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N62472-94-D-0398	0013	Newport, Rhode Island

PROJECT TITLE:
Tank Farm 4 at NETC

FROM:	DATE
Foster Wheeler Environmental Corp/ Program QCM: Mark Miller	January 28, 1999
TO:	DATE
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28b	SD-18, Records; Final Tank 37 Closure Assessment Report	M Miller			

FINAL
TANK 37 CLOSURE ASSESSMENT REPORT
TANK FARM 4

NAVAL EDUCATION AND TRAINING CENTER
NEWPORT, RHODE ISLAND

REMEDIAL ACTION CONTRACT (RAC)
CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0013

Submitted to:
Northern Division
Environmental Branch, Code 18
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Submitted by:
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2300 Lincoln Highway East
One Oxford Valley, Suite 200
Langhorne, Pennsylvania 19047

JANUARY 1999 (R1)

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1.0 SITE BACKGROUND

1.1 INTRODUCTION

Foster Wheeler Environmental Corporation, prepared this Tank 37 Closure Assessment Report summarizing the investigation and closure activities conducted at Tank 37, located at Tank Farm 4 at the Naval Education and Training Center (NETC) in Newport, Rhode Island. Foster Wheeler Environmental Corporation is under contract to the Navy to carry out closure activities at Tank 37. This Assessment has been written by Foster Wheeler Environmental Corporation to satisfy the Rhode Island Department of Environmental Management (RIDEM) Regulation DEM-DWM-UST05-93 Section 15.10, as detailed by the July 1992 RIDEM guidance document entitled: Department of Environmental Management UST Closure Assessment Guidelines. This report was prepared at the request of the United States Navy, Northern Division (NORTHDIV) of the Naval Facilities Engineering Command (NAVFAC) under Delivery Order No. 0013 of the Remedial Action Contract N62472-94-D-0398.

The primary objective of this Assessment is to provide sufficient evidence to conclude whether or not a leak or a release has occurred from Tank 37 and to provide documentation necessary to complete a permanent underground storage tank (UST) closure, consistent with RIDEM regulations. The Assessment objectives were met by providing the field screening data of the soil samples collected during excavation actives and an inspection of Tank 37 after the cleaning was completed and using this data to determine if oil stored in Tank 37 has impacted the environment.

B&R Environmental (as Halliburton NUS Corporation) conducted a preliminary assessment of Tank Farm 4 between October 1994 and March 1995, to evaluate the impacts of past activities on soil and groundwater in the immediate vicinity of selected on-site facilities, including twelve large USTs. That information serves as the supporting documentation necessary to complete permanent closures of the 12 USTs evaluated in the assessment, and provides general information about Tank Farm 4 for this report.

This section presents background information concerning Tank 37, including site location, site description, site history, and construction details of structures pertinent to this investigation. A summary of the site geology is also presented in this section. Finally, the technical approach and the investigation and analytical methods are discussed.

1.2 LOCATION

Tank 37 is located in Tank Farm 4 of NETC Newport, which is located in the Towns of Newport, Middletown, and Portsmouth, Rhode Island, approximately 25 miles southeast of Providence (Figure 1-1). Tank Farm 4 is situated at the northern portion of NETC-Newport, in Portsmouth (Figure 1-2). Tank 37 is located in the northern portion of Tank Farm 4 (Figure 1-3).

Tank Farm 4 is bordered by the Defense Highway to the north/northwest; Norman's Brook to the southwest; residential property to the southeast; and undeveloped woodlands to the north/northeast.

1.3 SITE DESCRIPTION

Tank Farm 4 is accessed from Defense Highway; it occupies approximately 90 acres and contains 12 UST's numbered 37 through 48. These tanks were used to store virgin heavy fuel oil (no. 6 bunker oil). Several tanks were reportedly also used to store no. 2 heating oil during the mid-1970s. Access to Tank Farm 4 is unrestricted. An unsecured gate is drawn across the entrance. A paved road leads into the tank farm, passing between the tanks in a loop.

On-site structures include the remnants of a building and a decommissioned electrical substation. Ground elevations across Tank Farm 4 range between 46 feet and 111 feet above mean low water level (mlw). Topography gradually slopes to the west/southwest, toward Narragansett Bay. The central portion of the

tank farm is vegetated with tall grass, dense brush, and trees. Dense brush and woodlands cover the perimeter areas of the tank farm. Brush at each tank has been cleared from work areas.

1.4 SITE HISTORY

In 1941, the U. S. Navy began construction of five tank farms at NETC to store fuel oils and other petroleum products to supply warships. Tank Farm 4 was used to store fuel oil from World War II until it was abandoned in the mid-1970s. For a brief period, from 1974 to 1978, three to four unidentified tanks were reportedly leased to Northeast Petroleum to store No. 2 heating oil. At the end of the lease period Northeast did not require the storage capacity and terminated the lease agreement. Northeast reportedly cleaned the tanks. Tank Farm 4 was not used for petroleum storage thereafter.

As a result of amendments to underground petroleum storage facilities regulations enacted by the State of Rhode Island in 1992, tanks used to store fuel oil also became subject to closure requirements. The Navy has filed an application with RIDEM to permanently close the tanks at Tank Farm 4 (see Appendix A).

1.5 PREVIOUS INVESTIGATIONS

B&R Environmental (as Halliburton NUS Corporation) conducted a preliminary assessment of Tank Farm 4 between October 1994 and March 1995, to evaluate the impacts of past site activities on soil and groundwater in the immediate vicinity of selected on site facilities, including twelve large UST's. This assessment report was the first investigation focusing on potential impacts to soil and groundwater from releases from the on-site UST's.

Previous investigation conducted at Tank Farm 4 from 1982 to 1992 focused on the reported disposal of tank bottom sludge's at the tank farms. Prior investigations are mentioned here for historical information purposes only.

An initial Assessment Study (IAS) was conducted by Envirodyne Engineers, Inc. in 1982 and 1983. Loureiro Engineering Associates conducted a Confirmation Study (CS) between 1983 and 1986. Results of the CS led to the conduct of a Phase 1 Remedial Investigation (RI) as part of the Department of Defense Installation Restoration (IR) Program. The RI included multi- media environmental sampling and analysis.

1.6 SUMMARY OF TANK 37 CONSTRUCTION

Tank 37 has a capacity of 60,000 barrels (standard petroleum), or approximately 2.5 million gallons. This tank was constructed in place, of reinforced concrete. Concrete in tank walls and roof has a nominal thickness of 12-inches, while the tank floor has a nominal thickness of 14-inches. Floor and wall joints were caulked at the time of construction. The outside diameter of the tank is 119 feet; the side measures 36 feet from the bottom of the footing to the top of the roof.

The Tank 37 construction sequence began by stripping the soil overburden, and then blasting and excavating between 10 and 30 feet of bedrock to create a steep walled bedrock "socket" in which the tank was built. The tank bottom was then placed 10 to 30 feet below the original bedrock surface as described in the following paragraph. Following tank completion, the annular space between the tank wall and the bedrock was backfilled with crushed bedrock and other locally derived material. Coarse to fine grained material were used, resulting in a general graded backfill with coarse bedrock at the bottom, and finer bedrock at the top. After backfill operations were completed, the tank top was covered with similar fill material.

The tank floor lies on a flat bedrock surface that has been leveled by filling depressions with cement. A 12-inch diameter reinforced concrete perforated drainpipe is embedded in gravel surrounding the base of the tank. Groundwater that infiltrates the pipe can be pumped out of the system, thus managing the water table elevation and limiting buoyant forces on the tank. The drain system is termed a ring-drain.

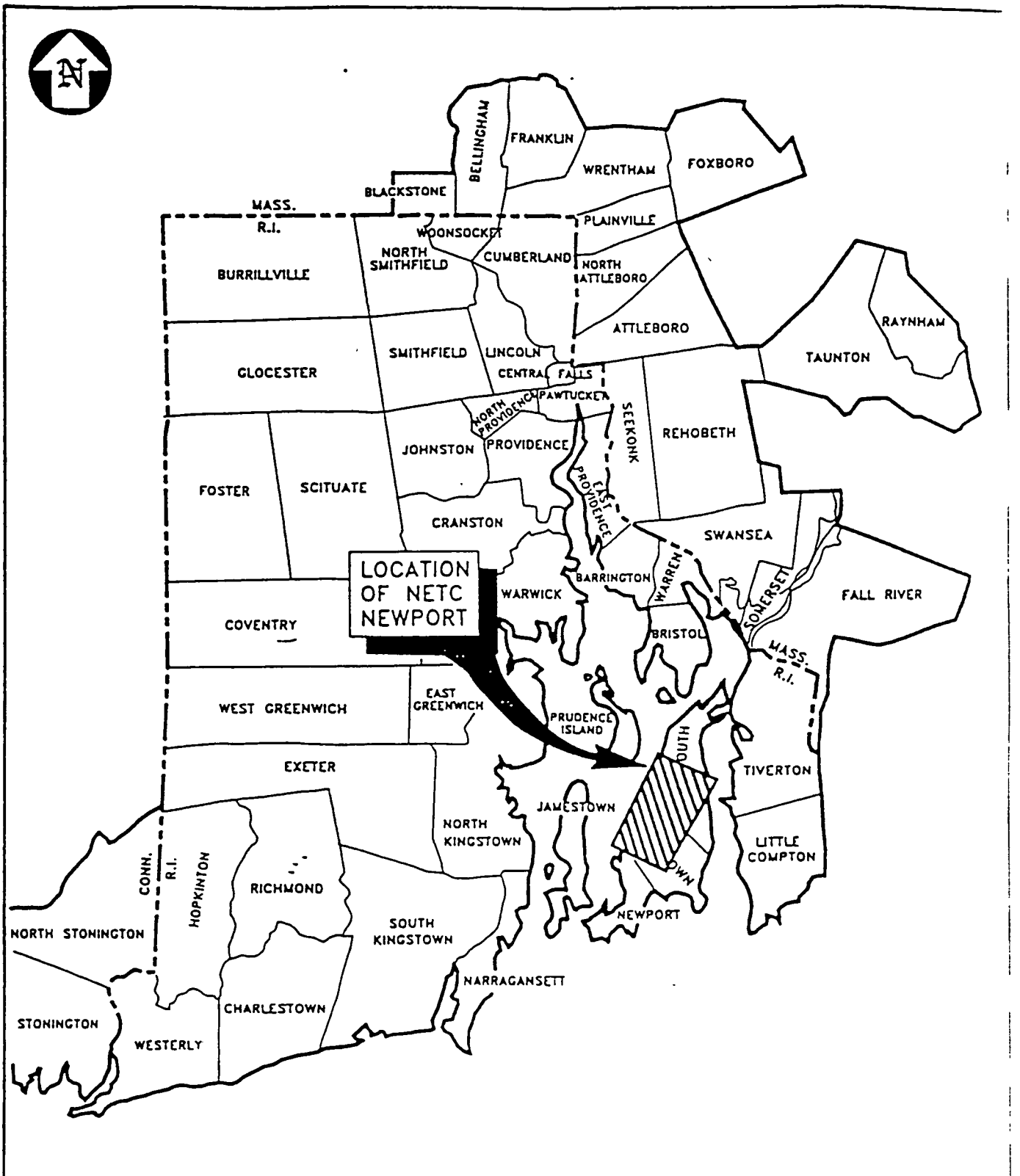
1.7 UNDERGROUND UTILITIES

Underground utilities consist of water, electricity, and telephone service. The exact location of the utilities could not be confirmed by base Dig safe services. Also, the existence of the telephone network shown on base maps could not be confirmed.

The utility lines to Tank 37 are insulated direct burial cable and are buried 5 to 7 feet below ground surface. Consequently, these utilities would be located above the ground water table and therefore would not act as a preferential migration pathway.

1.8 GEOLOGY

The NETC site, including Tank Farm 4, is located in the southeastern portion of Narragansett Basin. The basin is underlain by Pennsylvanian age non-marine sedimentary and metamorphic rocks, including the Rhode Island Formation. Bedrock at the site is reported to be a weathered shale; phyllites were also observed at borehole refusals. Overburden material consist of unconsolidated glacial sediments ranging from gravel to silt, as well as glacial till. Soil thickness at the tank farm is variable, and is estimated to be no more than 45 feet thick. Soil descriptions from preliminary Closure Assessment investigations indicate the presence of extensive fill materials in the vicinity of the tank because of the widespread disturbance of native soils during tank construction



NETC LOCATION	FIGURE 1–1
NETC – NEWPORT, RI	
TANK 37 CLOSURE ASSESSMENT REPORT	

DRAWN BY:	R.C. DEWSNAP	REV.:	0
CHECKED BY:	J. FORRELLI	DATE:	21 NOV 95
SCALE:		PROJECT NO.:	4643 CTO #196

Brown & Root Environmental
A Division of Halliburton NUS Corporation
55 Jonspin Road Wilmington, MA 01887 (508)658-7899

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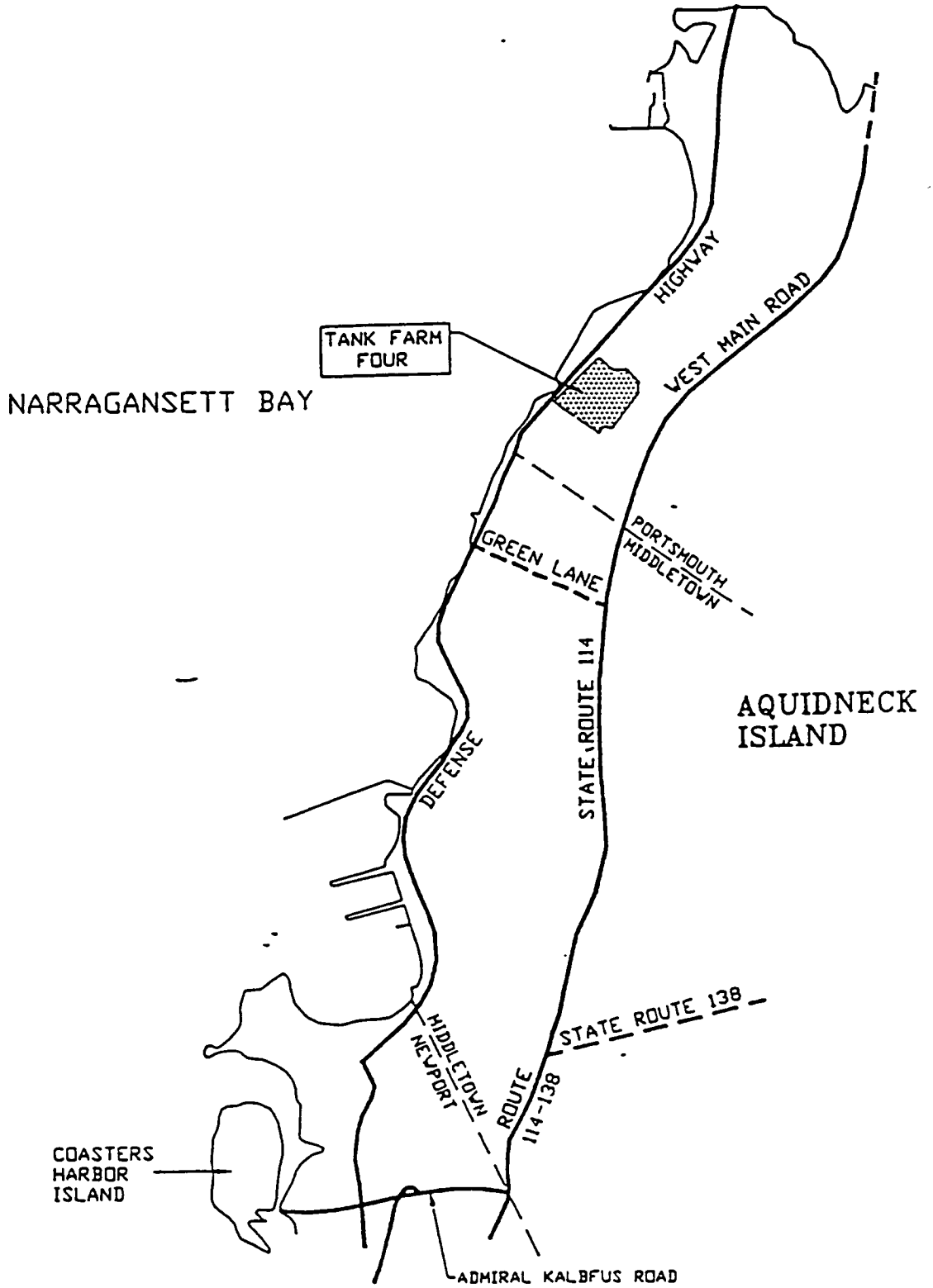

TANK FARM 4 LOCATION			FIGURE 1-2
NETC – NEWPORT, RI			
TANK 37 CLOSURE ASSESSMENT REPORT			
DRAWN BY:	R.C. DEWSNAP	REV.:	0
CHECKED BY:	J. FORRELLI	DATE:	21 NOV 95
SCALE:	APPROX. 4800 FT.	PROJECT NO.	4643 CTO #196:

Brown & Root Environmental
A Division of Halliburton NUS Corporation
55 Jonspin Road Wilmington, MA 01887 (508)658-7899

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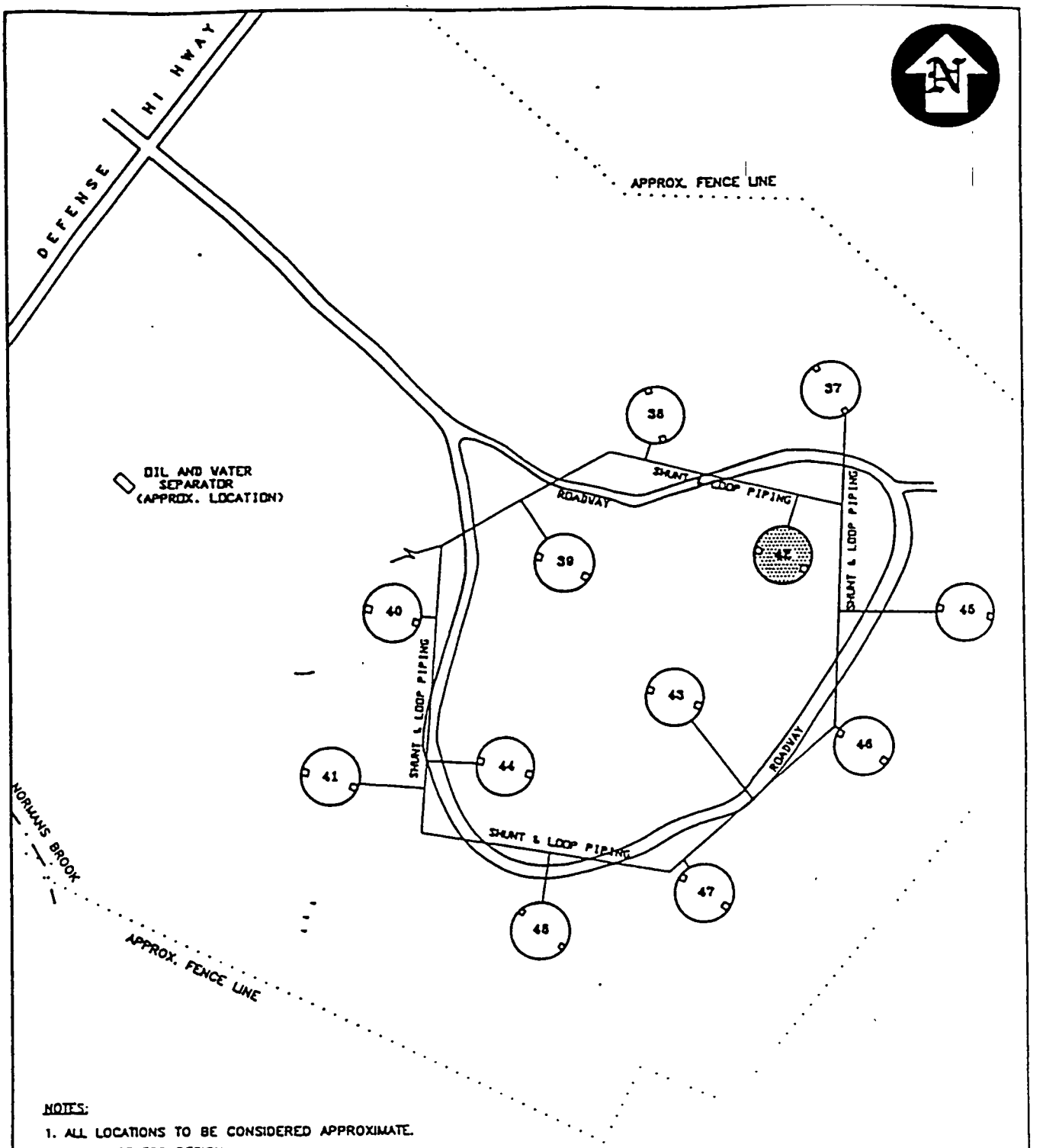


NOTES:

1. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
2. PLAN NOT FOR DESIGN.

TANK FARM 4			FIGURE 1-3
NETC — NEWPORT, RI			Brown & Root Environmental
TANK 37 CLOSURE ASSESSMENT REPORT			A Division of Halliburton NUS Corporation
DRAWN BY:	R. DEWSNAP	REV.:	0
CHECKED BY:	J. FORRELLI	DATE:	07 DEC 95
SCALE:	1"=300 FT. (APPROX.)	PROJECT NO:	4643 CTO #196

55 Joseph Road Wilmington, MA 01887 (508)658-7899

W5295102D

2.0 CLOSURE ACTIONS

2.1 MOBILIZATION

Foster Wheeler Environmental Corporation was retained by the Navy to conduct tank closure activities at Tank Farm 4. Following the submittal of all pre-construction documents, Foster Wheeler Environmental Corporation commenced mobilization activities at Tank Farm 4 on May 20, 1996. Consistent with the tank closure work plan and specification, a support zone was set up, the site was cleared and grubbed, and temporary fencing was erected to encompass each tank work area.

Tank specific closure activities began on June 3, 1996, by excavating and exposing of the tank tops. Two entry ports (7 feet by 9 feet and 9 feet by 13 feet) were subsequently cut and removed from each tank top to provide access to the tank interior for personnel and equipment. Tank access lid excavation and access port cutting activities were completed by July 10, 1996. Subsequent to tank lid excavation activities, the soil cover for the pump room chamber associated with each tank was excavated and the chamber's lid was exposed.

Tank gauging was conducted by Foster Wheeler Environmental Corporation in June of 1996. For tank gauging activities, the total overall depth of liquids in each tank was measured. The liquid phase was assumed to be oil/water/sludge, and an attempt was made to determine the thickness, or depth, of each phase of material. Volume estimates for Tank 37 are presented below.

PHASE	VOLUME(gallons)
Oil	**110,000**
Water	**1,037,000**
Sludge	**55,000**
Total	**1,202,000**

A sample of the oil and sludge layer was analyzed for off-site disposal characterization purposes. The analytical results for the oil and sludge layer are included In Appendix B.

2.2 SOIL EXCAVATION

During excavation activities conducted to expose the tank tops and pump chamber, all soils were visually observed and screened using a flame-ionization detector (FID). The Foster Wheeler Environmental Corporation soil management plan for Tank Farm 4 activities states that all soils having a FID reading of less than 10 ppm are considered non-impacted and will be reused on site. None of the excavated soils registered FID readings greater than 10 ppm and will be reused in accordance with the soil management plan.

2.3 TANK CONTENTS REMOVAL AND STORAGE

Tank contents removal activities began on September 3, 1996 and were completed by September 19, 1996. The water phase was pumped from the tank directly into Tank 43 for treatment and discharge to the POTW. When all water was removed the oil/sludge layer was pumped to 21,000 gallon above ground frac tanks. The oil/sludge was pumped onto transporters and disposed of off site at an approved facility. Refer to Appendix C for disposal Bill of Ladings. All wastewater generated during the tank cleaning was also pumped to Tank 43, including groundwater generated by ring drain pumping operations.

2.4 TANK CLEANING

Tank 37 interior surface cleaning operations commenced on October 20, 1996. The cleaning method employed consisted of a presoak with heated fuel oil and a heated caustic wash. The caustic wash unit had operating temperatures up to 180 degrees Fahrenheit, operating nozzle pressures up to 300 psi and a flow rate of 300 gpm. Caustic vendor information may be found in Appendix D. Pump room 37 cleaning operations consisted of flushing the interior pipe and removal of the pipe. Once the pipe was removed the cleaning process began. The cleaning method consisted of washing the surface with high pressure hot water utilizing a diluted water based industrial degreaser. Degreaser vendor information may be found in Appendix D.

2.5 PIPING, EQUIPMENT, AND DEBRIS REMOVAL

During Tank 37 surface cleaning operations, all piping and equipment was dismantled and decontaminated with high pressure hot water. All decontaminated, salvageable materials were sent to an approved scrap yard. All other debris, including spent personnel protective equipment from tank cleaning operations is currently being disposed of off site at an approved disposal facility Manifests for shipments to the facility are included in Appendix E.

2.6 TANK CLOSURE

On November 14,1996, prior to tank inspection (see section 3.2) and after the pipes were cleaned and dismantled, blind flanges were installed at the pipes entrances into the tank. Three pipe entrances were identified and blind flanged. These entrances are identified as follows:

One 16-inch line extending from the bottom of the pump room into the bottom of the tank

One 6-inch line extending from the bottom of the pump room into the bottom of the tank

One 10-inch line extending from the top of the pump room into the top of the tank

All blind flanges were installed on the tank's exterior side, within the pump room, and tank ballasting has been completed.

2.7 TANK DEMOLITION

Chip samples were taken from the floor, column and walls of this tank on 7-25-97 and analyzed for TCLP Metals, VOC's, SVOC's and TPH. The results are included as Appendix J. 15 test pits were excavated around the perimeter of the tank to insure that the fill material on the tank top and around the perimeter of the tank was not contaminated. The test pits were equally spaced around the perimeter of the tank and excavated to the tank top on 7-8-97. The results of the composite sample TP-TK37 are included as Appendix K. The tank had 15 feet of clean sand placed into the bottom and on 1-21-98 at 1334 the tank top was imploded. The remaining hole was backfilled with off-site borrow material. A copy of the blast report is included as Appendix L.

3.0 TANK CONDITION

3.1 STRUCTURAL INSPECTION

On November 14, 1996, Mark Gouveia of Foster Wheeler Environmental Corporation inspected the tank's interior to assess the structural integrity of the tank. During the inspection several small cracks were identified (less than 1/8 inch wide) on the tank floor. The columns appeared in good condition. A crack was found in the sump of this tank, the crack was less than 1/4 inch wide and 3 inches long, Documentation regarding the inspection may be found in Appendix F.

3.2 CLOSURE INSPECTION

Tank 37 was formally inspected on November 15, 1996. Participating in the inspection were:

RIDEM
- Daniel Russell - Division of Waste Management
- Paul Kulpa - Division of Site Remediation

NETC
- Ray Roberge - Code 40E, Environmental

Foster Wheeler Environmental
- Jon Cary - Site Manager
- Roger Beauregard - Site Quality Control

During the inspection, all participants entered the tank's interior and viewed the cleaning surfaces. At the post inspection meeting, all participants agreed that the interior surface cleaning results were satisfactory.

3.3 PIPING INSPECTION

On November 14, 1996, an inspection was conducted for all pipe runs extending into the tank's interior from the pump room. Three pipe runs, each approximately ten feet long, were identified and inspected. The piping was inspected for cleanliness and the condition of each pipe run was noted.

Participating in the inspection were:

Mark Gouveia, Foster Wheeler Environmental- Site Engineer
Roger Beauregard, Foster Wheeler Environmental- Site QA/QC

Inspection observations are as follows:

One 10-inch pipe, located at the top of the pump room was identified and inspected. The pipe interior was clean and in good condition. No scaling, cracks, or holes were observed.

One 16-inch pipe, located at the bottom of the pump room was identified and inspected. The pipe interior was clean and in good condition. No scaling, or holes were observed.

One 6-inch pipe, located at the bottom of the pump room was identified and inspected. The pipe interior was clean and in good condition. No scaling, or holes were observed.

3.4 PUMP ROOM INSPECTION

On November 18, 1996 an inspection of the pump room was conducted for cleanness and over all condition of the walls and floors of the pump room.

Participating in the inspection are as follows:

Mark Gouveia, Foster Wheeler Environmental- Site Engineer

Roger Beauregard, Foster Wheeler Environmental- Site QA/QC

Jon Cary, Foster Wheeler Environmental- Site Manager

During the inspection all participants entered the pump room and viewed the clean surfaces. At the completion of the inspection all participants agreed that the pump room was clean and in good condition.

4.0 DESCRIPTION OF SOIL CONDITIONS SURROUNDING TANK 37

Drilling activities conducted as part of the Preliminary Closure Assessment were completed at Tank 37 on November 16, 1994 (HNUS 1995). At soil boring B-37, continuous split-barrel sampling was conducted from 30 feet below the ground surface (bgs) to refusal, at approximately 40 feet. The boring was completed as groundwater monitoring well MW-124.

The upper 30 feet of the boring was not examined. Soil sampling was initiated at 30 feet based on information suggesting that the water table was approximately this deep. It was presumed that petroleum releases above the water table would migrate vertically downward and be detected in soil and groundwater.

A generalized description of the subsurface follows. The interval from 30 to 32 feet bgs is comprised of sandy silt with few fines and coarse subangular gravel. From 32 to 40 feet bgs silty gravel with varying amounts of fine and medium sand was observed. Most of the gravel observed was coarse and subangular. Few gravel's were subrounded to round. At approximately 40 feet bgs, black slightly metamorphosed rock was noted in samples. Bedrock reportedly consists of gray, highly weathered to competent, slightly metamorphosed shale with quartz lenses. Tank Farm 4-B-37 was not advanced into bedrock. Boring logs and soil descriptions are presented in Appendix G.

5.0 SOIL SAMPLE ANALYTICAL DATA SUMMARY

Consistent with the usage of Tank 37 as storage for virgin No. 6 fuel oil, the Preliminary Closure Assessment investigation at this UST focused on evaluating soils and groundwater for the presence of petroleum components. Soil samples were visually inspected for the presence of petroleum, screened for the presence of petroleum with PIDs and FIDs (as well as an Ensys Petro Risc petroleum field screening immunoassay kit), and subjected to laboratory analysis. Visibly stained soils were not field screened for TPH (using the immunoassay method) because the TPH concentration would exceed the 100 ppm standard, the highest concentration of TPH that could be detected by the screening analysis.

The following section describes the analytical data findings of the investigation activities conducted at this location. Subsurface soils were collected and sent to laboratories to be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbon (TPH) extractables, and eight RCRA metals.

From boring B-37 two subsurface soil samples were taken for laboratory analysis Samples B373234 and B373436 were collected from depths of 32 to 34 feet bgs, and 34 to 36 feet bgs, respectively. They consisted of silty gravel. Each sample exhibited a petroleum sheen. The MW-124 groundwater sample was collected from the midpoint of the well screen, approximately 37 feet bgs. No evidence of petroleum was observed during groundwater collection.

Positive laboratory analytical results are reported in Table 5-1 and presented on Figure 5-2. The averaged value of duplicate samples is reported in the summary table. In instances when samples have been reanalyzed the maximum detected concentration of each compound or metal is reported. Laboratory analytical results are presented in Appendix H. Results for groundwater are discussed in greater detail in section 6.0.

5.1 VOLATILE ORGANIC COMPOUNDS (VOCs)

No detection limits were exceeded in subsurface sample B373234. Trichloroethene was detected at a concentration of 1 microgram per kilogram in sample B373436. Trichloroethene is a common industrial solvent.

TABLE 5-1
POSITIVE CONTAMINANT DETECTION IN SOIL AND GROUNDWATER
TANK 37 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND

TABLE 5-1
POSITIVE CONTAMINANT DETECTION IN SOIL AND GROUNDWATER
TANK 37 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND

Media	Boring No. or Well No.	Depth or Screen Interval	Contaminant	Concentration	Regulatory Standard(s)	Exceeds Standard(s) (Yes/No)
Soil	B37	32-34	Bis (2-ethylhexyl)phthalate	66ug/kg	None	N/A
Soil	B37	32-34	Arsenic	12.2 mg/kg	None	N/A
Soil	B37	32-34	Barium	15.6 mg/kg	None	N/A
Soil	B37	32-34	Cadmium	2.6 mg/kg	None	N/A
Soil	B37	32-34	Chromium	14.1 mg/kg	None	N/A
Soil	B37	32-34	Lead	13.2 mg/kg	150 ppm (3)'400 ppm (4)	NO
Soil	B37	32-34	Trichloroethene	1 ug/kg	None	N/A
Soil	B37	32-34	Bis (2-ethylhexyl)phthalate	39 ug/kg	None	N/A
Soil	B37	32-34	Arsenic	12.6 mg/kg	None	N/A
Soil	B37	32-34	Barium	9.1 mg/kg	None	N/A
Soil	B37	32-34	Cadmium	2.65 mg/kg	None	N/A
Soil	B37	32-34	Chromium	14.55 mg/kg	None	N/A
Soil	B37	32-34	Lead	11.4 mg/kg	150 ppm (3)'400 ppm (4)	NO
Groundwater	MW124	34-39	Mercury	1.0 ug/l	2 ug/l (1), (2), (5)	NO

LEGEND: ppm – parts per million
ug/L – micrograms per liter
mg/kg – milligrams per kilogram
ug/kg – micrograms per kilogram
N/A – Not Applicable

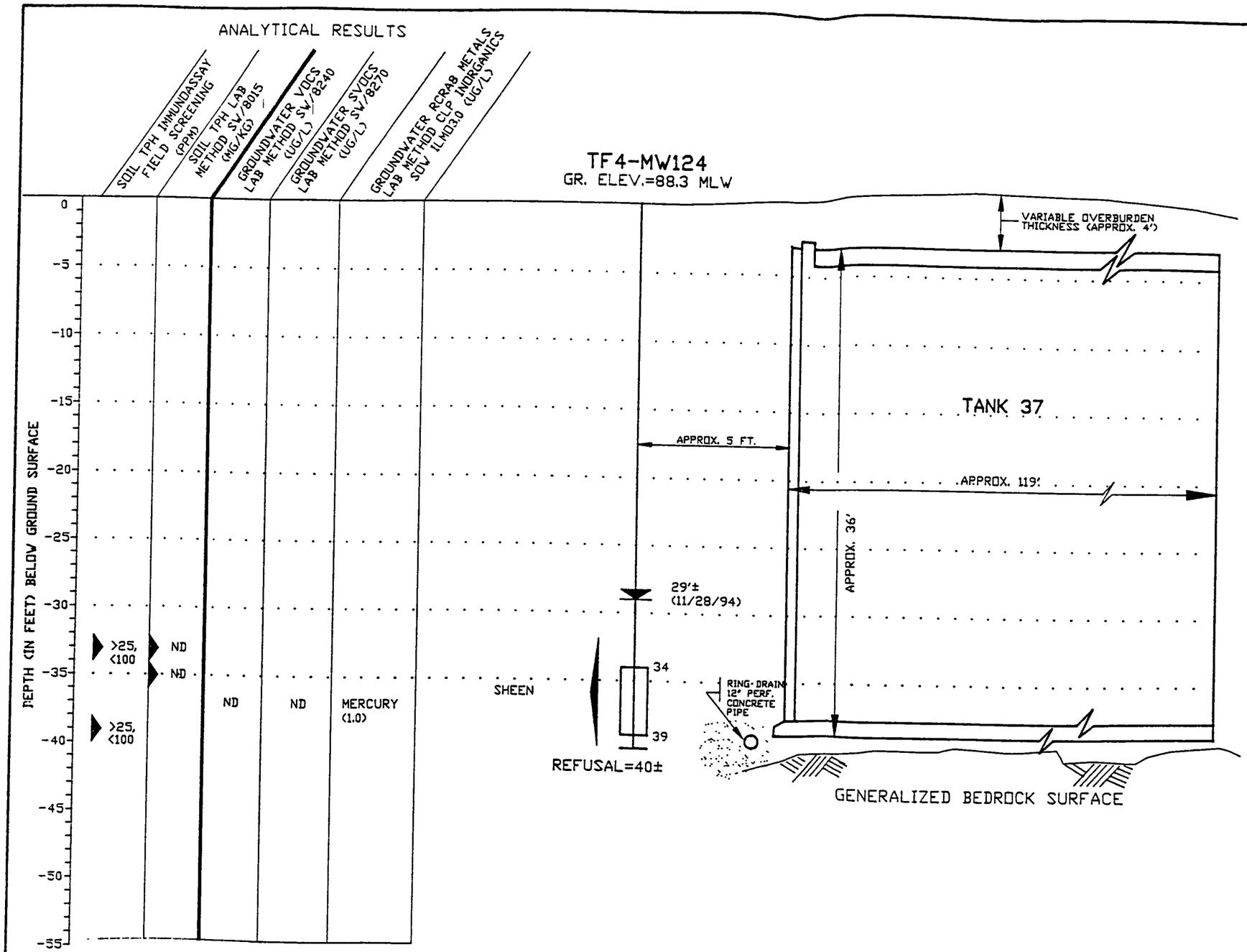
TABLE 5-1 (continued)
POSITIVE CONTAMINANT DETECTION IN SOIL AND GROUNDWATER
TANK 37 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND

NOTES:

1) U.S. EPA Drinking Water Regulations and Health Advisories, EPA 822-R-94-001, May 1994.
2) State of Rhode Island Department of Environmental Management, Rules No. 12-100-006, Rule and Regulations for Groundwater Quality, Section 10, July 1993.
3) Rhode Island Department of Health – Environmental Lead Program, [R23-24.6-PB], Rules and Regulations for Lead Poisoning Prevention, February 1992 (with amendments).
4) OSWER Directive 9355.4-12 – Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities.
5) 40 CFR Part 264 – Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart F, Sections 264.92 – 264.94, July 1991.
6) State of Rhode Island criteria established for clean-up of TPH in non-sensitive environmental areas.

- MW124 was installed in boring location B37.
- Sample values were averaged with applicable duplicates.
- In cases where samples were re-analyzed, the maximum detected concentration was reported.
- For comparative purposes only, mg/kg unit designations and ppm unit designations were considered to be equivalent.
- For comparative purposes only, Regulatory Standard unit designations have been converted to the unit of the detected contaminant. Regulatory Standards are typically expressed in milligrams per liter (mg/l).

FIGURE 5-1
TANK 37 DATA SHEET
TANK 37 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND



LEGEND

▼	WATER TABLE (FEET BELOW GROUND SURFACE)
1 / 2	MONITORING WELL SCREEN DEPTH (FEET BELOW GROUND SURFACE)
UG/L	MICROGRAMS PER LITER
PPM	PARTS PER MILLION
MG/KG	MILLIGRAMS PER KILOGRAM
MG/L	MILLIGRAMS PER LITER
TPH	TOTAL PETROLEUM HYDROCARBON
VOCS	VOLATILE ORGANIC COMPOUNDS
SVOCS	SEMI-VOLATILE ORGANIC COMPOUNDS
TF4	TANK FARM 4
MW101	GROUNDWATER MONITORING WELL NO.
MLW	MEAN LOW WATER
ND	NOT DETECTED

DATA SHEET – TANK 37			FIGURE 3-1
NETC–NEWPORT, RI			Halliburton NUS CORPORATION
PRELIMINARY CLOSURE ASSESSMENT REPORT			55 Jonspin Road Wilmington, MA 01887 (508)658-7899
DRAWN BY: R.G. DEWSNAP	REV.: 1		
CHECKED BY: J.B. HOLDEN	DATE: 5 JUN 95		
SCALE: 1" = 8' (APPROX.)	FILE NO.: C:\DWG\NETC\FIG_3-1		

W5295063F

5.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)

Bis (2-ethylhexyl) phthalate was detected in both samples, at concentrations of 66 micrograms per kilogram and 39 microgram per kilogram respectively. Phthalates are typically used as plasticizers in the manufacturing of PVC and other plastic (Howard 1989; Sittig 1981) including plastics used in analytical laboratories.

5.3 RCRA METALS

Arsenic, barium, cadmium, chromium, and lead were detected in both of the subsurface soil samples collected from B-37. Concentrations of these metals ranging from 2.6 to 15.6 milligrams per kilogram were reported. The source of these metals has not been evaluated. However, metals are not typically associated with storage of virgin fuel oil.

5.4 TOTAL PETROLEUM HYDROCARBONS (TPH)

TPH was not detected in subsurface samples. Subsurface samples B373234 and B373840 were field screened for TPH. The samples were collected from 32 to 34 feet and 38 to 40 feet bgs, respectively. All field screening results were above 25 ppm but less than 100 ppm (figure 5-1).

6.0 SITE GROUNDWATER DESCRIPTION

Water levels in Tank Farm 4 monitoring wells were measured to a hundredth-of-a-foot accuracy using an electronic measuring device. The relative elevation of each monitoring well was determined by a land surveyor registered in the State of Rhode Island, and the depth of the water table was established using measurements made from November 2 to 29, 1994. From these data, groundwater flow direction was characterized and a water table map (Figure 6-1) was created for Tank Farm 4 Groundwater generally flows west-southwest toward Narragansett Bay and is slightly affected by Norman's Brook.

MW-124 is approximately 5 feet from the perimeter of Tank 37 and was installed slightly crossgradient to tank. It is assumed that petroleum resulting from a release would accumulate in the ring drain. A well installed in the ring drain would therefore serve as a monitoring point for a release of petroleum product from this tank. The MW -124 well screen was set 34 to 39 feet bgs to correspond with the estimated depth of the ring drain, based on available information, the ring drain typically extends from the bedrock surface to a point approximately 1 to 2 feet above the tank bottom. Refusal was interpreted as the bedrock surface Therefore the ring drain was estimated to be approximately 38 feet bgs The well boring log is presented in Appendix G

The depth to groundwater table was 24 09 feet bgs on May 10, 1996 Seasonal and precipitation effects on groundwater levels have not been evaluated at the site Therefore, this single measurement may not be representative of the actual groundwater table

Groundwater samples were collected from MW-124 and were analyzed for VOC's, SVOC's, and the eight RCRA metals. The results of these are summarized below and presented in Table 5-1 and Appendix H

6.1 VOLATILE ORGANIC COMPOUNDS (VOC's)

No analytes exceeded detection limits in the groundwater sample collected from MW-124

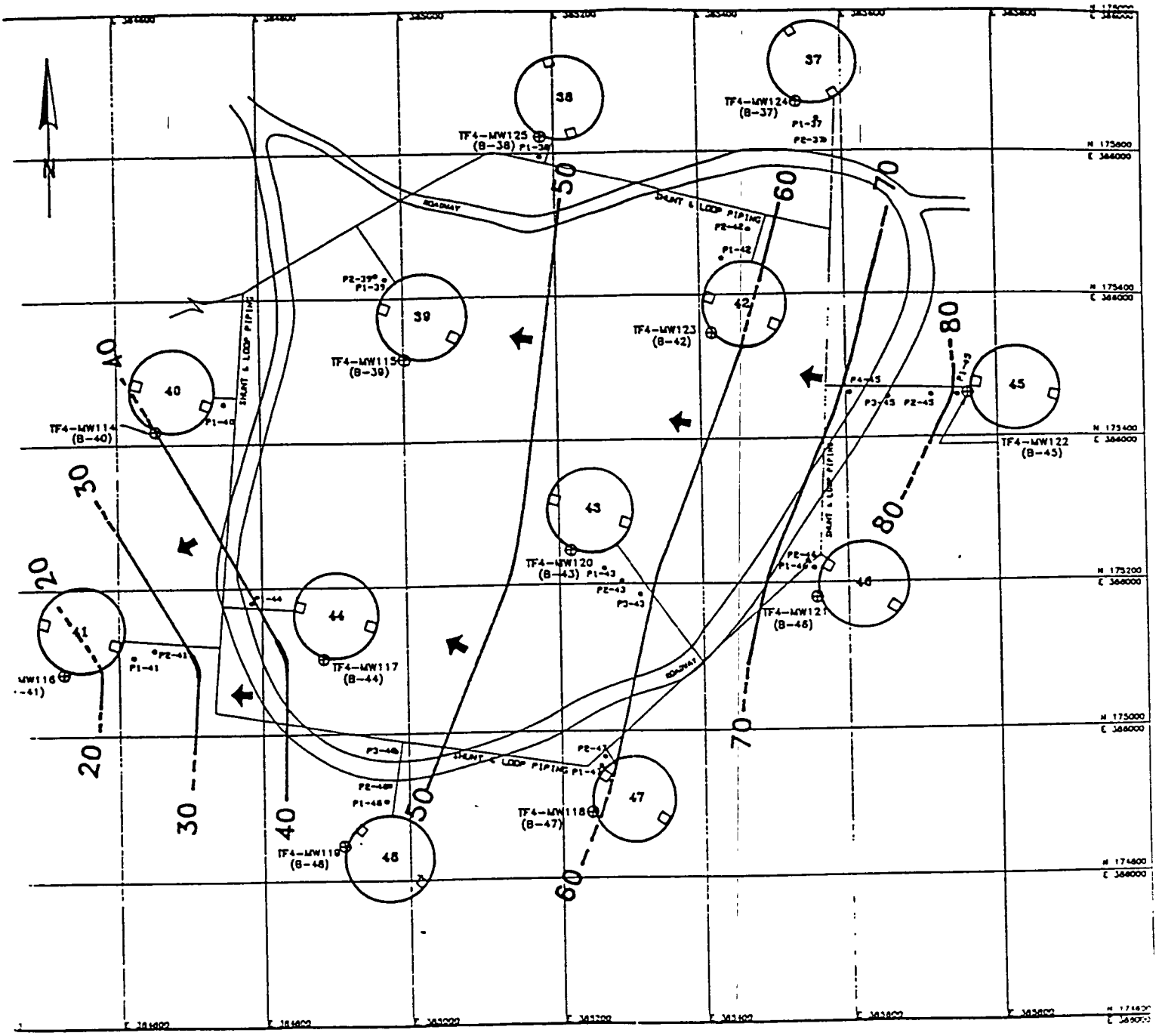
6.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC's)

No analytes exceeded detection limits in the groundwater sample collected from MW-124

6.3 RCRA METALS

Mercury (1.0 microgram per liter) was detected in the MW-124 groundwater sample The mercury source has not been evaluated

FIGURE 6-1
TANK FARM 4 GROUNDWATER CONTOURS
TANK 37 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND



TANK FARM 4

MONITORING WELLS AT TANK FARM #4			FIGURE 2-1
NETC-NEWPORT, RI			Halliburton NUS CORPORATION
TANK 37 CLOSURE ASSESSMENT REPORT			
DRAWN BY	R.C. DEWSNAP	REV.: 0	55 Jonspin Road Wilmington, MA
CHECKED BY	K JALKUT	DATE. 5 JUN 95	(508)658-7899
SCALE.	1" = 200'	FILE NO. C:\DWG\NETC\TNK_FM4.DWG	

7.0 ANALYTICAL SAMPLE COLLECTION AND HANDLING

Soil and groundwater samples were collected and analyzed to Naval Facilities Engineering Services Center requirements. All environmental samples collected as part of this tank closure were stored and shipped in accordance with the chain-of-custody procedures outlined in Foster Wheeler Environmental Corporation's Quality Assurance/Quality Control Plan.

Sample chain-of-custody forms are presented in Appendix I. Sample analyses were conducted by Ceimic Laboratories of Narragansett, Rhode Island and Nytest Environmental of Port Washington, New York. Analytical results are presented in Appendix H.

8.0 SITE WELLHEAD PROTECTION STATUS

Tank 37 is not within a designated wellhead protection area.

9.0 SITE GROUNDWATER CLASSIFICATION AND USE

The groundwater beneath Tank 37 is classified by RIDEM as "GA". GA classified groundwater is primarily located in recreational or agricultural areas and in areas of sources of potable water. Groundwater classified as GA is categorized as or presumed to be suitable as drinking water without treatment.

Tank Farm 4 and all land hydraulically downgradient of the tank farm is owned by the federal government. A review of Newport Water Department records by HNUS in March 1995 indicates that no private or public potable water wells are located on or in the vicinity of the site.

10.0 POTENTIAL RECEPTORS

The potential receptor of a release from Tank 37 is Narragansett Bay. Tank Farm 4 groundwater generally flows west-southwest toward Narragansett Bay and shallow groundwater in the southern portion of the site may flow toward Norman's Brook. Petroleum dissolved in and migrating with groundwater may discharge to both of these surface waters. No private wells or basements that could be affected by a release from Tank Farm 4 are known to exist (see section 9.0).

11.0 FINDINGS AND CONCLUSIONS

11.1 FINDINGS

Tank 37 has been emptied of its contents, cleaned, demolished, and backfilled. This tank has passed both the Navy structural integrity inspection and RIDEM post-closure inspection for completeness of oil removal. Following the inspections the tank was demolished and backfilled to final closure.

A petroleum sheen was observed on soils collected 34 to 40 feet bgs, and on the interpreted bedrock surface, at refusal.

Laboratory analytical results of the site soils and groundwater collected immediately adjacent to Tank 37 were evaluated with respect to one or more of the following regulatory standards:

Rhode Island Department of Health Lead Poisoning Prevention Standard

U.S. EPA Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities

Rhode Island Department of Environmental Management (RIDEM) Groundwater Quality Standard and Preventative Action Limits

U.S. EPA Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs)

RCRA Groundwater Protection Standard.

Rhode Island Department of Environmental Management (RIDEM) Action Levels for TPH in Soils

The Rhode Island Department of Health "lead-free" standard (1992) for soil was used in the evaluation of the detected lead result in subsurface soil samples B373234 and B373436. This standard, 150 milligram per kilogram, is designed for the protection of children in a residential setting. Because anticipated future land use of Tank Farm 4 is not for residential purposes, this standard is used for comparative purposes only.
The U.S. EPA guidance (1994a) for CERCLA Sites and RCRA Corrective Action Facilities was also used to evaluate the detected lead result. This directive recommends a 400 ppm screening level for lead in soil designated for residential land use. For the primary reason stipulated above, this guidance is also used for comparative purposes only. The B373234 and B373436 soil lead concentrations (13.2 mg/kg and 11.4 mg/kg) do not exceed either of these standards.

All of the TPH sample concentrations were below the detection limits for the subsurface soil samples. Where detected, VOC, SVOC, and metals soil concentrations were below applicable standards.

The mercury concentrations detected in the MW-124 groundwater sample were evaluated with respect to MCLs and RIDEM groundwater standards (U.S. EPA 1994a; RIDEM 1993). The state and federal regulatory standard for mercury in groundwater is 2ug/l. In the MW-124 mercury was detected at a concentration of 1.0 ug/l. This concentration does not exceed either of the standards.

Groundwater beneath Tank Farm 4 has been assigned a "GA" classification, which identifies it as a groundwater resource that is suitable for drinking water use (RIDEM1993).). When available, RIDEM GA Groundwater Standards are used for comparison. In cases where RIDEM has not established standards, SDWA "MCL's for Chemicals Detected in Groundwater" are used for comparison.

11.2 CONCLUSIONS

Based on an evaluation of the above data, there is evidence to indicate that a petroleum release has occurred at Tank 37. However, contaminant concentrations are below RIDEM action levels. The absence of fuel- related compounds in groundwater adjacent to Tank 37 indicates that groundwater is not a significant migration pathway for heavy fuel oil. No further action is required.

REFERENCES

REFERENCES

Halliburton NUS Corporation, 1995b. "Preliminary Closure Assessment Report of Tank Farms 4 and 5, Naval Education and Training Center, Newport Rhode Island" March 1995.

Halliburton NUS Corporation, "Site Investigation Report Tanks 38, 42, 45, and 48 Tank Farm 4, Naval Education and Training Center, Newport Rhode Island" February 1996.

Rhode Island Department of Environmental Management, 1992. "UST Closure Assessment Guidelines"

Brown and Root Environmental "Tank 42 Closure Assessment Report Tank Farm 4, Naval Education and Training Center, Newport, Rhode Island" December 1995.

Rhode Island Department of Environmental Management, 1993. "Rules and Regulations for Groundwater Quality", Rule No. 12-100-006

Rhode Island Department of Health, 1992. "Rules and Regulations for Lead Poisoning Prevention, R23-24.6-PB"

U.S. EPA, 1994b. "Drinking Water Regulations and Health Advisories", EPA 822-R-94-001

APPENDIX A
PERMANENT CLOSURE APPLICATION FOR UNDERGROUND STORAGE FACILITIES

PERMANENT CLOSURE APPLICATION FOR UNDERGROUND STORAGE FACILITIES

A: Date of application: Original 2/18/94 Re-Application 5/29/96

B: UST Facility I.D.: 15007

(Note : If the tank (s) listed below are not registered with DEM, a registration fee of $35.00 per tank must be submitted along with this application.)

C: Proposed date of tank closure: 10 June 96 (Revised Date)

D: Facility Name: Tank Farm 4
Street Address: NETC PWD Bldg 1, 1 Simonpietri Drive
City/Town: Newport, RI 02841

E: Tank Owner: J.C. Wyman, Capt, CEC, USN
Street Address: NETC PWD Bldg 1, 1 Simonpietri Drive
City/Town/State: Newport, RI 02841
Contact Person: Raymond Roberge
Telephone Number: 841-3735

F: Property Owner: Same
Street Address:
City/Town/State:

G: FIRM/CONTRACTOR TO PERFORM TANK CLOSURE WORK

Name: Foster Wheeler Environmental Corperation
Address: 2300 Lincoln Highway, East One Oxford Valley, Suite 200, Langhorn, PA 19047
Contact Person: John Holwell, Project Manager
Phone Number: (617) 457-8234

H: FIRM/CONTRACTOR TO PERFORM TANK CLOSURE ASSESSMENT (check one)

X Professional Engineer ____ Certified Professional Geologist

____ Other; A statement of qualifications must be submitted with this application.

Name: Foster Wheeler Environmental Corperation
Address: 2300 Lincoln Highway East One Oxford Valley, Suite 200 Langhorn, PA 19047
Contact Person: Michael Zizza
Phone Number: (617)457-8245

I. DESCRIPTION OF TANKS TO BE CLOSED

TANK NO.	AGE	DATE LAST USED	VOLUME	CONSTRUCTION MATERIAL	STORED MATERIAL
037	48	79	2,500,000	Concrete	#6 Fuel Oil
038	48	79	2,500,000	Concrete	#6 Fuel Oil
039	48	79	2,500,000	Concrete	#6 Fuel Oil
040	48	79	2,500,000	Concrete	#6 Fuel Oil
041	48	79	2,500,000	Concrete	#6 Fuel Oil
042	48	79	2,500,000	Concrete	#6 Fuel Oil
043	48	79	2,500,000	Concrete	#6 Fuel Oil

(If there are more tanks being closed please list on attachment)

J. FEES:
Closure: NUMBER OF TANKS 7 X $75.00 PER TANK = 525
Registration: NUMBER OF TANKS _____ X $35.00 PER TANK = _____

K. Have these tanks ever held non-petroleum, hazardous materials

_____ YES x NO

If yes, then list materials: _____

L. After the closure(s) have been completed on the aforementioned tanks, will there be any underground storage tanks remaining in existence at this facility? _____ YES x NO

Will any new UST(s) be installed on the site?
_____ YES x NO

CLOSURE PROCEDURE (SELECT ONE):

1. _____ Precision test and fill with iner material. (Section 15.12).
Material used for filling tank: _____

NOTE: APPROVED PRECISION TEST METHOD MUST BE CONDUCTED BY A LICENSED TESTER AND RESULTS MUST BE SUBMITTED TO DEM PRIOR TO FILLING THE TANK IN PLACE.

2. x Excavate, clean, and dispose (Section 15.11)
(Note: Tanks to be demolished and left in place following tank cleaning.)
a. Specify method of tank cleaning: Power Wash

I. DESCRIPTION OF TANKS TO BE CLOSED

TANK NO.	AGE	DATE LAST USED	VOLUME	CONSTRUCTION MATERIAL	STORED MATERIAL
044	48	79	2,500,000	Concrete	#6 Fuel Oil
045	48	79	2,500,000	Concrete	#6 Fuel Oil
046	48	79	2,500,000	Concrete	#6 Fuel Oil
047	48	79	2,500,000	Concrete	#6 Fuel Oil
048	48	79	2,500,000	Concrete	#6 Fuel Oil

(If there are more tanks being closed please list on attachment)

J. FEES:

Closure: NUMBER OF TANKS 5 X $75.00 PER TANK = 375

Registration: NUMBER OF TANKS _____ X $35.00 PER TANK = _____

b. Specify method of disposing of tank sludge or waste generated by cleaning process. List name of waste hauler. Tank sludges will be characterized and disposed of accordingly. Hauler yet to be determined. Cleaning wastes will be treated on site in water treatment facility.

c. Specify whether cleaning will take place:
on site x off-site _____

i. If off-site, indecate location of final tank cleaning
Firm/Address: _____

ii. Indicate firm which will transport tank(s) to site indicated in c(i). above:
Firm/Address: N/A _____

NOTE: FIRMS TRANSPORTING TANK SLUDGE AND WASTE OR TANKS WHICH REQUIRE FURTHER CLEANING MUST BE PERMITTED BY DEM (DIVISION OF AIR & HAZARDOUS MATERIALS) AS HAZARDOUS WASTE TRANSPORTERS.

D. Will tanks(s) be...
rendered unfit for use and disposed of x or reused ____?
(Note: Tanks to be demolished and left in place following tank cleaning.)

NOTE: REUSE OF A TANK IN THE GROUND REQUIRES COMPLIANCE WITH SECTION 12.03 OF STATE UST REGULATIONS.

Location for final tank(s) disposal:

Tanks to be left in place following partial demolition

If tank is to be reused, specify:

Proposed use: _____

Name/Address of intended user: _____

CERTIFICATION BY TANK OWNER

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel property gather and evaluate the infomation submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information, submitted is, to the best of my knowledge and belief, true, accurate, and completed. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME OF OWNER: (Please print) J.C. Wyman, Capt, CEC, USN
SIGNATURE: _____
TITLE Director for Public Works
ADDRESS: NETC,PWD, Bldg 1, 1 Simonpietri Dr. Newport,RI 02841
TELEPHONE: 841-3841

NOTIFICATION OF LOCAL FIRE DEPARTMENT

The authorization signature of the local fire department below indicates that the local fire officials have been notified that you are planning to close an underground storage tank at the above location. YOU MUST NOTIFY THE LOCAL FIRE DEPARTMENT OF THE EXACT CLOSURE DATE AFTER YOU HAVE CONFIRMED THIS DATE WITH DEM.

_____	_____
Authorized Local Fire Department Representative	Date
NETC Fire Department	841-2225
Name of Local Fire Department	Telephone Number

This signature dose not serve as notice to the town, dose not guarantee town approval, and dose not relieve you of your obligations to other applicable town officials. Any violation, deficiency or requirement which may have been overlooked is also subject to correction under the provision of any applicable code.

DEM
DIVISION OF BUSINESS AFFAIRS

A. NO. OF TANKS_____ X 75.00 = _____
B. NO. OF TANKS_____ X 35.00 = _____
TOTAL FEE = _____ (A) + _____ (B) = _____
FULL PAYMENT RECEIVED ON _____ (DATE)

SUPPLEMENT TO THE PERMANENT CLOSURE APPLICATION FOR USTs

This supplement must accompany all Permanent Closure Applications for USTs (as revised 2/93 and earlier) received by the Rhode Island Department of Environmental Management on or after August 25, 1993.

FACILITY NAME: Tank Farm 4

FACILITY ADDRESS: NETC,PWD Bldg 1
1 Simompietri Drive
Newport,RI 02841

PROPOSED CLOSURE DATE: 10 June 96

FACILITY REGISTRATION #: 15007

*** Please note that the UST registration fee has increased to $50.00 per tank. Payment of all unregistered tanks must be submitted with this application.**

1. Has a check in the total amount of $50.00 per unregistered tank been submitted with this application? N/A
   (Previously submitted with original application)
2. In the space provided below, please draw an informal sketch of the location of each UST to be permanently closed. Number each tank to coincide with the tank numbers on your UST registration form.
   (See attached site plan)

(Note: for questions 3-7 please refer to Tank Farm 4 Work Plan)

3. Describe the method to be used to empty the tank(s) prior to excavation. _____

4. Describe the method to be used to remove the tank from excavation. _____

5. Describe the method(s) to be used to properly and safely vent the tank(s) and properly make openings in the tank(s).
   _____
   _____
   _____

*** NOTE: Appropriate venting must be carried out both before the cutting of any tank and before off-site transport of any tank which has not been completely cleaned per Rule 15.11(c) of the UST Regs.**

6. Describe the instruments used to verify that the tank(s) have been properly vented. _____

7. Describe how any residues remaining in the tank(s) will be managed. _____

APPENDIX B
DATA FOR TANK CONTENTS

VOLATILE ORGANICS ANALYSIS DATA SHEET

37SLG

Lab Name: NYTEST ENV INC Contract: 9622627

Lab Code: NYTEST Case No.: 28473 SAS No.: SDG No.: TANK2

Matrix: (soil/water) WATER Lab Sample ID: 2847314

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: P1747.D

Level: (low/med) LOW Date Received: 07/25/96

% Moisture: not dec. _____ Date Analyzed: 08/02/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (mg/L or mg/Kg) MG/L	Q
75-01-4	Vinyl Chloride	0.05	U
75-35-4	1,1-Dichloroethene	0.05	U
67-66-3	Chloroform	0.05	U
107-06-2	1,2-Dichloroethane	0.05	U
78-93-3	2-Butanone	0.05	U
56-23-5	Carbon Tetrachloride	0.05	U
79-01-6	Trichloroethene	0.05	U
71-43-2	Benzene	0.05	U
127-18-4	Tetrachloroethene	0.05	U
108-90-7	Chlorobenzene	0.05	U

8-09-1996 9:44AM FROM NEI CLIENT SERVICES 5166253128 P.4

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

37SLG

Lab Name: NYTEST ENV INC Contract: 9622627

Lab Code: NYTEST Case No.: 28473 SAS No.: SDG No.: 28473

Matrix: (soil/water) WATER Lab Sample ID: 2847314

Sample wt/vol: 1000 (g/mL) ML Lab File ID: R1966.D

Level: (low/med) LOW Date Received: 07/25/96

% Moisture: not dec. 0 dec. Date Extracted: 07/30/96

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/03/96

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (mg/L or mg/Kg) MG/L	Q
95-48-7	2-Methylphenol	0.01	U
	3+4-Methylphenol	0.02	U
121-14-2	2,4-Dinitrotoluene	0.01	U
118-74-1	Hexachlorobenzene	0.01	U
87-68-3	Hexachlorobutadiene	0.01	U
67-72-1	Hexachloroethane	0.01	U
98-95-3	Nitrobenzene	0.01	U
87-86-5	Pentachlorophenol	0.05	U
110-86-1	Pyridine	0.01	U
95-95-4	2,4,5-Trichlorophenol	0.01	U
88-06-2	2,4,6-Trichlorophenol	0.01	U
106-46-7	1,4-Dichlorobenzene	0.01	U

REPORT OF ANALYSIS

Log in No.: 28473

We find as follows:

Sample Identification	Parameter(s)		
	Ignitability degrees F	Reactivity S ppm	Reactivity Cn ppm
2847301 40OIL	>212	1.0 U	1.0 U
2847302 39OIL	>212	1.0 U	1.0 U
2847303 39SLG	>212	1.0 U	1.0 U
2847304 41OIL	>212	1.0 U	1.0 U
2847305 47OIL	>212	1.0 U	1.0 U
2847306 47SLG	>212	1.0 U	1.0 U
2847307 46OIL	>212	1.0 U	1.0 U
2847308 46SLG	>212	1.0 U	1.0 U
2847309 38OIL	>212	1.0 U	1.0 U
2847310 37OIL	>212	1.0 U	1.0 U
2847311 38SLG	>212	1.0 U	1.0 U
2847312 44OIL	>212	1.0 U	1.0 U
2847313 44SLG	>212	1.0 U	1.0 U
2847314 37SLG	>212	1.0 U	1.0 U
Method blank	NA	1.0 U	1.0 U

NA = Not Applicable
U = below method blank / method detection limit

TCLP PEST - FORM 1

NYTEST ENVIRONMENTAL INC

TCLP PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX	WATER	SAMPLE ID	375LG
CONC LEVEL.	LOW	LAB SAMPLE ID:	2847314
EXTRACTION DATE	08/01/96	DIL FACTOR:	1 00
ANALYSIS DATE	08/15/96	% MOISTURE:	NA

CMPD #	CAS Number	TCLP PESTICIDE COMPOUNDS	MG/L
1	57-74-9	Chlordane	0.00050 U
2	70-20-8	Endrin	0 00010 U
3	76-44-8/1024-57 3	Heptachlor & Heptachlor Epoxide	0 00005 U
4	58-89-9	gamma-BHC (Lindane)	0 00005 U
5	72-43-5	Methoxychlor	0 00050 U
6	8001-35-2	Toxaphene	0.00500 U

PCB - FORM 1

NYTEST ENVIRONMENTAL INC.

TCL PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	MISC	SAMPLE ID:	17SLG
CONC. LEVEL.	MED	LAB SAMPLE ID	2847314
EXTRACTION DATE	07/29/96	DIL FACTOR·	1 00
ANALYSIS DATE·	08/02/96	% MOISTURE.	NA

CMPD #	CAS Number	PCB COMPOUND	UG/L
1	12674-11-2	Aroclor-1016	1 0 U
2	11104-28-2	Aroclor-1221	1 0 U
3	11141-16-5	Aroclor-1232	1.0 U
4	53469-21-9	Aroclor-1242	1 0 U
5	12672-29-6	Aroclor-1248	1.0 U
6	11097-69-1	Aroclor-1254	1 0 U
7	11096-82-5	Aroclor-1260	1 0 U

TCLP HERB - FORM 1

NYTEST ENVIRONMENTAL INC

TCLP HERBICIDES ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX.	WATER	SAMPLE ID·	37SLG
CONC LEVEL	LOW	LAB SAMPLE ID.	2847314
EXTRACTION DATE.	07/30/96	DIL FACTOR	1 00
ANALYSIS DATE.	08/09/96	% MOISTURE	NA

CMPD #	CAS Number	TCLP HERBICIDE COMPOUNDS	MG/L
1	94-75-7	2,4-D	0.01 U
2	93-71-1	2,4,5-TP (Silvex)	0.001 U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

37OIL

Lab Name: NYTEST ENV INC Contract: 9622627

Lab Code: NYTEST Case No.: 28473 SAS No.: SDG No.: TANK2

Matrix: (soil/water) WATER Lab Sample ID: 2847310

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: P1743.D

Level: (low/med) LOW Date Received: 07/25/96

% Moisture: not dec. _____ Date Analyzed: 08/02/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (mg/L or mg/Kg) MG/L	Q
75-01-4	Vinyl Chloride	0.05	U
75-35-4	1,1-Dichloroethene	0.05	U
67-66-3	Chloroform	0.05	U
107-06-2	1,2-Dichloroethane	0.05	U
78-93-3	2-Butanone	0.05	U
56-23-5	Carbon Tetrachloride	0.05	U
79-01-6	Trichloroethene	0.05	U
71-43-2	Benzene	0.05	U
127-18-4	Tetrachloroethene	0.05	U
108-90-7	Chlorobenzene	0.05	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

370IL

Lab Name: NYTEST ENV INC Contract: 9622627

Lab Code: NYTEST Case No.: 28473 SAS No.: SDG No.: 28473

Matrix: (soil/water) WATER Lab Sample ID: 2847310

Sample wt/vol: 1000 (g/mL) ML Lab File ID: R1960.D

Level: (low/med) LOW Date Received: 07/25/96

% Moisture: not dec. 0 dec. Date Extracted: 07/30/96

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/03/96

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (mg/L or mg/Kg) MG/L	Q
95-48-7	2-Methylphenol	0.01	U
	3+4-Methylphenol	0.02	U
121-14-2	2,4-Dinitrotoluene	0.01	U
118-74-1	Hexachlorobenzene	0.01	U
87-68-3	Hexachlorobutadiene	0.01	U
67-72-1	Hexachloroethane	0.01	U
98-95-3	Nitrobenzene	0.01	U
87-86-5	Pentachlorophenol	0.05	U
110-86-1	Pyridine	0.01	U
95-95-4	2,4,5-Trichlorophenol	0.01	U
88-06-2	2,4,6-Trichlorophenol	0.01	U
106-46-7	1,4-Dichlorobenzene	0.01	U

REPORT OF ANALYSIS

Log in No.: 28473

We find as follows:

Sample Identification	Parameter(s)		
	Ignitability degrees F	Reactivity S ppm	Reactivity Cn ppm
2847301 40OIL	>212	1.0 U	1.0 U
2847302 39OIL	>212	1.0 U	1.0 U
2847303 39SLG	>212	1.0 U	1.0 U
2847304 41OIL	>212	1.0 U	1.0 U
2847305 47OIL	>212	1.0 U	1.0 U
2847306 47SLG	>212	1.0 U	1.0 U
2847307 46OIL	>212	1.0 U	1.0 U
2847308 46SLG	>212	1.0 U	1.0 U
2847309 38OIL	>212	1.0 U	1.0 U
2847310 37OIL	>212	1.0 U	1.0 U
2847311 38SLG	>212	1.0 U	1.0 U
2847312 44OIL	>212	1.0 U	1.0 U
2847313 44SLG	>212	1.0 U	1.0 U
2847314 37SLG	>212	1.0 U	1.0 U
Method blank	NA	1.0 U	1.0 U

NA = Not Applicable
U = below method blank / method detection limit

TCLP PEST - FORM 1

NYTEST ENVIRONMENTAL INC

TCLP PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX.	WATER	SAMPLE ID.	370IL
CONC LEVEL.	LOW	LAB SAMPLE ID.	9847310
EXTRACTION DATE.	08/01/96	DIL FACTOR.	1 00
ANALYSIS DATE.	08/15/96	% MOISTURE	NA

CMPD #	CAS Number	TCLP PESTICIDE COMPOUNDS	MG/L
1	57-74-9	Chlordane	0 00050 U
2	70-20-8	Endrin	0 00033
3	76-44-8/1024-57 3	Heptachlor & Heptachlor Epoxide	0 00005 U
4	58-89-9	gamma-BHC (Lindane)	0.00005 U
5	72-43-5	Methoxychlor	0 00050 U
6	8001-35-2	Toxaphene	0.00500 U

PCB - FORM 1

NYTEST ENVIRONMENTAL INC

TCL PCB ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX	MISC	SAMPLE ID.	3701L
CONC. LEVEL:	MED	LAB SAMPLE ID:	2847310
EXTRACTION DATE	07/29/96	DIL FACTOR.	1.00
ANALYSIS DATE:	08/06/96	% MOISTURE:	NA

CMPD #	CAS Number	PCB COMPOUND	UG/L
1	12674-11-2	Aroclor-1016	1.0 U
2	11104-28-2	Aroclor-1221	1.0 U
3	11141-16-5	Aroclor-1232	1.0 U
4	53469-21-9	Aroclor-1242	1.0 U
5	12672-29-6	Aroclor-1248	1.0 U
6	11097-69-1	Aroclor-1254	1.0 U
7	11096-82-5	Aroclor-1260	1.0 U

TCLP HERB - FORM 1

NYTEST ENVIRONMENTAL INC

TCLP HERBICIDES ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX:	WATER	SAMPLE ID:	370IL
CONC LEVEL	LOW	LAB SAMPLE ID.	2847310
EXTRACTION DATE.	07/30/96	DIL FACTOR	1 00
ANALYSIS DATE:	08/09/96	% MOISTURE:	NA

CMPD #	CAS Number	TCLP HERBICIDE COMPOUNDS	MG/L
1	94-75-7	2,4-D	0 02 U
2	93-71-1	2,4,5-TP (Silvex)	0 002 U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

370IL

Lab Name: NYTEST_ENV_INC Contract: 9622627

Lab Code: NYTEST Case No.: 28473 SAS No.: SDG No.: TANK2

Matrix (soil/water): WATER Lab Sample ID: T847310

Level (low/med): LOW Date Received: 07/25/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.0052	U		P
7440-39-3	Barium	0.65			P
7440-43-9	Cadmium	0.00050	U		P
7440-47-3	Chromium	0.0083	U		P
7439-92-1	Lead	0.014			P
7439-97-6	Mercury	0.0011		N	CV
7782-49-2	Selenium	0.0043	U		P
7440-22-4	Silver	0.0045	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

R.I. Analytical

Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

Foster Wheeler -TK4
Attn: Mr. Mark Gouveia
4000 T Defense Highway
Portsmouth, RI 02871

DATE RECEIVED: 09/12/96
DATE REPORTED: 09/13/96
P.O. NUMBER:
INVOICE NUMBER: A5517

DESCRIPTION: One (1) oil sample collected 9/12/96

Subject sample has been analyzed by our laboratory with the following results:

PARAMETER	TANK 37 OIL	UNITS
Flash Point (c/c)	>200	°F
Total Halogenation	<0.08	%
Heat of Combustion	17,848	BTU/lb.
Total Sulfur	1.48	%
Bulk Water & Sediment	15	%

References: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, U.S. EPA, SW-846, November 1986, 3rd edition, Update IIB, January 1995.

American Society for Testing and Materials

If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:

James E. Mich
Vice President

Kellie Mulligan
Quality Control Coordinator

fwe:kah

R.I. Analytical Laboratories, Inc.
41 Illinois Ave, Warwick, RI 02888 (401) 737-8500 · Fax: (401) 739-1970

APPENDIX C
DISPOSAL MANIFESTS/BILL-OF-LADINGS

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

DATE 10 / 21 / 96	VEHICLE NUMBER: ATKB1
FROM: Shipper NETC CODE 40 E	TO: Consignee Clean Harbors Env. Services Inc.
Street ONE Simonpietri Drive	Street 37 Rummery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 1 0 0 2 4 2 4 3	Zip Code 04106
Name of Carrier: J. P. Noonan	

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
8000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	7200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
EOC Pro Navy		(JPN) Nahman % # 178

COMMENTS:

OIL & WATER FROM TANK # 37

042

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

42

DATE 10 / 3 / 96	VEHICLE NUMBER: Trailer #
FROM: Shipper NETC Code 40 E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
8000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.		
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.		
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[signature] FOR THE NAVY		[signature]

COMMENTS:

Oil & Water From Tank #37

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041

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

DATE 10 / 3 / 96	VEHICLE NUMBER: Trailer # TKB2
FROM: Shipper NETC Code 40 E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
16500	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.		
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.		
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
For The Navy		(JPN) Graham % #178

COMMENTS:

Oil & Water from Tank #37

CHI 179 A

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CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

40

DATE 10/3/96	VEHICLE NUMBER: Trailer # TKB-2
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier: Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
1 1 8 0 0 0	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC ND PPM. LEAD ND PPM. BTU's/LB. ____
CADMIUM ND PPM. PCB'S ND PPM. BTU's/GAL. ____
CHROMIUM ND PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR ____

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0 PPM. MAX.	LEAD	100 PPM. MAX.		
CADMIUM	2.0 PPM. MAX.	PCB'S	N.D. PPM. MAX.		
CHROMIUM	10.0 PPM. MAX.	TOTAL HALOGENS	1,000 PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		521

COMMENTS:

Oil & Water From Tank #37

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CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

39

DATE 10 / 2 / 96	VEHICLE NUMBER: Trailer # TKD-08
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI.	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
	8,000 Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.		
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.		
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[illegible] - USN		[illegible]

COMMENTS:
Oil & Water from Tank # 37

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CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

38

DATE 10 / 2 / 96	VEHICLE NUMBER: Trailer # TKB-3
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI.	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
	8,000 Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.		
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.		
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		J.P. Noonan

COMMENTS:
Oil & Water from Tank # 37

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037

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

DATE 10 / 2 / 96	VEHICLE NUMBER: Trailer # TKB-1
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rumnery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
	8,000 Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC ND PPM. LEAD ND PPM. BTU's/LB. ____
CADMIUM ND PPM. PCB'S ND PPM. BTU's/GAL. ____
CHROMIUM ND PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR ____

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		5-24-10

COMMENTS:

Oil & Water From Tank #37

CHI 179 A

COPY 3

TKB 2 36

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

DATE 10 / 2 / 96	VEHICLE NUMBER: Trailer # TKB 2
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services, Inc.
Street One Simonpietri Drive	Street 37 Rummery Road
City Newport State RI	City South Portland State ME
Zip Code 02841 US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
- Clean Harbors Environmental Services, Inc. MAD039322250

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
6500	Gal	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # 091196500

ARSENIC NO PPM. LEAD NO PPM. BTU's/LB. ____
CADMIUM NO PPM. PCB'S NO PPM. BTU's/GAL. ____
CHROMIUM NO PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR ____

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		(JPN) Graham % #178

COMMENTS:

Oil & Water From Tank #37

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
- [X] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 035

DATE 9 / 19 / 96	VEHICLE NUMBER: 231 / TAB-94
FROM: Shipper NETC Code HOE	TO: Consignee Clean Harbors Ent. Services Inc.
Street ONE Simonpietri Drive	Street 37 Rumery Rd.
City NewPort State RI	City S. Portland State ME.
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
J. P. NOONAN Transportation

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)
NON-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
1 1 8 0 0 0	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	7200 PPM.	FLASH POINT	7200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
for the Navy		

COMMENTS: oil from Tank #37

CHI 179 A

COPY 3

TKB-2

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [X] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 034

DATE 9/19/96	VEHICLE NUMBER:
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services Inc.
Street ONE Simonpietri Drive	Street 37 Rumery Rd.
City NewPort State RI	City S. Portland State ME.
Zip Code 02841 / US EPA ID Number RI1170924243	Zip Code 04106

Name of Carrier: J.P. Noonan Transportation

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

Non-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
6500	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC N.D. PPM. LEAD N.D. PPM. BTU's/LB.
CADMIUM N.D. PPM. PCB'S N.D. PPM. BTU's/GAL.
CHROMIUM N.D. PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 F
N.D. = NOT DETECTED SULFUR

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[signature] for the NAVY		(JPN) H Mahan % #178

COMMENTS: oil from Tank #37

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 033

DATE 9/19/96	VEHICLE NUMBER: 286-TKB3
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services Inc.
Street ONE Simonpietri Drive	Street 37 Rumery Rd.
City NewPort State RI	City S. Portland State ME.
Zip Code 02841 / US EPA ID Number RI1170024243	Zip Code 04106

Name of Carrier:
J.P. NOONAN TRANSPORTATION

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)
NON-Regulated Liquid (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
18000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.		
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.		
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX	FLASH POINT	>100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
for the NAVY		

COMMENTS: oil from TANK #37

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 032

DATE 9/19/96	VEHICLE NUMBER: THB1
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors Env. Services Inc.
Street ONE Simonpietri Drive	Street 37 Rumery Rd
City Newport State RI	City S. Portland State ME.
Zip Code 02841 / US EPA ID Number RI1170024243	Zip Code 04106

Name of Carrier: JP NOONAN

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)
Non-Regulated (oil)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
18000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC	ND PPM.	LEAD	ND PPM.	BTU's/LB.	
CADMIUM	ND PPM.	PCB'S	ND PPM.	BTU's/GAL.	
CHROMIUM	ND PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[illegible] FOR THE NAVY		L Church / JP 521

COMMENTS: oil from Tank #37

CHI 179 A

COPY 3

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 631

DATE 9 / 17 / 96	VEHICLE NUMBER: TKB-680
FROM: Shipper NETC CODE 40E	TO: Consignee CLEAN HARBORS ENV. SERVICES, INC.
Street ONE SIMONPIETRI DRIVE	Street 37 RUMERY ROAD
City NEWPORT State RI	City SOUTH PORTLAND State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
J.P. NOONAN TRANSPORTATION

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
6500	Gal	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		H Graham % # 178

COMMENTS:

OIL FROM TANK # 37

CHI 179 A

COPY 3

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 030

DATE 9 / 17 / 96	VEHICLE NUMBER: TKB-1
FROM: Shipper NETC CODE 1OE	TO: Consignee Clean Harbors Env. Services, Inc.
Street ONE SIMONPIETRI DRIVE	Street 37 RUNWAY ROAD
City NEWPORT State RI	City SOUTH PORTLAND State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
J. P. NORMAN TRANSPORTATION

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
5000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB # _____

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR 16 MAY		521-5000

COMMENTS:

OIL FROM TANK # 37

CHI 179 A

COPY 3

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [X] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 029

DATE 9 / 17 / 96	VEHICLE NUMBER: TKB-16
FROM: Shipper NETC [illegible]	TO: Consignee [illegible]
Street [illegible]	Street [illegible]
City [illegible] State [illegible]	City [illegible] State [illegible]
Zip Code [illegible] / US EPA ID Number [illegible]	Zip Code [illegible]
Name of Carrier: [illegible]	

US DOT Description. (Include Proper Shipping Name, Hazard Class, and ID Number)

[illegible]

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
[illegible]	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS. (ACTUAL) LAB # _____

ARSENIC	[illegible] PPM.	LEAD	[illegible] PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	[illegible] PPM.	TOTAL HALOGENS	<1000 PPM	FLASH POINT	>100 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[illegible]		[illegible]

COMMENTS:

[illegible] FROM TANK AT 27

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
- [X] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 028

DATE 9 / 17 / 96	VEHICLE NUMBER: TKE - 3
FROM: Shipper NETC Code 40E	TO: Consignee Clean Harbors [illegible], Inc
Street One Simonpietri Drive	Street 37 Rumford Road
City Newport State RI	City South Portland State ME
Zip Code [illegible] / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106
Name of Carrier: T. [illegible] Transportation	

US DOT Description. (Include Proper Shipping Name, Hazard Class, and ID Number)

[illegible] Regulated Liquid [illegible]

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
9000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS. (ACTUAL) LAB # _____

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	< 2000 PPM.	FLASH POINT	> 100 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
[signature] for TG Navy		[signature]

COMMENTS:

[illegible] from Tank # 27

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One
[Y] Non-Hazardous Material
[ ] Hazardous Material

NETC # 027

DATE 9 / 16 / 96	VEHICLE NUMBER: TKB - 680
FROM: Shipper NETC CORE LINE	TO: Consignee Clean Harbors End of Life
Street ONE SIMONPIETRI DRIVE	Street 27 Rumford Road
City NEWPORT State RI	City South Portland State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
J.P. NOONAN TRANSPORTATION

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
6700	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC N.D. PPM. LEAD N.D. PPM. BTU's/LB.
CADMIUM N.D. PPM. PCB'S N.D. PPM. BTU's/GAL.
CHROMIUM N.D. PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
For the Navy		% # 178

COMMENTS:

OIL FROM TANK # 37

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 026

DATE 9 / 16 / 96	VEHICLE NUMBER: TKB-1
FROM: Shipper NETC CODE 1106	TO Consignee CLEAN HARBORS ENV SERVICES, INC
Street ONE SIMONPIETRI DRIVE	Street 7 KENNEY ROAD
City NEWPORT State RI	City PORTLAND State ME
Zip Code 2841 / US EPA ID Number R I 1 1 7 0 0 2 9 2 4 3	Zip Code 04106

Name of Carrier:
J.P. NOONAN TRANSPORTATION

US DOT Description. (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
5000	Gal	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC N.D. PPM. LEAD N.D. PPM. BTU's/LB.
CADMIUM N.D. PPM. PCB'S N.D PPM BTU's/GAL.
CHROMIUM N.D. PPM. TOTAL HALOGENS <200 PPM FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		

COMMENTS:

OIL FROM TANK # 37

CHI 179 A

COPY 3

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC # 025

DATE 9 / 16 / 96	VEHICLE NUMBER: TKB-16
FROM: Shipper NETC CODE 40E	TO: Consignee CLEAN HARBORS ENV SERVICES, INC
Street ONE SIMONPIETRI DRIVE	Street 37 FOREST ROAD
City NEWPORT State RI	City SOUTH PORTLAND State ME
Zip Code 02841 / US EPA ID Number T I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier:
J. P. NORMAND TRANSPORTATION

US DOT Description. (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
5000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS. (ACTUAL) LAB # _____

ARSENIC	N.D. PPM.	LEAD	N.D. PPM.	BTU's/LB.	
CADMIUM	N.D. PPM.	PCB'S	N.D. PPM.	BTU's/GAL.	
CHROMIUM	N.D. PPM.	TOTAL HALOGENS	<200 PPM.	FLASH POINT	>200 °F
N.D. = NOT DETECTED				SULFUR	

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY		307

COMMENTS:

OIL FROM TANK #37

CHI 179 A

COPY 3

CleanHarbors
STRAIGHT BILL OF LADING

Check One:
- [x] Non-Hazardous Material
- [ ] Hazardous Material

NETC# 024

DATE 9 / 16 / 96	VEHICLE NUMBER: TCB-94
FROM: Shipper NETC CODE 40E	TO: Consignee CLEAN HARBORS FUEL SERVICES, INC
Street ONE SIMONPIETRI DRIVE	Street 37 RUMERY ROAD
City NEWPORT State R.I.	City SOUTH PORTLAND State ME
Zip Code 02841 / US EPA ID Number R I 1 1 7 0 0 2 4 2 4 3	Zip Code 04106

Name of Carrier: J.P. NOONAN TRANSPORTATION

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)

NON-REGULATED LIQUID (OIL)

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
8000	Gal.	1-800-OIL-TANK

WASTE OIL ANALYSIS: (ACTUAL) LAB #

ARSENIC N.D. PPM. LEAD N.D. PPM. BTU's/LB.
CADMIUM N.D. PPM. PCB'S N.D. PPM. BTU's/GAL.
CHROMIUM N.D. PPM. TOTAL HALOGENS <200 PPM. FLASH POINT >200 °F
N.D. = NOT DETECTED SULFUR

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC	5.0	PPM. MAX.	LEAD	100	PPM. MAX.
CADMIUM	2.0	PPM. MAX.	PCB'S	N.D.	PPM. MAX.
CHROMIUM	10.0	PPM. MAX.	TOTAL HALOGENS	1,000	PPM. MAX

FLASH POINT >100 °F

Shipper's Signature	Consignee Signature	Transporter's Signature
FOR THE NAVY.		for J.P. Noonan

COMMENTS:

OIL FROM TANK # 37

CHI 179 A

COPY 3

APPENDIX D
DEGREASER/VENDOR INFORMATION

CHEMICALS, INC.
HOUSTON, TEXAS
(713) 734-1656

"Maintenance Chemicals For Your Environment"

HAZARD RATING
4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT
* = CHRONIC HEALTH HAZARD - SEE SECTION V

Fire: 0
Toxicity: 1
Reactivity: 1
Special:

MATERIAL SAFETY DATA SHEET

(Essentially Similar to Form OSHA-20)

SECTION I

REVISED: 06-15-87

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
N/A	ENVIRO 2000S

CHEMICAL FAMILY	FORMULA
Detergent	Proprietary

SECTION II — HAZARDOUS INGREDIENTS

MATERIAL	CAS #	%	TLV (units)
Sodium Hydroxide	1310-73-2		2 mg/m^3 200 mg/m^3 IDLH

SECTION III — PHYSICAL DATA

BOILING POINT (°F)	216°F	SPECIFIC GRAVITY ($H_2O = 1$)	1.04
VAPOR PRESSURE (mm Hg)	NIL	PERCENT, VOLATILE BY VOLUME (%)	94
VAPOR DENSITY (AIR = 1)	NOT EST.	EVAPORATION RATE (_____ = 1)	1
SOLUBILITY IN WATER	COMPLETE	pH	12.0

APPEARANCE AND ODOR: Clear red liquid / minimal odor.

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	Lel	Uel
Boils without flashing.		N/A	N/A

EXTINGUISHING MEDIA
Use carbon dioxide, alcohol foam, dry chemicals in areas where chemicals stored.

SPECIAL FIRE FIGHTING PROCEDURES
Aqueous solutions of product are alkaline.

UNUSUAL FIRE AND EXPLOSION HAZARDS
None.

SECTION V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See Section II.

EFFECTS OF OVEREXPOSURE
Inhalation: Airborne concentrations of mist or spray may cause irritation of upper respiratory tract, nose and throat, hemolysis, hemoglobinuria.
Skin: Dermatitis may result from repeated or prolonged exposure due to defatting of tissue
Eye: Product is destructive to eye tissue. May cause severe irritation.
Ingestion: Product can cause irritation of mouth, throat, esophagus and stomach.

EMERGENCY AND FIRST AID PROCEDURES
Eyes: Irrigate immediately with running water for at least 15 minutes. Seek medical attention if irritation persists. Skin: Flush with soap and water immediately. Remove impervious clothing immediately when skin is wet or contaminated. Seek medical attention if irritation persists. Inhalation: If person exposed to large amounts of mist or vapor, move the exposed person to fresh air at once and perform artificial respiration. Ingestion: If ingested, seek medical attention immediately. Give large quantities of wate

~~DO NOT INDUCE VOMITING~~

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

(CONTINUED ON REVERSE SIDE)

SECTION VI — REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

Acids, organic halogens, reactive metals such as zinc, tin, aluminum, leather and wool.

HAZARDOUS DECOMPOSITION PRODUCTS

None.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Small Spill: Mop or wipe up or absorb on sawdust or clay and dispose of in accordance with RCRA Regulations. Flush any residue with water.

Large Spill: Wear goggles, coveralls, and impervious gloves and boots. Add dry absorbant shovel, or sweep up, and place in a D.O.T. approved container and seal. Flush any residue with water.

WASTE DISPOSAL METHOD

Treat and dispose of in accordance with regulations under the RCRA as administered by the USEPA or other appropriate state agency.

SECTION VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Use NIOSH approved respirator for mists and vapors.

VENTILATION	LOCAL EXHAUST	SPECIAL
	To maintain below TLV guidelines.	
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber or Neoprene	Goggles or Safety Glasses

OTHER PROTECTIVE EQUIPMENT

Impervious boots, and coveralls, to minimize skin contact.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in cool dry place in original sealed container.
Avoid temperatures above 140°F. Avoid freezing conditions.

OTHER PRECAUTIONS

Read all directions and cautions on label before use.
Keep out of reach of children.

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

All statements, information and data given are believed to be accurate and reliable as of the data hereof, but are presented without guaranty warranty or responsibility of any kind, expressed or implied on our part. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other or additional considerations. Information regarding the proper course of treatment in the event of an accident or misuse of this product is properly the domain of the attending physician.

CHEMICALS, INC.
HOUSTON, TEXAS
(713) 734-1656

"Maintenance Chemicals For Your Environment"

HAZARD RATING
4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT
* = CHRONIC HEALTH HAZARD - SEE SECTION V

Fire 0 | Toxicity 1 | Reactivity 1 | Special

MATERIAL SAFETY DATA SHEET

(Essentially Similar to Form OSHA-20)

SECTION I

REVISED: 06-15-87

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
N/A	ENVIRO 2000S

CHEMICAL FAMILY	FORMULA
Detergent	Proprietary

SECTION II — HAZARDOUS INGREDIENTS

MATERIAL	CAS #	%	TLV (units)
Sodium Hydroxide	1310-73-2		2 mg/m^3 200 mg/m^3 IDLH

SECTION III — PHYSICAL DATA

BOILING POINT (°F)	216°F	SPECIFIC GRAVITY ($H_2O = 1$)	1.04
VAPOR PRESSURE (mm Hg.)	NIL	PERCENT, VOLATILE BY VOLUME (%)	94
VAPOR DENSITY (AIR = 1)	NOT EST.	EVAPORATION RATE (_____ = 1)	1
SOLUBILITY IN WATER	COMPLETE	pH	12.0

APPEARANCE AND ODOR Clear red liquid / minimal odor.

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	Lel	Uel
Boils without flashing.		N/A	N/A

EXTINGUISHING MEDIA
Use carbon dioxide, alcohol foam, dry chemicals in areas where chemicals stored.

SPECIAL FIRE FIGHTING PROCEDURES
Aqueous solutions of product are alkaline.

UNUSUAL FIRE AND EXPLOSION HAZARDS
None.

SECTION V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See Section II.

EFFECTS OF OVEREXPOSURE
Inhalation: Airborne concentrations of mist or spray may cause irritation of upper respiratory tract, nose and throat, hemolysis, hemoglobinuria.
Skin: Dermatitis may result from repeated or prolonged exposure due to defatting of tissue
Eye: Product is destructive to eye tissue. May cause severe irritation.
Ingestion: Product can cause irritation of mouth, throat, esophagus and stomach.

EMERGENCY AND FIRST AID PROCEDURES
Eyes: Irrigate immediately with running water for at least 15 minutes. Seek medical attention if irritation persists. Skin: Flush with soap and water immediately. Remove impervious clothing immediately when skin is wet or contaminated. Seek medical attention if irritation persists. Inhalation: If person exposed to large amounts of mist or vapor, move the exposed person to fresh air at once and perform artificial respiration. Ingestion: If ingested, seek medical attention immediately. Give large quantities of wate

DO NOT INDUCE VOMITING

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

(CONTINUED ON REVERSE SIDE)

SECTION VI — REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

Acids, rganic halogens, reactive metals such as zinc, tin, aluminum, leather and wool.

HAZARDOUS DECOMPOSITION PRODUCTS

None.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Small Spill: Mop or wipe up or absorb on sawdust or clay and dispose of in accordance with RCRA Regulations. Flush any residue with water.

Large Spill: Wear goggles, coveralls, and impervious gloves and boots. Add dry absorbant shovel, or sweep up, and place in a D.O.T. approved container and seal. Flush any residue with water.

WASTE DISPOSAL METHOD

Treat and dispose of in accordance with regulations under the RCRA as administered by the USEPA or other appropriate state agency.

SECTION VIII — SPECIAL PROTECTION INFORMATION

RATORY PROTECTION (Specify type)

Use NIOSH approved respirator for mists and vapors.

VENTILATION	LOCAL EXHAUST	SPECIAL
	To maintain below TLV guidelines.	
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber or Neoprene	Goggles or Safety Glasses

OTHER PROTECTIVE EQUIPMENT

Impervious boots, and coveralls, to minimize skin contact.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in cool dry place in original sealed container.
Avoid temperatures above 140°F. Avoid freezing conditions.

OTHER PRECAUTIONS

Read all directions and cautions on label before use.
Keep out of reach of children.

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

l statements, information and data given are believed to be accurate and reliable as of the data hereof, but are presented without guaranty warranty or responsibility of any kind. pressed or implied on our part It is not intended to be all inclusive and the manner and conditions of use and handling may involve other or additional considerations. ormation regarding the proper course of treatment in the event of an accident or misuse of this product is property the domain of the attending physician.

Material Safety Data Sheet

QUICK IDENTIFIER (In Plant Common Name)

SW 1000

Manufacturer's Name (201) 437-7775
Heritage Labs, Inc.

Address P.O. Box 4141
Bayonne, NJ 07002

Signature of Person Responsible for Preparation
10/10/89 Donald J. Adone

HAZARD RATING
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

See section (5)

FIRE 0
HEALTH 1
REACTIVITY 0
SPECIFIC HAZARD 1

SECTION 1 - IDENTITY

Common Name (used on label) (Trade Name & Synonyms) SW 1000

Chemical Name n.a.

Formula Proprietary

SECTION 2 - HAZARDOUS INGREDIENTS

Principal Hazardous Component(s) (chemical & common name(s))	CAS #	%	ACGIH TLV	Other Limits Recommended
Sodium metasilicate	6834-93-0	<5%	n.a.	
Isopropanol	67-63-0	<5%	(TWA 400 ppm, STEL 500 ppm)	
Sodium hydroxide	1310-73-2	<1%	(C 2 mg/m^3)	

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data)

Boiling Point 213°F
Specific Gravity (H_2O = 1) 1.036
Vapor Pressure (mm Hg) n.a.
Percent Volatile by Volume (%) 0
Vapor Density (Air = 1) n.a.
Evaporation Rate (water = 1) <1%
Solubility in Water completely
Reactivity in Water none
Appearance and Odor clear liquid / non objectionable odor

Flash Point none
Flammable Limits in Air % by Volume Lower n.a. Upper n.a.
Extinguisher Media none required
Auto-Ignition Temperature none
Special Fire Fighting Procedures none
Unusual Fire and Explosion Hazards none

SECTION 4 - REACTIVITY DATA

	Unstable		Conditions to Avoid none
	Stable	X	

Incompatability (Materials to Avoid) Only those materials incompatible with water.

Hazardous Decomposition or Byproducts n.a.

Hazardous Polymerization	May Occur		Conditions to Avoid none
	Will Not Occur	X	

SECTION 5 - HEALTH HAZARDS

Route(s) of Entry:	Inhalation?	unlikely	Skin?	likely	Ingestion? unlikely
Health Hazards (Acute and Chronic)		Skin irritation may develop if repeated exposure occurs or if it is used for long periods of time. Avoid eye contact.			
Carcinogenicity:		None known			
Signs and Symptoms of Exposure		None known			
Emergency and First Aid Procedures		n.a.			
1. Inhalation		Move to more adequate ventilation.			
2. Eyes		Rinse thoroughly with water, if irritation develops - see physici			
3. Skin		Same as above.			
4. Ingestion		Drink juices, milk or water - consult a physician.			

SECTION 6 - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)	n.a. provide proper ventilation.				
Ventilation	Local Exhaust	Mechanical (General)	Special	Other	Should be adaquate
Protective Gloves	water resistant gloves.	Eye Protection	Goggles or safety glasses.		
Other Protective Clothing or Equipment					

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage	Store in temperatures ranging from 30°F to 110°F / 0°-43°
Other Precautions	None
Steps to be Taken In Case Material Is Released or Spilled	Hose down with water.
Waste Disposal Methods	Biodegradable. Refer to applicable regulations. Special dispos may not be required.

The information on this data sheet represents our current data and best opinion as to the proper use in the handling of this product under normal conditions. The informati and recommendations are offered for the user's consideration and examination, and it the user's responsibility to satisfy itself that they are suitable and complete for particular use. Any use of this product which is not in conformance with this data s or which involves using the product in combination with any other product or any othe process is the responsibility of the user.

APPENDIX E
MANIFESTS (DEBRIS DISPOSAL)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE
One Winter Street Boston, Massachusetts 02108

TF#4

CAN # R3070

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator's US EPA ID No: RI 1170024243
Manifest Document No: 50432 / 50477 MR

2 Page 1 of 1 — Information in the shaded areas is not required by Federal law.

A State Manifest Document Number: MA H705259

3 Generator's Name and Mailing Address: ATTN- RAYMOND ROBLEGO, NETC CODE 40 E, 1 SIMONE REPRIE DR

4 Generator's Phone: (401) 841-3735 Newport RI 02841

B State Gen ID: MA 13268

5 Transporter 1 Company Name: CLEAN HARBORS ENV SERVICES INC

6 US EPA ID Number: MAD 039322260

C State Trans ID:

7 Transporter 2 Company Name

8 US EPA ID Number

D Transporter's Phone: (617) 849-1800

E State Trans. ID

9 Designated Facility Name and Site Address: CLEAN HARBORS OF BRAINTREE, 385 QUINCY AVE, BRAINTREE MA 02184

10 US EPA ID Number: MAD 053152637

F Transporter's Phone ( )

G State Facility's ID: NOT REQUIRED

H Facility's Phone: (617) 849-1807

GENERATOR

11 US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12 Containers No	Type	13 Total Quantity	14 Unit Wt/Vol	I. Waste No
a. NON-D.O.T Regulated Oily Solids NONE / NA	1	CM	30	Y	MA01
b.					
c.					
d.					

J Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. MASS Regulated R010
b.
c.
d.

K Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15 Special Handling Instructions and Additional Information
1-800-615-8255 SB-3627 P136334

16 GENERATOR'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 national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MARK J. RIELLY — Signature: [signature] — Date: Month 02 Day 10 Year 9

TRANSPORTER

17 Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CHARLIE FITZGERALD — Signature: [signature] — Date: Month 02 Day 10 Year 9

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name — Signature — Date: Month Day Year

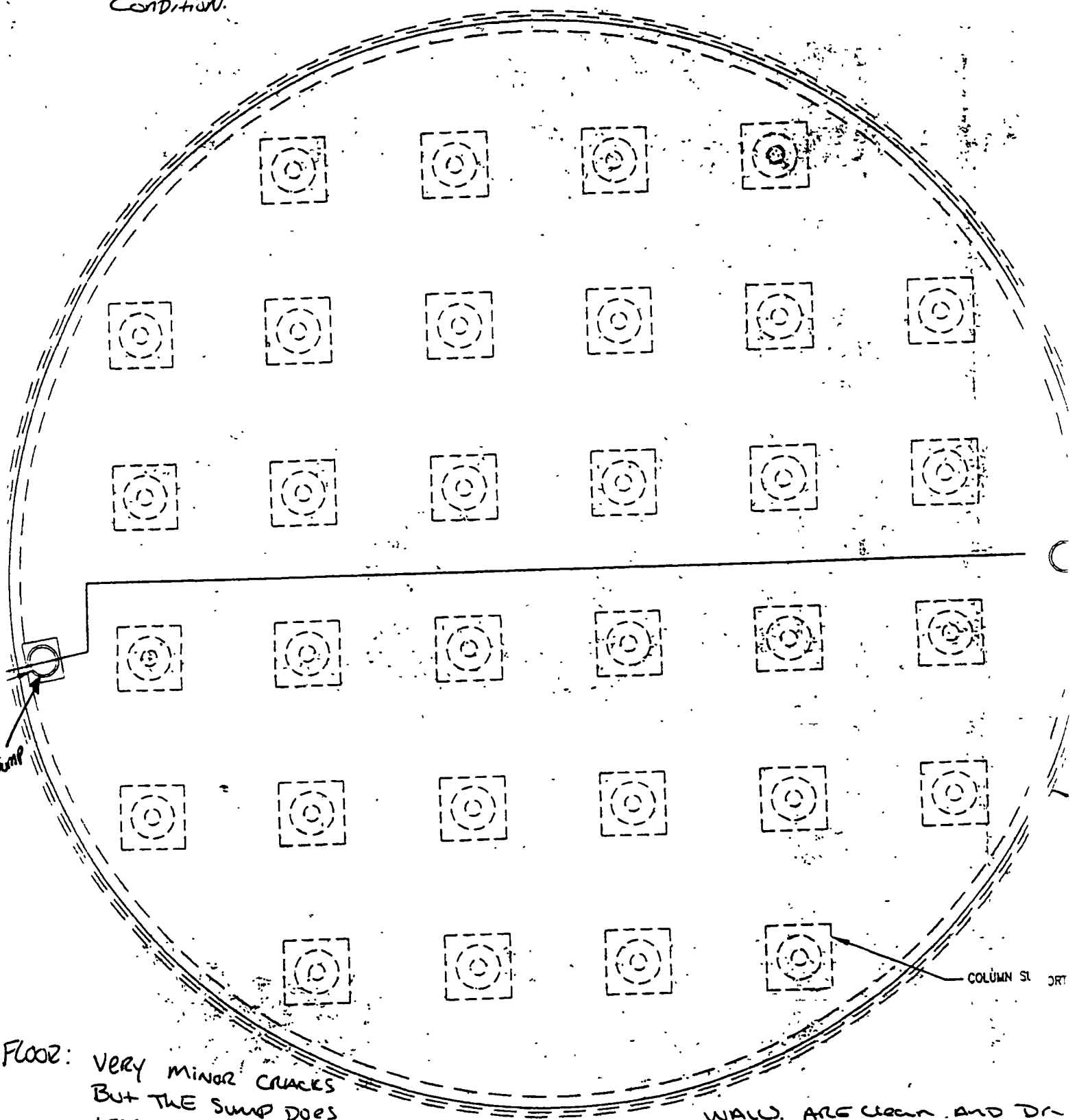
In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

Form Approved OMB No. 2050-0039 Expires 9-30-94
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY > 1: FACILITY MAILS TO DESTINATION STATE

APPENDIX F
STRUCTURAL INSPECTION

NOTE: TANK IS Clean AND Dry
PSI Cleaned This TANK
This TANK Does LEAK In
The SUMP. REST OF TANK
APPEARED TO BE IN GOOD
CONDITION.



FLOOR: VERY MINOR CRACKS
BUT THE SUMP DOES
LEAK THERE ARE A
FEW SMALL CRACKS
IN THIS AREA.

COLUMNS: NO REPAIRS
NEEDED.

WALLS ARE Clean AND Dry
APPEARED IN GOOD Cond

PLAN VIEW

APPENDIX G
BORING LOGS

BORING LOG / BORING NO. TF4-B-37 = WELL NO. TF4-MW-124)

NUS CORPORATION

PROJECT: CTO 143	LOCATION: NETC Newport	DRILLED BY: S. LaMarche	BORING NO.: TF4-B-37
DATE STARTED: 11-16-94	INCLINATION: Vertical	LOGGED BY: K Jaikel	GROUND ELEV.: 88.3 MLW
DATE COMPLETED: 11-16-94	BEARING:	CHECKED BY:	TOTAL DEPTH: 40'

ELEV. feet	DEPTH feet	SAMPLE TYPE-NO.	BLOWS PER 6"	PEN. in.	REC. in.	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	30	S-1	21-18 15-21	24	10	1217 hrs ND on sample Above WT		S-1 (10in) ~~silty~~ SILT - poorly graded, mostly silt sandy some fine sand, trace med sand, ~~to~~ few coarse subangular gravels up to 1 3/4 in x 1 in (2 pieces) few fine subangular gravels up to >7/16" diameter, brown, loose, dry (ML)
	32	S-2	9-11 7-4	24	11	1222 hrs SATURATED ND on sample		S-2 (11in) sandy silty GRAVEL - mostly gravel, poorly graded, some silt, little fine sand to med sand, coarse subangular gravels up to 1 1/2 x 1 in diameter, rock fragments, brown, oil sheen on barrel, saturated (GM)
	34	S-3	6-7 10-12	24	10	1236 hrs SATURATED ND on sample		S-3 (10in) Silty GRAVEL - similar to S-2 w/o sand ≥ 15%, gravels subangular up to 2in diameter - slate-like/phyllite, oil sheen in spoon, brown, saturated (GM)
	36	S-4	14-17 15-9	24	14	1240 hrs ND on sample SATURATED may drain possible		S-4 (14in) Silty GRAVEL - poorly graded mostly gravel - coarse subangular up to 1 1/2 in x 1in few subrounded to rounded gravel up to 1in diam. few fine subangular gravel up to 1/2 in diameter, rock fragments, ~~some~~ little silt, ~~few~~ trace fine sand + med sand, brown, saturated, oil sheen on sample (GM)
	38	S-5	11-12 12-100/4"	~~24~~ 22	11	1256 hrs ND on sample Bedrock @ 39'10"		S-5 (11in) silty GRAVEL - similar to S-4 (GM) w/ 4" of bedrock at tip of barrel - oily sheen fine grained platy/fissile metamorphosed shiny rock - possibly slate/phyllite black. 1 gravel 2 3/4 in x 2in diameter well rounded.
	40					EOB @ 39'10" Hopes to 40' per KJ Sand 40-39' Screen - 39-34' #1 sand 0.010 slots FP to 31', seal to 28'		

DJ

DJ 1027 1TPH-S

DUP 1-2 NC 2TPH-S

Full suite-1 BZ 1VOC 1TPH-S

DJ Full suite-8 BZ 1VOC 1TPH-S

EGEND:
TYPE-NO - Type of sample
C - Rock core sample
S - Split barrel sample
BLOWS PER 6" - 140 lb hammer falling 30" to drive a split barrel sampler; boring time per foot of rock
PEN - Penetration length of sampler
REC - Length of sample recovered

NOTES. HSA 6 1/4 in ID 10 1/4 in OD
No samples 0-30'
Continuous 30'-40'
140 lb hammer
3" barrel

Barrel refusal at 39'10"

DATE: 11-16-94 PROJECT NO.: 0288
BORING NO.: TF4-B-37

APPENDIX H
SOIL AND GROUNDWATER ANALYTICAL RESULTS

:ASE NO. CTO143

:EIMIC CORPORATION
'OTAL
(CRA SOIL METALS (mg/Kg)

;TATION ID:			SOTF4B373234	SOTF4B373436	SOTF4B37DUP	SOTF4B382628	SOTF4B463032	SOTF4B463840
.ABORATORY ID:			940996-17	940996-18	940996-19	940996-20	940996-09	940996-10
\NALYTE	CRDL	IDL						
\RSENIC	1	0 2	12.2	12 3	12 9	12 2	10 5	10.8
3ARIUM	20	0.1	15 6	7.9	10 3	12 1	2 8 U	16 1
:ADMIUM	0.5	0 3	2 6	2 6	2 7	2 5	2 3	3 2
:HROMIUM	1	0 5	14 1	14 1	15 0	13 7	13 6	15 9
.EAD	0 3	0 1	13.2	9 5	13 3	10.5	7 6	7.1
/ERCURY	0 1	0.05	0 09 UJ	0 08 UJ	0 08 UJ	0 09 UJ	0 05 U	0.05 U
3ELENIUM	0 5	0 2	0 16 U	0 15 U	0 18 U	0 16 U	0 21 U	0 21 U
3ILVER	1	0 4	0 89 UJ	1 3 U	1 3 U	0 84 UJ	1.9 U	1 8 U
% SOLIDS			84 4	83 8	84 7	84 6	86	83 7

:ASE NO CTO143

:EIMIC CORPORATION

CL SOIL SEMI-VOLATILE ORGANICS (ug/kg)

STATION ID:			SOTF4B373234	SOTF4B373436	SOTF4B37DUP	SOTF4B382628	SOTF4B463032
ABORATORY ID.			940996-17	940996-18	940996-19	940996-20	940996-09
				FIELD DUPLICATE PAIR			
NALYTE	CRQL	MDL/IDL					
HENOL	300	30	370 U	380 U	380 U	380 U	370 U
IS(2-CHLOROETHYL)ETHER	300	30	370 U	380 U	380 U	380 U	370 U
-CHLOROPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
,3-DICHLOROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
,4-DICHLOROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
,2-DICHLOROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
-METHYLPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
,2'-OXYBIS(1-CHLOROPROPANE)	300	30	370 U	380 U	380 U	380 U	370 U
-METHYLPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
-NITROSO-DI-n-PROPYLAMINE	300	30	370 U	380 U	380 U	380 U	370 U
EXACHLOROETHANE	300	30	370 U	380 U	380 U	380 U	370 U
ITROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
SOPHORONE	300	30	370 U	380 U	380 U	380 U	370 U
-NITROPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
,4-DIMETHYLPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
IS(2-CHLOROETHOXY)METHANE	300	30	370 U	380 U	380 U	380 U	370 U
,4-DICHLOROPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
,2,4-TRICHLOROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
APHTHALENE	300	30	370 U	380 U	380 U	380 U	370 U
-CHLOROANILINE	300	30	370 U	380 U	380 U	380 U	370 U
EXACHLOROBUTADIENE	300	30	370 U	380 U	380 U	380 U	370 U
-CHLORO-3-METHYLPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
-METHYLNAPHTHALENE	300	30	370 U	380 U	380 U	380 U	370 U
EXACHLOROCYCLOPENTADIENE	300	30	370 U	380 U	380 U	380 U	370 U
,4,6-TRICHLOROPHENOL	300	30	370 U	380 U	380 U	380 U	370 U
,4,5-TRICHLOROPHENOL	800	80	890 U	920 U	910 U	910 U	890 U
-CHLORONAPHTHALENE	300	30	370 U	380 U	380 U	380 U	370 U
-NITROANILINE	800	80	890 U	920 U	910 U	910 U	890 U
IMETHYLPHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
CENAPHTHYLENE	300	30	370 U	380 U	380 U	380 U	370 U
,6-DINITROTOLUENE	300	30	370 U	380 U	380 U	380 U	370 U
-NITROANILINE	800	80	890 U	920 U	910 U	910 U	890 U

:ASE NO CTO143

:EIMIC CORPORATION

. CL SOIL VOLATILE ORGANICS (ug/Kg)

;TATION ID:			SOTF4B373234	SOTF4B373436	SOTF4B37DUP	SOTF4B382628	SOTF4B463032
ABORATORY ID.			940996-17	940996-18	940996-19	940996-20	940996-09
				FIELD DUPLICATE PAIR			
\NALYTE	CRQL	MDL/IDL					
:hloromethane	10	2	11 U	11 U	11 U	11 U	11 U
3romom thane	10	2	11 U	11 U	11 U	11 U	11 U
/inyl Chloride	10	2	11 U	11 U	11 U	11 U	11 U
:hloroethane	10	2	11 U	11 U	11 U	11 U	11 U
/lethylene Chloride	10	2	11 U	11 U	11 U	11 U	13 U
\cetone	10	2	11 U	11 U	19 UJ	11 U	11 U
:arbon Disulfide	10	2	11 U	11 U	11 U	11 U	11 U
1,1-Dichloroethene	10	2	11 U	11 U	11 U	11 U	11 U
1,1-Dichlor ethane	10	2	11 U	11 U	11 U	11 U	11 U
1,2-Dichloroethene (total)	10	2	11 U	11 U	11 U	11 U	11 U
:hloroform	10	2	11 U	11 U	11 U	11 U	11 U
1,2-Dichlor ethane	10	2	11 U	11 U	11 U	11 U	11 U
2-Butanone	10	2	11 U	11 U	11 U	11 U	11 U
1,1,1-Trichloroethane	10	2	11 U	11 U	11 U	11 U	11 U
:arbon Tetrachloride	10	2	11 U	11 U	11 U	11 U	11 U
3romodichl romethane	10	2	11 U	11 U	11 U	11 U	11 U
1,2-Dichl r propane	10	2	11 U	11 U	11 U	11 U	11 U
:is-1,3-Dichloropropene	10	2	11 U	11 UJ	1 J	11 U	11 U
Trichloroethene	10	2	11 U	11 U	11 U	11 U	11 U
:ibromochl romethane	10	2	11 U	11 U	11 U	11 U	11 U
1,1,2-Trichloroethane	10	2	11 U	11 U	11 U	11 U	11 U
3enzene	10	2	11 U	11 U	11 U	11 U	11 U
trans-1,3-Dichloropropene	10	2	11 U	11 U	11 U	11 U	11 U
Br moform	10	2	11 U	11 U	11 U	11 U	11 U
4-Methyl-2-P ntanone	10	2	11 U	11 U	11 U	11 U	11 U
2-Hexanon	10	2	11 U	11 U	11 U	11 U	11 U
Tetrachloroethene	10	2	11 U	11 U	11 U	11 U	11 U
1,1,2,2-Tetrachl roethane	10	2	11 U	11 U	11 U	11 U	11 U
Toluene	10	2	11 U	11 U	11 U	11 U	11 U
:hlorobenzene	10	2	11 U	11 U	11 U	11 U	11 U
Ethylbenz ne	10	2	11 U	11 U	11 U	11 U	2 J
Styren	10	2	11 U	11 U	11 U	11 U	11 U
Xylene (total)							
DILUTION FACTOR:			1	1	1	1	1
% SOLIDS			87	88	89	88	91

CASE NO C10143

CEIMIC CORPORATION

TCL AQUEOUS SEMI-VOLATILE ORGANICS (ug/L)

STATION ID:			GW-TF4-MW123	GW-TF4-MW124	GW-TF4-MW125	GW-TF5-MW100	GW-TF5-MW10
LABORATORY ID.			941038-11	941038-03	941038-12	941038-14	941038-05
ANALYTE	CRQL	MDL/IDL					
PHENOL	10	1	10 U	10 U	200 U	10 U	10
BIS(2-CHLOROETHYL)ETHER	10	1	10 U	10 U	200 U	10 U	10
2-CHLOROPHENOL	10	1	10 U	10 U	200 U	10 U	10
1,3-DICHLOROBENZENE	10	1	10 U	10 U	200 U	10 U	10
1,4-DICHLOROBENZENE	10	1	10 U	10 U	200 U	10 U	10
1,2-DICHLOROBENZENE	10	1	10 U	10 U	200 U	10 U	10
2-METHYLPHENOL	10	1	10 U	10 U	200 U	10 U	10
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10 U	10 U	200 U	10 U	10
4-METHYLPHENOL	10	1	10 U	10 U	200 U	10 U	10
N-NITROSO-DI-n-PROPYLAMINE	10	1	10 U	10 U	200 U	10 U	10
HEXACHLOROETHANE	10	1	10 U	10 U	200 U	10 U	10
NITROBENZENE	10	1	10 U	10 U	200 U	10 U	10
ISOPHORONE	10	1	10 U	10 U	200 U	10 U	10
2-NITROPHENOL	10	1	10 U	10 U	200 U	10 U	10
2,4-DIMETHYLPHENOL	10	1	10 U	10 U	200 U	10 U	10
BIS(2-CHLOROETHOXY)METHANE	10	1	10 U	10 U	200 U	10 U	10
2,4-DICHLOROPHENOL	10	1	10 U	10 U	200 U	10 U	10
1,2,4-TRICHLOROBENZENE	10	1	10 U	10 U	200 U	10 U	10
NAPHTHALENE	10	1	10 U	10 U	200 U	10 U	10
4-CHLOROANILINE	10	1	10 U	10 U	200 U	10 U	10
HEXACHLOROBUTADIENE	10	1	10 U	10 U	200 U	10 U	10
4-CHLORO-3-METHYLPHENOL	10	1	10 U	10 U	200 U	10 U	10
2-METHYLNAPHTHALENE	10	1	10 U	10 U	200 U	10 U	10
HEXACHLOROCYCLOPENTADIENE	10	1	10 U	10 U	200 U	10 U	10
2,4,6-TRICHLOROPHENOL	25	2 5	25 U	25 U	500 U	25 U	25
2,4,5-TRICHLOROPHENOL	10	1	10 U	10 U	200 U	10 U	10
2-CHLORONAPHTHALENE	25	2 5	25 U	25 U	500 U	25 U	25
2-NITROANILINE	10	1	10 U	10 U	200 U	10 U	10
DIMETHYLPHTHALATE	10	1	10 U	10 U	200 U	10 U	10
ACENAPHTHYLENE	10	1	10 U	10 U	200 U	10 U	10
2,6-DINITROTOLUENE	10	1	10 U	10 U	200 U	10 U	10
3-NITROANILINE	25	2 5	25 U	25 U	500 U	25 U	25

:ASE NO CTO143

:EIMIC CORPORATION

ICL AQUEOUS VOLATILE ORGANICS (ug/L)

STATION ID:			GWTF4MW123	GWTF4MW124	GWTF4MW125	GWTF4TB1	GWTF5MW100
LABORATORY ID:			941038-11	941038-03	941038-12	941038-04	941038-14
ANALYTE	CRQL	MDL/IDL					
Chloromethane	10	2	10 U	10 U	10 U	10 U	10 U
Bromomethane	10	2	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10	2	10 U	10 U	10 U	10 U	10 U
Chloroethane	10	2	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10	2	10 U	10 U	10 U	10 U	10 U
Aceton	10	2	10 U	16 U	50 U	10 U	10 U
Carbon Disulfide	10	2	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10	2	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10	2	10 U	10 U	10 U	10 U	10 U
1,2-Dichl r ethene (total)	10	2	10 U	10 U	10 U	10 U	10 U
Chlorof rm	10	2	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10	2	10 U	10 U	10 U	10 U	10 U
2-Butanone	10	2	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	10	2	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10	2	10 U	10 U	10 U	10 U	10 U
Bromodichl romethane	10	2	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10	2	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropr pene	10	2	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10	2	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10	2	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichl roethane	10	2	10 U	10 U	10 U	10 U	10 U
Benzene	10	2	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10	2	10 U	10 U	10 U	10 U	10 U
Bromoform	10	2	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10	2	10 U	10 U	10 U	10 U	10 U
2-Hexan ne	10	2	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10	2	10 U	10 U	1 J	10 U	10 U
1,1,2,2-Tetrachl roethane	10	2	10 U	10 U	10 U	10 U	10 U
Toluene	10	2	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10	2	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10	2	10 U	10 U	10 U	10 U	10 U
Styrene	10	2	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10	2	10 U	10 U	10 U	10 U	10 U
DILUTION FACTOR			1	1	1	1	1

SE NO CTO143

IMIC CORPORATION

L SOIL SEMI-VOLATILE ORGANICS (ug/kg)

ATION ID			SOTF4B373234	SOTF4B373436	SOTF4B37DUP	SOTF4B382628	SOTF4B463032
BORATORY ID.			940996-17	940996-18	940996-19	940996-20	940996-09
				FIELD DUPLICATE PAIR			
ALYTE	CRQL	MDL/IDL					
ENAPHTHENE	300	30	370 U	380 U	380 U	380 U	370 U
-DINITROPHENOL	800	80	890 U	920 U	910 U	910 U	890 U
ITROPHENOL	800	80	890 U	920 U	910 U	910 U	890 U
ENZOFURAN	300	30	370 U	380 U	380 U	380 U	370 U
-DINITROTOLUENE	300	30	370 U	380 U	380 U	380 U	370 U
THYL PHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
HLOROPHENYL-PHENYL ETHER	300	30	370 U	380 U	380 U	380 U	370 U
UORENE	300	30	370 U	380 U	380 U	380 U	370 U
ITROANILINE	800	80	890 U	920 U	910 U	910 U	890 U
-DINITRO-2-METHYLPHENOL	800	80	890 U	920 U	910 U	910 U	890 U
NITROSODIPHENYLAMINE	300	30	370 U	380 U	380 U	380 U	370 U
ROMOPHENYL-PHENYL ETHER	300	30	370 U	380 U	380 U	380 U	370 U
XACHLOROBENZENE	300	30	370 U	380 U	380 U	380 U	370 U
NTACHLOROPHENOL	800	80	890 U	920 U	910 U	910 U	890 U
ENANTHRENE	300	30	370 U	380 U	380 U	380 U	370 U
THRACENE	300	30	370 U	380 U	380 U	380 U	370 U
n-BUTYLPHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
UORANTHENE	300	30	370 U	380 U	380 U	380 U	370 U
RBAZOLE	300	30	370 U	380 U	380 U	380 U	370 U
RENE	300	30	370 U	380 U	380 U	380 U	370 U
TYLBENZYLPHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
'-DICHLOROBENZIDINE	300	30	370 U	380 U	380 U	380 U	370 U
NZO(a)ANTHRACENE	300	30	370 U	380 U	380 U	380 U	370 U
RYSENE	300	30	66 J	380 UJ	39 J	74 J	41 J
(2-ETHYLHEXYL)PHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
n-OCTYLPHTHALATE	300	30	370 U	380 U	380 U	380 U	370 U
NZO(b)FLUORANTHENE	300	30	370 U	380 U	380 U	380 U	370 U
NZO(k)FLUORANTHENE	300	30	370 U	380 U	380 U	380 U	370 U
NZO(a)PYRENE	300	30	370 U	380 U	380 U	380 U	370 U
DENO(1,2,3-cd)PYRENE	300	30	370 U	380 U	380 U	380 U	370 U
BENZO(a,h)ANTHRACENE	300	30	370 U	380 U	380 U	380 U	370 U
NZO(g,h,i)PERYLENE	300	30	370 U	380 U	380 U	380 U	370 U
LUTION FACTOR.			1	1	1	1	1
SOLIDS			88	86	87	87	89

CASE NO. CTO143

CEIMIC CORPORATION
TOTAL
RCRA AQUEOUS METALS (ug/L)

STATION ID			GW-TF4-MW124		GW-TF4-MW125		GW-TF5-MW100		GW-TF5-MW101		GW-TF5-MW103		GW-TF5-DUP2	
LABORATORY ID			941038-03		941038-12		941038-14		941038-05		941038-15		941038-13	
											FIELD DUPLICATE PAIR			
ANALYTE	CRDL	IDL												
ARSENIC	10	2	2 0	U	9 8	U	9 6	U	3 1	UJ	13 5		14 4	
BARIUM	200	1	9 2	U	18 4	U	11 9	U	12 9	U	19 3	U	20 3	U
CADMIUM	5	3	3 0	U	3 0	U	3 0	U	3 0	U	3 0	U	3 0	U
CHROMIUM	10	5	5 0	U	5 0	U	5 0	U	5 0	U	5 0	U	5 0	U
LEAD	3	1	1 6	UJ	1 8	UJ	2.6	U	1 0	U	1 0	U	1.5	UJ
MERCURY	0 2	0 1	1 0	J	0 13	UJ	0 86	J	0 13	UJ	0.14	UJ	0 47	J
SELENIUM	5	2	2 0	U	2 0	U	2 0	U	2 0	U	2 0	U	2 0	U
SILVER	10	4	4 0	U	4 0	U	4 0	U	4 0	U	4 0	U	4 0	U

Total Petroleum Hydrocarbons
(Extractables)

EPA Method 8015B
GC/FID Fingerprint

Client: Halliburton NUS

Client Sample ID: SO-TF4-B-37-3436

Laboratory ID: 940996-18

Date Sample Received: 11/15/94

Date Sample Prepared: 11/22/94

Date Sample Analyzed: 12/01/94

Concentration in: mg/kg+

Target Analyte	Sample Concentration	Method Reporting Limits
Mineral Spirits (Paint Thinner)	ND	12
JP-4 Jet Fuel	ND	12
Kerosene	ND	12
Jet Fuel A	ND	12
JP-5 Jet Fuel	ND	12
JP-8 Jet Fuel	ND	12
Mineral Oil	ND	12
Naphtha	ND	12
Diesel Fuel	ND	12
Fuel Oil #2	ND	12
Fuel Oil #4	ND	12
Fuel Oil #5	ND	12
Fuel Oil #6	ND	12
Bunker Oil	ND	12
Motor Oil	ND	12
Hydraulic Jack Oil	ND	12
Transmission Fluid	ND	12
Lubricating Oil	ND	12
Compressor Oil	ND	12
Creosote	ND	12
Diesel Range Organics (C10 to C28)	ND	5.8
Residual Range Organics (C28 to C40)	ND	5.8

ND = Not detected

+ = dry weigh basis, solids = 86%

The sample chromatogram was compared to the Target Analytes listed. The reported analyte concentrations are estimated from the most closely matching target analytes.

Reported by: AL

Approved by: HL

Total Petroleum Hydrocarbons
(Extractables)

EPA Method 8015B
GC/FID Fingerprint

Client: Halliburton NUS

Client Sample ID: SO-TF4-B-37-3234

Laboratory ID: 940996-17

Date Sample Received: 11/15/94

Date Sample Prepared: 11/22/94

Date Sample Analyzed: 12/01/94

Concentration in: mg/kg+

Target Analyte	Sample Concentration	Method Reporting Limits
Mineral Spirits (Paint Thinner)	ND	11
JP-4 Jet Fuel	ND	11
Kerosene	ND	11
Jet Fuel A	ND	11
JP-5 Jet Fuel	ND	11
JP-8 Jet Fuel	ND	11
Mineral Oil	ND	11
Naphtha	ND	11
Diesel Fuel	ND	11
Fuel Oil #2	ND	11
Fuel Oil #4	ND	11
Fuel Oil #5	ND	11
Fuel Oil #6	ND	11
Bunker Oil	ND	11
Motor Oil	ND	11
Hydraulic Jack Oil	ND	11
Transmission Fluid	ND	11
Lubricating Oil	ND	11
Compressor Oil	ND	11
Creosote	ND	11
Diesel Range Organics (C10 to C28)	ND	5.7
Residual Range Organics (C28 to C40)	ND	5.7

ND = Not detected
+ = dry weigh basis. solids = 88%
The sample chromatogram was compared to the Target Analytes listed. The reported analyte concentrations are estimated from the most closely matching target analytes.

Reported by: _____

Approved by: _____

Total Petroleum Hydrocarbons
(Extractables)

EPA Method 8015B
GC/FID Fingerprint

Client: Halliburton NUS

Client Sample ID: SO-TF4-B-37-DUP

Laboratory ID: 940996-19

Date Sample Received: 11/15/94

Date Sample Prepared: 11/22/94

Date Sample Analyzed: 12/01/94

Concentration in: mg/kg+

Target Analyte	Sample Concentration	Method Reporting Limits
Mineral Spirits (Paint Thinner)	ND	11
JP-4 Jet Fuel	ND	11
Kerosene	ND	11
Jet Fuel A	ND	11
JP-5 Jet Fuel	ND	11
JP-8 Jet Fuel	ND	11
Mineral Oil	ND	11
Naphtha	ND	11
Diesel Fuel	ND	11
Fuel Oil #2	ND	11
Fuel Oil #4	ND	11
Fuel Oil #5	ND	11
Fuel Oil #6	ND	11
Bunker Oil	ND	11
Motor Oil	ND	11
Hydraulic Jack Oil	ND	11
Transmission Fluid	ND	11
Lubricating Oil	ND	11
Compressor Oil	ND	11
Creosote	ND	11
Diesel Range Organics (C10 to C28)	ND	5.7
Residual Range Organics (C28 to C40)	ND	5.7

ND = Not detected
+ = dry weigh basis, solids = 87%
The sample chromatogram was compared to the Target Analytes listed. The reported analyte concentrations are estimated from the most closely matching target analytes.

Reported by: AT

Approved by: HL

APPENDIX I
CHAIN-OF-CUSTODY FORMS

PROJECT: FOSTER WHEELER ENVIRONMENTAL CORP./ NETC TANK FARM 4

SAMPLERS: (Signature)

SAMPLE NUMBER	MATRIX	DATE	TIME	COMP	GRAB	NO. CONTAINERS	Volatiles 8260	Semi-Volatiles 8270	PCBs 8080	Priority Pollutant Metals 6010/7000	Ignitability	Reactivity (CN,S)	Corrosivity - pH	TPH 8015 (GRO,DRO)	TCLP - Volatiles	TCLP- Metals	TCLP SVOC,Pest,Herb			REMARKS OR SAMPLE LOCATION	ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
TK4-TK40 OIL-1	OIL	7/22	0800	X		1			✓		✓	✓		X	✓	✓	✓			COMP. MADE OF TANK		
TK4-TK39 OIL-1	OIL	7/22	0845	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK39 SLG-1	Sludge	7/22	0900	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK41 OIL-1	OIL	7/22	0945	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK47 OIL-1	OIL	7/22	1030	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK47 SLG-1	Sludge	7/22	1045	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK46 OIL-1	OIL	7/23	0800	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK46 SLG-1	Sludge	7/23	0830	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK37 OIL-1	OIL	7/23	1440	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK37 SLG-1	Sludge	7/23	1520	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK38 OIL-1	OIL	7/24	0800	X		1			✓		✓	✓			✓	✓	✓					
TK4-TK38 SLG-1	Sludge	7/24	0845	X		1			✓		✓	✓			✓	✓	✓					

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/24/96 1615				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks

Notes:

TASKS
- Tank Sampling
- Excavation Sampling
- Waste Testing

NETC
TANK FARM 4

CHAIN-OF-CUSTODY RECORD

COC wpd
5/21/96

MITREM CORPORATION
175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 Fax (401) 732-3499
1232 East Broadway Road, Suite 210 Tempe, Arizona 85282
(602 303-9535 • Fax (602) 921-2883

CHAIN-OF-CUSTODY RECORD

REPORT TO

COMPANY: Foster Wheeler
NAME: Mark Gouveia
PHONE: 842-6940
FAX: 842-6970
ADDRESS: P.O. Box 4749
CITY/ST/ZIP: Middletown RI 02842

INVOICE TO

COMPANY: Foster Wheeler
NAME:
PHONE: 842-6940
FAX: 842-6970
ADDRESS: P.O. Box 4749
CITY/ST/ZIP: Middletown RI 02842

LAB REFERENCE #:

TURNAROUND TIME: 1 WEEK TAT.

CLIENT PROJECT NAME: Tank Farm # 4
CLIENT PROJECT #: DO# 13F
CLIENT P O #: 003195

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOC's	SVOC's	RCRA 8 METALS	TPH.	COMMENTS
TP-TK37	7/8/97 1430	✓	✓		✓			2	✓	✓	✓	✓	
TP-TK42	7/8/97 1340	✓	✓		✓			2	✓	✓	✓	✓	
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
1st	Bianca Hebbel	7/8/97 / 1600	[illegible signature]	7-8-97 / 16:00
2nd		/		/
3rd		/		/

ADDITIONAL REMARKS:

COOLER TEMP:

APPENDIX J
CHIP SAMPLES ANALYTICAL RESULTS

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-2
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total Petroleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC

Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

003

D1167-TPH

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-C1
Lab ID: D1167-02
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.16	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch. MT0729B1

ND = Not detected

MITKEM CORPORATION

Analysis R port: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-C1
Lab ID: D1167-02
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 96% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

013

D1167-02

MITKEM CORPORATION

Client ID: TK37-C1

Lab ID: D1167-02

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	19	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	5	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	20	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	75	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	81	5

QC Batch: V2B0729A

Surrogate Recovery	
1,2-Dichloroethane-d4	100%
Toluene-d8	102%
Bromofluorobenzene	98%

ND = Not detected

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-C1
Lab ID: D1167-02
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 95% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	350
bis(2-Chloroethyl)ether	ND	350
2-Chlorophenol	ND	350
1,3-Dichlorobenzene	ND	350
1,4-Dichlorobenzene	ND	350
1,2-Dichlorobenzene	ND	350
2-Methylphenol	ND	350
2,2'-oxybis(1-Chloropropane)	ND	350
4-Methylphenol	ND	350
n-Nitroso-di-n-propylamine	ND	350
Hexachloroethane	ND	350
Nitrobenzene	ND	350
Isophorone	ND	350
2-Nitrophenol	ND	350
2,4-Dimethylphenol	ND	350
bis(2-Chloroethoxy)methane	ND	350
2,4-Dichlorophenol	ND	350
1,2,4-Trichlorobenzene	ND	350
Naphthalene	ND	350
4-Chloroaniline	ND	350
Hexachlorobutadiene	ND	350
4-Chloro-3-methylphenol	ND	350
2-Methylnaphthalene	180 J	350
Hexachlorocyclopentadiene	ND	350
2,4,6-Trichlorophenol	ND	350
2,4,5-Trichlorophenol	ND	870
2-Chloronaphthalene	ND	350
2-Nitroaniline	ND	870
Dimethylphthalate	ND	350
Acenaphthylene	ND	350
2,6-Dinitrotoluene	ND	350
3-Nitroaniline	ND	870
Acenaphthene	ND	350
2,4-Dinitrophenol	ND	870
4-Nitrophenol	ND	870
Dibenzofuran	ND	350
2,4-Dinitrotoluene	ND	350

027

MITKEM CORPORATION

Client ID: TK37-C1

Lab ID: D1167-02

Analyte	Results	Reporting Limits
Diethylphthalate	ND	350
Fluorene	ND	350
4-Chlorophenyl-phenylether	ND	350
4-Nitroaniline	ND	870
4,6-Dinitro-2-methylphenol	ND	870
n-Nitrosodiphenylamine	ND	350
4-Bromophenyl-phenylether	ND	350
Hexachlorobenzene	ND	350
Pentachlorophenol	ND	870
Phenanthrene	54 J	350
Anthracene	ND	350
Di-n-butylphthalate	ND	350
Carbazole	ND	350
Fluoranthene	ND	350
Pyrene	ND	350
Butylbenzylphthalate	ND	350
Benzo(a)anthracene	ND	350
Chrysene	ND	350
3,3'-Dichlorobenzidine	ND	350
bis(2-Ethylhexyl)phthalate	100 J	350
Di-n-octylphthalate	ND	350
Benzo(b)fluoranthene	ND	350
Benzo(k)fluoranthene	ND	350
Benzo(a)pyrene	ND	350
Indeno(1,2,3-cd)pyrene	ND	350
Dibenz(a,h)anthracene	ND	350
Benzo(g,h,i)perylene	ND	350

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	38%
Phenol-d5	38%
2-Chlorophenol-d4	46%
2,4,6-Tribromophenol	65%
1,2-Dichlorobenzene-d4	51%
Nitrobenzene-d5	55%
2-Fluorobiphenyl	67%
p-Terphenyl-d14	122%

ND = Not detected

028

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-34
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-288
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total P troleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC			
Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-F1
Lab ID: D1167-01
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.24	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-F1
Lab ID: D1167-01
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 93% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	8	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

011

D1167-01

MITKEM CORPORATION

Client ID: TK37-F1

Lab ID: D1167-01

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	25	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	6	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	19	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	71	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	81	5

QC Batch: V2B0729A

Surrogate Recovery:	
1,2-Dichloroethane-d4	103%
Toluene-d8	103%
Bromofluorobenzene	102%

ND = Not detected

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-F1
Lab ID: D1167-01
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 94% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	320
bis(2-Chloroethyl)ether	ND	320
2-Chlorophenol	ND	320
1,3-Dichlorobenzene	ND	320
1,4-Dichlorobenzene	ND	320
1,2-Dichlorobenzene	ND	320
2-Methylphenol	ND	320
2,2'-oxybis(1-Chloropropane)	ND	320
4-Methylphenol	ND	320
n-Nitroso-di-n-propylamine	ND	320
Hexachloroethane	ND	320
Nitrobenzene	ND	320
Isophorone	ND	320
2-Nitrophenol	ND	320
2,4-Dimethylphenol	ND	320
bis(2-Chloroethoxy)methane	ND	320
2,4-Dichlorophenol	ND	320
1,2,4-Trichlorobenzene	ND	320
Naphthalene	220 J	320
4-Chloroaniline	ND	320
Hexachlorobutadiene	ND	320
4-Chloro-3-methylphenol	ND	320
2-Methylnaphthalene	1,200	320
Hexachlorocyclopentadiene	ND	320
2,4,6-Trichlorophenol	ND	320
2,4,5-Trichlorophenol	ND	800
2-Chloronaphthalene	ND	320
2-Nitroaniline	ND	800
Dimethylphthalate	ND	320
Acenaphthylene	ND	320
2,6-Dinitrotoluene	ND	320
3-Nitroaniline	ND	800
Acenaphthene	63 J	320
2,4-Dinitrophenol	ND	800
4-Nitrophenol	ND	800
Dibenzofuran	ND	320
2,4-Dinitrotoluene	ND	320

025

MITKEM CORPORATION

Client ID: TK37-F1

Lab ID: D1167-01

Analyte	Results	Reporting Limits
Diethylphthalate	ND	320
Fluorene	110 J	320
4-Chlorophenyl-phenylether	ND	320
4-Nitroaniline	ND	800
4,6-Dinitro-2-methylphenol	ND	800
n-Nitrosodiphenylamine	ND	320
4-Bromophenyl-phenylether	ND	320
Hexachlorobenzene	ND	320
Pentachlorophenol	ND	800
Phenanthrene	380	320
Anthracene	38 J	320
Di-n-butylphthalate	ND	320
Carbazole	ND	320
Fluoranthene	33 J	320
Pyrene	140 J	320
Butylbenzylphthalate	ND	320
Benzo(a)anthracene	ND	320
Chrysene	62 J	320
3,3'-Dichlorobenzidine	ND	320
bis(2-Ethylhexyl)phthalate	140 J	320
Di-n-octylphthalate	ND	320
Benzo(b)fluoranthene	ND	320
Benzo(k)fluoranthene	ND	320
Benzo(a)pyrene	ND	320
Indeno(1,2,3-cd)pyrene	ND	320
Dibenz(a,h)anthracene	ND	320
Benzo(g,h,i)perylene	ND	320

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	25%
Phenol-d5	42%
2-Chlorophenol-d4	35%
2,4,6-Tribromophenol	36%
1,2-Dichlorobenzene-d4	63%
Nitrobenzene-d5	69%
2-Fluorobiphenyl	75%
p-Terphenyl-d14	138% *

ND = Not detected

* Out of control limits due to matrix effect

026

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-3-
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-28
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total P troleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC

Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

003

D1167-TPH

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W1
Lab ID: D1167-03
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.17	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

006

D1167-03

MITKEM CORPORATION

Analysis Report: Volatil Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W1
Lab ID: D1167-03
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 95% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	7	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	8	5

MITKEM CORPORATION

Client ID: TK37-W1

Lab ID: D1167-03

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	15	5
Xylenes, total	94	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	10	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	17	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	56	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	210	5
sec-Butylbenzene	9	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	11	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	230 E	5

QC Batch: V2B0729A

Surrogate Recovery:	
1,2-Dichloroethane-d4	108%
Toluene-d8	96%
Bromofluorobenzene	95%

016

ND = Not detected

D1167-03

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Cli nt: Foster Wheeler Environmental Corp.
Client ID: TK37-W1
Lab ID: D1167-03
Analysis Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 93% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	340
bis(2-Chloroethyl)ether	ND	340
2-Chlorophenol	ND	340
1,3-Dichlorobenzene	ND	340
1,4-Dichlorobenzene	ND	340
1,2-Dichlorobenzene	ND	340
2-Methylphenol	ND	340
2,2'-oxybis(1-Chloropropane)	ND	340
4-Methylphenol	ND	340
n-Nitroso-di-n-propylamine	ND	340
Hexachloroethane	ND	340
Nitrobenzene	ND	340
Isophorone	ND	340
2-Nitrophenol	ND	340
2,4-Dimethylphenol	ND	340
bis(2-Chloroethoxy)methane	ND	340
2,4-Dichlorophenol	ND	340
1,2,4-Trichlorobenzene	ND	340
Naphthalene	74 J	340
4-Chloroaniline	ND	340
Hexachlorobutadiene	ND	340
4-Chloro-3-methylphenol	ND	340
2-Methylnaphthalene	420	340
Hexachlorocyclopentadiene	ND	340
2,4,6-Trichlorophenol	ND	340
2,4,5-Trichlorophenol	ND	840
2-Chloronaphthalene	ND	340
2-Nitroaniline	ND	840
Dimethylphthalate	ND	340
Acenaphthylene	ND	340
2,6-Dinitrotoluene	ND	340
3-Nitroaniline	ND	840
Acenaphthene	ND	340
2,4-Dinitrophenol	ND	840
4-Nitrophenol	ND	840
Dibenzofuran	ND	340
2,4-Dinitrotoluene	ND	340

029

MITKEM CORPORATION

Client ID: TK37-W1 | Lab ID: D1167-03

Analyte	Results	Reporting Limits
Diethylphthalate	ND	340
Fluorene	ND	340
4-Chlorophenyl-phenylether	ND	340
4-Nitroaniline	ND	840
4,6-Dinitro-2-methylphenol	ND	840
n-Nitrosodiphenylamine	ND	340
4-Bromophenyl-phenylether	ND	340
Hexachlorobenzene	ND	340
Pentachlorophenol	ND	840
Phenanthrene	120 J	340
Anthracene	ND	340
Di-n-butylphthalate	ND	340
Carbazole	ND	340
Fluoranthene	ND	340
Pyrene	44 J	340
Butylbenzylphthalate	ND	340
Benzo(a)anthracene	ND	340
Chrysene	ND	340
3,3'-Dichlorobenzidine	ND	340
bis(2-Ethylhexyl)phthalate	140 J	340
Di-n-octylphthalate	ND	340
Benzo(b)fluoranthene	ND	340
Benzo(k)fluoranthene	ND	340
Benzo(a)pyrene	ND	340
Indeno(1,2,3-cd)pyrene	ND	340
Dibenz(a,h)anthracene	ND	340
Benzo(g,h,i)perylene	ND	340

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	37%
Phenol-d5	46%
2-Chlorophenol-d4	46%
2,4,6-Tribromophenol	38%
1,2-Dichlorobenzene-d4	65%
Nitrobenzene-d5	71%
2-Fluorobiphenyl	76%
p-Terphenyl-d14	129%

ND = Not detected

030

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-3
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-28
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total Petroleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC			
Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W2
Lab ID: D1167-04
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.26	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

007

D1167-04

MITKEM CORPORATION

Analysis Report: Volatil Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W2
Lab ID: D1167-04
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 95% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	7	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

017

D1167-04

MITKEM CORPORATION

Client ID: TK37-W2

Lab ID: D1167-04

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	9	5
Xylenes, total	59	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	7	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	12	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	43	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	160	5
sec-Butylbenzene	7	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	9	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	170	5

QC Batch: V2B0729A

Surrogate Recovery:	
1,2-Dichloroethane-d4	103%
Toluene-d8	98%
Bromofluorobenzene	95%

018

ND = Not detected

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W2
Lab ID: D1167-04
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 94% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	360
bis(2-Chloroethyl)ether	ND	360
2-Chlorophenol	ND	360
1,3-Dichlorobenzene	ND	360
1,4-Dichlorobenzene	ND	360
1,2-Dichlorobenzene	ND	360
2-Methylphenol	ND	360
2,2'-oxybis(1-Chloropropane)	ND	360
4-Methylphenol	ND	360
n-Nitroso-di-n-propylamine	ND	360
Hexachloroethane	ND	360
Nitrobenzene	ND	360
Isophorone	ND	360
2-Nitrophenol	ND	360
2,4-Dimethylphenol	ND	360
bis(2-Chloroethoxy)methane	ND	360
2,4-Dichlorophenol	ND	360
1,2,4-Trichlorobenzene	ND	360
Naphthalene	170 J	360
4-Chloroaniline	ND	360
Hexachlorobutadiene	ND	360
4-Chloro-3-methylphenol	ND	360
2-Methylnaphthalene	970	360
Hexachlorocyclopentadiene	ND	360
2,4,6-Trichlorophenol	ND	360
2,4,5-Trichlorophenol	ND	900
2-Chloronaphthalene	ND	360
2-Nitroaniline	ND	900
Dimethylphthalate	ND	360
Acenaphthylene	ND	360
2,6-Dinitrotoluene	ND	360
3-Nitroaniline	ND	900
Acenaphthene	49 J	360
2,4-Dinitrophenol	ND	900
4-Nitrophenol	ND	900
Dibenzofuran	ND	360
2,4-Dinitrotoluene	ND	360

031

MITKEM CORPORATION

Client ID: TK37-W2

Lab ID: D1167-04

Analyte	Results	Reporting Limits
Diethylphthalate	ND	360
Fluorene	73 J	360
4-Chlorophenyl-phenylether	ND	360
4-Nitroaniline	ND	900
4,6-Dinitro-2-methylphenol	ND	900
n-Nitrosodiphenylamine	ND	360
4-Bromophenyl-phenylether	ND	360
Hexachlorobenzene	ND	360
Pentachlorophenol	ND	900
Phenanthrene	280 J	360
Anthracene	ND	360
Di-n-butylphthalate	ND	360
Carbazole	ND	360
Fluoranthene	ND	360
Pyrene	88 J	360
Butylbenzylphthalate	ND	360
Benzo(a)anthracene	ND	360
Chrysene	40 J	360
3,3'-Dichlorobenzidine	ND	360
bis(2-Ethylhexyl)phthalate	100 J	360
Di-n-octylphthalate	ND	360
Benzo(b)fluoranthene	ND	360
Benzo(k)fluoranthene	ND	360
Benzo(a)pyrene	ND	360
Indeno(1,2,3-cd)pyrene	ND	360
Dibenz(a,h)anthracene	ND	360
Benzo(g,h,i)perylene	ND	360

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	25%
Phenol-d5	44%
2-Chlorophenol-d4	36%
2,4,6-Tribromophenol	29%
1,2-Dichlorobenzene-d4	56%
Nitrobenzene-d5	72%
2-Fluorobiphenyl	78%
p-Terphenyl-d14	144% *

ND = Not detected

* Out of control limits due to matrix effects.

032

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-3
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-28
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total Petroleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC			
Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

003

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W3
Lab ID: D1167-05
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.26	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

008

D1167-05

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W3
Lab ID: D1167-05
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 96% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	8	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

019

D1167-05

MITKEM CORPORATION

Client ID: TK37-W3

Lab ID: D1167-05

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	8	5
Xylenes, total	48	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	7	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	13	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	54	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	200	5
sec-Butylbenzene	8	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	11	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	200	5

QC Batch: V2B0729A

Surrogate Recovery:	
1,2-Dichloroethane-d4	107%
Toluene-d8	96%
Bromofluorobenzene	89%

020

ND = Not detected

D1167-05

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W3
Lab ID: D1167-05
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 94% solids
Concentration in: ug/kg, dry weight basis
Dilution: 5

Analyte	Results	Reporting Limits
Phenol	ND	1,900
bis(2-Chloroethyl)ether	ND	1,900
2-Chlorophenol	ND	1,900
1,3-Dichlorobenzene	ND	1,900
1,4-Dichlorobenzene	ND	1,900
1,2-Dichlorobenzene	ND	1,900
2-Methylphenol	ND	1,900
2,2'-oxybis(1-Chloropropane)	ND	1,900
4-Methylphenol	ND	1,900
n-Nitroso-di-n-propylamine	ND	1,900
Hexachloroethane	ND	1,900
Nitrobenzene	ND	1,900
Isophorone	ND	1,900
2-Nitrophenol	ND	1,900
2,4-Dimethylphenol	ND	1,900
bis(2-Chloroethoxy)methane	ND	1,900
2,4-Dichlorophenol	ND	1,900
1,2,4-Trichlorobenzene	ND	1,900
Naphthalene	510 J	1,900
4-Chloroaniline	ND	1,900
Hexachlorobutadiene	ND	1,900
4-Chloro-3-methylphenol	ND	1,900
2-Methylnaphthalene	2,700	1,900
Hexachlorocyclopentadiene	ND	1,900
2,4,6-Trichlorophenol	ND	1,900
2,4,5-Trichlorophenol	ND	4,700
2-Chloronaphthalene	ND	1,900
2-Nitroaniline	ND	4,700
Dimethylphthalate	ND	1,900
Acenaphthylene	ND	1,900
2,6-Dinitrotoluene	ND	1,900
3-Nitroaniline	ND	4,700
Acenaphthene	ND	1,900
2,4-Dinitrophenol	ND	4,700
4-Nitrophenol	ND	4,700
Dibenzofuran	ND	1,900
2,4-Dinitrotoluene	ND	1,900

033

MITKEM CORPORATION

Client ID: TK37-W3

Lab ID: D1167-05

Analyte	Results	Reporting Limits
Diethylphthalate	ND	1,900
Fluorene	210 J	1,900
4-Chlorophenyl-phenylether	ND	1,900
4-Nitroaniline	ND	4,700
4,6-Dinitro-2-methylphenol	ND	4,700
n-Nitrosodiphenylamine	ND	1,900
4-Bromophenyl-phenylether	ND	1,900
Hexachlorobenzene	ND	1,900
Pentachlorophenol	ND	4,700
Phenanthrene	820 J	1,900
Anthracene	ND	1,900
Di-n-butylphthalate	ND	1,900
Carbazole	ND	1,900
Fluoranthene	ND	1,900
Pyrene	310 J	1,900
Butylbenzylphthalate	ND	1,900
Benzo(a)anthracene	ND	1,900
Chrysene	ND	1,900
3,3'-Dichlorobenzidine	ND	1,900
bis(2-Ethylhexyl)phthalate	580 J	1,900
Di-n-octylphthalate	ND	1,900
Benzo(b)fluoranthene	ND	1,900
Benzo(k)fluoranthene	ND	1,900
Benzo(a)pyrene	ND	1,900
Indeno(1,2,3-cd)pyrene	ND	1,900
Dibenz(a,h)anthracene	ND	1,900
Benzo(g,h,i)perylene	ND	1,900

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	39%
Phenol-d5	61%
2-Chlorophenol-d4	64%
2,4,6-Tribromophenol	43%
1,2-Dichlorobenzene-d4	74%
Nitrobenzene-d5	84%
2-Fluorobiphenyl	100%
p-Terphenyl-d14	163% *

ND = Not detected

* Out of control limits due to matrix effects.

034

MITKEM CORPORATION

August 1, 1997

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, RI 02842
Attn: Mr. Mark Gouveia

RE: Client Project #: DO# 13F, Tank Farm #4
Lab Project #: D1167

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Kin S. Chiu
Technical Director

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-34
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-288
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: DO#13F (Tank Farm 4)

Lab Project: D1167

Date Samples Received: July 28, 1997

Project Narrative

This data package included the analysis result for six concrete samples that were received from Foster Wheeler Environmental Corp. on July 28, 1997. Analyses were performed per specifications in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the Client sample ID and Laboratory sample ID.

Due to matrix effect, several samples exhibited high surrogate recovery for p-terphenyl-d14.

All of the analyses were performed according to method specifications.

The enclosed data package has been reviewed and is authorized for release as evidenced by the signature below.

Kin S. Chiu
Laboratory Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total P troleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1167-01	TK37-F1	750	94	190	7/30/97
D1167-02	TK37-C1	130	95	80	7/30/97
D1167-03	TK37-W1	1,000	93	360	7/30/97
D1167-04	TK37-W2	460	94	180	7/30/97
D1167-05	TK37-W3	1,400	94	38	7/30/97
D1167-06	TK37-W4	1,600	95	600	7/30/97

QA/QC

Method Blank			
I0729-B1	ND	22	7/30/97
Lab Control Spike (% Recovery)			
I0729-LCS1	110		7/30/97

003

D1167-TPH

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W4
Lab ID: D1167-06
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	0.31	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	0.04	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

009

D1167-06

MITKEM CORPORATION

Analysis Report: TCLP Metals

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: TCLP Blank, MT0729B1
Analysis Method: 7470 (Mercury)
6010 (Others)

Matrix: TCLP Leachate
Concentration in: mg/L
Analysis Date: 7/31/97

Analyte	Results	Reporting Limits
Arsenic	ND	0.01
Barium	ND	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.01
Mercury	ND	0.002
Selenium	ND	0.02
Silver	ND	0.02

QC Batch: MT0729B1

ND = Not detected

010

D1167-MB

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W4
Lab ID: D1167-06
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Concrete, 96% solids
Concentration in: ug/kg, dry weight basis
Dilution. 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	13	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	9	5

021
D1167-06

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, V2B0729A
Analysis: Method 8260

Analysis Date: 7/29/97
Matrix: Solid
Concentration in: ug/kg
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

023

D1167-MB

MITKEM CORPORATION

Client ID:

Lab ID: Method Blank, V2B0729A

Analyte	Results	Reporting Limits
	ND	5
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	ND	5

QC Batch: V2B0729A

Surrogate Recovery	
1,2-Dichloroethane-d4	100%
Toluene-d8	105%
Bromofluorobenzene	101%

024

ND = Not detected

D1167-MB

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TK37-W4
Lab ID: D1167-06
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete, 95% solids
Concentration in: ug/kg, dry weight basis
Dilution: 5

Analyte	Results	Reporting Limits
Phenol	ND	1,600
bis(2-Chloroethyl)ether	ND	1,600
2-Chlorophenol	ND	1,600
1,3-Dichlorobenzene	ND	1,600
1,4-Dichlorobenzene	ND	1,600
1,2-Dichlorobenzene	ND	1,600
2-Methylphenol	ND	1,600
2,2'-oxybis(1-Chloropropane)	ND	1,600
4-Methylphenol	ND	1,600
n-Nitroso-di-n-propylamine	ND	1,600
Hexachloroethane	ND	1,600
Nitrobenzene	ND	1,600
Isophorone	ND	1,600
2-Nitrophenol	ND	1,600
2,4-Dimethylphenol	ND	1,600
bis(2-Chloroethoxy)methane	ND	1,600
2,4-Dichlorophenol	ND	1,600
1,2,4-Trichlorobenzene	ND	1,600
Naphthalene	900 J	1,600
4-Chloroaniline	ND	1,600
Hexachlorobutadiene	ND	1,600
4-Chloro-3-methylphenol	ND	1,600
2-Methylnaphthalene	4,400	1,600
Hexachlorocyclopentadiene	ND	1,600
2,4,6-Trichlorophenol	ND	1,600
2,4,5-Trichlorophenol	ND	3,900
2-Chloronaphthalene	ND	1,600
2-Nitroaniline	ND	3,900
Dimethylphthalate	ND	1,600
Acenaphthylene	ND	1,600
2,6-Dinitrotoluene	ND	1,600
3-Nitroaniline	ND	3,900
Acenaphthene	160 J	1,600
2,4-Dinitrophenol	ND	3,900
4-Nitrophenol	ND	3,900
Dibenzofuran	ND	1,600
2,4-Dinitrotoluene	ND	1,600

035

MITKEM CORPORATION

Client ID: TK37-W4

Lab ID: D1167-06

Analyte	Results	Reporting Limits
Diethylphthalate	ND	1,600
Fluorene	260 J	1,600
4-Chlorophenyl-phenylether	ND	1,600
4-Nitroaniline	ND	3,900
4,6-Dinitro-2-methylphenol	ND	3,900
n-Nitrosodiphenylamine	ND	1,600
4-Bromophenyl-phenylether	ND	1,600
Hexachlorobenzene	ND	1,600
Pentachlorophenol	ND	3,900
Phenanthrene	940 J	1,600
Anthracene	960 J	1,600
Di-n-butylphthalate	ND	1,600
Carbazole	ND	1,600
Fluoranthene	ND	1,600
Pyrene	450 J	1,600
Butylbenzylphthalate	ND	1,600
Benzo(a)anthracene	ND	1,600
Chrysene	ND	1,600
3,3'-Dichlorobenzidine	ND	1,600
bis(2-Ethylhexyl)phthalate	1,000 J	1,600
Di-n-octylphthalate	ND	1,600
Benzo(b)fluoranthene	ND	1,600
Benzo(k)fluoranthene	ND	1,600
Benzo(a)pyrene	ND	1,600
Indeno(1,2,3-cd)pyrene	ND	1,600
Dibenz(a,h)anthracene	ND	1,600
Benzo(g,h,i)perylene	ND	1,600

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	14% *
Phenol-d5	42%
2-Chlorophenol-d4	10% *
2,4,6-Tribromophenol	62%
1,2-Dichlorobenzene-d4	81%
Nitrobenzene-d5	88%
2-Fluorobiphenyl	169%
p-Terphenyl-d14	163% *

ND = Not detected

* Out of control limits

036

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, S0729-B2
Analysis: Method 8270

Analysis Date: 7/30/97
Matrix: Concrete
Concentration in: ug/kg
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
2,2'-oxybis(1-Chloropropane)	ND	330
4-Methylphenol	ND	330
n-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	330
2,4-Dimethylphenol	ND	330
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	830
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	830
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	830
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	830
4-Nitrophenol	ND	830
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330

037

D1167-MB

MITKEM CORPORATION

Client ID:

Lab ID: Method Blank, S0729-B2

Analyte	Results	Reporting Limits
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	830
4,6-Dinitro-2-methylphenol	ND	830
n-Nitrosodiphenylamine	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	830
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Carbazole	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
Benzo(a)anthracene	ND	330
Chrysene	ND	330
3,3'-Dichlorobenzidine	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

QC Batch: S0729-B2

Surrogate Recovery:	
2-Fluorophenol	82%
Phenol-d5	72%
2-Chlorophenol-d4	74%
2,4,6-Tribromophenol	78%
1,2-Dichlorobenzene-d4	66%
Nitrobenzene-d5	74%
2-Fluorobiphenyl	77%
p-Terphenyl-d14	99%

ND = Not detected

038

D1167-MB

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Lab Control Summary

Client: Foster Wheeler Environmental Corp.
Lab ID for Blank Spike: S0729-LCS1
Analysis: Method 8270

Matrix: Solid

Analysis Date for Blank Spike: 7/30/97

Analyte	% Recovery
Phenol	70
2-Chlorophenol	70
1,4-Dichlorobenzene	66
n-Nitroso-di-n-propylamine	75
1,2,4-Trichlorobenzene	74
4-Chloro-3-methylphenol	81
Acenaphthene	77
4-Nitrophenol	77
2,4-Dinitrotoluene	80
Pentachlorophenol	62
Pyrene	86

QC Batch: S0729-B2

039

D1167-LCS

MITKEM CORPORATION

Lab Project #: D1167
Client Name: Foster Wheeler
Client Proj #: DO#13F
Client PO #: 003195
Project Name: Tank Farm 4
Date Due: 7/31/97
Total Price: $
Project Mgr: EAL
Salesman: JSB
Del Req'd: NA
Completed?: YES

Logged In By: MAM
Reviewed By: BFD
Date: 7-29-97 Time: 3:41

Lab ID	Client ID	Matrix	Analysis	Price	Sampled	Received	TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
-01	TK37-F1	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1					—		
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
-02	TK37-C1	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1							
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
-03	TK37-W1	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1							
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
-04	TK37-W2	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1							

040

MITKEM CORPORATION

Lab ID	Client ID	Matrix	Analysis	Price	Sampled	Received	TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
-05	TK37-W3	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1							
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
-06	TK37-W4	CON	VOCs & EDB		7/25/97	7/28/97									1	
			SVOC 8270						1							
			TPH 418.1					1								
			TCLP Metals										1			
			Sample Prep													
							TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
							0	6	6	0	0	0	6	0	6	0

NOTES: None

ORIGINAL REPORT GOES TO:
Foster Wheeler Environmental Corp.
PO Box 4749
Portsmouth, RI 02842

Attn: Mark Gouveia
Phone: 842-6940
Fax: 842-6970

INVOICE GOES TO:
Same

041

MITKEM Corporation
175 Metro Center Boulevard Warwick, Rhode Island 02886-1755
(401) 732-3400 Fax (401) 732-3499
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282
(602 303-9535 • Fax (602) 921-2883

CHAIN-OF-CUSTODY RECORD

COMPANY: Foster Wheeler	PHONE: 842-6540	COMPANY: SAME	PHONE: SAME
NAME: MARK GOUVEIA	FAX: 842-6540	NAME:	FAX:
ADDRESS: P.O. BOX 4749		ADDRESS:	
CITY/ST/ZIP: PORTSMOUTH RI 02842		CITY/ST/ZIP:	

LAB REFERENCE #: 01167

TURNAROUND TIME: 48 HR.

BFD

CLIENT PROJECT NAME: TANK FARM 4

CLIENT PROJECT #: DO# 13F

CLIENT P.O #: 003195

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOC's	SVOC's	TPH	TCLP METALS	EDB	COMMENTS
TK37-F1	7/28/97 1415	X	X			X		3	-	-	-	-	-	
TK37-C1	7/28/97 1430	X	X			X		3	-	-	-	-	-	
TK37-W1	7/28/97 1300	X	X			X		3	-	-	-	-	-	
TK37-W2	7/28/97 1320	X	X			X		3	-	-	-	-	-	
TK37-W3	7/28/97 1340	X	X			X		3	-	-	-	-	-	
TK37-W4	7/28/97 1400	X	X			X		3	-	-	-	-	-	

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
1st	[signature]	7/28/97	Nism Kent	7/28/97 4pm
2nd		/		/
3rd		/		/

ADDITIONAL REMARKS:

COOLER TEMP: 4°

042

Last Page of Data Report

APPENDIX K
TEST PIT ANALYTICAL RESULTS

#37

MITKEM CORPORATION

July 17, 1997

Foster Wheeler Environmental Corp.
Attn: Mr. Mark Gouveia
P.O. Box 4749
Middletown, RI 02842

RE: Client Project #DO# 13F, Tank Farm #4
Lab Project #D1079

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the sample associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Edward A. Lawler
Laboratory Operations Manager

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-34
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-288
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: 1284-0006, DO# 13F, Tank Farm #4

Lab Project: D1079

Date samples received: 7/8/97

Project Narrative

This data report includes the analysis results for two (2) soil samples that were received from the Tank Farm #4 site from Foster Wheeler Environmental Corp. on July 8, 1997. Analyses were performed per specification in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the client sample ID and laboratory sample ID.

All of the analyses were performed according to method specifications. No other unusual observation was made for the analyses.

This data report has been reviewed and is authorized for release as evidenced by the signature below.

Edward A. Lawler
Laboratory Operations Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total Petroleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1079-01	TP-TK37	ND	91	24	7/11/97
D1079-02	TP-TK42	ND	93	24	7/11/97

QA/QC

Method Blank				
I0710-B1	ND		22	7/11/97
Lab Control Spike (% Recovery)				
I0710-LCS1	111			7/11/97

ND = Not Detected

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK 37
Lab ID: D1079-01
Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil, 91% Solids
Concentration in: mg/kg, dry weight basis
Analysis Date: 7/11/97

Analyte	Results	Reporting Limit
Arsenic	6	1
Barium	18	1
Cadmium	0.6	0.1
Chromium	11	1
Lead	10	0.5
Mercury	ND	0.3
Selenium	ND	4
Silver	ND	1

QC Batch: 0710PBS

ND = Not detected

004

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK37
Lab ID: D1079-01
Analysis: Method 8270

Analysis Date: 7/16/97
Matrix: Soil, 91% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	360
bis(2-Chloroethyl)ether	ND	360
2-Chlorophenol	ND	360
1,3-Dichlorobenzene	ND	360
1,4-Dichlorobenzene	ND	360
1,2-Dichlorobenzene	ND	360
2-Methylphenol	ND	360
2,2'-oxybis(1-Chloropropane)	ND	360
4-Methylphenol	ND	360
n-Nitroso-di-n-propylamine	ND	360
Hexachloroethane	ND	360
Nitrobenzene	ND	360
Isophorone	ND	360
2-Nitrophenol	ND	360
2,4-Dimethylphenol	ND	360
bis(2-Chloroethoxy)methane	ND	360
2,4-Dichlorophenol	ND	360
1,2,4-Trichlorobenzene	ND	360
Naphthalene	ND	360
4-Chloroaniline	ND	360
Hexachlorobutadiene	ND	360
4-Chloro-3-methylphenol	ND	360
2-Methylnaphthalene	ND	360
Hexachlorocyclopentadiene	ND	360
2,4,6-Trichlorophenol	ND	360
2,4,5-Trichlorophenol	ND	910
2-Chloronaphthalene	ND	360
2-Nitroaniline	ND	910
Dimethylphthalate	ND	360
Acenaphthylene	ND	360
2,6-Dinitrotoluene	ND	360
3-Nitroaniline	ND	910
Acenaphthene	ND	360
2,4-Dinitrophenol	ND	910
4-Nitrophenol	ND	910
Dibenzofuran	ND	360
2,4-Dinitrotoluene	ND	360

008

MITKEM CORPORATION

Client ID: TP-TK37

Lab ID: D1079-01

Analyte	Results	Reporting Limits
Diethylphthalate	ND	360
Fluorene	ND	360
4-Chlorophenyl-phenylether	ND	360
4-Nitroaniline	ND	910
4,6-Dinitro-2-methylphenol	ND	910
n-Nitrosodiphenylamine	ND	360
4-Bromophenyl-phenylether	ND	360
Hexachlorobenzene	ND	360
Pentachlorophenol	ND	910
Phenanthrene	ND	360
Anthracene	ND	360
Di-n-butylphthalate	ND	360
Carbazole	ND	360
Fluoranthene	ND	360
Pyrene	39 J	360
Butylbenzylphthalate	ND	360
Benzo(a)anthracene	ND	360
Chrysene	ND	360
3,3'-Dichlorobenzidine	ND	360
bis(2-Ethylhexyl)phthalate	ND	360
Di-n-octylphthalate	ND	360
Benzo(b)fluoranthene	ND	360
Benzo(k)fluoranthene	ND	360
Benzo(a)pyrene	ND	360
Indeno(1,2,3-cd)pyrene	ND	360
Dibenz(a,h)anthracene	ND	360
Benzo(g,h,i)perylene	ND	360

QC Batch: S0710-B1

Surrogate Recovery:	
2-Fluorophenol	37%
Phenol-d5	45%
2-Chlorophenol-d4	44%
2,4,6-Tribromophenol	53%
1,2-Dichlorobenzene-d4	47%
Nitrobenzene-d5	48%
2-Fluorobiphenyl	60%
p-Terphenyl-d14	88%

ND = Not detected

009

MITKEM CORPORATION

Analysis Report: Volatil Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK37
Lab ID: D1079-01
Analysis: Method 8260

Analysis Date: 7/13/97
Matrix: Soil, 93% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

015

MITKEM CORPORATION

Client ID: TP-TK37

Lab ID: D1079-01

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	ND	5

Surrogate Recovery:

QC Batch: V1B0713A

1,2-Dichloroethane-d4	93%
Toluene-d8	98%
Bromofluorobenzene	95%

016

ND = Not detected

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheel r Environmental Corp.
Client ID:
Lab ID: Prep Blank, 0710PBS
Analysis Method: 7471A (Mercury)
6010A (Others)

Concentration in: mg/kg
Analysis Date: 7/11/97

Analyte	Results	Reporting Limit
Arsenic	ND	1
Barium	ND	1
Cadmium	ND	0.1
Chromium	ND	1
Lead	ND	0.5
Mercury	ND	0.3
Selenium	ND	4
Silver	ND	1

QC Batch: 0710PBS

ND = Not detected

006

D1079-MB

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Lab Control Sample, 0710LCSS
Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil

Analysis Date: 7/11/97

Analyte	% Recovery
Arsenic	86
Barium	99
Cadmium	85
Chromium	99
Lead	85
Mercury	78
Selenium	74
Silver	99

QC Batch: 0710PBS

007

D1079-LCS

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, S0710-B1
Analysis: Method 8270

Analysis Date: 7/15/97
Matrix: Soil
Concentration in: ug/kg
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
2,2'-oxybis(1-Chloropropane)	ND	330
4-Methylphenol	ND	330
n-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	330
2,4-Dimethylphenol	ND	330
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	850
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	850
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	850
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	850
4-Nitrophenol	ND	850
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330

012

D1079-02

MITKEM CORPORATION

Client ID: Lab ID: Method Blank, S0710-B1

Analyte	Results	Reporting Limits
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	850
4,6-Dinitro-2-methylphenol	ND	850
n-Nitrosodiphenylamine	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	850
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Carbazole	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
Benzo(a)anthracene	ND	330
Chrysene	ND	330
3,3'-Dichlorobenzidine	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

QC Batch: S0710-B1

Surrogate Recovery:	
2-Fluorophenol	40%
Phenol-d5	44%
2-Chlorophenol-d4	44%
2,4,6-Tribromophenol	35%
1,2-Dichlorobenzene-d4	41%
Nitrobenzene-d5	38%
2-Fluorobiphenyl	48%
p-Terphenyl-d14	94%

ND = Not detected

013

D1079-02

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Lab Control Summary

Client: Foster Wheeler Environmental Corp.
Lab ID for Blank Spike: S0710-L1
Analysis: Method 8270

Matrix: Solid

Analysis Date for Blank Spike: 7/15/97

Analyte	% Recovery
Phenol	52
2-Chlorophenol	52
1,4-Dichlorobenzene	47
n-Nitroso-di-n-propylamine	36
1,2,4-Trichlorobenzene	51
4-Chloro-3-methylphenol	60
Acenaphthene	59
4-Nitrophenol	48
2,4-Dinitrotoluene	59
Pentachlorophenol	48
Pyrene	123

QC Batch: S0710-B1

014

D1079-LCS

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, V1B0713A
Analysis: Method 8260

Analysis Date: 7/13/97
Matrix: Soil
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

010

D1079-MB

MITKEM CORPORATION

Client ID:

Lab ID: Method Blank, V1B0713A

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	ND	5

Surrogate Recovery:

QC Batch: V1B0713A

1,2-Dichloroethane-d4	98%
Toluene-d8	99%
Bromofluorobenzene	99%

ND = Not detected

020

D1079-MB

MITKEM CORPORATION

Lab Project #: D1079 RI
Client Name: Foster Wheeler
Client Proj #: DO# 13F
Client PO #: 003195
Project Name: Tank Farm #4
Date Due: 7/15/97
Total Price: $ -
Project Mgr: EL
Salesman: PAS
Del Req'd: NA
Completed?: YES

Logged In By: BFD
Reviewed By: [illegible]
Date: 7/9/97 Time: _____

Lab ID	Client ID	Matrix	Analysis	Price	Sampled	Received	TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
-01	TP-TK37	SL	TCLP Metals/RCRA8		7/8/97	7/8/97							1			
			VOCs 8260 + EDB												1	
			SVOCs 8270						1							
			TPH 418.1					1								
-02	TP-TK42	SL	TCLP Metals/RCRA8		7/8/97	7/8/97							1			
			VOCs 8260 + EDB												1	
			SVOCs 8270						1							
			TPH 418.1					1								
							TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
							0	2	2	0	0	0	2	0	2	0

NOTES: RI Analysis added 7/9/97

ORIGINAL REPORT GOES TO:

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, R I. 02842

Attn: Mark Gouveia
Phone: 401 842-6940
Fax: 401 842-6970

INVOICE GOES TO:

MITKEM CORPORATION
175 Metro Center Boulevard ● Warwick, Rhode Island 02886-1755
(401) 732-3400 ● Fax (401) 732-3499
1232 East Broadway Road, Suite 210. Tempe, Arizona 85282
(602 303-9535 ● Fax (602) 921-2883

CHAIN-OF-CUSTODY RECORD

REPORT TO

COMPANY: Foster Wheeler
NAME: Mark Gaveia
ADDRESS: P.O. Box 4749
CITY/ST/ZIP: Middletown RI 02842
PHONE: 842-6940
FAX: 842-6970

INVOICE TO

COMPANY: Foster Wheeler
NAME:
ADDRESS: P.O. Box 4749
CITY/ST/ZIP: Middletown RI 02842
PHONE: 842-6940
FAX: 842-6970

LAB REFERENCE #:

TURNAROUND TIME: 1 WEEK TAT.

CLIENT PROJECT NAME: Tank Farm # 4
CLIENT PROJECT #: DO# 13F
CLIENT P O #: 003195

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOC's	SVOC's	RCRA 8 METALS	TPH.	COMMENTS
TP-TK37	7/8/97 1430	✓	✓		✓			2	✓	✓	✓	✓	
TP-TK42	7/8/97 1340	✓	✓		✓			2	✓	✓	✓	✓	
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												
	/												

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
1st	Bianca Hebbel	7/8/97 / 1600	[illegible signature]	7-8-97 / 16:00
2nd		/		/
3rd		/		/

ADDITIONAL REMARKS:

COOLER TEMP:

WHITE - LABORATORY

MITKEM CORPORATION

Sample Condition Form

Received By: MED	Date: 7/9/97	MITKEM Project #: 01 079
Client Project Description/Number: DO #1 BF		Client: Foster Wheeler

Condition:		Lab ID	Client ID	Remarks
1) Custody Seal(s)	Present/Absent	01		
	Intact/Broken	02		
2) Custody Seal Number(s)	NA			
3) Chain-of-Custody Record(s)	Present/Absent			
4) Cooler Temperature	4°			
Coolant Condition	Good			
5) Airbill(s)	Present/Absent			
Airbill Number(s)				
6) Sample Bottles	Intact			
	Broken			
	Leaking			
7) Date Received	7/9/97			
8) Time Received	10:00			
9) Project Due Date				

Last Page of Data Report

TANK NO. 37			
SUBSTANCE	RESIDENTIAL	GA	FIELD ANALYTICAL
	(mg/kg)	Leachability	DETECTIONS
		(mg/kg except as	(mg/kg except as
		other wise noted)	otherwise noted)
VOLATILE ORGANICS			
Acetone	7,800		
Benzene	2.5	0.2	
Bromodichloromethane	10		
Bromoform	81		
Bromomethane	0.8		
Carbon tetrachloride	1.5	0.4	
Chlorobenzene	210	3.2	
Chloroform	1.2		
Dibromochloromethane	7.6		
Dibromochloropropane (DBCP)	0.5		
Dichloroethane (1,1-)	920		
Dichloroethane (1,2-)	0.9	0.1	
Dichchloroethylene (1,1-)		0.7	
Dichloroethene (1,1-)	0.2		
Dichloroethylene (cis-1,2,-)		1.7	
Dichloroethene (cis-1,2-)	630		
Dichloroethylene (trans-1,2-)		3.3	
Dichloroethene (trans-1,2-)	1,100		
Dichloropropane (1,2)	1.9	0.1	
Ethyl benzene	71	27	
Ethylene dibromode (EDB)	0.01	5.00E-04	
Isopropyl benzene	27		
Methyl ethyl ketone	10,000		
Methyl isobutyl ketone	1200		
Methyl-tert-butyl-ether	390	0.9	
Methylene chloride	45		
Styrene	13	2.9	
Tetrachloroethane,1,1,1,2	2.2		
Tetrachloroethane,1,1,2,2	1.3		
Tetrachloroethylene	12	0.1	
Toluene	190	32	
Trichloroethane,1,1,1-	540	11	
Trichloroethane,1,1,2-	3.6	0.1	
Trichloroethylene	13	0.2	
Vinyl chloride	0.02	0.3	
Xylenes		540	
Xylenes (total)	110		
SEMIVOLATILES			
Acenaphthene	43		
Acenaphthylene	23		
Anthracene	35		
Benzo(a)anthracene	0.9		

Benzo(a)pyrene	0.4	240	
Benzo(b)fluoranthene	0.9		
Benzo(g,h,i)perylene	0.8		
Benzo(k)fluoranthene	0.9		
Biphenyl,1,1-	0.8		
Bis(2-ethylhexyl)phthalate	46		
Bis(2-chloroethyl)ether	0.6		
Bis(2-chloroisipropyl)ether	9.1		
Chloroaniline, 4- (p-)	310		
Chlorophenol, 2-	50		
Chrysene	0.4		
Dibenzo(a,h)anthracene	0.4		
Dichlorobenzene (all isomers)			
Dichlorobenzene, 1,2- (o-DCB)	510	41	
Dichlorobenzene, 1,2- (o-DCB)	430		
Dichlorobenzene, 1,4- (p-DCB)	27		
Dichlorobenzidine, 3,3-	1.4		
Dichlorophenol, 2,4-	30		
Diethlhexyl phthalate			
Diethyl phthalate	340	120	
Dimethyl phenol, 2,4-	1,400		
Dimethyl phthalate	1,900		
Dinitrophenol, 2,4-	160		
Dinitrotoluene, 2,4-	0.9		
Fluoranthene	20		
Fluorene	28		
Hexachlorobenzene	0.4		
Hexachlorobutadiene	8.2		
Hexachloroethane	46		
Ideno(1,2,3-cd)pyrene	0.9		
Methyl naphthalene, 2-	123		
Naphthalene	54		
Pentachlorophenol	5.3	0.8	
Phenanthrene	40	7.1	
Phenol	6,000		
Pyrene	13		
Trichlorobenzene, 1,2,4-	96		39 (PPB)
Trichlorophenol, 2,4,5-	330	140	
Trichlorophenol, 2,4,6-	58		
PESTCIDES/PCBs			
Chlorodane	0.5		
Dieldrin	0.04	1.4	
Polychlorinated biphenyls (PCBs)	10		
INORGANICS		10	
Antimony	10		
Arsenic	1.7	0.05	
Barium	5,500		6
Beryllium	0.40	23	18
Cadmium	39	0.03	

Chromium		0.03	0.6
Chromium III (Trivalent)	1,400	1.1	11
Chromium VI (Hexavalent)	390		
Copper	3,100		
Cyanide	200		
Lead	150	2.4	
Manganese	390	0.04	10
Mercury	23		
Nickel	1,000	0.02	
Selenium	390	1	
Silver	200	0.6	
Thallium	5.5		
Vanadium	550	0.005	
Zinc	6,000		
TPH	500	500	

MITKEM CORPORATION

#37

July 17, 1997

Foster Wheeler Environmental Corp.
Attn: Mr. Mark Gouveia
P.O. Box 4749
Middletown, RI 02842

RE: Client Project #DO# 13F, Tank Farm #4
Lab Project #D1079

Dear Mr. Gouveia:

Enclosed please find the data report of the required analyses for the sample associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Edward A. Lawler
Laboratory Operations Manager

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755 • (401) 732-3400 Fax (401) 732-349
1232 East Broadway Road, Suite 210 • Tempe, Arizona 85282 • (602) 303-9535 • Fax (602) 921-2883
email: mitkem19@mail.idt.net

MITKEM CORPORATION

Client: Foster Wheeler Environmental Corp.

Client Project: 1284-0006, DO# 13F, Tank Farm #4

Lab Project: D1079

Date samples received: 7/8/97

Project Narrative

This data report includes the analysis results for two (2) soil samples that were received from the Tank Farm #4 site from Foster Wheeler Environmental Corp. on July 8, 1997. Analyses were performed per specification in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the client sample ID and laboratory sample ID.

All of the analyses were performed according to method specifications. No other unusual observation was made for the analyses.

This data report has been reviewed and is authorized for release as evidenced by the signature below.

Edward A. Lawler
Laboratory Operations Manager

Data Qualifiers:

J This flag indicates an estimated value due to either
- the compound was detected at below the Reporting Limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the analyte was also detected in the associated Method Blank

D This flag indicates the analyte concentration was obtained from a diluted analysis

E This flag indicates the analyte concentration exceeded the Calibration Range

P This flag is used for Pesticides/PCB/Herbicide analyte when there is a greater than 50% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. The lower of the two values is reported in the Analysis Report.

MITKEM CORPORATION

Analysis Report: Total Petroleum Hydrocarbons

Client: Foster Wheeler Environmental Corp.
Analysis: Method 418.1
Matrix: Soil
Concentration in: mg/kg, dry weight basis

Lab ID	Client ID	Result	% Solid	Reporting Limit	Analysis Date
D1079-01	TP-TK37	ND	91	24	7/11/97
D1079-02	TP-TK42	ND	93	24	7/11/97

QA/QC

Method Blank			
I0710-B1	ND	22	7/11/97
Lab Control Spike (% Recovery)			
I0710-LCS1	111		7/11/97

ND = Not Detected

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK 37
Lab ID: D1079-01
Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil, 91% Solids
Concentration in: mg/kg, dry weight basis
Analysis Date: 7/11/97

Analyte	Results	Reporting Limit
Arsenic	6	1
Barium	18	1
Cadmium	0.6	0.1
Chromium	11	1
Lead	10	0.5
Mercury	ND	0.3
Selenium	ND	4
Silver	ND	1

QC Batch: 0710PBS

ND = Not detected

004

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK37
Lab ID: D1079-01
Analysis: Method 8270

Analysis Date: 7/16/97
Matrix: Soil, 91% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	360
bis(2-Chloroethyl)ether	ND	360
2-Chlorophenol	ND	360
1,3-Dichlorobenzene	ND	360
1,4-Dichlorobenzene	ND	360
1,2-Dichlorobenzene	ND	360
2-Methylphenol	ND	360
2,2'-oxybis(1-Chloropropane)	ND	360
4-Methylphenol	ND	360
n-Nitroso-di-n-propylamine	ND	360
Hexachloroethane	ND	360
Nitrobenzene	ND	360
Isophorone	ND	360
2-Nitrophenol	ND	360
2,4-Dimethylphenol	ND	360
bis(2-Chloroethoxy)methane	ND	360
2,4-Dichlorophenol	ND	360
1,2,4-Trichlorobenzene	ND	360
Naphthalene	ND	360
4-Chloroaniline	ND	360
Hexachlorobutadiene	ND	360
4-Chloro-3-methylphenol	ND	360
2-Methylnaphthalene	ND	360
Hexachlorocyclopentadiene	ND	360
2,4,6-Trichlorophenol	ND	360
2,4,5-Trichlorophenol	ND	910
2-Chloronaphthalene	ND	360
2-Nitroaniline	ND	910
Dimethylphthalate	ND	360
Acenaphthylene	ND	360
2,6-Dinitrotoluene	ND	360
3-Nitroaniline	ND	910
Acenaphthene	ND	360
2,4-Dinitrophenol	ND	910
4-Nitrophenol	ND	910
Dibenzofuran	ND	360
2,4-Dinitrotoluene	ND	360

008

MITKEM CORPORATION

Client ID: TP-TK37

Lab ID: D1079-01

Analyte	Results	Reporting Limits
Diethylphthalate	ND	360
Fluorene	ND	360
4-Chlorophenyl-phenylether	ND	360
4-Nitroaniline	ND	910
4,6-Dinitro-2-methylphenol	ND	910
n-Nitrosodiphenylamine	ND	360
4-Bromophenyl-phenylether	ND	360
Hexachlorobenzene	ND	360
Pentachlorophenol	ND	910
Phenanthrene	ND	360
Anthracene	ND	360
Di-n-butylphthalate	ND	360
Carbazole	ND	360
Fluoranthene	ND	360
Pyrene	39 J	360
Butylbenzylphthalate	ND	360
Benzo(a)anthracene	ND	360
Chrysene	ND	360
3,3'-Dichlorobenzidine	ND	360
bis(2-Ethylhexyl)phthalate	ND	360
Di-n-octylphthalate	ND	360
Benzo(b)fluoranthene	ND	360
Benzo(k)fluoranthene	ND	360
Benzo(a)pyrene	ND	360
Indeno(1,2,3-cd)pyrene	ND	360
Dibenz(a,h)anthracene	ND	360
Benzo(g,h,i)perylene	ND	360

QC Batch: S0710-B1

Surrogate Recovery:	
2-Fluorophenol	37%
Phenol-d5	45%
2-Chlorophenol-d4	44%
2,4,6-Tribromophenol	53%
1,2-Dichlorobenzene-d4	47%
Nitrobenzene-d5	48%
2-Fluorobiphenyl	60%
p-Terphenyl-d14	88%

ND = Not detected

009

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK37
Lab ID: D1079-01
Analysis: Method 8260

Analysis Date: 7/13/97
Matrix: Soil, 93% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

015

MITKEM CORPORATION

Client ID: TP-TK37

Lab ID: D1079-01

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	ND	5

Surrogate Recovery:

QC Batch: V1B0713A

1,2-Dichloroethane-d4	93%
Toluene-d8	98%
Bromofluorobenzene	95%

016

ND = Not detected

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Prep Blank, 0710PBS
Analysis Method: 7471A (Mercury)
6010A (Others)

Concentration in: mg/kg
Analysis Date: 7/11/97

Analyte	Results	Reporting Limit
Arsenic	ND	1
Barium	ND	1
Cadmium	ND	0.1
Chromium	ND	1
Lead	ND	0.5
Mercury	ND	0.3
Selenium	ND	4
Silver	ND	1

QC Batch: 0710PBS

ND = Not detected

006

D1079-MB

MITKEM CORPORATION

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Lab Control Sample, 0710LCSS
Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil

Analysis Date: 7/11/97

Analyte	% Recovery
Arsenic	86
Barium	99
Cadmium	85
Chromium	99
Lead	85
Mercury	78
Selenium	74
Silver	99

QC Batch: 0710PBS

007

D1079-LCS

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, S0710-B1
Analysis: Method 8270

Analysis Date: 7/15/97
Matrix: Soil
Concentration in: ug/kg
Dilution: 1

Analyte	Results	Reporting Limits
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
2,2'-oxybis(1-Chloropropane)	ND	330
4-Methylphenol	ND	330
n-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	330
2,4-Dimethylphenol	ND	330
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	850
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	850
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	850
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	850
4-Nitrophenol	ND	850
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330

012

D1079-02

MITKEM CORPORATION

Client ID:

Lab ID: Method Blank, S0710-B1

Analyte	Results	Reporting Limits
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	850
4,6-Dinitro-2-methylphenol	ND	850
n-Nitrosodiphenylamine	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	850
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Carbazole	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
Benzo(a)anthracene	ND	330
Chrysene	ND	330
3,3'-Dichlorobenzidine	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

QC Batch: S0710-B1

Surrogate Recovery:	
2-Fluorophenol	40%
Phenol-d5	44%
2-Chlorophenol-d4	44%
2,4,6-Tribromophenol	35%
1,2-Dichlorobenzene-d4	41%
Nitrobenzene-d5	38%
2-Fluorobiphenyl	48%
p-Terphenyl-d14	94%

ND = Not detected

013

MITKEM CORPORATION

Analysis Report: Semivolatile Organic Compounds

Lab Control Summary

Client: Foster Wheeler Environmental Corp.
Lab ID for Blank Spike: S0710-L1
Analysis: Method 8270

Matrix: Solid

Analysis Date for Blank Spike: 7/15/97

Analyte	% Recovery
Phenol	52
2-Chlorophenol	52
1,4-Dichlorobenzene	47
n-Nitroso-di-n-propylamine	36
1,2,4-Trichlorobenzene	51
4-Chloro-3-methylphenol	60
Acenaphthene	59
4-Nitrophenol	48
2,4-Dinitrotoluene	59
Pentachlorophenol	48
Pyrene	123

QC Batch: S0710-B1

014

D1079-LCS

MITKEM CORPORATION

Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, V1B0713A
Analysis: Method 8260

Analysis Date: 7/13/97
Matrix: Soil
Concentration in: ug/kg, dry weight basis
Dilution: 1

Analyte	Results	Reporting Limits
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Carbon disulfide	ND	5
Iodomethane	ND	5
Acetone	ND	5
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
Vinyl acetate	ND	5
2,2-Dichloropropane	ND	5
cis-1,2-Dichloroethene	ND	5
Methyl ethyl ketone	ND	5
Bromochloromethane	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
1,1-Dichloropropene	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Dibromomethane	ND	5
Bromodichloromethane	ND	5
2-Chloroethyl vinyl ether	ND	5
cis-1,3-Dichloropropene	ND	5
4-Methyl-2-pentanone	ND	5
Toluene	ND	5

010

D1079-MB

MITKEM CORPORATION

Client ID:

Lab ID: Method Blank, V1B0713A

Analyte	Results	Reporting Limits
trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
1,3-Dichloropropane	ND	5
2-Hexanone	ND	5
Dibromochloromethane	ND	5
1,2-Dibromoethane (EDB)	ND	5
Chlorobenzene	ND	5
1,1,1,2-Tetrachloroethane	ND	5
Ethylbenzene	ND	5
Xylenes, total	ND	5
Styrene	ND	5
Bromoform	ND	5
Isopropylbenzene	ND	5
Bromobenzene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,2,3-Trichloropropane	ND	5
n-Propylbenzene	ND	5
2-Chlorotoluene	ND	5
4-Chlorotoluene	ND	5
1,3,5-Trimethylbenzene	ND	5
tert-Butylbenzene	ND	5
1,2,4-Trimethylbenzene	ND	5
sec-Butylbenzene	ND	5
1,3-Dichlorobenzene	ND	5
4-Isopropyltoluene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5
n-Butylbenzene	ND	5
1,2-Dibromo-3-chloropropane	ND	5
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
1,2,3-Trichlorobenzene	ND	5
MTBE	ND	5
Naphthalene	ND	5

Surrogate Recovery:

QC Batch: V1B0713A

1,2-Dichloroethane-d4	98%
Toluene-d8	99%
Bromofluorobenzene	99%

ND = Not detected

020

D1079-MB

MITKEM CORPORATION

Lab Project #: D1079 R1
Client Name: Foster Wheeler
Client Proj #: DO# 13F
Client PO #: 003195
Project Name: Tank Farm #4
Date Due: 7/15/97
Total Price: $ -
Project Mgr: EL
Salesman: PAS
Del Req'd: NA
Completed?: YES

Logged In By: BFD
Reviewed By: [illegible]
Date: 7/9/97 Time: _____

Lab ID	Client ID	Matrix	Analysis	Price	Sampled	Received	TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
-01	TP-TK37	SL	TCLP Metals/RCRA8		7/8/97	7/8/97							1			
			VOCs 8260 + EDB												1	
			SVOCs 8270						1							
			TPH 418.1					1								
-02	TP-TK42	SL	TCLP Metals/RCRA8		7/8/97	7/8/97							1			
			VOCs 8260 + EDB												1	
			SVOCs 8270						1							
			TPH 418.1					1								
							TPH	IR	BNA	Herb	P/P	Wet	Met	V-GC	V-MS	Sub
							0	2	2	0	0	0	2	0	2	0

NOTES: R1 Analysis added 7/9/97

ORIGINAL REPORT GOES TO:

Foster Wheeler Environmental Corp.
P.O. Box 4749
Middletown, R I 02842

Attn: Mark Gouveia
Phone: 401 842-6940
Fax: 401 842-6970

INVOICE GOES TO:

MITKEM CORPORATION
Sample Condition Form

Received By: MP	Date: 7/9/97	MITKEM Project #: 01 079
Client Project Description/Number: DO#BF		Client: Foster Wheeler

Condition:		Lab ID	Client ID	Remarks
1) Custody Seal(s)	Present/Absent	01		
	Intact/Broken	02		
2) Custody Seal Number(s)	NA			
3) Chain-of-Custody Record(s)	Present/Absent			
4) Cooler Temperature	4°			
Coolant Condition	Good			
5) Airbill(s)	Present/Absent			
Airbill Number(s)				
6) Sample Bottles	Intact			
	Broken			
	Leaking			
7) Date Received	7/9/97			
8) Time Received	10:00			
9) Project Due Date				

Last Page of Data Report

TANK NO. 37			
SUBSTANCE	RESIDENTIAL	GA	FIELD ANALYTICAL
	(mg/kg)	Leachability	DETECTIONS
		(mg/kg except as	(mg/kg except as
		other wise noted)	otherwise noted)
VOLATILE ORGANICS			
Acetone	7,800		
Benzene	2.5	0.2	
Bromodichloromethane	10		
Bromoform	81		
Bromomethane	0.8		
Carbon tetrachloride	1.5	0.4	
Chlorobenzene	210	3.2	
Chloroform	1.2		
Dibromochloromethane	7.6		
Dibromochloropropane (DBCP)	0.5		
Dichloroethane (1,1-)	920		
Dichloroethane (1,2-)	0.9	0.1	
Dichchloroethylene (1,1-)		0.7	
Dichloroethene (1,1-)	0.2		
Dichloroethylene (cis-1,2,-)		1.7	
Dichloroethene (cis-1,2-)	630		
Dichloroethylene (trans-1,2-)		3.3	
Dichloroethene (trans-1,2-)	1,100		
Dichloropropane (1,2)	1.9	0.1	
Ethyl benzene	71	27	
Ethylene dibromode (EDB)	0.01	5.00E-04	
Isopropyl benzene	27		
Methyl ethyl ketone	10,000		
Methyl isobutyl ketone	1200		
Methyl-tert-butyl-ether	390	0.9	
Methylene chloride	45		
Styrene	13	2.9	
Tetrachloroethane,1,1,1,2	2.2		
Tetrachloroethane,1,1,2,2	1.3		
Tetrachloroethylene	12	0.1	
Toluene	190	32	
Trichloroethane,1,1,1-	540	11	
Trichloroethane,1,1,2-	3.6	0.1	
Trichloroethylene	13	0.2	
Vinyl chloride	0.02	0.3	
Xylenes		540	
Xylenes (total)	110		
SEMIVOLATILES			
Acenaphthene	43		
Acenaphthylene	23		
Anthracene	35		
Benzo(a)anthracene	0.9		

Benzo(a)pyrene	0.4	240	
Benzo(b)fluoranthene	0.9		
Benzo(g,h,i)perylene	0.8		
Benzo(k)fluoranthene	0.9		
Biphenyl,1,1-	0.8		
Bis(2-ethylhexyl)phthalate	46		
Bis(2-chloroethyl)ether	0.6		
Bis(2-chloroisipropyl)ether	9.1		
Chloroaniline, 4- (p-)	310		
Chlorophenol, 2-	50		
Chrysene	0.4		
Dibenzo(a,h)anthracene	0.4		
Dichlorobenzene (all isomers)			
Dichlorobenzene, 1,2- (o-DCB)	510	41	
Dichlorobenzene, 1,2- (o-DCB)	430		
Dichlorobenzene, 1,4- (p-DCB)	27		
Dichlorobenzidine, 3,3-	1.4		
Dichlorophenol, 2,4-	30		
Diethlhexyl phthalate			
Diethyl phthalate	340	120	
Dimethyl phenol, 2,4-	1,400		
Dimethyl phthalate	1,900		
Dinitrophenol, 2,4-	160		
Dinitrotoluene, 2,4-	0.9		
Fluoranthene	20		
Fluorene	28		
Hexachlorobenzene	0.4		
Hexachlorobutadiene	8.2		
Hexachloroethane	46		
Ideno(1,2,3-cd)pyrene	0.9		
Methyl naphthalene, 2-	123		
Naphthalene	54		
Pentachlorophenol	5.3	0.8	
Phenanthrene	40	7.1	
Phenol	6,000		
Pyrene	13		
Trichlorobenzene, 1,2,4-	96		39 (PPB)
Trichlorophenol, 2,4,5-	330	140	
Trichlorophenol, 2,4,6-	58		
PESTCIDES/PCBs			
Chlorodane	0.5		
Dieldrin	0.04	1.4	
Polychlorinated biphenyls (PCBs)	10		
INORGANICS		10	
Antimony	10		
Arsenic	1.7	0.05	
Barium	5,500		6
Beryllium	0.40	23	18
Cadmium	39	0.03	

Chromium		0.03	0.6
Chromium III (Trivalent)	1,400	1.1	11
Chromium VI (Hexavalent)	390		
Copper	3,100		
Cyanide	200		
Lead	150	2.4	
Manganese	390	0.04	10
Mercury	23		
Nickel	1,000	0.02	
Selenium	390	1	
Silver	200	0.6	
Thallium	5.5		
Vanadium	550	0.005	
Zinc	6,000		
TPH	500	500	

APPENDIX L
BLAST REPORT

NORTHAMERICAN INDUSTRIAL SERVICES

INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

BLAST REPORT

DATE: 1/20/98 BLAST TIME: 13:31

CUSTOMER: FOSTER WHEELER ENV CORP. JOB # 9800-005

PROJECT LOCATION: TANK FARM #4 - 4000T Defense Hwy, Portsmith RI

SPECIFIC BLAST LOCATION: TANK # 37

BLASTER: JIM MCALINDEN BLASTERS LIC # 37-36

TYPE OF PROJECT: TANK DEMOLITION

TYPE OF MATERIAL BLASTED: CONCRETE

WEATHER INFO: SKY Overcast TEMP 30 WIND SP & DIR 10 - NW

DRILL HOLE INFO: HOLE SIZE: 1 3/8" NO. HOLES 328 NO. ROWS 6

DEPTH RANGE: 15" FT. TO 18" FT.

SUB DRILL 0 FT. BURDEN 1 FT. SPACING 1.5 FT

DISTANCE TO NEAREST STRUCTURE: 500+ FT

EXPLOSIVE INFO: TOTAL OF EXPLOSIVES USED 237 LBS

BRAND AND TYPE ICI POWER DITCH

MIN. LBS/HOLE .5 MAX. LBS/HOLE .75

MAX. LBS/DELAY 15 DECK ___ SOLID ✓ STEMMIN 5"

INITIATION: BRAND/TYPE ICI MASTERDETS NO. CAPS USED 324

NO. DELAY USED 16 DELAY INTERVALS 25 MS

TOTAL TIME FOR INITIATION 400 MS.

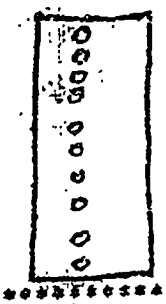
PRIMACORD: NO. OF FT. 100 SHOT LINE 0 FT

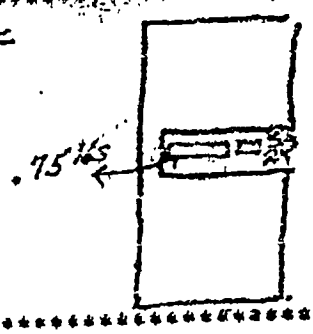
CONTROL: QUANTITY DISTANCE DS. ___ SEISMIC ✓ FT

MATS USED? NO, BACKFILL

SHOT PLAN. (SHOW DIRECTION) CROSS SECTION

STRAY CURRENT None





NorthAmerican Industrial Services, Inc.
1240 Saratoga Road Ballston Spa New York 12020

EXPLOSIVE LOAD LIST NORTHAMERICAN INDUSTRIAL SERVICES

DATE 1/20/98 LOCATION RIVERSIDE JOB# 05

EXPLOSIVES

TYPE	LOT NUMBER	QTY OUT	QTY IN	QTY USED
Det Cord	1212	684'	584'	100
Nitro Jacket	150697 51-91312	429 Lbs	192	237

DETONATORS

TYPE	LOT NUMBER	QTY OUT	QTY IN	QTY USED
Elec Delay	01AU97R2	12	8	4
1	08OC97R2	80	60	20
2	03OC97R2	80	60	20
3	10OC97R2	80	60	20
4	09SE97R2	80	60	20
5	16SE97R2	80	60	20
6	09SE97R2	80	60	20
7	03OC97R2	80	60	20
8	10SE97R2	80	60	20
9	05AU97R2	80	60	20
10	07OC97R2	80	60	20
11	01OC97R2	80	60	20
12	15SE97R2	80	60	20
13	17NO97R2	70	50	20
14	13OC97R2	80	60	20
15	18NO97R2	70	50	20
16	19NO97R2	70	50	20

NORTHAMERICAN INDUSTRIAL SERVICES

INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

N.A.I.S.
Shipping Papers

Date 1-20-98

Drivers Name Frank Tarant

Drivers Signature Frank Tarant

Destination: Foster Wheeler
1000 T Defense Highway
Cranston RI

From: North American Industrial Services
1240 Saratoga Rd
Ballston Spa NY 12020

Route to job site: NY RT 50 - NY RT 67 - NY RT 87 - NY RT 7 - NY
NY-RT 90 MASS 90 - MASS 495 - MASS 24 - RI 24

No. of boxes	HM	Description of articles and exceptions	Hazard Class	I.D. Number	Group Packing	Weight	Class or Rate	Labels Required (or exemption)
22	✓	Detonators Electric	1.4B	0255	II	65	A	173.63 Yes 1-4
1	✓	Cord Detonating	1.4d	0289	II	9	A	173.63 Yes 1-4
8	✓	Ditch 1000	1.10	0081	II	429	A	173.63 Yes 1-4

This is to certify that the above-named materials are properly classified, described, packed, marked and labeled placarded and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per [signature] Placards Required yes Placards supplied YES NO

Drivers Signature Frank Tarant

EMERGENCY RESPONSE TELEPHONE NUMBER (800) 424-9300

NorthAmerican Industrial Services, Inc
1240 Saratoga Road Ballston Spa New York 12020
518 885-1820
FAX 518-885-7638

NORTHAMERICAN INDUSTRIAL SERVICES

INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

N.A.I.S.

Shipping Papers

Date 1-20-98

Drivers Name Frank Tourant

Drivers Signature Frank Tourant

Destination: North American Industrial
1240 Saratoga Rd
Ballston Spa N.Y.

From: Foster Wheeler
4000 T Defense Highway
Portsmouth R.I.

Route to job site: RI. 24 - Mass 24 - Mass 495 - Mass 90 - NY. 90 - NY 787 - NY 7 - NY. 87 - NY 67 - NY 50

No. of Items	HM	Description of articles and exceptions	Hazard Class	I.D. Number	Group Packing	Weight	Class or Rate	Labels Required (or exemption)	Ch col
33	✓	Detonators Electric	1.4B	0255	II	55	A	173.63 Yes 1-4	
1	✓	Cord Detonating	1.4d	0289	II	8	A	173.63 Yes 1-4	
4	✓	D.T.h 1000	1.10	0081	II	192	A	173.63 Yes 1-4	

This is to certify that the above-named materials are properly classified, described, packed, marked and labeled and placarded and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per Jack Lirsio Placards Required Yes Placards supplied (YES) / NO

Drivers Signature Frank Tourant

EMERGENCY RESPONSE TELEPHONE NUMBER (800) 424-9300

Page 1 of 1

NorthAmerican Industrial Services, Inc.
1240 Saratoga Road Ballston Spa New York 12020

518-885-1820
FAX 518 885-7038