromethane	< 7.8		< 9		0
1,2-Dichloropropane	< 7.8		< 9		0
cis-1,3-Dichloropropene	< 7.8		< 9		0
Trichloroethene	< 7.8		< 9		0
Dibromochloromethane	< 7.8		< 9		0
1,1,2-Trichloroethane	< 7.8		< 9		0
Benzene	< 7.8		< 9		0
trans-1,3-Dichloropropene	< 7.8		< 9		0
Bromoform	< 7.8		< 9		0
4-Methyl-2-pentanone	< 7.8		< 18		0
2-Hexanone	< 7.8		< 18		0
Tetrachloroethene	< 7.8		< 9		0
1,1,1,2-Tetrachloroethane	< 7.8		< 9		0
Toluene		21		31	0
Chlorobenzene	< 7.8		< 9		0
Ethylbenzene	< 7.8		< 9		0
Styrene	< 7.8		< 9		0
Xylene (total)	< 7.8		< 9		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	108	Dibromofluoromethane (80-120)	103
1,2-Dichloroethane-d4 (80-120)	99	1,2-Dichloroethane-d4 (70-121)	92
Bromofluorobenzene (74-121)	117	Toluene d8 (81-117)	112
1,2-Dichlorobenzene-d4 (80-120)	88	Bromofluorobenzene (74-121)	74

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

E=Compound above instruments calibration range.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FIELD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	7/12/1999	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
EXTRACTION METHOD:	5035	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8260B	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: ########

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Chloromethane	< 7.4		NR		2
Bromomethane	< 7.4		NR		2
Vinyl Chloride	< 7.4		NR		2
Chloroethane	< 7.4		NR		2
Methylene Chloride	< 7.4		NR		2
Acetone		6.4 J	NR		2
Carbon Disulfide	< 7.4		NR		2
1,1-Dichloroethene	< 7.4		NR		2
1,1-Dichloroethane	< 7.4		NR		2
trans-1,2-Dichloroethene	< 7.4		NR		2
cis-1,2-Dichloroethene	< 7.4		NR		2
Chloroform	< 7.4		NR		2
1,2-Dichloroethane	< 7.4		NR		2
2-Butanone	< 7.4		NR		2
1,1,1-Trichloroethane	< 7.4		NR		2
Carbon Tetrachloride	< 7.4		NR		2
Bromodichloromethane	< 7.4		NR		2
1,2-Dichloropropane	< 7.4		NR		2
cis-1,3-Dichloropropene	< 7.4		NR		2
Trichloroethene	< 7.4		NR		2
Dibromochloromethane	< 7.4		NR		2
1,1,2-Trichloroethane	< 7.4		NR		2
Benzene	< 7.4		NR		2
trans-1,3-Dichloropropene	< 7.4		NR		2
Bromoform	< 7.4		NR		2
4-Methyl-2-pentanone	< 7.4		NR		2
2-Hexanone	< 7.4		NR		2
Tetrachloroethene	< 7.4		NR		2
1,1,1,2-Tetrachloroethane	< 7.4		NR		2
Toluene	< 7.4		NR		2
Chlorobenzene	< 7.4		NR		2
Ethylbenzene	< 7.4		NR		2
Styrene	< 7.4		NR		2
Xylene (total)	< 7.4		NR		2

SURROGATE RECOVERIES (%)	QA		PRIMARY
Toluene-d8 (81-117)	97	Dibromofluoromethane (80-120)	NR
1,2-Dichloroethane-d4 (80-120)	111	1,2-Dichloroethane-d4 (70-121)	NR
Bromofluorobenzene (74-121)	101	Toluene d8 (81-117)	NR
1,2-Dichlorobenzene-d4 (80-120)	100	Bromofluorobenzene (74-121)	NR

NR=NOT REPORTED

J=Indicates an estimated value less than the reporting limit.

B=Analyte was also detected in the method blank.

E=Compound above instruments calibration range.

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	J0E180315-1	CONTRACTORS SAMPLE No.:	F0D100163-001
QA FEILD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	4/21/2000
QA LABORATORY:	STL, RICHLAND, WA	CONTRACTOR'S LABORATORY:	STL, St. Louis
PREPARATION METHOD:	NA	PREPARATION METHOD:	NA
ANALYSIS METHOD:	Radium-226 by Gamma	ANALYSIS METHOD:	Radium-226 by Gamma
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: pCi/g

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Radium-226 by Gamma		1.07E+00		3.02E+00	0

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	NR	CONTRACTORS SAMPLE No.:	0094484-01
QA FEILD ID:	NR	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	NR	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	NR	CONTRACTOR'S LABORATORY:	STL, Baltimore
PREPARATION METHOD:	NR	PREPARATION METHOD:	NA
ANALYSIS METHOD:	NR	ANALYSIS METHOD:	Radium-226 by Gamma
DILUTION FACTOR:	NR	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: pCi/g

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Radium-226 by Gamma		NR		3.80E-01	2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ. SUPERFUND SITE

QA SAMPLE No.:	NR	CONTRACTORS SAMPLE No.:	S284-149164
QA FEILD ID:	NR	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	NR	CONTRACTOR'S ANALYSIS DATE:	8/25/1999
QA LABORATORY:	NR	CONTRACTOR'S LABORATORY:	General Engineering Labs
PREPARATION METHOD:	NR	PREPARATION METHOD:	NA
ANALYSIS METHOD:	NR	ANALYSIS METHOD:	HASL 300
DILUTION FACTOR:	NR	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION:	SOIL
DATE SAMPLED:	#######
UNITS:	pCi/g

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Radium-226 by HASL 300		NR		2.84E-01	2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	NR	CONTRACTORS SAMPLE No.:	Q525-137897
QA FEILD ID:	NR	CONTRACTORS FIELD ID:	SF008SL6
QA ANALYSIS DATE:	NR	CONTRACTOR'S ANALYSIS DATE:	7/5/1999
QA LABORATORY:	NR	CONTRACTOR'S LABORATORY:	General Engineering Labs
PREPARATION METHOD:	NR	PREPARATION METHOD:	NA
ANALYSIS METHOD:	NR	ANALYSIS METHOD:	HASL 300
DILUTION FACTOR:	NR	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: pCi/g

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Radium-226 by HASL 300		NR		2.99E-01	2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, MILLINGTON, NJ, SUPERFUND SITE

QA SAMPLE No.:	NR	CONTRACTORS SAMPLE No.:	Q659-138768
QA FEILD ID:	NR	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	NR	CONTRACTOR'S ANALYSIS DATE:	7/5/1999
QA LABORATORY:	NR	CONTRACTOR'S LABORATORY:	General Engineering Labs
PREPARATION METHOD:	NR	PREPARATION METHOD:	NA
ANALYSIS METHOD:	NR	ANALYSIS METHOD:	HASL 300
DILUTION FACTOR:	NR	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: ######

UNITS: pCi/g

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR DL	RESULTS CONTRACTOR	COMPARISON CODE
Radium-226 by HASL 300		NR		3.22E-01	2

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FIELD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/22/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Pyridine	< 340		NR		2
N-Nitrosodimethylamine	< 340		NR		2
Anailine	< 340		NR		2
Phenol	< 860		< 350		0
bis(2-Chloroethyl)Ether	< 340		< 35		0
2-Chlorophenol	< 340		< 350		0
1,3-Dichlorobenzene	< 340		< 350		0
1,4-Dichlorobenzene	< 340		< 350		0
Benzyl Alcohol	< 340		NR		2
1,2-Dichlorobenzene	< 340		< 350		0
2-methylphenol	< 340		< 350		0
2,2'-oxybis(1-Chloropropane)	< 340		NR		2
4-Methylphenol	< 340		< 350		0
N-Nitroso-di-n-propylamine	< 340		< 35		0
Hexachloroethane	< 340		< 35		0
Nitrobenzene	< 340		< 35		0
Isophorone	< 340		< 350		0
2-Nitrophenol	< 340		< 350		0
2,4-Dimethylphenol	< 340		< 350		0
bis(2-Chloroethoxy)methane	< 340		< 350		0
Benzoic Acid	< 860		NR		2
2,4-Dichlorophenol	< 340		< 350		0
1,2,4-Trichlorobenzene	< 340		< 35		0
Naphthalene	< 340		< 350		0
4-Chloroaniline	< 340		< 350		0
Hexachlorobutadiene	< 340		< 70		0
4-Chloro-3-Methylphenol	< 340		< 350		0
2-Methylnaphthalene	< 340		< 350		0
Hexachlorocycopentadiene	< 340		< 350		0
2,4,6-Trichlorophenol	< 340		< 350		0
2,4,5-Trichlorophenol	< 860		< 350		0
2-Chloronaphthalene	< 340		< 350		0
2-Nitroaniline	< 860		< 700		0
Dimethylphthalate	< 340		< 350		0
Acenaphthylene	< 340		< 350		0
2,6-Dinitrotoluene	< 340		< 70		0
3-Nitroaniline	< 860		< 700		0
Acenaphthene	< 340		< 350		0
2,4-Dinitrophenol	< 860		< 1400		0
4-Nitrophenol	< 860		< 1400		0
Dibenzofuran	< 340		< 350		0

NR=NOT REPORTED

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389228	CONTRACTORS SAMPLE No.:	138768
QA FIELD ID:	CF009SL	CONTRACTORS FIELD ID:	CF009SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/22/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 340		< 70		0
Diethylphthalate	< 340		< 350		0
Fluorene	< 340		< 350		0
4-Chlorophenyl-phenylether	< 340		< 350		0
4-Nitroaniline	< 860		< 700		0
4,6-Dinitro-2-methylphenol	< 860		< 1400		0
N-Nitrosodiphenylamine	< 340		< 350		0
Azobenzene	< 340		NR		2
4-Bromophenyl-phenylether	< 340		< 350		0
Hexachlorobenzene	< 340		< 35		0
Pentachlorophenol	< 860		< 1400		0
Phenanthrene	< 340			24 J	0
Anthracene	< 340		< 350		0
Carbazole	< 340		< 350		0
Di-n-butylphthalate	< 340		< 350		0
Fluoranthene	< 340			9.0 J	0
Benzidine	< 340		NR		2
Pyrene	< 340			22 J	0
Butylbenzylphthalate	< 340		< 350		0
Benzo(a)anthracene	< 340		< 35		0
3,3'-Dichlorobenzidine	< 340		< 700		0
Chrysene	< 340		< 350		0
bis(2-Ethylhexyl)phthalate	< 340			120 JB	0
Di-n-octylphthalate	< 340		< 350		0
Benzo(b)fluoranthene	< 340		< 35		0
Benzo(k)fluoranthene	< 340		< 35		0
Benzo(a)pyrene	< 340		< 35		0
Indeno(1,2,3-cd)pyrene	< 340		< 35		0
Dibenz(a,h)anthracene	< 340		< 35		0
Benzo(g,h,i)perylene	< 340		< 350		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	77	2-Fluorophenol (53-112)	91
Phenol-d5 (24-113)	88	Phenol-d5 (63-108)	92
2-Chlorophenol-d4 (20-130)	81	2,4,6-Tribromophenol (38-130)	92
1,2-Dichlorobenzene-d4 (20-130)	82	Nitrobenzene-d5 (64-112)	97
Nitrobenzene-d5 (23-120)	82	2-Fluorobiphenyl (58-117)	106
2-Fluorobiphenyl (30-115)	88	Terphenyl-d14 (66-121)	119
2,4,6-Tribromophenol (19-122)	50		
Terphenyl-d14 (18-137)	70		

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FIELD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/22/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Pyridine	< 340		NR		2
N-Nitrosodimethylamine	< 340		NR		2
Anailine	< 340		NR		2
Phenol	< 860		< 350		0
bis(2-Chloroethyl)Ether	< 340		< 35		0
2-Chlorophenol	< 340		< 350		0
1,3-Dichlorobenzene	< 340		< 350		0
1,4-Dichlorobenzene	< 340		< 350		0
Benzyl Alcohol	< 340		NR		2
1,2-Dichlorobenzene	< 340		< 350		0
2-methylphenol	< 340		< 350		0
2,2'-oxybis(1-Chloropropane)	< 340		NR		2
4-Methylphenol	< 340		< 350		0
N-Nitroso-di-n-propylamine	< 340		< 35		0
Hexachloroethane	< 340		< 35		0
Nitrobenzene	< 340		< 35		0
Isophorone	< 340		< 350		0
2-Nitrophenol	< 340		< 350		0
2,4-Dimethylphenol	< 340		< 350		0
bis(2-Chloroethoxy)methane	< 340		< 350		0
Benzoic Acid	< 860		NR		2
2,4-Dichlorophenol	< 340		< 350		0
1,2,4-Trichlorobenzene	< 340		< 35		0
Naphthalene	< 340		< 350		0
4-Chloroaniline	< 340		< 350		0
Hexachlorobutadiene	< 340		< 71		0
4-Chloro-3-Methylphenol	< 340		< 350		0
2-Methylnaphthalene	< 340		< 350		0
Hexachlorocyclopentadiene	< 340		< 350		0
2,4,6-Trichlorophenol	< 340		< 350		0
2,4,5-Trichlorophenol	< 860		< 350		0
2-Chloronaphthalene	< 340		< 350		0
2-Nitroaniline	< 860		< 700		0
Dimethylphthalate	< 340		< 350		0
Acenaphthylene	< 340		< 350		0
2,6-Dinitrotoluene	< 340		< 71		0
3-Nitroaniline	< 860		< 700		0
Acenaphthene	< 340		< 350		0
2,4-Dinitrophenol	< 860		< 1400		0
4-Nitrophenol	< 860		< 1400		0
Dibenzofuran	< 340		< 350		0

NR=NOT REPORTED

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389229	CONTRACTORS SAMPLE No.:	137897
QA FIELD ID:	SF008SL	CONTRACTORS FIELD ID:	SF008SL
QA ANALYSIS DATE:	7/9/1999	CONTRACTOR'S ANALYSIS DATE:	6/22/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 340		< 71		0
Diethylphthalate	< 340		< 350		0
Fluorene	< 340		< 350		0
4-Chlorophenyl-phenylether	< 340		< 350		0
4-Nitroaniline	< 860		< 700		0
4,6-Dinitro-2-methylphenol	< 860		< 1400		0
N-Nitrosodiphenylamine	< 340		< 350		0
Azobenzene	< 340		NR		2
4-Bromophenyl-phenylether	< 340		< 350		0
Hexachlorobenzene	< 340		< 35		0
Pentachlorophenol	< 860		< 1400		0
Phenanthrene	< 340		< 350		0
Anthracene	< 340		< 350		0
Carbazole	< 340		< 350		0
Di-n-butylphthalate	< 340		< 350		0
Fluoranthene	< 340		< 350		0
Benzidine	< 340		NR		2
Pyrene	< 340		< 350		0
Butylbenzylphthalate	< 340		< 350		0
Benzo(a)anthracene	< 340		< 35		0
3,3'-Dichlorobenzidine	< 340		< 700		0
Chrysene	< 340		< 350		0
bis(2-Ethylhexyl)phthalate	< 340			100 JB	0
Di-n-octylphthalate	< 340		< 350		0
Benzo(b)fluoranthene	< 340		< 35		0
Benzo(k)fluoranthene	< 340		< 35		0
Benzo(a)pyrene	< 340		< 35		0
Indeno(1,2,3-cd)pyrene	< 340		< 35		0
Dibenz(a,h)anthracene	< 340		< 35		0
Benzo(g,h,i)perylene	< 340		< 350		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	77	2-Fluorophenol (53-112)	96
Phenol-d5 (24-113)	88	Phenol-d5 (63-108)	96
2-Chlorophenol-d4 (20-130)	81	2,4,6-Tribromophenol (38-130)	86
1,2-Dichlorobenzene-d4 (20-130)	82	Nitrobenzene-d5 (64-112)	101
Nitrobenzene-d5 (23-120)	76	2-Fluorobiphenyl (58-117)	104
2-Fluorobiphenyl (30-115)	88	Terphenyl-d14 (66-121)	113
2,4,6-Tribromophenol (19-122)	58		
Terphenyl-d14 (18-137)	76		

SEE APPENDIX A FOR KEY TO COMMENTS

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FIELD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	8/17/1999	CONTRACTOR'S ANALYSIS DATE:	8/13/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Pyridine	< 340		NR		2
N-Nitrosodimethylamine	< 340		NR		2
Anailine	< 340		NR		2
Phenol	< 860		< 350		0
bis(2-Chloroethyl)Ether	< 340		< 35		0
2-Chlorophenol	< 340		< 350		0
1,3-Dichlorobenzene	< 340		< 350		0
1,4-Dichlorobenzene	< 340		< 350		0
Benzyl Alcohol	< 340		NR		2
1,2-Dichlorobenzene	< 340		< 350		0
2-methylphenol	< 340		< 350		0
2,2'-oxybis(1-Chloropropane)	< 340		NR		2
4-Methylphenol	< 340		< 350		0
N-Nitroso-di-n-propylamine	< 340		< 35		0
Hexachloroethane	< 340		< 35		0
Nitrobenzene	< 340		< 35		0
Isophorone	< 340		< 350		0
2-Nitrophenol	< 340		< 350		0
2,4-Dimethylphenol	< 340		< 350		0
bis(2-Chloroethoxy)methane	< 340		< 350		0
Benzoic Acid	< 860		NR		2
2,4-Dichlorophenol	< 340		< 350		0
1,2,4-Trichlorobenzene	< 340		< 35		0
Naphthalene	< 340		< 350		0
4-Chloroaniline	< 340		< 350		0
Hexachlorobutadiene	< 340		< 71		0
4-Chloro-3-Methylphenol	< 340		< 350		0
2-Methylnaphthalene	< 340		< 350		0
Hexachlorocycopentadiene	< 340		< 350		0
2,4,6-Trichlorophenol	< 340		< 350		0
2,4,5-Trichlorophenol	< 860		< 350		0
2-Chloronaphthalene	< 340		< 350		0
2-Nitroaniline	< 860		< 700		0
Dimethylphthalate	< 340		< 350		0
Acenaphthylene	< 340		< 350		0
2,6-Dinitrotoluene	< 340		< 70		0
3-Nitroaniline	< 860		< 700		0
Acenaphthene	< 340		< 350		0
2,4-Dinitrophenol	< 860		< 1400		0
4-Nitrophenol	< 860		< 1400		0
Dibenzofuran	< 340		< 350		0

SEE APPENDIX A FOR KEY TO COMMENTS

NR=NOT REPORTED

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1. NJ SUPERFUND SITE

QA SAMPLE No.:	392966	CONTRACTORS SAMPLE No.:	149164
QA FIELD ID:	CF011SL	CONTRACTORS FIELD ID:	CF011SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	8/13/1999
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 340		< 71		0
Diethylphthalate	< 340		< 350		0
Fluorene	< 340		< 350		0
4-Chlorophenyl-phenylether	< 340		< 350		0
4-Nitroaniline	< 860		< 700		0
4,6-Dinitro-2-methylphenol	< 860		< 1400		0
N-Nitrosodiphenylamine	< 340		< 350		0
Azobenzene	< 340		NR		2
4-Bromophenyl-phenylether	< 340		< 350		0
Hexachlorobenzene	< 340		< 35		0
Pentachlorophenol	< 860		< 1400		0
Phenanthrene	< 340		< 350		0
Anthracene	< 340		< 350		0
Carbazole	< 340		< 350		0
Di-n-butylphthalate	< 340		< 350		0
Fluoranthene	< 340		< 350		0
Benzidine	< 340		NR		2
Pyrene	< 340			7.5 J	0
Butylbenzylphthalate	< 340		< 350		0
Benzo(a)anthracene	< 340		< 35		0
3,3'-Dichlorobenzidine	< 340		< 700		0
Chrysene	< 340		< 350		0
bis(2-Ethylhexyl)phthalate	< 340		< 350		0
Di-n-octylphthalate	< 340		< 350		0
Benzo(b)fluoranthene	< 340		< 35		0
Benzo(k)fluoranthene	< 340		< 35		0
Benzo(a)pyrene	< 340		< 35		0
Indeno(1,2,3-cd)pyrene	< 340		< 35		0
Dibenz(a,h)anthracene	< 340		< 35		0
Benzo(g,h,i)perylene	< 340		< 350		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	81	2-Fluorophenol (53-112)	80
Phenol-d5 (24-113)	85	Phenol-d5 (63-108)	83
2-Chlorophenol-d4 (20-130)	81	2,4,6-Tribromophenol (38-130)	83
1,2-Dichlorobenzene-d4 (20-130)	70	Nitrobenzene-d5 (64-112)	79
Nitrobenzene-d5 (23-120)	76	2-Fluorobiphenyl (58-117)	84
2-Fluorobiphenyl (30-115)	88	Terphenyl-d14 (66-121)	94
2,4,6-Tribromophenol (19-122)	50		
Terphenyl-d14 (18-137)	82		

SEE APPENDIX A FOR KEY TO COMMENTS

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FIELD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	11/24/1999	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: #######
UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Pyridine	< 430		NR		2
N-Nitrosodimethylamine	< 430		NR		2
Aniline	< 430		NR		2
Phenol		31 J	< 400		0
bis(2-Chloroethyl)Ether	< 430		< 400		0
2-Chlorophenol	< 430		< 400		0
1,3-Dichlorobenzene	< 430		< 400		0
1,4-Dichlorobenzene	< 430		< 400		0
Benzyl Alcohol	< 430		NR		2
1,2-Dichlorobenzene	< 430		< 400		0
2-methylphenol	< 430		< 400		0
2,2'-oxybis(1-Chloropropane)	< 430		< 400		0
4-Methylphenol		42 J	< 400		0
N-Nitroso-di-n-propylamine	< 430		< 400		0
Hexachloroethane	< 430		< 400		0
Nitrobenzene	< 430		< 400		0
Isophorone	< 430		< 400		0
2-Nitrophenol	< 430		< 400		0
2,4-Dimethylphenol	< 430		< 400		0
bis(2-Chloroethoxy)methane	< 430		< 400		0
Benzoic Acid		140 JB	NR		2
2,4-Dichlorophenol	< 430		< 400		0
1,2,4-Trichlorobenzene	< 430		< 400		0
Naphthalene	< 430		< 400		0
4-Chloroaniline	< 430		< 400		0
Hexachlorobutadiene	< 430		< 400		0
4-Chloro-3-Methylphenol	< 430		< 400		0
2-Methylnaphthalene	< 430		< 400		0
Hexachlorocycopentadiene	< 430		< 400		0
2,4,6-Trichlorophenol	< 430		< 400		0
2,4,5-Trichlorophenol	< 1100		< 2000		0
2-Chloronaphthalene	< 430		< 400		0
2-Nitroaniline	< 1100		< 2000		0
Dimethylphthalate	< 430		< 400		0
Acenaphthylene	< 430		< 400		0
2,6-Dinitrotoluene	< 430		< 400		0
3-Nitroaniline	< 1100		< 2000		0
Acenaphthene	< 430		< 400		0
2,4-Dinitrophenol	< 1100		< 2000		0
4-Nitrophenol	< 1100		< 2000		0
Dibenzofuran	< 430		< 400		0

SEE APPENDIX A FOR KEY TO COMMENTS
NR=NOT REPORTED

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1. NJ SUPERFUND SITE

QA SAMPLE No.:	403332	CONTRACTORS SAMPLE No.:	9912610
QA FIELD ID:	TS014SL	CONTRACTORS FIELD ID:	TS014SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	########
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, NJ
EXTRACTION METHOD:	3550B	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 430		< 400		0
Diethylphthalate	< 430		< 400		0
Fluorene	< 430		< 400		0
4-Chlorophenyl-phenylether	< 430		< 400		0
4-Nitroaniline	< 1100		< 2000		0
4,6-Dinitro-2-methylphenol	< 1100		< 2000		0
N-Nitrosodiphenylamine	< 430		< 400		0
Azobenzene	< 430		NR		2
4-Bromophenyl-phenylether	< 430		< 400		0
Hexachlorobenzene	< 430		< 400		0
Pentachlorophenol	< 1100		< 2000		0
Phenanthrene		27 J	< 400		0
Anthracene	< 430		< 400		0
Carbazole	< 430		< 400		0
Di-n-butylphthalate	< 430		< 400		0
Fluoranthene		91 J	< 400		0
Benzidine	< 430		NR		2
Pyrene		89 J	< 400		0
Butylbenzylphthalate	< 430		< 400		0
Benzo(a)anthracene		47 J	< 400		0
3,3'-Dichlorobenzidine	< 430		< 400		0
Chrysene		53 J	< 400		0
bis(2-Ethylhexyl)phthalate		22 J		53 J	0
Di-n-octylphthalate	< 430		< 400		0
Benzo(b)fluoranthene		40 J	< 400		0
Benzo(k)fluoranthene		53 J	< 400		0
Benzo(a)pyrene		42 J	< 400		0
Indeno(1,2,3-cd)pyrene		26 J	< 400		0
Dibenz(a,h)anthracene	< 430		< 400		0
Benzo(g,h,i)perylene		34 J	< 400		0

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	84	2-Fluorophenol (25-121)	74
Phenol-d5 (24-113)	88	Phenol-d5 (24-113)	74
2-Chlorophenol-d4 (20-130)	97	2-Chlorophenol-d4 (20-130)	77
1,2-Dichlorobenzene-d4 (20-130)	82	1,2-Dichlorobenzene-d4 (20-130)	79
Nitrobenzene-d5 (23-120)	73	Nitrobenzene-d5 (23-120)	70
2-Fluorobiphenyl (30-115)	82	2-Fluorobiphenyl (30-115)	71
2,4,6-Tribromophenol (19-122)	91	2,4,6-Tribromophenol (19-122)	82
Terphenyl-d14 (18-137)	77	Terphenyl-d14 (18-137)	60

SEE APPENDIX A FOR KEY TO COMMENTS

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT: ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FIELD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	4/27/2000	CONTRACTOR'S ANALYSIS DATE:	3/31/2000
QA LABORATORY:	STL. VT	CONTRACTOR'S LABORATORY:	STL. BALTIMORE
EXTRACTION METHOD:	3550C	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: #######
UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Pyridine	< 420		NR		2
N-Nitrosodimethylamine	< 420		NR		2
Aniline	< 1100		NR		2
Phenol	< 420		< 440		0
bis(2-Chloroethyl)Ether	< 420		< 440		0
2-Chlorophenol	< 420		< 440		0
1,3-Dichlorobenzene	< 420		< 440		0
1,4-Dichlorobenzene	< 420		< 440		0
Benzyl Alcohol	< 420		< 440		0
1,2-Dichlorobenzene	< 420		< 440		0
2-methylphenol	< 420		< 440		0
2,2'-oxybis(1-Chloropropane)	< 420		NR		2
4-Methylphenol		62 J	< 440		0
N-Nitroso-di-n-propylamine	< 420		< 440		0
Hexachloroethane	< 420		< 440		0
Nitrobenzene	< 420		< 440		0
Isophorone	< 420		< 440		0
2-Nitrophenol	< 420		< 440		0
2,4-Dimethylphenol	< 420		< 440		0
bis(2-Chloroethoxy)methane	< 420		< 440		0
Benzoic Acid	< 1100		< 4400		0
2,4-Dichlorophenol	< 420		< 440		0
1,2,4-Trichlorobenzene	< 420		< 440		0
Naphthalene	< 420		< 440		0
4-Chloroaniline	< 420		< 440		0
Hexachlorobutadiene	< 420		< 440		0
4-Chloro-3-Methylphenol	< 420		< 440		0
2-Methylnaphthalene	< 420		< 440		0
Hexachlorocycopentadiene	< 420		< 440		0
2,4,6-Trichlorophenol	< 420		< 440		0
2,4,5-Trichlorophenol	< 1100		< 2200		0
2-Chloronaphthalene	< 420		< 440		0
2-Nitroaniline	< 1100		< 2200		0
Dimethylphthalate	< 420		< 440		0
Acenaphthylene	< 420		< 440		0
2,6-Dinitrotoluene	< 420		< 440		0
3-Nitroaniline	< 1100		< 2200		0
Acenaphthene	< 420		< 440		0
2,4-Dinitrophenol	< 1100		< 2200		0
4-Nitrophenol	< 1100		< 2200		0
Dibenzofuran	< 420		< 440		0

SEE APPENDIX A FOR KEY TO COMMENTS
NR=NOT REPORTED

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	415236	CONTRACTORS SAMPLE No.:	2581
QA FIELD ID:	TS016SL	CONTRACTORS FIELD ID:	TS016SL
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	3/31/2000
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	STL, BALTIMORE
EXTRACTION METHOD:	3550C	EXTRACTION METHOD:	3550B
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	8270C
DILUTION FACTOR:	1.0	DILUTION FACTOR:	1.0

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 420		< 440		0
Diethylphthalate	< 420		< 440		0
Fluorene	< 420		< 440		0
4-Chlorophenyl-phenylether	< 420		< 440		0
4-Nitroaniline	< 1100		< 2200		0
4,6-Dinitro-2-methylphenol	< 1100		< 2200		0
N-Nitrosodiphenylamine	< 420		< 440		0
Azobenzene	< 420		NR		2
4-Bromophenyl-phenylether	< 420		< 440		0
Hexachlorobenzene	< 420		< 440		0
Pentachlorophenol	< 1100		< 2200		0
Phenanthrene		140 J		110 J	0
Anthracene		26 J	< 440		0
Carbazole	< 420		NR		2
Di-n-butylphthalate	< 420		< 440		0
Fluoranthene		420 J		230 J	0
Benzidine	< 420		NR		2
Pyrene		410 J		200 J	0
Butylbenzylphthalate	< 420		< 440		0
Benzo(a)anthracene		180 J		110 J	0
3,3'-Dichlorobenzidine	< 420		< 440		0
Chrysene		220 J		110 J	0
bis(2-Ethylhexyl)phthalate		30 J	< 440		0
Di-n-octylphthalate	< 420		< 440		0
Benzo(b)fluoranthene		270 J		100 J	0
Benzo(k)fluoranthene		220 J		54 J	0
Benzo(a)pyrene		210 J		88 J	0
Indeno(1,2,3-cd)pyrene		60 J		51 J	0
Dibenz(a,h)anthracene		29 J	< 440		0
Benzo(g,h,i)perylene		82 J		48 J	0

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	74	2-Fluorophenol (43-109)	61
Phenol-d5 (24-113)	75	Phenol-d5 (46-102)	57
2-Chlorophenol-d4 (20-130)	79	2-Chlorophenol-d4 (20-130)	61
1,2-Dichlorobenzene-d4 (20-130)	64	1,2-Dichlorobenzene-d4 (20-130)	64
Nitrobenzene-d5 (23-120)	66	Nitrobenzene-d5 (43-107)	59
2-Fluorobiphenyl (30-115)	69	2-Fluorobiphenyl (53-110)	64
2,4,6-Tribromophenol (19-122)	96	2,4,6-Tribromophenol (53-123)	69
Terphenyl-d14 (18-137)	68	Terphenyl-d14 (56-110)	60

SEE APPENDIX A FOR KEY TO COMMENTS

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

COMPARISON OF QA & CONTRACTOR RESULTS

PROJECT ASBESTOS DUMP SITE OU1, NJ SUPERFUND SITE

QA SAMPLE No.:	389555	CONTRACTORS SAMPLE No.:	NR
QA FIELD ID:	SB010SL	CONTRACTORS FIELD ID:	NR
QA ANALYSIS DATE:	#######	CONTRACTOR'S ANALYSIS DATE:	NR
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	NR
EXTRACTION METHOD:	3550C	EXTRACTION METHOD:	NR
ANALYSIS METHOD:	8270C	ANALYSIS METHOD:	NR
DILUTION FACTOR:	1.0	DILUTION FACTOR:	NR

MATERIAL DESCRIPTION: SOIL

DATE SAMPLED: #######

UNITS: ug/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
2,4-Dinitrotoluene	< 340		NR		2
Diethylphthalate	< 340		NR		2
Fluorene	< 340		NR		2
4-Chlorophenyl-phenylether	< 340		NR		2
4-Nitroaniline	< 860		NR		2
4,6-Dinitro-2-methylphenol	< 860		NR		2
N-Nitrosodiphenylamine	< 340		NR		2
Azobenzene	< 340		NR		2
4-Bromophenyl-phenylether	< 340		NR		2
Hexachlorobenzene	< 340		NR		2
Pentachlorophenol	< 860		NR		2
Phenanthrene	< 340		NR		2
Anthracene	< 340		NR		2
Carbazole	< 340		NR		2
Di-n-butylphthalate	< 340		NR		2
Fluoranthene	< 340		NR		2
Benzidine	< 860		NR		2
Pyrene	< 340		NR		2
Butylbenzylphthalate	< 340		NR		2
Benzo(a)anthracene	< 340		NR		2
3,3'-Dichlorobenzidine	< 340		NR		2
Chrysene	< 340		NR		2
bis(2-Ethylhexyl)phthalate	< 340		NR		2
Di-n-octylphthalate	< 340		NR		2
Benzo(b)fluoranthene	< 340		NR		2
Benzo(k)fluoranthene	< 340		NR		2
Benzo(a)pyrene	< 340		NR		2
Indeno(1,2,3-cd)pyrene	< 340		NR		2
Dibenz(a,h)anthracene	< 340		NR		2
Benzo(g,h,i)perylene	< 340		NR		2

SURROGATE RECOVERIES (%)	QA		PRIMARY
2-Fluorophenol (25-121)	69	2-Fluorophenol (43-109)	NR
Phenol-d5 (24-113)	69	Phenol-d5 (46-102)	NR
2-Chlorophenol-d4 (20-130)	65	2-Chlorophenol-d4 (20-130)	NR
1,2-Dichlorobenzene-d4 (20-130)	70	1,2-Dichlorobenzene-d4 (20-130)	NR
Nitrobenzene-d5 (23-120)	76	Nitrobenzene-d5 (43-107)	NR
2-Fluorobiphenyl (30-115)	82	2-Fluorobiphenyl (53-110)	NR
2,4,6-Tribromophenol (19-122)	65	2,4,6-Tribromophenol (53-123)	NR
Terphenyl-d14 (18-137)	82	Terphenyl-d14 (56-110)	NR

NR=NOT REPORTED

* = Surrogates outside of acceptable limits

Appendix B

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received July 8, 1999
Test Date July 9, 1999
Project No. 99G343
Client MILLINGTON ASBESTOS SITE
Material NON-WOVEN GEOTEXTILE
Sample No. S-1 (0-25,000 SF)

Room Temperature = 22.5°C

Specimen No.	Thickness After 5 seconds (in)
1	0.1630
2	0.1350
3	0.1580
4	0.1530
5	0.1465
6	0.1635
7	0.1440
8	0.1635
9	0.1640
10	0.1505
Average:	0.1540
Std. Deviation:	0.0100

Tested By DKS Reviewed By: CRC

Comments/Observations: The bolt of textile fabric given to our laboratory appeared in good uniform condition with no nonconformities.

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received July 8, 1999
Test Date July 9, 1999
Project No. 99G343
Client MILLINGTON ASBESTOS SITE
Material ~~Non-Woven~~ GEOTEXTILE
Sample No. S-2 (25,000 → 50,000 SF)

Room Temperature = 22.5°C

Specimen No.	Thickness After 5 seconds (in)
1	0.1835
2	0.1930
3	0.1780
4	0.2090
5	0.1785
6	0.1755
7	0.1530
8	0.1920
9	0.1735
10	0.1530
Average:	0.1790
Std. Deviation:	0.0173

Tested By: DKS Reviewed By: CRC

Comments/Observations: The roll of nonwoven Geotextile fabric presented to our laboratory appeared in good uniform condition with no non-conformities.

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

514 Pennsylvania Avenue
Fort Washi ton, PA 19034
Fax: 215/643-944. Tele: 215/654-9600

Grab Breaking Load & Elongation ASTM D46

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	07/08/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	MILLINGTON ASBESTOS S
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343	Sample Type	SHEET
		Location	0-25000 SF
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-1 (A)	07/12/99	4.0	0.147	21.0	267	58.8
IT S-1 (B)	07/12/99	4.0	0.1275	21.0	306	55
IT S-1 (C)	07/12/99	4.0	0.139	21.0	268	57.9
IT S-1 (D)	07/12/99	4.0	0.1245	21.0	276	60.8
IT S-1 (E)	07/12/99	4.0	0.135	21.0	245	55
IT S-1 (F)	07/12/99	4.0	0.1235	21.0	304	55.8
IT S-1 (G)	07/12/99	4.0	0.128	21.0	272	58.3
IT S-1 (H)	07/12/99	4.0	0.1235	21.0	260	59.2
IT S-1 (I)	07/12/99	4.0	0.1335	21.0	276	60.4
		- - - - Average - - - -				
		4.0	0.1313		275	57.9
		- - - - Standard Deviation - - - -				
		0	.00804		19.51	2.19

onday, July 12, 1999 10:39am

WEGsystems Consultants
514 Pennsylvania Avenue
Fort Wash: ton, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Grab Breaking Load & Elongation ASTM D46

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	07/08/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	MILLINGTON ASBESTOS S
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343	Sample Type	SHEET
		Location	0-25000 SF
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-1 (A)	07/12/99	4.0	0.128	21.5	326	67.5
IT S-1 (B)	07/12/99	4.0	0.1265	21.5	254	54.2
IT S-1 (C)	07/12/99	4.0	0.1155	21.5	286	58.3
IT S-1 (D)	07/12/99	4.0	0.1335	21.5	333	67.5
IT S-1 (E)	07/12/99	4.0	0.129	21.5	266	60.8
IT S-1 (F)	07/12/99	4.0	0.1195	21.5	276	57.9
IT S-1 (G)	07/12/99	4.0	0.1145	21.5	300	59.6
IT S-1 (H)	07/12/99	4.0	0.1225	21.5	341	65.8
IT S-1 (I)	07/12/99	4.0	0.138	21.5	346	63.3
IT S-1 (J)	07/12/99	4.0	0.147	21.5	332	68.3
		- - - - Average - - - -				
		4.0	0.1274		306	62.3
		- - - - Standard Deviation - - - -				
		0	.01018		33.8	4.88

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AHD

514 Pennsylvania Avenue
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Grab Breaking Load & Elongation ASTM D46

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	07/08/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	MILLINGTON ASBESTOS S
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343	Sample Type	SHEET
		Location	25000-50000 SF
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-2	07/12/99	4.0	0.1585	21.0	306	66.2
IT S-2	07/12/99	4.0	0.117	21.0	265	60
IT S-2	07/12/99	4.0	0.121	21.0	246	57.1
IT S-2	07/12/99	4.0	0.1505	21.0	314	67.1
IT S-2	07/12/99	4.0	0.121	21.0	258	58.8
IT S-2	07/12/99	4.0	0.159	21.0	268	67.5
IT S-2	07/12/99	4.0	0.1725	21.0	327	68.3
IT S-2	07/12/99	4.0	0.156	21.0	315	70.8
IT S-2	07/12/99	4.0	0.169	21.0	282	70.8
IT S-2	07/12/99	4.0	0.1305	21.0	262	66.2
		- - - - Average - - - -				
		4.0	0.1455		284	65.3
		- - - - Standard Deviation - - - -				
		0	.0211		28.8	4.93

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✓ AHD

514 Pennsylvania Avenue
Fort Wash: ton, PA 19034
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Grab Breaking Load & Elongation ASTM D46

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	07/08/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	MILLINGTON ASBESTOS S
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343	Sample Type	SHEET
		Location	25000-50000 SF
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-2	07/12/99	4.0	0.1335	21.0	355	88.8
IT S-2	07/12/99	4.0	0.164	21.0	366	79.2
IT S-2	07/12/99	4.0	0.1825	21.0	392	84.6
IT S-2	07/12/99	4.0	0.1265	21.0	332	88.8
IT S-2	07/12/99	4.0	0.14	21.0	334	86.7
IT S-2	07/12/99	4.0	0.1545	21.0	374	88.3
IT S-2	07/12/99	4.0	0.1255	21.0	320	82.1
IT S-2	07/12/99	4.0	0.1385	21.0	384	84.2
IT S-2	07/12/99	4.0	0.1235	21.0	341	86.7
IT S-2	07/12/99	4.0	0.132	21.0	360	87.1
		- - - - Average - - - -				
		4.0	0.142		356	85.6
		- - - - Standard Deviation - - - -				
		0	.01922		23.9	3.14

onday, July 12, 1999 11:11am

J
AHD

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 23-July-99
Test Date 26-July-99
Project No. 99G343
Client IT-Corp
Material Non Woven GT
Sample No. S-3

Room Temperature = 24.5°C

Specimen No.	Thickness After 5 seconds (in)
1	0.1790
2	0.1815
3	0.2100
4	0.1880
5	0.1970
6	0.1910
7	0.1700
8	0.1605
9	0.1755
10	0.2415
Average:	0.1894
Std. Deviation:	0.0230

Tested By: CRC

Reviewed By: _____

Comments/Observations: Mat'l appears uniform - variable thickness

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

Geosystems Consultants
514 Pennsylvania Avenue
Fort Wash: ton, PA 19034
Fax: 215/643-944u Tele: 215/654-9600

Grab Tensile ASTM D 4632

oad Range, lbf	1000	Test Config Filename	STARTUP
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	07/23/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	IT Corp.
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343-3	Sample Type	SHEET
		Location	50000-75000 sf
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-3-1	07/26/99	4.0	0.2005	24.0	303	68.8
IT S-3-2	07/26/99	4.0	0.1895	24.0	334	60
IT S-3-3	07/26/99	4.0	0.2145	24.0	276	66.7
IT S-3-4	07/26/99	4.0	0.1765	24.0	282	65.4
IT S-3-5	07/26/99	4.0	0.187	24.5	294	59.6
IT S-3-6	07/26/99	4.0	0.189	24.5	264	76.7
IT S-3-7	07/26/99	4.0	0.168	24.5	318	64.2
IT S-3-8	07/26/99	4.0	0.164	24.5	290	71.2
IT S-3-9	07/26/99	4.0	0.185	24.5	297	78.8
IT S-3-10	07/26/99	4.0	0.194	24.5	388	61.7
		- - - - Average - - - -				
		4.0	0.1868		304	67.3
		- - - - Standard Deviation - - - -				
		0	.01491		35.6	6.62

onday, July 26, 1999 4:42pm

ecosystems Consultants
514 Pennsylvania Avenue
Fort Washi ton, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Grab Tensile ASTM D 4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
e-Yield Strain Range, %		Date Received	07/23/99
sition Range, in	10	Project Number	99G343
f. Gage Length, in	3	Client	IT Corp.
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTIL
sult Filename	99343-3X	Sample Type	SHEET
		Location	50000-75000 sf
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
IT S-3-1	07/26/99	4.0	0.1675	24.5	380	121.8
IT S-3-2	07/26/99	4.0	0.1755	24.5	416	65.4
IT S-3-3	07/26/99	4.0	0.1955	24.5	387	64.6
IT S-3-4	07/26/99	4.0	0.1965	24.5	370	62.5
IT S-3-5	07/26/99	4.0	0.1905	24.5	330	78.3
IT S-3-6	07/26/99	4.0	0.201	24.5	392	64.2
IT S-3-7	07/26/99	4.0	0.181	24.5	384	72.5
IT S-3-8	07/26/99	4.0	0.1685	24.5	313	78.3
IT S-3-9	07/26/99	4.0	0.2225	24.5	416	84.6
IT S-3-10	07/26/99	4.0	0.2	24.5	475	80.4
		- - - - Average - - - -				
		4.0	0.1899		386	77.3
		- - - - Standard Deviation - - - -				
		0	.01703		45.3	17.53

nday, July 26, 1999 9:02pm

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received July 29, 1999
Test Date July 29, 1999
Project No. 99G343
Client IT MILLINGTON ASBESTOS
Material NON-WOVEN HEAT BONDED GEOTEXTILE
Sample No. 5-4 75k-100k

Room Temperature = 22.5°C

Specimen No.	Thickness After 5 seconds (in)
1	0.1530
2	0.1685
3	0.1590
4	0.1720
5	0.1725
6	0.1485
7	0.1645
8	0.1770
9	0.1700
10	0.1520
Average:	0.1637"
Std. Deviation:	0.0100

Tested By: DR Reviewed By: _____

Comments/Observations: The bolt of fabric delivered to GeoSystems testing laboratory was free of any inconformities and appeared uniform upon visual inspection.

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

Geosystems Consultants
514 Pennsylvania Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Grab Tensile Strength of Geotextile D463

Load Range, lbf	1000	Test Config Filename	4632
Stress Range, ksi		Parameter Filename	4632
Strain Range, %	200	Date Received	7/29/99
Position Range, in	25	Project Number	99G343
Eff. Gage Length, in	3	Client	IT CORPORATION
Machine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
Result Filename	99G343	Sample Type	SHEET
		Location	75K - 100K
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-4-1M	7/29/99	4.0	0.132	23.0	278	42.1
S-4-2M	7/29/99	4.0	0.1425	23.0	306	46.2
S-4-3M	7/29/99	4.0	0.1435	23.0	249	47.5
S-4-4M	7/29/99	4.0	0.1585	23.0	288	56.7
S-4-5M	7/29/99	4.0	0.1425	23.0	221	49.6
S-4-6M	7/29/99	4.0	0.1565	23.0	293	50.8
S-4-7M	7/29/99	4.0	0.162	23.0	256	62.1
S-4-8M	7/29/99	4.0	0.152	23.0	323	48.8
S-4-9M	7/29/99	4.0	0.138	23.0	285	48.8
S-4-10M	7/29/99	4.0	0.1485	23.0	304	55.4
		- - - - Average - - - -				
		4.0	0.1476		280	50.8
		- - - - Standard Deviation - - - -				
		0	.0096		30.6	5.78

Thursday, July 29, 1999 3:45pm

514 Pennsylvania Avenue
Fort Wash ton, PA 19034
Fax: 215/643-944u Tele: 215/654-9600

Grab Tensile Strength of Geotextile D463

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	7/29/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	IT CORPORATION
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343	Sample Type	SHEET
		Location	75K - 100K
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-4-1X	7/29/99	4.0	0.148	23.5	262	90.4
S-4-2X	7/29/99	4.0	0.153	23.5	276	95.8
S-4-3X	7/29/99	4.0	0.1395	23.5	298	97.9
S-4-4X	7/29/99	4.0	0.1475	23.5	296	98.3
S-4-5X	7/29/99	4.0	0.154	23.5	273	78.3
S-4-6X	7/29/99	4.0	0.1425	23.5	322	97.5
S-4-7X	7/29/99	4.0	0.121	23.5	234	78.8
S-4-8X	7/29/99	4.0	0.1335	23.5	262	86.2
S-4-9X	7/29/99	4.0	0.1325	23.5	276	77.9
S-4-10X	7/29/99	4.0	0.1365	23.5	288	82.9
		- - - - Average - - - -				
		4.0	0.1408		279	88.4
		- - - - Standard Deviation - - - -				
		0	.01031		24.3	8.63

hursday, July 29, 1999 3:55pm

GeoSystems Consultants, Inc.

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 8/19/99
Test Date 8/26/99
Project No. 99G343
Client IT CORPORATION - MILLINGTON ASBESTOS PROJECT
Material NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE
Sample No. 5-5 100K-125K

Room Temperature = 24.5°C

Specimen	Thickness (in)
1	0.1260
2	0.1420
3	0.1165
4	0.1195
5	0.1185
6	0.1150
7	0.1270
8	0.1580
9	0.1370
10	0.1405
Average:	0.1300 130 MILS
Std. Deviation:	0.0140

Tested By: RTR

Reviewed By: CRC 27-Aug-99

Comments/Observations: THE GEOTEXTILE SAMPLE DELIVERED TO GEOSYSTEMS TESTING LABORATORY WAS FREE OF BLISTERS AND FOREIGN MATERIAL AND APPEARED UNIFORM UPON VISUAL INSPECTION.

Approved by: CRC
Written by: MAS

Effective Date 7-15-96
Revision Date

Geosyster Consultants
514 Pennsylvania Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	STARTUP
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	8/23/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	IT CORPORATION
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTIL
esult Filename	99G343S5	Sample Type	SHEET
		Location	100K-125K
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-5-1M	8/26/99	4.0	0.1255	23	314	43.3
S-5-2M	8/26/99	4.0	0.145	23	295	35.8
S-5-3M	8/26/99	4.0	0.169	23	348	41.2
S-5-4M	8/26/99	4.0	0.148	23	276	50.4
S-5-5M	8/26/99	4.0	0.141	23	281	45
S-5-6M	8/26/99	4.0	0.1475	23	301	47.9
S-5-7M	8/26/99	4.0	0.175	23	286	43.8
S-5-8M	8/26/99	4.0	0.152	23	270	47.5
S-5-9M	8/26/99	4.0	0.1645	23	360	46.2
S-5-10M	8/26/99	4.0	0.1305	23	297	52.5
		- - - - Average - - - -				
		4.0	0.1498		303	45.4
		- - - - Standard Deviation - - - -				
		0	.01597		30	4.75

iday, August 27, 1999 5:42am

CKC 27/Aug/99

Geosystem Consultants
514 Pennsylvania Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

Load Range, lbf	1000	Test Config Filename	STARTUP
Stress Range, ksi		Parameter Filename	4632
Strain Range, %	200	Date Received	8/23/99
Position Range, in	25	Project Number	99G343
Eff. Gage Length, in	3	Client	IT CORPORATION
Machine Control File	12INMIN	Material	NONWOVEN GEOTEXTIL
Result Filename	99G343S5	Sample Type	SHEET
		Location	100K-125K
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-5-1X	8/27/99	4.0	0.1155	22	293	61.7
S-5-2X	8/27/99	4.0	0.121	22	294	83.3
S-5-3X	8/27/99	4.0	0.1255	22	308	62.1
S-5-4X	8/27/99	4.0	0.1435	22	297	58.3
S-5-5X	8/27/99	4.0	0.142	22	326	78.8
S-5-6X	8/27/99	4.0	0.1255	22	335	62.1
S-5-7X	8/27/99	4.0	0.131	22	316	58.8
S-5-8X	8/27/99	4.0	0.114	22	252	74.2
S-5-9X	8/27/99	4.0	0.1415	22	298	55
S-5-10X	8/27/99	4.0	0.15	22	364	61.2
		- - - - Average - - - -				
		4.0	0.131		308	65.5
		- - - - Standard Deviation - - - -				
		0	.01264		29.9	9.61

Friday, August 27, 1999 5:43am

CRC 27 Aug 99

GeoSystems Consultants, Inc.

GEOSYSTEMS CONSULTANTS

57[illegible] Virginia Drive, Fort Washington, PA 19034
[illegible]one (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thi[illegible]kness measurement using BT Technology Thickness Measurement Device

Date Received [illegible]/01/99
Test Date 10-[illegible]-99
Project No. 99-343
Client IT [illegible]ILLINGTON, N.J.
Material NON-[illegible]OVEN GEOTEX[illegible] (HEAT BONDED ON ONE SIDE)
Sample No. S[illegible] 125-150 SF

Room Temper[illegible] = 23.5°C

[illegible]	[illegible]
	0.1220
	0.1120
	0.1080
	0.1275
	0.1155
	0.1145
	0.1025
	0.1385
	0.1435
[illegible]	0.1155
Aver[illegible]	0.1200
Std. [illegible]on:	0.0131

Tested By: [illegible]

Reviewed By: AHD

Comments/Ob[illegible]ations: Roll [illegible]bric appears uniform and is free of any notice[illegible] defections [illegible] workmanship

Approved by: CRC
Written by: MAS

Effective Date 7-15-96
Revision Date: ____

\geosynth\qualasur\s[illegible] sop\071596

Revision No.: 0

514 Pennsyl ıia Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	10/01/99
[illegible]	25	Project Number	99G343
		[illegible] CORPORATION	
lachine Control File	121N4IN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343S7	Sample Type	SHEET
		Location	125K-150K SF
		Test Direction	MD

[illegible] Number	[illegible]	[illegible]	[illegible]	Room Temp. (C)	Ultimate (lb)	Ultimate (%)
S-6-1M	10/01/99	4.0	0.1155	24.0	324	67.1
S-6-2M	10/01/99	4.0	0.116	24.0	294	67.5
S-6-3M	10/01/99	4.0	0.1255	24.0	348	64.6
S-6-4M	10/01/99	4.0	0.117	24.0	277	69.2
S-6-5M	10/01/99	4.0	0.1085	24.0	295	69.6
S-6-6M	10/01/99	4.0	0.109	24.0	271	67.5
S-6-7M	10/01/99	4.0	0.1185	24.0	322	73.3
S-6-8M	10/01/99	4.0	0.1145	24.0	316	73.8
S-6-9M	10/01/99	4.0	0.11	24.0	315	78.8
S-6-10M	10/01/99	4.0	0.1235	24.0	290	72.9
		- - - - Average - - - -				
		4.0	0.1158		305	70.4
		- - - - Standard Deviation - - - -				
		0	.00575		23.7	4.21

Thursday, September 30, 1999 1:00am

AHD

Oct-04-99 04:33pm
Oct. 4. 1999 11:[illegible]AM 215 643-[illegible] GEOSYSTEMS
T-303 P.03/07 F-138
No.0070 P. 3/7

514 Pennsyl[illegible]ia Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	10/01/99
[illegible]ction Range, in	25	Project Number	99G343
[illegible]		[illegible]	IT CORPORATION
achine Control File	121N.IN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343S7	Sample Type	SHEET
		Location	125K-150K SF
		Test Direction	XD

Sample Number	Date [illegible]	Width in	Thick in	Room Temp. C%	Ultimate lbf	Ultimate %
S-6-1X	10/01/99	4.0	0.123	24.0	270	48.8
S-6-2X	10/01/99	4.0	0.1245	24.0	310	51.2
S-6-3X	10/01/99	4.0	0.1405	24.0	269	45.8
S-6-4X	10/01/99	4.0	0.1215	24.0	280	60
S-6-5X	10/01/99	4.0	0.1325	24.0	314	56.2
S-6-6X	10/01/99	4.0	0.13	24.0	308	52.9
S-6-7X	10/01/99	4.0	0.1245	24.0	258	62.5
S-6-8X	10/01/99	4.0	0.122	24.0	296	52.5
S-6-9X	10/01/99	4.0	0.132	24.0	308	49.6
S-6-10X	10/01/99	4.0	0.1295	24.0	260	59.6
		- - - - Average - - - -				
		4.0	0.128		287	53.9
		- - - - Standard Deviation - - - -				
		0	.00602		22.1	5.47

Thursday, September 30, 1999 1:28am

GeoSystems Consultants, Inc.

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600, Fax (215) 643-9440

ASTM D1777

Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 10/01/99
Test Date 10/01/99
Project No. 99G543
Client JCT MILLINGTON
Material NON-WOVEN GEOTEXTILE
Sample No. S7 150-175 SF

Room Temperature = 23.5°C

[redacted]	[redacted]
1	0.1405
2	0.1325
3	0.1400
4	0.1455
5	0.1495
6	0.1320
7	0.1455
8	0.1545
9	0.1595
10	0.1680
Average	0.1468
Std. Deviation:	0.0115

Tested By: [illegible] Reviewed By: AND

Comments/Observations: Bolt of fabric appears uniform and is free of any noticable defections in workmanship.

514 Pennsyl ıia Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	4632
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	10/01/99
[illegible] Range [illegible]	2[illegible]	Project Number	99G343
11. Gage Length, in	3	Client	[illegible] CORPORATION
lachine Control File	121NMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343S7	Sample Type	SHEET
		Location	150K-175K SF
		Test Direction	MD

Sample [illegible]	Date Tested	Width in	Thick in	Room Temp. C%	Ultimate lbf	Ultimate %
S-7-1M	10/01/99	4.0	0.1[illegible]	24.[illegible]	292	84.5
S-7-2M	10/01/99	4.0	0.1515	24.0	311	86.7
S-7-3M	10/01/99	4.0	0.177	24.0	404	87.5
S-7-4M	10/01/99	4.0	0.188	24.0	398	85
S-7-5M	10/01/99	4.0	0.1655	24.0	348	83.3
S-7-6M	10/01/99	4.0	0.1505	24.0	336	87.9
S-7-7M	10/01/99	4.0	0.1215	24.0	316	90
S-7-8M	10/01/99	4.0	0.1355	24.0	346	93.8
S-7-9M	10/01/99	4.0	0.1505	24.0	348	89.2
S-7-10M	10/01/99	4.0	0.1795	24.0	408	93.3
		- - - - Average - - - -				
		4.0	0.1551		350	88.1
		- - - - Standard Deviation - - - -				
		0	.0221		40.6	3.51

Thursday, September 30, 1999 1:44am

514 Pennsyl ia Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	4632
ress Range, ksi		Parameter Filename	4632
rain Range, %	[illegible]	Date Received	10/01/99
[illegible]	[illegible]	Project Number	99G343
il. Gage Length, in	3	Client	TT CORPORATION
achine Control File	121NMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99G343S7	Sample Type	SHEET
		Location	150K-175K SF
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C%	Ultimate lbf	Ultimate %
S-7-1X	10/01/99	[illegible]	0.1335	23.5	210	60.4
S-7-2X	10/01/99	4.0	0.169	23.5	324	77.1
S-7-3X	10/01/99	4.0	0.15	23.5	304	71.7
S-7-4X	10/01/99	4.0	0.155	23.5	278	78.8
S-7-5X	10/01/99	4.0	0.1445	23.5	272	83.8
S-7-6X	10/01/99	4.0	0.163	23.5	284	77.9
S-7-7X	10/01/99	4.0	0.1475	23.5	292	86.7
S-7-8X	10/01/99	4.0	0.14	23.5	257	73.8
S-7-9X	10/01/99	4.0	0.128	23.5	219	68.8
S-7-10X	10/01/99	4.0	0.153	23.5	316	85
		- - - - Average - - - -				
		4.0	0.1484		276	76.4
		- - - - Standard Deviation - - - -				
		0	.0126		36.5	8.06

Thursday, September 30, 1999 1:55am

Oct-04-99 04:33pm From-
Oct. 4. 1999 11:[illegible] AM 215 643-9600 GEOSYSTEMS
T-303 P.07/07 F-139
No.0070 P. 1/1

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 10/19/99
Test Date 10/19/99
Project No. 996343
Client IT CORPORATION - MILLINGTON NJ ASBESTOS PROJECT
Material NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE
Sample No. 5-8 175K-200K S.F.

Room Temperature = 22.5°C

Specimen No.	Thickness After 5 seconds (in)
1	0.1585
2	0.1655
3	0.1720
4	0.1620
5	0.1785
6	0.1695
7	0.1785
8	0.1585
9	0.1600
10	0.1630
Average:	0.1666 167 MILS
Std. Deviation:	0.0077

Tested By: RTR

Reviewed By: AHD 10/15/99

Comments/Observations: THE GEOTEXTILE SAMPLE DELIVERED TO GEOSYSTEMS TESTING LABORATORY WAS FREE OF BLISTERS AND FOREIGN MATERIAL AND APPEARED UNIFORM UPON VISUAL INSPECTION.

Geosystems Consultants
514 Penn vania Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	STARTUP
tress Range, ksi		Parameter Filename	4632
train Range, %	200	Date Received	10/19/99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	IT CORPORATION
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
esult Filename	99343S8X	Sample Type	SHEET
		Location	175K-200K SF
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-8-1X	10/19/99	4.0	0.1645	23.0	306	79.6
S-8-2X	10/19/99	4.0	0.142	23.0	304	78.8
S-8-3X	10/19/99	4.0	0.1375	23.0	283	85.8
S-8-4X	10/19/99	4.0	0.137	23.0	296	95.4
S-8-5X	10/19/99	4.0	0.1425	23.0	299	79.2
S-8-6X	10/19/99	4.0	0.1385	23.0	293	85.8
S-8-7X	10/19/99	4.0	0.1485	23.0	302	82.1
S-8-8X	10/19/99	4.0	0.151	23.0	306	75.4
S-8-9X	10/19/99	4.0	0.1745	23.0	316	84.6
S-8-10X	10/19/99	4.0	0.164	23.0	336	87.5
		- - - - Average - - - -				
		4.0	0.15		304	83.4
		- - - - Standard Deviation - - - -				
		0	.01328		14.44	5.72

uesday, October 19, 1999 2:59pm

AHD 10/19/99

Geosystems Consultants
514 Penns' ania Avenue
Fort Washin.con, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
rain Range, %	200	Date Received	10/19/99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
sult Filename	99G343S8	Sample Type	SHEET
		Location	175K-200K SF
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-8-1M	10/19/99	4.0	0.153	22.5	302	52.9
S-8-2M	10/19/99	4.0	0.154	22.5	316	62.1
S-8-3M	10/19/99	4.0	0.155	22.5	316	57.1
S-8-4M	10/19/99	4.0	0.1545	22.5	326	62.1
S-8-5M	10/19/99	4.0	0.136	22.5	270	54.2
S-8-6M	10/19/99	4.0	0.1375	22.5	302	55.8
S-8-7M	10/19/99	4.0	0.1445	22.5	290	56.7
S-8-8M	10/19/99	4.0	0.1525	22.5	300	52.1
S-8-9M	10/19/99	4.0	0.147	22.5	302	58.3
S-8-10M	10/19/99	4.0	0.1365	22.5	281	51.7
		- - - - Average - - - -				
		4.0	0.147		301	56.3
		- - - - Standard Deviation - - - -				
		0	.00791		17.04	3.76

esday, October 19, 1999 2:11pm

✓ AHD 10/19/99

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 07 Dec-99
Test Date 08-Dec 99
Project No. 99G343
Client IT
Material NW GT
Sample No. S-10

Room Temperature = 24°C

Specimen No.	Thickness After 5 Seconds (mm)
1	0.1365
2	0.1360
3	0.1300
4	0.0995
5	0.1010
6	0.1205
7	0.1645
8	0.1005
9	0.0990
10	0.1635
Average:	0.1251
Std. Deviation:	0.0255

Tested By: DL Reviewed By: CRC

Comments/Observations: GT uniform appearance
some thickness variation

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 07 Dec-99
Test Date 08-Dec-99
Project No. 996343
Client IT
Material GT
Sample No. S-9

Room Temperature = 24°C

Specimen No.	Thickness After 5 Seconds (in.)
1	0.1090
2	0.1235
3	0.1135
4	0.1080
5	0.1200
6	0.1025
7	0.1120
8	0.1020
9	0.1080
10	0.1135
Average:	0.1112
Std. Deviation:	0.0069

Tested By: DL

Reviewed By: CRC

Comments/Observations: GT uniform appearance
Some thickness variation

Geosystems Consultants
514 Penns rania Avenue
Fort Washington, PA 19034
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Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
rain Range, %	200	Date Received	12-07-99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
sult Filename	99343S109M	Sample Type	GRAB
		Location	200K-225K
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-9-1M	12-09-99	4.0	0.1135	24.0	326	48.3
S-9-2M	12-09-99	4.0	0.146	24.0	328	43.3
S-9-3M	12-09-99	4.0	0.2265	24.0	396	55.4
S-9-4M	12-09-99	4.0	0.131	24.0	404	41.7
S-9-5M	12-09-99	4.0	0.1195	24.0	376	43.8
S-9-6M	12-09-99	4.0	0.116	24.0	388	43.3
S-9-7M	12-09-99	4.0	0.1365	24.0	422	55
S-9-8M	12-09-99	4.0	0.112	24.0	354	41.7
S-9-9M	12-09-99	4.0	0.115	24.0	342	55.4
S-9-10M	12-09-99	4.0	0.098	24.0	312	52.5
		- - - - Average - - - -				
		4.0	0.1314		365	48
		- - - - Standard Deviation - - - -				
		0	.0361		37.5	5.97

ırsday, December 9, 1999 8:35am

CRC
09/Dec/99

Geosystems Consultants
514 Pennsylvania Avenue
Fort Washington, PA 19034
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Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
rain Range, %	200	Date Received	12-07-99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
sult Filename	99G343S9X	Sample Type	GRAB
		Location	200K-225K
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S9-1X	12-08-99	4.0	0.115	24.0	246	88.3
S-9-2X	12-08-99	4.0	0.1205	24.0	295	72.5
S-9-3X	12-08-99	4.0	0.144	24.0	289	84.2
S-9-4X	12-08-99	4.0	0.119	24.0	311	82.1
S-9-5X	12-08-99	4.0	0.13	24.0	336	77.9
S-9-6X	12-08-99	4.0	0.131	24.0	289	91.2
S-9-7X	12-08-99	4.0	0.1115	24.0	277	85
S-9-8X	12-08-99	4.0	0.1125	24.0	285	86.2
S-9-9X	12-08-99	4.0	0.113	24.0	318	90.4
S-9-10X	12-08-99	4.0	0.136	24.0	250	80
		- - - - Average - - - -				
		4.0	0.1233		289	83.8
		- - - - Standard Deviation - - - -				
		0	.01131		28.2	5.84

inesday, December 8, 1999 5:35pm

CRR
09/Dec/99

Geosystems Consultants
514 Pennsy ania Avenue
Fort Washin on, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
rain Range, %	200	Date Received	12-07-99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
sult Filename	ITS-10M	Sample Type	GRAB
		Location	225K-250K
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-10-1M	12-09-99	4.0	0.1605	22.5	422	49.2
S-10-2M	12-09-99	4.0	0.1105	22.5	314	52.9
S-10-3M	12-09-99	4.0	0.105	22.5	310	46.2
S-10-4M	12-09-99	4.0	0.121	22.5	391	40.8
S-10-5M	12-09-99	4.0	0.1315	22.5	398	44.2
S-10-6M	12-09-99	4.0	0.1275	22.5	403	42.9
S-10-7M	12-09-99	4.0	0.1225	22.5	306	51.7
S-10-8M	12-09-99	4.0	0.1105	22.5	332	53.3
S-10-9M	12-09-99	4.0	0.112	22.5	314	48.8
S-10-10M	12-09-99	4.0	0.1085	22.5	314	51.2
		- - - - Average - - - -				
		4.0	0.1209		350	48.1
		- - - - Standard Deviation - - - -				
		0	.01643		47	4.39

ırsday, December 9, 1999 8:59am

ARC
09/Dec/99

Geosystems Consultants
514 Penns vania Avenue
Fort Washington, PA 19034
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Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
rain Range, %	200	Date Received	12-07-99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTILE
sult Filename	ITS-10X	Sample Type	GRAB
		Location	225K-250K
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-10-1X	12-09-99	4.0	0.111	22.5	302	79.6
S-10-2X	12-09-99	4.0	0.11	22.5	310	83.8
S-10-3X	12-09-99	4.0	0.1025	22.5	276	73.8
S-10-4X	12-09-99	4.0	0.1235	22.5	282	84.6
S-10-5X	12-09-99	4.0	0.1075	22.5	290	78.3
S-10-6X	12-09-99	4.0	0.1055	22.5	316	76.7
S-10-7X	12-09-99	4.0	0.1165	22.5	294	77.5
S-10-8X	12-09-99	4.0	0.11	22.5	254	78.8
S-10-9X	12-09-99	4.0	0.125	22.5	274	90.4
S-10-10X	12-09-99	4.0	0.096	22.5	239	80.8
		- - - - Average - - - -				
		4.0	0.1107		284	80.4
		- - - - Standard Deviation - - - -				
		0	.00897		24.2	4.75

ursday, December 9, 1999 9:20am

CRC
09/Dec/99

GEOSYSTEMS CONSULTANTS

575 Virginia Drive, Fort Washington, PA 19034
Phone (215) 654-9600; Fax (215) 643-9440

ASTM D1777
Thickness of Geotextiles

Thickness measurement using BT Technology Thickness Measurement Device

Date Received 12-21-99
Test Date 12-22-99
Project No. 99G347
Client IT CORPORATION
Material NONWOVEN GEOTEXTILE
Sample No. S-11

Room Temperature = 22 °C

Specimen No.	Thickness (mm)
1	0.1240
2	0.1435
3	0.1110
4	0.1220
5	0.1225
6	0.1045
7	0.1290
8	0.1260
9	0.1380
10	0.1205
Average:	0.1241
Std. Deviation:	0.011416

Tested By: T.V Reviewed By: CRC 23/Dec/99

Comments/Observations: GT appears uniform in appearance some thickness variation.

Approved by: CRC
Written by: MAS

Effective Date: 7-15-96
Revision Date: _____

GeoSystems Consultants
514 Pennsylvania Avenue
Fort Washi ton, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

ad Range, lbf	1000	Test Config Filename	STARTUP
ress Range, ksi		Parameter Filename	4632
e-Yield Strain Range, %		Date Received	12-21-99
sition Range, in	25	Project Number	99G343
f. Gage Length, in	3	Client	IT CORPORATION
chine Control File	12INMIN	Material	NONWOVEN GEOTEXTIL
sult Filename	ITS-11M	Sample Type	GRAB
		Location	250K-275K
		Test Direction	MD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C½	Ultimate lbf	Ultimate %
S-11 M-1	12-22-99	4.0	0.1415	20.0	376	37.9
S-11 M-2	12-22-99	4.0	0.127	20.0	318	41.7
S-11 M-3	12-22-99	4.0	0.134	20.0	360	37.5
S-11 M-4	12-22-99	4.0	0.1265	20.0	292	45.8
S-11 M-5	12-22-99	4.0	0.134	20.0	304	46.2
S-11 M-6	12-22-99	4.0	0.1435	20.0	290	45
S-11 M-7	12-22-99	4.0	0.145	20.0	318	48.3
S-11 M-8	12-22-99	4.0	0.1245	20.0	323	44.6
S-11 M-9	12-22-99	4.0	0.1385	20.0	328	42.5
S-11 M-10	12-22-99	4.0	0.15	20.0	315	46.2
		- - - - Average - - - -				
		4.0	0.1364		322	43.6
		- - - - Standard Deviation - - - -				
		0	.00869		27.4	3.63

lnesday, December 22, 1999 11:31am

CRC
23/Dec/99

Geosystems Consultants
514 Pennsylvania Avenue
Fort Washington, PA 19034
Fax: 215/643-9440 Tele: 215/654-9600

Geotextile Grab Tensile Strength D4632

oad Range, lbf	1000	Test Config Filename	STARTUP
tress Range, ksi		Parameter Filename	4632
re-Yield Strain Range, %		Date Received	12-21-99
osition Range, in	25	Project Number	99G343
ff. Gage Length, in	3	Client	IT CORPORATION
achine Control File	12INMIN	Material	NONWOVEN GEOTEXTIL
esult Filename	ITS-11X	Sample Type	GRAB
		Location	250K-275K
		Test Direction	XD

Sample Number	Date Tested	Width in	Thick in	Room Temp. C%	Ultimate lbf	Ultimate %
S-11 X-1	12-22-99	4.0	0.1155	20.0	240	69.6
S-11 X-2	12-22-99	4.0	0.134	20.0	294	82.9
S-11 X-3	12-22-99	4.0	0.131	20.0	289	80.4
S-11 X-4	12-22-99	4.0	0.1205	20.0	279	79.6
S-11 X-5	12-22-99	4.0	0.11	20.0	252	82.9
S-11 X-6	12-22-99	4.0	0.122	20.0	264	81.2
S-11 X-7	12-22-99	4.0	0.1375	20.0	264	86.2
S-11 X-8	12-22-99	4.0	0.1325	20.0	262	91.2
S-11 X-9	12-22-99	4.0	0.116	20.0	273	82.1
S-11 X-10	12-22-99	4.0	0.138	20.0	283	87.9
		- - - - Average - - - -				
		4.0	0.1257		270	82.4
		- - - - Standard Deviation - - - -				
		0	.01011		16.91	5.79

ednesday, December 22, 1999 11:31am

CRC
23/Dec/99

Appendix C

GeoSystems Consultants, Inc.
514 Pennsylvania Avenue
Fort Washington, PA 19034
Telephone: (215) 654-9600 Fax: (215) 643-9440

October 18, 1999
99G343

Mr. David Ambrose
IT Corporation
2200 Cottontail Lane
Somerset, NJ 08873-1248

LABORATORY TEST RESULTS
GEOGRID SAMPLES S1 AND S2
MILLINGTON ASBESTOS PROJECT

Dear Mr. Ambrose:

Attached hereto are test results from two samples of geogrid (S-1 and S-2) given to our field representative on September 30, 1999. The average test results and the acceptance criteria are presented below.

			Value (lbs/ft)	
Sample No.	**Test Procedure**	**Parameter**	**Tested**	**Specified Min.**
S-1	GRI GG1	Tensile Strength @ 2% Strain	1,349	1,100
	GGI GG1	Tensile Strength @ 5% Strain	2,585	2,260
	GRI GG1	Ultimate Tensile Strength	4,643	4,400
	GRI GG2	Junction Tensile Strength	5,053	3,700
S-2	GRI GG1	Tensile Strength @ 2% Strain	1,481	1,100
	GRI GG1	Tensile Strength @5% Strain	2,831	2,260
	GRI GG1	Ultimate Tensile Strength	5,008	4,400
	GRI GG2	Junction Tensile Strength	5,355	3,700

All test results are higher than the specified minimums. Thus, the samples are satisfactory.

The samples were tested by TRI/Environmental, Inc. of Austin, Texas. TRI is accredited by the Geosynthetics Accreditation Institute. TRI's test reports are attached.

If you have any questions concerning this data, please do not hesitate to contact us.

Very truly yours,

GEOSYSTEMS CONSULTANTS, INC.

Arthur H. Dvinoff, Ph.D., P.E.
Principal Engineer

AHD/jp

attachments

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Tensar Geogrid
Sample Identification: 99G343 - S1
TRI Log #: E2127-90-01

SEA 10·13·99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV.	COEFF. OF VAR.
Tensile Properties (GRI GG1)													
MD Number of Ribs Tested	1	1	1	1	1						1	0	
MD Number of Ribs in One Foot	13.2	13.2	13.2	13.2	13.2						13.2	0.0	
MD Ultimate Strength (lbs)	354	356	351	360	357						356	3	
MD Ultimate Strength (lbs/ft width)	4673	4726	4633	4752	4712						4699	42	
MD Strength @ 2% Strain (lbs)	101	101	102	104	103						102	1	
MD Strength @ 2% Strain (lbs/ft width)	1333	1333	1346	1373	1360						1349	15	
MD Strength @ 5% Strain (lbs)	192	196	196	198	197						196	2	
MD Strength @ 5% Strain (lbs/ft width)	2534	2587	2587	2614	2600						2585	27	
MD Strength @ 10% Strain (lbs)	349	354		352	352						352	2	
MD Strength @ 10% Strain (lbs/ft width)	4607	4673		4646	4646						4643	24	
MD Break Elongation (%)	10.3	10.3	9.8	11.0	10.3						10.3	0.4	
Junction/Node Strength (GRI GG2)													
MD Maximum Strength (lbsf)	392	381	379	390	372						383	7	
MD Ultimate Strength (lbs/ft width)	5174	5029	5003	5148	4910						5053	97	

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI/ENVIRONMENTAL, INC.

A Texas Research International Company

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Tensar Geogrid
Sample Identification: 99G343 - S2
TRI Log #: E2127-90-01

SRA 10-13-99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV.	COEFF. OF VAR.
Tensile Properties (GRI GG1)													
MD Number of Ribs Tested	1	1	1	1	1						1	0	
MD Number of Ribs in One Foot	14.1	14.1	14.1	14.1	14.1						14.1	0.0	
MD Ultimate Strength (lbs)	360	358	353	346	359						355	5	
MD Ultimate Strength (lbs/ft width)	5076	5048	4977	4879	5062						5008	73	
MD Strength @ 2% Strain (lbs)	105	106	106	103	105						105	1	
MD Strength @ 2% Strain (lbs/ft width)	1481	1495	1495	1452	1481						1481	15	
MD Strength @ 5% Strain (lbs)	202	203	202	196	201						201	2	
MD Strength @ 5% Strain (lbs/ft width)	2848	2862	2848	2764	2834						2831	35	
MD Strength @ 10% Strain (lbs)	356	351	346	336	352						348	7	
MD Strength @ 10% Strain (lbs/ft width)	5020	4949	4879	4738	4963						4910	97	
MD Break Elongation (%)	10.2	11.1	10.9	11.4	11.0						10.9	0.4	
Junction/Node Strength (GRI GG2)													
MD Maximum Strength (lbsf)	382	391	377	378	371						380	7	
MD Ultimate Strength (lbs/ft width)	5386	5513	5316	5330	5231						5355	93	

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeoSystems Consultants, Inc.
514 Pennsylvania Avenue
Fort Washington, PA 19034
Telephone: (215) 654-9600 Fax: (215) 643-9440

October 29, 1999
99G343

Mr. David Ambrose
IT Corporation
2200 Cottontail Lane
Somerset, NJ 08873-1248

LABORATORY TEST RESULTS
GEOGRID SAMPLES S3, S4, AND S5
MILLINGTON ASBESTOS PROJECT

Dear Mr. Ambrose:

Attached hereto are test results from three samples of geogrid (S-3 through S-5). The average test results and the acceptance criteria are presented below.

			Value (lbs/ft)	
Sample No.	**Test Procedure**	**Parameter**	**Tested**	**Specified Min.**
S-3	GRI GG1	Tensile Strength @ 2% Strain	1,549	1,100
	GGI GG1	Tensile Strength @ 5% Strain	2,852	2,260
	GRI GG1	Ultimate Tensile Strength	5,268	4,400
	GRI GG2	Junction Tensile Strength	5,492	3,700
S-4	GRI GG1	Tensile Strength @ 2% Strain	1,497	1,100
	GRI GG1	Tensile Strength @ 5% Strain	2,857	2,260
	GRI GG1	Ultimate Tensile Strength	5,056	4,400
	GRI GG2	Junction Tensile Strength	5,197	3,700
S-5	GRI GG1	Tensile Strength @ 2% Strain	1,459	1,100
	GRI GG1	Tensile Strength @ 5% Strain	2,789	2,260
	GRI GG1	Ultimate Tensile Strength	4,936	4,400
	GRI GG2	Junction Tensile Strength	5,261	3,700

All test results are higher than the specified minimums. Thus, the samples are satisfactory.

The samples were tested by TRI/Environmental, Inc. of Austin, Texas, which is accredited by the Geosynthetics Accreditation Institute. TRI's test reports are attached.

If you have any questions concerning this data, please do not hesitate to contact us.

Very truly yours,

GEOSYSTEMS CONSULTANTS, INC.

Arthur H. Dvinoff, Ph.D., P.E.
Principal Engineer

AHD/jp

attachments

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Tensar Geogrid
Sample Identification: S3
TRI Log #: E2130-07-01

SEA 10-27-99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV.
Tensile Properties (GRI GG1)												
MD Number of Ribs Tested	1	1	1	1	1						1	
MD Number of Ribs in One Foot	14.7	14.7	14.7	14.7	14.7						14.7	
MD Ultimate Strength (lbs)	365	345	361	359	362						358	7
MD Ultimate Strength (lbs/ft width)	5366	5072	5307	5277	5321						5268	103
MD Strength @ 2% Strain (lbs)	106	101	107	108	105						105	2
MD Strength @ 2% Strain (lbs/ft width)	1558	1485	1573	1588	1544						1549	36
MD Strength @ 5% Strain (lbs)	202	194	204	206	198						201	4
MD Strength @ 5% Strain (lbs/ft width)	2969	2852	2999	3028	2911						2952	63
MD Strength @ 10% Strain (lbs)	357	333	355	358	337						348	11
MD Strength @ 10% Strain (lbs/ft width)	5248	4895	5219	5263	4954						5116	158
MD Break Elongation (%)	10.7	11.0	10.5	10.6	10.9						10.7	0.2
Junction/Node Strength (GRI GG2)												
MD Maximum Strength (lbsf)	357	370	386	379	376						374	10
MD Ultimate Strength (lbs/ft width)	5248	5439	5674	5571	5527						5492	144

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Tensar Geogrid
Sample Identification: S4
TRI Log #: E2130-07-01

SRA 10-27-99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV
Tensile Properties (GRI GG1)												
MD Number of Ribs Tested	1	1	1	1	1						1	
MD Number of Ribs in One Foot	14.1	14.1	14.1	14.1	14.1						14.1	
MD Ultimate Strength (lbs)	361	358	361	357	366						359	5
MD Ultimate Strength (lbs/ft width)	5090	5043	4949	5034	5161						5056	69
MD Strength @ 2% Strain (lbs)	103	107	106	107	108						106	2
MD Strength @ 2% Strain (lbs/ft width)	1452	1509	1495	1509	1523						1497	24
MD Strength @ 5% Strain (lbs)	196	204	203	203	205						203	2
MD Strength @ 5% Strain (lbs/ft width)	2792	2876	2862	2862	2891						2857	34
MD Strength @ 10% Strain (lbs)	355	352	349	352	359						353	3
MD Strength @ 10% Strain (lbs/ft width)	5006	4963	4921	4963	5062						4983	48
MD Break Elongation (%)	10.6	10.7	10.1	10.5	11.0						10.6	0.3
Junction/Node Strength (GRI GG2)												
MD Maximum Strength (lbsf)	349	373	375	367	378						368	11
MD Ultimate Strength (lbs/ft width)	4921	5269	5288	5175	5344						5197	149

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Tensar Geogrid
Sample Identification: S5
TRI Log #: E2130-07-01

SRA 10-27-99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV.
Tensile Properties (GRI GG1)												
MD Number of Ribs Tested	1	1	1	1	1						1	
MD Number of Ribs in One Foot	14	14	14	14	14						14.0	
MD Ultimate Strength (lbs)	338	347	362	359	357						353	9
MD Ultimate Strength (lbs/ft width)	4732	4858	5068	5026	4998						4936	124
MD Strength @ 2% Strain (lbs)	98	103	109	106	105						104	4
MD Strength @ 2% Strain (lbs/ft width)	1372	1442	1528	1484	1470						1459	51
MD Strength @ 5% Strain (lbs)	190	196	205	203	202						199	5
MD Strength @ 5% Strain (lbs/ft width)	2660	2744	2870	2842	2828						2789	77
MD Strength @ 10% Strain (lbs)	330	340	356	353	350						348	10
MD Strength @ 10% Strain (lbs/ft width)	4620	4760	4984	4942	4900						4841	134
MD Break Elongation (%)	11.6	11.2	11.1	11.1	11.3						11.2	0.1
Junction/Node Strength (GRI GG2)												
MD Maximum Strength (lbsf)	380	378	378	373	370						378	4
MD Ultimate Strength (lbs/ft width)	5320	5292	5292	5222	5180						5261	52

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road • Austin, TX 78733-6201 • (512) 263-2101 • FAX (512) 263-2558

GeoSystems Consultants, Inc.
514 Pennsylvania Avenue
Fort Washington, PA 19034
Telephone: (215) 654-9600 Fax: (215) 643-9440

December 13, 1999
99G343

Mr. David Ambrose
IT Corporation
2200 Cottontail Lane
Somerset, NJ 08873-1248

LABORATORY TEST RESULTS
GEOGRID SAMPLE S-6
MILLINGTON ASBESTOS PROJECT

Dear Mr. Ambrose:

Attached hereto are test results from Geogrid Sample S-6. The average test results and the acceptance criteria are presented below.

Sample No.	Test Procedure	Parameter	Value (lbs/ft) Tested	Value (lbs/ft) Specified Min.
S-6	GRI GG1	Tensile Strength @ 2% Strain	1,427	1,100
	GGI GG1	Tensile Strength @ 5% Strain	2,735	2,260
	GRI GG1	Ultimate Tensile Strength	4,838	4,400
	GRI GG2	Junction Tensile Strength	5,037	3,700

All test results are higher than the specified minimums. Thus, the sample is satisfactory.

The sample was tested by TRI/Environmental, Inc. of Austin, Texas, which is accredited by the Geosynthetics Accreditation Institute. TRI's test reports are attached.

If you have any questions concerning this data, please do not hesitate to contact us.

Very truly yours,

GEOSYSTEMS CONSULTANTS, INC.

Arthur H. Dvinoff, Ph.D., P.E.
Principal Engineer

attachments

M:\Projects\1999\99g343\geogridsample2.doc

TRI/ENVIRONMENTAL, INC.

A Texas Research International Company

GEOGRID TEST RESULTS

GeoSystems Consultants, Inc.

Material: Geogrid
Sample Identification: S6
TRI Log #: E2130-39-05

JAN 12-10-99
Quality Review/Date

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STANDARD DEV.
Tensile Properties (GRI GG1)												
MD Number of Ribs Tested	1	1	1	1	1						1	
MD Number of Ribs in One Foot	13.8	13.8	13.8	13.8	13.8						13.8	
MD Ultimate Strength (lbs)	359	351	342	353	348						351	6
MD Ultimate Strength (lbs/ft width)	4954	4844	4720	4871	4802						4838	77
MD Strength @ 2% Strain (lbs)	103	104	102	103	105						103	1
MD Strength @ 2% Strain (lbs/ft width)	1421	1435	1408	1421	1449						1427	14
MD Strength @ 5% Strain (lbs)	199	199	195	198	200						198	2
MD Strength @ 5% Strain (lbs/ft width)	2746	2746	2691	2732	2760						2735	24
MD Strength @ 10% Strain (lbs)	351	345	331	346	342						343	7
MD Strength @ 10% Strain (lbs/ft width)	4844	4761	4568	4775	4720						4733	92
MD Break Elongation (%)	11.0	10.9	11.8	11.1	11.0						11.2	0.3
Junction/Node Strength (GRI GG2)												
MD Maximum Strength (lbsf)	331	381	379	351	383						365	21
MD Ultimate Strength (lbs/ft width)	4568	5258	5230	4844	5285						5037	285

MD Machine Direction
TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Appendix D

GeoSystems Consultants

Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G343 Date: 8 JULY 1999 Day: THURS.
Location: MILLINGTON, NJ

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / C. STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 12:55-16:30 Contractor: Weather: SUNNY, BREEZY, WARM (HIGH 88°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5H LGP BULLDOZER

(Report all observations and document any recommendations made)

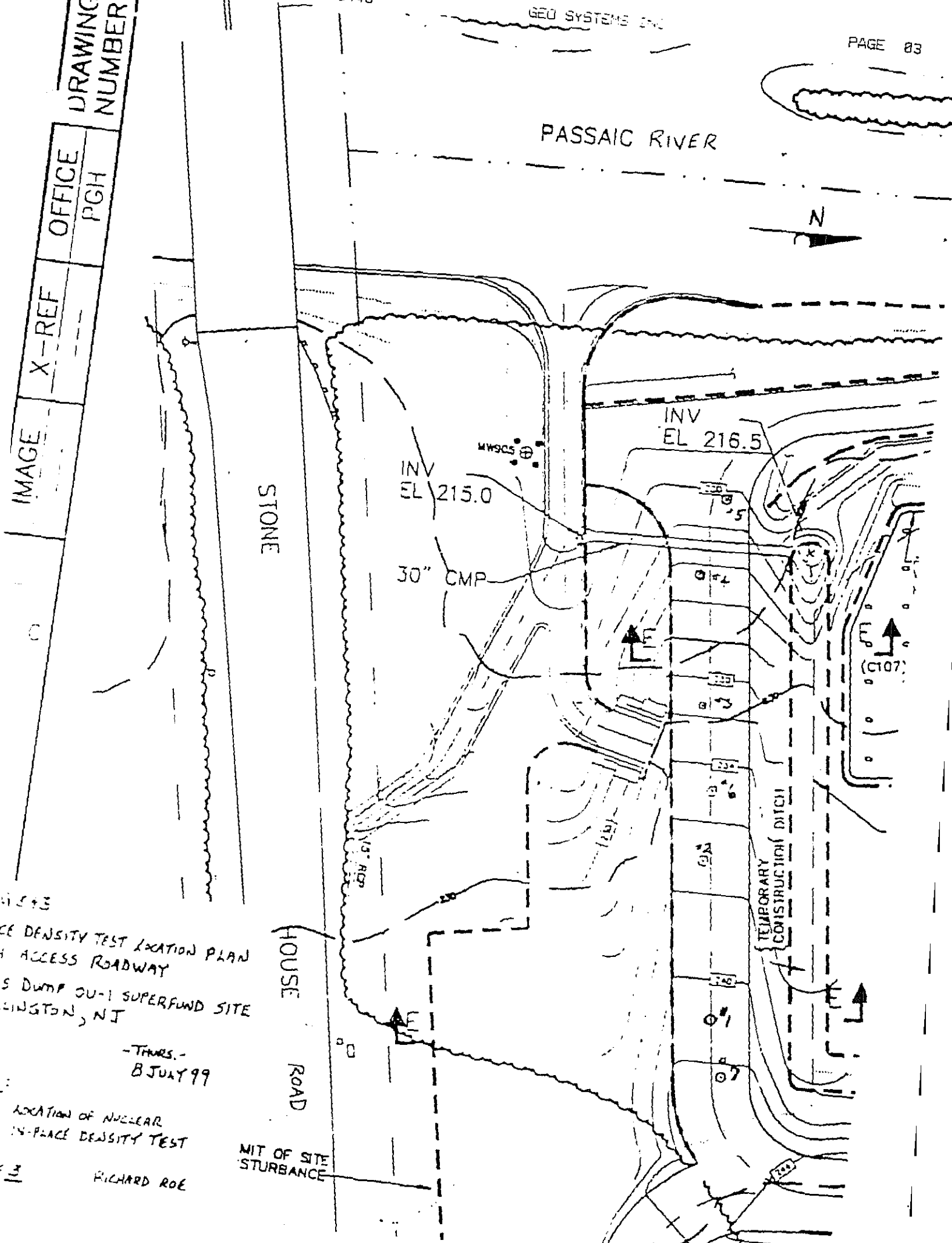
12:55 WRITER ARRIVED ONSITE IN P.M. AS REQUESTED BY ART DVINOFF, GEOSYSTEMS CONSULTANTS' PROJECT MANAGER, TO MEET IT REPRESENTATIVE DAVE AMBROSE AND TO PERFORM IN-PLACE DENSITY TESTING OF IMPORTED FILL MATERIALS. DAVE BRIEFED THE WRITER AS TO THE GENERAL ASPECTS OF THE PROJECT AND INDICATED THAT THE WRITER WAS TO PERFORM IN-PLACE DENSITY TESTING OF IMPORTED ROADSTONE MATERIALS (N249-12359 SAMPLE MATERIAL) CURRENTLY BEING PLACED AND COMPACTED FOR THE SITE SOUTH ACCESS ROADWAY AFTER THE WRITERS' SITE SAFETY ORIENTATION. IT HEALTH & SAFETY REPRESENTATIVE TRACY ESTES CONDUCTED SITE SPECIFIC SAFETY ORIENTATION WITH WRITER.

UPON COMPLETION OF THE SAFETY ORIENTATION, THE WRITER ACCOMPANIED DAVE AMBROSE TO THE SITE SOUTH ACCESS ROADWAY CONSTRUCTION AREA. DAVE INFORMED THE WRITER THAT THE PROJECT SPECS. REQUIRED 90% RELATIVE COMPACTION FOR THE ROADSTONE MATERIALS. UPON ARRIVAL AT THE ROADWAY CONSTRUCTION AREA, THE WRITER OBSERVED THE CONTRACTOR'S D-5H BULLDOZER AND ROLLER IN THE PROCESS OF PLACING AND COMPACTING THE ROADSTONE MATERIALS OVER A GRADE SEPARATION GEOTEXTILE ALONG THE ALIGNMENT OF THE SITE SOUTH ACCESS ROADWAY. THE WRITER PERFORMED IN-PLACE DENSITY TESTING ON THE 3 LIFTS OF ROADSTONE MATERIALS PLACED IN THE SOUTH ACCESS ROADWAY TODAY WITH A TROXLER MODEL 3440 NUCLEAR DENSITY GAUGE SUBSEQUENT TO THE COMPACTION OF EACH LIFT WITH THE VIBRATORY ROLLER. THE TESTING WAS PERFORMED IN COMPLIANCE WITH THE PROJECT-SPECIFIED FREQUENCY OF 1 TEST PER 5000 S.F. FILL MATERIAL PLACED PER LIFT. ALL IN-PLACE DENSITY TESTS PERFORMED TODAY IN THE SOUTH ACCESS ROADWAY INDICATED IN-PLACE RELATIVE COMPACTION GREATER THAN OR EQUAL TO 91.0 PERCENT. SEE THE ATTACHED SUMMARY OF IN-PLACE DENSITY TEST RESULTS AND PARTIAL SITE PLAN SKETCH FOR INDIVIDUAL TEST RESULTS AND TEST LOCATIONS. ALL IN-PLACE DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY RELATIVE COMPACTION IN COMPLIANCE WITH THE PROJECT SPECIFICATIONS.

DAVE AMBROSE PROVIDED WRITER WITH 2 GEOTEXTILE SAMPLES (S-1 FOR INITIAL 0 TO 25,000 SQ. FT. OF SITE GEOTEXTILE AND S-2 FOR 25,000 TO 50,000 SQ. FT. OF SITE GEOTEXTILE) FOR DELIVERY TO GEOSYSTEM'S LABORATORY IN FORT WASHINGTON, PA FOR TESTING.

16:30 THE WRITER LEFT THE SITE FOR TODAY AFTER THE SITE SOUTH ACCESS ROADWAY CONSTRUCTION ACTIVITIES WERE DISCONTINUED. PRIOR TO LEAVING THE SITE, THE WRITER SPOKE W/ IT REP. TRACY ESTES AND REQUESTED AS MUCH ADVANCE NOTICE AS POSSIBLE FROM IT PRIOR TO GEOSYSTEMS NEXT SITE VISIT FOR DENSITY TESTING.

Technician/Engineer Richard T. Bee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TEMPORARY CONSTRUCTION DITCH
(C107)
MIT OF SITE STURBANCE
CE DENSITY TEST LOCATION PLAN
ACCESS ROADWAY
S DUMP OU-1 SUPERFUND SITE
INGTON, NJ
-THURS.-
8 JULY 99
LOCATION OF NUCLEAR
IN-PLACE DENSITY TEST
RICHARD ROE

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME MILLINGTON ASBESTOS SITE PROJECT LOCATION MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	7-8-99	SOUTH ACCESS ROADWAY EAST END (SEE PLAN)	LIFT 1	(1)	136.0	2.0	97.0	90.0	SATISFACTORY COMPACTION
2	7-8-99	SOUTH ACCESS ROAD; 30' E. OF HEADWALL	LIFT 2	(1)	132.8	2.2	94.2	"	" "
3	7-8-99	SOUTH ACCESS ROAD; W END OF HEADWALL	LIFT 2	(1)	130.5	2.3	92.5	"	" "
4	7-8-99	SOUTH ACCESS ROAD; W END OF ROAD	LIFT 1	(1)	132.6	2.1	94.1	"	" "
5	7-8-99	SOUTH ACCESS ROAD; W END @ INTERSECTION	LIFT 1	(1)	128.4	2.5	91.0	"	" " INITIAL LIFT 5" THICK @ THIS LOCATION
6	7-8-99	SOUTH ACCESS ROAD; CENTRAL PORTION	LIFT 3	(1)	130.4	2.2	92.4	"	SATISFACTORY COMPACTION
7	7-8-99	SOUTH ACCESS ROAD; EAST END	LIFT 3	(1)	132.2	2.0	93.8	90.0	" "

NOTES (1) IN-PLACE TROXLER NUCLEAR MOISTURE DENSITY TESTS WERE PERFORMED IN 20FT WIDE ACCESS ROADWAY ALONG SOUTH SIDE OF SITE

(2) SEE ATTACHED SKETCH FOR ACTUAL TEST LOCATIONS

	MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
(1)	ROADSTONE	7.5	141.0 PCF	N249-123259

11:09 12156433440 GEO SYSTEMS INC PAGE 04

GeoSystems Consultants

Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G343 Date: 13 JULY 1999 Day: -TUES.-
Location: MILLINGTON, NJ

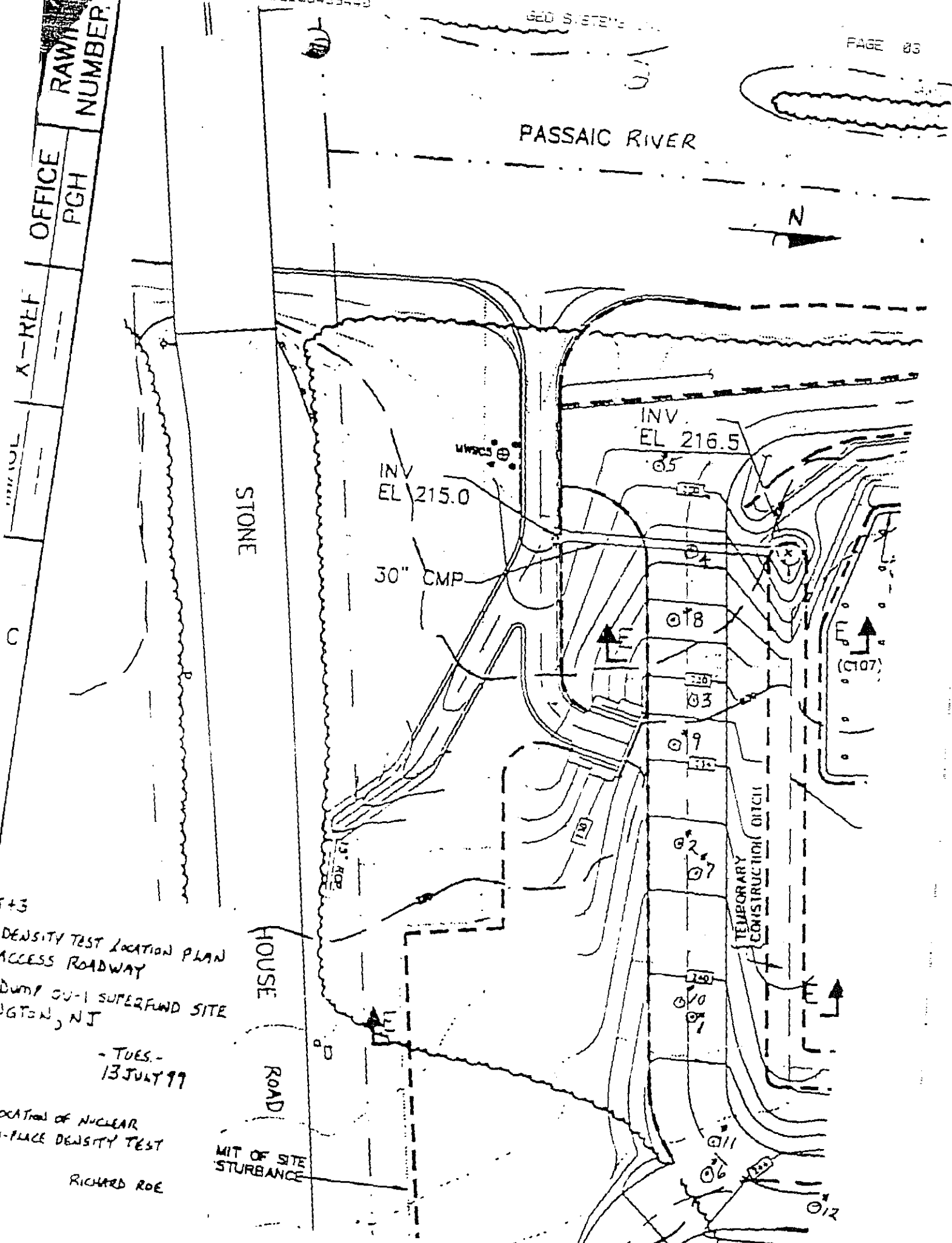
Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STROTZ
Contractor: IT CORPORATION Representative:
Time on Site: GSC: 7:00 Contractor: 7:00 Weather: SUNNY, MILD LIGHT BREEZE (HIGH 82°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-6R XGP BULLDOZER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE @ 7:00 AS REQUESTED BY DAVE AMBROSE TO CONDUCT IN-PLACE DENSITY TESTING OF ROADSTONE FILL FOR THE PROJECT ACCESS ROADWAYS. WRITER ATTENDED IT MORNING TAILGATE SAFETY MEETING WITH IT H&S REP. TRACEY ESTES AND IT AND OHM PERSONNEL. WRITER THEN PROCEEDED TO SITE SOUTH ACCESS ROADWAY AREA TO PERFORM NUCLEAR IN-PLACE DENSITY TESTING ON THE ROADSTONE FILL MATERIALS PLACED AND COMPACTED IN THE ALIGNMENT OF THE SITE SOUTH ACCESS ROADWAY IN THE P.M. YESTERDAY. THE WRITER PERFORMED IN-PLACE DENSITY TESTING WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE ON THE SURFACE OF THE ROADSTONE FILL COMPACTED YESTERDAY IN ADVANCE OF TODAY'S ROADSTONE FILL CONSTRUCTION. THE 6 IN-PLACE DENSITY TESTS PERFORMED ON THE ROADSTONE FILL PLACED & COMPACTED YESTERDAY (#1-#6) INDICATED SATISFACTORY COMPACTION (GREATER THAN 90% RELATIVE COMPACTION); SEE THE ATTACHED PARTIAL SITE PLAN AND SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR THE TEST LOCATIONS AND INDIVIDUAL TEST DATA FOR THE TESTS CONDUCTED ON THE FILL PLACED YESTERDAY AND TODAY. PLACEMENT OF ROADSTONE (N249-123259) FILL MATERIALS IMPORTED FROM OFFSITE BORROW SOURCE CONTINUED IN AM TODAY; WRITER CONDUCTING NUCLEAR IN-PLACE DENSITY TESTING ON ROADSTONE PLACED & COMPACTED ON SITE SOUTH ACCESS ROADWAY;
ALL IN-PLACE NUCLEAR DENSITY TESTS CONDUCTED TODAY INDICATED SATISFACTORY RELATIVE COMPACTION (I.E., GREATER THAN 90%) ON THE ROADSTONE FILL. WRITER OFFSITE @ 13:16
IT REPRESENTATIVES DAVE AMBROSE & CHIP STROTZ INDICATED THEY WOULD CONTACT GSC IN ADVANCE OF THE NEXT REQUIRED FIELD IN-PLACE DENSITY TESTING PROGRAM BY GSC.

Technician/Engineer: Richard T. Ra

RAWING NUMBER	OFFICE	X-REF
	PGH	



T+3

DENSITY TEST LOCATION PLAN
ACCESS ROADWAY
DUMP OU-1 SUPERFUND SITE
GTON, NJ

- TUES. -
13 JULY 99

OCATION OF NUCLEAR
-PLACE DENSITY TEST

RICHARD ROE

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME MILLINGTON ASBESTOS SITE PROJECT LOCATION MILLINGTON, NJ PROJECT NO. 99G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	7-13-99	SOUTH ACCESS ROAD, EAST END	LIFT 4	1	138.3	2.1	98.1	90.0	SATISFACTORY COMPACTION
2	7-13-99	SOUTH ACCESS ROAD, E. OF CENTRAL PORTION	LIFT 4	1	137.4	2.2	97.5	"	" "
3	7-13-99	SOUTH ACCESS ROAD, W. OF CENTRAL PORTION	LIFT 4	1	141.0	2.9	100	"	" "
4	7-13-99	SOUTH ACCESS ROAD, WEST END	LIFT 4	1	140.8	2.7	99.8	"	" "
5	7-13-99	SOUTH ACCESS ROAD, WEST END	LIFT 3	1	141.0	2.4	100	"	" "
6	7-13-99	INTERSECTION OF SOUTH & EAST ACCESS RDS	LIFT 2	1	137.8	2.9	97.7	"	" "
7	7-13-99	SOUTH ACCESS ROAD, CENTRAL PORTION	LIFT 5	1	139.2	2.8	98.7	"	" "
8	7-13-99	SOUTH ACCESS ROAD, WEST END	LIFT 5	1	134.2	2.4	95.2	"	" "
9	7-13-99	SOUTH ACCESS ROAD, CENTRAL PORTION	LIFT 6	1	137.3	2.6	97.4	"	" "
10	7-13-99	SOUTH ACCESS ROAD, EAST END	LIFT 6	1	134.8	2.0	95.6	"	" "
11	7-13-99	INTERSECTION OF SOUTH & EAST ACCESS RDS.	LIFT 3	1	131.9	2.1	93.6	"	" "
12	7-13-99	EAST ACCESS ROAD, SOUTH END	LIFT 1	1	134.4	1.9	95.3	90.0	SATISFACTORY COMPACTION

NOTES: SEE ATTACHED SKETCH FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1 ROADSTONE	7.5%	141.0 PCF	N249-123259

GEO SYSTEMS INC. PAGE 04

GeoSystems Consultants

Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 22 JULY 1999 Day: THURS.
Location: MILLINGTON, NJ

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: GARY WYRWA
Contractor: IT CORPORATION Representative: CHIP STROTZ
Time on Site: GSC: 7:00 Contractor: 7:00 Weather: CLOUDY, RAIN SHOWERS AM → RAIN SHOWERS → CLOUDY WARM (HIGH 85°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-6R XGP BULLDOZER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE @ 7:00 AS REQUESTED BY CHIP STROTZ OF IT CORPORATION TO CONDUCT IN-PLACE DENSITY TESTING OF ROADSTONE FILL FOR THE PROJECT ACCESS ROADWAYS. WRITER ATTENDED THE IT MORNING TAILGATE SAFETY MEETING BY IT H&S REPRESENTATIVE TRACY ESTES W/ IT AND OHM PERSONNEL. AFTER THE SAFETY MEETING, CHIP STROTZ INFORMED THE WRITER THAT ROADSTONE PLACEMENT FOR THE SITE EAST ACCESS ROADWAY WAS ONGOING FROM YESTERDAY. HE INDICATED THAT THE WRITER SHOULD PERFORM IN-PLACE DENSITY TESTING ON THE EAST ACCESS ROAD ON THE TWO LIFTS ALREADY PLACED AND ON THE ROADSTONE PLACED AND COMPACTED TODAY. THE WRITER PERFORMED IN-PLACE DENSITY TESTING WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE AT REPRESENTATIVE LOCATIONS ALONG THE EAST ACCESS ROADWAY ALIGNMENT; SEE THE ATTACHED PARTIAL SITE PLANS AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS DATA SHEET FOR THE DENSITY TEST LOCATIONS AND INDIVIDUAL TEST DATA. PLACEMENT OF ROADSTONE MATERIALS FOR THE EAST ACCESS ROADWAY CONSTRUCTION CONTINUED DURING A.M. & P.M.; AN INITIAL LIFT OF ROADSTONE FILL WAS ALSO PLACED WITHIN THE EASTERN HALF OF THE NORTH ACCESS ROADWAY; PERIODIC LIGHT RAIN SHOWERS TODAY FACILITATED COMPACTION OF ROADSTONE FILL PLACED TODAY.

GARY WYRWA OF IT PROVIDED WRITER WITH GEOTEXTILE SAMPLE S-3 (50,000 → 55,000 SQ. FT. SAMPLE OBTAINED 7-13-99 BY IT) AND CHAIN OF CUSTODY PAPERWORK FOR SAME FOR DELIVERY TO GEOSYSTEMS' LAB FOR UNIFORMITY, THICKNESS, AND TENSILE PROPERTY TESTING.

WRITER OBSERVED OHM DOZER SPREADING R-RAP FILL AS INITIAL LIFT OF WEST ACCESS ROADWAY FILL PARALLELING THE PASSAIC RIVER SIDE OF THE SITE.

ALL IN-PLACE DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY COMPACTION, I.E., RELATIVE COMPACTION GREATER THAN 90 PERCENT. WRITER LEFT SITE FOR TODAY @ 14:16 AFTER CHIP STROTZ INDICATED HE DID NOT INTEND TO PLACE ANY ADDITIONAL ROADSTONE FILL IN NORTH ACCESS ROADWAY TODAY.

Technician/Engineer Richard T. Roe

GeoSystems Consultants, Inc.

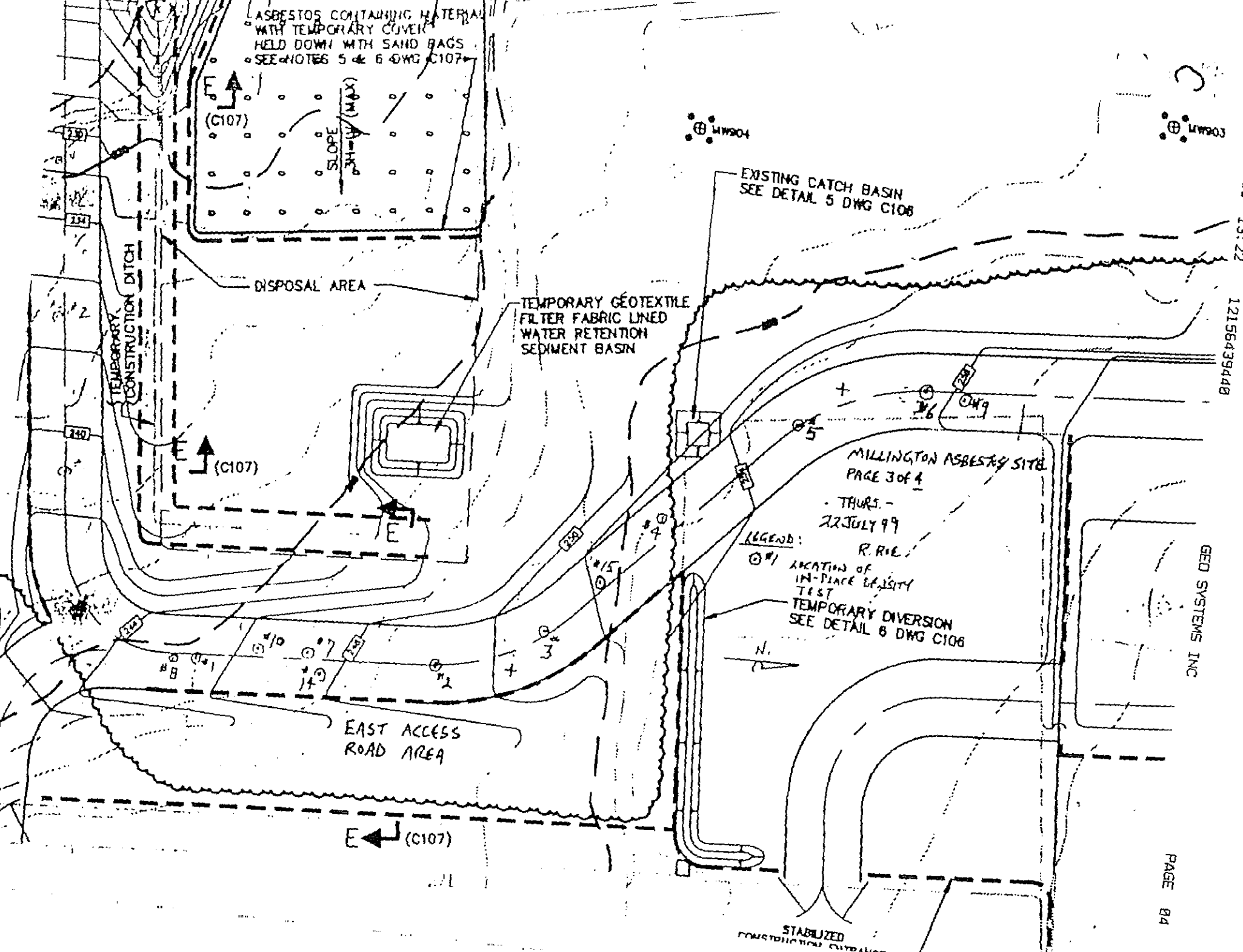
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 996343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+20	LIFT 1 E=3FT.	1	138.6	3.8	98.3%	90%	SATISFACTORY COMPACTION
2	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+90	LIFT 1	1	132.9	5.7	94.2	"	" "
3	7-22-99	EAST ACCESS ROAD, SOUTH END, N1+20	LIFT 2	1	136.9	3.4	97.1	"	" "
4	7-22-99	EAST ACCESS ROAD, SOUTH END, N1+70	LIFT 2	1	129.5	3.5	91.8	"	" "
5	7-22-99	EAST ACCESS ROAD, MID-PORTION, N2+10	LIFT 1	1	129.0	3.5	91.5	"	" "
6	7-22-99	EAST ACCESS ROAD, MID-PORTION, N2+50	LIFT 1	1	131.2	3.5	93.1	"	" "
7	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+50	LIFT 2	1	136.2	3.0	96.6	"	" "
8	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+15	LIFT 2	1	136.1	2.3	96.5	"	" "
9	7-22-99	EAST ACCESS ROAD, MID-PORTION N2+60	LIFT 2	1	130.4	3.8	92.5	"	" "
10	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+40	LIFT 3	1	131.6	1.6	93.4	"	" "
11	7-22-99	NORTH ACCESS ROAD, EAST END,	LIFT 2	1	133.5	2.3	94.7	"	" "
12	7-22-99	NORTH ACCESS ROAD, @ 240 CONTOUR	LIFT 1	1	132.5	2.1	94.0	"	" "
13	7-22-99	NORTH ACCESS ROAD, MIDSLOPE	LIFT 1	1	136.2	1.9	96.6	"	" "
14	7-22-99	EAST ACCESS ROAD, SOUTH END, N0+45	LIFT 4	1	136.3	2.4	96.7	"	" "
15	7-22-99	EAST ACCESS ROAD, SOUTH END, N1+45	LIFT 3	1	141.0	2.2	100	90%	" "

NOTES: SEE ATTACHED SKETCH FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1 ROADSTONE	7.5%	141.0 PCF	N249-123259


ASBESTOS CONTAINING MATERIAL WITH TEMPORARY COVER HELD DOWN WITH SAND BAGS SEE NOTES 5 & 6 DWG C107
(C107)
SLOPE 3H:1V (MAX)
MW904
MW903
EXISTING CATCH BASIN SEE DETAIL 5 DWG C108
DISPOSAL AREA
TEMPORARY CONSTRUCTION DITCH
TEMPORARY GEOTEXTILE FILTER FABRIC LINED WATER RETENTION SEDIMENT BASIN
MILLINGTON ASBESTOS SITE
PAGE 3 of 4
THURS. - 22 JULY 99
R. RIE
LEGEND:
#1 LOCATION OF IN-PLACE DENSITY TEST
TEMPORARY DIVERSION SEE DETAIL 6 DWG C106
N.
EAST ACCESS ROAD AREA
STABILIZED CONSTRUCTION ENTRANCE
GEO SYSTEMS INC
PAGE 84
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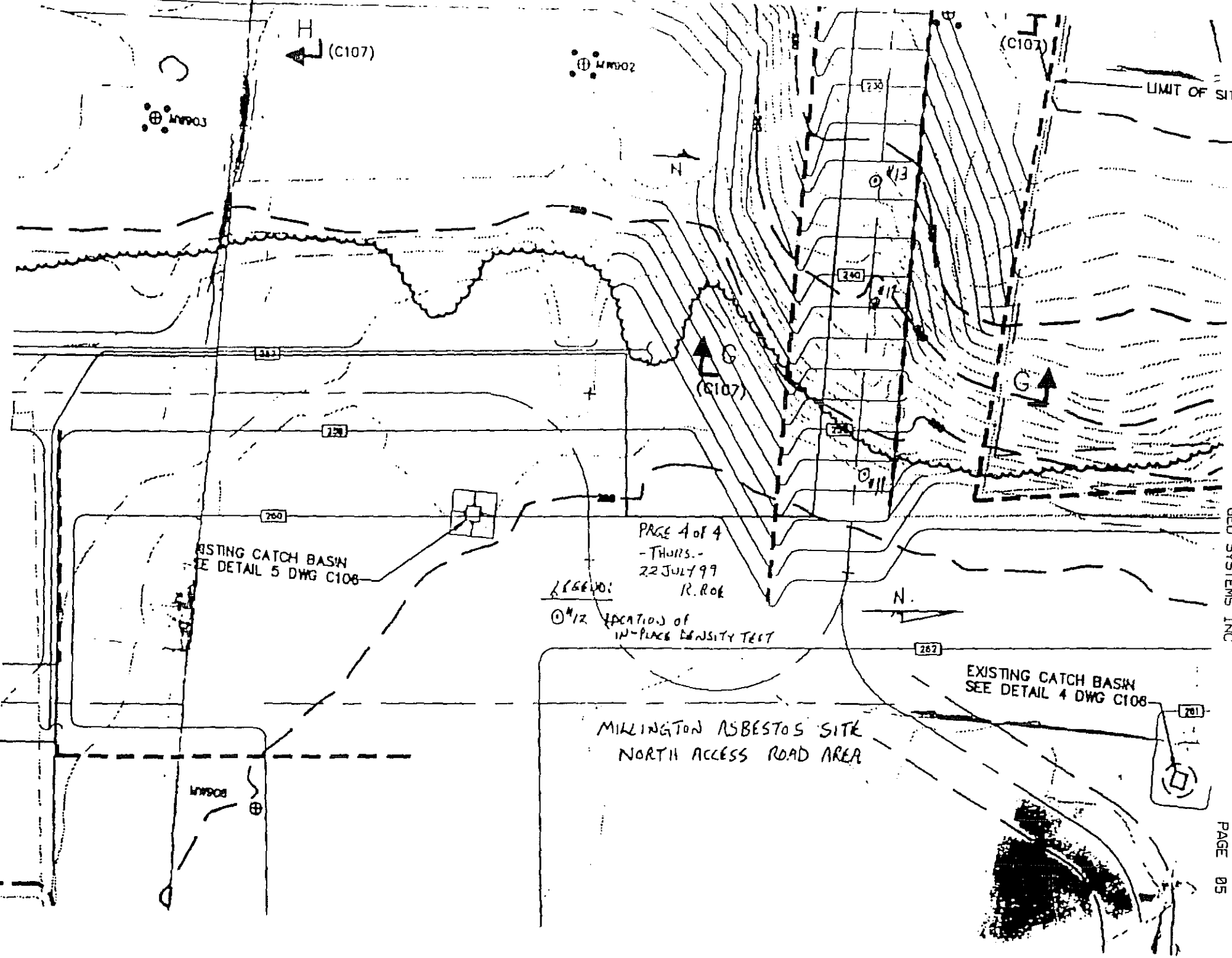
H
(C107)
MW902
MW903
N
(C107)
LIMIT OF SIT
G
(C107)
G
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C108
PAGE 4 of 4
- THURS. -
22 JULY 99
R. ROE
LEGEND:
4/12 LOCATION OF
IN-PLACE DENSITY TEST
N.
EXISTING CATCH BASIN
SEE DETAIL 4 DWG C108
MILLINGTON ASBESTOS SITE
NORTH ACCESS ROAD AREA
MW908

GeoSystems Consultants

Consultants in Geo-Engineering

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Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 28 JULY 1999 Day: -WED.-
Location: MILLINGTON, N.J.

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE
Contractor: IT CORPORATION Representative: CHIP STROTZ
Time on Site: GSC: 7:00 Contractor: 7:00 Weather: SUNNY, HOT HUMID (HIGH 96°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-90D VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-6R LGP BULLDOZER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE AT 7:00 AS REQUESTED BY CHIP STROTZ OF IT CORPORATION TO CONDUCT IN-PLACE DENSITY TESTING OF ROADSTONE FILL FOR THE PROJECT ACCESS ROADWAYS. WRITER ATTENDED THE IT MORNING TAILGATE SAFETY MEETING BY IT HES REPRESENTATIVE TRACY ESTES W/IT, OHM, AND COOK DRILLING PERSONNEL. AFTER THE SAFETY MEETING - CHIP STROTZ INFORMED THE WRITER THAT ROADSTONE FILL IN THE ALIGNMENTS OF THE SITE NORTH AND EAST ACCESS ROADWAYS REQUIRED IN-PLACE DENSITY TESTING.

DAVE AMBROSE INFORMED THE WRITER THAT IT HAD OBTAINED ANOTHER GEOTEXTILE SAMPLE FOR THE WRITER TO DELIVER TO GSC'S FORT WASHINGTON, PA LABORATORY FOR CONFORMANCE TESTING.

WRITER PROCEEDED TO THE SITE NORTH AND EAST ACCESS ROADWAY AREAS AND CONDUCTED IN-PLACE DENSITY TESTING WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE. SEE THE ATTACHED PARTIAL SITE PLANS AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS DATA SHEET FOR THE DENSITY TEST LOCATIONS AND INDIVIDUAL TEST DATA.

DAVE AMBROSE GAVE GEOTEXTILE CONFORMANCE TEST SAMPLE S-4 (75,000 → 100,000 SQ FT. OF SITE GEOTEXTILE) TO THE WRITER AFTER THE COMPLETION OF SITE ACCESS ROADWAY IN-PLACE DENSITY TESTING.

ALL IN-PLACE DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY COMPACTION, I.E., RELATIVE COMPACTION GREATER THAN 90 PERCENT. THE TESTING FREQUENCY PERFORMED EXCEEDED THE MINIMUM SPECIFIED FREQUENCY AND ALSO SATISFIED THE PROJECT SPECIFICATIONS. THE WRITER LEFT THE SITE FOR TODAY @ 12:30 AFTER COMPLETING THE IN-PLACE DENSITY TESTING ON THE NORTH AND EAST ACCESS ROADS

Technician/Engineer Richard T. Roe

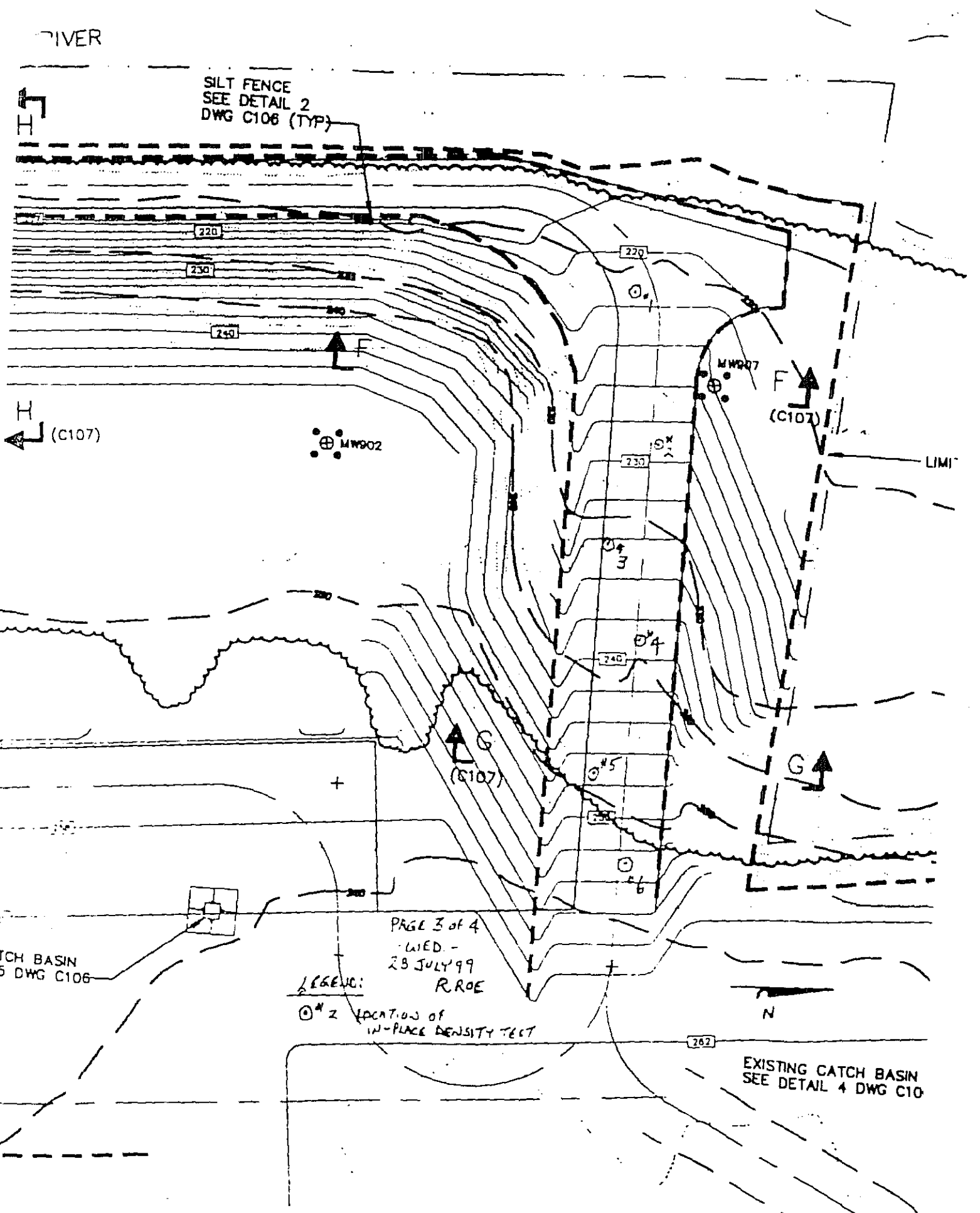
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

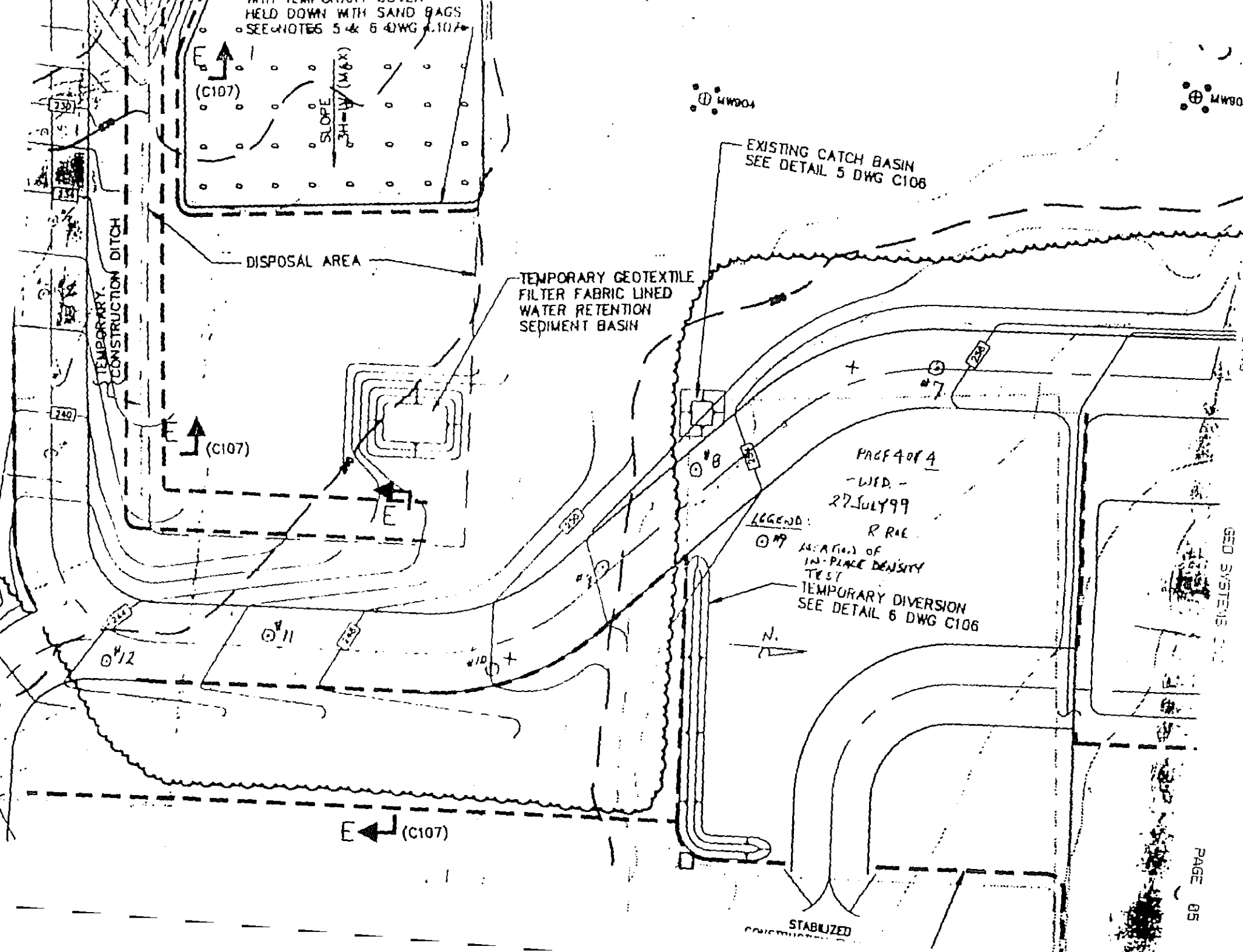
PROJECT NAME: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	7-28-99	NORTH ACCESS ROAD, WEST END	LIFT 1	1	139.2	1.9	98.7	90	SATISFACTORY COMPACTION
2	7-28-99	NORTH ACCESS ROAD, WEST END; VICINITY OF 230 CONTOUR	LIFT 2	1	139.0	1.5	98.6	90	" "
3	7-28-99	NORTH ACCESS ROAD, CENTRAL PORTION	LIFT 2	1	138.4	1.8	98.2	90	" "
4	7-28-99	NORTH ACCESS ROAD, CENTRAL PORTION	LIFT 2	1	139.9	1.6	99.2	90	" "
5	7-28-99	NORTH ACCESS ROAD, EAST END	LIFT 3	1	139.7	1.8	99.0	90	" "
6	7-28-99	NORTH ACCESS ROAD, EAST END	LIFT 3	1	138.8	1.9	98.5	90	" "
7	7-28-99	EAST ACCESS ROAD, CENTRAL PORTION, N2+45	LIFT 2	1	141.0	2.1	100	90	SATISFACTORY COMPACTION
8	7-28-99	EAST ACCESS ROAD, SOUTHERN PORTION, N1+75	LIFT 5	1	139.8	1.6	99.1	90	" "
9	7-28-99	EAST ACCESS ROAD, SOUTHERN PORTION, N1+40	LIFT 4	1	143.0	1.7	>100	90	" "
10	7-28-99	EAST ACCESS ROAD, SOUTHERN PORTION, N1+06	LIFT 3	1	138.0	1.4	97.9	90	" "
11	7-28-99	EAST ACCESS ROAD, SOUTH END, N0+50	LIFT 5	1	142.7	1.5	>100	90	" "
12	7-28-99	EAST ACCESS ROAD, SOUTH END, N0+10	LIFT 3	1	138.3	1.6	98.1	90	SATISFACTORY COMPACTION

NOTES: SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1 ROADSTONE	7.5%	141.0 PCF	N249-123259


RIVER
SILT FENCE
SEE DETAIL 2
DWG C106 (TYP)
H
(C107)
MW902
MW907
F
(C107)
LIMI
G
(C107)
G
TCH BASIN
5 DWG C106
PAGE 3 of 4
WED. -
28 JULY 99
R ROE
LEGEND:
#2 LOCATION OF
IN-PLACE DENSITY TEST
N
EXISTING CATCH BASIN
SEE DETAIL 4 DWG C10


HELD DOWN WITH SAND BAGS
SEE NOTES 5 & 6 DWG C107
E
(C107)
SLOPE
3H-1V (MAX)
MW904
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
DISPOSAL AREA
TEMPORARY GEOTEXTILE
FILTER FABRIC LINED
WATER RETENTION
SEDIMENT BASIN
TEMPORARY CONSTRUCTION DITCH
230
234
240
#7
#8
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#10
#11
#12
PAGE 4 OF 4
-WED.-
27 JULY 99
R RAE
LEGEND:
LOCATION OF
IN-PLACE DENSITY
TEST
TEMPORARY DIVERSION
SEE DETAIL 6 DWG C106
N.
STABILIZED
GEO SYSTEMS
PAGE 85

GeoSystems Consultants
Consultants in Geo-Engineering

514 Pennsylvania Avenue
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Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 4 AUG. 1999 Day: - WED. -
Location: STONE HOUSE ROAD; MILLINGTON, NJ.

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STROTZ
Contractor: IT CORPORATION / OHM Representative: " "
Time on Site: GSC: 7:00 → 15:30 Contractor: 7:00 Weather: SUNNY, WARM (HIGH 88°F); BREEZE FROM NORTHWEST
Compaction Equipment: 1- INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1- CATERPILLAR MODEL D-6RLGP BULLDOZER; 1- CATERPILLAR MODEL D-5LGP BULDOZER
(Report all observations and document any recommendations made) 1- WATER TRUCK

WRITER ARRIVED ONSITE @ 7:00 AS REQUESTED BY DAVE AMBROSE OF IT CORPORATION TO CONDUCT IN-PLACE DENSITY TESTING OF ROADSTONE FILL MATERIALS BEING PLACED AS THE CAPPING FILL MATERIALS FOR CAP CONSTRUCTION OVER THE EXISTING SITE SOIL SUBGRADE AT THE NORTH END OF THE SITE.

THE WRITER ATTENDED THE IT MORNING TAILGATE SAFETY MEETING BY IT H&S REPRESENTATIVE TRACY ESTES W/ IT, OHM, COOK DRILLING, & CREAMER CONSTRUCTION PERSONNEL.

THE WRITER THEN PROCEEDED TO THE NORTH END OF THE SITE EAST ACCESS ROADWAY & CONDUCTED IN-PLACE DENSITY TESTING ON THE ROADSTONE FILL HERE WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE; TESTS #1 & #2 HERE INDICATED SATISFACTORY RELATIVE COMPACTION.

AFTER COMPLETING IN-PLACE DENSITY TESTING AT THE NORTH END OF THE EAST ACCESS ROADWAY, THE WRITER INITIATED PERFORMING IN-PLACE DENSITY TESTING ON LIFT 1 OF THE ROADSTONE FILL BEING PLACED AS SITE CAPPING MATERIAL IN THE VICINITY OF MONITORING WELL MW 902; SEE THE ATTACHED PARTIAL SITE PLAN AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR ACTUAL TEST LOCATIONS AND INDIVIDUAL TEST RESULT DATA.

CAP FILL PLACEMENT PROCEEDED FROM THE VICINITY OF MW 902 SOUTHWARD TO THE VICINITY OF MONITORING WELL MW 903; PLACEMENT AND COMPACTION OF CAPPING FILL LIFTS 1 AND 2 WERE COMPLETED TODAY FROM MW 902 TO MW 903 (SEE THE ATTACHED PARTIAL PLAN FOR THE APPROXIMATE LIMITS OF THE CAPPING FILL PLACED TODAY). NUCLEAR DENSITY TESTS #3 THROUGH #16 WERE CONDUCTED ON THE SITE CAPPING FILL. ALL IN-PLACE NUCLEAR DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY CAP FILL COMPACTION (I.E., RELATIVE COMPACTION GREATER THAN 90 PERCENT).

THE WRITER LEFT THE SITE FOR TODAY @ 15:30 AFTER DISCUSSING THE PROJECTED CAPPING FILL CONSTRUCTION ACTIVITIES FOR THE REMAINDER OF THE WEEK WITH CHIP STROTZ OF IT. CHIP INDICATED THAT THE WRITER SHOULD RETURN TO THE SITE FRIDAY, AUG. 6, TO CONTINUE IN-PLACE DENSITY TESTING OF THE CAP FILL.

Technician/Engineer Richard T. Ro

GeoSystems Consultants, Inc.

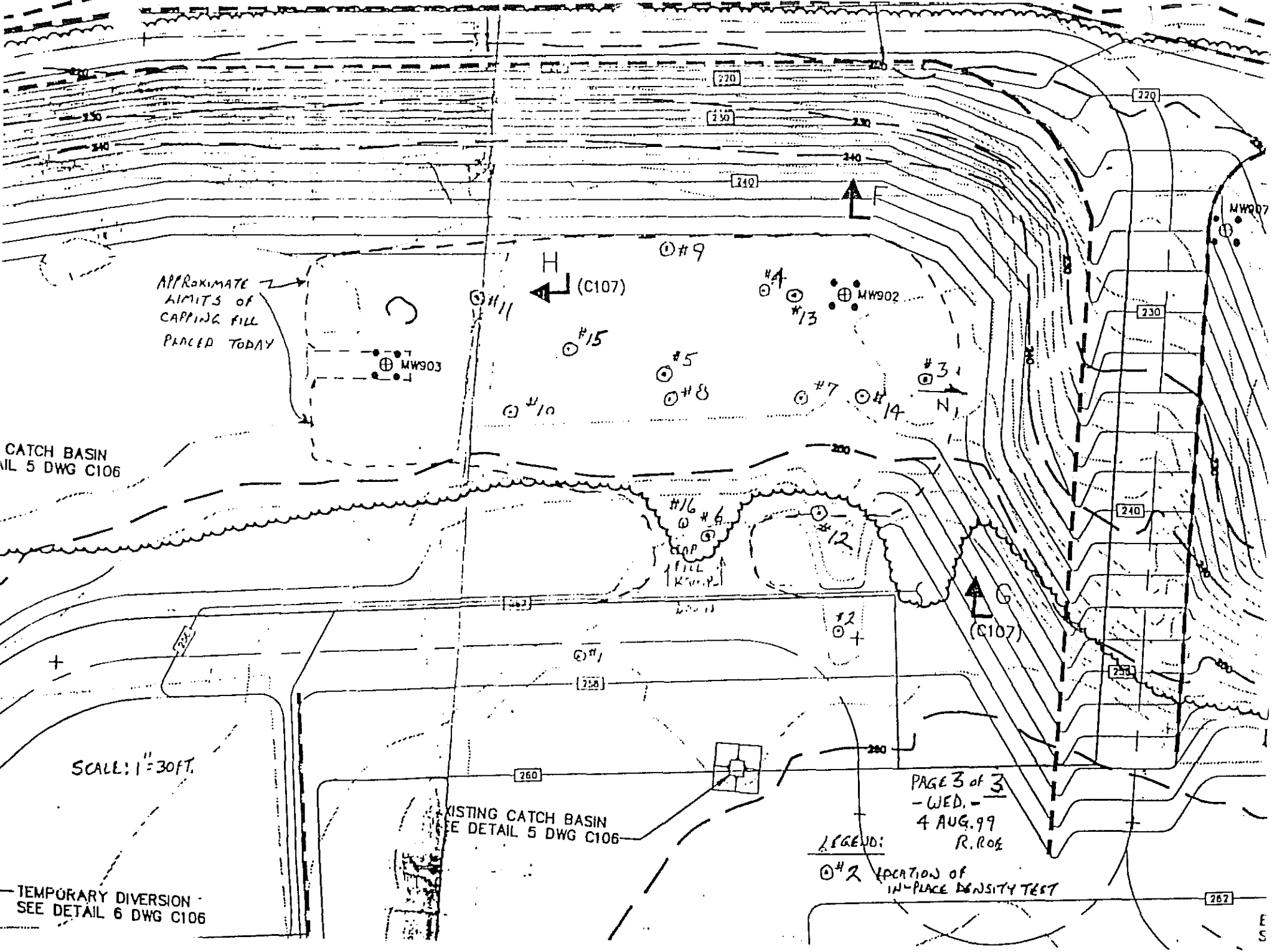
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G 343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	SITE CAPPING FILL: ROADSTONE FILL OVER THE EXISTING SITE SOILS REMARKS
1	8-4-99	EAST ACCESS ROAD, NORTH END	[illegible]	1	139.1	2.9	99.0	90%	SATISFACTORY COMPACTION
2	8-4-99	EAST ACCESS ROAD, NORTH END	LIFT 1	1	132.0	3.5	93.6	90	" "
3	8-4-99	CAP COVER; 30 FT. N.E. OF MW 902	LIFT 1	1	134.3	2.1	95.3	90	" "
4	8-4-99	CAP COVER; 20 FT. S. OF MW 902	LIFT 1	1	136.0	1.9	96.4	90	" "
5	8-4-99	CAP COVER; 50 FT. S.S.E. OF MW 902	LIFT 1	1	139.2	2.2	98.8	90	" "
6	8-4-99	CAP COVER; 65 FT. S.E. OF MW 902	LIFT 1	1	130.8	1.8	92.8	90	" "
7	8-4-99	CAP COVER; 75 FT. S.E. OF MW 902	LIFT 1	1	139.4	1.9	98.9	90	" "
8	8-4-99	CAP COVER; 50 FT. S.S.E. OF MW 902	LIFT 2	1	131.1	1.7	93.0	90	" "
9	8-4-99	CAP COVER; 45 FT. S.S.W. OF MW 902	LIFT 2	1	132.9	1.7	94.2	90	" "
10	8-4-99	CAP COVER; 30 FT. NNE OF MW 903	LIFT 1	1	130.4	2.0	92.5	90	" "
11	8-4-99	CAP COVER; 35 FT. NNW OF MW 903	LIFT 1	1	129.7	2.1	92.0	90	" "
12	8-4-99	CAP COVER; 55 FT. E. OF MW 902	LIFT 1	1	132.5	2.0	94.0	90	" "
13	8-4-99	CAP COVER; 15 FT. S. OF MW 902	LIFT 3	1	127.1	2.1	90.1	90	" "
14	8-4-99	CAP COVER; 25 FT. E. OF MW 902	LIFT 2	1	135.0	1.6	95.7	90	" "
15	8-4-99	CAP COVER; 70 FT. SSE OF MW 902	LIFT 2	1	138.7	1.9	98.4	90	" "
16	8-4-99	CAP COVER; 70 FT. S.E. OF MW 902	LIFT 2	1	132.1	2.4	93.7	90	" "

NOTES: SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS

	MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1	ROADSTONE	7.5%	141.0 PCF	N249-123259



APPROXIMATE LIMITS OF CAPPING FILL PLACED TODAY
CATCH BASIN
IL 5 DWG C106
MW903
MW902
MW907
H
(C107)
F
G
(C107)
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
#13
#14
#15
#16
N
220
230
240
250
260
262
SCALE: 1" = 30 FT.
XISTING CATCH BASIN
E DETAIL 5 DWG C106
TEMPORARY DIVERSION
SEE DETAIL 6 DWG C106
PAGE 3 of 3
- WED. -
4 AUG. 99
R. ROE
LEGEND:
#2 LOCATION OF IN-PLACE DENSITY TEST

GeoSystems Consultants

Consultants in Geo-Engineering

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Fort Washington, PA 19034
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Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 6 AUG. 1999 Day: -FRI.-
Location: STONE HOUSE ROAD, MILLINGTON, N.J.

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE/CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 7:00 Contractor: 7:00 Weather: SUNNY, BREEZY, WARM (HIGH 90°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5 LGP BULLDOZER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE @ 7:00 AS REQUESTED BY CHIP STROTZ OF IT CORPORATION TO CONDUCT IN-PLACE DENSITY TESTING OF ROADSTONE FILL MATERIALS BEING PLACED AS THE CAPPING FILL MATERIAL ON THE SITE.

WRITER INITIALLY ATTENDED THE IT MORNING TAILGATE SAFETY MEETING BY IT H&S REPRESENTATIVE TRACY ESTES W/ IT, OHM, COOK DRILLING, & CREAMER CONSTRUCTION PERSONNEL.

THE WRITER THEN PROCEEDED TO THE SITE CAPPING FILL CONSTRUCTION AREA AND RESUMED CONDUCTING IN-PLACE DENSITY TESTING ON THE ROADSTONE FILL MATERIALS BEING PLACED AND COMPACTED. ROADSTONE FILL PLACEMENT WAS ONGOING FROM THE VICINITY OF MONITORING WELL MW 903 SOUTHWARD TO VICINITY OF MW 904 AND SOUTHEASTWARD PARALLELING THE SITE EAST ACCESS ROADWAY. D-5 BULLDOZER SPREADING THE ROADSTONE FILL MATERIAL OVER THE EXISTING SITE SOIL SUBGRADE. AFTER THE ROADSTONE WAS COMPACTED BY THE INGERSOLL RAND SD-40D SMOOTH DRUM VIBRATORY ROLLER, THE WRITER PERFORMED IN-PLACE DENSITY TESTING WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE. SEE THE ATTACHED PARTIAL SITE PLAN AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR THE TEST LOCATIONS AND INDIVIDUAL TEST RESULT DATA.

ALL IN-PLACE DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY RELATIVE COMPACTION OF THE ROADSTONE FILL MATERIALS (I.E., RELATIVE COMPACTION GREATER THAN 90 PERCENT). NOTE: A LOCALIZED (APPROXIMATELY 10FT BY 10FT) AREA OF WET EXISTING SOIL SUBGRADE LOCATED APPROXIMATELY HALFWAY BETWEEN MW 903 AND MW 904 (JUST N.E. OF LOCATION OF TEST #4) EXHIBITED SOME MINOR RUTTING UNDER THE TRAFFIC OF THE TRUCKS DELIVERING THE ROADSTONE FILL MATERIALS. THIS AREA SHOULD BE ALLOWED TO AIR-DRY AND BE RECOMPACTED.

15:00 THE WRITER LEFT THE SITE FOR TODAY AFTER THE PLACEMENT AND COMPACTION OF THE ROADSTONE FILL DISCONTINUED. PRIOR TO LEAVING THE SITE, THE WRITER SPOKE WITH CHIP STROTZ OF IT REGARDING IT'S PROJECTED EARTHWORKS ACTIVITIES FOR NEXT WEEK.

Technician/Engineer Richard F. Roe

GooSystems Consultants, Inc.

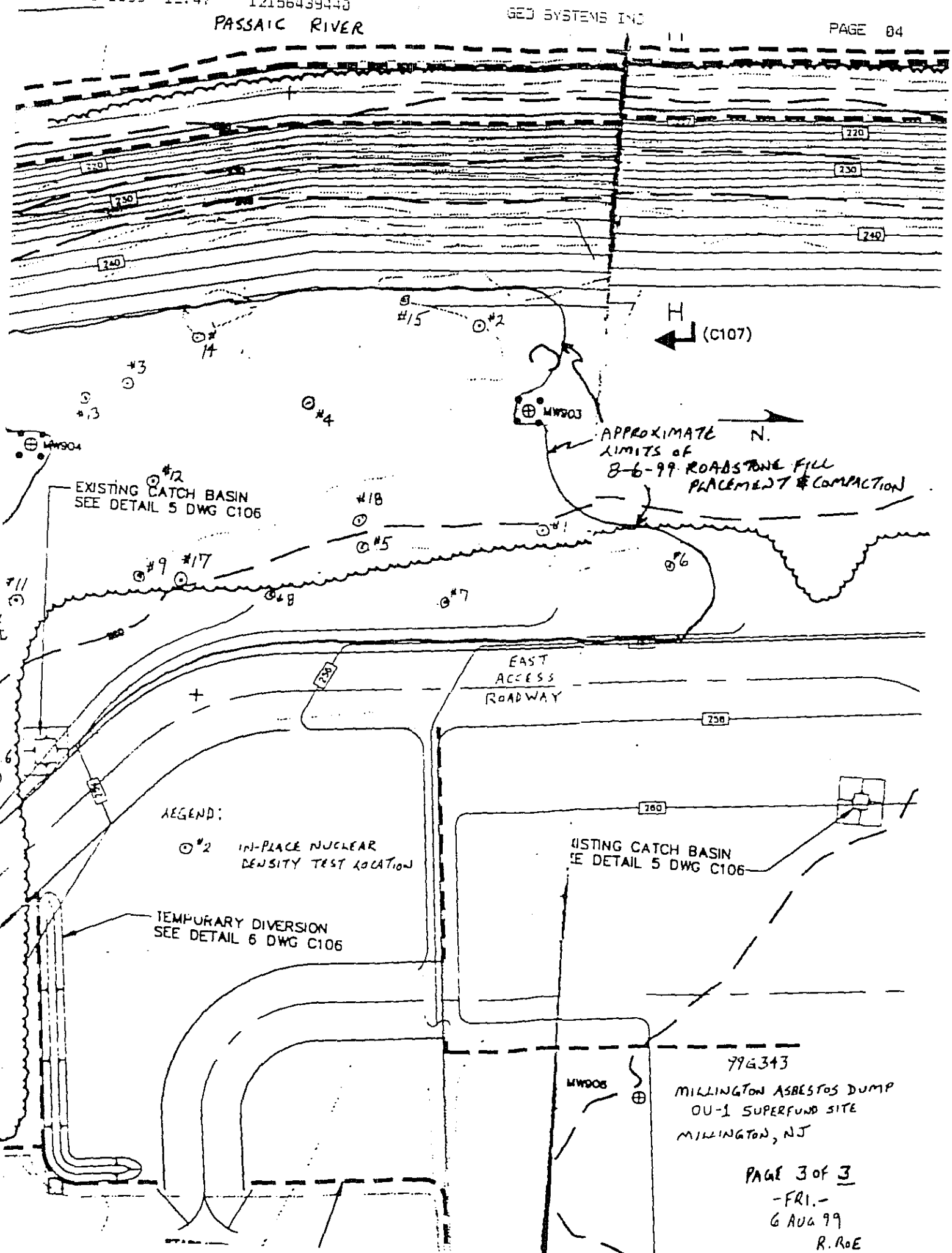
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G 343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	8-6-99	CAP COVER; 30 FT E. OF MW 903	LIFT 1	1	134.4	3.1	95.3	90%	SATISFACTORY COMPACTION
2	8-6-99	CAP COVER; 25 FT SW OF MW 903	LIFT 1	1	130.5	2.7	92.5	90	" "
3	8-6-99	CAP COVER; 30 FT. N.W. OF MW 904	LIFT 1	1	132.8	3.0	94.2	90	" "
4	8-6-99	CAP COVER; 55 FT. S. OF MW 903	LIFT 1	1	138.8	2.2	98.4	90	" "
5	8-6-99	CAP COVER; 60 FT S.E. OF MW 903	LIFT 1	1	131.2	2.4	93.1	90	" "
6	8-6-99	CAP COVER; 55 FT N.E. OF MW 903	LIFT 1	1	134.7	1.9	95.5	90	" "
7	8-6-99	CAP COVER; 55 FT ESE. OF MW 903	LIFT 1	1	129.8	2.3	92.0	90	" "
8	8-6-99	CAP COVER; 80 FT S.E OF MW 903	LIFT 1	1	130.5	2.5	92.5	90	" "
9	8-6-99	CAP COVER; 45 FT N.E OF MW 904	LIFT 1	1	129.7	2.5	92.0	90	" "
10	8-6-99	CAP COVER; 90 FT. ESE OF MW 904	LIFT 1	1	135.8	4.0	96.3	90	" "
11	8-6-99	CAP COVER; 40 FT. E OF MW 904	LIFT 1	1	136.8	2.4	97.0	90	" "
12	8-6-99	CAP COVER; 30 FT NNE OF MW 904	LIFT 1	1	137.3	2.0	97.8	90	" "
13	8-6-99	CAP COVER; 20 FT NW OF MW 904	LIFT 2	1	132.7	1.2	94.1	90	" "
14	8-6-99	CAP COVER; 50 FT. NNW OF MW 904	LIFT 2	1	137.6	2.3	97.6	90	" "
15	8-6-99	CAP COVER; 100 FT. NNW OF MW 904	LIFT 2	1	133.6	3.0	94.8	90	" "
16	8-6-99	CAP COVER; 85 FT ESE. OF MW 904	LIFT 2	1	130.5	2.2	92.6	90	" "
17	8-6-99	CAP COVER; 50 FT NE OF MW 904	LIFT 2	1	133.2	2.3	94.5	90	" "
18	8-6-99	CAP COVER; 85 FT NNE OF MW 904	LIFT 2	1	135.0	1.9	95.8	90	" "

NOTES: SEE ATTACHED PARTIAL PLAN FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1 ROADSTONE	7.5%	141.0 PCF	N249-123259



PAGE 3 of 3

-FRI.-

6 AUG 99

R. ROE

GeoSystems Consultants

Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 19 AUG 1999 Day: - FRI -
Location: STONE HOUSE ROAD, MILLINGTON, N.J.

Material: ROADSTONE N249-123259 Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 9:00 Contractor: 7:00 Weather: SUNNY, WARM (HIGH 87°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5 LGP BULLDOZER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE AT THE REQUEST DAVE AMBROSE, IT ONSITE MANAGER, TO PERFORM IN-PLACE DENSITY TESTING ON SITE CONTROLLED FILL AND ACCESS ROADWAY AREAS.
UPON ARRIVAL WRITER SPOKE WITH DAVE AMBROSE AND OBTAINED GEOTEXTILE SAMPLE S-5 FOR CONFORMANCE TESTING AT GEOSYSTEM'S GEOSYNTHETICS LAB.
WRITER THEN PROCEEDED ONTO THE SITE TO SPEAK TO IT REPRESENTATIVE CHIP STROTZ AND FOUND OUT WHICH FILL AREAS HE WANTED THE WRITER TO PERFORM IN-PLACE DENSITY TESTING ON.
THE WRITER INITIALLY PERFORMED IN-PLACE DENSITY TESTING ON RECENTLY PLACED/COMPACTED ROADSTONE MATERIALS AT THE NORTHWEST CORNER OF THE CAP COVER WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE. WRITER THEN PROCEEDED TO SITE SOUTH ACCESS ROADWAY AREA TO TEST ROADSTONE FILL MATERIALS IN THE ROADWAY ALIGNMENT.
SEE THE ATTACHED PARTIAL SITE PLANS AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR THE ACTUAL TEST LOCATIONS AND INDIVIDUAL TEST DATA. ALL IN-PLACE DENSITY TESTS PERFORMED TODAY INDICATED SATISFACTORY COMPACTION (I.E., RELATIVE COMPACTION GREATER THAN 90 PERCENT).
WRITER AND DAVE AMBROSE VISITED MILLINGTON QUARRY TO OBTAIN SAMPLE OF THEIR DENSE GRADED AGGREGATE FOR DELIVERY TO GEOSYSTEM'S LABORATORY FOR GRADATION TESTING; OBTAINED BULK (CF011SL) SAMPLE OF DGA FROM MILLINGTON QUARRY DGA STOCKPILE. DAVE PROVIDED WRITER WITH CHAIN OF CUSTODY PAPERWORK FOR THIS SAMPLE.
WRITER LEFT SITE FOR TODAY @ 14:00 WITH GEOTEXTILE SAMPLE S-5 AND CONTROLLED FILL SAMPLE CF011SL.

Technician/Engineer Richard T. Roe

Aug-30-99 05:04pm From- T-475 P.07 F-286
01/01/1994 13:12 12156439448 GEO SYSTEMS INC PAGE 07

GeoSystems Consultants, Inc.

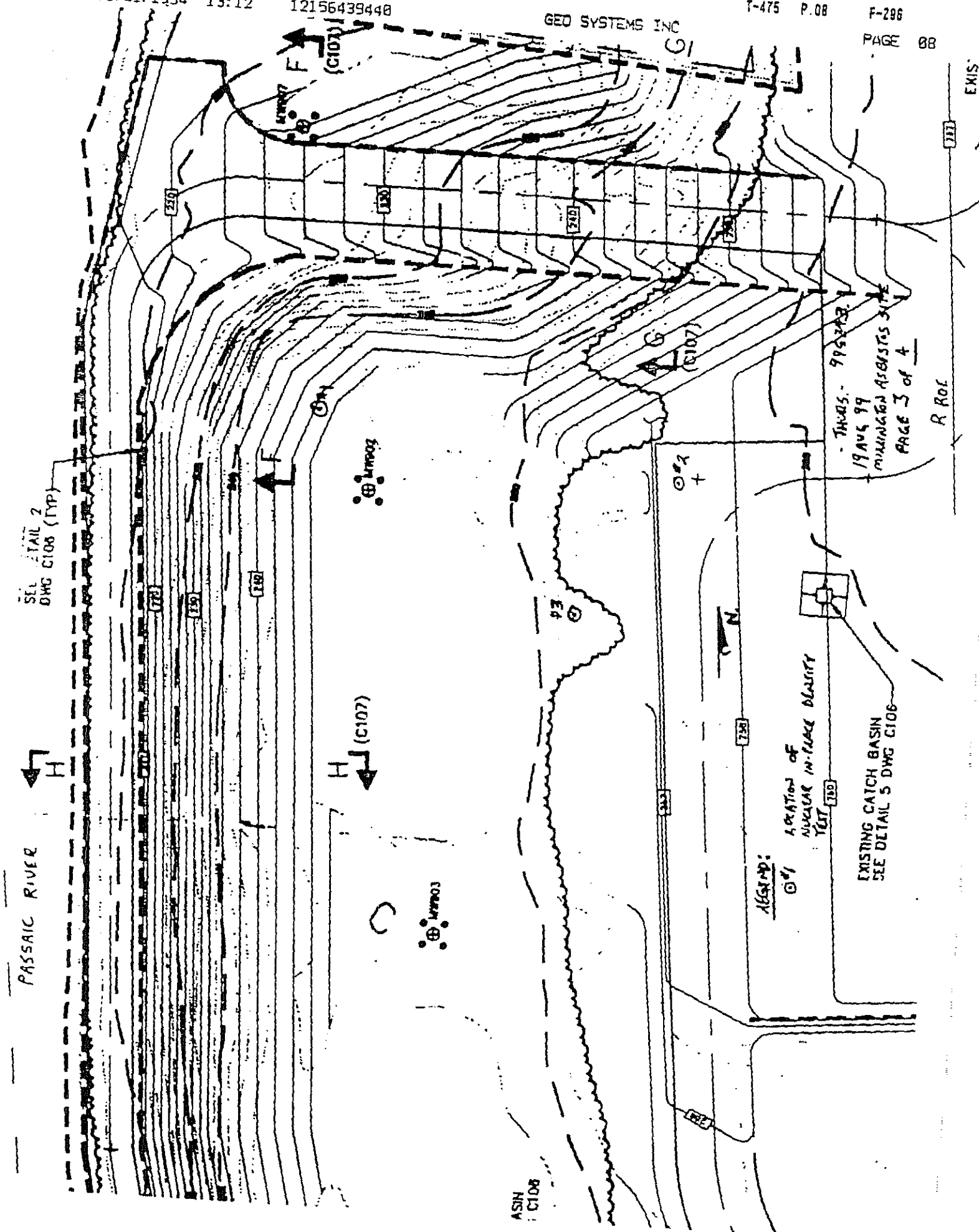
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

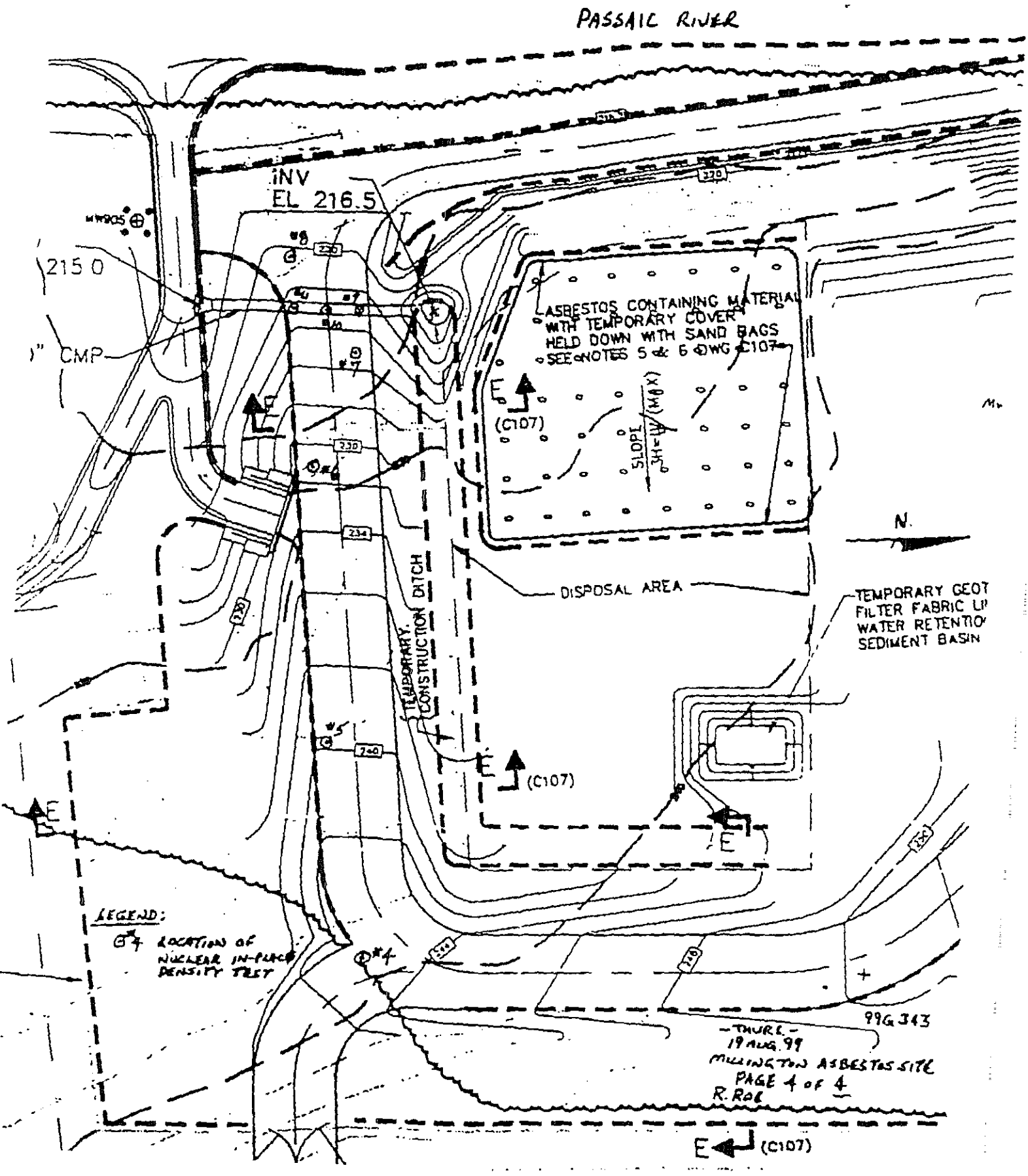
PROJECT NAME MILLINGTON ASBESTOS SITE PROJECT LOCATION MILLINGTON, NJ PROJECT NO.: 996343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	8-19-99	CAP COVER; 25 FT. N.N.W. of MW 902	FINAL LIFT	1	133.5	2.0	93.3	90%	SATISFACTORY COMPACTION
2	8-19-99	EAST ACCESS ROAD; NORTHMOST END	S.G.	1	133.9	3.9	93.6	90	" "
3	8-19-99	CAP COVER; 65 FT. S.E. of MW 902	FINAL LIFT	1	139.7	2.6	97.6	90	" "
4	8-19-99	SOUTH ACCESS ROAD; AT INTERSECTION WITH EAST ACCESS ROAD	FINAL LIFT	1	143.1	3.1	100	90	" "
5	8-19-99	SOUTH ACCESS ROAD; EAST PORTION	" "	1	144.8	2.5	>100	90	" " ; HIGH PERCENTAGE OF GRAVEL
6	8-19-99	SOUTH ACCESS ROAD; N.W. of OUTFALL 004 WINGWALL	" "	1	137.7	2.4	96.2	90	SATISFACTORY COMPACTION
7	8-19-99	SOUTH ACCESS ROAD; WEST PORTION	FINAL LIFT	1	141.9	3.8	99.1	90	" "
8	8-19-99	SOUTH ACCESS ROAD; WEST END	FINAL LIFT	1	141.6	3.2	99.0	90	" "
9	8-19-99	SOUTH ACCESS ROAD; BACKFILL OVER 30-INCH CMP	" "	1	134.9	2.8	94.3	90	" "
10	8-19-99	SOUTH ACCESS ROAD; BACKFILL OVER 30-INCH CMP	" "	1	142.1	3.6	99.3	90	" " ; ℄ ROADWAY OVER PIPE
11	8-19-99	SOUTH ACCESS ROAD; BACKFILL OVER 30-INCH CMP	" "	1	133.4	3.5	93.2	90	SATISFACTORY COMPACTION

NOTES SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
1 ROADSTONE	7.1%	143.1 PCF	N249-123259


PASSAIC RIVER
SEE DETAIL 2 DWG C106 (TYP)
(C107)
F
G
H
EXISTING CATCH BASIN SEE DETAIL 5 DWG C106
LOCATION OF NUCLEAR IN-PLACE DENSITY TEST
LEGEND:
#1
#2
#3
N
R ROE
THURS. - 99 AUG 99
19 AUG 99
MILLINGTON ASBESTOS SITE
PAGE 3 of 4
EXIS


PASSAIC RIVER
INV
EL 216.5
215.0
CMP
ASBESTOS CONTAINING MATERIAL WITH TEMPORARY COVER HELD DOWN WITH SAND BAGS SEE NOTES 5 & 6 DWG C107
SLOPE 3H=1V (MAX)
(C107)
N.
DISPOSAL AREA
TEMPORARY CONSTRUCTION DITCH
TEMPORARY GEOT FILTER FABRIC LI WATER RETENTIO SEDIMENT BASIN
LEGEND:
#4 LOCATION OF NUCLEAR IN-PLACE DENSITY TEST
99G343
-THURE.-
19 AUG. 99
MILLINGTON ASBESTOS SITE
PAGE 4 OF 4
R. ROE

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Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP CU-1 SUPERFUND SITE
No. 99 G 343 Date: 30 SEPT 1999 Day: - THURS -
Location: STONE HOUSE ROAD, MILLINGTON, NJ

Material: CONTROLLED FILL (CF011SL) Fill Delivered: N/A Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STRATZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 9:00 Contractor: 7:00 Weather: CLOUDY RAIN SHOWERS → MOSTLY SUNNY, BREEZY, COOL (HIGH 70°)
Compaction Equipment: INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: CATERPILLAR MODEL D-5 LGP BULLDOZER

(Report all observations and document any recommendations made)

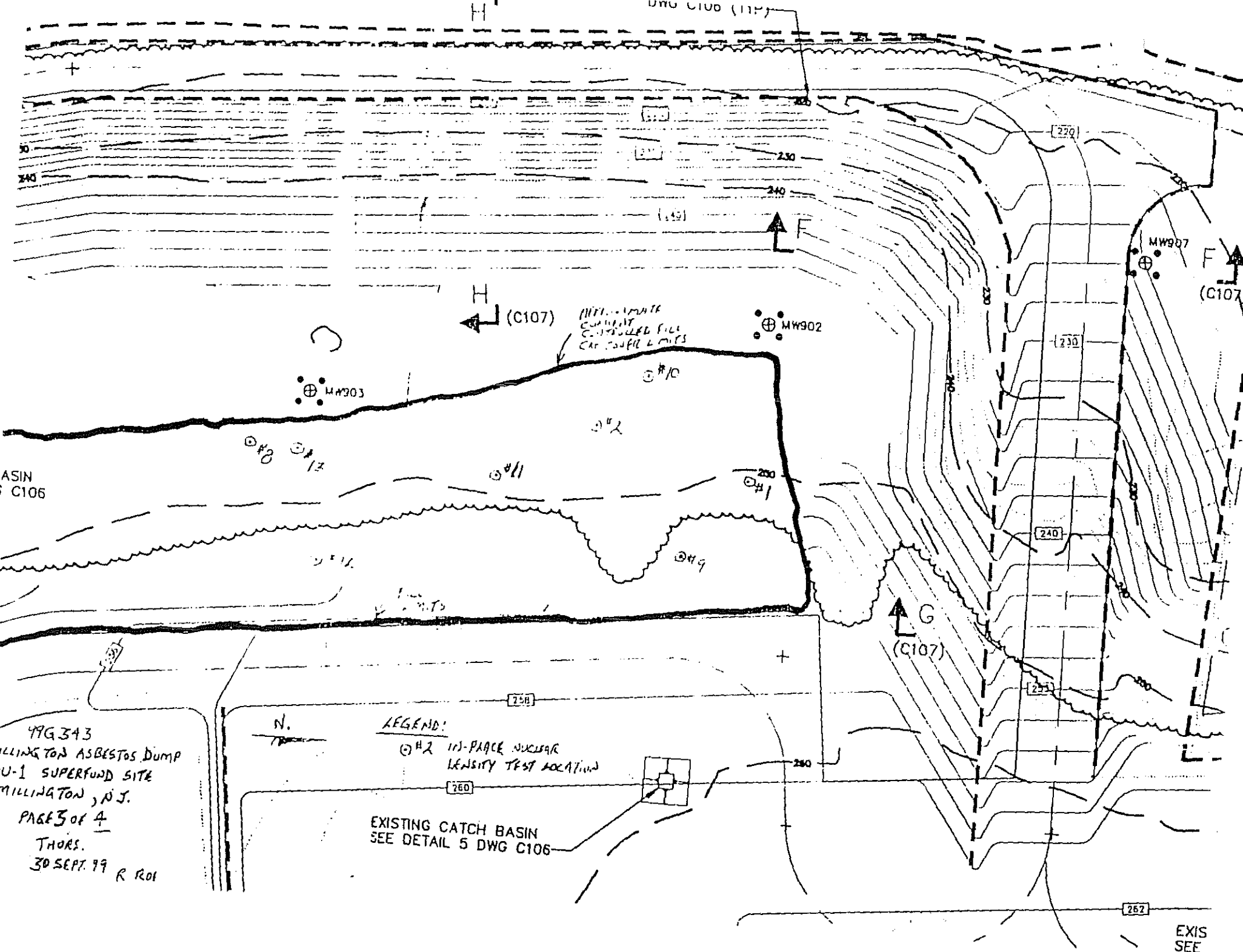
WE THE ARRIVED ONSITE AT THE REQUEST OF DAVE AMBROSE, IT ONSITE MANAGER, TO PERFORM IN-PLACE DENSITY TESTING ON THE SITE CONTROLLED (CU DGA-I5) BEING PLACED AS CAP COVER SOIL FILL MATERIAL IN THE AREA BETWEEN THE SITE EAST ACCESS ROADWAY AND MONITORING WELLS MW 902, MW 903, & MW 904. EXISTING FILL SURFACE V. MOIST FROM EARLY AM RAIN. UPON ARRIVAL ONSITE THE WRITER PROCEEDED TO THIS AREA WITH DAVE AMBROSE, DAVE INDICATED THAT THE FIRST LIFT OF CONTROLLED FILL COVER HAD ALREADY BEEN PLACED AND COMPACTED PRIOR TO THE WRITER'S ARRIVAL. PLACEMENT OF THE 2ND LIFT WAS IN PROGRESS.

WE THE PERFORMED IN-PLACE MOISTURE/DENSITY TESTING ON EXPOSED AREAS OF COMPACTED LIFT 1 WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE; IT'S CAT D-5 LGP BULLDOZER SPREAD LIFT 2 OF THE CONTROLLED FILL IN THE SAME GENERAL AREA. SUBSEQUENT TO COMPACTION WITH THE INGERSOLL RAND SD-40D VIBRATORY ROLLER, THE WRITER PERFORMED IN-PLACE NUCLEAR DENSITY TESTING ON LIFT 2 OF THE COMPACTED CONTROLLED FILL. ALL IN-PLACE TESTING PERFORMED TODAY INDICATED SATISFACTORY RELATIVE COMPACTION (I.E., GREATER THAN OR EQUAL TO 90 PERCENT). SEE THE ATTACHED SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR INDIVIDUAL TEST DATA AND THE ATTACHED PARTIAL SITE PLANS FOR THE INDIVIDUAL TEST LOCATIONS AND APPROXIMATE LIMITS OF THE CURRENT CONTROLLED FILL CONSTRUCTION AREA.

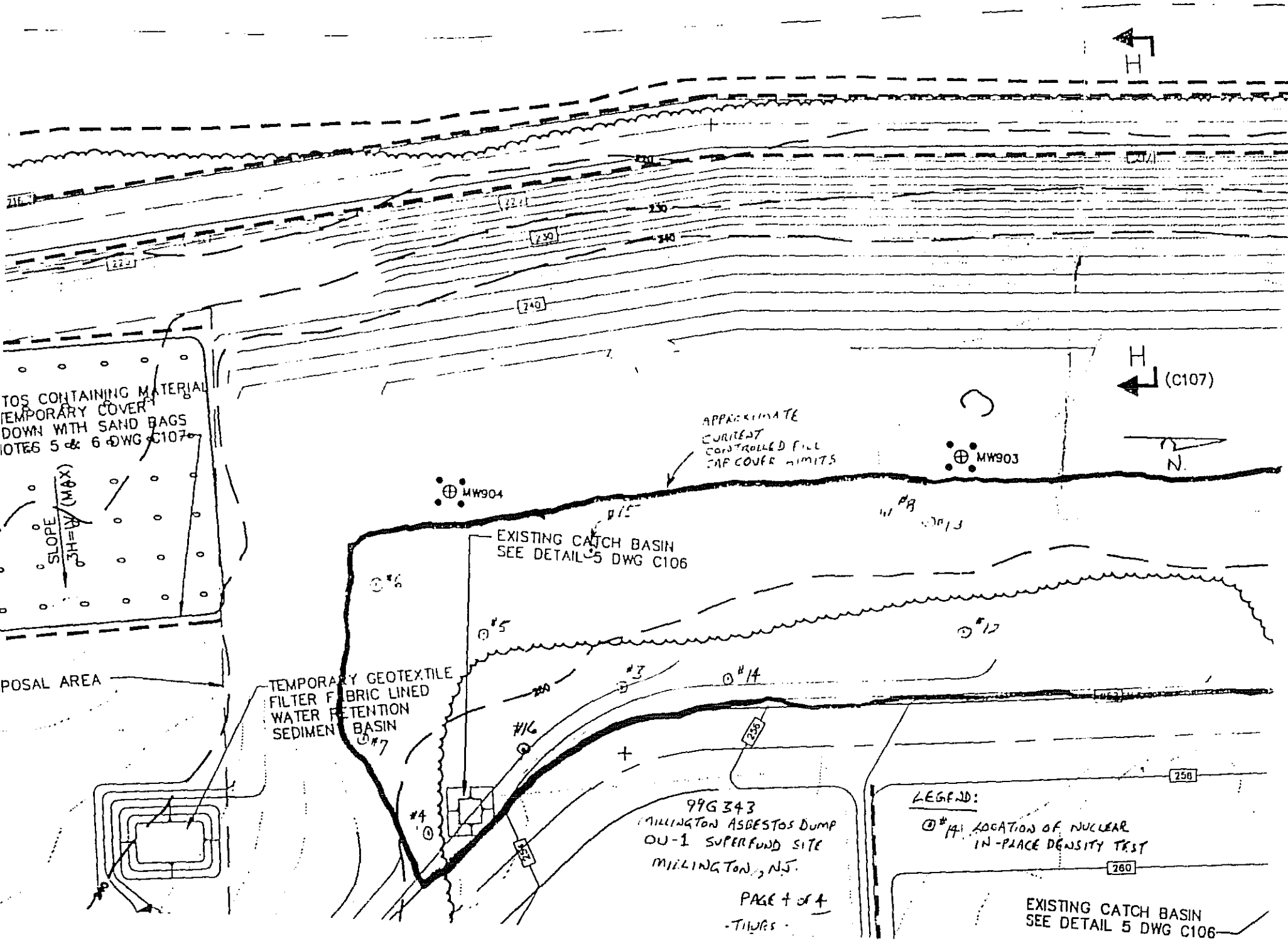
THE WRITER ALSO RECEIVED GEOTEXTILE SAMPLES S-6 AND S-7 AND GEOGRID SAMPLES [illegible] S.F.) AND S-2 ($10^K \rightarrow 20^K$ S.F.) FOR DELIVERY TO GSC LAB FOR LABORATORY [illegible] TESTING.

WE THE LEFT THE SITE FOR TODAY @ 15:00 AFTER SUBMITTING COPY OF TODAY'S REPORT AND TEST RESULTS TO DAVE AMBROSE.

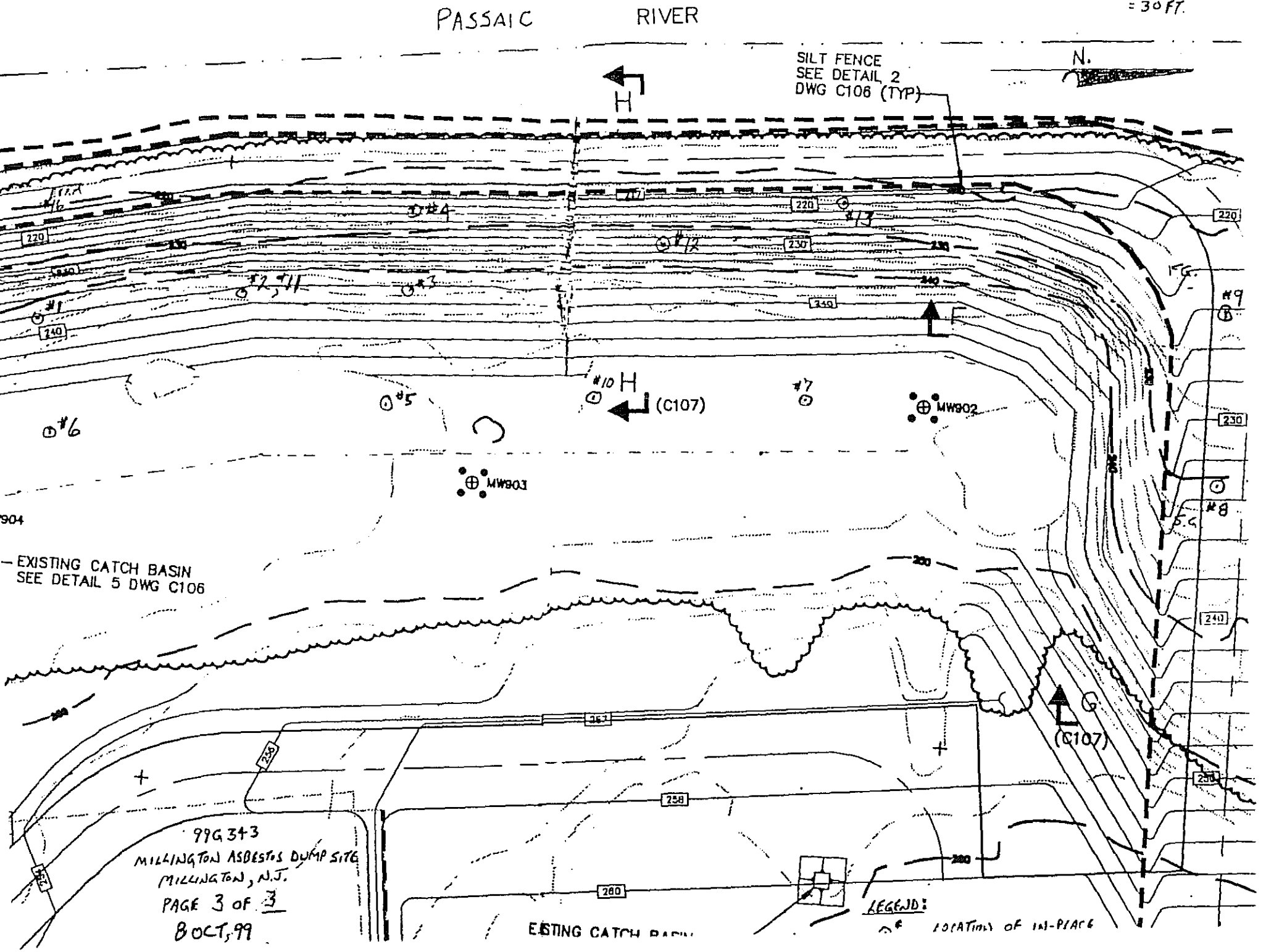
Technician Engineer: Richard T. Roe



DWG C106 (TYP)
H
(C107)
MW902
MW903
MW907
F
(C107)
G
(C107)
ASIN
C106
#10
#2
#8
#13
#11
#1
#9
220
230
240
250
258
260
262
N.
LEGEND:
#2 IN-PLACE NUCLEAR DENSITY TEST LOCATION
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
EXIS
SEE
99G343
ILLINGTON ASBESTOS DUMP
U-1 SUPERFUND SITE
MILLINGTON, N.J.
PAGE 3 OF 4
THURS.
30 SEPT. 99 R ROI



H
H
(C107)
N.
TOS CONTAINING MATERIAL
TEMPORARY COVER
DOWN WITH SAND BAGS
NOTES 5 & 6 DWG C107
SLOPE
3H=1V (MAX)
POSAL AREA
TEMPORARY GEOTEXTILE
FILTER FABRIC LINED
WATER RETENTION
SEDIMENT BASIN
APPROXIMATE
CURRENT
CONTROLLED FILL
CAP COVER LIMITS
MW904
MW903
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
#15
#8
#13
#6
#5
#12
#3
#14
#16
#7
#4
230
240
256
260
99G 343
MILLINGTON ASBESTOS DUMP
OU-1 SUPERFUND SITE
MILLINGTON, NJ.
PAGE 4 of 4
-THURS-
LEGEND:
#14 LOCATION OF NUCLEAR
IN-PLACE DENSITY TEST
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106


PASSAIC RIVER
= 30 FT.
N.
SILT FENCE
SEE DETAIL 2
DWG C106 (TYP)
H
F
G
(C107)
MW902
MW903
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
#1
#2, #11
#3
#4
#5
#6
#7
#8
#9
#10
#12
#13
220
230
240
250
260
280
99G343
MILLINGTON ASBESTOS DUMP SITE
MILLINGTON, N.J.
PAGE 3 OF 3
8 OCT, 99
LEGEND:

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: [illegible] PROJECT LOCATION: MILLINGTON, NJ PROJECT NO: 77G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	WET DENSITY ~~MATERIAL TYPE~~	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	9-30-99	CAP COVER FILL; 40 FT ESE of MW 902	LIFT 1	143.9	138.7	3.8	96.9	90	SATISFACTORY COMPACTION
2	9-30-99	CAP COVER FILL; 50 FT S.E of MW 902	LIFT 1	139.3	132.5	4.3	92.6	90	" "
3	9-30-99	CAP COVER FILL 65 FT N.E of MW 904	LIFT 1	142.4	136.6	4.3	95.4	90	" "
4	9-30-99	CAP COVER FILL 95 FT ESE of MW 904	LIFT 1	148.4	142.2	4.4	99.3	90	" "
5	9-30-99	CAP COVER FILL; 15 FT ENE of MW 904	LIFT 1	147.8	142.2	4.0	99.4	90	" "
6	9-30-99	CAP COVER FILL; 30 FT SE of MW 904	LIFT 1	141.5	136.3	3.8	95.3	90	" "
7	9-30-99	CAP COVER FILL; 65 FT SE of MW 904	LIFT 1	146.0	140.6	3.9	98.2	90	" "
8	9-30-99	CAP COVER FILL, 20 FT S.E. of MW 903	LIFT 1	149.9	141.4	6.0	98.8	90	" " V. moist Area
9	9-30-99	CAP COVER FILL; 65 FT. S.E. of MW 902	LIFT 2	147.2	140.6	4.7	98.2	90	SATISFACTORY COMPACTION
10	9-30-99	CAP COVER FILL; 35 FT. ESE of MW 902	LIFT 2	147.7	140.5	4.9	98.4	90	" "
11	9-30-99	CAP COVER FILL, 50 FT NE of MW 903	LIFT 2	146.0	139.9	4.4	97.7	90	" "
12	9-30-99	CAP COVER FILL; 45 FT [illegible] of MW 902	LIFT 2	151.1	144.3	4.7	[illegible]	90	" " [illegible]
13	9-30-99	CAP COVER FILL; 15 FT ESE of MW 903	LIFT 2	147.6	140.8	4.9	98.4	90	" "
14	9-30-99	CAP COVER FILL; 85 FT NE of MW 904	LIFT 2	150.9	144.1	4.7	100.7	90	" "
15	9-30-99	CAP COVER FILL; 40 FT. NNE of MW 904	LIFT 2	138.0	133.2	3.6	93.1	90	" "
16	9-30-99	CAP COVER FILL; 65 FT. NW of MW 904	LIFT 2	155.3	149.6	4.5	>100%	90	" "

NOTES: SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
CONTROLLED FILL		143.1 PCF	DGA I-5

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE PROJECT LOCATION MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
		STRUCTURAL FILL ALONG WEST SIDE OF CAP							
1	11-8-99	CAP W. SLOPE; SEE SKETCH	TOP STRUCT. FILL	SF	132.5	3.8	91.3	85.0	MIDSLOPE
2	11-8-99	CAP W. SLOPE; " "	" "	SF	107.8	2.5	74.3	85.0	SLOPE STAKE 15767; LOW COMPACTION RE-TRACK/ROLL
3	11-8-99	CAP W SLOPE; " "	" "	SF	125.3	3.6	86.4	85.0	MIDSLOPE
4	11-8-99	CAP W SLOPE; " "	" "	SF	129.2	3.5	89.0	85.0	TOE OF SLOPE
5	11-8-99	CAP W SLOPE; 25FT. WIDTH ALONG TOP OF SLOPE	" "	SF	134.3	2.1	92.6	85.0	25FT. W. ZONE @ TOP OF SLOPE
6	11-8-99	CAP W SLOPE; " "	" "	SF	131.5	2.2	90.6	85.0	" "
7	11-8-99	CAP W. SLOPE; " "	" "	SF	138.1	3.6	95.2	85.0	TOP OF SLOPE
		CONTROLLED FILL IN NORTH ACCESS RD.							
8	11-8-99	N. ACCESS ROAD; LOWER-MID-SLOPE	S.G.	CF	147.2	3.6	102.9	90.0	SATISFACTORY
9	11-8-99	N. ACCESS ROAD; LOWER SLOPE PORTION	F.G.	CF	144.7	3.5	101.1	90.0	" "
		STRUCTURAL FILL ALONG WEST SIDE OF CAP							
10	11-8-99	CAP W. SLOPE; 25FT. WIDTH ALONG TOP OF SLOPE	TOP STRUCT. FILL	SF	132.5	3.2	91.3	85.0	
11	11-8-99	CAP W. SLOPE; MID-SLOPE	" "	SF	124.9	3.4	86.1	85.0	RETEST OF TEST #2 AFTER RECOMPACTION
12	11-8-99	CAP W SLOPE; MID-SLOPE	" "	SF	123.4	3.7	85.0	85.0	SATISFACTORY
13	11-8-99	CAP W. SLOPE; TOE OF SLOPE	" "	SF	128.0	3.4	88.2	85.0	" "

NOTES: SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS
MS: 626
DS: 3038

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
SF		145.1 PCF	STRUCTURAL FILL
CF		143.1 PCF	CONTROLLED FILL

GeoSystems Consultants

Consultants in Geo-Engineering

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Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 8 NOV. 1999 Day: -MON.-
Location: HAAS ROAD, MILLINGTON, NJ

Material: STRUCTURAL FILL (SF0125L); CONTROLLED FILL Fill Delivered: N/A Placed: N/A
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE/CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 14:10 Contractor: 7:00 Weather: SUNNY, WINDY COOL (HIGH 52°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D SMOOTH DRUM VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5 LGP BULLDOZER; 1-CAT 320 BACKHOE

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE AT 14:10 AT THE REQUEST OF DAVE AMBROSE OF IT CORPORATION TO PERFORM IN-PLACE DENSITY TESTING ON STRUCTURAL FILL ALREADY PLACED ALONG THE WEST SLOPE OF THE SITE CAP AND ON CONTROLLED FILL CONSTRUCTED RECENTLY IN THE SITE NORTH ACCESS ROAD.

UPON ARRIVAL ONSITE DAVE AMBROSE REQUESTED THAT THE WRITER CONDUCT IN-PLACE DENSITY TESTING ON THE ALREADY CONSTRUCTED STRUCTURAL FILL LAYER ON THE WEST SLOPE AND A 25-FEET-WIDE STRIP ALONG THE TOP OF THE WEST SLOPE OF THE SITE CAP. DAVE INDICATED THAT THE 25-FEET-WIDE STRIP OF STRUCTURAL FILL AT THE TOP OF THE SLOPE HAD ALREADY BEEN COMPACTED WITH THE INGERSOLL-RAND SD-40D SMOOTH DRUM VIBRATORY ROLLER. DAVE ALSO INDICATED THAT THE STRUCTURAL FILL LAYER ON THE CAP WEST SLOPE HAD BEEN COMPACTED BY TRACKING THE FILL SURFACE WITH THE CAT 320 BACKHOE, BECAUSE THE SLOPE WAS TOO STEEP FOR THE ROLLER TO SAFELY NEGOTIATE. DAVE AMBROSE INDICATED THAT THE PROJECT SPECIFICATIONS REQUIRED RELATIVE COMPACTION OF THE STRUCTURAL FILL GREATER THAN OR EQUAL TO 85 PERCENT.

THE WRITER PERFORMED IN-PLACE DENSITY TESTING OF THE STRUCTURAL FILL AT LOCATIONS SELECTED BY THE SITE U.S.A.C.O.E. REPRESENTATIVE AND DAVE AMBROSE WITH A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE. OF THE LOCATIONS TESTED, ONLY ONE TEST LOCATION (TEST NO. 2) EXHIBITED A MEASURED RELATIVE COMPACTION LESS THAN 85 PERCENT. THIS LOCATION WAS RE-COMPACTED BY REPEATED RE-TRACKING WITH THE CAT 320 BACKHOE. IN-PLACE DENSITY TEST NO. 11, PERFORMED AT THIS SAME LOCATION AFTER RECOMPACTION, INDICATED SATISFACTORY RELATIVE COMPACTION (86.1 %) SUBSEQUENT TO RECOMPACTION BY RE-TRACKING. ALL OTHER STRUCTURAL FILL AREAS TESTED TODAY INDICATED RELATIVE COMPACTION ≥ 85%.

AS REQUESTED BY CHIP STROTZ OF IT, THE WRITER ALSO PERFORMED IN-PLACE DENSITY TESTING AT TWO LOCATIONS ON THE CONTROLLED FILL CONSTRUCTED RECENTLY IN THE SITE NORTH ACCESS ROAD (TESTS NO. 8 AND NO. 9). BOTH OF THESE TESTS INDICATED CONTROLLED FILL RELATIVE COMPACTION GREATER THAN 90 PERCENT.

THE INDIVIDUAL TEST LOCATIONS AND TEST RESULT DATA FOR THE IN-PLACE DENSITY TESTS PERFORMED TODAY ON THE WEST SLOPE STRUCTURAL FILL AND NORTH ACCESS ROAD CONTROLLED FILL ARE PRESENTED ON THE ATTACHED PARTIAL SITE PLAN AND SUMMARY OF IN-PLACE DENSITY TEST RESULTS.

THE WRITER LEFT THE SITE FOR TODAY @ 16:55

Technician/Engineer Richard T. Cox

GeoSystems Consultants, Inc.

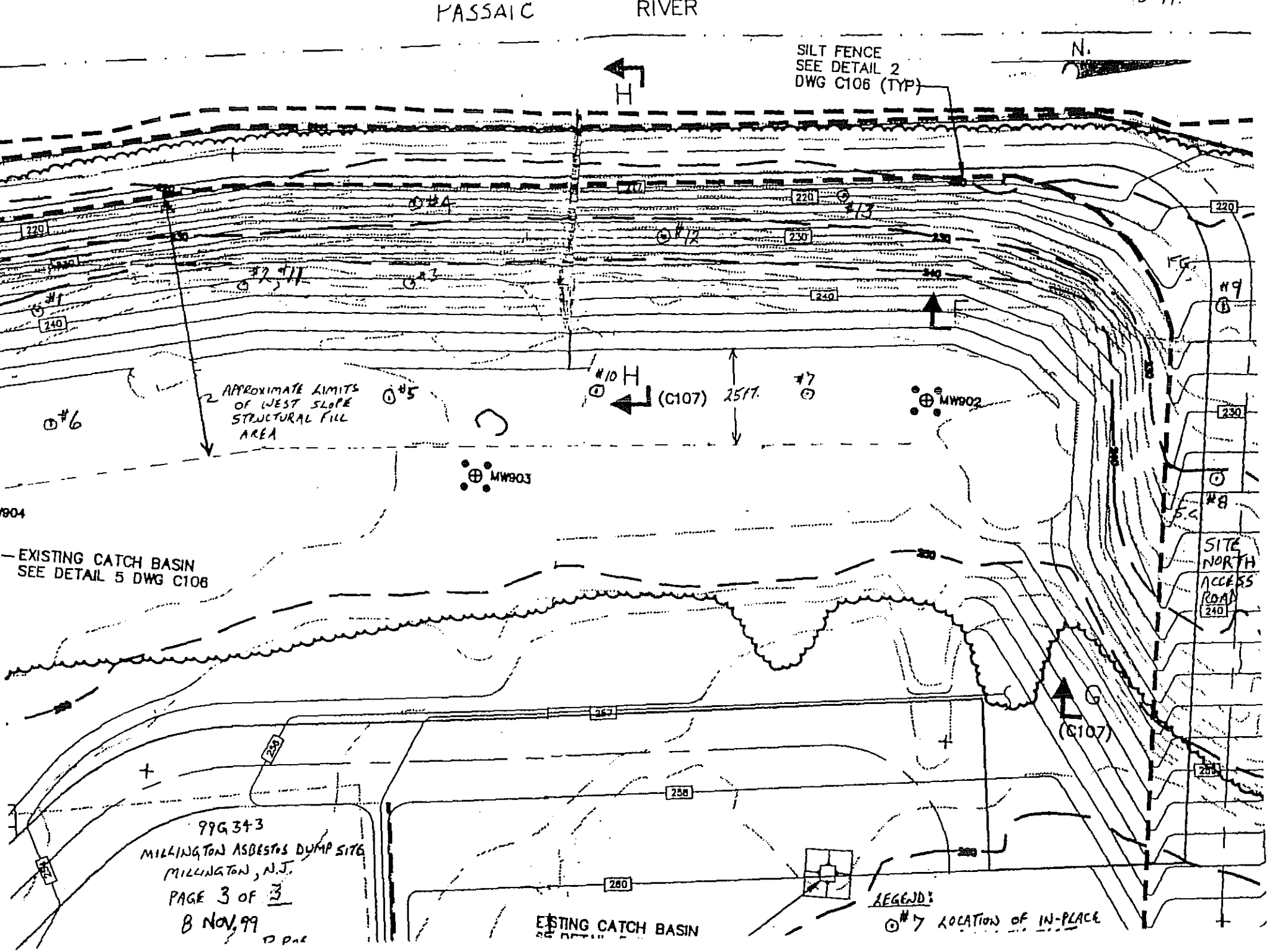
SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP CU-1 SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	[W. SLOPE STRUCTURAL FILL] LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	11-8-99	CAP W. SLOPE; SEE ATTACHED PARTIAL SITE PLAN	TOP STRUCT. FILL	SF	132.5	3.8	91.3	85.0	MIDSLOPE; SATISFACTORY
2	11-8-99	CAP W. SLOPE; " "	" "	SF	107.8	2.5	74.3	85.0	SLOPE STAKE 15767; LOW COMPACTION RE-TRACK/ROLL
3	11-8-99	CAP W. SLOPE; " "	" "	SF	125.3	3.6	86.4	85.0	MIDSLOPE; SATISFACTORY
4	11-8-99	CAP W. SLOPE; " "	" "	SF	129.2	3.5	89.0	85.0	TOE OF SLOPE; SATISFACTORY
5	11-8-99	CAP W. SLOPE; 25 FT. WIDTH ALONG TOP OF SLOPE	" "	SF	134.3	2.1	92.6	85.0	SATISFACTORY
6	11-8-99	CAP W SLOPE; " "	" "	SF	131.5	2.2	90.6	85.0	SATISFACTORY
7	11-8-99	CAP W. SLOPE; TOP OF SLOPE; " "	" "	SF	138.1	3.6	95.2	85.0	SATISFACTORY
		[CONTROLLED FILL IN NORTH ACCESS RD.]							
8	11-8-99	N. ACCESS ROAD; LOWER-MID-SLOPE	S.G.	CF	147.2	3.6	102.9	90.0	SATISFACTORY
9	11-8-99	N. ACCESS ROAD; LOWER SLOPE PORTION	F.G.	CF	144.7	3.5	101.1	90.0	" "
		[STRUCTURAL FILL ALONG WEST SIDE OF CAP]							
10	11-8-99	CAP W. SLOPE; 25 FT. WIDTH ALONG TOP OF SLOPE	TOP STRUCT. FILL	SF	132.5	3.2	91.3	85.0	SATISFACTORY
11	11-8-99	CAP W. SLOPE; MID-SLOPE	" "	SF	124.9	3.4	86.1	85.0	RETEST OF TEST #2 AFTER RECOMPACTION
12	11-8-99	CAP W SLOPE; MID-SLOPE	" "	SF	123.4	3.7	85.0	85.0	SATISFACTORY
13	11-8-99	CAP W. SLOPE; TOE OF SLOPE	" "	SF	128.0	3.4	88.2	85.0	" "

NOTES: SEE ATTACHED PARTIAL PLAN FOR ACTUAL TEST LOCATIONS
MS: 626 (PASS)
DS: 3038 (PASS)

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
SF		145.1 PCF	STRUCTURAL FILL
CF		143.1 PCF	CONTROLLED FILL


PASSAIC RIVER
SILT FENCE
SEE DETAIL 2
DWG C106 (TYP)
N.
H
220
230
240
#1
#2, #11
#3
#4
#5
#6
#7
#8
#9
#10
#12
#13
(C107)
25 FT.
MW902
MW903
APPROXIMATE LIMITS OF WEST SLOPE STRUCTURAL FILL AREA
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
SITE NORTH ACCESS ROAD
G
(C107)
257
258
260
99G343
MILLINGTON ASBESTOS DUMP SITE
MILLINGTON, N.J.
PAGE 3 OF 3
8 NOV, 99
EXISTING CATCH BASIN
LEGEND:
#7 LOCATION OF IN-PLACE

GeoSystems Consultants

Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA. 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 26 OCT. 1999 Day: -TUES.-
Location: HAAS ROAD, MILLINGTON, NJ

Material: STRUCTURAL FILL (SF0125A) Fill Delivered: N/A Placed: N/A
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 12:30 Contractor: 07:00 Weather: SUNNY, MILD (HIGH 68°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5 LGP BULLDOZER; 1 CAT 320 BACKHOE

(Report all observations and document any recommendations made)

12:30
WRITER ARRIVED ONSITE AT THE REQUEST OF DAVE AMBROSE, IT ONSITE MANAGER, TO PERFORM IN-PLACE DENSITY TESTING ON STRUCTURAL FILL (SF0125A) MATERIALS REPORTEDLY TO BE PLACED AND COMPACTED TODAY. UPON ARRIVAL ONSITE THE WRITER MET WITH DAVE AMBROSE AT THE IT TRAILER TO DISCUSS THE AREA TO BE TESTED TODAY.

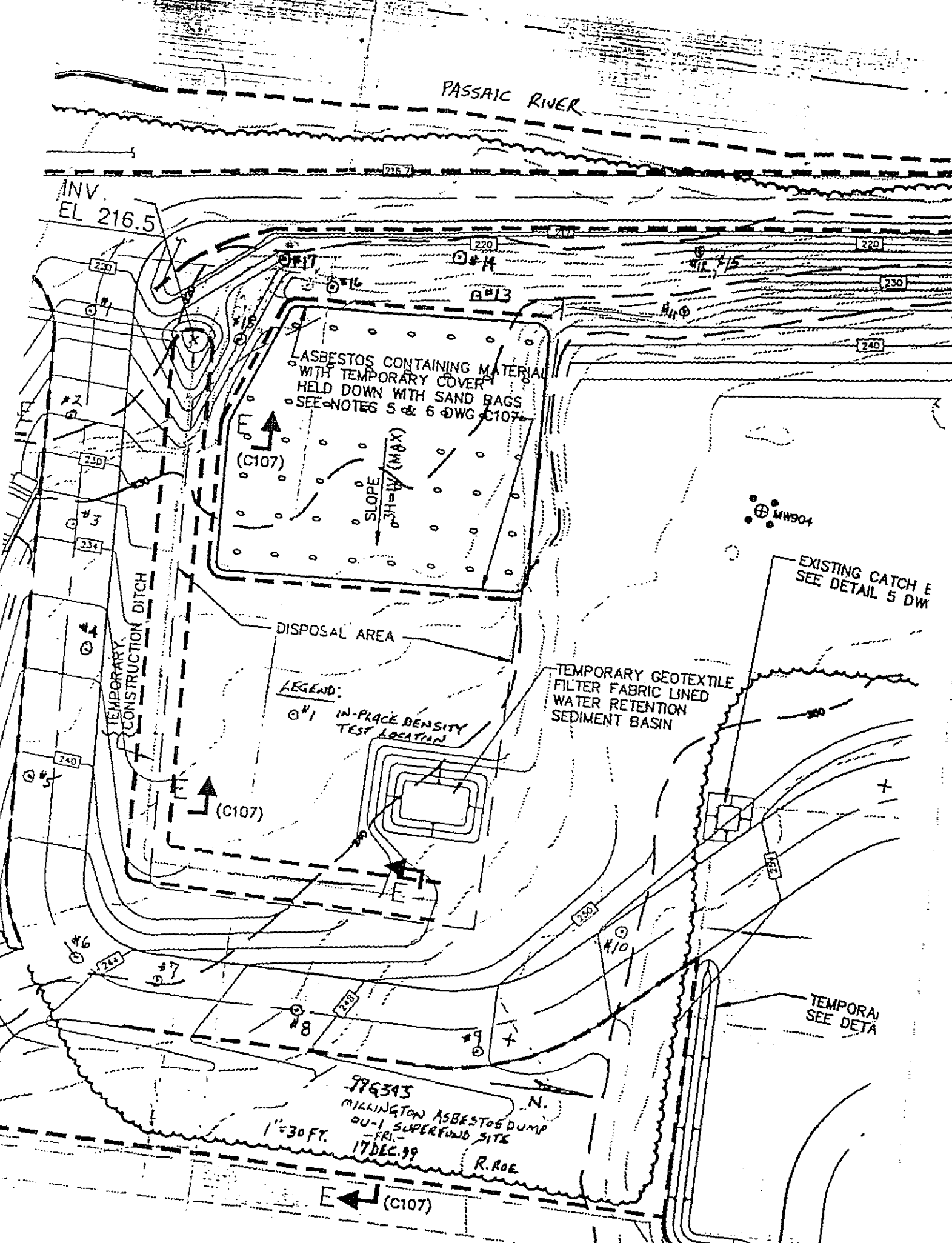
DAVE INFORMED THE WRITER THAT IT HAD STOCKPILED PILES OF THE STRUCTURAL FILL MATERIAL AT THE NORTH END OF THE SITE CAP AREA BUT HAD NOT YET INITIATED SPREADING OR COMPACTING THIS MATERIAL. DAVE SHOWED THE WRITER A DETAIL DWG FOR THE SITE CAP CROSS-SECTION AT THE SLOPE PARALLELING THE PASSAIC RIVER. THIS DRAWING INDICATED A 25FT WIDTH OF STRUCTURAL FILL ALONG THE TOP OF THE SLOPE PARALLELING THE RIVER.

THE WRITER FOLLOWED DAVE TO THE SITE CAP AREA WHICH WAS TO RECEIVE THE STRUCTURAL FILL. UPON ARRIVAL TO THE CAP WEST SLOPE, THE WRITER OBSERVED SURVEYORS IN THE PROCESS OF INSTALLING GRADE STAKES FOR THE CAP WEST SLOPE AREA ON THE SURFACE OF THE EXISTING AASHTO #57 CRUSHED STONE FILL LAYER. THE GRADE STAKES INSTALLED AT THE NORTH END OF THE WEST SLOPE REPORTEDLY INDICATED THAT THE NO. 57 CRUSHED STONE SURFACE WAS TOO HIGH AND REQUIRED CUTS PRIOR TO STRUCTURAL FILL PLACEMENT.

DAVE AMBROSE INFORMED THE WRITER THAT THE USACOE WAS SENDING A REPRESENTATIVE AS AN AUDITOR TO THE SITE THIS AFTERNOON AND ASKED THE WRITER TO REMAIN ONSITE THIS AFTERNOON UNTIL THE AUDITOR ARRIVED (IN THE EVENT THE AUDITOR HAD ANY QUESTIONS REGARDING GSC IN-PLACE DENSITY TESTING WITH THE TROXLER GAUGE). NO STRUCTURAL FILL PLACEMENT WAS PERFORMED TODAY DUE TO GRADING OPERATIONS OF IT CAT-320 BACKHOE, D-5 LGP BULLDOZER, & FE LOADER PERFORMING THE PARTIAL REMOVAL OF EXCESS #57 CRUSHED STONE FROM THE NORTH END OF THE WEST SLOPE; THE USACOE AUDITOR REPRESENTATIVE ARRIVED ONSITE @ APPROXIMATELY 14:50. 15:16 THE WRITER LEFT THE SITE FOR TODAY AFTERING DISCUSSING THE STRUCTURAL FILL CONSTRUCTION STATUS WITH DAVE AMBROSE AND CHIP STROTZ. DAVE INDICATED THAT IT WOULD PHONE WRITER AT THE GSC OFFICE TOMORROW WITH UPDATED STRUCTURAL FILL CONSTRUCTION STATUS.

Technician/Engineer Richard T. Roe

DENSITY STD. COUNT 3018 PASS
MOISTURE STD. COUNT 620 PASS


PASSAIC RIVER
INV. EL 216.5
ASBESTOS CONTAINING MATERIAL WITH TEMPORARY COVER HELD DOWN WITH SAND BAGS SEE NOTES 5 & 6 DWG C107
SLOPE 3H=1V (MAX)
(C107)
MW904
EXISTING CATCH B
SEE DETAIL 5 DW
DISPOSAL AREA
TEMPORARY CONSTRUCTION DITCH
TEMPORARY GEOTEXTILE FILTER FABRIC LINED WATER RETENTION SEDIMENT BASIN
LEGEND:
#1 IN-PLACE DENSITY TEST LOCATION
TEMPORA
SEE DETA
N.
1"=30 FT.
MILLINGTON ASBESTOS DUMP
OU-1 SUPERFUND SITE
17 DEC. 99
R. ROE

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	FINAL LIFT OF CONTROLLED FILL IN SOUTH & EAST ACCESS RDS. LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	WET DENSITY (PCF)	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	12-17-99	SOUTH ACCESS RD.; W. END	S.G.	CF	155.2	147.0	5.6	102.7	90	SATISFACTORY COMPACTION
2	12-17-99	SOUTH ACCESS RD; W. OF CENTRAL PORTION	S.G.	CF	154.1	145.2	6.1	101.5	90	" "
3	12-17-99	SOUTH ACCESS RD; CENTRAL PORTION	S.G.	CF	158.9	150.0	5.9	104.9	90	" "
4	12-17-99	SOUTH ACCESS RD; E. OF CENTRAL PORTION	S.G.	CF	159.6	149.8	6.6	104.7	90	" "
5	12-17-99	SOUTH ACCESS RD; E. END; S of ℄	S.G.	CF	158.5	149.9	5.7	104.8	90	" "
6	12-17-99	INTERSECTION OF SOUTH & EAST ACCESS RDS.	S.G.	CF	158.6	150.2	5.5	105.0	90	" "
7	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	157.0	149.6	5.0	104.5	90	" "
8	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	158.0	150.8	4.8	105.3	90	" "
9	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	145.3	139.6	4.1	97.6	90	" "
10	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	154.2	147.7	4.4	103.2	90	" "
		[STRUCTURAL FILL ON WEST SLOPE]								
11	12-17-99	CAP WEST SLOPE; UPPER 1/3 OF SLOPE	TOP STRUCT. FILL	SF	130.0	123.6	5.2	85.2	85	SATISFACTORY COMPACTION
12	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	124.7	118.7	5.1	81.8	85	ADDITIONAL COMPACTION REQUIRED
13	12-17-99	CAP WEST SLOPE; UPPER SLOPE	" "	SF	133.3	126.8	5.1	87.4	85	SATISFACTORY COMPACTION
14	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	132.0	125.9	4.8	86.8	85	" "
15	12-17-99	CAP WEST SLOPE; RE-TEST OF TEST #12 AFTER RE-COMPACTION	" "	SF	132.5	126.2	5.0	87.0	85	RE-TEST OF TEST #12 AFTER RE-TRACK; O.K
16	12-17-99	CAP WEST SLOPE NEAR S.W. COR.; UPPER SLOPE	" "	SF	129.0	124.1	3.9	85.6	85	SATISFACTORY COMPACTION
17	12-17-99	CAP SOUTHWEST CORNER; LOWER SLOPE	" "	SF	130.8	125.6	4.6	86.2	85	" "
18	12-17-99	CAP SOUTHWEST CORNER; MID-SLOPE	" "	SF	131.4	125.4	4.8	86.4	85	" "

NOTES: SEE ATTACHED PARTIAL PLAN FOR ACTUAL TEST LOCATIONS

MOISTURE STD. COUNT 621 (PASS)
DENSITY STD. COUNT 3042 (PASS)

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
CF	7.1%	143.1 PCF	CONTROLLED FILL
SF	8.6%	145.1 PCF	STRUCTURAL FILL

GeoSy

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJEC

TEST NUMBER	DATE TESTED	FINAL LIFT OF CONTROLLED FILL IN SOUTH & EAST ACCESS RDS. LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	WET DENSITY (PCF)	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	
1	12-17-99	SOUTH ACCESS RD.; W. END	S.G.	CF	155.2	147.0	5.6	102.7	90	SATIS
2	12-17-99	SOUTH ACCESS RD; W. OF CENTRAL PORTION	S.G.	CF	154.1	145.2	6.1	101.5	90	"
3	12-17-99	SOUTH ACCESS RD; CENTRAL PORTION	S.G.	CF	158.9	150.0	5.9	104.9	90	"
4	12-17-99	SOUTH ACCESS RD; E. OF CENTRAL PORTION	S.G.	CF	159.6	149.8	6.6	104.7	90	"
5	12-17-99	SOUTH ACCESS RD; E. END; S. OF ℄	S.G.	CF	158.5	149.9	5.7	104.8	90	"
6	12-17-99	INTERSECTION OF SOUTH & EAST ACCESS RDS.	S.G.	CF	158.6	150.2	5.5	105.0	90	"
7	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	157.0	149.6	5.0	104.5	90	"
8	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	158.0	150.8	4.8	105.3	90	"
9	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	145.3	139.6	4.1	97.6	90	"
10	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	154.2	147.7	4.4	103.2	90	"
		[STRUCTURAL FILL ON WEST SLOPE]								
11	12-17-99	CAP WEST SLOPE; UPPER 1/3 OF SLOPE	TOP STRUCT. FILL	SF	130.0	123.6	5.2	85.2	85	SATIS
12	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	124.7	118.7	5.1	81.8	85	ADDITIONA
13	12-17-99	CAP WEST SLOPE; UPPER SLOPE	" "	SF	133.3	126.8	5.1	87.4	85	SATISI
14	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	132.0	125.9	4.8	86.8	85	"
15	12-17-99	CAP WEST SLOPE; RE-TEST OF TEST #12 AFTER RE-COMPACTION	" "	SF	132.5	126.2	5.0	87.0	85	RE-TEST
16	12-17-99	CAP WEST SLOPE NEAR S.W. COR.; UPPER SLOPE	" "	SF	129.0	124.1	3.9	85.6	85	SATISI
17	12-17-99	CAP SOUTHWEST CORNER; LOWER SLOPE	" "	SF	130.8	125.0	4.6	86.2	85	"
18	12-17-99	CAP SOUTHWEST CORNER; MID-SLOPE	" "	SF	131.4	125.4	4.8	86.4	85	"

NOTES: SEE ATTACHED PARTIAL PLAN FOR ACTUAL TEST LOCATIONS

MOISTURE STD. COUNT 621 (PASS)

DENSITY STD. COUNT 3042 (PASS)

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	
CF	7.17	143.1 PCF	CO
SF	8.67	145.1 PCF	ST

GeoSystems Consultants

Consultants in Geo-Engineering

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Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G343 Date: 17 DEC 1999 Day: -FRI.-
Location: HAAS ROAD, MILLINGTON, NJ

Material: CONTROLLED FILL / STRUCTURAL FILL Fill Delivered: ✓ Placed: ✓
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE / CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 8:52 Contractor: Weather: SUNNY, WINDY, COLD (HIGH 43°F)
Compaction Equipment: 1- INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1- CATERPILLAR MODEL D-5 LGP BULLDOZER; 1- CAT 320 BACKHOE

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE AT THE REQUEST OF DAVE AMBROSE, IT ONSITE MANAGER, TO PERFORM IN-PLACE DENSITY TESTING ON CONTROLLED FILL (CF011SL) AND STRUCTURAL FILL (SF012SL) MATERIALS BEING PLACED AND COMPACTED ONSITE. UPON ARRIVAL ONSITE WRITER MET WITH CHIP STROTZ AT THE IT TRAILER TO DISCUSS THE AREAS TO BE TESTED TODAY. CHIP STROTZ REQUESTED THAT THE WRITER PERFORM IN-PLACE DENSITY TESTING AT S.G. LEVEL ON THE FINAL LIFT OF CONTROLLED FILL RECENTLY PLACED IN THE SITE SOUTH ACCESS ROAD AND IN THE SOUTHERN PORTION OF THE SITE EAST ACCESS ROAD.

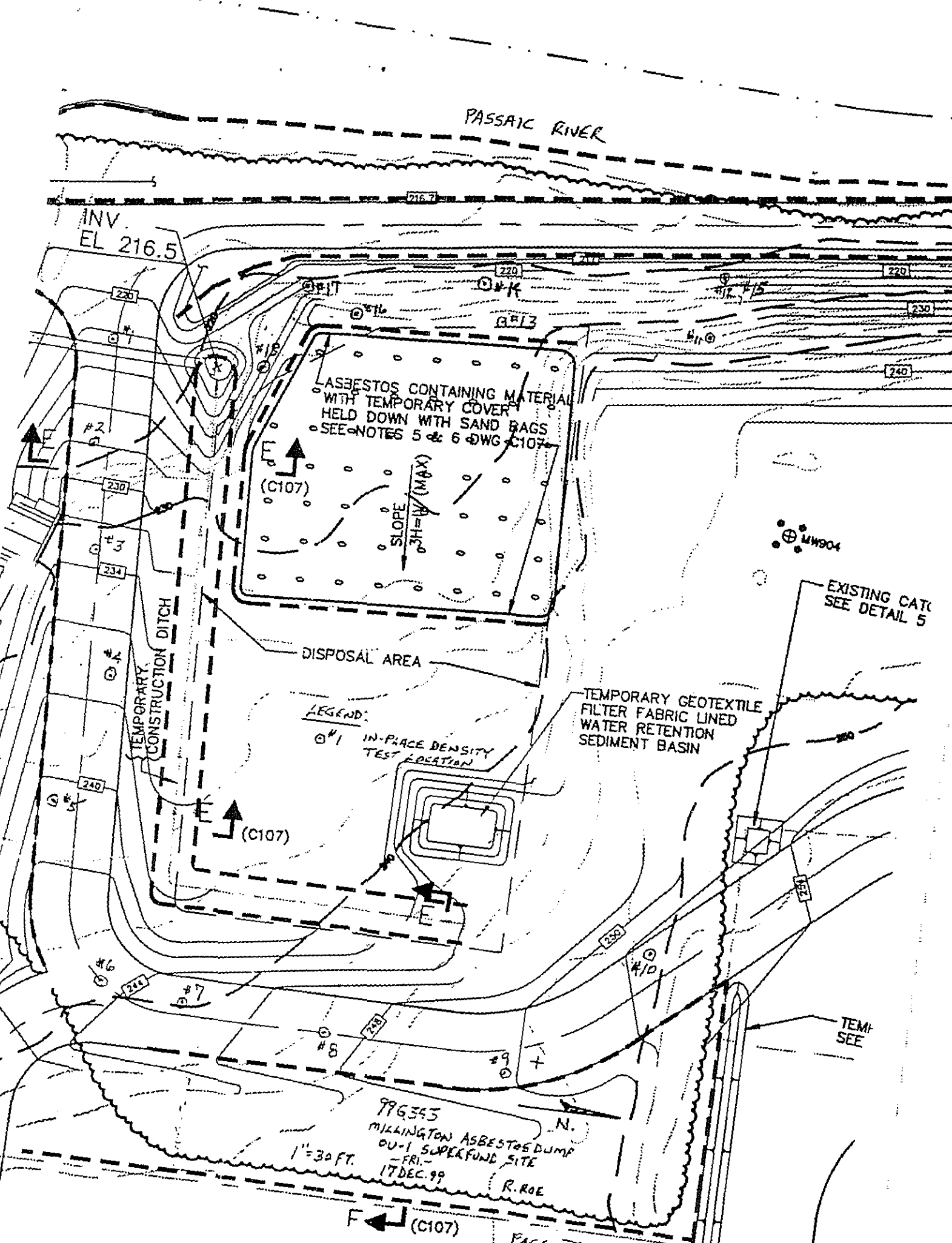
WRITER PERFORMED IN-PLACE DENSITY TESTING AT S.G. LEVEL ON THE FINAL LIFT OF CONTROLLED FILL IN THE SITE SOUTH ACCESS ROAD AND THE SOUTHERN PORTION OF THE SITE EAST ACCESS ROAD WITH A TROXLER 3440 NUCLEAR MOISTURE/DENSITY GAUGE. IN-PLACE DENSITY TESTING PERFORMED ON THE CONTROLLED FILL TODAY INDICATED SATISFACTORY COMPACTION IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (I.E., RELATIVE COMPACTION ≥ 90 %).

DAVE AMBROSE ALSO REQUESTED THAT WRITER REMAIN ONSITE IN P.M. AND PERFORM IN-PLACE DENSITY TESTING ON THE STRUCTURAL FILL MATERIAL BEING PLACED ON THE WEST SLOPE OF THE CAP. THE STRUCTURAL FILL BEING PLACED ON THE CAP WEST SLOPE WAS BEING COMPACTED BY REPEATED TRACKING WITH THE CAT 320 BACKHOE AND THE CAT D-5 BULLDOZER SINCE THE SLOPE WAS TOO STEEP (APPROX. 2:1 SLOPE) TO SAFELY NEGOTIATE WITH IT'S INGERSOLL RAND ROLLER.

SEE THE ATTACHED PARTIAL SITE PLAN AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR THE ACTUAL IN-PLACE DENSITY TEST LOCATIONS AND INDIVIDUAL TEST DATA.

IN-PLACE DENSITY TESTS NO. 11 THROUGH NO. 18 WERE PERFORMED AT THE TOP OF THE STRUCTURAL FILL LAYER ON THE CAP WEST SLOPE. OF THE LOCATIONS TESTED, ONLY ONE TEST LOCATION (TEST NO. 12) EXHIBITED A MEASURED RELATIVE COMPACTION LESS THAN 85 PERCENT. THIS LOCATION WAS RE-COMPACTED BY REPEATED RE-TRACKING WITH THE CAT 320 BACKHOE. IN-PLACE DENSITY TEST NO. 15, PERFORMED AT THIS SAME LOCATION AFTER RE-TRACKING, INDICATED 87.0 PERCENT RELATIVE COMPACTION AFTER RECOMPACTION. WRITER LEFT THE SITE 14:55 AFTER COMPLETION OF IN-PLACE DENSITY TESTING OF WEST SLOPE STRUCTURAL FILL AREA COMPACTED TODAY.

Technician/Engineer [signature]


PASSAIC RIVER
INV.
EL 216.5
216.7
220
230
240
234
244
248
250
254
ASBESTOS CONTAINING MATERIAL
WITH TEMPORARY COVER
HELD DOWN WITH SAND BAGS
SEE NOTES 5 & 6 DWG C107
SLOPE
3H=1V (MAX)
(C107)
DISPOSAL AREA
TEMPORARY CONSTRUCTION DITCH
LEGEND:
#1 IN-PLACE DENSITY TEST LOCATION
TEMPORARY GEOTEXTILE
FILTER FABRIC LINED
WATER RETENTION
SEDIMENT BASIN
MW904
EXISTING CAT
SEE DETAIL 5
TEMP
SEE
N.
99G343
MILLINGTON ASBESTOS DUMP
OU-1 SUPERFUND SITE
-FRI.-
17 DEC. 99
1"=30 FT.
R. ROE
F
(C107)

GeoSystems Consultants, Inc.

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON ASBESTOS DUMP SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	FINAL LIFT OF CONTROLLED FILL IN SOUTH & EAST ACCESS RDS. LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	WET DENSITY (PCF)	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	12-17-99	SOUTH ACCESS RD.; W. END	S.G.	CF	155.2	147.0	5.6	102.7	90	SATISFACTORY COMPACTION
2	12-17-99	SOUTH ACCESS RD; W OF CENTRAL PORTION	S.G.	CF	154.1	145.2	6.1	101.5	90	" "
3	12-17-99	SOUTH ACCESS RD; CENTRAL PORTION	S.G.	CF	158.9	150.0	5.9	104.9	90	" "
4	12-17-99	SOUTH ACCESS RD; E. OF CENTRAL PORTION	S.G.	CF	159.6	149.8	6.6	104.7	90	" "
5	12-17-99	SOUTH ACCESS RD; E. END; S. of ℄	S.G.	CF	158.5	149.9	5.7	104.8	90	" "
6	12-17-99	INTERSECTION OF SOUTH & EAST ACCESS RDS.	S.G.	CF	158.6	150.2	5.5	105.0	90	" "
7	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	157.0	149.6	5.0	104.5	90	" "
8	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	158.0	150.8	4.8	105.3	90	" "
9	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	145.3	139.6	4.1	97.6	90	" "
10	12-17-99	EAST ACCESS RD; SOUTH END	S.G.	CF	154.2	147.7	4.4	103.2	90	" "
		[STRUCTURAL FILL ON WEST SLOPE]								
11	12-17-99	CAP WEST SLOPE; UPPER 1/3 OF SLOPE	TOP STRUCT. FILL	SF	130.0	123.6	5.2	85.2	85	SATISFACTORY COMPACTION
12	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	124.7	118.7	5.1	81.8	85	ADDITIONAL COMPACTION REQUIRED
13	12-17-99	CAP WEST SLOPE; UPPER SLOPE	" "	SF	133.3	126.8	5.1	87.4	85	SATISFACTORY COMPACTION
14	12-17-99	CAP WEST SLOPE; LOWER SLOPE	" "	SF	132.0	125.9	4.8	86.8	85	" "
15	12-17-99	CAP WEST SLOPE; RE-TEST OF TEST #12 AFTER RE-COMPACTION	" "	SF	132.5	126.2	5.0	87.0	85	RE-TEST OF TEST #12 AFTER RE-TRACK; O.K.
16	12-17-99	CAP WEST SLOPE NEAR S.W. COR.; UPPER SLOPE	" "	SF	129.0	124.1	3.9	85.6	85	SATISFACTORY COMPACTION
17	12-17-99	CAP SOUTHWEST CORNER; LOWER SLOPE	" "	SF	130.8	125.6	4.6	86.2	85	" "
18	12-17-99	CAP SOUTHWEST CORNER; MID-SLOPE	" "	SF	131.4	125.4	4.8	86.4	85	" "

NOTES: SEE ATTACHED PARTIAL PLAN FOR ACTUAL TEST LOCATIONS

MOISTURE STD. COUNT 621 (PASS)
DENSITY STD. COUNT 3042 (PASS)

MATERIAL TYPE	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (PCF)	DESCRIPTION
CF	7.1%	143.1 PCF	CONTROLLED FILL
SF	8.6%	145.1 PCF	STRUCTURAL FILL

GeoSystems Consultants
Consultants in Geo-Engineering

514 Pennsylvania Avenue
Fort Washington, PA 19034
Phone: 215-654-9600; Fax: 215-643-9440

Daily Construction Report

Project: MILLINGTON ASBESTOS DUMP OU-1 SUPERFUND SITE
No. 99 G 343 Date: 21 DEC. 1999 Day: -TUES.-
Location: HAAS ROAD, MILLINGTON, NJ

Material: STRUCTURAL FILL / CONTROLLED FILL Fill Delivered: N/A Placed: ✓ CF
Owner: Representative:
Client: IT CORPORATION Representative: DAVE AMBROSE/CHIP STROTZ
Contractor: IT CORPORATION Representative: " "
Time on Site: GSC: 8:59 Contractor: 7:00 Weather: PTLY SUNNY, CLOUDY, COLD (HIGH 46°F)
Compaction Equipment: 1-INGERSOLL RAND MODEL SD-40D SMOOTH-DRUM VIBRATORY ROLLER
Construction Equipment: 1-CATERPILLAR MODEL D-5 LGP BULLDOZER; 1-CAT RUBBER TIRE F.E. LOADER

(Report all observations and document any recommendations made)

WRITER ARRIVED ONSITE AT THE REQUEST OF DAVE AMBROSE, IT ONSITE MANAGER, TO PERFORM IN-PLACE DENSITY TESTING ON STRUCTURAL FILL (SF012SL) MATERIAL PLACED OVER THE DISPOSAL AREA AT THE SOUTH END OF THE SITE CAPPING AREA AND ON CONTROLLED FILL MATERIAL (CF011SL) PLACED AND CURRENTLY BEING PLACED IN THE SITE EAST AND NORTH ACCESS ROADS.

THE WRITER PERFORMED IN-PLACE DENSITY TESTING AT THE TOP OF THE STRUCTURAL FILL LAYER OVER THE SOUTH SLOPE, EAST SLOPE, AND TOP OF THE DISPOSAL AREA AT THE SOUTH END OF THE SITE AND AT FINISH GRADE OF THE CONTROLLED FILL IN THE SITE EAST AND NORTH ACCESS ROADS USING A TROXLER MODEL 3440 NUCLEAR MOISTURE/DENSITY GAUGE. TESTING WAS PERFORMED AT REPRESENTATIVE FILL LOCATIONS TO ENSURE TESTING COVERAGE SATISFYING THE PROJECT SPECIFICATION'S REQUIRED IN-PLACE DENSITY TEST FREQUENCY OF AT LEAST ONE TEST PER 5000 SQ. FT. OF FILL AREA. SEE THE ATTACHED PARTIAL SITE PLANS (PAGES 2&3 of 4) AND THE SUMMARY OF IN-PLACE DENSITY TEST RESULTS FOR THE ACTUAL TEST LOCATIONS AND INDIVIDUAL TEST DATA FOR THE IN-PLACE DENSITY TESTS PERFORMED TODAY.

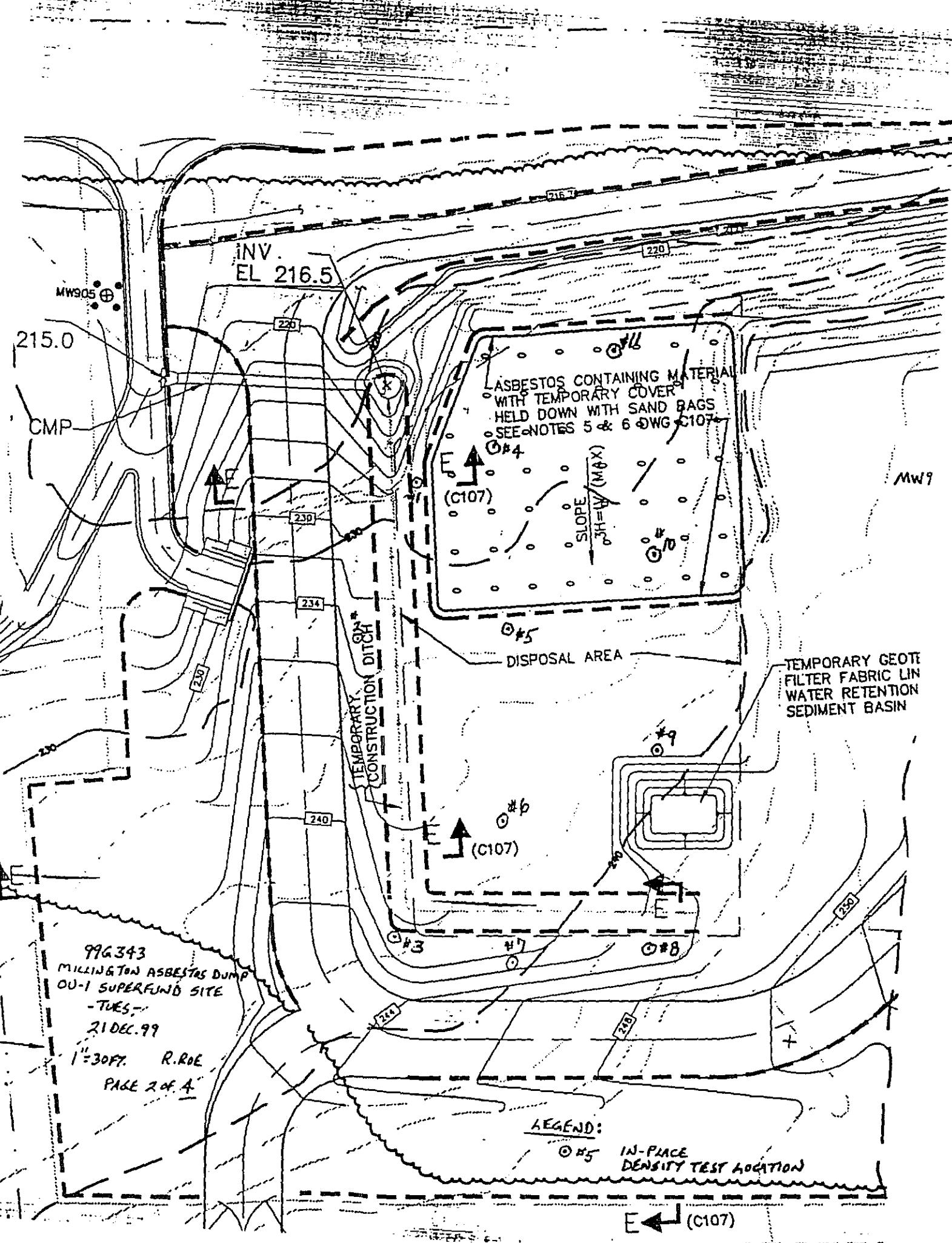
ALL IN-PLACE DENSITY TESTS PERFORMED ON THE STRUCTURAL FILL AREA TESTED TODAY (TESTS NO. 1 THROUGH NO. 11) INDICATED IN-PLACE RELATIVE COMPACTION GREATER THAN 85 PERCENT. ALL IN-PLACE DENSITY TESTS PERFORMED ON THE CONTROLLED FILL IN THE SITE EAST AND NORTH ACCESS ROADS TODAY INDICATED IN-PLACE RELATIVE COMPACTION GREATER THAN 90 PERCENT (TESTS NO. 12→18)

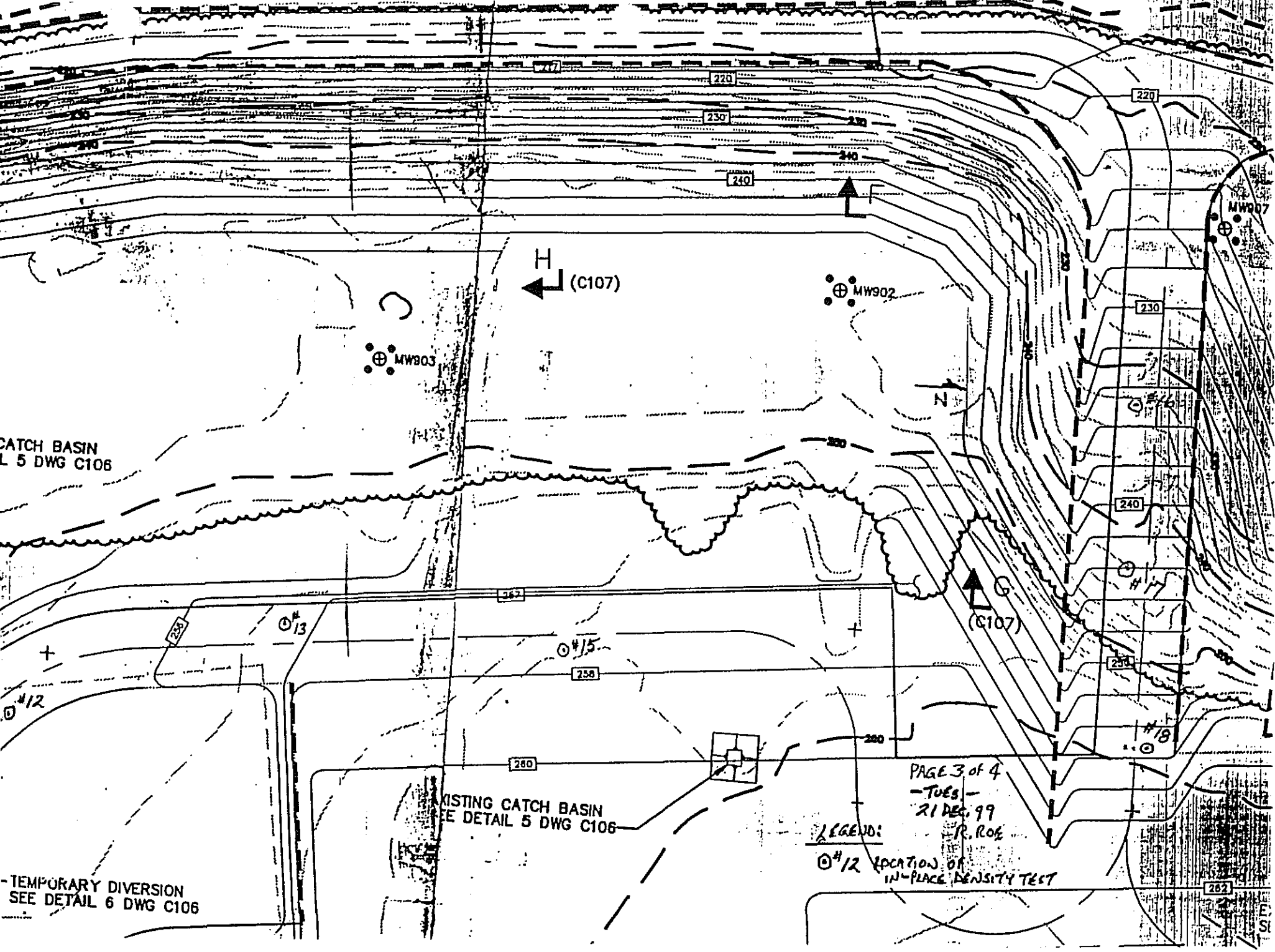
DAVE AMBROSE INFORMED THE WRITER THAT HE WOULD BE CONTACTING ART DVINOFF AT THE GEOSYSTEMS, FT. WASHINGTON, PA OFFICE TO INFORM HIM OF A FINAL GEOTEXTILE SAMPLE THAT WAS SHIPPED BY IT CORPORATION FOR LABORATORY CONFORMANCE TESTING.

IT D5 LGP BULLDOZER, FE LOADER, & INGERSOLL RAND ROLLER PLACED AND COMPACTED CONTROLLED FILL AT THE NORTH END OF THE SITE EAST ACCESS ROAD AND THE NORTH ACCESS ROAD TODAY.

THE WRITER LEFT THE SITE FOR TODAY AT 13:25 AFTER VERIFICATION WITH CHIP STROTZ THAT ADEQUATE TESTING COVERAGE HAD BEEN COMPLETED.

Technician/Engineer Richard T. Bol


INV.
EL 216.5
MW905
215.0
CMP
220
230
234
240
244
248
250
216.7
ASBESTOS CONTAINING MATERIAL
WITH TEMPORARY COVER
HELD DOWN WITH SAND BAGS
SEE NOTES 5 & 6 DWG C107
SLOPE
3H=1V (MAX)
(C107)
DISPOSAL AREA
TEMPORARY
CONSTRUCTION DITCH
TEMPORARY GEOTE
FILTER FABRIC LIN
WATER RETENTION
SEDIMENT BASIN
MW9
#3
#4
#5
#6
#7
#8
#9
#10
#11
99G343
MILLINGTON ASBESTOS DUMP
OU-1 SUPERFUND SITE
-TUES.-
21 DEC. 99
1"=30FT.
R. ROE
PAGE 2 of 4
LEGEND:
#5 IN-PLACE
DENSITY TEST LOCATION


220
230
240
F
H
(C107)
MW902
MW903
MW907
N
CATCH BASIN
L 5 DWG C106
G
(C107)
#13
#15
#12
#16
#17
#18
258
260
262
EXISTING CATCH BASIN
SEE DETAIL 5 DWG C106
TEMPORARY DIVERSION
SEE DETAIL 6 DWG C106
PAGE 3 of 4
-TUES-
21 DEC. 99
R. ROE
LEGEND:
#12 LOCATION OF IN-PLACE DENSITY TEST

SUMMARY OF IN-PLACE DENSITY TEST RESULTS

PROJECT NAME: MILLINGTON SUPERFUND SITE PROJECT LOCATION: MILLINGTON, NJ PROJECT NO.: 99G343

TEST NUMBER	DATE TESTED	LOCATION OF TEST	TEST ELEVATION	MATERIAL TYPE	WET DENSITY (PCF)	DRY DENSITY (PCF)	WATER CONTENT (%)	RELATIVE COMPACTION (%)	REQUIRED RELATIVE COMPACTION (%)	REMARKS
1	12-21-99	CAP SOUTH SLOPE; UPPER SLOPE	TOP OF STRUCT. FILL	SF	131.2	123.4	6.3	85.1	85%	SATISFACTORY COMPACTION
2	12-21-99	CAP SOUTH SLOPE; LOWER SLOPE	" "	SF	132.5	124.4	6.5	85.8	85	" "
3	12-21-99	CAP S.E. CORNER; MID-SLOPE	" "	SF	131.6	124.4	5.8	85.8	85	" "
4	12-21-99	TOP OF DISPOSAL AREA CAP; WEST END	" "	SF	139.1	129.5	7.4	89.3	85	" " ; COMPACTED W/ROLLER
5	12-21-99	TOP OF DISPOSAL AREA CAP; SOUTH-CENTRAL PORTION	" "	SF	136.0	126.8	7.2	87.4	85	" " ; " "
6	12-21-99	TOP OF DISPOSAL AREA CAP; SOUTH EAST PORTION	" "	SF	141.9	133.7	6.1	92.1	85	" " ; " "
7	12-21-99	DISPOSAL AREA EAST SLOPE; CENTER	" "	SF	138.1	130.0	6.2	89.6	85	" " ; " "
8	12-21-99	DISPOSAL AREA EAST SLOPE; NORTH SIDE	" "	SF	142.0	134.2	5.9	92.5	85	" " ; " "
9	12-21-99	TOP OF DISPOSAL AREA CAP; NORTH SIDE	" "	SF	142.1	134.4	5.8	92.6	85	" " ; " "
10	12-21-99	TOP OF DISPOSAL AREA CAP; NORTH SIDE	" "	SF	136.0	127.4	6.7	87.8	85	" " ; " "
11	12-21-99	TOP OF DISPOSAL AREA CAP; WEST END	" "	SF	140.3	133.0	5.5	91.7	85%	" " ; " "
12	12-21-99	EAST ACCESS RD; SOUTH-CENTRAL PORTION	FG	CF	147.6	140.5	5.0	98.2	90%	SATISFACTORY COMPACTION
13	12-21-99	EAST ACCESS RD; CENTRAL PORTION	FG	CF	153.3	144.0	6.4	100.6	90	" "
14	12-21-99	EAST ACCESS RD; CENTRAL PORTION	FG	CF	146.5	140.2	4.5	98.0	90	TEST LOCATION REQUESTED BY USACOE REP.; SATISFACTORY COMPACTION
15	12-21-99	EAST ACCESS RD; NORTH PORTION	FG	CF	144.7	133.7	8.2	93.4	90	SATISFACTORY COMPACTION
16	12-21-99	NORTH ACCESS RD; MID-SLOPE	FG	CF	140.5	135.2	4.0	94.5	90	" "
17	12-21-99	NORTH ACCESS RD; UPPER SLOPE	FG	CF	141.4	136.4	3.7	95.3	90	" "
18	12-21-99	NORTH ACCESS RD; UPPER SLOPE	3" BELOW FG	CF	147.7	141.9	4.1	99.2	90	SATISFACTORY COMP

NOTES: SEE ATTACHED PARTIAL PLANS FOR ACTUAL TEST LOCATIONS

MOISTURE STANDARD COUNT = 619 (PASS)
DENSITY STANDARD COUNT = 3031 (PASS)

MATERIAL TYPE	DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM WATER CONTENT (%)
SF	STRUCTURAL FILL	145.1	8.2%
CF	CONTROLLED FILL	143.1	7.7%

Appendix E

Attn: Tom L.

CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Creamer Environmental
101 E. Broadway - Hackensack, NJ 07601

DATE CAST: 8-24-99

PROJECT: Millington Asbestos Dump

DATE REC'D: 8-27-99

TEST REQUIRED: Compressive Strength: 4000 PSI

LAB NO.: B-313-99

REPORT NO.: C-1

MATERIAL: Concrete

SAMPLED BY: L. Schneider

LOCATION OF POUR: Piers #8,9,10,11 & 13

Corrected Copy

SPECIMEN NO.	CONDITION OF SPECIMEN	AREA OF SPECIMEN	DATE TESTED	AGE OF SPECIMEN	TYPE OF FRACTURE	TOTAL LOAD LBS.	COMPRESSIVE STRENGTH (PSI)
CE-1	Satis.	28.27	8-27	3	Cone	82,000	2900
				3	Cone	83,500	2950
			8-31	7	Cone	106,500	3780
				7	Cone	105,150	3720
			9-21	28	Cone	129,000	4560
				28	Cone	130,000	4600
			9-21	28	Cone	129,500	4580
			11-21	90	cone shear	145,000	5130
			11-21	90	cone	141,500	5010
			11-21	90	cone	146,500	5180

SET NO.: 1

SLUMP (ASTM C143): 3"

AIR CONTENT (ASTM C231/C173): 5.0%

TEMPERATURE OF CONCRETE (ASTM C1064): 80°

AMBIENT TEMPERATURE: 81°

TRUCK NO.: 216

TIME OF CASTING: 12:15pm

Specimen cured in accordance with ASTM C31/C192.

REPORTED TO: 2 above

RESPECTFULLY SUBMITTED,
CERTIFIED TESTING LABORATORIES, INC.

Joseph Ciozzo

Joseph Ciozzo, Vice President

Main Office
155 U.S. Route 130 • Bordentown, NJ 08505 • (609) 298-3255

1jh

CERTIFIED TESTING LABORATORIES, INC

Creamer Environmental

CLIENT: 101 E. Broadway - Hackensack, NJ 07601 DATE CAST: 9-1-99

PROJECT: Millington Asbestos Dump DATE REC'D: 9-3-99

TEST REQUIRED: Compressive Strength: 4000 PSI LAB NO.: B-313-99

REPORT NO.: C-2

MATERIAL: Concrete SAMPLED BY: E. Squibb

LOCATION OF POUR: Cassion Footings for Retaining Walls

SPECIMEN NO.	CONDITION OF SPECIMEN	AREA OF SPECIMEN	DATE TESTED	AGE OF SPECIMEN	TYPE OF FRACTURE	TOTAL LOAD LBS.	COMPRESSIVE STRENGTH (PSI)
CE-2	Satis.	28.27	9-4	3	Cone	100,500	3560
			9-4	3	Cone	96,500	3410
			9-4	3	Cone & Shear	98.000	3470
			9-8	7	Cone & Shear	104,000	3680
			9-8	7	Shear	103,000	3640
			9-29	28	Cone	116,000	4100
			9-29	28	Shear	112,000	3960
			9-29	28	Cone	114,500	4050
			11-29	90	cone shear	136,500	4830
			11-29	90	cone shear	139,000	4920

SET NO.: 1,2,3,4,5

SLUMP (ASTM C143): 1½",2¼",2 3/4",3½",1 3/4", 3½"

AIR CONTENT (ASTM C231/C173): 4%,6½%,6 3/4%,6½%,5½%,6 3/4%

TEMPERATURE OF CONCRETE (ASTM C1064): 78°,78°,78°,78°,78°,78°

AMBIENT TEMPERATURE: 76°

TRUCK NO.: 62,80,74,3,74,52

TIME OF CASTING: 9:15,11:15,1:30,2:15,4:00,4:30

Specimen cured in accordance with ASTM C31/C192.

REPORTED TO: 2 above

RESPECTFULLY SUBMITTED,
CERTIFIED TESTING LABORATORIES, INC.

Joseph Guozzo

Joseph Guozzo, Vice President

1jh

Main Office
155 U.S. Route 130 • Bordentown NJ 08505 • (609) 298-0255

CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Creamer Environmental
101 E. Broadway - Hackensack, NJ 07601

DATE CAST: 9-9-99

PROJECT: Millington Asbestos Dump

DATE REC'D: 9-13-99

TEST REQUIRED: Compressive Strength: 3000 PSI

LAB NO.: B-313-99

REPORT NO.: C-3

MATERIAL: Concrete

SAMPLED BY: B. Singh

LOCATION OF POUR: Piers

SPECIMEN NO.	CONDITION OF SPECIMEN	AREA OF SPECIMEN	DATE TESTED	AGE OF SPECIMEN	TYPE OF FRACTURE	TOTAL LOAD LBS.	COMPRESSIVE STRENGTH (PSI)
CE-3	Satis.	28.27	9-13	4	Shear	105,000	3720
			9-13	4	Cone	108,500	3840
			9-13	4	Cone	107,500	3800
			9-16	7	Cone	110,000	3890
			9-16	7	Cone	111,500	3940
			9-16	7	Cone	110,500	3910
			10-7	28	shear	115,500	4090
			10-7	28	cone	134,000	4740
			10-7	28	cone	145,000	5130
			10-7	28	shear	136,500	4830
			10-7	28	shear	118,000	4170
			12-7	90	Cone	150,000	5310
			12-7	90	Cone	165,000	5840
			12-7	90	Cone/Shear	155,000	5480

SET NO.: 14 cylinders

SLUMP (ASTM C143): 3½"/2½",3½",3½",3",3½",3"

AIR CONTENT (ASTM C231/C173): 5½%,6%,6%,6½%,6½%,6%,7%

TEMPERATURE OF CONCRETE (ASTM C1064): 84°,85°,84°,86°,85°,86°,88°

AMBIENT TEMPERATURE: 75°,78°,83°

TRUCK NO.: 1,2,3,4,5,6,7

TIME OF CASTING: 8:35,9:15,9:45,10:35,11:15,11:50,12:45

Specimen cured in accordance with ASTM C31/C192.

REPORTED TO: 2 above

RESPECTFULLY SUBMITTED,
CERTIFIED TESTING LABORATORIES, INC.

Joseph Cuozzo

Joseph Cuozzo, Vice President

ljh

Main Office
755 U.S. Route 130 • Bordentown, NJ 08505 • (609) 298-3255

CTL

CERTIFIED TESTING LABORATORIES, INC.

Creamer Environmental

T: 101 E. Broadway - Hakensack, NJ 07601

DATE CAST: 9-27-99

CT: Millington Asbestos Dump

DATE REC'D: 9-29-99

EQUIRED: Compressive Strength: 4000 PSI

LAB NO.: B-313-99

REPORT NO.: C-4

AL: concrete

SAMPLED BY: R.ALberts

ON OF POUR: Footings of COlumns for retaining wall, columns #31-44

EN	CONDITION OF SPECIMEN	AREA OF SPECIMEN	DATE TESTED	AGE OF SPECIMEN	TYPE OF FRACTURE	TOTAL LOAD LBS.	COMPRESSIVE STRENGTH (PSI)
	satisfact.	28.27	9-30	3		106,000	3750
			9-30	3		101,500	3590
			9-30	3		103,500	3660
			9-30	3		101,500	3590
			10-4	7		116,000	4100
			10-4	7		114,500	4050
			10-4	7		117,000	4140
			10-4	7		117,500	4160
			10-11	14		124,500	4400
			10-11	14		121,000	4280
			10-11	14		124,000	4390
			10-11	14		119,000	4210
			10-25	28		150,000	5310
			10-25	28		120,000	4250
			10-25	28		139,500	4930
			10-25	28		141,000	4990
			12-25	90		151,500	5360
			12-25	90		166,000	5660
			12-25	90		149,000	5270
1,2,3,4,5			12-25	90		153,500	5430

STM C143): 3¼", 4½", 4¼", 3½" , 4

INT (ASTM C231/C173): 4.5, 5.0 ,6.0 , 5.5, 7.0 %

RE OF CONCRETE (ASTM C1064): 84, 86, 87, 85, 88°

EMPERATURE: 80°

:

ASTING:

cured in accordance with ASTM C31/C192.

TO:

ove

RESPECTFULLY SUBMITTED,
CERTIFIED TESTING LABORATORIES, INC.

Joseph Cuozzo

Joseph Cuozzo, Vice President

Main Office
155 U.S. Route 130 • Bordentown

Appendix F

NONCONFORMANCE/DEFICIENCY REPORT TRACKING LOG

Description	Specification Section	Date Identified	NCR No.	Corrective Action Verification		NCR Closeout Date
				Date Corrected	Inspector	
VOC not analyzed in the allotted time	25605	6/22	1	6/25	DA	7/6
Damage to MW903	4700	6/30	2	10/12/99	DA	10/15/99
Decontamination performed inadequate	Appendix A	7/14	3	7/15	DA	12/17
Spotter not being used while backing vehicle	Appendix A	7/30	4	7/30	DA	12/17
Hydraulic Oil Spill	5120	8/2	5	10/19	DA	10/25
Concrete placement	7960	8/20, 8/24	6	9/28	DA	9/28
'eel & concrete H-piles 8-11, 13-18	5120	8/27	7	9/29	DA	9/30
Rock socket for piers 31 and 36 not plumb	6481	9/13, 9/15	8	9/24	DA	9/27
Damage to silt fence & ConCover	14920	9/17	9	9/24	DA	9/27
Boring 44 filled with material	6481	9/23	10	9/24	DA	9/27
Paint touch ups	9900	37127	11	8/25	DA	5/15
Panel Damage	5120	10/21	12	10/21	DA	5/15
Sono tube damage/installation deficiency	025605C6	10/26	13	10/26	DA	5/15
Soil Cover on the ACM Cap slopes above retaining wall	24800	10/29	14	11/29	DA	5/15

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**025605 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** STL Lab	5	**DATE INDENTIFIED:** 6/22/99	6	**NCR NO.** 001

7 **DESCRIPTION OF NON-CONFORMANCE:**

VOC analysis for CF009SL was not performed in the allotted time.

PREPARED BY: D. Ambrose DATE: 6/22/99
Quality Control Representative

REVIEWED BY: D. Ambrose DATE: 6/22/99
Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 6/25/99

Corrective action,resample and analyze material in accordance with specification.

RECOMMENDED BY: Paul Simms (STL) DATE: 6/25/99

REVIEWED BY: D. Ambrose DATE: 6/25/99
Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

IT environmetal technitian resamples material for VOC analysis. Analysis completed in allotted time.

IMPLEMENTED BY: Paul Simms (STL) DATE: 6/26/99

VERIFIED BY: D. Ambrose DATE: 6/26/99
Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 7/6/99

Paul M. Ambrose
Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:** 04700 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** MW903	5	**DATE INDENTIFIED:** 6/30/99	6	**NCR NO.** 002

7 **DESCRIPTION OF NON-CONFORMANCE:**

MW903 was damaged during clearing and grubbing operations. Stainless steel riser pipe is bent approximately 3 ft. below existing grade.

PREPARED BY: D.Ambrose DATE: 6/30/99

Quality Control Representative

REVIEWED BY: D. Ambrose DATE: 6/30/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 10/6/99

Corrective action will be completed during well extention activities. Monitoring well extention plan submitted for USACE review.

RECOMMENDED BY: Frank Russo (IT) DATE: 9/29/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/29/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed in accordance with well extention plan. In addition, the integrity of the well was checked with a bailer and found to be in satisfactory condition.

IMPLEMENTED BY: Frank Russo (IT) DATE: 10/12/99

VERIFIED BY: D. Ambrose DATE: 10/12/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:**

David M. Ambrose 10/15/99

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:** Appendix A **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Decon	5	**DATE IDENTIFIED:** 7/14/99	6	**NCR NO.** 003

7 **DESCRIPTION OF NON-CONFORMANCE:**

Dump truck was not deconned sufficiently prior to demobilization from site.

PREPARED BY: D. Ambrose DATE: 7/14/99

Quality Control Representative

REVIEWED BY: D. Ambrose DATE: 7/14/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 7/14

Corrective action was implemented immediately. All vehicles will be inspected by the Health and Safety officer and QCSM prior to demobilization.

RECOMMENDED BY: Tracey Estes (H & S) DATE: 7/14/99

REVIEWED BY: D. Ambrose DATE: 7/14/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

On going corrective action performed, all vehicles inspected prior to demobilization. Close - out will be completed upon final inspection of decontamination activities.

IMPLEMENTED BY: Ross DeAmbrogio (IT) DATE: 12/17/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 12/17/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 12/17/99

David M. Ambrose

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:** Appendix A **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** S. Road	5	**DATE INDENTIFIED:** 7/30/99	6	**NCR NO.** 004

7 **DESCRIPTION OF NON-CONFORMANCE:**

Fuel truck backed down south access road and struck Creamer support truck causing minimal damage. A spotter was not being during activity.

PREPARED BY: T. Estes (H & S) DATE: 7/30/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 7/30/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 7/30

Corrective action implemented immediately. All vehicles must have a spotter when backing up NCR

RECOMMENDED BY: Tracey Estes (H & S) DATE: 7/30/99

REVIEWED BY: D. Ambrose DATE: 7/30/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

On going corrective action performed, all vehicles must have spotter when backing up.
NCR close out when site activities are completed.

IMPLEMENTED BY: Ross DeAmbrogio (H & S) DATE: 10/25/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 10/25/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 12/17/99

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**05120 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** platform	5	**DATE IDENTIFIED:** 8/2	6	**NCR NO.** 005

7 **DESCRIPTION OF NON-CONFORMANCE:**

Hydraulic oil spill from drill rig

PREPARED BY: D. Ambrose DATE: 8/3/99

Quality Control Representative

REVIEWED BY: D. Ambrose DATE: 8/3/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 8/3

Corrective action was implemented immediately. Precautions taken to prevent further leakage. Contaminated material removed and placed in disposal area. Contaminated material will be properly disposed of off site.

RECOMMENDED BY: F. Russo (Site Engineer) DATE: 8/3/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 8/3/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Material removed from site and transported to disposal facility. Proper manifests maintained.

IMPLEMENTED BY: F. Russo (Site Engineer) DATE: 10/19

VERIFIED BY: D. Ambrose (QCSM) DATE: 10/19

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 10/25

David M. Ambrose

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**07960 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** H-piles	5	**DATE INDENTIFIED:** 8/20/99 & 8/24/99	6	**NCR NO.** 006

7 **DESCRIPTION OF NON-CONFORMANCE:**

Air entrainment results not in accordance with specification and accepted mix design.

PREPARED BY:	D. Ambrose Quality Control Representative	DATE:	8/20/99
REVIEWED BY:	D. Ambrose Quality Control System Manager	DATE:	8/20/99

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** NA

Corrective action was implemented immediately, concrete not in compliance with specification was rejected. In addition, all concrete that does not meet the requirements will be rejected.

RECOMMENDED BY:	F. Russo (Site Engineer)	DATE:	8/20/99
REVIEWED BY:	D. Ambrose (QCSM) Quality Control Representative	DATE:	8/20/99

10 **CORRECTIVE ACTION VERIFICATION:**

On going corrective action performed during concrete placement activities.

IMPLEMENTED BY:	F. Russo (Site Engineer)	DATE:	9/1, 9/8, & 9/28/99
VERIFIED BY:	D. Ambrose (QCSM) Quality Control Representative	DATE:	9/1, 9/8, & 9/28/99

11 **NCR CLOSE-OUT**

	David M. Chlose Quality Control System Manager	**DATE:**	9/28/99

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**05120 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** H-piles	5	**DATE IDENTIFIED:** 8/27/99	6	**NCR NO.** 007

7 **DESCRIPTION OF NON-CONFORMANCE:**

H-piles and concrete set at incorrect elevations for piers 8, 9, 10, 11, 13, 14, 15, 16, 17, and 18.

PREPARED BY: C. Bonnett (Foreman) DATE: 8/27/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 8/27/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 9/30/99

Corrective action will be to bring steel and concrete to contract elevation of 228' and 218' respectively. Corrective action plan submitted and accepted by USACE. Color to match existing beam.

RECOMMENDED BY: C. Bonnett (Foreman) DATE: 9/8/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/8/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed. Survey information available

IMPLEMENTED BY: C. Bonnett (Foreman) DATE: 9/29/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 9/29/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 9/30/99

David M. Ambrose

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**06481 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Borings 31 & 36	5	**DATE IDENTIFIED:** 9/13/99 & 9/15/99	6	**NCR NO.** 008

7 **DESCRIPTION OF NON-CONFORMANCE:**

Clearance not maintained between reinforcing steel, H-pile and rock socket.

PREPARED BY: C. Bonnett (Foreman) DATE: 9/13/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/13/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 9/28/99

Corrective action will be to increase the diameter of the rock socket in order to maintain clearance.

RECOMMENDED BY: C. Bonnett (Foreman) DATE: 9/14/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/14/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed prior to concrete pour. Minimum clearance maintained.

IMPLEMENTED BY: C. Bonnett (Foremam) DATE: 9/24/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 9/24/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 9/27

David M. Ambrose

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:** 14920 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Site	5	**DATE IDENTIFIED:** 9/17/99	6	**NCR NO.** 009

7 **DESCRIPTION OF NON-CONFORMANCE:**

Damage to silt fence and Concover from heavy rains.

PREPARED BY: D. Ambrose (QCSM) DATE: 9/17/99

Quality Control Representative

REVIEWED BY: D. Amabrose (QCSM) DATE: 9/17/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 9/20/99

Corrective action will be to repair and replace silt fence and ConCover as required.

RECOMMENDED BY: F. Russo (Site Engineer) DATE: 9/20/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/20/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

On going corrective action, close out upon completion of site activities.

IMPLEMENTED BY: F. Russo (Site Engineer) DATE: 9/20/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 9/20/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 12/17/99

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**06481 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Boring 44	5	**DATE IDENTIFIED:** 9/23/99	6	**NCR NO.** 010

7 **DESCRIPTION OF NON-CONFORMANCE:**

Boring 44 filled with material from north access road during heavy rains.

PREPARED BY: F. Russo (Site Engineer) DATE: 9/23/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/23/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 9/24/99

Corrective action will be to remove material with Vac truck.

RECOMMENDED BY: F. Russo (Site Engineer) DATE: 9/24/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 9/24/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Material removed from boring prior to placing concrete. Visual inspection of bottom of boring completed by USACE and IT representatives.

IMPLEMENTED BY: F. Russo (Site Engineer) DATE: 9/27/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 9/27/99

Quality Control Representative

11 **NCR CLOSE-OUT** Ron Ambrose **DATE:** 9/27/99

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**09900 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** H-piles	5	**DATE INDENTIFIED:** 8/25/99	6	**NCR NO.** 011

7 **DESCRIPTION OF NON-CONFORMANCE:**

Minor touch ups to paint required on H-pile flanges and faces. Damage resulting from site operations.

PREPARED BY: C. Strotz (Site Engineer) DATE: 8/25/99
Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 8/25/99
Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 5/1/00

Corrective action will be to grind reprime and repaint beams as required. Ongoing deficiency additional damage identified 10/19/99. Corrective action will be completed upon removal of working platform or when weather allows.

RECOMMENDED BY: F. Russo (Site Engineer) DATE: 8/25/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 8/25/99
Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed 8/25/00. Painting and grinding of beams completed as required.

IMPLEMENTED BY: Chip Stotz (Site Engineer) DATE: 8/25/00

VERIFIED BY: Dave Ambrose (QCSM) DATE: 8/25/00
Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 5/15/01

David M. Ambrose
Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**05120 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Retaining Wall	5	**DATE INDENTIFIED:** 10/21/99	6	**NCR NO.** 012

7 **DESCRIPTION OF NON-CONFORMANCE:**

Minor damage to pre-cast concrete panels(ie chips to concrete). Damage resulting from site operations.

PREPARED BY: F. Russo (Site Engineer) DATE: 10/21/00

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 10/21/00

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 11/30/99

Corrective action will be to make repairs to panels with motar to match panels. Work will be completed upon removal of the working platform.

RECOMMENDED BY: F.Russo (Site Engineer) DATE: 10/21/00

REVIEWED BY: D. Ambrose (QCSM) DATE: 10/21/00

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed 5/15/01. Repairs to panels completed as required

IMPLEMENTED BY: C. Strotz (Site Engineer) DATE: 5/15/01

VERIFIED BY: D. Ambrose (QCSM) DATE: 5/15/01

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 5/15/01

David M. Ambrose

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**025605 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Sono Tubes/ M-Wells	5	**DATE IDENTIFIED:** 10/26	6	**NCR NO.** 013

7 **DESCRIPTION OF NON-CONFORMANCE:**

Sono tubes damaged and properly centered.

PREPARED BY: D. Ambrose (QCSM) DATE: 10/26/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 10/26/99

Quality Control System Manager

8 **DISPOSITION:** 9 **ANTICIPATED CORRECTION DATE :** 05/01/00

Corrective action will be to make replace and realign sono tubes as required.

RECOMMENDED BY: D. Ambrose (QCSM) DATE: 10/26/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 10/26/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Realignment of sono tubes completed and repairs to monitoring wells completed as required.

IMPLEMENTED BY: F. Russo (Site Engineer) DATE: 10/26/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 10/26/99

Quality Control Representative

11 **NCR CLOSE-OUT** **DATE:** 5/15/01

David M. Chase

Quality Control System Manager

DEFICIENCY/NONCONFORMANCE REPORT

1	**PROJECT NAME:** *Millington Asbestos Dump Superfund Site*	2	**SPECIFICATION SECTION:**05120 **OR DRAWING NO.**	3	**JOB NO.** 780601
4	**LOCATION:** Retaining Wall	5	**DATE INDENTIFIED:** 10/21/99	6	**NCR NO.** 014

7 **DESCRIPTION OF NON-CONFORMANCE:**

In adequate soi cover on the slopes above the reataining wall

PREPARED BY: F. Russo (Site Engineer) DATE: 10/29/99

Quality Control Representative

REVIEWED BY: D. Ambrose (QCSM) DATE: 10/29/99

Quality Control System Manager

8 **DISPOSITION:**

9 **ANTICIPATED CORRECTION DATE :** 11/30/99

Corrective action will be to place additional clean fill and revise slope grades which range from 35 to 51 degrees slope.

RECOMMENDED BY: C. Strotz (Site Engineer) DATE: 11/2/99

REVIEWED BY: D. Ambrose (QCSM) DATE: 11/2/99

Quality Control Representative

10 **CORRECTIVE ACTION VERIFICATION:**

Corrective action completed 11/30/99 so that all slopes had a minum of 24 " of cover material over ACM.

IMPLEMENTED BY: C. Strotz (Site Engineer) DATE: 11/30/99

VERIFIED BY: D. Ambrose (QCSM) DATE: 11/30/99

Quality Control Representative

11 **NCR CLOSE-OUT** D. Ambrose (QCSM) **DATE:** 5/15/01

Quality Control System Manager

Millington Asbestos Dump Site
Personal TEM Air Sampling Results

Date	Sample Number	Title	LOP	TEM Result	Note
6/28/99	ASO33P1062899	Laborer	D	0.003	
7/2/99	ASO57P207299	EO	C	0.002	
7/8/99	ASO75P207899	EO	C		**
7/23/99	ASO156P2072399	EO	C	0.002	
7/26/99	ASO167P1	Dump Truck Driver	C	0.036	***
7/26/99	ASO168P2	Surveyor	C	0.016	***
8/6/99	ASO241P208699	Drill Operator	D	0.002	
8/13/99	ASO272P181399	Drill Operator	D		*
8/20/99	ASO297P2082099	Drill Operator	D		*
10/7/99	ASO414P1-100799	EO	D	0.002	
11/18/99	ASO536P2	Laborer	D		*

All TEM results in fibers per cm^2 (f/cc)
* Below Level of detection (LOD).
** Sample was overloaded
*** Excursion - 30 minute sample

Summary

Mean	0.009
Std. Dev.	0.012974334
Min	0.002
ax	0.036

Sample Date	Personnel	Job Title	Task being conducted	PCM Results	Description	TEM
29-Jun-99	Dean Schmidt	Remediation Technician	Clearing debris near asbestos mound	0.004		0.003
6-Jul-99	Dean Schmidt	Remediation Technician	Working adjacent to grading operations	0.002	<LOD	
8-Jul-99	Dean Schmidt	Remediation Technician	Working in the support zone	0.009		
22-Jul-99	Dean Schmidt	Remediation Technician	Working adjacent to asbestos dumping area	0.005		
4-Aug-99	Dean Schmidt	Remediation Technician	Working in support zone	0.004		
30-Jun-99	Joe Heltman	Remediation Technician	Clearing debris near asbestos mound	0.01		
7-Jul-99	Joe Heltman	Remediation Technician	Working in the support zone	0.004		
9-Jul-99	Joe Heltman	Remediation Technician	Working adjacent to grading operations	0.005		
1-Jul-99	Taknocca Ashe	Remediation Technician	Working near grading operations	0.002	<LOD	
12-Jul-99	Taknocca Ashe	Remediation Technician	Working adjacent to grading operation	0.006		
16-Jul-99	Taknoca Ashe	Remediation Technician	Working adjacent to excavating asbestos mat	0.003		
23-Jul-99	Taknocca Ashe	Remediation Technician	Working adjacent to asbestos dumping area	0.006		
23-Jul-99	Taknocca Ashe	Remediation Technician	Working adjacent to asbestos dumping area	0.002	<LOD	
15-Jul-99	Jim Kinley	Remediation Technician	Working on asbestos mound during excavatic	0.005		
30-Jul-99	Jim Kinley	Remediation Technician	Working adjacent to the asbestos mound	0.006		
19-Jul-99	Curtis Peterson	Remediation Technician	Working adjacent to excavation operations	0.005		
		Standard Deviation =	**0.002276694**			
		Maximum Value =	**0.01**			
		Minimum Value =	**0.002**			
		Median =	**0.005**			

29-Jun-99	Dennis Kelley	Equipment Operator	Grading debris from work area	0.006	
30-Jun-99	Dennis Kelley	Equipment Operator	Grading debris from work area	0.003	
	Dennis Kelley	Equipment Operator	Grading the access road	0.002	<LOD
9-Jul-99	Dennis Kelly	Equipment Operator	Grading/restaging asbestos material	0.005	
12-Jul-99	Dennis Kelley	Equipment Operator	Operating a dozer to grade support zone road	0.006	
21-Jul-99	Dennis Kelley	Equipment Operator	Grading/staging asbestos material at the dum	0.005	
26-Jul-99	Dennis Kelley	Equipment Operator	Grading/staging asbestos material in dumping	0.002	
1-Jul-99	Mike Petrjick	Equipment Operator	Loading/dumping excavated trees	0.005	
7-Jul-99	Mike Petrjick	Equipment Operator	Excavating trees	0.008	
8-Jul-99	Mike Petrjick	Equipment Operator	Excavating asbestos material	0.05	Overloaded 2
30-Jul-99	Joe Heltman	Equipment Operator	Operating front-end loader adjacent to asbest	0.002	

5-Aug-99	Joe Heltman	Equipment Operator	Operating the water truck in the support zone	0.002		
2-Aug-99	Joe Heltman	Equipment Operator	Operating front end loader in support zone	0.002		
19-Jul-99	Mike Petrjick	Equipment Operator	Excavating material from asbestos mound	0.002		
20-Jul-99	Mike Petrjick	Equipment Operator	Excavating material from asbestos mound	0.002		
21-Jul-99	Mike Petrjick	Equipment Operator	Excavating material from asbestos mound	0.002		
22-Jul-99	Mike Petrjick	Equipment Operator	Excavating material from asbestos mound	0.002		0.002
23-Jul-99	Mike Petrjick	Equipment Operator	Excavating material from asbestos mound	0.002		
23-Jul-99	Mike Petrijick	Equipment Operator	Excavating material from asbestos mound	0.002	<LOD	
5-Aug-99	Jim Shepherd	Equipment Operator	Operating the dozer in the support zone	0.002	<LOD	
2-Jul-99	Jim Kinley	Equipment Operator	Operating front end loading in support zone	0.002		
26-Jul-99	Jim Kinley	Equipment Operator	Excavating material from asbestos mound	0.002		
27-Jul-99	Jim Kinley	Equipment Operator	Excavating material from asbestos mound	0.002		
28-Jul-99	Jim Kinley	Equipment Operator	Excavating material from asbestos mound	0.002		
29-Jul-99	Jim Kinley	Equipment Operator	Excavating material from asbestos mound	0.002		
19-Jul-99	Jim Kinley	Equipment Operator	Grading/staging asbestos material at the dum	0.002		
4-Aug-99	Jim Kinley	Equipment Operator	Operating the front-end loader in the support	0.002		
3-Aug-99	Jim Kinley	Equipment Operator	Excavating material in support zone	0.002		
		Standard Deviation =	**0.009057138**			
		Maximum Value =	**0.05**			
		Minimum Value =	**0.002**			
		Median =	**0.002**			

13-Jul-99	Joe Heltman	Water Truck Operator	Spraying water on asbestos soil during dumpi	0.003	
14-Jul-99	Joe Heltman	Water Truck Operator	Spraying water on asbestos mound during du	0.002	< LOD
15-Jul-99	Joe Heltman	Water Truck Operator	Spraying water on asbestos material during d	0.006	
		Standard Deviation =	**0.002081666**		
		Maximum Value =	**0.006**		
		Minimum Value =	**0.002**		
		Median =	**0.003**		

14-Jul-99	Mike Petrjick	Excavator Operator	Excavating material from the asbestos mound	0.002	<LOD
15-Jul-99	Mike Petrjick	Excavator Operator	Excavating material from the asbestos mound	0.002	<LOD
16-Jul-99	Mike Petrjick	Excavator Operator	Excavating material from asbestos mound.	0.002	<LOD

16-Jul-99	Jim Kinley	Excavator Operator	Grading/staging asbestos material at the dum	0.007	
		Standard Deviation =	**0.0025**		
		Maximum Value =	**0.007**		
		Minimum Value =	**0.002**		
		Median =	**0.002**		

22-Jul-99	Jim Kinley	Dump Truck Operator	Loading and dumping excavated asbestos ma	0.005	
23-Jul-99	Jim Kinley	Dump Truck Operator	Loading and dumping excavated asbestos ma	0.015	
26-Jul-99	Dean Schmidt	Dump Truck Operator	Loading and dumping asbestos material	0.091	
26-Jul-99	Dean Schmidt	Dump Truck Operator	Loading and dumping asbestos material	0.05	Overloaded
13-Jul-99	Kennon Warner	Dump Truck Operator	Loading and dumping excavated asbestos so	0.004	
20-Jul-99	Junior Allen	Dump Truck Operator	Loading and dumping excavated asbestos ma	0.006	
		Standard Deviation =	**0.035240602**		
		Maximum Value =	**0.091**		
		Minimum Value =	**0.004**		
		Median =	**0.0105**		

14-Jul-99	Greg Masker	Surveyor	Conducting surveying operations on the asbe	0.007	
2-Aug-99	Greg Masker	Surveyor	Surveying in support zone	0.006	
3-Aug-99	Brian DeGraff	Surveyor	Surveying in support zone	0.005	
20-Jul-99	Peter Bostrom	Surveyor	Working adjacent to excavating operations	0.003	
21-Jul-99	Pete Bostrom	Surveyor	Working adjacent to excavating operations	0.006	
26-Jul-99	Pete Bostrom	Surveyor	Working adjacent to asbestos dumping area	0.032	
27-Jul-99	Brian DeGraff	Surveyor	Working adjacent to asbestos dumping area	0.002	<LOD
13-Jul-99	Scott Day	Surveyor	Conducting surveying operations on the asbe	0.007	
15-Jul-99	Scott Day	Surveyor	Conducting surveying operations on the asbe	0.007	
28-Jul-99	Scott Day	Surveyor	Working adjacent to asbestos dumping area	0.01	
		Standard Deviation =	**0.008553752**		
		Maximum Value =	**0.032**		
		Minimum Value =	**0.002**		
		Median =	**0.0065**		

27-Jul-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
28-Jul-99	John Reilly	Driller	Operating drilling equipment	0.032		0.016
28-Jul-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
	John Reilly	Driller	Operating drilling equipment	0.003		0.001
29-Jul-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
29-Jul-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	0.001
30-Jul-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
2-Aug-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
2-Aug-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
3-Aug-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	
4-Aug-99	John Reilly	Driller	Operating drilling equipment	0.002	<LOD	0.001
5-Aug-99	John Reilly	Driller	Operating drilling equipment	0.056		
		Standard Deviation =	**0.017095764**			
		Maximum Value =	**0.056**			
		Minimum Value =	**0.002**			
		Median =	**0.002**			

27-Jul-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.002	<LOD
28-Jul-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.002	<LOD
29-Jul-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.006	
29-Jul-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.002	<LOD
30-Jul-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.002	< LOD
2-Aug-99	Robert Schmidt	Driller=s Assistant	Working adjacent to drilling operations	0.05	Overload 3
		Standard Deviation =	**0.019335632**		
		Maximum Value =	**0.05**		
		Minimum Value =	**0.002**		
		Median =	**0.002**		

3-Aug-99	Young Kim	Corps of Engineers	Site walk	0.005

Overall Average =	0.00772093	0.004
Overall Maximum =	0.091	0.016
Overall Minimum =	0.002	0.001
Overall Standard Deviation =	0.014343395	0.005933
Overall Median =	0.003	0.0015

Overloaded values have been treated as 0.05 f/cc, or the action level which is half of the TWA
Values reported as being below the limit of detection (<LOD) have been treated as 0.002 f/cc, which is the limit of detection.

Date	Time	Loc	Pump No.	Flow Rate	Pump Duration	PCM Results
6/23/1999	0740/1640	N	807-392	2000	540	0.005
6/24/1999	0715/1515	N	807-392	2000	480	0.003
6/25/1999	0740/1540	N	807-392	2000	480	0.004
6/28/1999	0730/1530	N	870-481	2000	480	0.004
6/29/1999	0750/1550	N	807-392	2300	480	0.007
6/30/1999	720	N	807-392	2100	540	0.003
7/1/1999	805/2	N	807-392	2100	480	0.003
7/2/1999	0730/1530	N	807/392	2100	480	0.003
7/6/1999	0750/1550	N	807-392	2100	480	0.003
7/7/1999	0745/1545	N	807-392	2100	480	0.003
7/8/1999	0705/1505	N	807-392	2100	480	0.002
7/9/1999	0815/1530	N	807-392	2100	420	0.003
7/12/1999	0705/1705	N	807-392	2200	600	0.003
7/14/1999	0720/1720	N	807-392	2100	600	0.002
7/15/1999	0650/1650	N	807-392	2000	600	0.003
7/16/1999	0700/1600	N	807-392	2100	540	0.003
7/19/1999	0715/1715	N	807-392	2100	600	0.005
7/20/1999	0655/1655	N	807-392	2100	600	0.004
7/21/1999	0705/1705	N	807-392	2100	600	0.006
7/22/1999	0655/1655	N	807-392	2000	600	0.002
7/23/1999	0730/1530	N	807-392	2000	480	0.004
7/26/1999	0655/1655	N	807-392	2000	600	0.002
7/27/1999	0655/1655	N	807-392	2000	600	0.002
7/28/1999	0705/1705	N	807-392	2000	600	0.002
7/29/2000	0720/1720	N	807-392	2071	520	0.002
7/30/1999	0720/1520	N	807-392	2000	480	0.005
8/2/1999	0700/1700	N	807-392	2000	600	0.002
8/3/1999	0700/1600	N	807-392	2000	540	0.002
8/4/1999	0710/1710	N	807-392	2100	600	0.002
8/5/1999	0715/1515	N	807-392	2000	480	0.004
8/6/1999	0730/1530	N	807-392	2000	480	0.003
8/9/1999	0726/1526	N	807-392	2000	600	0.002
8/10/1999	0725/1657	N	807-392	2000	572	0.002
8/11/1999	0733/1619	N	807-392	2000	526	0.003
8/12/1999	0729/1647	N	807-392	2000	558	0.002
8/13/1999	0727/1441	N	807-392	2000	434	0.003
8/16/1999	0729/1450	N	807-392	2000	441	0.003
8/17/1999	0725/1515	N	807-392	2000	470	0.003
8/18/1999	0715/1508	N	807-392	2000	473	0.003
8/19/1999	0722/1513	N	807-392	2000	471	0.003
8/20/1999	0721/1511	N	807-392	2100	470	0.004
8/23/1999	0715/1442	N	807-392	2000	256	0.003
8/24/1999	0710/1448	N	807/392	2100	436	0.003
8/25/1999	0710/1453	N	807-392	2000	463	0.003
8/26/1999	0715/1505	N	807-392	2100	470	0.003
8/27/1999	0718/1513	N	807-392	2100	475	0.003
8/30/1999	0720/1710	N	807-392	2107	510	0.002
8/31/1999	0722/1710	N	807-392	2100	588	0.002

Date	Time	Loc	Pump No.	Flow Rate	Pump Duration	PCM Results
9/1/1999	0720/1719	N	807-392	2000	599	0.002
9/2/1999	0724/1508	N	807-392	2000	464	0.003
9/3/1999	0723/1403	N	807-392	2100	400	0.003
9/8/1999	0715/1505	N	807-392	2100	460	0.003
9/9/1999	0711/1505	N	807-392	2200	474	0.003
9/13/1999	0715/1507	N	807-392	2200	472	0.003
9/14/1999	0718/1504	N	807-392	2100	466	0.003
9/15/1999	0717/1504	N	807-392	2100	467	0.003
9/22/1999	0748/1500	N	807-392	2200	432	0.003
9/23/1999	0818/1449	N	807/392	2200	391	0.003
9/24/1999	0714/1450	N	807/392	2300	456	0.003
9/27/1999	0718/1454	N	807-392	2200	456	0.003
9/28/1999	0713/1449	N	807-392	2200	456	0.003
9/29/1999	0719/1453	N	807-392	2200	454	0.003
9/30/1999	0813/1457	N	807-392	2200	404	0.003
10/1/1999	0720/1500	N	807-392	2200	460	0.003
10/5/1999	0722/1451	N	807-392	2200	449	0.003
10/6/1999	0717/1451	N	807-392	2200	454	0.003
10/7/1999	0720/1448	N	807-392	2200	448	0.003
10/8/1999	0718/1449	N	807-392	2300	451	0.003
10/11/1999	0719/1454	N	807-392	2200	451	0.003
10/12/1999	0723/1452	N	807-392	2200	449	0.003
10/13/1999	0725/1507	N	807-392	2200	462	0.003
10/14/1999	0725/1447	N	807-392	2200	442	0.003
10/15/1999	0718/1313	N	807-392	2302	355	0.004
10/18/1999	0726/1456	N	807-552	2260	450	0.003
10/19/1999	0714/1539	N	807-392	2290	505	0.003
10/21/1999	0717/1510	N	807-392	2232	513	0.002
10/22/1999	0720/1502	N	807-392	2188	502	0.003
10/25/1999	0714/1503	N	807-392	2212	469	0.002
10/26/1999	0706/1512	N	807-392	2221	486	0.003
10/27/1999	0712/1537	N	807-392	2199	505	0.002
10/28/1999	0714/1502	N	807-392	2150	468	0.003
10/29/1999	0718/1432	N	807-392	2095	434	0.003
11/1/1999	0715/1510	N	807-392	2174	475	0.003
11/3/1999	0711/1502	N	807-392	2194	471	0.003
11/4/1999	0716/1520	N	807-392	2211	484	0.003
11/5/1999	0719/1456	N	807-392	2221	457	0.003
11/8/1999	0908/1632	N	807-392	2297	444	0.003
11/9/1999	0725/1530	N	807-392	2265	485	0.002
11/10/1999	0718/1531	N	807-392	2290	493	0.003
11/11/1999	0715/1527	N	807-392	2300	492	0.002
11/12/1999	0711/1447	N	807-392	2234	456	0.003
11/15/1999	0723/1530	N	807-392	2325	487	0.003
11/16/1999	0719/1541	N	807-392	2318	502	0.002
11/17/1999	0727/1616	N	807-392	2258	529	0.002
11/18/1999	0721/1621	N	807-392	2268	540	0.002
11/19/1999	0721/1421	N	807-392	2165	420	0.003

Date	Time	Loc	Pump No.	Flow Rate	Pump Duration	PCM Results
11/22/1999	0758/1617	N	807-392	2181	499	0.003
11/23/1999	0712/1539	N	807-392	2238	507	0.002
11/30/1999	0716/1516	N	807-392	2247	480	0.003
12/1/1999	0720/1520	N	807-392	2293	480	0.002
12/2/1999	0720/1520	N	807-392	2302	480	0.002
12/3/1999	0930/1350	N	807-392	2185	257	0.005
12/7/1999	0705/1505	N	807-392	2184	480	0.003
12/8/1999	0717/1517	N	807-392	2258	480	0.003
12/9/1999	0713/1513	N	807-392	2212	480	0.003

Units: Flow Rate: cc/min, **Pump Duration:** Minutes, **PCM Results:** fibers/cc, **Total Volume:** Liters

* Background sample

** Below level of detection (LOD is reported as result)

+ Sample was overloaded

Summary of PCM Results	
Mean:	0.003
Std. Dev.:	0.00085
Max:	0.007
Min:	0.002

Total Volume	Note
1080	
960	
960	
960	
1104	
1134	
1008	**
1008	**
1008	**
1008	**
1008	
1260	
1307	
1252	**
1260	
1132	
1261	**
1259	
1275	
1262	**
988	
1251	**
1235	**
1233	**
1242	**
976	
1256	**
1106	**
1278	
995	
986	**
1200	**
1176	**
1081	**
1140	**
888	**
907	**
970	**
978	**
984	**
988	
957	**
970	**
965	**
989	**
1003	**
1243	**
1250	**

Total Volume	Note
1255	**
969	**
842	**
1002 TEM	**
1048	**
1045	**
1015	**
1016	**
970	**
864	**
1050	**
1006	**
1011	**
1018	**
909	**
1021	**
1026	**
1043	**
1027	**
1040	**
1022	**
1016	
1058	**
1006	**
817	
1005	**
1156	
1145	**
1098	**
1126	**
1079	**
1110	**
1006	**
909	**
1033	**
1033	**
1070	**
1015	
1020	**
1099	**
1129	
1132	**
1019	**
1132	
1164	**
1194	**
1225	**
909	**

Total Volume	Note
1088	**
1135	**
1079	**
1101	**
1105	**
562	
1048	**
1084	**
1062	**

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
23/1999	0745/1645	S	807-481	2000	540		1080	+
6/24/1999	0720/1520	S	807-481	2000	480	0.006	960	
6/25/1999		S	807-481					+
6/28/1999	0725/1525	S	807-481	2000	480	0.01	960	
6/29/1999	0735/1535	S	807-481	2400	480	0.007	1104	
6/30/1999	730	S	807-481	2100	540	0.005	1134	
7/1/1999	735	S	807-481	2100	480	0.003	1008	
7/2/1999	720/1520	S	807-481	2100	480	0.006	1008	
7/6/1999	735/1535	S	807-481	2100	480	0.003	1008	**
7/7/1999		S	807-481			0.005	1008	
7/8/1999	0715/1515	S	807-481	2000	480	0.003	1200	
7/9/1999	0815/1530	S	807-481	2100	420	0.003	913	**
7/12/1999	0645/1645	S	807-481	2100	600	0.002	1284	**
7/13/1999	0705/1705	S	807-481	2100	600	0.005	1276	
7/14/1999	0650/1650	S	807-481	2100	600	0.002	1249	**
7/15/1999	0700/1700	S	807-481	2000	600	0.002	1260	**
7/16/1999	0730/1630	S	807-481	2100	540	0.003	1131	
7/19/1999	0720/1720	S	807-481	2100	600	0.003	1254	
7/20/1999	0715/1715	S	807-481	2100	600	0.002	1267	**
7/21/1999	0710/1710	S	807-481	2000	600	0.002	1252	**
7/22/1999	0710/1710	S	807-481	2100	600	0.002	1273	**
7/23/1999	0710/1510	S	807-481	2100	480	0.003	1011	
7/26/1999	0725/1725	S	807-481	2100	600	0.002	1267	**
7/1999	0730/1730	S	807-481	2100	600	0.002	1272	**
28/1999	0715/1715	S	807-481	2000	600	0.002	1251	**
7/29/2000	0740/1740	S	807-481	2103	600	0.002	1261	**
7/30/1999	0730/1530	S	807-481	2000	480	0.003	998	**
8/2/1999	0725/1725	S	807-481	2000	600	0.003	1283	
8/3/1999	0720/1620	S	807-481	2100	540	0.002	1138	**
8/4/1999	0730/1730	S	807-481	2100	600	0.003	1290	
8/5/1999	0725/1525	S	807-481	2100	480	0.003	1024	**
8/6/1999	0720/1520	S	807-481	2100	480	0.003	1007	**
8/9/1999	0716/1716	S	807-481	2100	600	0.002	1260	**
8/10/1999	0720/1650	S	807-481	2100	570	0.002	1202	**
8/11/1999	0722/1612	S	807-481	2100	530	0.003	1086	**
8/12/1999	0721/1640	S	807-481	2100	559	0.002	1182	**
8/13/1999	0722/1435	S	807-481	2000	433	0.003	902	**
8/16/1999	0722/1445	S	807-481	2100	443	0.003	933	**
8/17/1999	0735/1530	S	807-481	2100	475	0.003	999	**
8/18/1999	0730/1537	S	807-481	2100	487	0.003	1047	**
8/19/1999	0728/1523	S	807-481	2000	475	0.003	989	**
8/20/1999	0728/1519	S	807-481	2000	471	0.003	977	**
8/23/1999	0708/1450	S	807-481	2100	453	0.003	967	**
8/24/1999	0735/1445	S	807-481	2100	435	0.003	896	**
8/25/1999	0705/1450	S	807-481	2000	465	0.003	969	**
8/26/1999	0730/1530	S	807-481	2089	480	0.003	1002	**
8/27/1999	727/1525	S	807-481	2000	478	0.003	995	**
/1999	723/1722	S	807-481	2000	599	0.002	1254	**

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
31/1999	727/1721	S	807-481	2000	594	0.002	1232	**
9/1/1999	727/1723	S	807-481	2000	596	0.002	1239	
9/2/1999	0724/1508	S	807-392	2090	308	0.003	970	**
9/3/1999	731/1420	S	807-481	2000	399	0.003	855	**
9/8/1999	722/1512	S	807-481	2100	470	0.003	1007	**
9/9/1999	718/1500	S	807-481	2100	462	0.003	1015	**
9/13/1999	725/1500	S	807-481	2100	455	0.003	991	**
9/14/1999	724/1511	S	807-481	2100	467	0.003	1009	**
9/15/1999	723/1510	S	807-481	2100	467	0.003	1013	**
9/22/1999	740/1445	S	807-481	2200	425	0.003	939	**
9/23/1999	824/1457	S	807/481	2100	393	0.003	858	**
9/24/1999	720/1458	S	807-481	2200	458	0.003	1034	**
9/27/1999	723/1500	S	807-481	2100	457	0.003	992	
9/28/1999	718/1454	S	807-481	2100	456	0.003	992	**
9/29/1999	725/1459	S	807-481	2200	454	0.003	1004	**
9/30/1999	818/1503	S	807-481	2100	405	0.003	887	**
10/1/1999	726/1503	S	807-481	2100	457	0.003	983	**
10/5/1999	728/1456	S	807-481	2200	448	0.003	1012	**
10/6/1999	724/1459	S	807-481	2200	455	0.003	1005	**
10/7/1999	725/1453	S	807-481	2200	448	0.003	1009	**
10/8/1999	724/1455	S	807-481	2200	451	0.003	1019	**
10/11/1999	724/1459	S	807-481	2200	455	0.003	1020	**
10/12/1999	728/1456	S	807-481	2200	448	0.003	1000	**
3/1999	731/1511	S	807-481	2200	460	0.003	1038	**
4/1999	730/1455	S	807-481	2200	445	0.003	997	**
10/15/1999	0722/1318	S	807-481	2249	356	0.003	800	**
10/18/1999	0729/1450	S	807-375	2241	441	0.003	988	**
10/19/1999	0720/1533	S	807-481	2202	493	0.003	1085	**
10/21/1999	0724/1515	S	807-481	2193	511	0.002	1120	**
10/22/1999	0715/1504	S	807-481	2174	509	0.002	1107	**
10/25/1999	0713/1507	S	807-481	2153	474	0.005	1107	**
10/26/1999	0708/1516	S	807-481	2139	488	0.003	1044	**
10/27/1999	0716/1542	S	807-481	2163	506	0.003	1094	**
10/28/1999	0719/1507	S	807-481	2127	468	0.003	995	**
10/29/1999	0720/1437	S	807-481	2077	437	0.003	907	**
11/1/1999	0717/1503	S	807-481	2134	466	0.003	994	**
11/3/1999	0713/1506	S	807-481	2182	473	0.003	1032	**
11/4/1999	0718/1525	S	807-481	2180	487	0.003	1062	**
11/5/1999	0721/1501	S	807481	2167	466	0.003	997	**
11/8/1999	0910/1636	S	807-481	2307	446	0.003	1029	**
11/9/1999	0727/1534	S	807-481	2222	487	0.003	1082	
11/10/1999	0720/1535	S	807-481	2214	495	0.003	1096	**
11/11/1999	0717/1531	S	807-481	2215	494	0.003	1094	
11/12/1999	0713/1451	S	807-481	2191	458	0.003	1003	**
11/15/1999	0725/1533	S	807-481	2259	488	0.003	1102	
11/16/1999	0721/1545	S	807-481	2282	504	0.002	1150	**
11/17/1999	0729/1613	S	807-481	2266	524	0.002	1187	**
/1999	0723/1623	S	807-481	2246	540	0.002	1213	**

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
19/1999	0723/1423	S	807-481	2184	420	0.003	917	**
11/22/1999	0804/1620	S	807-481	2134	496	0.003	1058	**
11/23/1999	0716/1543	S	807-481	2209	507	0.002	1120	**
11/30/1999	0718/1518	S	807-481	2315	480	0.002	1111	**
12/1/1999	0720/1520	S	807-481	2271	480	0.003	1090	**
12/2/1999	0724/1524	S	807-481	2302	480	0.002	1105	**
12/3/1999	0936/1536	S	807-481	2185	246	0.005	537	**
12/7/1999	0709/1509	S	807-481	2171	480	0.003	1042	**
12/8/1999	0721/1521	S	807-481	2136	480	0.003	1025	**
12/9/1999	0717/1517	S	807-481	2199	480	0.003	1055	**

Units: Flow Rate: cc/min, **Pump Duration:** Minutes, **PCM Results:** fibers/cc, **Total Volume:** Liters

Summary of PCM Results

Mean:	0.003
Std. Dev.:	0.00111
Max:	0.01
Min:	0.002

* Background sample

** Below level of detection

+ Sample was overloaded

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Vol.	Note
23/1999	0735/1635	E	807-375	2000	540	0.004	1080	
6/24/1999	0735/1535	E	807-375	2000	480	0.003	960	
6/25/1999	0715/1515	E	807-375	2000	480	0.003	960	**
6/28/1999	0720/1520	E	807-375	2000	480	0.003	960	
6/29/1999	0730/1530	E	807-375	2300	480	0.003	1104	
6/30/1999	740	E	807-375	2100	540	0.004	1134	
7/1/1999	725	E	807-375	2100	480	0.003	1008	**
7/2/1999	0725/1525	E	807-375	2100	480	0.004	1008	
7/6/1999	0715/1515	E	807-375	2100	480	0.003	1008	**
7/7/1999	0715/1515	E	807-375	2100	480	0.004	1008	
7/8/1999	0710/1510	E	807-375	2100	480	0.003	1260	
7/9/1999	0815/1530	E	807-375	2100	420	0.003	928	**
7/12/1999	0640/1640	E	807-375	2200	600		1306	+
7/13/1999	0655/1655	E	807-375	2200	600	0.002	1304	**
7/14/1999	0645/1645	E	807-375	2100	600	0.003	1259	
7/15/1999	0655/1655	E	807-375	2000	600	0.002	1260	**
7/16/1999	0655/1555	E	807-375	2100	540	0.004	1128	
7/19/1999	0650/1650	E	807-375	2100	600	0.003	1254	
7/20/1999	0700/1700	E	807-375	2000	600	0.002	1262	**
7/21/1999	0655/1655	E	807-375	2100	600	0.004	1275	
7/22/1999	0645/1645	E	807-375	2100	600	0.002	1291	**
7/23/1999	0700/1500	E	807-375	2100	480	0.003	1025	
7/26/1999	0650/1650	E	807-375	2100	600	0.002	1315	**
7/1999	0645/1645	E	807-375	2100	600	0.002	1266	**
28/1999	0655/1655	E	807-375	2100	600	0.002	1269	**
7/29/2000	0710/1710	E	807-375	2131	600	0.002	1278	**
7/30/1999	0645/1445	E	807-375	2100	480	0.003	1019	**
8/2/1999	0650/1650	E	807-375	2100	600	0.002	1292	**
8/3/1999	0645/1645	E	807-375	2000	600	0.002	1245	**
8/4/1999	0655/1655	E	807/375	2100	600	0.005	1296	
8/5/1999	0705/1505	E	807-375	2100	480	0.003	1037	
8/6/1999	0715/1515	E	807-375	2100	480	0.005	1014	**
8/9/1999	0710/1710	E	807-375	2100	600	0.002	1260	**
8/10/1999	0700/1647	E	807-375	2100	587	0.002	1242	**
8/11/1999	0715/1626	E	807-375	2000	551	0.002	1126	**
8/12/1999	0714/1655	E	807-375	2100	581	0.002	1224	**
8/13/1999	0700/1445	E	807-375	2100	465	0.003	979	**
8/16/1999	0700/1451	E	807-375	2100	471	0.003	991	**
8/17/1999	0715/1520	E	807-375	2000	485	0.003	994	**
8/18/1999	0710/1500	E	807-375	2100	470	0.003	991	**
8/19/1999	0719/1509	E	807-375	2000	470	0.003	974	**
8/20/1999	0717/1507	E	807-375	2100	470	0.003	1010	**
8/23/1999	0700/1440	E	807-375	2100	460	0.003	992	**
8/24/1999	0740/1455	E	807-375	2134	435	0.003	928	**
8/25/1999	0700/1500	E	807-375	2100	480	0.003	1024	**
8/26/1999	0700/1500	E	807-375	2100	480	0.003	1044	**
8/27/1999	0715/1508	E	807-375	2100	473	0.003	1015	**
/1999	0717/1706	E	807-375	2100	589	0.002	1252	**

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Vol.	Note
31/1999	0716/1703	E	807-375	2100	587	0.002	1274	**
9/1/1999	0718/1711	E	807-375	2100	593	0.002	1265	**
9/2/1999	0722/1500	E	807-375	2100	458	0.002	980	**
9/3/1999	0721/1400	E	807/375	2100	409	0.003	859	**
9/8/1999	0710/1458	E	807-375	2200	468	0.003	1058	**
9/9/1999	0708/1511	E	807-375	2200	483	0.003	1092	**
9/13/1999	0712/1510	E	807-375	2263	478	0.003	1081	**
9/14/1999	0715/1500	E	807-375	2200	465	0.003	1031	**
9/15/1999	0713/1500	E	807-375	2200	467	0.003	1057	
9/22/1999	0735/1455	E	807-375	2300	440	0.003	1015	**
9/23/1999	0815/1445	E	807/375	2300	390	0.003	898	**
9/24/1999	0710/1645	E	807-375	2200	455	0.003	1039	**
9/27/1999	0714/1450	E	807-375	2200	456	0.003	1015	**
9/28/1999	0710/1445	E	807-375	2200	455	0.003	1016	
9/29/1999	0716/1450	E	807-375	2200	454	0.003	1026	**
9/30/1999	0810/1453	E	807-375	2200	403	0.003	922	**
10/1/1999	0717/1506	E	807-375	2200	469	0.003	1070	
10/5/1999	0718/1448	E	807-375	2300	450	0.003	1060	**
10/6/1999	0714/1448	E	807-375	2200	454	0.003	1034	**
10/7/1999	0717/1445	E	807-375	2200	448	0.003	1026	**
10/8/1999	0715/1445	E	807-375	2200	450	0.003	1028	**
10/11/1999	0715/1451	E	807-375	2200	456	0.003	1039	**
10/12/1999	0720/1448	E	807-378	2200	448	0.003	1013	**
3/1999	0720/1505	E	807/375	2200	465	0.003	1061	**
.4/1999	0722/1446	E	807-375	2200	444	0.003	1008	**
10/15/1999	0715/1310	E	807-375	2286	355	0.003	811	**
10/18/1999	0731/1446	E	807-481	2237	435	0.003	973	**
10/19/1999	0718/1530	E	807-375	2285	492	0.002	1124	**
10/21/1999	0722/1508	E	807-375	2221	505	0.002	1122	**
10/22/1999	0717/1500	E	807-375	2191	503	0.002	1102	**
10/25/1999	0710/1500	E	807-375	2231	470	0.002	1138	**
10/26/1999	0709/1510	E	807-375	2180	481	0.003	1049	**
10/27/1999	0710/1535	E	807-375	2207	505	0.002	1115	**
10/28/1999	0713/1500	E	807-375	2157	467	0.003	1007	**
10/29/1999	0715/1430	E	807-375	2104	435	0.003	915	
11/1/1999	0719/1500	E	807-375	2193	461	0.003	1011	**
11/3/1999	0710/1500	E	807-375	2214	470	0.003	1041	**
11/4/1999	0715/1518	E	807-375	2219	483	0.003	1072	**
11/5/1999	0717/1454	E	807-375	2213	457	0.003	1011	**
11/8/1999	0906/1630	E	807-375	2308	444	0.003	1025	**
11/9/1999	0724/1528	E	807-375	2271	484	0.003	1099	
1/10/1999	0717/1529	E	807-375	2289	492	0.002	1126	**
1/11/1999	0714/1525	E	807-375	2296	491	0.003	1127	
1/12/1999	0710/1445	E	807-375	2248	455	0.003	1023	**
1/15/1999	0722/1528	E	807-375	2315	486	0.002	1125	**
1/16/1999	0716/1539	E	807-375	2283	503	0.002	1148	**
1/17/1999	0726/1608	E	807-375	2270	522	0.002	1185	**
/1999	0720/1620	E	807-375	2270	540	0.003	1226	

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Vol.	Note
9/1999	0720/1420	E	807-375	2209	420	0.003	928	
1/22/1999	0755/1615	E	807-375	2224	500	0.002	1112	**
1/23/1999	0710/1537	E	807-375	2238	507	0.002	1135	**
1/30/1999	0715/1515	E	807-375	2316	480	0.002	1112	**
12/1/1999	0718/1518	E	807-375	2256	480	0.003	1083	**
12/2/1999	0718/1518	E	807-375	2231	480	0.003	1071	**
12/3/1999	0940/1359	E	807-375	2060	279	0.005	574	**
12/7/1999	0703/1503	E	807-375	2273	480	0.003	1091	**
12/8/1999	0715/1515	E	807-375	2223	480	0.003	1067	**
12/9/1999	0711/1511	E	807-375	2252	480	0.003	1081	

nits: Flow Rate: cc/min, **Pump Duration:** Minutes, **PCM Results:** fibers/cc, **Total Volume:** Liters

Background sample

* Below level of detection

Sample was overloaded

ummary of PCM Results

lean:	0.003
td. Dev.:	0.00065
lax:	0.005
lin:	0.002

air mon results millington

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
6/23/1999	0750/1650	W	807-552	2000	540	0.01	1080	
6/24/1999	0740/1540	W	807-552	2000	480	0.003	960	
6/25/1999	0730/1530	W	807-552	2000	480	0.003	960	**
6/28/1999	0740/1540	W	807-552	2000	480	0.006	960	
6/29/1999	0740/1540	W	807-552	2400	480	0.007	1152	
6/30/1999	745	W	807-552	2000	540	0.003	1080	**
7/1/1999	740	W	807-552	2100	480	0.003	1008	
7/2/1999	0735/1535	W	807-552	2000	480	0.005	960	
7/6/1999	0740/1540	W	807-552	2100	480	0.003	960	**
7/7/1999	0735/1535	W	807-552	2100	480	0.003	1008	**
7/8/1999	0710/1520	W	807-552	2100	480	0.004	1260	
7/9/1999	0815/1530	W	807-552	2100	420	0.005	918	
7/12/1999	0650/1650	W	807-552	2200	600	0.002	1298	
7/13/1999		W	807-552	2100	600	0.002	1268	**
7/14/1999	0655/1655	W	807-552	2100	600	0.002	1243	
7/15/1999	0710/1710	W	807-552	2000	600	0.005	1260	**
7/16/1999	0735/1635	W	807-552	2100	540	0.0054		TEM
7/19/1999	0655/1655	W	807-552	2100	600	0.004	1268	
7/20/1999	0720/1720	W	807-552	2100	600	0.002	1272	**
7/21/1999	0715/1715	W	807-552	2100	600	0.003	1293	
7/22/1999	0700/1700	W	807-552	2000	600	0.003	1290	
7/23/1999	0715/1515	W	807-552	2000	480	0.003	997	**
7/26/1999	0705/1705	W	807-552	2100	600	0.004	1266	
7/27/1999	0700/1700	W	807-552	2000	600	0.002	1245	**
7/28/1999	0710/1710	W	807-552	2000	600	0.003	1227	
7/28/1999	0710/1710	W	807-552	2045	600	0.002	1219	**
7/30/1999	0725/1525	W	807-552	2000	480	0.003	983	**
8/2/1999	0710/1710	W	807-552	2100	600	0.002	1267	**
8/3/1999	0705/1605	W	807-552	2000	540	0.002	1123	**
8/4/1999	0715/1715	W	807-552	2100	600	0.002	1267	**
8/5/1999	0720/1520	W	807-552	2000	480	0.003	1007	**
8/6/1999	0725/1525	W	807-552	2000	480	0.003	992	**
8/9/1999	0718/1518	W	870-552	2000	600	0.002	1200	**
8/10/1999	0722/1653	W	807-552	2000	571	0.002	1188	**
8/11/1999	0726/1614	W	807-552	2000	528	0.003	1094	**
8/12/1999	0723/1643	W	807-552	2000	560	0.002	1168	**
8/13/1999	0727/1438	W	807-552	2000	431	0.003	891	**
8/16/1999	0726/1448	W	807-552	2000	442	0.003	922	**
8/17/1999	0730/1535	W	807-552	2000	485	0.003	1016	**
8/18/1999	0720/1515	W	807-552	2000	475	0.003	984	**
8/19/1999	0724/1517	W	807-552	2000	473	0.003	988	**
8/20/1999	0723/1513	W	807-552	2000	470	0.003	983	**
8/23/1999	0712/1445	W	807-552	2000	462	0.003	961	**
8/24/1999	0725/1441	W	807-552	2000	430	0.003	919	**
8/25/1999	0707/1452	W	807-552	2000	465	0.003	974	**
8/26/1999	0720/1510	W	807-552	2100	470	0.003	994	**
8/27/1999	0722/1520	W	807-552	2100	478	0.003	1019	**
8/30/1999	0722/1714	W	807-552	2100	592	0.002	1244	**

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
3/31/1999	0724/1715	W	807-552	2100	591	0.002	1251	**
9/1/1999	0723/1715	W	807-552	2000	592	0.002	1241	**
9/2/1999	0726/1510	W	807-552	2000	464	0.003	973	**
9/3/1999	0720/1412	W	807-552	2000	406	0.0009	853	TEM
9/8/1999	0718/1508	W	807-552	2100	470	0.003	1017	**
9/9/1999	0715/1507	W	807-552	2100	472	0.003	1033	**
9/13/1999	0722/552	W	807-552	2200	461	0.003	1020	**
9/14/1999	0721/1506	W	807-552	2100	465	0.003	1004	**
9/15/1999	0719/1506	W	807-552	2100	467	0.003	1025	**
9/22/1999	0745/1450	W	807/552	2200	425	0.003	943	**
9/23/1999	0821/1453	W	807/552	2200	392	0.003	882	
9/24/1999	0716/1453	W	807-552	2200	457	0.003	1036	**
9/27/1999	0720/1457	W	807-552	2100	457	0.003	988	**
9/28/1999	0716/1451	W	807-552	2200	455	0.005	1009 TEM	
9/29/1999	0721/1456	W	807-552	2200	455	0.003	1026	**
9/30/1999	0815/1500	W	807-552	2200	405	0.003	913	**
10/1/1999	0723/1508	W	807-552	2200	465	0.003	1036	**
10/5/1999	0724/1453	W	807-552	2200	449	0.003	1030	**
10/6/1999	0719/1453	W	807-552	2200	454	0.003	1021	**
10/7/1999	0722/1450	W	807-552	2300	448	0.003	1037	**
10/8/1999	0720/1451	W	807-552	2200	451	0.003	1029	**
10/11/199	0721/1456	W	807-552	2200	455	0.003	1035	**
10/12/199	0725/1453	W	807-552	2200	448	0.003	1014	**
10/13/199	0728/1509	W	807-552	2200	461	0.003	1048	**
10/14/199	0727/1450	W	807-552	2200	443	0.003	1005	**
10/15/199	0720/1315	W	807-552	2278	355	0.003	808	**
10/18/199	0733/1459	W	807-392	2254	446	0.005	1017	**
10/19/199	0716/1537	W	807-552	2223	501	0.002	1113	**
10/21/199	0720/1512	W	807-552	2225	512	0.002	1139	**
10/22/199	0718/1506	W	807-552	2171	508	0.002	1103	**
10/25/199	0712/1505	W	807-552	2185	473	0.002	1121	**
10/26/199	0709/1514	W	807-552	2151	485	0.003	1043	**
10/27/199	0714/1540	W	807-552	2152	506	0.003	1089	**
10/28/199	0718/1504	W	807-552	2103	466	0.003	980	**
10/29/199	0719/1434	W	807-552	2130	435	0.003	927	**
11/1/1999	0720/1507	W	807-552	467	467	0.003	1004	**
1/3/1999	0712/1504	W	807-552	2168	472	0.003	1023	**
1/4/1999	0717/1522	W	807-552	2196	485	0.003	1065	
1/5/1999	0720/1458	W	807-552	2179	458	0.003	998	**
1/8/1999	0909/1634	W	807-552	2247	445	0.003	1000	**
1/9/1999	0726/1532	W	807-552	2211	486	0.003	1075	**
1/10/199	0719/1533	W	807-552	2289	494	0.003	1131	
/11/199	0716/1529	W	807-552	2222	493	0.003	1095	**
/12/199	0711/1447	W	807-552	2173	456	0.003	993	**
/15/199	0724/1532	W	807-552	2287	486	0.002	1111	**
/16/199	0720/1543	W	807-552	2262	502	0.002	1138	**
/17/199	0728/1614	W	807-552	2302	526	0.002	1210	**
18/199	0722/1622	W	807-552	2255	540	0.002	1218	**

air mon results millington

Date	Time	Location	Pump No.	Flow Rate	Pump Duration	PCM Results	Total Volume	Note
11/19/199	0722/1422	W	807-552	2182	420	0.003	916	**
11/22/199	0801/1618	W	807-552	2199	497	0.003	1093	**
11/23/199	0714/1541	W	807-552	2273	507	0.002	1152	**
11/30/199	0717/1517	W	807-552	2292	480	0.002	1100	**
12/1/1999	0722/1522	W	807-552	2264	480	0.004	1087	
12/2/1999	0722/1522	W	807-552	2269	480	0.003	1089	**
12/3/1999	0933/1353	W	807-552	2165	280	0.004	606	**
12/7/1999	0707/1507	W	807-552	2166	480	0.003	1040	**
12/8/1999	0719/1519	W	807-552	2221	480	0.003	1066	**
12/9/1999	0715/1515	W	807-552	2217	480	0.003	1064	**

Units: Flow Rate: cc/min, **Pump Duration**: Minutes, **PCM Results**: fibers/cc, **Total Volume**: Liters

Summary of PCM Results

Mean:	0.003
Std. Dev.:	0.00113
Max:	0.01
Min:	0.0009

* Background sample

** Below level of detection (LOD is reported as result)

+ Sample was overloaded

Possible Causes for Overloaded Samples

6/23/1999:	An outside contractor was washing the bridge approx. 70 feet away from the sampler creating high amounts of dust
6/25/1999:	Access road construction activities on this date
7/12/1999:	The conex box was relocated on this date near the sample location possibly creating dust

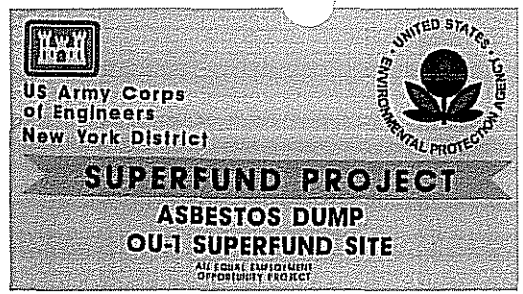
MILLINGTON ASBESTOS DUMP SITE

TEM Analytical Results

Project # 780601

Sample Date	Sample Number	Sample Location	Operations being conducted	PCM Results	TEM Results[1]
/23/99	ASO17PAW062399	West Perimeter	Grading in the support zone	0.01 f/cc[2]	0.003 f/cc
/28/99	ASO30PAS062899	South Perimeter	Grading in the support zone	0.01 f/cc	0.003 f/cc
/28/99	ASO33P1062899	Laborer – Level D	Assisting with the grading operations	0.01 f/cc	0.003 f/cc
/02/99	ASO57P207299	Equipment Operator - Level C	Operating equipment to remove trees located in the asbestos area.	0.01 f/cc	0.002 f/cc
/08/99	ASO75P207899	Equipment Operator – Level C	Excavating asbestos material	PCM method not conducted	Overloaded[3]
/16/99	ASO118PAW071699	West Perimeter	Excavating asbestos material	PCM method not conducted	0.0054 f/cc
/23/99	ASO156P2072399	Equipment Operator – Level C	Excavating asbestos material	PCM method not conducted	0.002 f/cc
/26/99	ASO167P1Excursion (30 minute sample)	Dump Truck Operator - Level C	Transporting/dumping asbestos materials	0.091 f/cc[4]	0.036 f/cc[4]
/26/99	ASO168P2Excursion (30 minute sample)	Surveyor – Level C	Surveying operations adjacent to asbestos mound	0.032 f/cc[4]	0.016 f/cc[4]
3/06/99	ASO241P208699	Drill Operator – Level D	Operating drilling rig	0.003 f/cc	0.002 f/cc
3/13/99	ASO272P181399	Drill Operator – Level D	Operating drilling rig	0.003 f/cc	<LOD[5]
3/20/99	ASO297P2082099	Drill Operator – Level D	Operating drilling rig	PCM method not conducted	<LOD[5]
3/27/99			No TEM analysis conducted		
9/03/99	ASO342PAW090399	West end of site	Installing rebar cages and H-beams	PCM method not conducted	<0.0009 f/cc[6]
9/10/99			No TEM analysis conducted		
9/17/99	ASO366PAW091599	West end of site	Installing rebar cages and H-beams	PCM method not conducted	<LOD[5]
/24/99			No TEM analysis conducted		
/28/99	ASO387PAW092899	West end of site	Pumping concrete into caissons	PCM method not conducted	<LOD[5]
/07/99	ASO414P1-100799	Excavator on South end of site	Personal sample during wetland intrusive work	0.006 f/cc[1]	0.002 f/cc[1] Chrysotile
/15/99			No TEM analysis conducted		
/22/99	ASO457PAW	West end of site	Backfill West slope of mound	<LOD[5]	0.000 f/cc[1]
ek Ending -10/29/99			No TEM analysis conducted due to PCM action level not being hit for 8 hour TWA		
ek Ending –11/5/99			No TEM analysis conducted due to PCM action level not being hit for 8 hour TWA		
ek Ending –11/12/99			No TEM analysis conducted due to PCM action level not being hit for 8 hour TWA		
8/99	ASO536P2	Dean Schmidt-Spotter for South Pond Excavation	Excavating South Pond Area	0.009 f/cc[1]	<0.001 f/cc[1]
3/99	ASO554P1	Jim Kinley - Operator for South Pond Excavation	Excavating South Pond Area	0.006 f/cc[1]	<0.002 f/cc[1]
/99			No TEM analysis conducted due to PCM action level not being hit for 8 hour TWA		
0/99		Sampling discontinued as of 11-9-99 due to final cap in place.	No TEM analysis conducted due to PCM action level not being hit for 8 hour TWA		

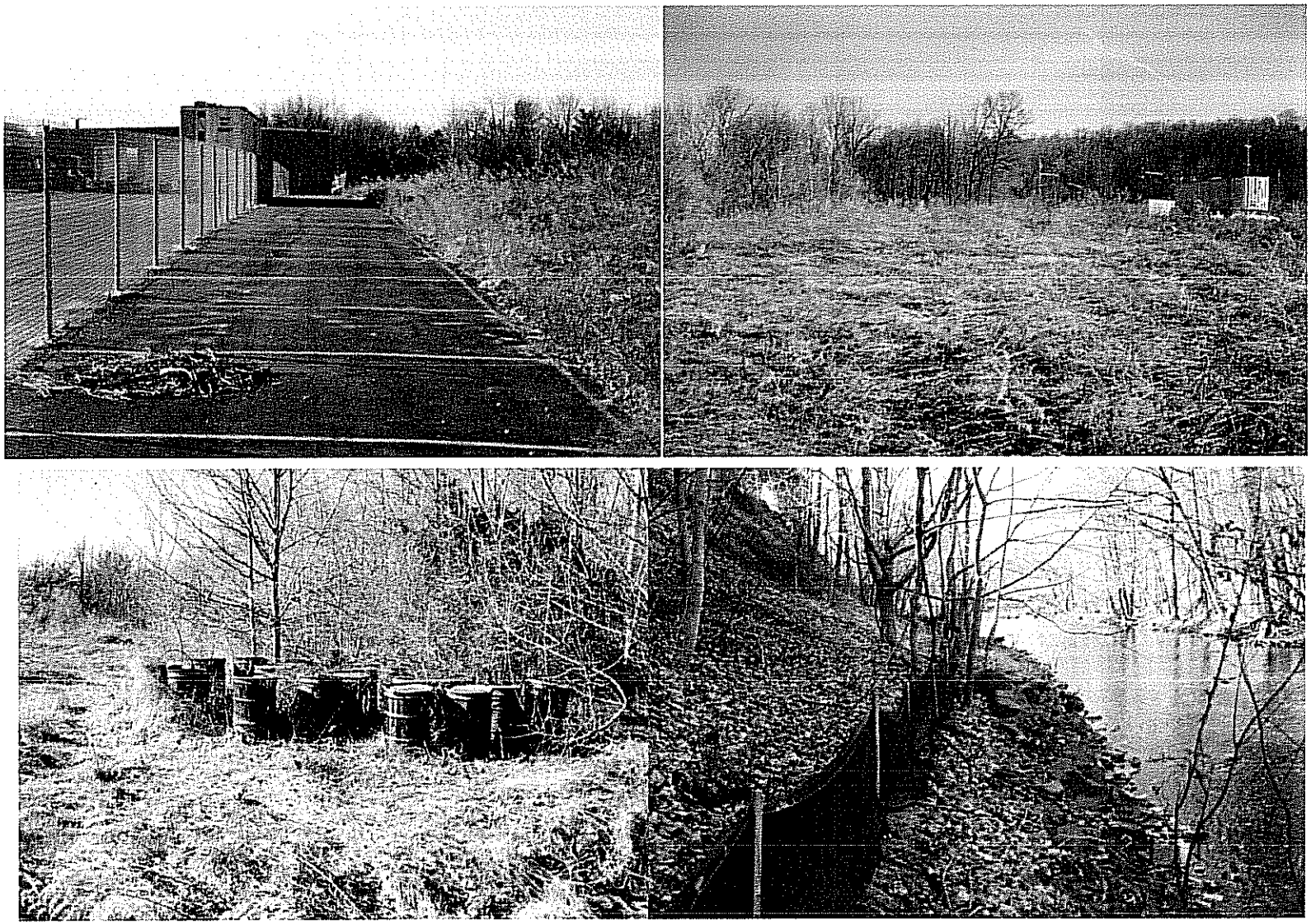
OSHA's permissible exposure limit for asbestos is 0.1 f/cc
f/cc – fibers per cubic centimeter
Overload resulted from excess dust from stone delivery
Action level for 30-minute excursion sampling is 1.0 f/cc
Below level of detection
Below perimeter Action Level of 0.01 f/cc

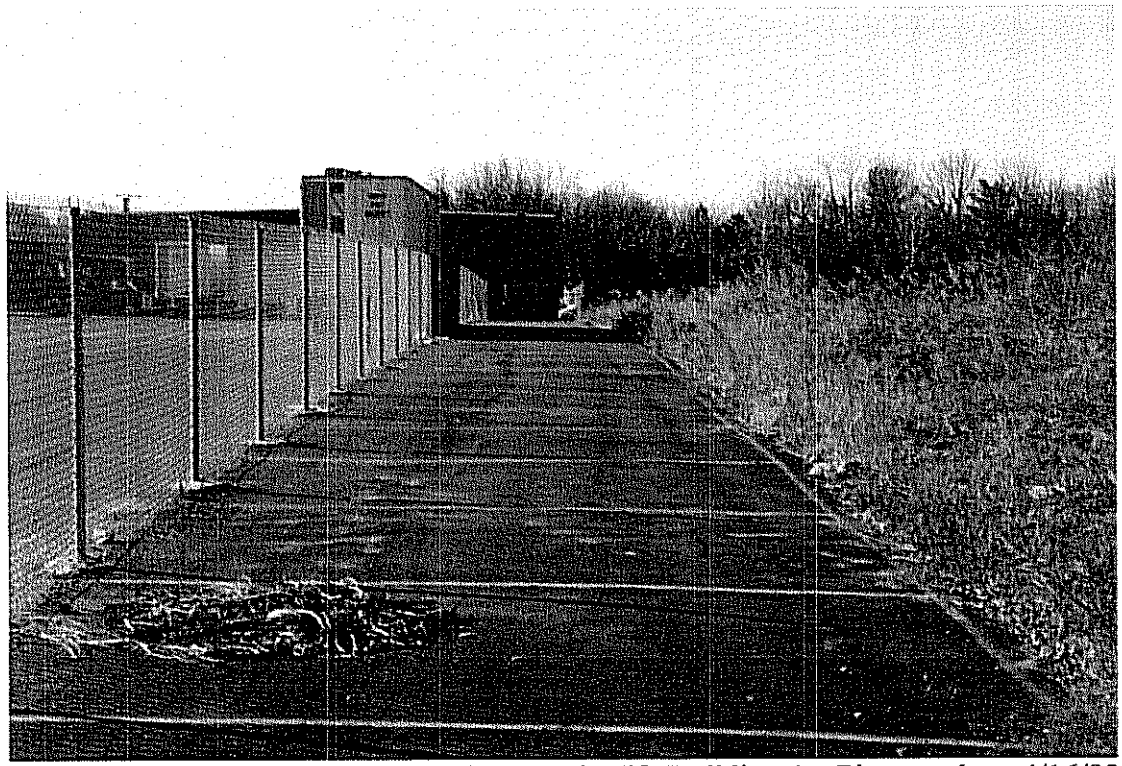


Millington Asbestos Dump OU-1 Superfund Site Photographs

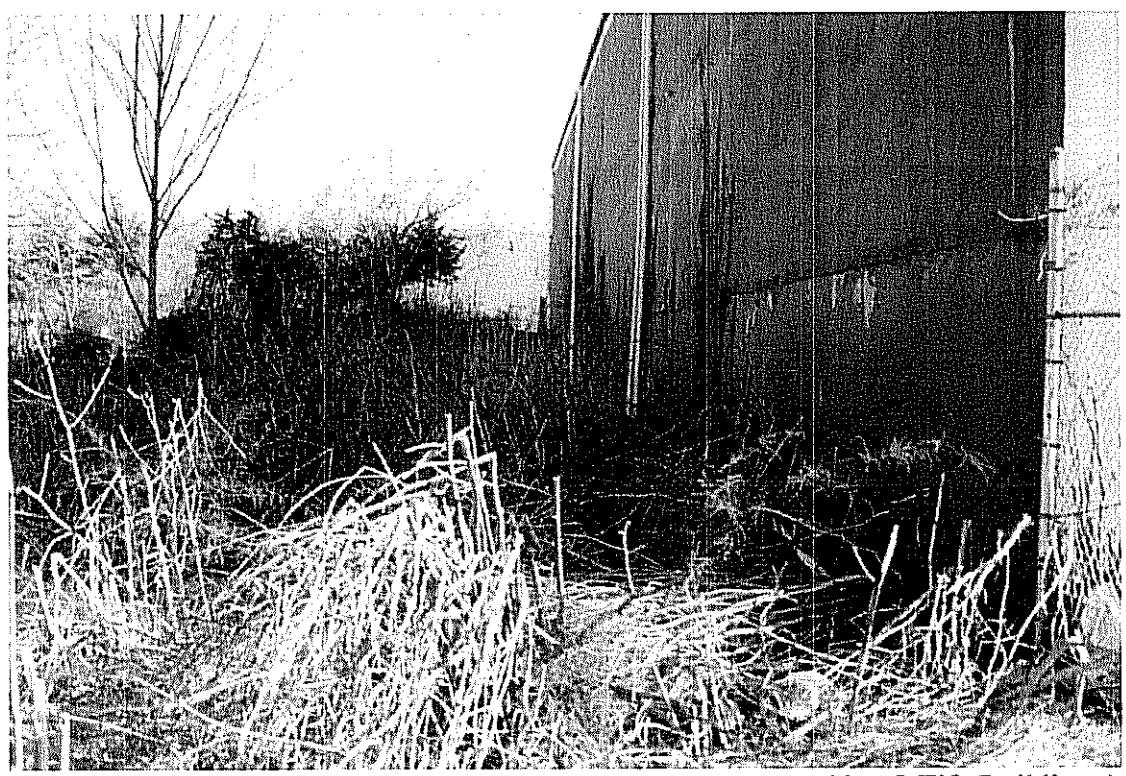
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Pre-construction Photographs:



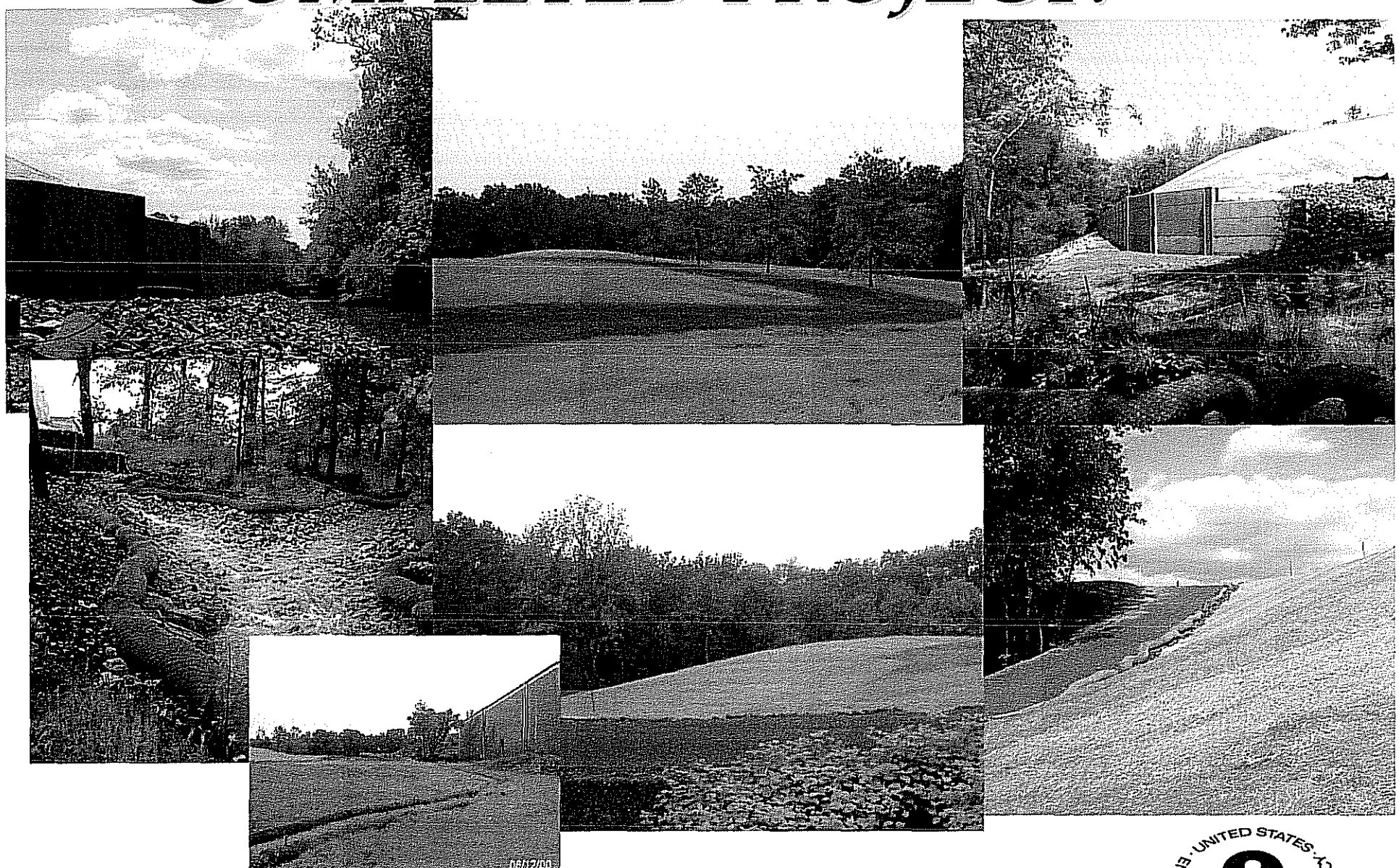


Eastern border of Site looking south towards Tifa Building 4 Picture taken: 4/16/99



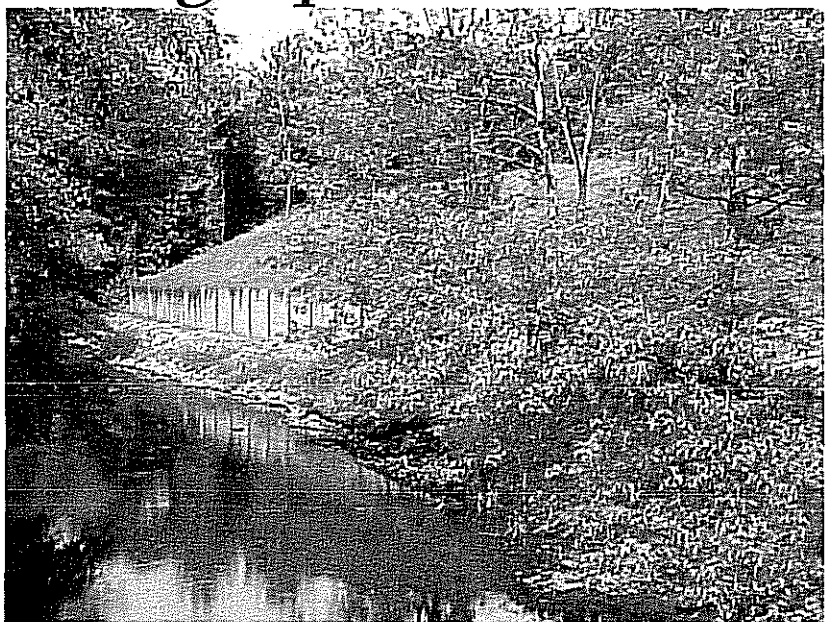
Eastern Portion of the site taken from site interior and western side of Tifa Building 4 looking North Picture Taken: 4/16/99

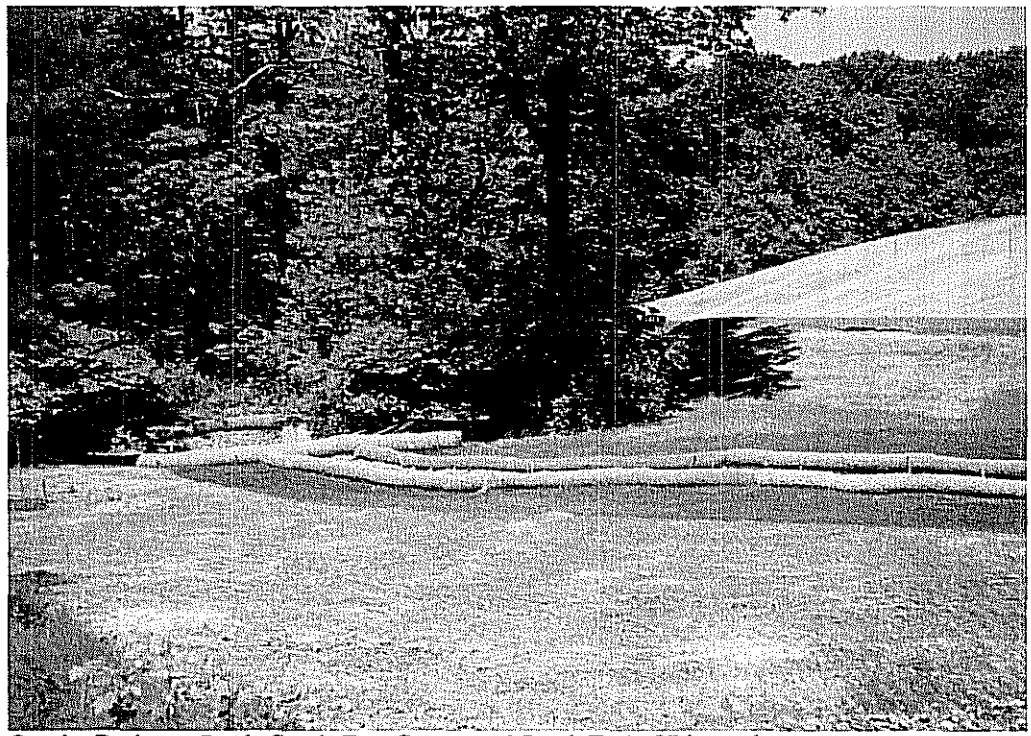
COMPLETED PROJECT:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Post Construction Photographs:



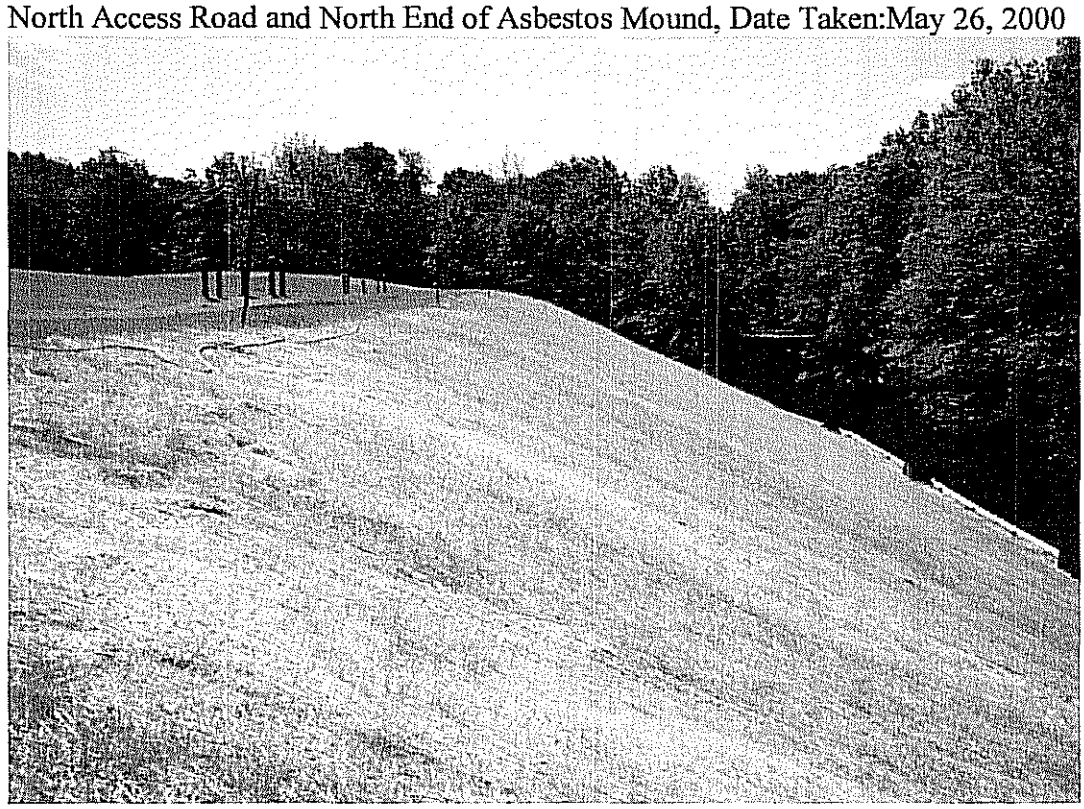


On-site Drainage Swale South-East Corner and South End of Disposal Area

Wetland Channel located on southwest portion of the site

Post Remedial Photographs
Asbestos Dump Operable Unit One Superfund Site
Millington, Long Hill Township, New Jersey

North Access Road and North End of Asbestos Mound, Date Taken:May 26, 2000

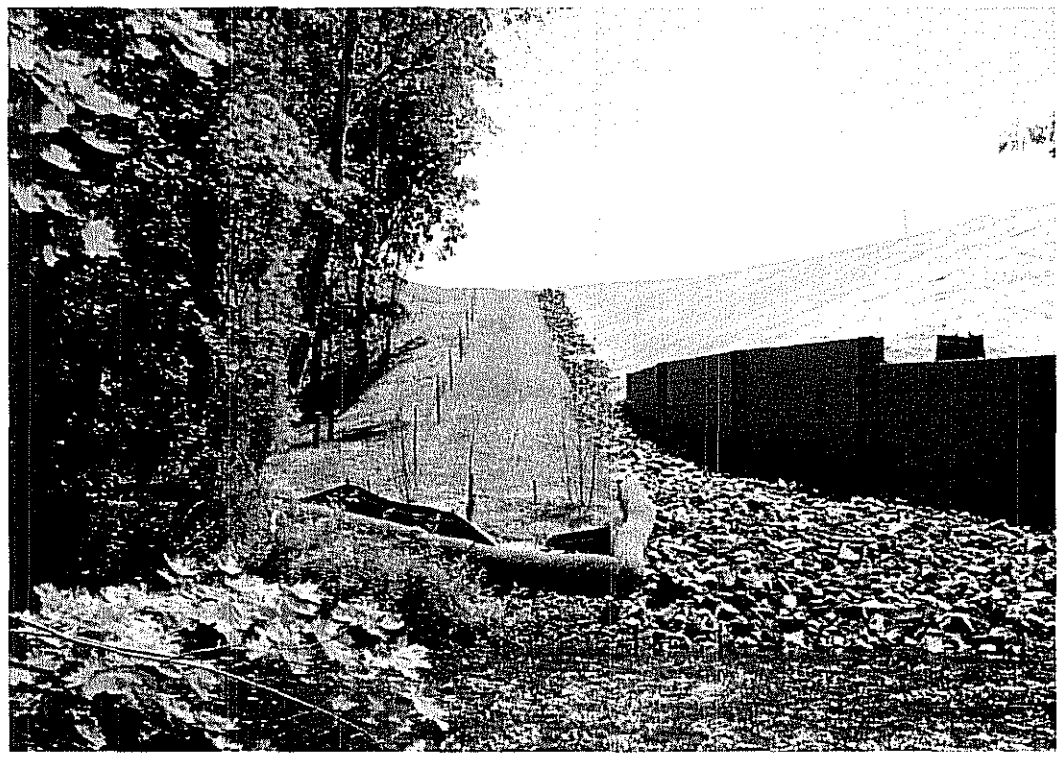


Western Side of Asbestos Mound Slope to Retaining Wall

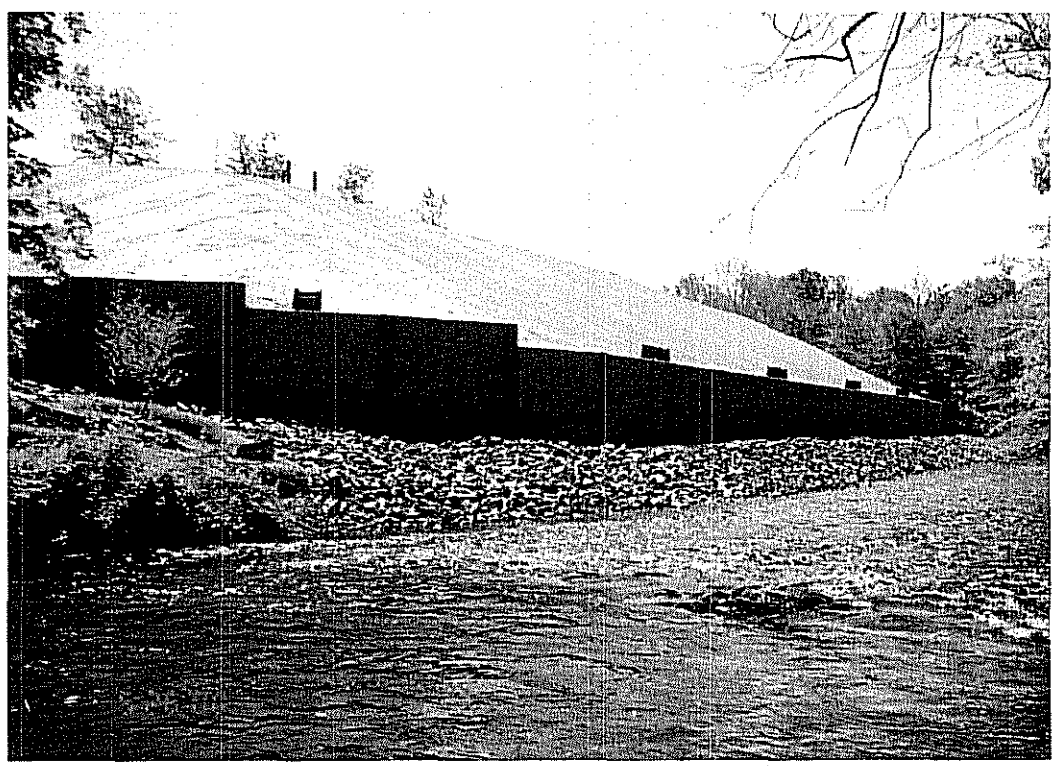
Post Remedial Photographs

Asbestos Dump Operable Unit One Superfund Site

Millington, Long Hill Township, New Jersey

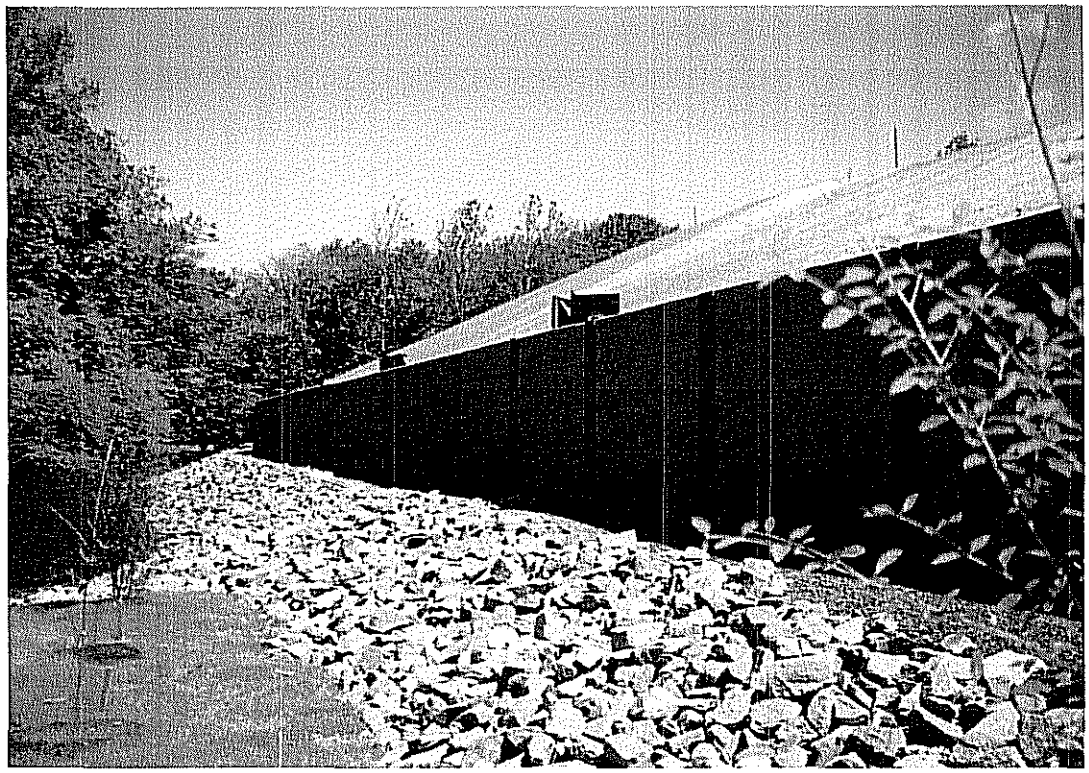


North Access Road from Passaic River Date Taken: 5/26/00



Retaining Wall and Asbestos Mound Slope from Passaic River
(Northwestern Portion of site)

Post Remedial Photographs
Asbestos Dump Operable Unit One Superfund Site
Millington, Long Hill Township, New Jersey

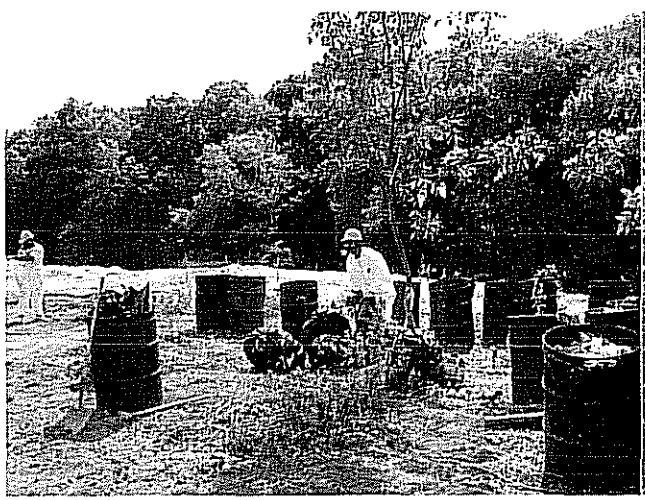


Retaining Wall and River Bank Retaining Wall, River Bank and Access Path

Retaining Wall, South End Disposal Area Mound, Bottom and South Access Road

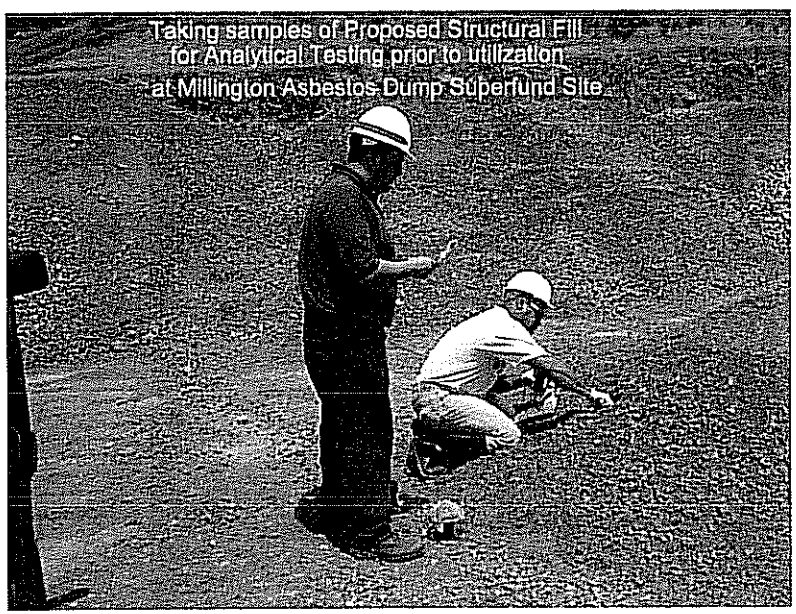
Post Remedial Photographs
Asbestos Dump Operable Unit One Superfund Site
Millington, Long Hill Township, New Jersey

Specific tasks included identification and removal of existing drums:



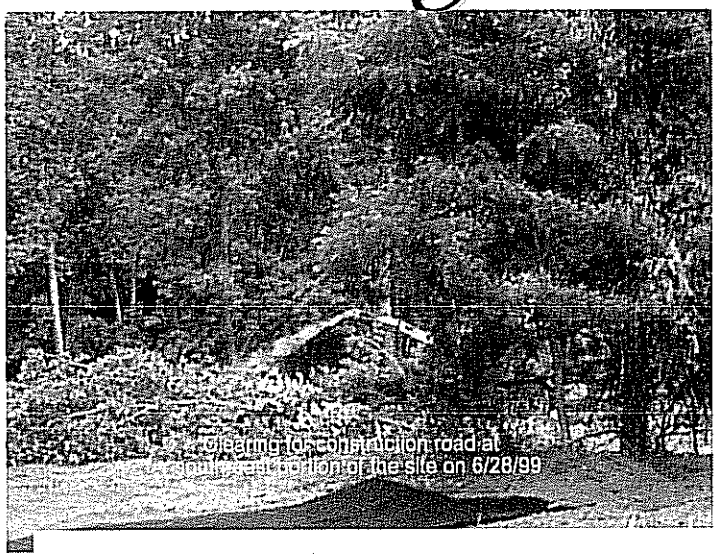
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

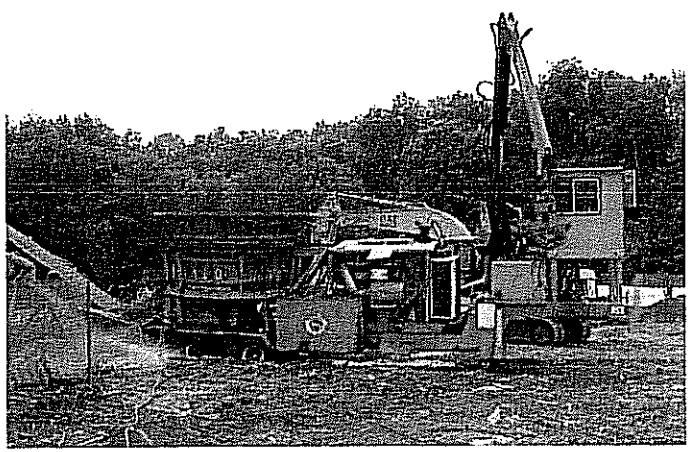
Samples of Topsoil and Backfill Material :

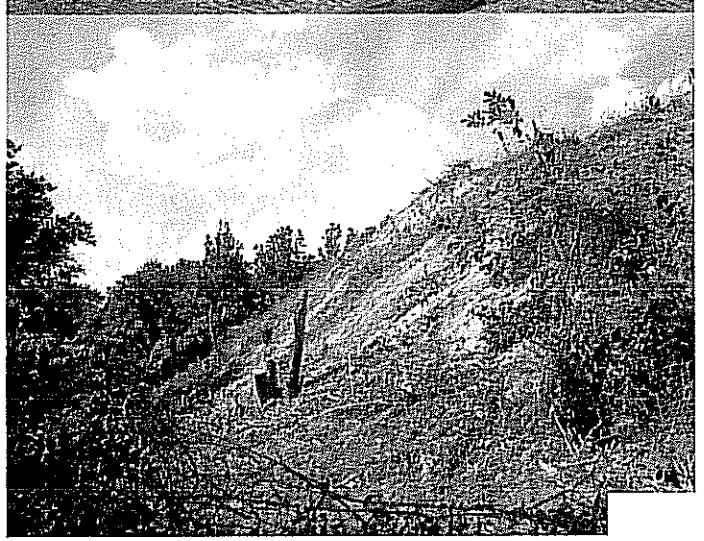


were tested by the IT Corporation Quality Control System and USACE Quality Assurance Representatives to ensure that the materials brought on-site do not contain contaminant levels

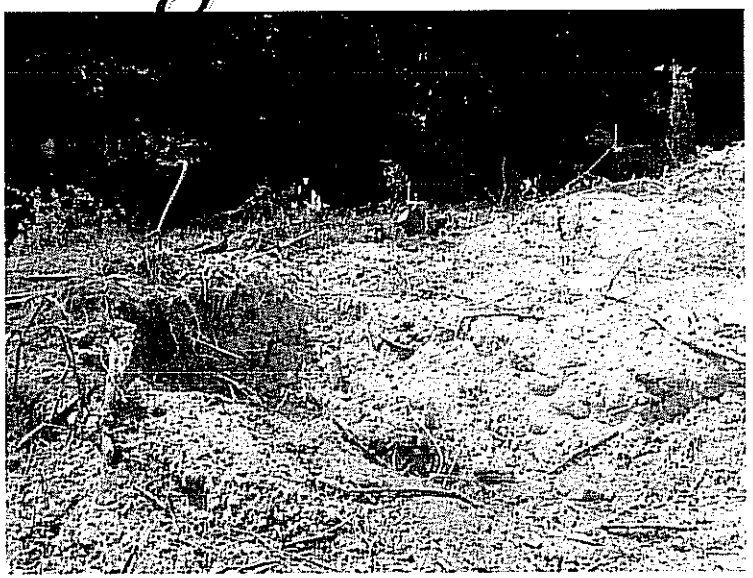
Clearing and Grubbing:



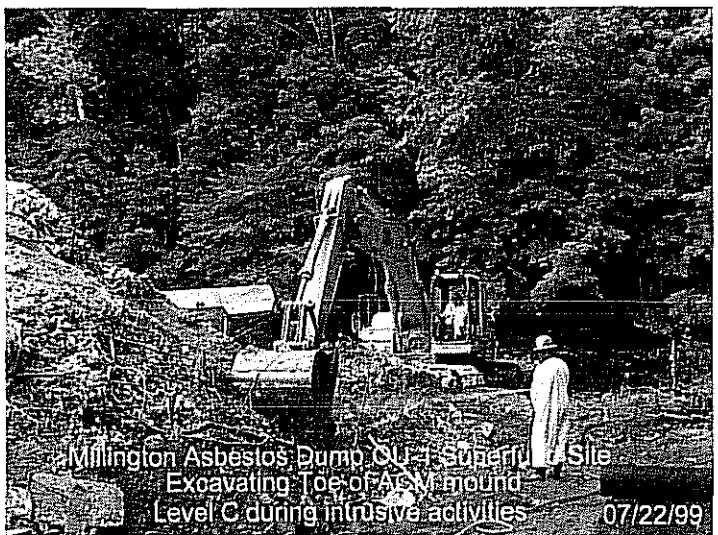




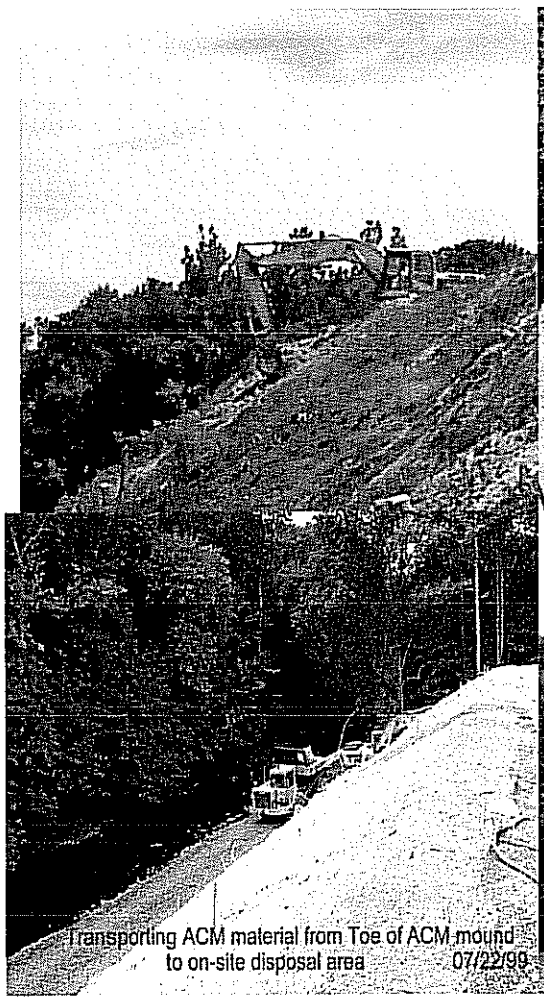
Asbestos Containing Material :



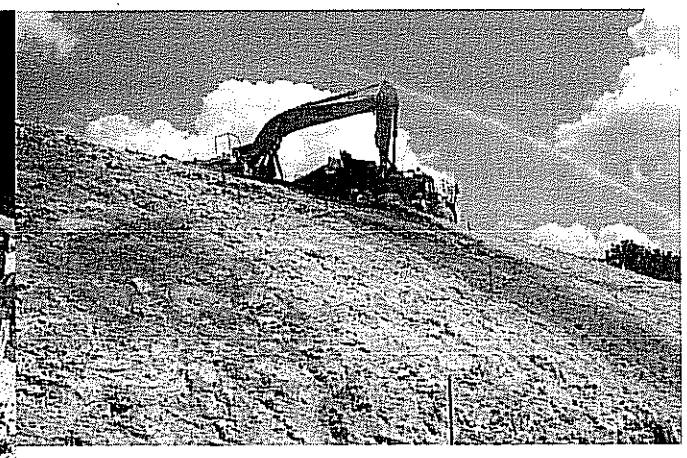
Excavation of ACM in Level C:

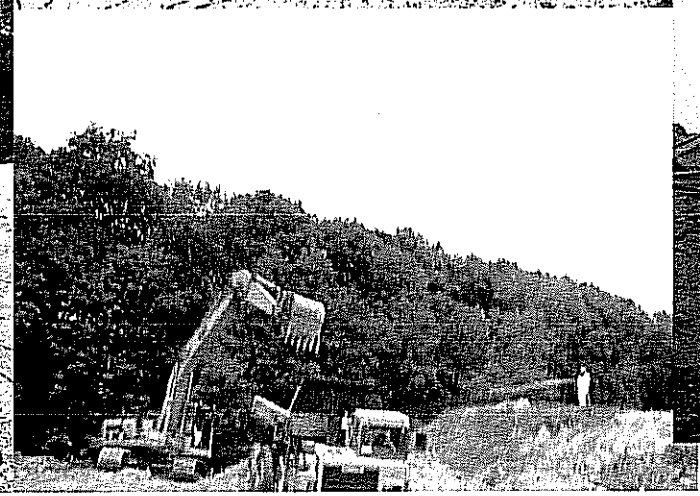


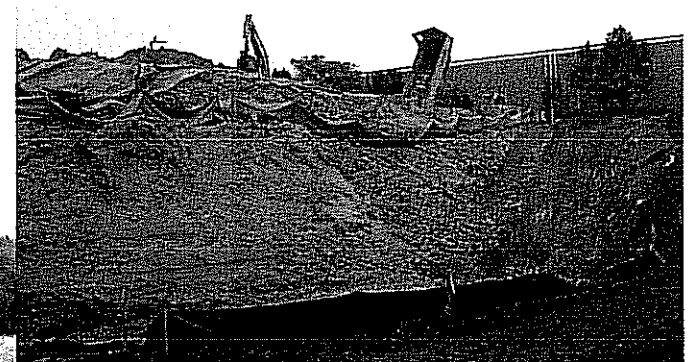
Excavation and transportation of ACM to on-site disposal area



Transporting ACM material from Toe of ACM mound to on-site disposal area 07/22/99





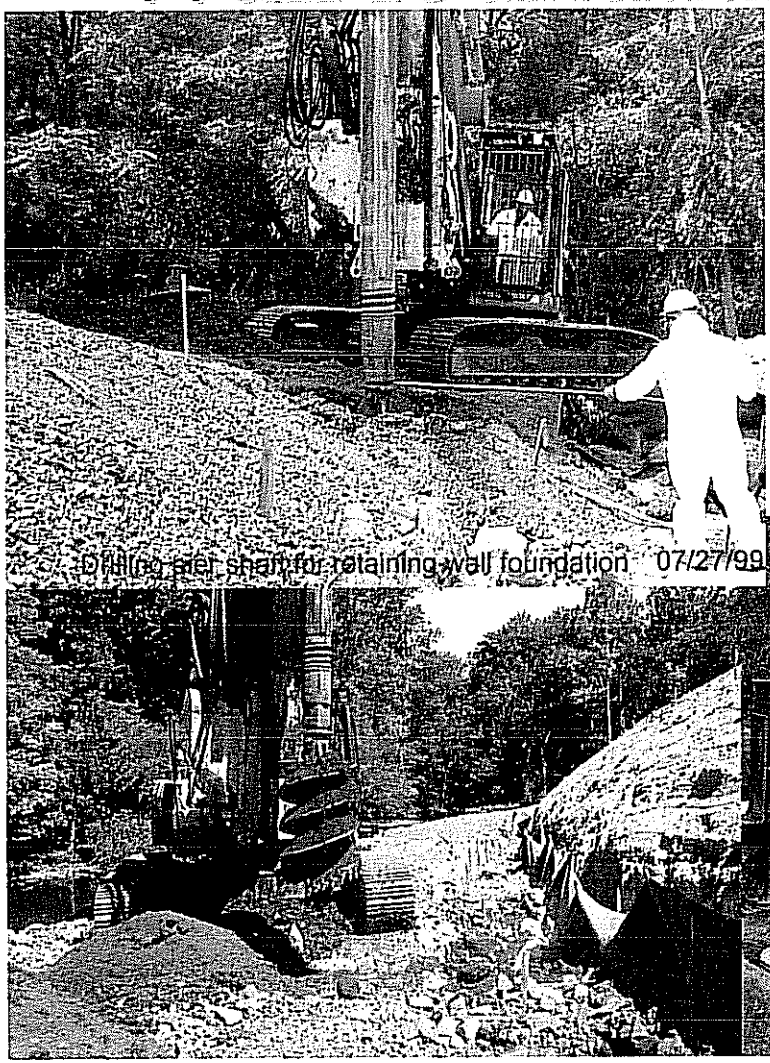


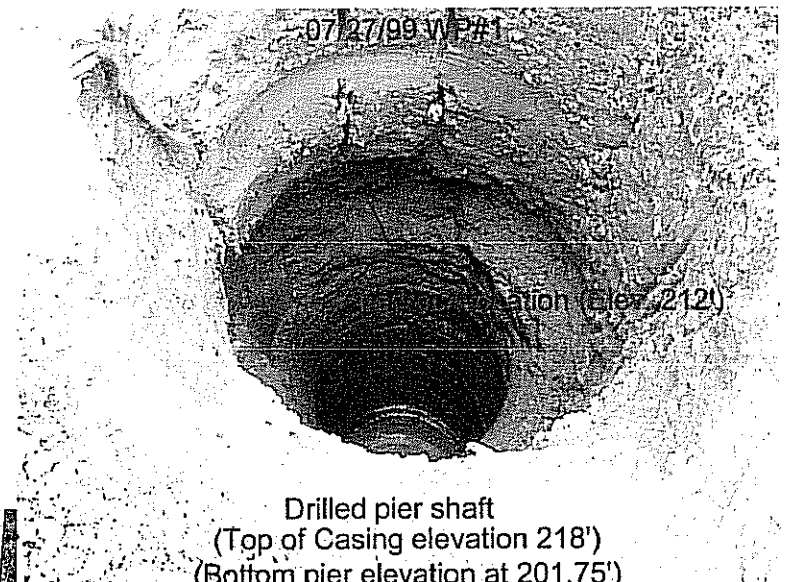
Access Path/Bank Stabilization

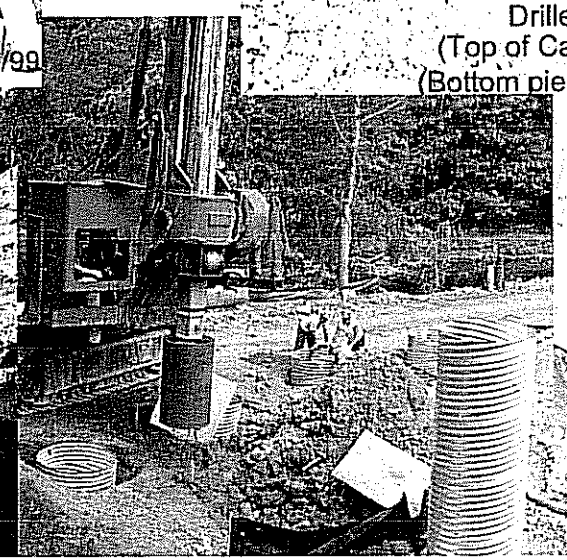
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

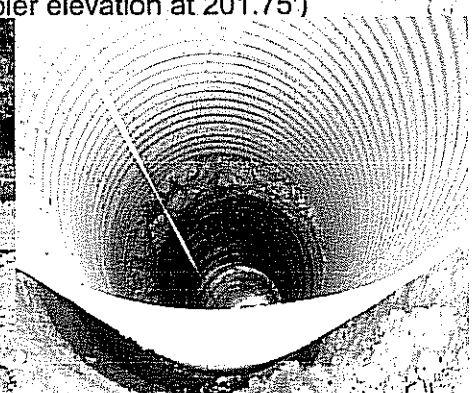
Construction of Access Road:

Drilling Pier Shafts for Retaining Wall foundation:



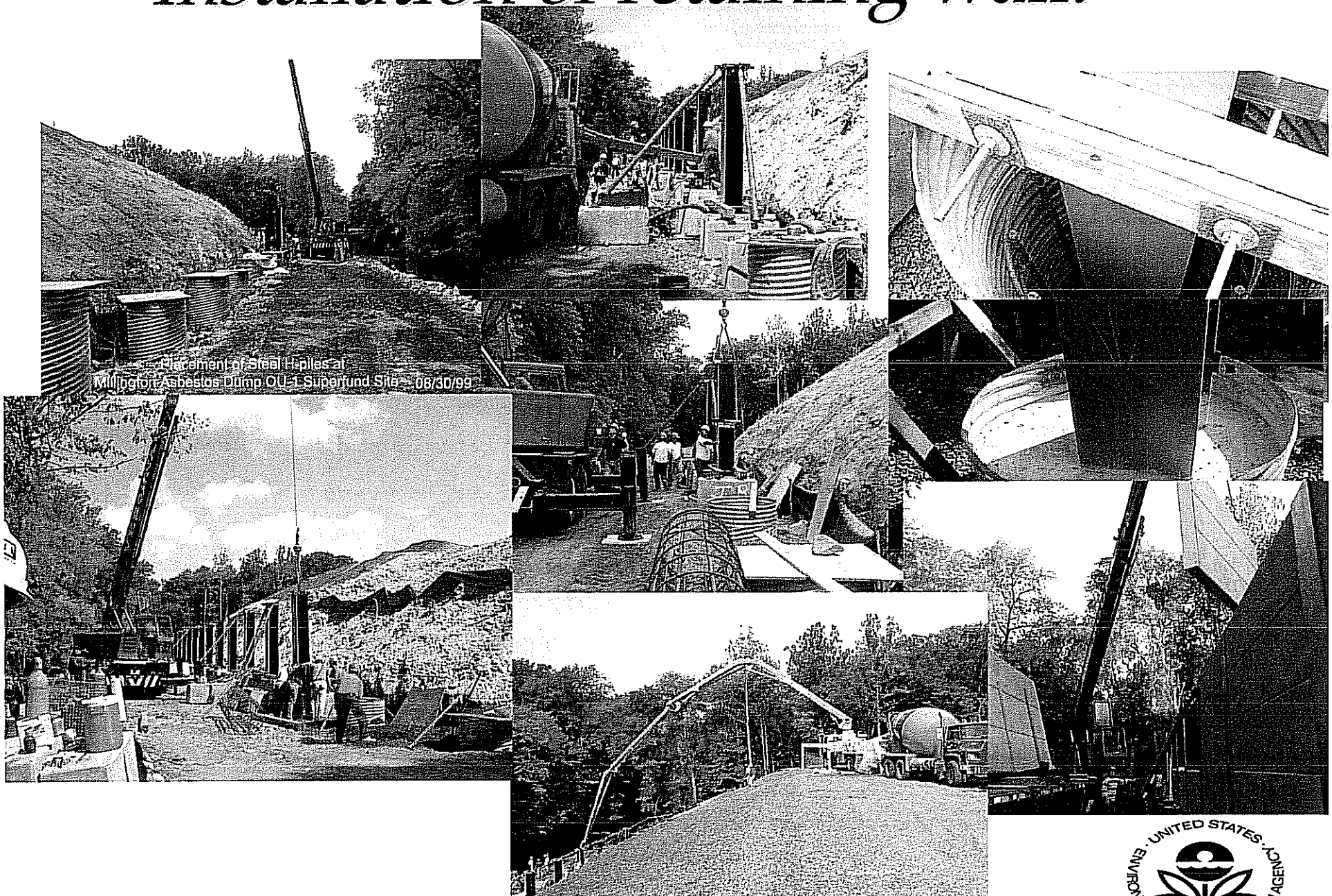




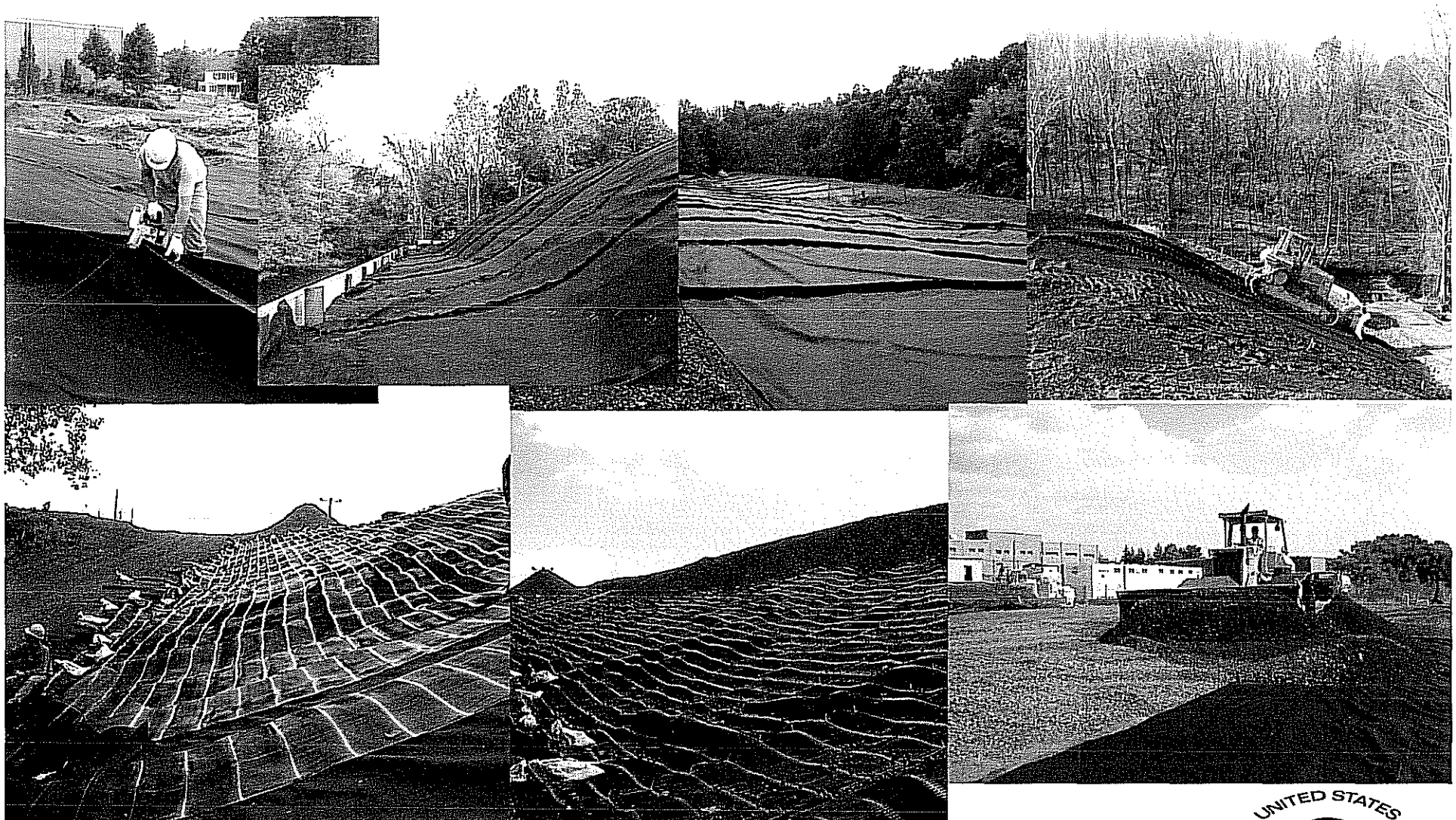


Drilled pier shaft
(Top of Casing elevation 218')
(Bottom pier elevation at 201.75')

Installation of retaining wall:

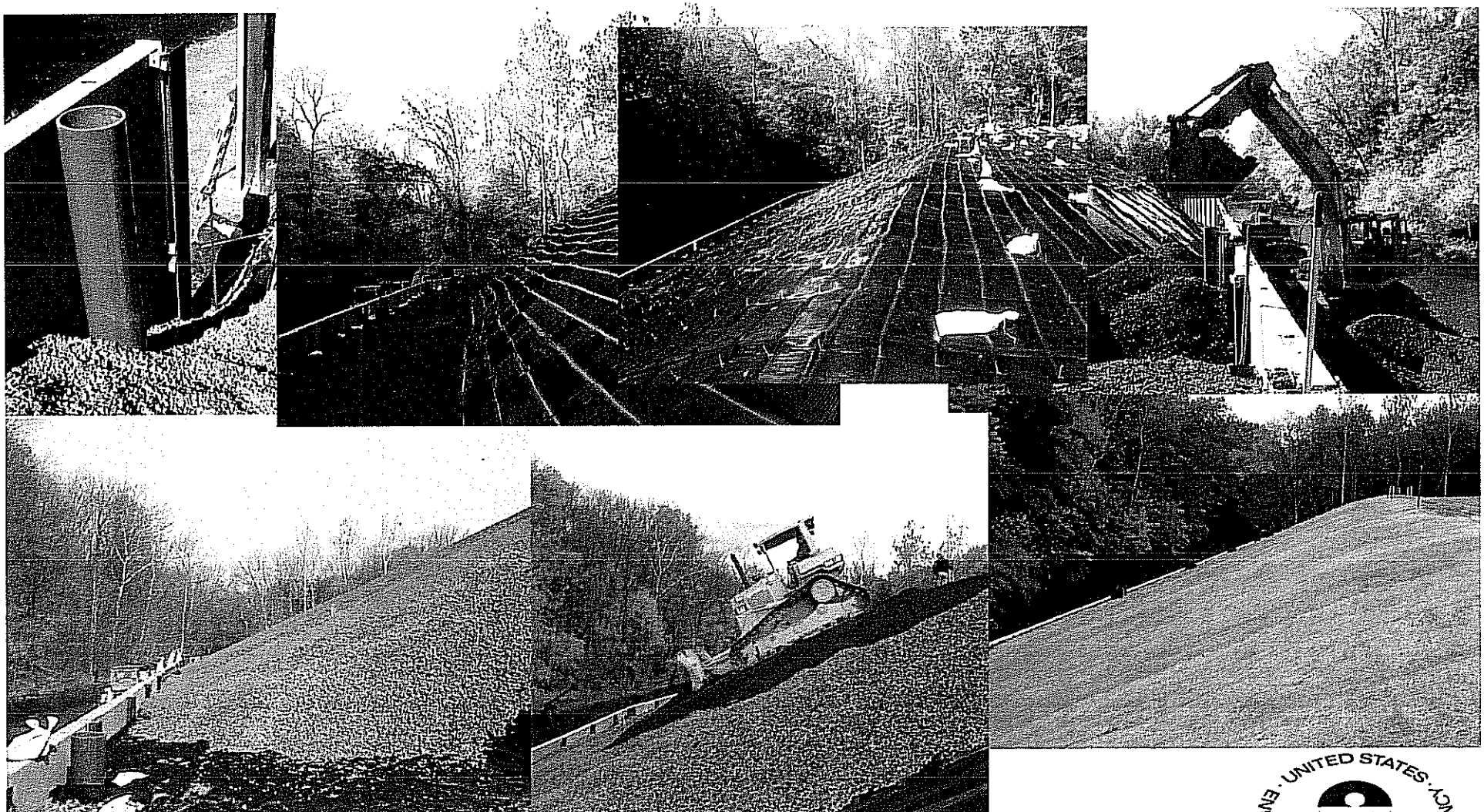


Placement of ACM landfill cap:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Placement of ACM landfill cap behind retaining wall:



Wetland/drainage channel construction

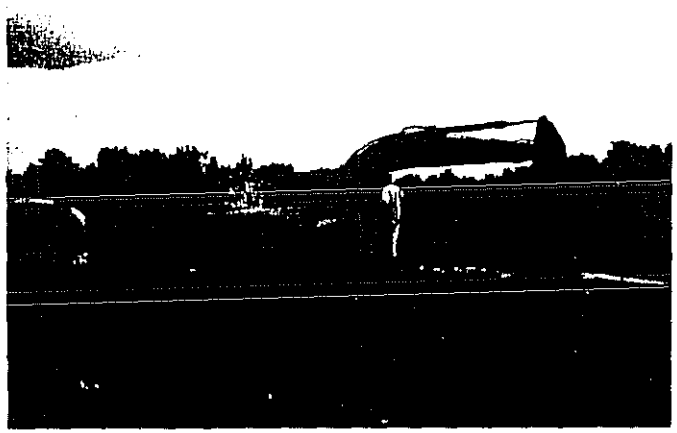
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

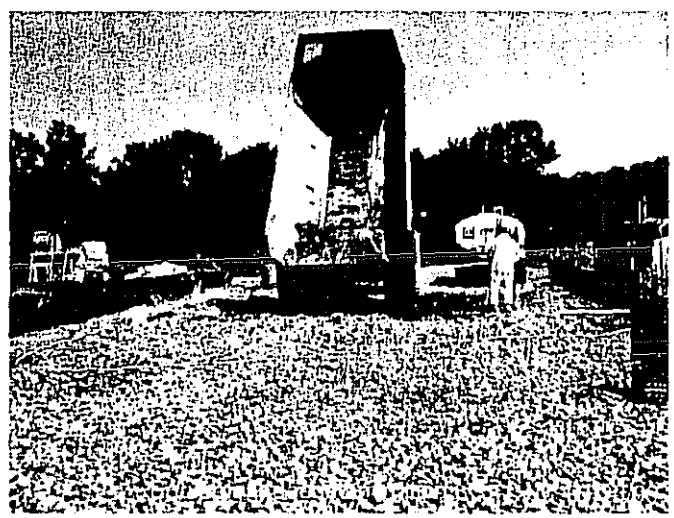
SITE RESTORATION:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ACM / Dust Control & Monitoring included:

All equipment prior to transport from subject Superfund site were decontaminated.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 1

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Top of ground elevation	218'	Bottom Pier Elevation	202.75'
Depth of overburden	6.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.25'		
Drilled shaft volume	4.6 cu yd		

Visual Classification of material encountered :

overburden : (0-5') - Brown to gray clay with silt and some gravel, moist.
(5'- 6') - Reddish brown clay with pieces of shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6.0 ft
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6.0'. Crew checking off sets for center location and using string line from offsets to determine elevations.

8/16
Contractor's Inspector Date

8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 2

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.83'
Ground Surface elevation	218'	Bottom Pier Elevation	202.51'
Depth of overburden	6.16'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.32'		
Drilled shaft volume	4.7 cu yd		

Visual Classification of material encountered :

overburden : (0-5') - Gray silty clay with some gravel, moist.
(5'- 6'2") - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6'2". Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 3

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	218'	Bottom Pier Elevation	201.61'
Depth of overburden	6.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.4'		
Drilled shaft volume	4.9 cu yd		

Visual Classification of material encountered :

overburden : (0-5'6") - Gray silty clay with some gravel, moist.
(5'6"- 6') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6'. Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Cudrose 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 4

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	215'	Bottom Pier Elevation	202.06'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.94'		
Drilled shaft volume	4.7 cu yd		

Visual Classification of material encountered :

overburden : (0-2.5') - Gray silty clay with some gravel, moist.
(2.5'- 3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3'. Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Anderson 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 5

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	215'	Bottom Pier Elevation	201.74'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.26'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-2.5') - Gray silty clay with some gravel, moist.
(2.5- 3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3'. Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Ambrose 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 6

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	215'	Bottom Pier Elevation	201.72'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.28'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-2.5') - Gray silty clay with some gravel, moist.
(2.5'- 3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.0'. Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Cardoza 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 7

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	215'	Bottom Pier Elevation	202.82'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.18'		
Drilled shaft volume	4.5 cu yd		

Visual Classification of material encountered :

overburden : (0-2.5') - Gray silty clay with some gravel, moist.
(2.5'- 3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.0'. Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

8/16
IT QCSM Date

Drilling Inspection Form

Date : August 13, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 8

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.25'
Ground Surface elevation	215'	Bottom Pier Elevation	202.24'
Depth of overburden	2.75'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-2') - Gray silty clay with some gravel, moist.
(2'- 2.75') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 2.75' . Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

8/16
IT QCSM Date

Drilling Inspection Form

Date : August 13, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 9

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	216'	Bottom Pier Elevation	202'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.0'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-3.5') - Gray silty clay with some gravel, moist.
(3.5'- 4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Ambrose 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 13, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 10

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	216'	Bottom Pier Elevation	201.95'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.0'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-3.5') - Gray silty clay with some gravel, moist.
(3.5'- 4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Ambrose 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 11

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	216'	Bottom Pier Elevation	202.36'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.64'		
Drilled shaft volume	4.7 cu yd		

Visual Classification of material encountered :

overburden : (0-3.5') - Gray silty clay with some gravel, moist.
(3.5'- 4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

8/16
IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 12

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	216'	Bottom Pier Elevation	201.04'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	11.0'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-3.25') - Gray silty clay with some gravel, moist.
(3.25'- 4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/16

Contractor's Inspector Date

IT QCSM Date

Drilling Inspection Form

Date : August 16, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 13

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.75'
Ground Surface elevation	215'	Bottom Pier Elevation	202.34'
Depth of overburden	3.25'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.41'		
Drilled shaft volume	4.7 cu yd		

Visual Classification of material encountered :

overburden : (0-3.0') - Gray silty clay with some gravel, moist.
(3.0'-3.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.25' . Crew checking off sets for center location and using string line to determine elevations.

8/16
Contractor's Inspector Date

David M. Anderson 8/16
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 14

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212'
Ground Surface elevation	215'	Bottom Pier Elevation	200.7'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	11.3'		
Drilled shaft volume	5.1 cu yd		

Visual Classification of material encountered :

overburden : (0-2.5') - Gray silty clay with some gravel, moist.
(2.5'-3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.0' . Crew checking off sets for center location and using string line to determine elevations.

[signature] 8.18
Contractor's Inspector Date

[signature] 8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 15

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.75'
Ground Surface elevation	215'	Bottom Pier Elevation	201.0'
Depth of overburden	3.25'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.75'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-3.0') - Gray silty clay with some gravel, moist.
(3.0'-3.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.25' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 16

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	215'	Bottom Pier Elevation	201.3'
Depth of overburden	3.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.7'		
Drilled shaft volume	4.9 cu yd		

Visual Classification of material encountered :

overburden : (0-2.67') - Gray silty clay with some gravel, moist.
(2.67'-3.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.0' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

David M. Ambrose 8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 17

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	216'	Bottom Pier Elevation	200.4'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	11.6'		
Drilled shaft volume	5.2 cu yd		

Visual Classification of material encountered :

overburden : (0-3.5') - Gray silty clay with some gravel, moist.
(3.5'-4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

David M. Anderson 8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 18

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	215.5'	Bottom Pier Elevation	201.7'
Depth of overburden	3.25'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.3'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-3.0') - Gray silty clay with some gravel, moist.
(3.0'-3.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 3.25' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 19

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	216'	Bottom Pier Elevation	200.6'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	11.4'		
Drilled shaft volume	5.1 cu yd		

Visual Classification of material encountered :

overburden : (0-3.75') - Gray silty clay with some gravel, moist.
(3.75'-4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

David M. Carlosa 8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 20

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	201.6'
Depth of overburden	4.5'	Groundwater Elevation	211.5'
Depth of Pier in Bedrock	9.9'		
Drilled shaft volume	4.9 cu yd		

Visual Classification of material encountered :

overburden : (0-4.0') - Gray silty clay with some gravel, moist.
(4.0'-4.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

8/18
IT QCSM Date

Drilling Inspection Form

Date : August 18, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : B130E Casagrande

Boring Number : 21

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	216'	Bottom Pier Elevation	201.9'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.1'		
Drilled shaft volume	4.8 cu yd		

Visual Classification of material encountered :

overburden : (0-3.25') - Gray silty clay with some gravel, moist.
(3.25'-4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

8/18
Contractor's Inspector Date

David M. Ambrose 8/18
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 22

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	212.0'
Ground Surface elevation	216'	Bottom Pier Elevation	201.25'
Depth of overburden	4.0'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.75'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-3.5') - Gray silty clay with some gravel, moist.
(3.5'-4.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'2"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 23

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	201.17'
Depth of overburden	4.5'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.33'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-4.0') - Gray silty clay with some gravel, moist.
(4.0'-4.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 7'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.0' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 24

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211'
Ground Surface elevation	216'	Bottom Pier Elevation	201.06'
Depth of overburden	5.0'	Groundwater Elevation	211'
Depth of Pier in Bedrock	9.94'		
Drilled shaft volume	5.1 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-5.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 7'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 5.0' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 25

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	200.31'
Depth of overburden	4.5'	Groundwater Elevation	212'
Depth of Pier in Bedrock	11.19'		
Drilled shaft volume	5.2 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-4.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length :7'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 26

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	210.5'
Ground Surface elevation	215'	Bottom Pier Elevation	198.93'
Depth of overburden	4.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	11.57'		
Drilled shaft volume	5.7 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-4.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 8'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 28

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	215'	Bottom Pier Elevation	201.34'
Depth of overburden	4.5'	Groundwater Elevation	212'
Depth of Pier in Bedrock	10.16'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-4.0') - Gray silty clay with some gravel, moist.
(4.0'-4.5') - Broken gray shale.

rock type : Gray shale

Casing Information

Type : CMP
Length : 7'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5'. Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

David M. Cardoza 9/10
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 29

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.0'
Ground Surface elevation	216'	Bottom Pier Elevation	199.15'
Depth of overburden	5.0'	Groundwater Elevation	211'
Depth of Pier in Bedrock	11.85'		
Drilled shaft volume	4.9 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-5.0') - Broken gray shale.

rock type : Gray shale

Casing Information

Type : CMP
Length : 7'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 5.0' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 30

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.75'
Ground Surface elevation	216'	Bottom Pier Elevation	200.55'
Depth of overburden	4.25'	Groundwater Elevation	211'
Depth of Pier in Bedrock	11.2'		
Drilled shaft volume	4.4 cu yd		

Visual Classification of material encountered :

overburden : (0-4.0') - Gray silty clay with some gravel, moist.
(4.0'-4.25') - Broken gray shale.

rock type : gray shale

Casing Information

Type : CMP
Length : 6'3"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.25' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

David M. Ambrose 8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 31

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	198.86'
Depth of overburden	4.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	12.64'		
Drilled shaft volume	4.9 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-4.5') - Broken gray shale.

rock type :gray shale

Casing Information

Type : CMP
Length : 6'6"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 32

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	197.4'
Depth of overburden	4.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	14.1'		
Drilled shaft volume	5.3 cu yd		

Visual Classification of material encountered :

overburden : (0-4.25') - Gray silty clay with some gravel, moist.
(4.25'-4.5') - Broken gray shale.

rock type : gray shale

Casing Information

Type : CMP
Length : 6'6"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

Contractor's Inspector Date

IT QCSM Date 8/24

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 33

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	216'	Bottom Pier Elevation	198.4'
Depth of overburden	4.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	13.1'		
Drilled shaft volume	5.0 cu yd		

Visual Classification of material encountered :

overburden : (0-4.0') - Gray silty clay with some gravel, moist.
(4.0'-4.5') - Broken gray shale.

rock type : gray shale

Casing Information

Type : CMP
Length : 6'6"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 4.5' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 34

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.75'
Ground Surface elevation	217'	Bottom Pier Elevation	199.25'
Depth of overburden	5.25'	Groundwater Elevation	211'
Depth of Pier in Bedrock	12.5'		
Drilled shaft volume	5.1 cu yd		

Visual Classification of material encountered :

overburden : (0-4.75') - Gray silty clay with some gravel, moist.
(4.75'-5.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'3"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 5.25' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 35

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.75'
Ground Surface elevation	217'	Bottom Pier Elevation	199.25'
Depth of overburden	5.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	12.25'		
Drilled shaft volume	5.2 cu yd		

Visual Classification of material encountered :

overburden : (0-5.25') - Gray silty clay with some gravel, moist.
(5.25'-5.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 6'3"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 5.5' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 36

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	210.75'
Ground Surface elevation	217'	Bottom Pier Elevation	197.54'
Depth of overburden	6.25'	Groundwater Elevation	210'
Depth of Pier in Bedrock	13.21'		
Drilled shaft volume	5.7 cu yd		

Visual Classification of material encountered :

overburden : (0-6.0') - Gray silty clay with some gravel, moist.
(6.0'-6.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 7'3"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6.25' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

David M. Ashore 8/24
IT QCSM Date

Drilling Inspection Form

Date : August 24, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 37

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	209.75'
Ground Surface elevation	217'	Bottom Pier Elevation	198.84'
Depth of overburden	6.25'	Groundwater Elevation	210.5'
Depth of Pier in Bedrock	11.91'		
Drilled shaft volume	5.3 cu yd		

Visual Classification of material encountered :

overburden : (0-5.75') - Gray silty clay with some gravel, moist.
(5.75'-6.25') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 8'3"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6.25' . Crew checking off sets for center location and using string line to determine elevations.

8/25
Contractor's Inspector Date

8/24
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 38

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	210.5'
Ground Surface elevation	217'	Bottom Pier Elevation	200.43'
Depth of overburden	6.5'	Groundwater Elevation	210'
Depth of Pier in Bedrock	10.07'		
Drilled shaft volume	5.3 cu yd		

Visual Classification of material encountered :

overburden : (0-6.25') - Gray silty clay with some gravel, moist.
(6.25'-6.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 8'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

David M. Ambrose 9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 39

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	210.5'
Ground Surface elevation	217'	Bottom Pier Elevation	199.78'
Depth of overburden	6.5'	Groundwater Elevation	210'
Depth of Pier in Bedrock	10.72'		
Drilled shaft volume	5.5 cu yd		

Visual Classification of material encountered :

overburden : (0-6.25') - Gray silty clay with some gravel, moist.
(6.25'-6.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 8'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 40

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	218'	Top of Bedrock Elevation	211.0'
Ground Surface elevation	217'	Bottom Pier Elevation	201.13'
Depth of overburden	6'	Groundwater Elevation	211'
Depth of Pier in Bedrock	9.87'		
Drilled shaft volume	5.1 cu yd		

Visual Classification of material encountered :

overburden : (0-5.75') - Gray silty clay with some gravel, moist.
(5.75'-6.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length :6'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 6' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 41

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	220'	Top of Bedrock Elevation	211.5'
Ground Surface elevation	217'	Bottom Pier Elevation	200.86'
Depth of overburden	5.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	10.64'		
Drilled shaft volume	5.8 cu yd		

Visual Classification of material encountered :

overburden : (0-5.25') - Gray silty clay with some gravel, moist.
(5.25'-5.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length :10'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 5.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 42

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	222'	Top of Bedrock Elevation	212'
Ground Surface elevation	220'	Bottom Pier Elevation	200.77'
Depth of overburden	8.0'	Groundwater Elevation	211.75'
Depth of Pier in Bedrock	11.23'		
Drilled shaft volume	6.5 cu yd		

Visual Classification of material encountered :

overburden : (0-7.5') - Gray silty clay with some gravel, moist.
(7.5'-8.0') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length :10'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 8.0' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

David M. Ambrose 9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 43

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	224'	Top of Bedrock Elevation	212.5'
Ground Surface elevation	223'	Bottom Pier Elevation	201.12'
Depth of overburden	10.5'	Groundwater Elevation	211'
Depth of Pier in Bedrock	11.38'		
Drilled shaft volume	7.1 cu yd		

Visual Classification of material encountered :

overburden : (0-10.0') - Gray silty clay with some gravel, moist.
(10.0'-10.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length :12'0"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 10.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

Drilling Inspection Form

Date : August 31, 1999

Drilling Method : 42" earth auger for overburden\ 36" rock auger

Drilling Equipment : Texoma Taurus XL

Boring Number : 44

Boring Diameter : 42" casing \ 36" core

Top of Casing Elevation	226'	Top of Bedrock Elevation	212.5'
Ground Surface elevation	223'	Bottom Pier Elevation	202.64'
Depth of overburden	10.5'	Groundwater Elevation	212'
Depth of Pier in Bedrock	9.86'		
Drilled shaft volume	7.4 cu yd		

Visual Classification of material encountered :

overburden : (0-10.25') - Gray silty clay with some gravel, moist.
(10.25'-10.5') - Broken reddish brown shale.

rock type : Reddish brown shale

Casing Information

Type : CMP
Length : 13'6"
Diameter : 42"
Wall thickness : 0.109"

Comments (include description of problems, obstructions encountered, etc.)

Earth auger refusal at 10.5' . Crew checking off sets for center location and using string line to determine elevations.

9/10
Contractor's Inspector Date

9/10
IT QCSM Date

WASTE MANAGEMENT OF PENNSYLVANIA, INC.
1121 Bordentown Road
Morrisville, PA 19067
(215) 736-9400
(215) 736-9475 (To Schedule)

Document Reference No.: 98 A14289

ASBESTOS WASTE SHIPMENT RECORD

GENERATOR

1. WORK SITE NAME & MAILING ADDRESS	Owner's Name	Owner's Phone No.
MILLINGTON ASBESTOS DUMP 50-A DIVISON AVENUE MILLINGTON, NJ 07946	USEPA	212-637-4407

2. OPERATOR NAME & ADDRESS	Operator's Phone
IT CORPORATION 2200 COTTONTAIL LANE SOMERSET, NJ 08873	908-504-9202

3. WASTE DISPOSAL SITE — CIRCLE ONE

G.R.O.W.S., Inc
1513 Bordentown Road
Morrisville, PA 19067
(215) 736-9475

Tullytown Resource Recovery Facility
200 Bordentown Road
Tullytown, PA 19007
(215) 943-9732

4. NAME and ADDRESS OF RESPONSIBLE AGENCY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION II
ATTN: MS. MARY ANN ROSA, (REMEDIATION PROJECT MANAGER)
NEW JERSEY REMEDIATION BRANCH,
290 BROADWAY, NEW YORK, NY 10007

5. DESCRIPTION OF MATERIALS (CIRCLE ONE)	6. CONTAINERS (bags/drums)	7. QUANTITY
FRIABLE / NON-FRIABLE	no. 48 type poly bags	15 yds.

PROFILE/WASTE STREAM ID NUMBER: 418728 confirmation #12

8. SPECIAL HANDLING INSTRUCTIONS: (Friable Asbestos Only) Waste double bagged and prewetted with an approved wetting agent Asbestos, 9, NA2212, III, RQ

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name and Title	Signature	Date
Mary Anne Rosa Project Mgr.	Mary Anne Rosa	12-6-99

TRANSPORTER

10. TRANSPORTER (Acknowledgment of receipt of materials)
Address and Phone No: Freehold Carriage Inc.
825 Hwy 33 Freehold, N.J. 07728 (1)-732-462-1001

Printed/Typed Name and Title	Signature	Date
Bill Burns	Bill Burns	12-09-99

DISPOSAL FACILITY

11. DISCREPANCY INDICATION SPACE:

12. WASTE DISPOSAL SITE – Owner or Operator:
Certification of receipt of asbestos materials covered by this manifest except as noted in Item 11

Printed/Typed Name and Title	Signature	Date
Katy Swayze	Katy Swayze	12/10/99

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-009

REPLY TO
ATTENTION OF

U.S. Army Corps of Engineers
Environmental Residency
214 State Highway 18
East Brunswick, New Jersey 08816

July 2, 2001

Mr. John Frisco, Deputy Director
For New Jersey Programs
Emergency and Remedial Response Division
290 Broadway, 19th Floor
New York, New York 10007-1866

Subject: Final Inspection Notice
IT Corporation
Millington Asbestos Dump Operable Unit #1 (OU-1) Superfund Site
Longhill Township, Morris County, New Jersey

Dear Mr. Frisco:

A final inspection was held at the above referenced project on 25 and 27 April 2001. The following individuals were present:

Ms. Mary Anne Rosa, USEPA, Remedial Project Manager
Mr. Eugene R. Urbanik, P.E., P.P., USACE, Environmental Resident Engineer
Mr. Patrick Nejand, USACE, Project Engineer
Mr. Charles N. Strotz, IT, Project Engineer/Manager
Mr. David Ambrose, IT, Quality Control System Manager

All construction and maintenance punch list items were completed prior to this inspection or as noted in the attached June 29, 2001 correspondence

The following is a summary of pertinent contract information:

Contract Title: Millington Asbestos Dump OU-1 Superfund Site
Long Hill Township, Morris County, New Jersey

Contract Number: DACW41-94-D-9013-0009

Contractor: IT Corporation
William Penn Plaza
2790 Mosside Boulevard
Monoreville, Pennsylvania 15416-2792

Original Contract Amount:	$3,793,305.00
Final Contract Amount:	$4,183,826.00
Notice to Proceed Date:	June 8, 1999
Original Completion Date:	March 4, 2000
Revised Completion Date:	May 18, 2001
Actual Completion Date:	May 18, 2001
Claims/Expected Claims:	0/0
Modifications:	P00901 to P00911
Architect/Engineer:	CDM Federal Corporation Programs, Inc. 107-F Corporate Boulevard South Plainfield, New Jersey 07080

The work performed consisted of in-situ stabilization of asbestos-containing materials (ACM) within a five acre area in the Village of Millington, Long Hill Township, Morris County, New Jersey. Specific work tasks included but not limited to site preparation, removal of existing drums, clearing & grubbing, construction of surface water run-off controls, soil erosion and sediment and dust control, construction of a roadway, construction of a steel/concrete retaining wall, excavation & on-site relocation of ACM, construction of slope protection/stabilization along Passaic River bank, placement of a multilayer soil cap with geotextile fabric over ACM, landscaping including wetland plantings and site restoration and all other incidentals necessary to complete the work described herein. The construction portion of the subject project was completed in May 15, 2000. In addition, operation and maintenance of the subject site was performed from May 15, 2000 to May 18, 2001.

The final inspection was conducted in accordance with EPA Superfund Remedial Design and Remedial Action Guidance Directive. All contract work was performed in accordance with the contract drawings and specifications. As-built drawings and final closure report will be furnished to your office at a later date.

If you have any questions or comments regarding this project, please contact our project engineers, Mr. Patrick Nejand or Mr. Young S. Kim at (732) 846-5830.

Sincerely,

Eugene R. Urbanik

Eugene R. Urbanik, P.E., P.P.
Contracting Officer Representative

cc: K. O'Connell (USEPA)
M. Rosa (USEPA)
G. Byrne, Area Engineer (ACO)
C. Strotz, IT
File