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| CONTRACT NO N62472-94-D-0398 | DELIVERY ORDER # 0013 | ACTIVITY LOCATION Newport, Rhode Island |
| PROJECT TITLE: Tank Farm 4 at NETC | | |
| FROM: Foster Wheeler Environmental Corp/ Program QCM: Mark Miller | | DATE January 28, 1999 |
| TO: COTR: C. Davis (2 copies) | | DATE January 28, 1999 |

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**FINAL
TANK 46 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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JANUARY 1999 (R1)

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| J | Test Pit Analytical Results |
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1.0 SITE BACKGROUND

1.1 INTRODUCTION

Foster Wheeler Environmental Corporation, prepared this Tank 46 Closure Assessment Report summarizing the investigation and closure activities conducted at Tank 46, 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 46. 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 46 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 activities and an inspection of Tank 46 after the cleaning was completed and using this data to determine if oil stored in Tank 46 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 46, 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 46 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 46 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 USTs, 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 USTs. This assessment report was the first investigation focusing on potential impacts to soil and groundwater from releases from the on-site USTs.

Previous investigation conducted at Tank Farm 4 from 1982 to 1992 focused on the reported disposal of tank bottom sludges 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 46 CONSTRUCTION

Tank 46 has a capacity of 60,000 barrels (standard petroleum), or approximately 2.52 million gallons. This tank was constructed in place, of reinforced concrete. Concrete in tank walls and roof is a nominal 12-inch thick, while the tank floor is a nominal 14-inch thick. 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 46 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.

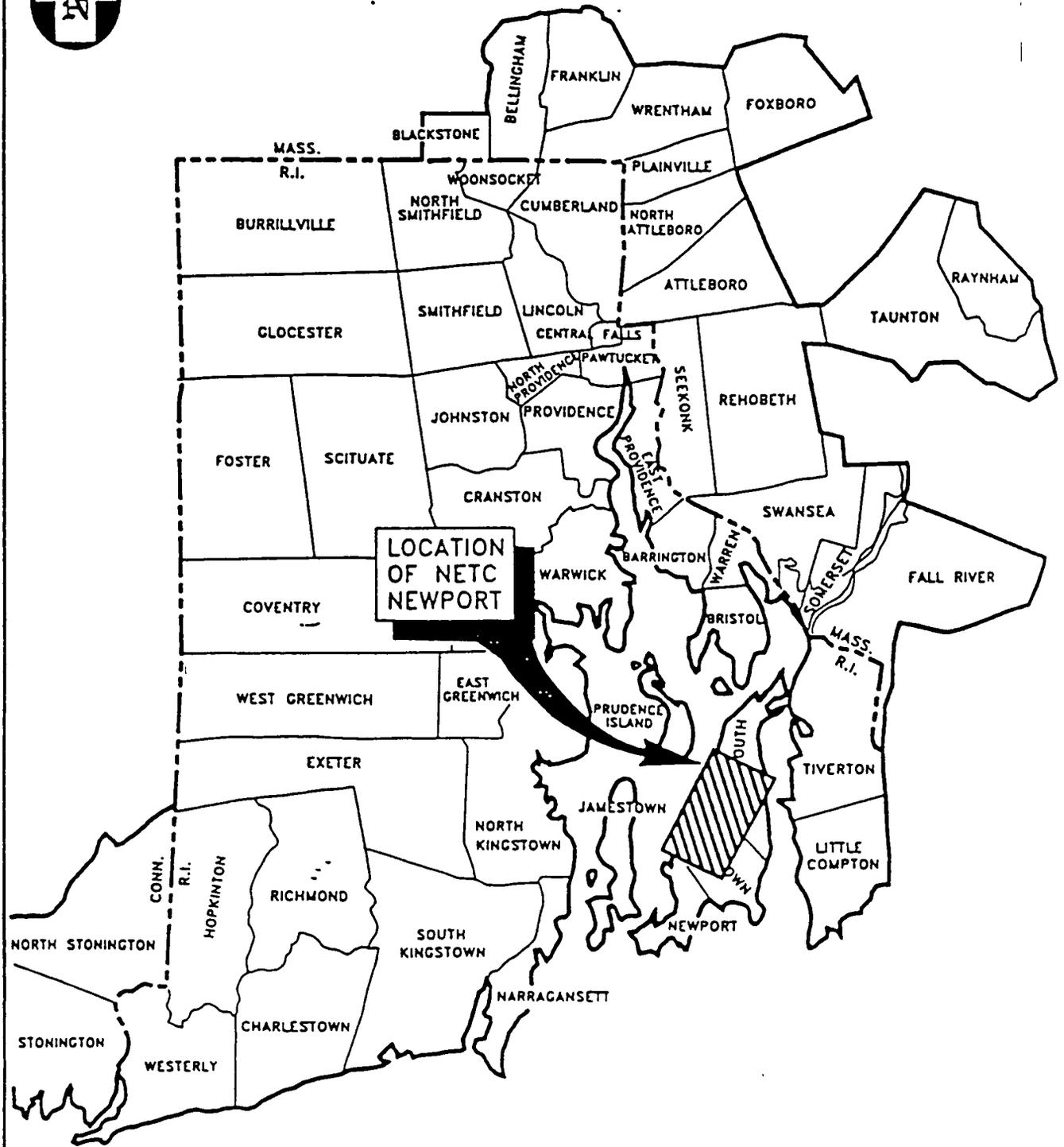
1.7 UNDERGROUND UTILITIES

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

The utility lines to Tank 46 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.

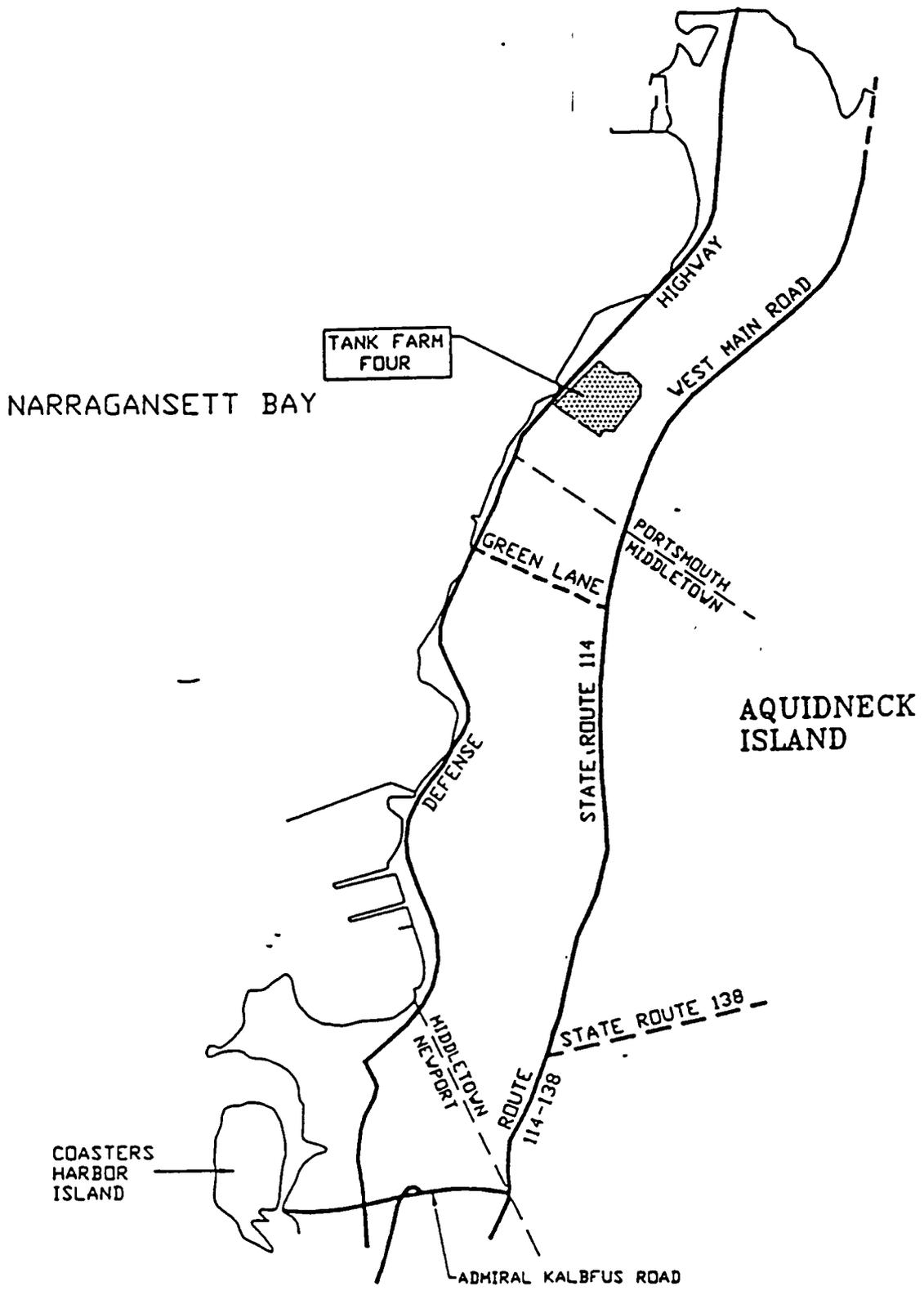
1.8 GEOLOGY

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.



LOCATION OF NETC NEWPORT

| | | | |
|-----------------------------------|--------------------------|--|--|
| NETC LOCATION | | FIGURE 1-1 | |
| NETC - NEWPORT, RI | |  Brown & Root Environmental A Division of Halliburton NUS Corporation 55 Jansin Road Wilmington, MA 01887 (508)658-7311 | |
| TANK 46 CLOSURE ASSESSMENT REPORT | | | |
| DRAWN BY R.G. DEWSNAP | REV.: 0 | | |
| CHECKED BY J. FORRELLI | DATE: 21 NOV 95 | | |
| SCALE | PROJECT NO 4643 CTO #195 | | |



TANK FARM 4 LOCATION

NETC - NEWPORT, RI

TANK 46 CLOSURE ASSESSMENT REPORT

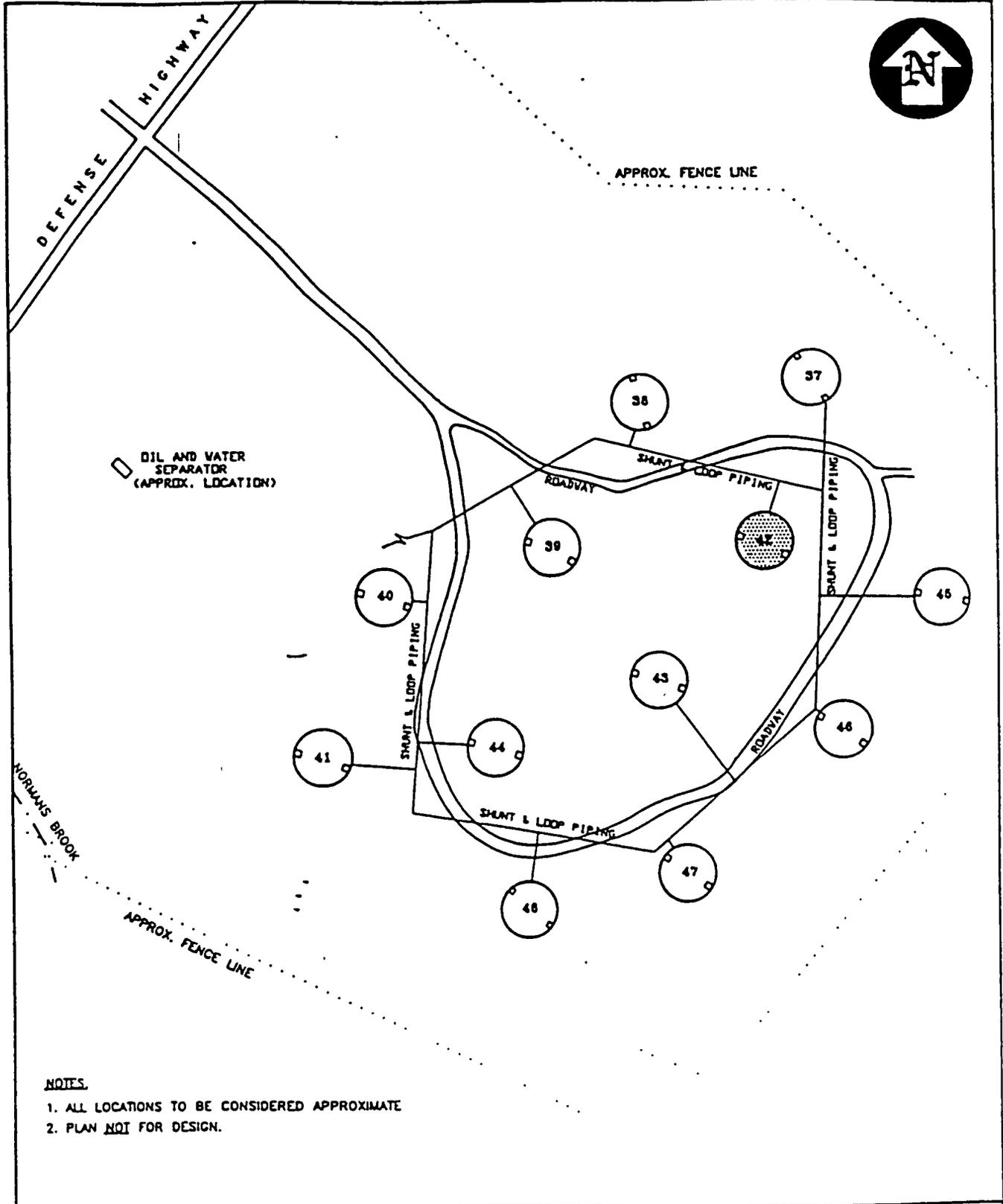
| | | | |
|-------------|------------------|--------------|----------------|
| DRAWN BY: | R.G. DEWSNAP | REV.: | 0 |
| CHECKED BY: | J. FORRELLI | DATE: | 21 NOV 95 |
| SCALE: | APPROX. 4800 FT. | PROJECT NO.: | 4643 CTD #196: |

FIGURE 1-2



Brown & Root Environmental

A Division of Halliburton NUS Corporation
 55 Joseph Road Wilmington, MA 01887 (508)638-7899



NOTES.

1. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE
2. PLAN NOI FOR DESIGN.

| | | | |
|--|----------------------|---|---------------|
| TANK FARM 4 | | FIGURE 1-3 | |
| NETC - NEWPORT, RI | |  | |
| TANK 46 CLOSURE ASSESSMENT REPORT | | Brown & Root Environmental | |
| <small>DRAWN BY:</small> | R. DEWSNAP | <small>REV.:</small> | 0 |
| <small>CHECKED BY:</small> | J. FORRELLI | <small>DATE:</small> | 07 DEC 85 |
| <small>SCALE:</small> | 1"=300 FT. (APPROX.) | <small>PROJECT NO.:</small> | 4643 CTO #196 |
| | | <small>A Division of Halliburton NUS Corporation</small> | |
| | | <small>55 Joseph Road Wilmington, MA 01867 (508)656-7800</small> | |

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, 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, liquid phase assumed to be oil/water/sludge were identified, 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 | 20,000 |
| Water | 1,260,000 |
| Sludge | 45,043 |
| Total | 1,325,043 |

A sample of the oil and sludge layer was analyzed for off-site disposal characterization purposes. The analytical results for 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 October 4, 1996 and was completed by October 21, 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 46 interior surface cleaning operations commenced on October 21, 1996. The cleaning method employed consisted of a presoak with heated fuel oil and a heated caustic wash. Pertinent features of the unit selected for use included operating temperatures up to 180 degrees Fahrenheit and operating nozzle pressures up to 300 psi with a flow rate of 300 gpm. Caustic vendor information may be found in Appendix D. Pump room 46 cleaning operations consisted of flushing the interior pipe and removal of the pipe. Once the pipe was removed the cleaning 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 46 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 ppe from tank cleaning, is currently being disposed of off site at an approved disposal facility, for manifest shipments to the facility are included in Appendix E.

2.6 TANK CLOSURE

On December 9, 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 are installed on the tank's exterior side, within the pump room, and tank ballasting has been completed.

2.7 TANK DEMOLITION

15 test pits were dug around the perimeter of Tank 46 and a composite sample was analyzed for VOC's, SVOC's, RCRA 8 Metals and TPH. The Results for sample TP-TK46 is included as Appendix J. The tank had 15 feet of clean sand placed into the bottom of the tank and on 11-4-97 at 1430 the tank top was imploded. Concrete from Derecktor Shipyard was placed into the tank, The remaining hole was backfilled with clean borrow material. A copy of the blast report is included as Appendix K.

3.0 TANK CONDITION

3.1 STRUCTURAL INSPECTION

On December 9, 1996, Mark Gouveia of Foster Wheeler Environmental Corporation inspected the tank 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 but they required no repairs. The columns needed no repair and appeared in good condition. Documentation regarding the inspection may be found in Appendix F.

3.2 CLOSURE INSPECTION

Tank 46 was formally inspected on December 11, 1996. Participating in the inspection were:

RIDEM

Daniel Russell - Division of Waste Management
Paul Kulpa - Division of Site Remediation
Patrick Hogan - Division of Waste Management

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 December 13, 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 December 13, 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 46

Drilling activities conducted as part of the Preliminary Closure Assessment were completed at Tank 46 on November 14, 1994 (HNUS 1995). At soil boring B-46, continuous split-barrel sampling was conducted from 26 feet below the ground surface (bgs) to refusal, at approximately 38.5 feet. The boring was completed as groundwater monitoring well MW-121.

The upper 26 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 26 to 38 feet bgs is comprised of poorly graded, coarse, angular gravel with traces of silt and fine sand. At 38 feet bgs, altered metamorphic rock was detected. Bedrock reportedly consists of grey, highly weathered to competent, slightly metamorphosed shale. Tank Farm 4-B-46 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 46 as a 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-46 two subsurface soil samples were taken for laboratory analysis. Samples B463032 and B463840 were collected from depths of 30 to 32 feet bgs, and 38 to 40 feet bgs, respectively. They consisted of silty gravel. No evidence of petroleum contamination was observed. The MW-121 groundwater sample was collected from the midpoint of the well screen, approximately 36 feet bgs. No evidence of petroleum was observed during groundwater collection. The turbidity measurement exceeded 200 NTU prior to sample collection. This may have resulted in elevated concentrations of metals in the groundwater sample.

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 re-analyzed 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 samples B463032 or B463840.

TABLE 5-1
POSITIVE CONTAMINANT DETECTION IN SOIL AND GROUNDWATER
TANK 46 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND

TABLE 3-10
POSITIVE CONTAMINANT DETECTIONS IN SOIL AND GROUNDWATER
TANK 46 SUMMARY
PRELIMINARY CLOSURE ASSESSMENT REPORT
TANK FARMS 4 & 5
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 | B46 | 30-32 | Bis(2-ethylhexyl)phthalate | 41 µg/kg | None | N/A |
| Soil | B46 | 30-32 | Arsenic | 10.5 mg/kg | None | N/A |
| Soil | B46 | 30-32 | Cadmium | 2.3 mg/kg | None | N/A |
| Soil | B46 | 30-32 | Chromium | 13.6 mg/kg | None | N/A |
| Soil | B46 | 30-32 | Lead | 7.6 mg/kg | 150 ppm (3) 400 ppm (4) | No |
| Soil | B46 | 38-40 | Bis(2-ethylhexyl)phthalate | 44 µg/kg | None | N/A |
| Soil | B46 | 38-40 | Arsenic | 10.8 mg/kg | None | N/A |
| Soil | B46 | 38-40 | Barium | 16.1 mg/kg | None | N/A |
| Soil | B46 | 38-40 | Cadmium | 3.2 mg/kg | None | N/A |
| Soil | B46 | 38-40 | Chromium | 15.9 mg/kg | None | N/A |
| Soil | B46 | 38-40 | Lead | 7.1 mg/kg | 150 ppm (3) 400 ppm (4) | No |
| Groundwater | MW121 | 33-38 | Arsenic | 12.6 µg/L | 50 µg/L (1), (2), (5) | No |
| Groundwater | MW121 | 33-38 | Barium | 51.4 µg/L | 2000 µg/L (1) & (2) 1000 µg/L (5) | No |
| Groundwater | MW121 | 33-38 | Chromium | 5.2 µg/L | 100 µg/L (1) & (2) 50 µg/L (5) | No |
| Groundwater | MW121 | 33-38 | Lead | 11.8 µg/L | 15 µg/L (1) & (2) 50 µg/L (5) | No |

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3-73

**TABLE 3-10 (CONTINUED)
POSITIVE CONTAMINANT DETECTIONS IN SOIL AND GROUNDWATER
TANK 46 SUMMARY
PRELIMINARY CLOSURE ASSESSMENT REPORT
TANK FARMS 4 & 5, NETC - NEWPORT, RHODE ISLAND
PAGE 2**

Legend:

**ppm-parts per million
µg/L-micrograms per liter
mg/kg-milligrams per kilogram
µg/kg-micrograms per kilogram
N/A-N t Applicable**

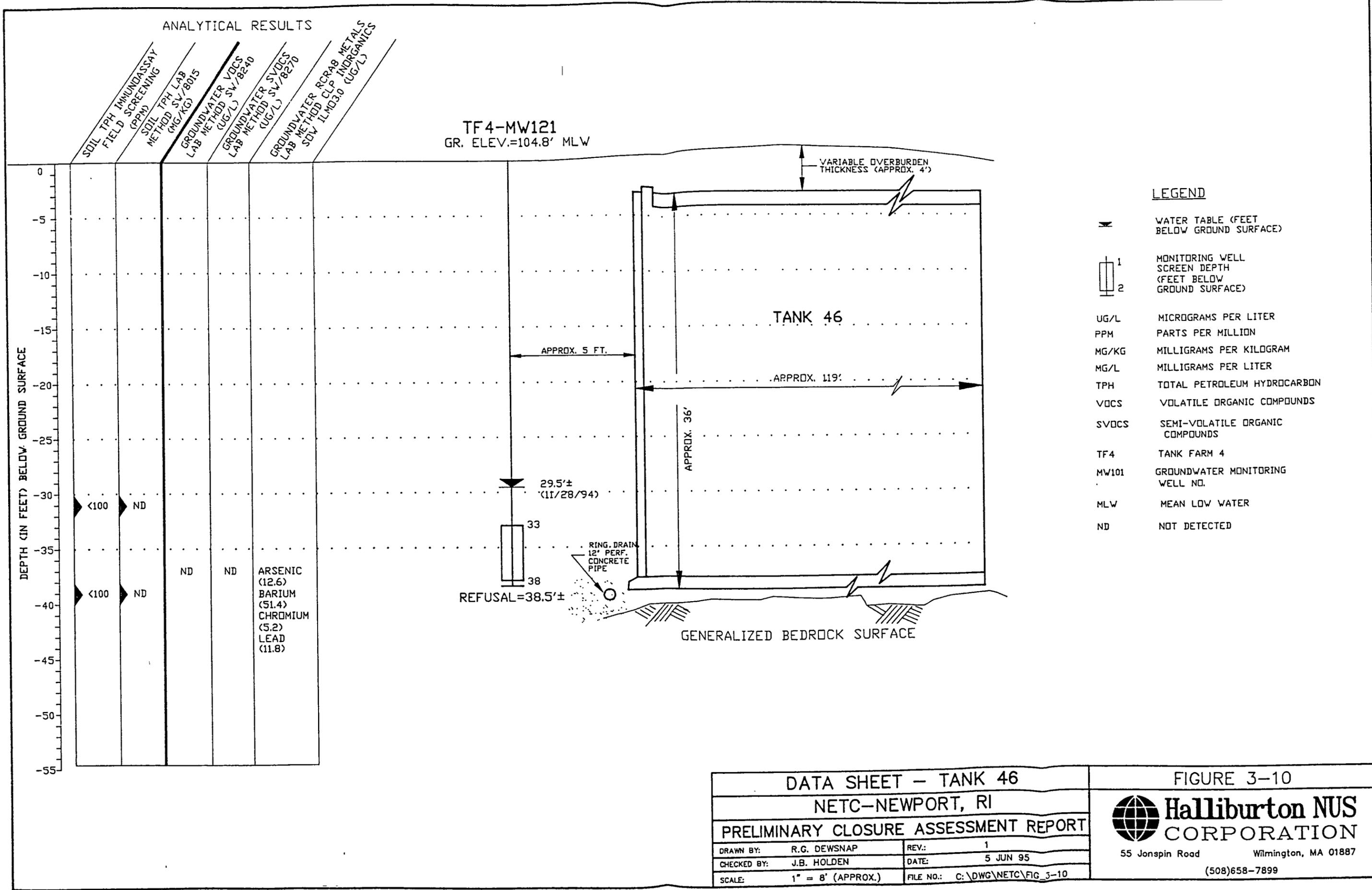
Notes:

- 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.**

MW121 was installed in boring location B46.

- **Sample valves were averaged with applicable duplicates.
In cases where samples were reanalyzed, 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 46 DATA SHEET
TANK 46 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND



| | |
|--|--------------------------------|
| DATA SHEET - TANK 46 | |
| NETC-NEWPORT, RI | |
| PRELIMINARY CLOSURE ASSESSMENT REPORT | |
| 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 3-10 |

FIGURE 3-10

Halliburton NUS CORPORATION

55 Jonspin Road Wilmington, MA 01887

(508)658-7899

5.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)

Bis (2-ethylhexyl) phthalate was detected in both samples, at concentrations of 41 micrograms per kilogram and 44 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-46. Concentrations of these metals ranging from 2.3 to 16.1 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 B463032 and B463840 were field screened for TPH. The samples were collected from 30 to 32 feet and 38 to 40 feet bgs, respectively. All results were 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-121 is approximately 5 feet from the perimeter of Tank 46 and was installed on the hydraulically downgradient side of the 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-121 well screen was set 33 to 38 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 25.33 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-121 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-121.

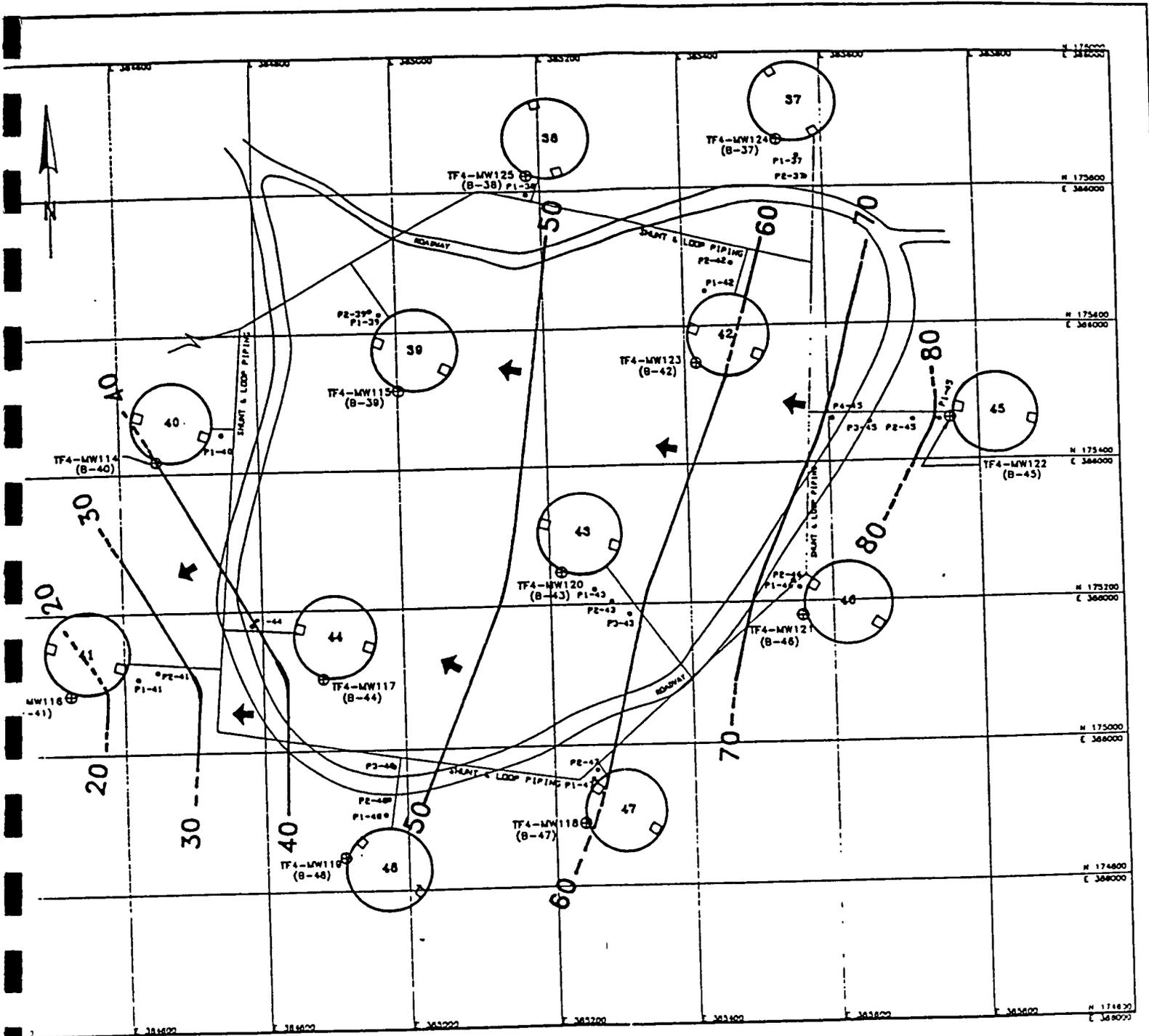
6.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC's)

No analytes exceeded detection limits in the groundwater sample collected from MW-121.

6.3 RCRA METALS

Arsenic, barium, chromium and lead were detected at concentrations ranging from 5.2 micrograms per liter to 54.4 micrograms per liter in the groundwater sample collected from MW-121. The source of these metals has not been evaluated.

**FIGURE 6-1
TANK FARM 4 GROUNDWATER CONTOURS
TANK 46 CLOSURE ASSESSMENT REPORT
NETC NEWPORT, RHODE ISLAND**



TANK FARM 4

| | | |
|-----------------------------------|-------------|---------------------------------|
| MONITORING WELLS AT TANK FARM #4 | | |
| NETC-NEWPORT, RI | | |
| TANK 46 CLOSURE ASSESSMENT REPORT | | |
| DRAWN BY | R G DEWSNAP | REV. 0 |
| CHECKED BY | K JALKUT | DATE 5 JUN 95 |
| SCALE | 1" = 200' | FILE NO C:\DWG\NETC\TNK_FM4.DWG |

FIGURE 2-1



Halliburton NUS CORPORATION

55 Jonspin Road

Wilmington, MA 01897

(508)658-7899

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 the Foster Wheeler 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 46 is not within a designated wellhead protection area.

9.0 SITE GROUNDWATER CLASSIFICATION AND USE

The groundwater beneath Tank 46 is classified by RIDEM as "GA". GA classified groundwater is primarily located in areas or in the vicinity of water that is a source of potable water, or areas which will adversely affect other beneficial uses of that groundwater, such as recreational, agricultural, and industrial uses and preservation of fish and wildlife habitat through the maintenance of surface water quality. Groundwater that is classified as GA is suitable for drinking 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 46 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 46 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.

Laboratory analytical results of the site soils and groundwater collected immediately adjacent to Tank 46 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 B463032 and B463840. This standard, 150 milligram per kilogram, is designed for the protection of children in 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 B463032 and B463840 soil concentrations (7.6 mg/kg and 7.1 mg/kg) do not exceed either of these standards.

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

The metals concentrations in the MW-121 groundwater sample were evaluated with respect to MCLs and RIDEM groundwater standards (RIDEM 1993; U.S. EPA 1994a). Metals did 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 no evidence to indicate that a petroleum release occurred at Tank 46. The absence of fuel- related compounds in soil and groundwater adjacent to Tank 46 indicates that a release of heavy fuel oil has not occurred into the environment. 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

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, indicate 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 Name of Local Fire Department | 841-2225 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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

46OIL

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: 2847307

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: P1738.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 |
| 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.

46OIL

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: 2847307

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: R1953.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: 08/02/96

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 | J |
| ----- | 3+4-Methylphenol | 0.00 | J |
| 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:

| <u>Sample Identification</u> | <u>Parameter(s)</u> | | |
|------------------------------|---------------------------|---------------------|----------------------|
| | 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 PESTICIDS ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX WATER SAMPLE ID 4601L
CONC LEVEL LOW LAB SAMPLE ID 2847307
EXTRACTION DATE 08/01/96 DIL FACTOR 1 00
ANALYSIS DATE 08/15/96 % MOISTURE NA

| COMPD # | CAS Number | TCLP PESTICIDE COMPOUNDS | MG/L |
|---------|-------------------|---------------------------------|-----------|
| 1 | 57-74-9 | Chlordane | 0 00050 U |
| 2 | 70-20-8 | Endrin | 0 00020 |
| 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 | 46OIL |
| CONC. LEVEL: MED | LAB SAMPLE ID | 2847307 |
| EXTRACTION DATE: 07/29/96 | DIL FACTOR | 1 00 |
| ANALYSIS DATE: 08/06/96 | * MOISTURE NA | |

| CMPP # | 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 |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

46SLG

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: 2847308

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: P1739.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

CONCENTRATION UNITS:
(mg/L or mg/Kg) MG/L

| 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.

Lab Name: NYTEST ENV INC

Contract: 9622627

46SLG

Lab Code: NYTEST Case No.: 28473

SAS No.:

SDG No.: 28473

Matrix: (soil/water) WATER

Lab Sample ID: 2847308

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: R1954.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: 08/02/96

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 | 0.00 | J |
| | 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 | 46SLG |
| CONC LEVEL | LOW | LAB SAMPLE ID. | 2847308 |
| EXTRACTION DATE | 08/01/96 | DIL FACTOR | 1.00 |
| ANALYSIS DATE | 08/16/96 | % MOISTURE | NA |

| CMPD # | CAS Number | TCLP PESTICIDE COMPOUNDS | MG/L |
|--------|-------------------|---------------------------------|-----------|
| 1 | 57-74-9 | Chlordane | 0.00050 U |
| 2 | 70-20-8 | Endrin | 0.00028 |
| 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 |

TCLP HERB - FORM 1
NYTEST ENVIRONMENTAL INC

TCLP HERBICIDES ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX WATER SAMPLE ID: 46SLG
CONC. LEVEL LOW LAB SAMPLE ID 2847308
EXTRACTION DATE 07/30/96 DIL FACTOR 1 00
ANALYSIS DATE 08/09/96 % MOISTURE NA

| COMP # | 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 |
| | | | |



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: 10/23/96
 DATE REPORTED: 10/24/96
 P.O. NUMBER:
 INVOICE NUMBER: A6336

DESCRIPTION: One (1) oil sample collected 10/23/96

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

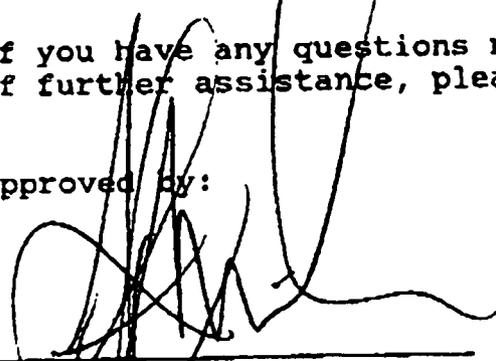
| PARAMETER | BKT - 46 | UNITS |
|-----------------------|----------|---------|
| Flash Point (c/c) | >200 | °F |
| Total Halogenation | <0.13 | % |
| Heat of Combustion | 15,533 | BTU/lb. |
| Total Sulfur | 0.74 | % |
| Bulk Water & Sediment | 23 | % |

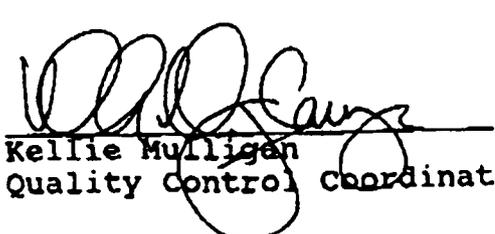
References: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, U.S. EPA, SW-846, November 1986, 3rd edition, Update IIB, January 1995.

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

JANIK #46

Client:> Ches R.I.

Batch/Job #:> Round 6

Client ID:> Foster Wheeler

Internal Sample ID:> 102296602

Date Received:> 10/22/96

| <u>Parameter</u> | <u>MDL</u> | <u>Result</u> | <u>Units</u> | <u>Method Number and Reference</u> |
|------------------|------------|---------------|--------------|------------------------------------|
| PCB's - Total | 2.0 | ND | mg/kg | 600/4-81-045 |
| Total Halogens | 100 | 300 | mg/kg | D808 (u) /D512 (k) |
| Flashpoint | --- | >140 | °F | 1010 (c) |
| Arsenic - Total | 2.0 | ND | mg/kg | 3050/6010 (c) |
| Cadmium - Total | 0.5 | ND | mg/kg | 3050/6010 (c) |
| Chromium - Total | 0.1 | ND | mg/kg | 3050/6010 (c) |
| Lead - Total | 1.0 | ND | mg/kg | 3050/6010 (c) |

Notes: ND - Below minimum detectable level (MDL)

APPENDIX C
DISPOSAL MANIFESTS/BILL-OF-LADINGS

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

054

| | | | |
|--|---|---|--|
| DATE <u>10/31/96</u> | | VEHICLE NUMBER: <u>311</u> | |
| FROM: Shipper <u>WEIC Code 40 E</u> | | TO: Consignee <u>Clean Harbor Env. Services, Inc.</u> | |
| Street <u>ONE Simonietri Drive</u> | | Street <u>37 Rumery Rd</u> | |
| City <u>NEWPORT</u> State <u>RI</u> | | City <u>S. Portland</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI11170024243</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>Clean Harbors</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-REGULATED LIQUID (OIL)</u> | | | |
| Total Quantity <u>1145143</u> | Unit <u>Gal</u> | EMERGENCY NUMBER: 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>N/D</u> PPM. | LEAD <u>N/D</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>N/D</u> PPM. | PCB'S <u>N/D</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>N/D</u> PPM. | TOTAL HALOGENS <u>300</u> PPM. | FLASH POINT <u>>200</u> °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 <u>>100</u> °F | |
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> | |
| COMMENTS: <u>Oil Filled Tank 46</u> | | | |

Clean Harbors

STRAIGHT BILL OF LADING

033

Check One:
 Non-Hazardous Material
 Hazardous Material

| | | | |
|--|---|---|--|
| DATE <u>10.129.196</u> | | VEHICLE NUMBER: <u>TK13-2</u> | |
| FROM: Shipper <u>NETC Code 40E</u> | | TO: Consignee <u>Clean Harbor Env. Services, Inc.</u> | |
| Street <u>ONE Simonpietri Drive</u> | | Street <u>37 Rumsey Rd</u> | |
| City <u>NEWPORT</u> State <u>RI</u> | | City <u>S. PORTLAND</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI11171012142143</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>J. P. NOONAN</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-Regulated LIQUID (oil)</u> | | | |
| Total Quantity | Unit Wt/Vol | EMERGENCY NUMBER: | |
| <u>116500</u> | <u>Gal.</u> | 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>ND</u> PPM. | LEAD <u>ND</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>ND</u> PPM. | PCB'S <u>ND</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>ND</u> PPM. | TOTAL HALOGENS <u>300</u> PPM. | FLASH POINT <u>2200</u> °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 <u>>100</u> °F | |
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> | |
| COMMENTS: <u>Clean Harbor Tank #46</u> | | | |

052

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

| | | | |
|-------------------------------------|--|--|--|
| DATE <u>10 129 196</u> | | VEHICLE NUMBER: <u>TKB-16</u> | |
| FROM: Shipper <u>NETC CODE 40E</u> | | TO: Consignee <u>Clean Harbors ENV. SERVICES INC</u> | |
| Street <u>ONE Simonpetri Drive</u> | | Street <u>37 Rumpsey Rd</u> | |
| City <u>Newport</u> State <u>RI</u> | | City <u>S. Portland</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI111700214213</u> | Zip Code <u>04106</u> | |

Name of Carrier: J.P. MOONJAW

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

| | | |
|---------------------------------|----------------------------|--|
| Total Quantity <u>118000</u> | Unit Wt/Vol <u>Gal.</u> | EMERGENCY NUMBER: 1-800-OIL-TANK |
|---------------------------------|----------------------------|--|

WASTE OIL ANALYSIS: (ACTUAL) LAB # _____

| | | |
|---------------------------|--------------------------------|----------------------------|
| ARSENIC <u>N.D.</u> PPM. | LEAD <u>N.D.</u> PPM. | BTU's/LB. _____ |
| CADMIUM <u>N.D.</u> PPM. | PCB'S <u>N.D.</u> PPM. | BTU's/GAL. _____ |
| CHROMIUM <u>N.D.</u> PPM. | TOTAL HALOGENS <u>300</u> PPM. | FLASH POINT <u>2200</u> °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 <u>>100</u> °F | |

| | | |
|---|---|---|
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> |
|---|---|---|

COMMENTS:
Oil From Tank 46

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

| | | | |
|--|---|---|-----------------|
| DATE <u>10 / 28 / 96</u> | | VEHICLE NUMBER: <u>1015AP</u> | |
| FROM: Shipper <u>NETC Code 40E</u> | | TO: Consignee <u>Clean Harbors Env. Services Inc.</u> | |
| Street <u>ONE Simonpietri Drive</u> | | Street <u>37 Rumery Rd</u> | |
| City <u>WARREN</u> | State <u>RI</u> | City <u>S. PORTLAND</u> | State <u>ME</u> |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI1117101024243</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>J.P. NOONAN</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-REGULATED LIQUID (oil)</u> | | | |
| Total Quantity <u>118000</u> | Unit Wt/Vol Gal. | EMERGENCY NUMBER: 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>ND</u> PPM. | LEAD <u>ND</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>ND</u> PPM. | PCB'S <u>ND</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>ND</u> PPM. | TOTAL HALOGENS <u>ND</u> PPM. | FLASH POINT <u>7200</u> °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 <u>>100</u> °F | |
| Shipper's Signature <u>[Signature]</u> | Consignee Signature | Transporter's Signature <u>[Signature]</u> | |
| COMMENTS <u>Oil from Tank # 76</u> | | | |

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

050

| | | | |
|------------------------------------|---|--|-----------------|
| DATE <u>10 128 196</u> | | VEHICLE NUMBER: <u>TKB-2</u> | |
| FROM: Shipper <u>NETC Code 40E</u> | | TO: Consignee <u>Clean Harbors ENV. SERVICES INC</u> | |
| Street <u>ONE SIMON PIER Drive</u> | | Street <u>37 RUMBLEY RD</u> | |
| City <u>NEWPORT</u> | State <u>RI</u> | City <u>S PORTLAND</u> | State <u>ME</u> |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI 11171002142413</u> | Zip Code <u>04106</u> | |

Name of Carrier:
J.P. WOODMAN

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

| | | |
|---------------------------------|----------------------------|--|
| Total Quantity <u>118900</u> | Unit Wt/Vol Gal. | EMERGENCY NUMBER: 1-800-OIL-TANK |
|---------------------------------|----------------------------|--|

WASTE OIL ANALYSIS: (ACTUAL) LAB # _____

| | | |
|-------------------------|---------------------------------|---------------------------|
| ARSENIC <u>ND</u> PPM. | LEAD <u>ND</u> PPM. | BTU's/LB. _____ |
| CADMIUM <u>ND</u> PPM. | PCB'S <u>ND</u> PPM. | BTU's/GAL. _____ |
| CHROMIUM <u>ND</u> PPM. | TOTAL HALOGENS <u>2200</u> PPM. | FLASH POINT <u>2200</u> 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 <u>>100</u> F |

| | | |
|---|---|---|
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> |
|---|---|---|

COMMENTS:
OIL FROM TANK 46

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

049

| | | | |
|---|----------------------------------|---|----------|
| DATE 10 / 25 / 96 | | VEHICLE NUMBER: TKB-36A | |
| FROM: Shipper NEIC Code 40 E | | TO: Consignee CleanHarbor ENV. Services INC | |
| Street ONE SIMONNETT DRIVE | | Street 37 RUMELY RD. | |
| City NEWPORT RI | State | City S. PORTLAND | State ME |
| Zip Code 02841 | US EPA ID Number RI1111710124243 | Zip Code 04106 | |
| Name of Carrier: J.P. MOONJAW | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) NON-REGULATED LIQUID (oil) | | | |
| Total Quantity | Unit Wt/Vol | EMERGENCY NUMBER: | |
| 118000 | Gal | 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # | |
| ARSENIC <u>N.D.</u> PPM. | LEAD <u>N.D.</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>N.D.</u> PPM. | PCB'S <u>10</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>N.D.</u> PPM. | TOTAL HALOGENS <u>500</u> PPM. | FLASH POINT <u>2200</u> °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 <u>>100</u> °F | |
| Shipper's Signature | Consignee Signature | Transporter's Signature | |
| <i>[Signature]</i> | | <i>[Signature]</i> | |
| COMMENTS: Oil from Tank # 46 | | | |

CleanHarbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

048

| | | | |
|--|--|---|-----------------|
| DATE <u>10/25/96</u> | | VEHICLE NUMBER: <u>TKB-61</u> | |
| FROM: Shipper <u>NEIK Code 40E</u> | | TO: Consignee <u>Clean Harbor ENV. Services Inc</u> | |
| Street <u>One Simonpetri Drive</u> | | Street <u>37 Rumery RD.</u> | |
| City <u>Norwalk</u> | State <u>RI</u> | City <u>S. Portland</u> | State <u>ME</u> |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI1111710102142143</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>J. P. WOODMAN</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-REGULATED LIQUID (OIL)</u> | | | |
| Total Quantity <u>11710100</u> | Unit Wt/Vol <u>TKB-61</u> Gal. <u>7.000</u> | EMERGENCY NUMBER: 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>N/D</u> PPM. | LEAD <u>N/D</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>N/D</u> PPM. | PCB'S <u>N/D</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>N/D</u> PPM. | TOTAL HALOGENS <u>300</u> PPM. | FLASH POINT <u>2200</u> °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 <u>>100</u> °F | |
| Shipper's Signature _____ | Consignee Signature _____ | Transporter's Signature _____ | |
| COMMENTS <u>OIL FROM TANK # 46</u> | | | |

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

047

| | | | |
|--------------------------------------|--|--|--|
| DATE <u>10/25/96</u> | | VEHICLE NUMBER: <u>TKB18</u> | |
| FROM: Shipper <u>NETC CODE 406</u> | | TO: Consignee <u>Clean Harbors ENV. SERVICES, INC.</u> | |
| Street <u>ONE Simonopietri Drive</u> | | Street <u>37 Rumely RD.</u> | |
| City <u>Newport</u> State <u>RI.</u> | | City <u>S. Portland</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI11117100242143</u> | Zip Code <u>04106</u> | |

Name of Carrier:
J.P. WOODMAN

US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number)
NON-REGULATED LIQUID (OIL)

| | | |
|---------------------------------|----------------------------|--|
| Total Quantity <u>118090</u> | Unit Wt/Vol <u>Gal.</u> | EMERGENCY NUMBER: 1-800-OIL-TANK |
|---------------------------------|----------------------------|--|

WASTE OIL ANALYSIS: (ACTUAL) LAB # _____

| | | |
|--------------------------|--------------------------------|-------------------------------|
| ARSENIC <u>N.D.</u> PPM. | LEAD <u>10</u> PPM. | BTU's/LB. <u>-</u> |
| CADMIUM <u>1.0</u> PPM. | PCB'S <u>10</u> PPM. | BTU's/GAL. <u>-</u> |
| CHROMIUM <u>1.0</u> PPM. | TOTAL HALOGENS <u>200</u> PPM. | FLASH POINT <u>>200</u> °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 <u>>100</u> °F | |

| | | |
|---|---|---|
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> |
|---|---|---|

COMMENTS:
OIL FROM TANK 46

046

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

046

| | | | |
|--|---|--|--|
| DATE <u>10/24/96</u> | | VEHICLE NUMBER: <u>TKB 61</u> | |
| FROM: Shipper <u>NETC Code 40E</u> | | TO: Consignee <u>Clean Harbor Env. Services, Inc</u> | |
| Street <u>ONE Simpsonville Drive</u> | | Street <u>37 Rumery Rd.</u> | |
| City <u>NEWPORT</u> State <u>RI</u> | | City <u>S. Portland</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI11171012M243</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>J.P. NOONAN</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-REGULATED LIQUID (oil)</u> | | | |
| Total Quantity <u>1170610</u> | Unit Wt/Vol <u>Gal.</u> | EMERGENCY NUMBER: 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>ND</u> PPM. | LEAD <u>N.D.</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>N.D.</u> PPM. | PCB'S <u>N.D.</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>N.D.</u> PPM. | TOTAL HALOGENS <u><200</u> PPM. | FLASH POINT <u>7200</u> °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 <u>>100</u> °F | |
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> | |
| COMMENTS: <u>oil from Tank # 37</u> | | | |

045

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

045

| | | | |
|---|---------------------------------|--|--|
| DATE 10 124 196 | | VEHICLE NUMBER: TK3 81 | |
| FROM: Shipper NETC COOP 40E | | TO: Consignee Clean Harbors Env. Scrubbers, Inc. | |
| Street One Simonpietri Drive | | Street 37 Rumery Rd | |
| City WRIWORTH State RI | | City S. Portland State ME | |
| Zip Code 02841 | US EPA ID Number RI111710024243 | 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: | |
| 117000 | 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 <i>[Signature]</i> | Consignee Signature | Transporter's Signature <i>[Signature]</i> | |
| COMMENTS: # 27 | | | |

Clean Harbors

STRAIGHT BILL OF LADING

Check One:
 Non-Hazardous Material
 Hazardous Material

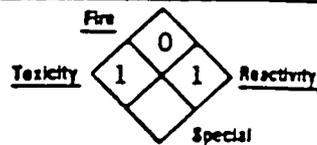
| | | | |
|--|---|--|--|
| DATE <u>10 / 24 / 196</u> | | VEHICLE NUMBER: <u>TKB 8Z</u> | |
| FROM: Shipper <u>WETC Code 40E</u> | | TO: Consignee <u>Clean Harbor Env. Services, Inc</u> | |
| Street <u>One Sannipietri Drive</u> | | Street <u>37 Rumery Rd</u> | |
| City <u>Newport</u> State <u>RI</u> | | City <u>S. Portland</u> State <u>ME</u> | |
| Zip Code <u>02841</u> | US EPA ID Number <u>RI111171012142413</u> | Zip Code <u>04106</u> | |
| Name of Carrier: <u>J.P. Noonan</u> | | | |
| US DOT Description: (Include Proper Shipping Name, Hazard Class, and ID Number) <u>NON-REGULATED LIQUID (OIL)</u> | | | |
| Total Quantity <u>1 65 0 0</u> | Unit Wt/Vol <u>(Gal.)</u> | EMERGENCY NUMBER: 1-800-OIL-TANK | |
| WASTE OIL ANALYSIS: (ACTUAL) | | LAB # _____ | |
| ARSENIC <u>ND</u> PPM. | LEAD <u>ND</u> PPM. | BTU's/LB. _____ | |
| CADMIUM <u>ND</u> PPM. | PCB'S <u>ND</u> PPM. | BTU's/GAL. _____ | |
| CHROMIUM <u>ND</u> PPM. | TOTAL HALOGENS <u>300</u> PPM. | FLASH POINT <u>>200</u> °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 <u>>100</u> °F | |
| Shipper's Signature <u>[Signature]</u> | Consignee Signature <u>[Signature]</u> | Transporter's Signature <u>[Signature]</u> | |
| COMMENTS: <u>OIL FROM MIX # 46</u> | | | |

**APPENDIX D
DEGREASER/VENDOR INFORMATION**



HAZARD RATING

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



MATERIAL SAFETY DATA SHEET

Essentially Similar to Form OSHA-20)

SECTION I

REVISED: 06-15-87

| | | | |
|-----------------------------------|---------|---|--|
| CHEMICAL NAME AND SYNONYMS N/A | | TRADE NAME AND SYNONYMS ENVIRO 2000S | |
| CHEMICAL FAMILY Detergent | FORMULA | 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 ₂ O = 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) | Boils without flashing. | FLAMMABLE LIMITS | Lel N/A | Uel 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 | <p><u>Inhalation</u>: Airborne concentrations of mist or spray may cause irritation of upper respiratory tract, nose and throat, hemolysis, hemoglobinuria.</p> <p><u>Skin</u>: Dermatitis may result from repeated or prolonged exposure due to defatting of tissue.</p> <p><u>Eye</u>: Product is destructive to eye tissue. May cause severe irritation.</p> <p><u>Ingestion</u>: Product can cause irritation of mouth, throat, esophagus and stomach.</p> |
| EMERGENCY AND FIRST AID PROCEDURES | <p><u>Eyes</u>: Irrigate immediately with running water for at least 15 minutes. Seek medical attention if irritation persists. <u>Skin</u>: Flush with soap and water immediately. Remove impervious clothing immediately when skin is wet or contaminated. Seek medical attention if irritation persists. <u>Inhalation</u>: If person exposed to large amounts of mist or vapor, move the exposed person to fresh air at once and perform artificial respiration. <u>Ingestion</u>: If ingested, seek medical attention immediately. Give large quantities of water.</p> |

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

SECTION VI — REACTIVITY DATA

| | | | |
|---|----------------|---|---------------------|
| STABILITY | UNSTABLE | | CONDITIONS TO AVOID |
| | STABLE | X | |
| INCOMPATIBILITY (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 | |
| <p>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.</p> <p>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.</p> | |
| 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 To maintain below TLV guidelines. | SPECIAL |
| | MECHANICAL (General) | OTHER |
| PROTECTIVE GLOVES | Rubber or Neoprene | EYE PROTECTION 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

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.



| | | | | | | | | | | | |
|---|----------|---|------------|---------|--|---|---|---|--|--|---------|
| HAZARD RATING 4 = EXTREME 3 = HIGH 2 = MODERATE 1 = SLIGHT 0 = INSIGNIFICANT * = CHRONIC HEALTH HAZARD SEE SECTION V | Fire | <table border="1"> <tr> <td></td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">Special</td> </tr> </table> | | 0 | | 1 | 1 | 1 | | | Special |
| | | | 0 | | | | | | | | |
| | 1 | | 1 | 1 | | | | | | | |
| | | | | Special | | | | | | | |
| | Toxicity | | Reactivity | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

MATERIAL SAFETY DATA SHEET

Essentially Similar to Form OSHA 20)

SECTION I

REVISED: 06-15-87

| | | |
|-----------------------------------|------------------------|---|
| CHEMICAL NAME AND SYNONYMS N/A | | TRADE NAME AND SYNONYMS ENVIRO 2000S |
| CHEMICAL FAMILY Detergent | FORMULA Proprietary | |

SECTION II - HAZARDOUS INGREDIENTS

| MATERIAL | CAS # | % | TLV (unnts) |
|------------------|-----------|---|--|
| 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 ₂ O = 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) | Boils without flashing. | FLAMMABLE LIMITS | LeI N/A | UeI 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 | <p><u>Inhalation:</u> Airborne concentrations of mist or spray may cause irritation of upper respiratory tract, nose and throat, hemolysis, hemoglobinuria.</p> <p><u>Skin:</u> Dermatitis may result from repeated or prolonged exposure due to defatting of tissue.</p> <p><u>Eye:</u> Product is destructive to eye tissue. May cause severe irritation.</p> <p><u>Ingestion:</u> Product can cause irritation of mouth, throat, esophagus and stomach.</p> |
| EMERGENCY AND FIRST AID PROCEDURES | <p><u>Eyes:</u> Irrigate immediately with running water for at least 15 minutes. Seek medical attention if irritation persists. <u>Skin:</u> Flush with soap and water immediately. Remove impervious clothing immediately when skin is wet or contaminated. Seek medical attention if irritation persists. <u>Inhalation:</u> If person exposed to large amounts of mist or vapor, move the exposed person to fresh air at once and perform artificial respiration. <u>Ingestion:</u> If ingested, seek medical attention immediately. Give large quantities of water. Do not induce vomiting.</p> |

FOR MEDICAL EMERGENCY CALL COLLECT (713) 734-1656

SECTION VI — REACTIVITY DATA

| | | | |
|---|----------------|---|---------------------|
| STABILITY | UNSTABLE | | CONDITIONS TO AVOID |
| | STABLE | X | |
| INCOMPATIBILITY (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 | |
| <p><u>Small Spill</u>: Mop or wipe up or absorb on sawdust or clay and dispose of in accordance with RCRA Regulations. Flush any residue with water.</p> <p><u>Large Spill</u>: 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.</p> | |
| 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 To maintain below TLV guidelines. | SPECIAL |
| | MECHANICAL (General) | OTHER |
| PROTECTIVE GLOVES | Rubber or Neoprene | EYE PROTECTION 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.

Material Safety Data Sheet

QUICK IDENTIFIER (In Plain Common Name)

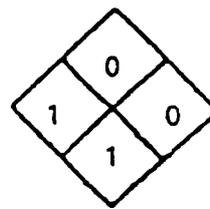
SW 1000

FIRE

HAZARD RATING

- 4 - Extreme
- 3 - High
- 2 - Moderate
- 1 - Slight
- 0 - Insignificant

HEALTH



REACTIVITY

See Section (5)

SPECIFIC HAZARD

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*
Donald J. Adone

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 ₂ O = 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 | | |

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

Hazardous Decomposition or Byproducts n.a.

| | | | |
|--------------------------|----------------|---------------------|------|
| Hazardous Polymerization | May Occur | Conditions to Avoid | none |
| | Does Not Occur | | |

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 physician
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 adequate. |

| | | | |
|-------------------|-------------------------|----------------|----------------------------|
| 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°C

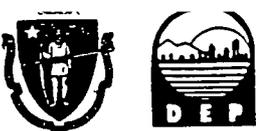
Other Precautions None

Steps to be Taken in Case Material is Released or Spilled Hose down with water.

Waste Disposal Methods Biodegradable. Refer to applicable regulations. Special disposal 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 information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. Any use of this product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.

APPENDIX E
MANIFESTS (DEBRIS DISPOSAL)



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

N-62472-94-D-039E

City # 2543

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

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

| | | | | | | | |
|---|--|--|--------------------------------|--|---|---|-----------------|
| UNIFORM HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. RI1170024243 | Manifest Document No. 50457 | | 2. Page 1 of | Information in the shaded areas is not required by Federal law. | |
| 3. Generator's Name and Mailing Address NETC, 40E Attn: Raymond Roberge Simonpeitri Drive Newport, RI 02841 | | | | 4. Generator's Phone () 401-841-3735 | | A. State Manifest Document Number MAJ 576132 | |
| 5. Transporter 1 Company Name Clean Harbors Env. Services, Inc. | | 6. US EPA ID Number MAD039322250 | | 7. Transporter 2 Company Name | | 8. US EPA ID Number | |
| 9. Designated Facility Name and Site Address Clean Harbors of Braintree, Inc. 385 Quincy Avenue Braintree, Massachusetts 02184 | | | | 10. US EPA ID Number MAD053452637 | | C. State Trans. ID MA 13261 | |
| 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) | | | | 12. Containers NO | Type | 13. Total Quantity | 14. Unit Wt/Vol |
| a. NON D.O.T. REGULATED OILY SOLIDS, NONE, N/A | | | | Ø1 | CM | 8,360 | P |
| b. | | | | | | | |
| c. | | | | | | | |
| d. | | | | | | | |
| J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.) (S)(T) R010 | | | | | K. Handling Codes for Wastes Listed Above | | |
| a. | | | | | a. | | |
| b. | | | | | b. | | |
| c. | | | | | c. | | |
| d. | | | | | d. | | |
| 15. Special Handling Instructions and Additional Information Emergency Contact: 1-800-645-8265 (Clean Harbors) WO | | | | | | | |
| 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 <i>Mark J. Rielly</i> | | Date 03/31/97 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | | | Signature <i>Paul J. Harrison</i> | | Date 03/31/97 | |
| Printed/Typed Name PAUL J. HARRISON | | | | Signature | | Date | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | | | | | | |
| Printed/Typed Name | | | | Signature | | Date | |
| 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 | |

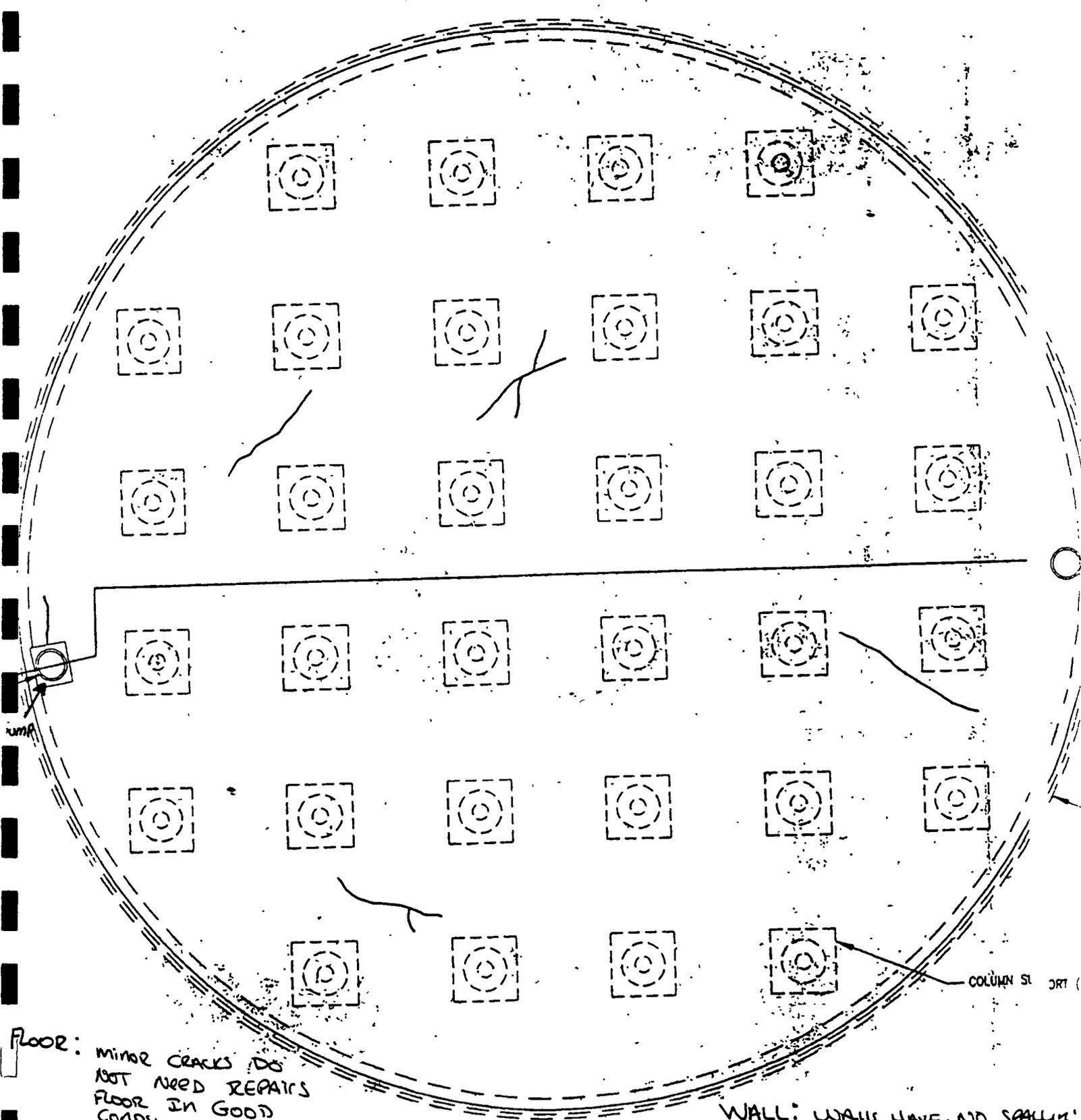
MA J 576132 COPY>1: FACILITY MAILS TO DESTINATION STATE

Form Approved OMB No. 2050-0035 Expires 9-30-96
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

Clean Harbors has appropriate permits for and will accept the waste the generator is shipping
COPY>1: FACILITY MAILS TO DESTINATION STATE

APPENDIX F
STRUCTURAL INSPECTION

NOTE: TANK IS DRY AND
CLEAN. TANK APPEARED
TO BE IN GOOD CONDITION.



FLOOR: MINOR CRACKS DO
NOT NEED REPAIRS
FLOOR IN GOOD
CONDITION

COLUMNS: NO SPALLING PRESENT ON
COLUMNS. ALL COLUMNS
ARE IN GOOD CONDITION.

WALL: WALLS HAVE NO SPALLING
AND ARE CLEAN. DO NOT
SEE CIRCUMFERENTIAL CRACKS
ON THIS TANK

PLAN VIEW

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 UNDERGROUND STORAGE TANK SECTION
 291 Promenade Street
 Providence, Rhode Island 02908
 (401) 277-2797

UST ID 03644

LUST ID LS 2712

**CLOSURE INSPECTION SHEET
 FOR UNDERGROUND STORAGE FACILITIES**

On th 11th of December 1996, I, Patrick Hogan
 (date) (inspector)

witnessed the permanent closure of the following underground storage tanks owned/operated by

Naval Education and Training Center/ Tank Farm 4
 (owner/operator)

and located at

Portsmouth
 (address)

| TANK ID | VOLUME | STORED MATERIAL | TANK STATUS (F = Filled / R = Removed) |
|-----------|---------------|--------------------|--|
| <u>44</u> | <u>2.5 MG</u> | <u>#6 fuel oil</u> | <u>F*</u> |
| <u>46</u> | <u>2.5 MG</u> | <u>#6 fuel oil</u> | <u>F*</u> |
| | | | |
| | | | |
| | | | |

* tank to be demolished

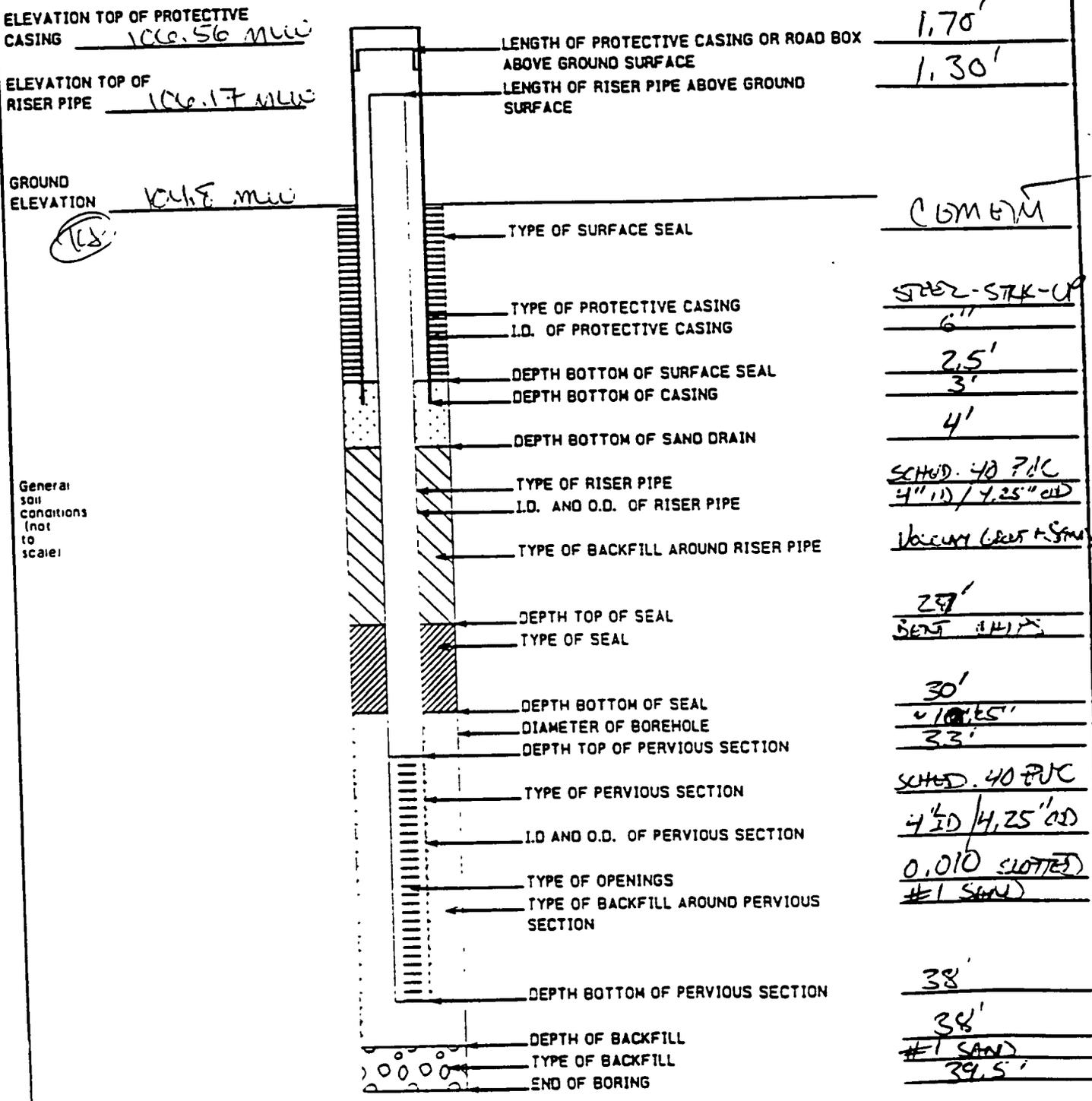
Signature: Patrick Hogan F. Daniel Russell Paul Kulpa
 Title: Sanitary Engineer Environmental Scientist Jr. Sanitary Engineer
Underground Storage Tank Section/Leaking Underground Storage Tank Section
Department of Environmental Management

A closure assessment must be submitted to the Division of Site Remediation, Leaking Underground Storage Tank Section within 30 working days.

NOTE: This is not a document to approve or certify that tanks are safe or clean to transport.

**APPENDIX G
BORING LOGS**

PROJECT: CTD-143-UST-RT PAGE: 1 OF 1
 PROJECT LOCATION: NITZ INDUSTRIAL MAINT BARE TANK TANK 46
 CLIENT: US NIM (B) WELL BORING NO.: MW-121
 CONTRACTOR: ENVIRONMENTAL DRILLING INC DRILLER: BJM PELLEW BORING LOCATION: UST 46 (TF4-B-46)
 LOGGED BY: TRACY DEGEN DATE: 11-14-94 PROJECT NO.: 0288
 CHECKED BY: _____ DATE: _____



BORING LOG (BORING NO. TF4-B-46 = WELL NO. TF4-MW-121)

NUS CORPORATION

PROJECT: OTD 43 LOCATION: 1151-46 DRILLED BY: ASBY 1/4/20 BORING NO. TF4-B-46
 DATE STARTED: 11-14-94 INCLINATION: 1.2% LOGGED BY: RAY 11/22/94 GROUND ELEV.: 104.8 MW
 TE COMPLETED: 11-14-94 BEARING: N 1/2 W CHECKED BY: _____ TOTAL DEPTH: 39.5'

| ELEV. feet | DEPTH feet | SAMPLE | | | REMARKS ON ADVANCE OF BORING | GRAPHIC LOG | SOIL AND ROCK DESCRIPTIONS |
|------------|------------|----------|------------------|----------|----------------------------------|-------------|--|
| | | TYPE-NO. | BLOWS PER 6" | PEN. in. | | | |
| | | | | | | | 000 0026 - NO SAMPLES TAKEN |
| | 26 | S-1 | 12, 11 12, 10 | 24 | 1135 DRY | * | 2628 SILTY, SANDY GRAY. GY. MOSTLY ANGULAR GRAY. FEW FINE SAND. FEW TRACE SILT. (BUT NOT). GRAY. |
| | 28 | S-2 | 20, 21 16, 11 | 24 | 1150 MOSTLY DRY, NOSE MOIST. | DS | 2830 SIMILAR TO ABOVE LITTLE ROCK FRAGS (ROCK WAFERS) PARTIALLY SAT. NOSE IS MOIST. GY. |
| | 30 | S-3 | 7, 10 16, 10 | 24 | 1205 <u>V₂ 30"</u> | * | 3032 GY. SIMILAR TO ABOVE. MOSTLY ANGL. GRAY (ROCK FRAGS) TRACE F. SAND. TRACE SILT. GRAY. SATURATED. NO ODOR, OR STAINING O.D.P.M. P.D. |
| | 32 | S-4 | 16, 21 30, 20 | 24 | 1210 | DS | 3234 MOSTLY (ROCK FRAGS (ROCK WAFERS) GRAY (ANGULAR). TRACE SILT. NO ODOR OR STAINING |

LEGEND:
 TYPE-NO - type of sample
 - Rock core sample
 - Split barrel sample
 BLOWS PER 6" - 40 lb hammer
 "along 30" to drive
 split barrel sampler
 - boring time per foot of rock
 PEN - penetration length of sampler
 REC - length of sample recovered

NOTES: B-46 will be MW-121. BEGIN BORING @ 1020.

LENGTH = 1223 -
 RETURN = 1320 -

DATE _____ OF _____ PROJECT NO. _____
 PAGE _____ OF _____ BORING NO. _____

BORING LOG (BORING NO. TF4-B-46 = WELL NO. TF4-MU-121)

NUS CORPORATION

PROJECT: 170-143 LOCATION: 11ST-46 DRILLED BY: A. JAMES BORING NO.: B-46
 DATE STARTED: 11-14-94 INCLINATION: VERT. LOGGED BY: J. DORRILL GROUND ELEV.: 104.8 MLW
 TE COMPLETED: 11-14-94 BEARING: N11W CHECKED BY: _____ TOTAL DEPTH: 39.5'

| ELEV. feet | DEPTH feet | SAMPLE | | | REMARKS ON ADVANCE OF BORING | GRAPHIC LOG | SOIL AND ROCK DESCRIPTIONS |
|------------|------------|-----------|------------------|----------|------------------------------|-------------|---|
| | | TYPE- NO. | BLOWS PER 6" in. | PEN. in. | | | |
| | 34.5-5 | | 8, 13 | 24 | 8 | 1330 | DS 3436 SIMILAR TO ABOVE. MOSTLY GRAVEL (FRAGILE) - ROCK FREE TRACE SILT. NO SAND OR SILT. GRAY. BEFORELY EXPANDED . |
| | 36.5-6 | | 15, 15 | 24 | 1 | 1355 | 3638 RECOVERED ONLY 2 PIECES OF ROUNDED GRAVEL. NO SAND OR SILT. NO OIL PRESENT. GRAVEL IS DARK GRAY + IGNEOUS ROCK TYPE (GRANITE) PROB. 2" FLOOR DRAIN BRICK. |
| | 38.5-7 | | 120 FOR 5" | 5" | 4" | 1350 | TIP (2) 3846 SAND BROKEN ROCK WHIFERS. TRACE SILT. TRACE F. SAND. |

BOR @ 39.5'

BEDROCK @ ~38'-38.3'
Metamorphic

LEGEND:
 TYPE-NO - Type of sample
 1 - Rock core sample
 2 - Split barrel sample
 BLOWS PER 6" - 30 lb hammer falling 30" to drive split barrel sampler
 PEN - Penetration length of sampler
 REC - length of sample recovered
 ? - natural ground water table

NOTES. SS #7 ~~at~~ B-ROCK @ 38.0 B-ROCK IS VERY S + IMPERMEABLE. WATER REF. @ 39.5'
 ↓
 water

DATE: _____ PROJECT NO. _____
 PAGE: _____ OF _____ BORING NO. _____

BORING LOG

TANK FARM 4- P1- TANK 46

TF4-PI-76
NUS CORPORATION

PROJECT: TF4&S-CT0143 LOCATION: NETC - Newport DRILLED BY: EDI - A J Canon BORING NO.: TF4-46-P1
 DATE STARTED: 11-11-94 INCLINATION: vertical LOGGED BY: B. Cleaver GROUND ELEV.: _____
 TE COMPLETED: 11-11-94 BEARING: _____ CHECKED BY: _____ TOTAL DEPTH: 8 feet

| ELEV. feet | DEPTH feet | SAMPLE | | | | REMARKS ON ADVANCE OF BORING | GRAPHIC LOG | SOIL AND ROCK DESCRIPTIONS |
|---------------|---------------|--------------|-----------------|-------------|-------------|--|----------------|--|
| | | TYPE- NO. | BLOWS PER 8" | PEN. in. | REC. in. | | | |
| 0 | | | | | | Drive rods to 4 feet using 300-lb. hammer | | No samples to 4 feet. |
| 4 | | S-1 | 18-12 | 24 | 15 | S-1 @ 12:30 (140-lb hammer) | | sandy, gravelly, SILT, poorly graded, mostly silt, some gravel, few sand (ML) |
| 5 | | | 14-14 | | | So-TF4-PI-46-0406 | | DRY; brown. |
| 6 | | S-2 | 48-62 | 24 | 13 | S-2 @ 12:35 (140 lb hammer) | | silty GRAVEL, (phyllite/slate), mostly (GM) |
| 7 | | | 57-60 | | | So-TF4-PI-46-0608 | | slaty phyllite (up to 2" diameter) throughout spon, little silt, few sand, DRY; gray. |
| 8 | | | | | | | | END OF BORING AT 8 FEET. (Backfill with surrounding soils.) |

TPH-lab
TPH-screen
D.J.
TPH-lab
TPH-screen
D.J.

LEGEND:
 PE-NO - Type of sample
 C - Rock core sample
 S - Split barrel sample
 BLOWS PER 8" - 40 lb hammer
 "sling 30" to drive
 a split barrel sampler
 coring time per foot of rock
 PEN - Penetration length of sampler
 REC - Length of sample recovered
 ? - Natural ground water table

NOTES. No readings on PID above background.

DATE: 11-11-94 PROJECT NO: 0288
 PAGE: 1 OF 1 BORING NO: TF4-46-P1

BORING LOG

TANK FARM 4 - P2 - TANK 46

114-12-41
NUS CORPORATION

PROJECT: TF 485-CT043 LOCATION: NETC-Newport DRILLED BY: EDI - A J Canon BORING NO.: TF4-46-P
 DATE STARTED: 11-11-94 INCLINATION: vertical LOGGED BY: Bo Cleaver GROUND ELEV.: _____
 TIME COMPLETED: 11-11-94 BEARING: _____ CHECKED BY: _____ TOTAL DEPTH: 8 feet

| ELEV. feet | DEPTH feet | SAMPLE | | | | REMARKS ON ADVANCE OF BORING | GRAPHIC LOG | SOIL AND ROCK DESCRIPTIONS |
|------------|------------|----------|----------------|----------|----------|---|-------------|---|
| | | TYPE-NO. | BLOWS PER 8' | PEN. in. | REC. in. | | | |
| 0 | | | | | | Drive rods to 4 feet using 300-lb hammer | | No samples to 4 feet. |
| 4 | | S-1 | 14-15 15-21 | 24 | 18 | @ 1300 (140 lb hammer) SO-TF4-P2-46-0406 | | S-1 silty silt ^{270 11-11-94} sandy silt sandy silty GRAVEL poorly graded, mostly gravel (slaty phyllite); some silt, few sand, phyllite/slate is interbedded with |
| 6 | | S-2 | 14-11 13-20 | 24 | 20 | @ 1300 (140 lb hammer) SO-TF4-P2-46-0608 | | S-2 light brown silt in places; DRY; silt = dark and light phyllite/slate |
| 8 | | | | | | | | End of Boring at 8 feet. (Backfill with surrounding soils.) |

TPH-lab
TPH-screen
DJ
TPH-lab
TPH-screen
DJ

LEGEND:
 TYPE-NO - Type of sample
 - - Rock core sample
 S - Split barrel sample
 BLOWS PER 8' - 40 lb hammer
 hitting 30" to drive
 3 split barrel sampler
 PEN - Penetration length of sampler
 REC - Length of sample recovered
 ? - Natural ground water table

NOTES.

N PID readings above background

Data Sheet for PETRO RISC[®] SamplePro Test

Operator: Gary Glennon Date: 11/10/94 # 11/94 Location: CD 143

| Sample ID | Low Test Level | | | High Test Level | | | Comments |
|---------------------------------|----------------|---------------|-------------------------------------|-----------------|----------------|------------------------------------|--------------------------------|
| | ΔOD Standards | OD sample | Interpretation | ΔOD Standards | OD sample | Interpretation | |
| | | <u>25 ppm</u> | | | <u>100 ppm</u> | | |
| 11/10/94 ↓ Replicate stds | -0.20 | | QC OK - ^{retain} left tube | 0.05 | | QC OK* | ^{retain} right tube / |
| SO-TF4-B43-2628 | -0.08 | | > 25 ppm | 0.71 | | < 100 ppm | |
| ↓ -2830 | -0.53 | | > 25 ppm | 0.15 | | < 100 ppm | |
| ↓ -3638 | -0.12 | | > 25 ppm | 0.36 | | < 100 ppm | |
| ↓ -3840 | -0.24 | | > 25 ppm | 0.33 | | < 100 ppm | |
| 11/10/94 ↓ Replicate stds | 0.06 | | QC OK ^{retain} right tube | 0.02 | | QC OK ^{retain} right tube | |
| SO-TF4-P1-44-0406 | -0.05 | | > 25 ppm | 0.12 | | < 100 ppm | discard |
| ↓ -0628 | -0.27 | | > 25 ppm | 0.35 | | < 100 ppm | send to lab |
| SO-TF4-P1-46-0608 | 0.13 | | < 25 ppm | 0.21 | | < 100 ppm | discard |
| SO-TF4-P1-46-0406 | 0.02 | | < 25 ppm | 0.10 | | < 100 ppm | send to lab |
| 11/10/94 ↓ Replicate stds | -0.03 | | QC OK ^{retain} left tube | 0.07 | | QC OK ^{retain} right tube | |
| SO-TF4-P2-43-0406 | 0.41 | | > 25 ppm | 0.25 | | < 100 ppm | discard |
| ↓ -0608 | 0.38 | | < 25 ppm | 0.20 | | < 100 ppm | send to lab |
| SO-TF4-P3-43-0406 | 0.68 | | < 25 ppm | 0.46 | | < 100 ppm | discard |
| ↓ -0608 | 0.35 | | < 25 ppm | -0.01 | | > 100 ppm | send to lab |

1 AND 20000 8 1/2

Petrol Soil SamplePro User's Guide

071994

Data Sheet for PETRO RISC® SamplePro Test

Operator: Gary Glennon Date: 11/14/94 Location: CTD 143

| Sample ID | Low Test Level | | | High Test Level | | | Comments |
|---------------------------------------|-----------------|-----------|----------------|-----------------|-----------|----------------|------------------------|
| | ΔOD Standards | OD sample | Interpretation | ΔOD Standards | OD sample | Interpretation | |
| 11/14/94 1400 Replicate stds | 0.19 | 25 ppm | QC OK | 0.23 | | QC OK | |
| SO-TF4-P1-43-0406 | -0.01 | | > 25 ppm | 0.09 | | < 100 ppm | Discard |
| ↓ -0608 | -0.09 | | > 25 ppm | -0.15 | | > 100 ppm | Send to lab |
| SO-TF4-P2-46-0406 | -0.08 | | > 25 ppm | 0.05 | | < 100 ppm | Discard |
| ↓ -0608 | -0.01 | | > 25 ppm | -0.13 | | > 100 ppm | Send to lab |
| 11/14/94 1530 SO-TF4-P1-41-0406 | 0.15 0.35 on | | QC OK | 0.29 | | < 100 ppm | Discard |
| ↓ -0608 | -0.12 | | NA-QC OUT | 0.22 | | < 100 ppm | Send to lab |
| SO-TF4-P2-41-0406 | *0.20 | | NA-QC OUT | 0.41 | | < 100 ppm | Discard |
| 5000 ↓ -0608 | -0.34 | | NA-QC OUT | 0.47 | | < 100 ppm | Send to lab |
| Replicate stds | 0.40 | | QC OUT* | -0.00 | | QC OK* | |
| 11/15/94 745 Replicate stds | -0.23 | | QC OK* | 0.03 | | QC OK* | |
| SO-TF4-P1-48-0406 | -0.10 | | > 25 ppm | 0.53 | | < 100 ppm | Discard |
| ↓ -0608 | -0.05 | | > 25 ppm | 0.48 | | < 100 ppm | Send to lab |
| SO-TF4-P2-48-0406 | -0.03 | | > 25 ppm | 0.76 | | < 100 ppm | Discard |
| ↓ -0608 | -0.29 | | > 25 ppm | -0.15 | | > 100 ppm | Send to lab Matrix 50% |
| 11/15/94 0930 Replicate stds | 0.10 | | QC OK* | 0.12 | | QC OK* | |
| SO-TF4-P3-48-0406 | -0.12 | | > 25 ppm | 0.22 | | < 100 ppm | Send to lab |
| ↓ 0608 | 0.09 | | < 25 ppm | 0.20 | | < 100 ppm | Discard |
| SO-TF4-P1-45-0406 | -0.33 | | > 25 ppm | 0.25 | | < 100 ppm | Discard |
| ↓ -0608 | -0.42 | | > 25 ppm | 0.20 | | < 100 ppm | Send to lab |

* criteria $-0.3 < \Delta OD < 0.3$

11/14/94
1400

11/14/94
1530
Page 17 of 17

11/15/94
745

11/15/94
0930

011604

APPENDIX H
SOIL AND GROUNDWATER ANALYTICAL RESULTS

DATA QUALIFIERS

J Quantitation is estimated
U Parameter is not detected at the listed detection limit
UJ Parameter is not detected at the estimated detection limit

SAMPLE NUMBER KEY

Field samples collected from both sites, Tank Farms 4 and 5, are assigned a unique field sample tracking number. This numbering system as presented in Appendix C is explained here. Sample numbers are keyed to specific tanks in each tank farm and will consist of a five-segment alphanumeric code that identifies the sample matrix, the site and sample location, sample depth, and the quality control (QC) identifier.

The alphanumeric coding to be used in the sample numbering system is explained in the following diagram and the subsequent definitions:

AA = (Matrix)
TFN-AA-NN = (Sample location, site identifier - borehole/probe - number)
NN = (Sample depth)
A = (QC identifier)

Character type: A = Alpha
N = Numeric

Matrix: SO = Soil
GW = Groundwater

Sample location: Sample locations will be identified by specific tank farm and borehole or groundwater monitoring well number. Two alpha characters will indicate the specific tank farm; a pair of numeric characters will be assigned to correspond with individual tank numbers so that location is identifiable from all other locations of a similar type.

TF-4 = Tank Farm 4
TF-5 = Tank Farm 5
B = Borehole (subsequent monitoring well installation)
P = Probe

Sample identifier: Depth in feet below ground surface representing the top of the interval sample was collected.

QC Identifier: The QC identifier will be assigned only when applicable. The following identifiers will be utilized.

D = Field Duplicate
R = Equipment Rinsate Blank
F = Field Blank
T = Trip Blank

Example: A soil sample collected from 2 to 4 feet below ground surface from a boring located in Tank Farm 4, adjacent to tank number 39 will be numbered:

SO-TF4-B-39-02

CASE NO CTO143

HEMICON CORPORATION

CL SOIL VOLATILE ORGANICS (ug/Kg)

STATION ID:
LABORATORY ID.

SOTF4B373234
940996-17

SOTF4B373436
940996-18

SOTF4B37DUP
940996-19

SOTF4B382628
940996-20

SOTF4B463032
940996-09



FIELD DUPLICATE PAIR

| ANALYTE | CRQL | MDL/IDL | SOTF4B373234 940996-17 | SOTF4B373436 940996-18 | SOTF4B37DUP 940996-19 | SOTF4B382628 940996-20 | SOTF4B463032 940996-09 |
|----------------------------|------|---------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| Chloromethane | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Bromomethane | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Vinyl Chloride | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Chloroethane | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 13 U |
| Ethylene Chloride | 10 | 2 | 11 U | 11 U | 19 UJ | 11 U | 11 U |
| Acetone | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Carbon 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-Dichloroethane | 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 |
| Chloroform | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,2-Dichloromethane | 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 |
| Carbon Tetrachloride | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Bromodichloromethane | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| 1,2-Dichloropropane | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| cis-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 |
| Dibromochloromethane | 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 |
| Benzene | 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 |
| Bromoform | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| 4-Methyl-2-Pentanone | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| 2-Hexanone | 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-Tetrachloroethane | 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 |
| Chlorobenzene | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Ethylbenzene | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 2 J |
| Styrene | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| Xylene (total) | 10 | 2 | 11 U | 11 U | 11 U | 11 U | 11 U |
| DILUTION FACTOR: | | | 1 | 1 | 1 | 1 | 1 |
| % SOLIDS | | | 87 | 88 | 89 | 88 | 91 |

NO CTO143

IC CORPORATION

SOIL VOLATILE ORGANICS (ug/Kg)

SOTF4B463840
940996-10

ION ID.
ORATORY ID:

| LYTE | CRQL | MDL/DL | | |
|------------------------|------|--------|----|---|
| romethane | 10 | 2 | 12 | U |
| romethane | 10 | 2 | 12 | U |
| Chloride | 10 | 2 | 12 | U |
| r ethane | 10 | 2 | 12 | U |
| nylen Chloride | 10 | 2 | 12 | U |
| one | 10 | 2 | 12 | U |
| on Disulfide | 10 | 2 | 12 | U |
| Dichloroethen | 10 | 2 | 12 | U |
| Dichloroethane | 10 | 2 | 12 | U |
| Dichloroethen (total) | 10 | 2 | 12 | U |
| roform | 10 | 2 | 12 | U |
| Dichloroethane | 10 | 2 | 12 | U |
| itanon | 10 | 2 | 12 | U |
| 1-Trichloroethane | 10 | 2 | 12 | U |
| on Tetrachlorid | 10 | 2 | 12 | U |
| nodichloromethane | 10 | 2 | 12 | U |
| Dichloropropane | 10 | 2 | 12 | U |
| 1,3-Dichloropropene | 10 | 2 | 12 | U |
| chloroethene | 10 | 2 | 12 | U |
| monochloromethane | 10 | 2 | 12 | U |
| 2-Trichloroethane | 10 | 2 | 12 | U |
| zene | 10 | 2 | 12 | U |
| is-1,3-Dichloropropene | 10 | 2 | 12 | U |
| moform | 10 | 2 | 12 | U |
| ethyl-2-Pentanone | 10 | 2 | 12 | U |
| hexane | 10 | 2 | 12 | U |
| tetrachloroethene | 10 | 2 | 12 | U |
| 2,2-Tetrachloroethane | 10 | 2 | 12 | U |
| uene | 10 | 2 | 12 | U |
| robenzene | 10 | 2 | 12 | U |
| ylbenzen | 10 | 2 | 12 | U |
| r n | 10 | 2 | 12 | U |
| ene (total) | 10 | 2 | 12 | U |

UTION FACTOR:
SOLIDS

1
83

SE NO CTO143

IMIC CORPORATION

L SOIL SEMI-VOLATILE ORGANICS (ug/kg)

ATION ID.
BORATORY ID:

SOTF4B373234
940996-17

SOTF4B373436
940996-18

SOTF4B37DUP
940996-19

SOTF4B382628
940996-20

SOTF4B463032
940996-09



FIELD DUPLICATE PAIR

| ALYTE | CRQL | MDL/IDL | SOTF4B373234 940996-17 | SOTF4B373436 940996-18 | SOTF4B37DUP 940996-19 | SOTF4B382628 940996-20 | SOTF4B463032 940996-09 |
|---------------------------|------|---------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| 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 |
| IENTROFURAN | 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 |
| ETHYL PHTHALATE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| CHLOROPHENYL-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 |
| BROMOPHENYL-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 |
| IENTANTHRENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| ITHRACENE | 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 |
| URBAZOLE | 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 |
| ITYLBENZYLPHTHALATE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1'-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 |
| IRYSENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 3(2-ETHYLHEXYL)PHTHALATE | 300 | 30 | 66 J | 380 UJ | 39 J | 74 J | 41 J |
| 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 |
| UTION FACTOR: SOLIDS | | | 1 88 | 1 86 | 1 87 | 1 87 | 1 89 |

ASE NO CTO143

EIMIC CORPORATION

CL SOIL SEMI-VOLATILE ORGANICS (ug/kg)

STATION ID:
LABORATORY ID:

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SOTF4B373234 SOTF4B373436 SOTF4B37DUP SOTF4B382628 SOTF4B463032
 940996-17 940996-18 940996-19 940996-20 940996-09

FIELD DUPLICATE PAIR

| ANALYTE | CRQL | MDL/DL | SOTF4B373234 940996-17 | SOTF4B373436 940996-18 | SOTF4B37DUP 940996-19 | SOTF4B382628 940996-20 | SOTF4B463032 940996-09 |
|------------------------------|------|--------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| PHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| BIS(2-CHLOROETHYL)ETHER | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2-CHLOROPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1,3-DICHLOROBENZENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1,4-DICHLOROBENZENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1,2-DICHLOROBENZENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2-METHYLPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1-METHYLPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 4-NITROSO-DI-n-PROPYLAMINE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| HEXACHLOROETHANE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| NITROBENZENE | 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 |
| 2-NITROPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2,4-DIMETHYLPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| BIS(2-CHLOROETHOXY)METHANE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2,4-DICHLOROPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1,2,4-TRICHLOROBENZENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1-NAPHTHALENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1-CHLOROANILINE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| HEXACHLOROBUTADIENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1-CHLORO-3-METHYLPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2-METHYLNAPHTHALENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| HEXACHLOROCYCLOPENTADIENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2,4,6-TRICHLOROPHENOL | 800 | 80 | 890 U | 920 U | 910 U | 910 U | 890 U |
| 2,4,5-TRICHLOROPHENOL | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2-CHLORONAPHTHALENE | 800 | 80 | 890 U | 920 U | 910 U | 910 U | 890 U |
| 2-NITROANILINE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2-METHYLPHTHALATE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 1-CENAPHTHYLENE | 300 | 30 | 370 U | 380 U | 380 U | 380 U | 370 U |
| 2,6-DINITROTOLUENE | 800 | 80 | 890 U | 920 U | 910 U | 910 U | 890 U |
| 3-NITROANILINE | | | | | | | |

ASE NO CTO143

EIMIC CORPORATION

CL SOIL SEMI-VOLATILE ORGANICS (ug/kg)

TATION ID:
LABORATORY ID:

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SOTF4B463840
940996-10

| NALYTE | CRQL | MDL/IDL | | |
|-----------------------------|------|---------|-----|---|
| HENOL | 300 | 30 | 380 | U |
| IS(2-CHLOROETHYL)ETHER | 300 | 30 | 380 | U |
| CHLOROPHENOL | 300 | 30 | 380 | U |
| .3-DICHLOROBENZENE | 300 | 30 | 380 | U |
| .4-DICHLOROBENZENE | 300 | 30 | 380 | U |
| .2-DICHLOROBENZENE | 300 | 30 | 380 | U |
| .METHYLPHENOL | 300 | 30 | 380 | U |
| .2'-OXYBIS(1-CHLOROPROPANE) | 300 | 30 | 380 | U |
| .METHYLPHENOL | 300 | 30 | 380 | U |
| I-NITROSO-DI-n-PROPYLAMINE | 300 | 30 | 380 | U |
| IEXACHLOROETHANE | 300 | 30 | 380 | U |
| IITROBENZENE | 300 | 30 | 380 | U |
| OPHORONE | 300 | 30 | 380 | U |
| .NITROPHENOL | 300 | 30 | 380 | U |
| .4-DIMETHYLPHENOL | 300 | 30 | 380 | U |
| .IS(2-CHLOROETHOXY)METHANE | 300 | 30 | 380 | U |
| .4-DICHLOROPHENOL | 300 | 30 | 380 | U |
| .2,4-TRICHLOROBENZENE | 300 | 30 | 380 | U |
| IAPHTHALENE | 300 | 30 | 380 | U |
| .CHLOROANILINE | 300 | 30 | 380 | U |
| IEXACHLOROBUTADIENE | 300 | 30 | 380 | U |
| .CHLORO-3-METHYLPHENOL | 300 | 30 | 380 | U |
| .METHYLNAPHTHALENE | 300 | 30 | 380 | U |
| IEXACHLOROCYCLOPENTADIENE | 300 | 30 | 380 | U |
| .4,6-TRICHLOROPHENOL | 800 | 80 | 920 | U |
| .4,5-TRICHLOROPHENOL | 300 | 30 | 380 | U |
| .CHLORONAPHTHALENE | 800 | 80 | 920 | U |
| .NITROANILINE | 300 | 30 | 380 | U |
| IMETHYLPHTHALATE | 300 | 30 | 380 | U |
| .CENAPHTHYLENE | 300 | 30 | 380 | U |
| .6-DINITROTOLUENE | 800 | 80 | 920 | U |
| .NITROANILINE | | | | |

SE NO. CTO143

IMIC CORPORATION

L SOIL SEMI-VOLATILE ORGANICS (ug/kg)

ATION ID:
BORATORY ID:

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SOTF4B463840
940996-10

| ANALYTE | CRQL | MDL/DL | | |
|--------------------------------|------|--------|-----|---|
| 1-NAPHTHENE | 300 | 30 | 380 | U |
| 1-DINITROPHENOL | 800 | 80 | 920 | U |
| 4-NITROPHENOL | 800 | 80 | 920 | U |
| 2-BENZOFURAN | 300 | 30 | 380 | U |
| 1-DINITROTOLUENE | 300 | 30 | 380 | U |
| ETHYL PHTHALATE | 300 | 30 | 380 | U |
| 2-CHLOROPHENYL-PHENYL ETHER | 300 | 30 | 380 | U |
| 1,4-DIOXINE | 300 | 30 | 380 | U |
| 4-NITROANILINE | 800 | 80 | 920 | U |
| 3,5-DINITRO-2-METHYLPHENOL | 800 | 80 | 920 | U |
| DIMETHYLNITROSODIPHENYLAMINE | 300 | 30 | 380 | U |
| 2-BROMOPHENYL-PHENYL ETHER | 300 | 30 | 380 | U |
| 1,2-DICHLOROBENZENE | 300 | 30 | 380 | U |
| 2,4-DICHLOROPHENOL | 800 | 80 | 920 | U |
| 1-METHYLNAPHTHRENE | 300 | 30 | 380 | U |
| 1-METHYLTHIRACENE | 300 | 30 | 380 | U |
| n-BUTYLPHTHALATE | 300 | 30 | 380 | U |
| 1-METHYLNAPHTHRENE | 300 | 30 | 380 | U |
| 1-METHYLBENZAZOLE | 300 | 30 | 380 | U |
| 1-METHYLNAPHTHRENE | 300 | 30 | 380 | U |
| 1-METHYLBENZYLPHTHALATE | 300 | 30 | 380 | U |
| 1,3-DICHLOROBENZIDINE | 300 | 30 | 380 | U |
| 1-BENZO(a)ANTHRACENE | 300 | 30 | 380 | U |
| 1-BENZYNYRYSENE | 300 | 30 | 44 | J |
| 1-BENZO(2-ETHYLHEXYL)PHTHALATE | 300 | 30 | 380 | U |
| 1-BENZO(n-OCTYL)PHTHALATE | 300 | 30 | 380 | U |
| 1-BENZO(b)FLUORANTHENE | 300 | 30 | 380 | U |
| 1-BENZO(k)FLUORANTHENE | 300 | 30 | 380 | U |
| 1-BENZO(a)PYRENE | 300 | 30 | 380 | U |
| 1-DENO(1,2,3-cd)PYRENE | 300 | 30 | 380 | U |
| 1-BENZO(a,h)ANTHRACENE | 300 | 30 | 380 | U |
| 1-BENZO(g,h,i)PERYLENE | 300 | 30 | 380 | U |

DILUTION FACTOR.
SOLIDS

1
86

ASE NO CTO143

HEIMIC CORPORATION
OTAL
CRA SOIL METALS (mg/Kg)

STATION ID:
LABORATORY ID:

SOTF4B373234
940996-17

SOTF4B373436
940996-18

SOTF4B37DUP
940996-19

SOTF4B382628
940996-20

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SOTF4B463032
940996-09

↓
SOTF4B463840
940996-10

| ANALYTE | CRDL | IDL | SOTF4B373234 940996-17 | SOTF4B373436 940996-18 | SOTF4B37DUP 940996-19 | SOTF4B382628 940996-20 | SOTF4B463032 940996-09 | SOTF4B463840 940996-10 |
|----------|------|------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|
| ARSENIC | 1 | 0.2 | 12.2 | 12.3 | 12.9 | 12.2 | 10.5 | 10.8 |
| BARIUM | 20 | 0.1 | 15.6 | 7.9 | 10.3 | 12.1 | 2.8 U | 16.1 |
| CADMIUM | 0.5 | 0.3 | 2.6 | 2.6 | 2.7 | 2.5 | 2.3 | 3.2 |
| CHROMIUM | 1 | 0.5 | 14.1 | 14.1 | 15.0 | 13.7 | 13.6 | 15.9 |
| LEAD | 0.3 | 0.1 | 13.2 | 9.5 | 13.3 | 10.5 | 7.6 | 7.1 |
| MERCURY | 0.1 | 0.05 | 0.09 UJ | 0.08 UJ | 0.08 UJ | 0.09 UJ | 0.05 U | 0.05 U |
| SELENIUM | 0.5 | 0.2 | 0.16 U | 0.15 U | 0.18 U | 0.16 U | 0.21 U | 0.21 U |
| SILVER | 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 |

CEIMIC CORPORATION
TOTAL
RCRA AQUEOUS METALS (ug/L)

STATION ID
LABORATORY ID:

| | | | | | |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| GW-TF4-DUP1 | GW-TF4-MW119 | GW-TF4-MW120 | GW-TF4-MW121 | GW-TF4-MW122 | GW-TF4-MW123 |
| 941038-08 | 941038-09 | 941038-01 | 941038-02 | 941038-10 | 941038-11 |
| FIELD DUPLICATE PAIR | | | | | |

| ANALYTE | CRDL | IDL | GW-TF4-DUP1 | GW-TF4-MW119 | GW-TF4-MW120 | GW-TF4-MW121 | GW-TF4-MW122 | GW-TF4-MW123 |
|----------|------|-----|-------------|--------------|--------------|--------------|--------------|--------------|
| ARSENIC | 10 | 2 | 59 U | 75 U | 24 UJ | 126 | 656 | 330 |
| BARIUM | 200 | 1 | 164 U | 20.8 U | 11.3 U | 514 | 1530 | 379 U |
| CADMIUM | 5 | 3 | 30 U | 30 U | 30 U | 30 U | 30 U | 30 U |
| CHROMIUM | 10 | 5 | 50 U | 50 U | 50 U | 52 | 496 | 258 |
| LEAD | 3 | 1 | 29 U | 5.2 U | 10 U | 118 | 722 | 160 |
| MERCURY | 0.2 | 0.1 | 0.13 UJ | 0.42 J | 0.13 UJ | 0.14 UJ | 0.52 J | 0.13 UJ |
| SELENIUM | 5 | 2 | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U |
| SILVER | 10 | 4 | 40 U | 4.0 U | 40 U | 40 U | 290 | 40 U |

TCL AQUEOUS SEMI-VOLATILE ORGANICS (ug/L)

STATION ID:
LABORATORY ID.

| | | | | |
|----------------------|--------------|--------------|--------------|--------------|
| GW-TF4-DUP1 | GW-TF4-MW119 | GW-TF4-MW120 | GW-TF4-MW121 | GW-TF4-MW122 |
| 941038-08 | 941038-09 | 941038-01 | 941038-02 | 941038-10 |
| FIELD DUPLICATE PAIR | | | | |

| ANALYTE | CRQL | MDL/IDL | | | | | | | | | | |
|------------------------------|------|---------|----|---|----|---|----|---|----|---|-----|---|
| PHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BIS(2-CHLOROETHYL)ETHER | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2-CHLOROPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 1,3-DICHLOROBENZENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 1,4-DICHLOROBENZENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 1,2-DICHLOROBENZENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2-METHYLPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 4-METHYLPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| N-NITROSO-DI-n-PROPYLAMINE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| HEXACHLOROETHANE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| NITROBENZENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| ISOPHORONE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2-NITROPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2,4-DIMETHYLPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BIS(2-CHLOROETHOXY)METHANE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2,4-DICHLOROPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 1,2,4-TRICHLOROBENZENE | 10 | 1 | 1 | J | 1 | J | 10 | U | 10 | U | 100 | U |
| NAPHTHALENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 4-CHLOROANILINE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| HEXACHLOROBUTADIENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 4-CHLORO-3-METHYLPHENOL | 10 | 1 | 7 | J | 7 | J | 10 | U | 10 | U | 100 | U |
| 2-METHYLNAPHTHALENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| HEXACHLOROCYCLOPENTADIENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2,4,6-TRICHLOROPHENOL | 25 | 25 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| 2,4,5-TRICHLOROPHENOL | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2-CHLORONAPHTHALENE | 25 | 25 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| 2-NITROANILINE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| DIMETHYLPHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| ACENAPHTHYLENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 2,6-DINITROTOLUENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 3-NITROANILINE | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |

CEIMIC CORPORATION

TCL AQUEOUS SEMI-VOLATILE ORGANICS (ug/L)

STATION ID:
LABORATORY ID:

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| | | | | |
|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| GW-TF4-DUP1 941038-08 | GW-TF4-MW119 941038-09 | GW-TF4-MW120 941038-01 | GW-TF4-MW121 941038-02 | GW-TF4-MW122 941038-10 |
| FIELD DUPLICATE PAIR | | | | |

| ANALYTE | CRQL | MDL/IDL | | | | | | | | | | |
|-----------------------------|------|---------|----|---|----|----|----|---|----|---|-----|---|
| ACENAPHTHENE | 10 | 1 | 1 | J | 1 | J | 10 | U | 10 | U | 100 | U |
| 2,4-DINITROPHENOL | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| 4-NITROPHENOL | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| DIBENZOFURAN | 10 | 1 | 1 | J | 1 | J | 10 | U | 10 | U | 100 | U |
| 2,4-DINITROTOLUENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| DIETHYL PHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 4-CHLOROPHENYL-PHENYL ETHER | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| FLUORENE | 10 | 1 | 2 | J | 2 | J | 10 | U | 10 | U | 18 | J |
| 4-NITROANILINE | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| 4,6-DINITRO-2-METHYLPHENOL | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| N-NITROSODIPHENYLAMINE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 4-BROMOPHENYL-PHENYL ETHER | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| HEXACHLOROBENZENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| PENTACHLOROPHENOL | 25 | 2.5 | 25 | U | 25 | U | 25 | U | 25 | U | 250 | U |
| PHENANTHRENE | 10 | 1 | 3 | J | 3 | J | 10 | U | 10 | U | 15 | J |
| ANTHRACENE | 10 | 1 | 1 | J | 10 | UJ | 10 | U | 10 | U | 100 | U |
| DI-n-BUTYLPHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| FLUORANTHENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| CARBAZOLE | 10 | 1 | 2 | J | 2 | J | 10 | U | 10 | U | 15 | J |
| PYRENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BUTYLBENZYLPHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| 3,3'-DICHLOROBENZIDINE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BENZO(a)ANTHRACENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| CHRYSENE | 10 | 1 | 10 | U | 10 | UJ | 10 | U | 10 | U | 100 | U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| DI-n-OCTYLPHTHALATE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BENZO(b)FLUORANTHENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BENZO(k)FLUORANTHENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BENZO(a)PYRENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| INDENO(1,2,3-cd)PYRENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| DIBENZO(a,h)ANTHRACENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| BENZO(g,h,i)PERYLENE | 10 | 1 | 10 | U | 10 | U | 10 | U | 10 | U | 100 | U |
| DILUTION FACTOR: | | | 1 | | 1 | | 1 | | 1 | | 10 | |

CEIMIC CORPORATION

TCL AQUEOUS VOLATILE ORGANICS (ug/L)

STATION ID.
LABORATORY ID:

GWTF4DUP1 GWTF4MW119 GWTF4MW120 GWTF4MW121 GWTF4MW122
 941038-08 941038-09 941038-01 941038-02 941038-10

FIELD DUPLICATE PAIR

| ANALYTE | CRQL | MDL/IDL | GWTF4DUP1 | GWTF4MW119 | GWTF4MW120 | GWTF4MW121 | GWTF4MW122 |
|----------------------------|------|---------|-----------|------------|------------|------------|------------|
| Chlor methane | 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 | 14 U | 37 U |
| Acetone | 10 | 2 | 10 U | 10 U | 10 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-Dichloroethene (total) | 10 | 2 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chloroform | 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 |
| Bromodichloromethane | 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-Dichloropropene | 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-Trichloroethane | 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-Hexanone | 10 | 2 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Tetrachloroethene | 10 | 2 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,1,2,2-Tetrachloroethane | 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

**APPENDIX I
CHAIN-OF-CUSTODY FORMS**



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 | | | | | | INVOICE TO | | | | | | LAB REFERENCE | | | | | | |
|--|---------------------|---------------------|-----------------------|---------------|---------------------|---|--------|-----------------|-----------------------|----------|----------|---------------|--|--|--|--|--|--|
| COMPANY <u>Foster Wheeler</u> | | | PHONE <u>842-6940</u> | | | COMPANY <u>Foster Wheeler</u> | | | PHONE <u>842-6940</u> | | | | | | | | | |
| NAME <u>MARK GONZALEZ</u> | | | FAX <u>842-6970</u> | | | NAME | | | FAX <u>842-6970</u> | | | | | | | | | |
| ADDRESS <u>P.O. Box 4749</u> | | | | | | ADDRESS <u>P.O. Box 4749</u> | | | | | | TURNAROUND | | | | | | |
| CITY/ST/ZIP <u>MIDDLETOWN RI 02842</u> | | | | | | CITY/ST/ZIP <u>MIDDLETOWN RI 02842</u> | | | | | | | | | | | | |
| CLIENT PROJECT NAME: | | CLIENT PROJECT #: | | CLIENT P.O.#: | | REQUESTED ANALYSES | | | | | | COMMENT | | | | | | |
| <u>TANK FARM # 4</u> | | <u>DI 13 F</u> | | <u>003195</u> | | <div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC's</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SVOC's</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PCMX & METALS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> </div> | | | | | | | | | | | | |
| SAMPLE IDENTIFICATION | DATE/TIME SAMPLED | COMPOSITE | GRAB | WATER | SOIL | OTHER | LAB ID | # OF CONTAINERS | | | | | | | | | | |
| <u>TP-TR 46</u> | <u>7/10/97 1130</u> | <u>X</u> | <u>X</u> | | <u>X</u> | | | <u>2</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | | | | | | |
| <u>TP-TR 45</u> | <u>7/10/97 1150</u> | <u>X</u> | <u>X</u> | | <u>X</u> | | | <u>2</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | <u>✓</u> | | | | | | |
| / | / | | | | | | | | | | | | | | | | | |
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| / | / | | | | | | | | | | | | | | | | | |
| / | / | | | | | | | | | | | | | | | | | |
| / | / | | | | | | | | | | | | | | | | | |
| / | / | | | | | | | | | | | | | | | | | |
| TSF# | RELINQUISHED BY | DATE/TIME | ACCEPTED BY | | DATE/TIME | ADDITIONAL REMARKS: | | | | | | COOL | | | | | | |
| 1st | <u>[Signature]</u> | <u>7/10/97 1600</u> | <u>[Signature]</u> | | <u>7-10-97 1600</u> | | | | | | | | | | | | | |
| 2nd | <u>021</u> | / | | | / | | | | | | | | | | | | | |
| 3rd | | / | | | / | | | | | | | | | | | | | |

APPENDIX J
TEST PIT ANALYTICAL RESULTS

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 #D1091

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,



Edward A. Lawler
Laboratory Operation Manager



Client: Foster Wheeler Environmental Corp.

Client Project: DO# 13F, Tank Farm #4

Lab Project: D1091

Date samples received: 7/11/97

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 11, 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 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

X001



Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK46
Lab ID: D1091-01
Analysis: Method 8270

Analysis Date: 7/16/97
Matrix: Soil, 90% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|------------------------------|----------------|-------------------------|
| Phenol | ND | 370 |
| bis(2-Chloroethyl)ether | ND | 370 |
| 2-Chlorophenol | ND | 370 |
| 1,3-Dichlorobenzene | ND | 370 |
| 1,4-Dichlorobenzene | ND | 370 |
| 1,2-Dichlorobenzene | ND | 370 |
| 2-Methylphenol | ND | 370 |
| 2,2'-oxybis(1-Chloropropane) | ND | 370 |
| 4-Methylphenol | ND | 370 |
| n-Nitroso-di-n-propylamine | ND | 370 |
| Hexachloroethane | ND | 370 |
| Nitrobenzene | ND | 370 |
| Isophorone | ND | 370 |
| 2-Nitrophenol | ND | 370 |
| 2,4-Dimethylphenol | ND | 370 |
| bis(2-Chloroethoxy)methane | ND | 370 |
| 2,4-Dichlorophenol | ND | 370 |
| 1,2,4-Trichlorobenzene | ND | 370 |
| Naphthalene | ND | 370 |
| 4-Chloroaniline | ND | 370 |
| Hexachlorobutadiene | ND | 370 |
| 4-Chloro-3-methylphenol | ND | 370 |
| 2-Methylnaphthalene | ND | 370 |
| Hexachlorocyclopentadiene | ND | 370 |
| 2,4,6-Trichlorophenol | ND | 370 |
| 2,4,5-Trichlorophenol | ND | 920 |
| 2-Chloronaphthalene | ND | 370 |
| 2-Nitroaniline | ND | 920 |
| Dimethylphthalate | ND | 370 |
| Acenaphthylene | ND | 370 |
| 2,6-Dinitrotoluene | ND | 370 |
| 3-Nitroaniline | ND | 920 |
| Acenaphthene | ND | 370 |
| 2,4-Dinitrophenol | ND | 920 |
| 4-Nitrophenol | ND | 920 |
| Dibenzofuran | ND | 370 |
| 2,4-Dinitrotoluene | ND | 370 |

003

Client ID: TP-TK46

Lab ID: D1091-01

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|----------------------------|----------------|-------------------------|
| Diethylphthalate | ND | 370 |
| Fluorene | ND | 370 |
| 4-Chlorophenyl-phenylether | ND | 370 |
| 4-Nitroaniline | ND | 920 |
| 4,6-Dinitro-2-methylphenol | ND | 920 |
| n-Nitrosodiphenylamine | ND | 370 |
| 4-Bromophenyl-phenylether | ND | 370 |
| Hexachlorobenzene | ND | 370 |
| Pentachlorophenol | ND | 920 |
| Phenanthrene | ND | 370 |
| Anthracene | ND | 370 |
| Di-n-butylphthalate | ND | 370 |
| Carbazole | ND | 370 |
| Fluoranthene | 51 J | 370 |
| Pyrene | ND | 370 |
| Butylbenzylphthalate | ND | 370 |
| Benzo(a)anthracene | ND | 370 |
| Chrysene | ND | 370 |
| 3,3'-Dichlorobenzidine | ND | 370 |
| bis(2-Ethylhexyl)phthalate | ND | 370 |
| Di-n-octylphthalate | ND | 370 |
| Benzo(b)fluoranthene | ND | 370 |
| Benzo(k)fluoranthene | ND | 370 |
| Benzo(a)pyrene | ND | 370 |
| Indeno(1,2,3-cd)pyrene | ND | 370 |
| Dibenz(a,h)anthracene | ND | 370 |
| Benzo(g,h,i)perylene | ND | 370 |

QC Batch: S0714-B1

Surrogate Recovery:

| | |
|------------------------|-----|
| 2-Fluorophenol | 49% |
| Phenol-d5 | 56% |
| 2-Chlorophenol-d4 | 56% |
| 2,4,6-Tribromophenol | 70% |
| 1,2-Dichlorobenzene-d4 | 50% |
| Nitrobenzene-d5 | 54% |
| 2-Fluorobiphenyl | 64% |
| p-Terphenyl-d14 | 55% |

ND = Not detected

004



Analysis Report: Volatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID: TP-TK46
Lab ID: D1091-01
Analysis: Method 8260

Analysis Date: 7/13/97
Matrix: Soil, 90% solids
Concentration in: ug/kg, dry weight basis
Dilution: 1

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|---------------------------|----------------|-------------------------|
| Dichlorodifluoromethane | ND | 6 |
| Chloromethane | ND | 6 |
| Vinyl chloride | ND | 6 |
| Bromomethane | ND | 6 |
| Chloroethane | ND | 6 |
| Trichlorofluoromethane | ND | 6 |
| 1,1-Dichloroethene | ND | 6 |
| Carbon disulfide | ND | 6 |
| Iodomethane | ND | 6 |
| Acetone | 6 | 6 |
| Methylene chloride | ND | 6 |
| trans-1,2-Dichloroethene | ND | 6 |
| 1,1-Dichloroethane | ND | 6 |
| Vinyl acetate | ND | 6 |
| 2,2-Dichloropropane | ND | 6 |
| cis-1,2-Dichloroethene | ND | 6 |
| Methyl ethyl ketone | ND | 6 |
| Bromochloromethane | ND | 6 |
| Chloroform | ND | 6 |
| 1,1,1-Trichloroethane | ND | 6 |
| Carbon tetrachloride | ND | 6 |
| 1,1-Dichloropropene | ND | 6 |
| Benzene | ND | 6 |
| 1,2-Dichloroethane | ND | 6 |
| Trichloroethene | ND | 6 |
| 1,2-Dichloropropane | ND | 6 |
| Dibromomethane | ND | 6 |
| Bromodichloromethane | ND | 6 |
| 2-Chloroethyl vinyl ether | ND | 6 |
| cis-1,3-Dichloropropene | ND | 6 |
| 4-Methyl-2-pentanone | ND | 6 |
| Toluene | ND | 6 |

010



Client ID: TP-TK46

Lab ID: D1091-01

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|-----------------------------|----------------|-------------------------|
| trans-1,3-Dichloropropene | ND | 6 |
| 1,1,2-Trichloroethane | ND | 6 |
| Tetrachloroethene | ND | 6 |
| 1,3-Dichloropropane | ND | 6 |
| 2-Hexanone | ND | 6 |
| Dibromochloromethane | ND | 6 |
| 1,2-Dibromoethane (EDB) | ND | 6 |
| Chlorobenzene | ND | 6 |
| 1,1,1,2-Tetrachloroethane | ND | 6 |
| Ethylbenzene | ND | 6 |
| Xylenes, total | ND | 6 |
| Styrene | ND | 6 |
| Bromoform | ND | 6 |
| Isopropylbenzene | ND | 6 |
| Bromobenzene | ND | 6 |
| 1,1,2,2-Tetrachloroethane | ND | 6 |
| 1,2,3-Trichloropropane | ND | 6 |
| n-Propylbenzene | ND | 6 |
| 2-Chlorotoluene | ND | 6 |
| 4-Chlorotoluene | ND | 6 |
| 1,3,5-Trimethylbenzene | ND | 6 |
| tert-Butylbenzene | ND | 6 |
| 1,2,4-Trimethylbenzene | ND | 6 |
| sec-Butylbenzene | ND | 6 |
| 1,3-Dichlorobenzene | ND | 6 |
| 4-Isopropyltoluene | ND | 6 |
| 1,4-Dichlorobenzene | ND | 6 |
| 1,2-Dichlorobenzene | ND | 6 |
| n-Butylbenzene | ND | 6 |
| 1,2-Dibromo-3-chloropropane | ND | 6 |
| 1,2,4-Trichlorobenzene | ND | 6 |
| Hexachlorobutadiene | ND | 6 |
| 1,2,3-Trichlorobenzene | ND | 6 |
| MTBE | ND | 6 |
| Naphthalene | ND | 6 |
| Surrogate Recovery: | | QC Batch: V1B0713A |
| 1,2-Dichloroethane-d4 | 98% | |
| Toluene-d8 | 98% | |
| Bromofluorobenzene | 96% | |

ND = Not detected

011



Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.

Client ID: TP-TK46

Lab ID: D1091-01

Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil, 90% Solids

Concentration in: mg/kg, dry weight basis

Analysis Date: 7/15/97

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limit</u> |
|----------------|----------------|------------------------|
| Arsenic | 8 | 1 |
| Barium | 25 | 1 |
| Cadmium | 0.7 | 0.1 |
| Chromium | 12 | 1 |
| Lead | 12 | 3 |
| Mercury | ND | 0.3 |
| Selenium | ND | 2 |
| Silver | ND | 2 |

QC Batch: 0711PBS

ND = Not detected



Analysis Report: Semivolatile Organic Compounds

Client: Foster Wheeler Environmental Corp.
Client ID:
Lab ID: Method Blank, S0714-B1
Analysis: Method 8270

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

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|------------------------------|----------------|-------------------------|
| 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 |

007



Client ID:

Lab ID: Method Blank, S0714-B1

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|----------------------------|----------------|-------------------------|
| 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:S0714-B1

Surrogate Recovery:

| | |
|------------------------|-----|
| 2-Fluorophenol | 60% |
| Phenol-d5 | 64% |
| 2-Chlorophenol-d4 | 68% |
| 2,4,6-Tribromophenol | 84% |
| 1,2-Dichlorobenzene-d4 | 65% |
| Nitrobenzene-d5 | 59% |
| 2-Fluorobiphenyl | 76% |
| p-Terphenyl-d14 | 82% |

ND = Not detected

008



Analysis Report: Semivolatile Organic Compounds

Lab Control Summary

Client: Foster Wheeler Environmental Corp.
Lab ID for Blank Spike: S0714-L1
Analysis: Method 8270

Matrix: Solid

Analysis Date for Blank Spike: 7/15/97

| <u>Analyte</u> | <u>% Recovery</u> |
|----------------------------|-------------------|
| Phenol | 56 |
| 2-Chlorophenol | 60 |
| 1,4-Dichlorobenzene | 52 |
| n-Nitroso-di-n-propylamine | 48 |
| 1,2,4-Trichlorobenzene | 65 |
| 4-Chloro-3-methylphenol | 72 |
| Acenaphthene | 65 |
| 4-Nitrophenol | 76 |
| 2,4-Dinitrotoluene | 88 |
| Pentachlorophenol | 80 |
| Pyrene | 71 |

QC Batch: S0714-B1

009



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

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limits</u> |
|---------------------------|----------------|-------------------------|
| Dichlorodifluoromethane | ND | 6 |
| Chloromethane | ND | 6 |
| Vinyl chloride | ND | 6 |
| Bromomethane | ND | 6 |
| Chloroethane | ND | 6 |
| Trichlorofluoromethane | ND | 6 |
| 1,1-Dichloroethene | ND | 6 |
| Carbon disulfide | ND | 6 |
| Iodomethane | ND | 6 |
| Acetone | ND | 6 |
| Methylene chloride | ND | 6 |
| trans-1,2-Dichloroethene | ND | 6 |
| 1,1-Dichloroethane | ND | 6 |
| Vinyl acetate | ND | 6 |
| 2,2-Dichloropropane | ND | 6 |
| cis-1,2-Dichloroethene | ND | 6 |
| Methyl ethyl ketone | ND | 6 |
| Bromochloromethane | ND | 6 |
| Chloroform | ND | 6 |
| 1,1,1-Trichloroethane | ND | 6 |
| Carbon tetrachloride | ND | 6 |
| 1,1-Dichloropropene | ND | 6 |
| Benzene | ND | 6 |
| 1,2-Dichloroethane | ND | 6 |
| Trichloroethene | ND | 6 |
| 1,2-Dichloropropane | ND | 6 |
| Dibromomethane | ND | 6 |
| Bromodichloromethane | ND | 6 |
| 2-Chloroethyl vinyl ether | ND | 6 |
| cis-1,3-Dichloropropene | ND | 6 |
| 4-Methyl-2-pentanone | ND | 6 |
| Toluene | ND | 6 |

014

Client ID:

Lab ID: Method Blank, V1B0713A

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

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

98%
 99%
 99%

QC Batch: V1B0713A

ND = Not detected

015

Analysis Report: Total Metals

Client: Foster Wheeler Environmental Corp.

Client ID:

Lab ID: Prep Blank, 0711PBS

Analysis Method: 7471A (Mercury)
6010A (Others)

Matrix: Soil

Concentration in: mg/kg, dry weight basis

Analysis Date: 7/15/97

| <u>Analyte</u> | <u>Results</u> | <u>Reporting Limit</u> |
|----------------|----------------|------------------------|
| Arsenic | ND | 1 |
| Barium | ND | 1 |
| Cadmium | ND | 0.1 |
| Chromium | ND | 1 |
| Lead | ND | 3 |
| Mercury | ND | 0.3 |
| Selenium | ND | 2 |
| Silver | ND | 2 |

QC Batch: 0711PBS

ND = Not detected

Analysis R port: Total Metals

Client: Foster Wheeler Environmental Corp.

Client ID:

Matrix: Soil

Lab ID: Lab control Sample, 0711LCSS

Analysis Method: 7471A (Mercury)

Analysis Date: 7/15/97

6010A (Others)

| <u>Analyte</u> | <u>% Recovery</u> |
|----------------|-------------------|
| Arsenic | 85 |
| Barium | 91 |
| Cadmium | 89 |
| Chromium | 94 |
| Lead | 83 |
| Mercury | 76 |
| Selenium | 78 |
| Silver | 98 |

QC Batch: 0711PBS

MITKEM CORPORATION

Lab Project #: D1091 RM
 Client Name: Foster Wheeler
 Client Proj #: DO# 13F
 Client PO #: 003195
 Project Name: Tank Farm #4
 Date Due: 7-11-97
 Total Price: \$ -
 Project Mgr: EL
 Salesman: PAS
 Del Req'd: NA
 Completed?: YES

Logged In By: MM
 Reviewed By: [Signature]

Date: 7-11-97 Time: 12:10

| Lab ID | Client ID | Matrix | Analysis | Price | Sampled | Received | TPH | IR | BNA | Herb | P/P | Wet | Met | V-GC | V-MS |
|--------|-----------|--------|---|-------|---------|----------|------------|-----------|------------|-------------|------------|------------|------------|-------------|-------------|
| -01 | TP-TK46 | SL | Total Metals ROR AS VOCs 8260 + EDB SVOCs 8270 TPH 418.1 | | 7/10/97 | 7/11/97 | | | | 1 | | | 1 | | 1 |
| -02 | TP-TK45 | SL | Total Metals ROR AS VOCs 8260 + EDB SVOCs 8270 TPH 418.1 | | 7/10/97 | 7/11/97 | | | | 1 | | | 1 | | 1 |
| | | | | | | | <u>TPH</u> | <u>IR</u> | <u>BNA</u> | <u>Herb</u> | <u>P/P</u> | <u>Wet</u> | <u>Met</u> | <u>V-GC</u> | <u>V-MS</u> |
| | | | | | | | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 2 |

NOTES: Re: Date change, TPH values changed to Total Metals

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:

020

MITKEM CORPORATION

Sample Condition Form

| | | | |
|---|---|--------------------------------|----------------|
| Received By: <u>MP</u> | Date: <u>7/10/97</u> | MITKEM Project #: <u>D1091</u> | |
| Client Project Description/Number: <u>Tank Farm #4</u> | | Client: <u>Foster Wheeler</u> | |
| <p>Condition:</p> <p>1) Custody Seal(s) Present/Absent Intact/Broken</p> <p>2) Custody Seal Number(s) <u>NA</u></p> <p>3) Chain-of-Custody Record(s) <u>Present</u>/Absent</p> <p>4) Cooler Temperature <u>4°C</u> Coolant Condition <u>Good</u></p> <p>5) Airbill(s) Present/Absent Airbill Number(s) _____</p> <p>6) Sample Bottles <u>Intact</u> Broken Leaking</p> <p>7) Date Received <u>7/10/97</u></p> <p>8) Time Received <u>17:00</u></p> <p>9) Project Due Date _____</p> | <p>Lab ID</p> <p><u>01</u></p> <p><u>02</u></p> | <p>Client ID</p> | <p>Remarks</p> |
| | | | 022 |

Last Page of Data Report

| TANK NO. 46 | | | |
|---------------------------------|--------------------|---|--|
| SUBSTANCE | RESIDENTIAL | GA | FIELD ANALYTICAL |
| | (mg/kg) | Leachability | DETECTIONS |
| | | (mg/kg except as other wise noted) | (mg/kg except as otherwise noted) |
| <u>VOLATILE ORGANICS</u> | | | |
| Acetone | 7,800 | | 6(PPB) |
| 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 | |
| Dichloroethylene (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 dibromide (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 | | |
| <u>SEMIVOLATILES</u> | | | |
| 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-chloroisopropyl)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 | | |
| Diethyl 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 | | 51(PPB) |
| 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 | | |
| Trichlorophenol, 2,4,5- | 330 | 140 | |
| Trichlorophenol, 2,4,6- | 58 | | |
| PESTICIDES/PCBs | | | |
| Chlorodane | 0.5 | | |
| Dieldrin | 0.04 | 1.4 | |
| Polychlorinated biphenyls (PCBs) | 10 | | |
| INORGANICS | | 10 | |
| Antimony | 10 | | |
| Arsenic | 1.7 | 0.05 | 8 |
| Barium | 5,500 | | 25 |
| Beryllium | 0.40 | 23 | |
| Cadmium | 39 | 0.03 | 0.7 |

| | | | |
|--------------------------|-------|-------|----|
| Chromium | | 0.03 | 12 |
| Chromium III (Trivalent) | 1,400 | 1.1 | |
| Chromium VI (Hexavalent) | 390 | | |
| Copper | 3,100 | | |
| Cyanide | 200 | | |
| Lead | 150 | 2.4 | 12 |
| Manganese | 390 | 0.04 | |
| 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 K
BLAST REPORT**



INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

BLAST REPORT

DATE: 11/4/97 BLAST TIME: 14:32

CUSTOMER: Foster Wheeler JOB # _____
PROJECT LOCATION: Tank Farm #4 - 4000 Defense Hwy Portsmouth Rd
SPECIFIC BLAST LOCATION: Tank # 46
BLASTER: James McAlinden BLASTERS LIC # 37-36
TYPE OF PROJECT: Tank Demolition
TYPE OF MATERIAL BLASTED: Concrete
WEATHER INFO: SKY Clear TEMP 50 WIND SP & DIR None

DRILL HOLE INFO: HOLE SIZE: 1 3/8 NO. HOLES 360 NO. ROWS 6
DEPTH RANGE: 15" TO 16"
SUB DRILL 0 FT. BURDEN 1 FT. SPACING 1.5 FT.

DISTANCE TO NEAREST STRUCTURE: 280 FT.

EXPLOSIVE INFO: TOTAL OF EXPLOSIVES USED 347.5 LBS.
BRAND AND TYPE ICI Powerditch 1000

MIN. LBS/HOLE 1 MAX. LBS/HOLE 1
MAX. LBS/DELAY 22 DECK SOLID STEM MIN 4"

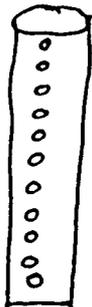
INITIATION: BRAND/TYPE ICF Mastshot NO. CAPS USED 356
NO. DELAY USED 16 DELAY INTERVALS 25ms
TOTAL TIME FOR INITIATION 400ms

PRIMACORD: NO. OF FT. 199' SHOT LINE 0 FT.
CONTROL: QUANTITY DISTANCE DS. _____ SEISMIC ✓ FT.

MATS USED? No Backfill
Stay current - None

SHOT PLAN: (SHOW DIRECTION)

CROSS SECTION



JACK
NEED INFO
IN RED
ROGEM
11/5/97



INDUSTRIAL-EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

BLAST REPORT

DATE: 11/4/97 BLAST TIME: 14:32

CUSTOMER: Foster Wheeler JOB # 9800-005
PROJECT LOCATION: Tank Farm #4 - 4000 Defense Hwy Portonoch Rd
SPECIFIC BLAST LOCATION: Tank # 46
BLASTER: James McAlinden BLASTERS LIC # 37-36
TYPE OF PROJECT: Tank Demolition
TYPE OF MATERIAL BLASTED: Concrete
WEATHER INFO: SKY Clear TEMP 50 WIND SP & DIR None

DRILL HOLE INFO: HOLE SIZE: 1 3/8 NO. HOLES 360 NO. ROWS 6
DEPTH RANGE: 15" TO 16"
SUB DRILL 0 FT. BURDEN 1 FT. SPACING 1.5 FT.

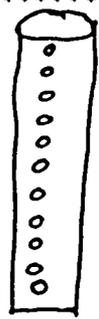
DISTANCE TO NEAREST STRUCTURE: 280 FT.

EXPLOSIVE INFO: TOTAL OF EXPLOSIVES USED 347.5 LBS.
BRAND AND TYPE ICI Powerditch 1000
MIN. LBS/HOLE 1 MAX. LBS/HOLE 1
MAX. LBS/DELAY 22 DECK SOLID / STEM MIN 4"

INITIATION: BRAND/TYPE ICF Mastshot NO. CAPS USED 356
NO. DELAY USED 16 DELAY INTERVALS 25ms
TOTAL TIME FOR INITIATION 400ms

PRIMACORD: NO. OF FT. 199' SHOT LINE 0 FT.
CONTROL: QUANTITY DISTANCE DS. SEISMIC ✓ FT.
MATS USED? No Backfill
Stray Current - None

SHOT PLAN: (SHOW DIRECTION) CROSS SECTION



COPY
COPY

EXPLOSIVE LOAD LIST NORTHAMERICAN INDUSTRIAL SERVICES

DATE 11/4/97

LOCATION RI - Foster Wheeler JOB# 97-04-005

Power Ditch 1000 EXPLOSIVES

| TYPE | LOT NUMBER | QTY OUT | QTY IN | QTY USED |
|------------------|-----------------|-----------------|--------------------|---------------------|
| <u>1 1/4 x 8</u> | <u>010097J1</u> | <u>385 LBS.</u> | <u>57 1/2 LBS.</u> | <u>327 1/2 LBS.</u> |
| <u>25 GR</u> | <u>3100T96</u> | <u>3,352 FT</u> | <u>3,153 FT</u> | <u>199 FT</u> |
| | | | | |
| | | | | |

DETCORD

16' Masterdet DETONATORS

| TYPE | LOT NUMBER | QTY OUT | QTY IN | QTY USED |
|--------------|------------------|-----------|-----------|-----------|
| <u>INST.</u> | <u>06MY97</u> | <u>26</u> | <u>22</u> | <u>4</u> |
| <u>1</u> | <u>080097R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>2</u> | <u>030097R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>3</u> | <u>100097R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>4</u> | <u>09SE97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>5</u> | <u>16SE97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>6</u> | <u>09SE97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>7</u> | <u>030097R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>8</u> | <u>10SE97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>9</u> | <u>5AV97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>10</u> | <u>070097R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>11</u> | <u>0100T97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>12</u> | <u>15SE97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>13</u> | <u>25MA97R2</u> | <u>50</u> | <u>28</u> | <u>22</u> |
| <u>14</u> | <u>130097R2</u> | <u>35</u> | <u>13</u> | <u>22</u> |
| <u>15</u> | <u>17MY97R2</u> | <u>35</u> | <u>28</u> | <u>22</u> |
| <u>16</u> | <u>NMA95R2</u> | <u>35</u> | <u>13</u> | <u>22</u> |
| <u>17</u> | | <u>35</u> | <u>13</u> | <u>22</u> |
| <u>18</u> | | | | |
| <u>19</u> | | | | |
| <u>20</u> | | | | |
| | | | | |
| | | | | |



INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

N.A.I.S.

Shipping Papers

Date 11/3/97

Drivers Name _____

Drivers Signature _____

Destination: NAIS
1240 SARATOGA RD
BALISTON SPA NY.

From: R.I. TANK FARM
POSTSOUTH R.I.

Route to job site :

THE MOST SAFE DIRECT ROUTE

| No. of boxes | HM | Description of articles and exceptions | Hazard Class | I.D. Number | Group Packing | Weight | Class or Rate | Labels Required (or exemption) | C cc |
|--------------|----|--|--------------|-------------|---------------|-----------|---------------|--------------------------------|------|
| 7 | ✓ | DYNAMITE 40% | ✓ | 0143 | I | 37 1/2 lb | "A" | YES | ✓ |
| 17 | ✓ | ELECTRIC CAPS | ✓ | 0255 | II | .5 | "A" | YES | ✓ |
| 1 | ✓ | DETCORD 25GR | ✓ | 0289 | (1) | 10.5 lb | "A" | YES | ✓ |
| 1 | ✓ | ELECTRIC CAPS | ✓ | 0255 | II | .5 | "A" | YES | ✓ |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

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 Gary Hanks Placards Required YES Placards supplied YES / NO

Drivers Signature _____

EMERGENCY RESPONSE TELEPHONE NUMBER: (800) 424-9300



INDUSTRIAL EXPLOSIVES • WATER BLASTING • VACUUM TRUCK SERVICES

N.A.I.S.
Shipping Papers

JACK
NEED INFO
IN RED
11/5/97

Date 11/3/97

Drivers Name Job Stazewski

Drivers Signature _____

Destination: NAIS
1240 SARATOGA RD
BALLSTON SPA NY.

From: R.I. TANK FARM
PASQUA R.I.

Route to job site :

THE MOST SAFE DIRECT ROUTE

| No. of boxes | HM | Description of articles and exceptions | Hazard Class | I.D. Number | Group Packing | Weight | Class or Rate | Labels Required (or exemption) | Ch coi |
|--------------|----|--|--------------|-------------|---------------|------------|---------------|--------------------------------|--------|
| 7 | ✓ | DYNAMITE 40% | ✓ | 0143 | I | 37 1/2 lbs | "A" | YES | ✓ |
| 17 | ✓ | ELECTRIC CAPS | ✓ | 0255 | II | .5 | "A" | YES | ✓ |
| 1 | ✓ | DETCORDS 25GR | ✓ | 0289 | II | 10.5 lbs | "A" | YES | ✓ |
| 1 | ✓ | ELECTRIC CAPS | ✓ | 0055 | II | .5 | "A" | YES | ✓ |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

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 Gary Hoika Placards Required YES Placards supplied YES / NO

Drivers Signature Job Stazewski

EMERGENCY RESPONSE: TELEPHONE: NUMBER (800) 424-9300

COPY

COPY