

**PHASE II ENVIRONMENTAL
SITE INVESTIGATION**

**NEWPORT RAIL YARD
NEWPORT, VERMONT**

MARCH 1998

prepared for

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Environmental Affairs
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EXECUTIVE SUMMARY

Canadian Pacific Railway (CPR) owned and operated a 74-acre rail yard in Newport, Vermont from 1927 through 1996, when ownership of the yard was transferred to Northern Vermont Railroad (NVR). CPR used the yard for fueling locomotives, for the maintenance of locomotives and freight cars and for classification and assembly of freight trains along the Lyndonville Subdivision line between St. Johnsbury and the main Canadian line. NVR has continued similar operations at the yard and plans to do so in the future.

The rail yard is situated on the east shore of the South Bay of Lake Memphremagog, south of the City of Newport. The land near the yard is generally developed with low density residential dwellings. The Newport Water Department serves the yard and the nearby homes with public water. The Newport Sewer Department serves the residential dwellings in the area, although the buildings within the yard rely upon two on-site septic systems.

During 1997, CPR completed a review of corporate, state and local records related to the Newport rail yard. On the basis of this review, they identified 15 areas within the yard where petroleum or other chemicals were stored or handled. CPR retained Tewhey Associates to conduct a Phase II Environmental Site Investigation to gather data on soil, sediment and water quality at these locations. The field investigation involved geophysical surveys in two locations where buried metal objects were suspected, excavation of 29 test pits, installation of seven monitoring wells and collection of soil, sediment and water samples for laboratory analysis.

The site investigation shows that the rail yard is underlain by stratified lacustrine deposits consisting of fine sand and silty sand. The area beneath the central yard also contains three to five feet of granular cinder fill. Groundwater was encountered at a depth of less than five feet in the central portion of the yard, and was present in the lower few feet of the granular fill. Groundwater flow is toward the west with an estimated velocity of approximately 10 feet per year, although higher rates of flow are likely in the granular fill and in more permeable zones within the native soil.

Soil and groundwater samples were collected for field and laboratory chemical analysis including VOC, SVOC, TPH and RCRA metal analytes. The principal compounds detected were petroleum related. The petroleum-related VOC components with the highest concentrations were the less degradable trimethylbenzenes and naphthalene; BTEX compounds were only present in low concentrations. The VOC and other data indicate that petroleum compounds detected in soil and water at the Newport rail yard have been subjected to weathering and are not of recent origin.

After investigating the specific locations originally identified by CPR, many of the locations were grouped based on proximity and similarities in chemistry. The investigations found that four peripheral areas exhibited no evidence of impact from yard operations. Two other locations contained (a) a buried drum believed to have contained waste oil residues and (b) an old petroleum storage tank. There was evidence of localized petroleum impacts in both of these locations. The remaining areas were located in close proximity to each other in the central part of the yard. This central area has a history of intense use for fuel storage and for locomotive fueling and maintenance. Shallow soil beneath the central yard contained total petroleum hydrocarbons at concentrations ranging from 4,900 to 24,000 mg/kg.

Shallow groundwater in this area contained total petroleum hydrocarbons at concentrations between 20,000 and 39,000 ug/L. One of the monitoring wells, near the southwest corner of the Roundhouse, accumulated approximately 3 feet of weathered diesel product. Groundwater from upgradient and deep wells contained significantly lower petroleum concentrations between 190 and 650 ug/L.

Shallow groundwater beneath the central part of the yard discharges, in part, to two artificial lagoons created in an embayment of South Bay. Sediment within these lagoons contained petroleum residues and created a sheen on the water surface when disturbed. Water in the lagoons contained similar petroleum-related compounds as were detected in groundwater, at lower concentrations.

Stormwater from the Fuel Plant area currently discharges to South Bay via a permitted Dike Skimmer (VtDEC #3-1333). Sediments in South Bay near Dike Skimmer #1 contain petroleum residues in a limited area of a few hundred square feet. Prior to 1992, waste liquids from the floor drains in the Roundhouse were discharged to South Bay via a second drain system. The drains leading to Dike Skimmer #2 were sealed in 1992. Sediments in an area of approximately 5,000 square feet at this outfall contain petroleum residues which create a sheen on the lake when disturbed. In addition, these sediments contain chromium and lead which may be derived in part from past Roundhouse operations.

An assessment of potential receptors near the Newport rail yard identified South Bay as the primary receptor for groundwater and stormwater runoff from the yard. South Bay is a Class B water body, however, the VtDEC has recognized that it is impaired by other sources within the watershed, including discharges from the sewerage treatment plant, combine sewer overflows and agricultural runoff.

The VtDEC requires that separate-phase petroleum, found in the monitoring well near the Roundhouse, be delineated and recovered, if feasible. In addition to this, a meeting with the VtDEC is recommended to discuss the status of South Bay and to determine whether it is appropriate to remediate dissolved petroleum in groundwater and/or petroleum residuals in soil to protect this receptor.

1.0 INTRODUCTION

The Newport, Vermont rail yard has been an active rail facility along the eastern shore of the South Bay of Lake Memphremagog since the late 1800s. The yard was operated by Canadian Pacific Railway (CPR) from 1927 until 1996, when the yard was transferred to the Northern Vermont Railroad (NVR). During years when CPR operated the Newport yard, it was used for maintenance of engines and railcars and the transfer, classification and assembly of freight trains along the Lyndonville Subdivision, from St. Johnsbury to the main Canadian line.

As part of the transfer of site ownership, CPR assumed responsibility for the assessment and mitigation of environmental impacts which took place at the site during its period of ownership. CPR conducted a review of corporate, state and local environmental records pertaining to the Newport yard in the first part of 1997. Their review identified a number of specific areas within the yard where historical activities involved the use of petroleum or other potentially hazardous chemicals. In October 1997, CPR retained Tewhey Associates of South Portland, Maine to investigate the site to determine the nature and extent of rail yard-related chemicals in soil and groundwater, and their potential impact on the environment.

This *Environmental Site Investigation* report presents an initial characterization of the Newport yard based on data collected during November and December 1997 and is organized as follows.

- o **Section 2.0** provides information on the setting of the rail yard as well as information about past history;
- o **Section 3.0** describes the explorations and sampling;
- o **Section 4.0** characterizes the site hydrogeology, and describes the results of soil, water and sediment sampling;
- o **Section 5.0** outlines the regulatory framework for evaluating site conditions;
- o **Section 6.0** characterizes the overall conditions at the yard; and;
- o **Section 7.0** summarizes the investigative findings and provides recommendations.

2.0 SETTING AND HISTORY OF THE NEWPORT RAIL YARD

2.1 LOCATION AND SITE SETTING

Figure 1 shows the location of the railyard on the eastern shore of the South Bay of Lake Memphremagog, south of the city of Newport. The yard consists of approximately 74 acres which are occupied almost entirely by railroad tracks and rail-related buildings. Glen Road borders the yard on the east and the South Bay of Lake Memphremagog (South Bay) borders the yard on the west. To the north, east and south of the yard, the land use is primarily low density residential, with the density increasing beyond the peninsula north of the yard.

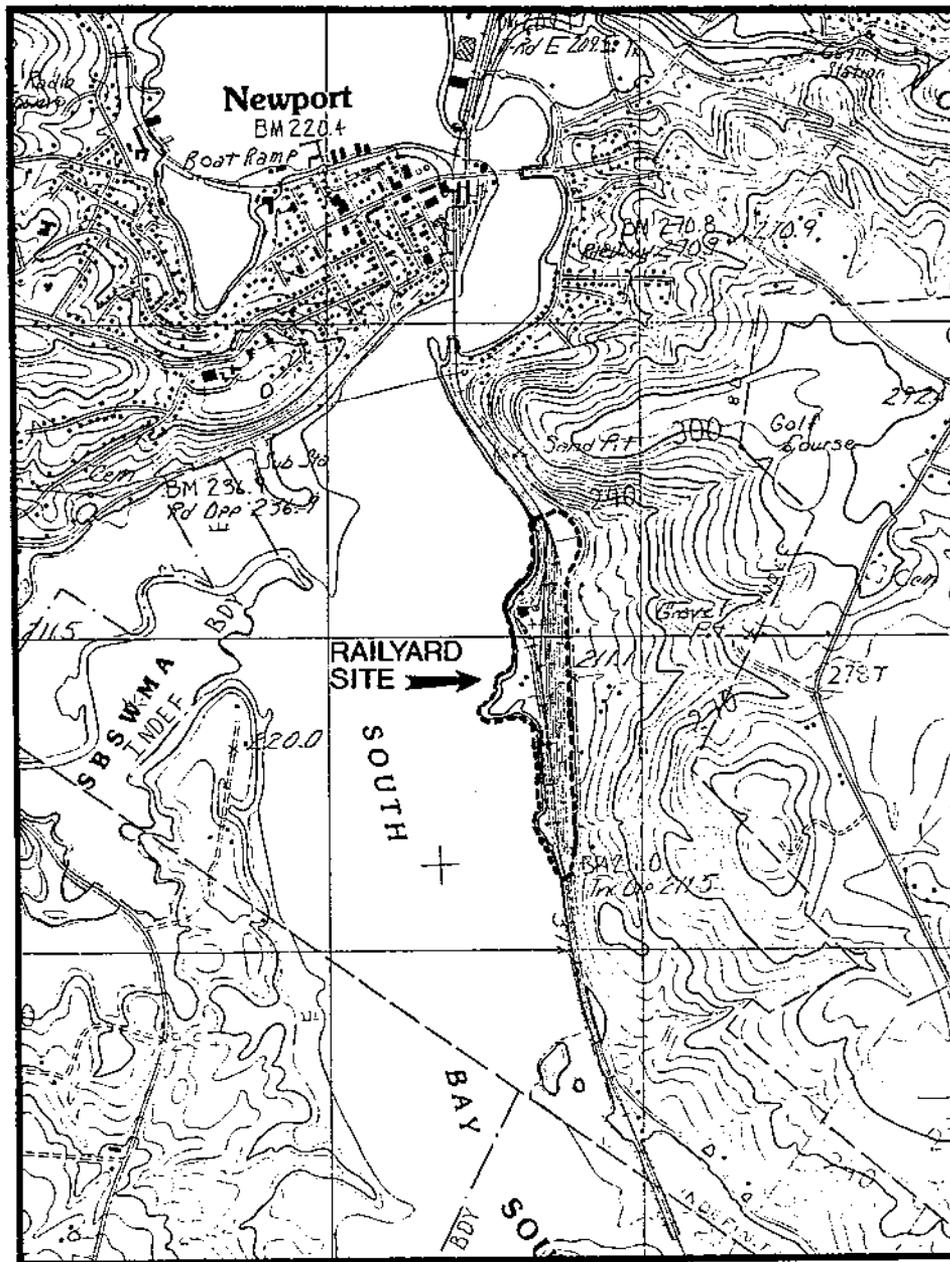
The area around the yard is provided with domestic water by the Newport Water Department. In the early 1990s, the municipal sewer system was extended down Glen Road, beyond the Newport yard. At that time, residents wishing to do so were connected to the sewer system. According to the information gathered by CPR, there are two active septic systems within the yard, at the roundhouse and the office. There may also be private septic systems which continue to be used at some of the residential properties near the yard.

2.2 SITE TOPOGRAPHY AND REGIONAL GEOLOGY

The Newport rail yard is located on a flat terrace which varies less than 10 feet in elevation from Glen Road to South Bay. A small peninsula at the west central part of the yard is the only area where the ground surface exhibits a topographic relief of more than 10 feet. East and north of the rail yard the land surface rises steeply by an elevation of more than 100 feet. Several of the embankments east of the yard remain unvegetated due to the steepness of the slope and the low inherent stability of the sandy soil which underlies the higher ground. The regional groundwater system flows from east to west beneath the yard as a result of these steep hills to the east and South Bay to the west.

According to information published on the *Ground Water Favorability Map of the Lake Memphremagog Basin* (Vermont Department of Water Resources, 1967), the geologic deposits south of the yard consist of fine grained stratified drift, while the deposits north of the yard are mapped as coarse-grained glacial drift. Three borings north of the yard which are identified on the *Favorability Map* encountered overburden deposits which varied from at least 70 to more than 200 feet thick. Other borings around the South Bay encountered at least 50 feet of unconsolidated sediments, suggesting that the depth to bedrock beneath the rail yard is likely to be at least 50 feet.

The coarse-grained deposits north of the yard are described as having excellent water yielding properties. The City of Newport derives their water from wells screened in these deposits. However, there are no active municipal wells on the east side of South Bay, according to the Public Works Department.



0 2000
SCALE (FT)

FIGURE 1
SITE LOCATION
NEWPORT RAILYARD

TEWHEY ASSOCIATES

2.3 RAILYARD LAYOUT AND HISTORY

Figure 2 shows the recent configuration of the railyard. The Newport railyard was constructed at the end of the nineteenth century and was operated by the Boston and Maine Railroad until 1927, when CPR took over operations. During the time when CPR operated the yard, it was used for track, equipment and locomotive maintenance, fueling, cargo transfer and freight train assembly and classification. In the 1940s, a stationary fueling facility was constructed in the central part of the yard. In the early 1970s, drip trays and oil/water separators were added to the fuel plant. Since the mid 1980s, the level of maintenance and fueling activities has dropped sharply. However, there are still several locomotives based in the Newport yard.

Yard Layout: From ^{South} north to ~~south~~, the primary structures (present or former) in the rail yard are as follows (see Figures 2 and 2A).

- o Approximately 1,500 feet south of the main yard office there is a wood frame building which was formerly an icehouse (see Figure 2A). Since approximately 1974, the building has been leased to Agway Incorporated which uses the building to transfer grain and fertilizer. There are two above ground fuel tanks in use near the building and a former underground storage tank (UST) beneath the current building footprint which were assessed during this investigation.
- o The southernmost building in active railroad use is a 2-story brick office building located near a small peninsula into South Bay. This building is heated with an oil-fired furnace and heating oil is stored in a UST outside the northwest corner of the building. The Yard Office discharges sanitary waste to an on-site septic system located north of the building (see Figure 2).

During the 1960s and 1970s, a bunkhouse building was located behind the office to provide train crews with overnight facilities. An inactive septic system is located west of the former bunkhouse.

During its records review, CPR learned of allegations that waste oil had been disposed in drums behind the Yard Office/Bunkhouse area. These allegations were investigated during this investigation.

- o East of the office building there was a section of track which was used to repair freight cars, referred to as the Repair-in-Place or RIP track. The former RIP track, east of the Office, was replaced by a newer RIP track near the Roundhouse in the mid 1970s.
- o Northwest of the office building there is an embayment of the Lake which was partially filled during the early 1970s to form two lagoons. The purpose of these lagoons was to control seepage of petroleum into South Bay from a leak in a small diameter pipe carrying oil from the Roundhouse area to a boiler in the former Sand House, east of the Office.



GLEN ROAD

YARD OFFICE 1500 FT NORTH
OF BLDG (SEE FIGURE 2)
←

THRU TRACKS

GAS & DIESEL
ASTs (ACTIVE)

TP-4

HEATING OIL
LUST (REMOVED)

ADDITION

ORIGINAL BLDG

TP-5

BLDG LEASED
BY AGWAY

SOUTH BAY



FIGURE 2A
LAYOUT OF NEWPORT RAIL YARD
(SOUTH END)
NEWPORT RAIL YARD

TEWHEY ASSOCIATES

- o The fuel plant for the yard is located northeast of the lagoons, in an area which will be referred to as the "central yard area". In 1949, two 62,000-gallon vertical tanks were constructed in the location shown in Figure 2. Fuel from these tanks was pumped via underground piping to the pumphouse located beside the railroad tracks. In 1966, CPR added an additional 20,000-gallon horizontal above ground tank, with a concrete containment dike, immediately south of the Pump House. According to CPR records, the two vertical tanks were drained and cleaned each spring as part of routine yard maintenance.

In 1992 CPR reported that the two 62,000-gallon vertical tanks and associated piping were decommissioned and removed. From 1992 until 1997, fuel was stored and dispensed to locomotives from the 20,000-gallon tank. According to employees at the yard, a small leak was discovered in the 20,000-gallon tank in June 1997. The tank was taken out of service at that time and fuel for locomotives is currently being delivered by truck.

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- o The primary building at the rail yard is the Roundhouse, which was constructed in the 1930s. The roundhouse has 6 maintenance tracks with concrete floor pits. Prior to 1992, the floor pits beneath each maintenance track were connected to a drain system which discharged to South Bay via several catch basins and a dike skimmer (Dike Skimmer #2 on Figure 2). In 1992, this drain system was steam cleaned and sealed. Since that time, waste liquids have been managed entirely within the roundhouse building, where they are stored in a tank for off-site disposal.

In addition to the maintenance tracks, there are two other maintenance activities which have been conducted in the Roundhouse in the past. Air brakes were cleaned using a 5-gallon tank of varsol (mineral spirits). Spent varsol was placed in a waste oil tank. Maintenance activities were also conducted in the small shop attached to the south side of the Roundhouse. This shop, referred to as the oil room, was used to soak journal lubricator pads in oil and to steam clean air and fuel filters. Residues from these activities may have entered a dry well which was present in the floor.

- o Outside the northeast corner of the Roundhouse are two parallel tracks and wooden planking which are used as the current RIP tracks. In the mid 1980s, a small building alongside these tracks was demolished. However, the tracks continue to be used for lubrication and repair of freight cars.
- o Until the mid 1980s, the Stores Building was located north of the Roundhouse in an area which is currently a gravel parking area. The building held parts and stock for the Section crews and contained several fuel storage tanks in the basement, beneath the wooden floor.
- o Finally, north of the RIP tracks and Stores Building are two Dike Skimmers which are outfalls for two drain systems in the yard. An oil sorbent material such as Sorbent C is maintained on the water surface of both skimmers to soak up any petroleum which enters the skimmer, preventing discharge of oil to South Bay.

Figure 2 shows the layout of the two drain systems which flow to these skimmers.

⇒ Dike Skimmer #1: The drain system which ends at Dike Skimmer #1 is a discharge permitted by the Vermont Department of Environmental Conservation (VtDEC #3-1333). The system begins at the drip pads beneath the fueling tracks. From there, water flows via several manholes to three oil/water separators. The separators are constructed of 10-foot by 54-inch diameter corrugated metal pipes oriented vertically and connected in series. Discharge from the separators crosses the turntable bottom and continues northward to a catch basin before entering Dike Skimmer #1. Prior to 1991, liquid in this system flowed overland across the earthen base of the turntable. Since that time, a pipe has been installed across the turntable bottom, but it is disconnected in the winter months because of freezing conditions.

Permit #3-1333 requires that the discharge from Dike Skimmer #1 be sampled twice monthly and analyzed for benzene, ethyl benzene, toluene, and xylene (BTEX), total petroleum hydrocarbons (TPH) and oil and grease. According to CPR, the discharge has exceeded the permitted concentrations only twice in the past four years, both times during periods of excessively high runoff.

⇒ Dike Skimmer #2: The use of Dike Skimmer #2 was discontinued in 1992, at the request of the VtDEC, by blocking all of the floor drains in the roundhouse. Prior to that time, drainage from the roundhouse floor and pits flowed through a series of catch basins and into Dike Skimmer #2. This drainage would have included oil from drips and spills on the floor, rinsate from a caustic soda-based cleanser used on the locomotives and engine coolant containing a chromate-bearing anti-corrosive agent.

According to CPR employees, significant volumes of oil and other non-water based waste liquids generated during maintenance in the Roundhouse were not disposed in the floor drains, but were collected and placed in a 4,000 gallon underground waste oil tank which was formerly located outside the northeast corner of the Roundhouse. *metals cabinets*

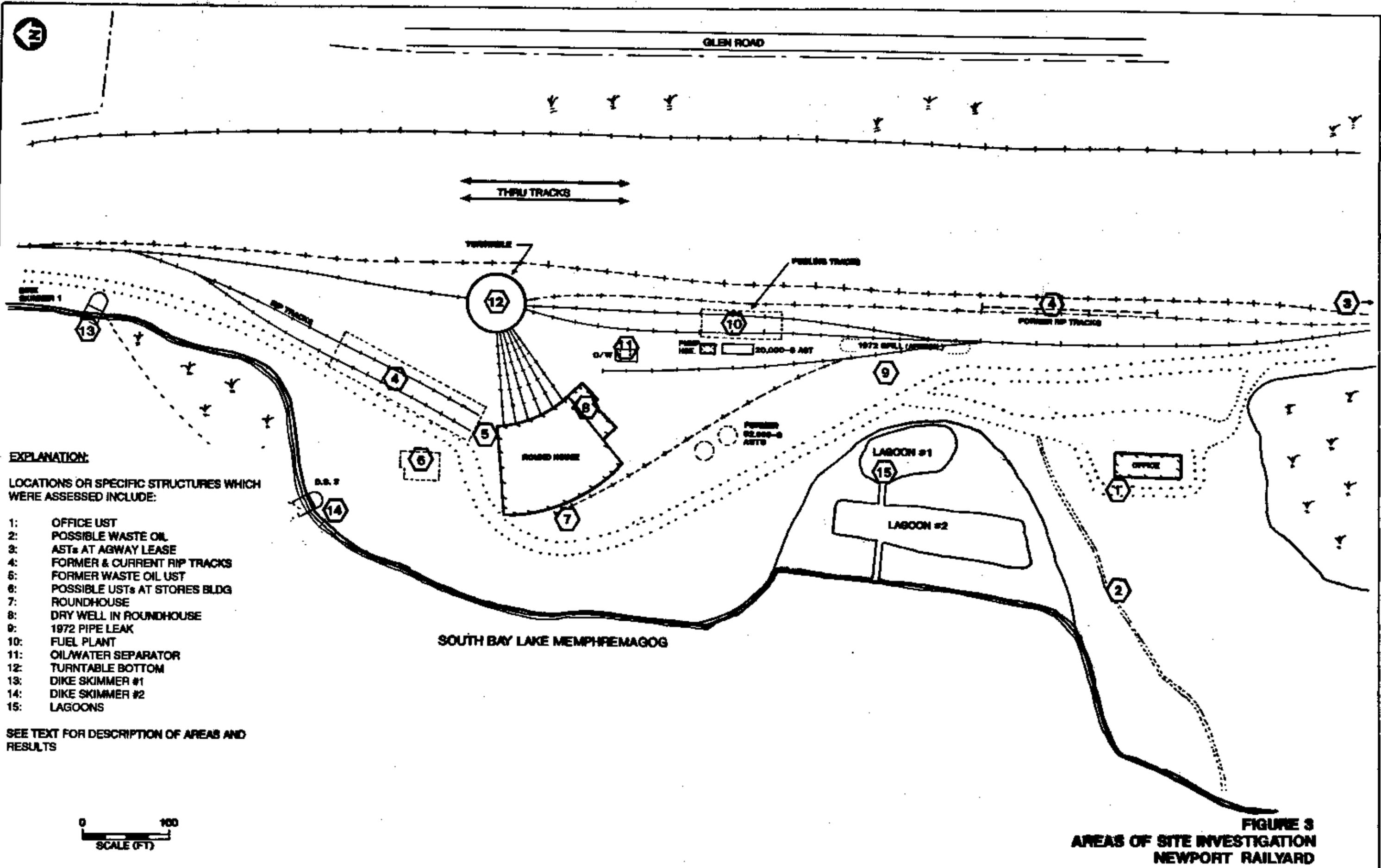
Petroleum Storage: As part of its historical data review, CPR developed an inventory of petroleum storage tanks used at the Newport Yard. These tanks and their current status are summarized in Table 1.

**TABLE 1
SUMMARY OF PETROLEUM STORAGE TANKS
NEWPORT RAILYARD**

Tank	Location	Size (gal)	Product	Status
1	Fuel Plant	62,000 AST	Diesel	Removed 1992
2	Fuel Plant	62,000 AST	Diesel	Removed 1992
3	Fuel Plant	20,000 AST	Diesel	Inactivated 1997
4	Fuel Plant	500 AST	Kerosene	Inactive
5	Roundhouse	500 AST	Fuel Oil	Removed 1992
6	Oil/Water Sep.	500 AST	Waste Oil	Active
7	Roundhouse	4,000 UST	Waste Oil	Removed 1993
8	Stores Building	1,000 UST	Gasoline	Removed 1993
9	Fuel Shed (NE of RIP Tracks)	275 AST	Gasoline	Removed 1997
10	Office	1,000 UST	Fuel Oil #2	Active
11	Scale House (SE of Agway Least)	275 AST	Kerosene	Active
12	Inside Roundhouse	1,000 AST	Wastewater	Active
13	Agway Lease (Beneath Addition)	1,000 UST	Gas/Diesel	Inactive/Believed to have been Removed
14/15	Agway Lease	500 AST 300 AST	Diesel Gasoline	Active Active
16-19	Stores Building	<1000 UST	Various	Only 1 400-Gal UST Found During 1997 Explorations

Note: AST = Above Ground Storage Tank, UST = Underground Storage Tank

Based on information gathered from the historical review, CPR originally identified 15 areas within the Newport yard where there was a potential for petroleum or other chemicals to have been stored, handled or released to the environment. These 15 areas, shown on Figure 3, were the focus of the Tewhey Associates investigation and are described in the remainder of this *Phase II Environmental Site Investigation Report*. After investigation of these locations in the field, Tewhey Associates has grouped several of the locations based on proximity to each other, similarity of compounds, etc. Sections 6.0 presents site characterization information using these functional groupings.



- EXPLANATION:**
 LOCATIONS OR SPECIFIC STRUCTURES WHICH WERE ASSESSED INCLUDE:
- 1: OFFICE UST
 - 2: POSSIBLE WASTE OIL
 - 3: ASTs AT AGWAY LEASE
 - 4: FORMER & CURRENT RIP TRACKS
 - 5: FORMER WASTE OIL UST
 - 6: POSSIBLE USTs AT STORES BLDG
 - 7: ROUNDHOUSE
 - 8: DRY WELL IN ROUNDHOUSE
 - 9: 1972 PIPE LEAK
 - 10: FUEL PLANT
 - 11: OIL/WATER SEPARATOR
 - 12: TURNABLE BOTTOM
 - 13: DIKE SKIMMER #1
 - 14: DIKE SKIMMER #2
 - 15: LAGOONS

SEE TEXT FOR DESCRIPTION OF AREAS AND RESULTS

0 100
 SCALE (FT)

FIGURE 3
AREAS OF SITE INVESTIGATION
NEWPORT RAILYARD

SOURCE: BASE MAP FROM OUR FILE NUMBERED NEWPORT-1980

3.0 SITE INVESTIGATIONS

The purpose of the 1997 investigation was (1) to conduct a preliminary evaluation of those areas of the yard which CPR identified as being used to handle petroleum or other chemicals and (2) to develop a general characterization of the railyard. Table 2 summarizes the focus areas, the investigations which were conducted, and the methods which were used. Figure 3 shows the general location within the yard of each of the areas of investigation. The numbered locations in Figure 3 correspond to the area numbers listed in Table 2. Figure 4 shows the location of all explorations conducted at the yard. Exploration logs are presented in Appendix A of this report. Exploration techniques used during investigation of the Newport Yard are described in the remainder of Section 3.

3.1 GEOPHYSICAL SCREENING SURVEY

An electromagnetic survey was conducted in two areas of the Newport Rail Yard to screen for the presence of buried metal. Surveys were conducted using an EM-61 magnetometer which is designed to locate buried metal objects with minimal interference from surface metal such as fences and buildings. The survey approach for each area is described below and the survey report is included as Appendix B.

- o Area 2 (Figure 3) is undeveloped land where past employees alleged that waste oil drums may have been disposed. Current employees were interviewed to identify the appropriate survey area, which was located behind (west of) the Yard Office and along the south side of a dirt trail leading to South Bay (see Figure 4). The survey area was partially vegetated with young poplars and underbrush and there was evidence that surface soil have been removed in the area.

The Area 2 survey was conducted using two approaches. The first approach was to establish a 130-foot by 70-foot survey area with grid lines spaced at 10-foot intervals and to traverse the grid with the EM-61. The result was a network of EM-61 readings recorded every 5 feet across the survey area. The second approach was used beyond the boundaries of the designated survey area and consisted of a "reconnaissance" survey of peripheral areas. The reconnaissance survey involved the EM-61 operator walking over suspect locations on an irregular grid pattern. A coverage of approximately 10- to 15-foot intervals was achieved in the walkover areas.

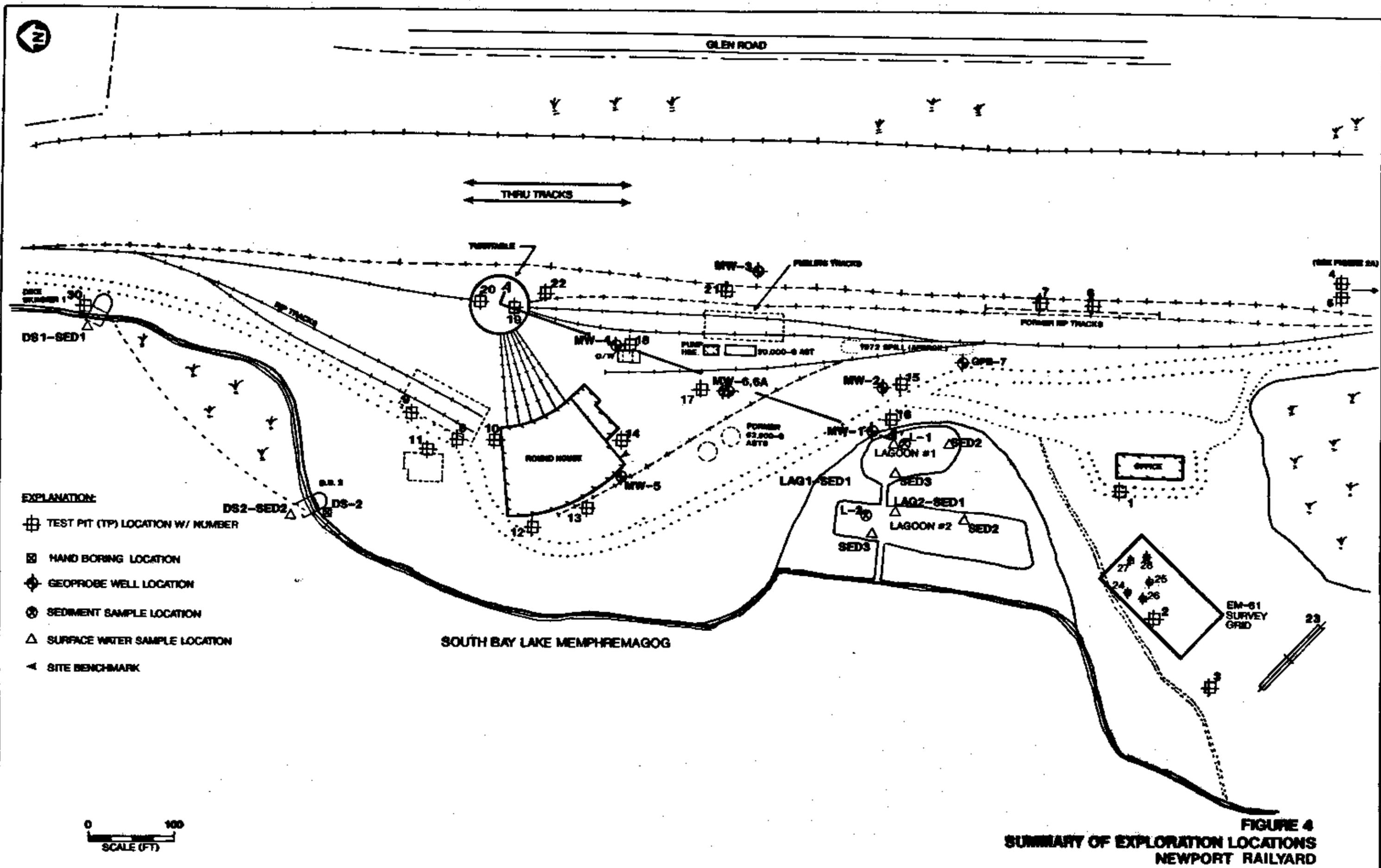
Locations within the grid and reconnaissance areas where the EM-61 indicated a magnetic anomaly were marked in the field with flagging so that they could be explored with test pit explorations.

- o Area 6, at the former Stores Building, is an open area covered with gravel. The building foot print was located based on measured distances from the nearby Roundhouse. Once the building foot print was located, the EM-61 was used in the reconnaissance mode to screen for buried metal objects. Because the area was open and free from surface obstructions such as trees, the reconnaissance survey could be used to record instrument readings on a 5- to 10-foot interval. Only one anomaly was detected at the former Stores Building. Its location was marked with paint on the ground surface and it was subsequently evaluated with a test pit.

TABLE 2
SUMMARY OF EXPLORATIONS
NEWPORT RAIL YARD
VERMONT NORTHERN RAILWAY

EXPLORATION/ [AREA DESIGNATION]	LOCATION IN RAIL YARD	DEPTH (ft)	SAMPLES	LAB ANALYTES
TP-1 [1]	Office UST	11	PID	
TP-2 [2]	Alleged Oil Disposal	10	PID & Soil @ 5 ft	VOC, TPH
TP-3 [2]	Alleged Oil Disposal	8	PID	
TP-4 [3]	Agway ASTs	9	PID	
TP-5 [3]	Former UST @ Agway	11	PID	
TP-6 [4]	Former RIP Tracks	8	PID	
TP-7 [4]	Former RIP Tracks	9	PID	
TP-8 [4]	Current RIP Tracks	9	PID	
TP-9 [4]	Current RIP Tracks	8	PID	
TP-10 [5]	Former Waste Oil Tank	9	PID & Soil @ 9 ft	VOC, TPH
TP-11 [6]	Former Stores Bldg	8	PID & Soil @ 5 ft	SVOC, TPH
TP-12 [7]	Roundhouse	10	PID	
TP-13 [7]	Roundhouse	9	PID & Soil @ 8 ft	TPH
TP-14 [8]	Closed Dry Well	6	PID & Soil @ 5 ft	VOC, TPH, Metals
TP-15 [9]	1972 Pipe Leak	7	PID	
TP-16 [9]	1972 Pipe Leak	7	PID & Soil @ 6 ft	TPH
TP-17 [10]	Fuel Plant	5	PID & Soil @ 3, 4 ft	TPH, Metals
TP-18 [11]	Oil/Water Separator	8	PID & Soil @ 5 ft	TPH
TP-19 [12]	Turntable Bottom	5	PID & Soil @ 2 ft	VOC, TPH, SVOC
TP-20 [12]	Turntable Bottom	4	PID	
TP-21 [10]	Upgradient of Fuel Plant	4.5	PID	
TP-22 [12]	SE Edge of Turntable	5	PID	
TP-23 [2]	Alleged Oil Disposal	7	None	
TP-24 to 28 [2]	Alleged Oil Disposal	7	None	
TP-30 [13]	Dike Skimmer #1	6	PID & Soil @ 5 ft	TPH
DS-2 [14]	Dike Skimmer #2	3	PID & Soil @ 3 ft	TPH
DS1-SED [13]	Lake Sediment at Dike Skimmer #1	0.5	PID & Soil @ 0.5 ft	TPH
DS2-SED [14]	Lake Sediment at Dike Skimmer #2	0.5	PID & Soil @ 0.5 ft	VOC, TPH, SVOC, Metals
LAG1-SED [15]	Lagoon 1 Sediment	2.5	PID & Soil @ 0.5, 2.5 ft	VOC, TPH, Metals
LAG2-SED [15]	Lagoon 2 Sediment	0.5	PID & Soil @ 0.5 ft	TPH
MW-1 [9]	1972 Pipe Leak	4 - 14	PID (Soil) & Water	VOC, TPH, SVOC
MW-2 [9]	1972 Pipe Leak	3 - 13	PID (Soil)	
MW-3 [10]	Upgradient Fuel Plant	3 - 13	PID (Soil) & Water	TPH
MW-4 [11]	Oil/Water Separator	3 - 13	PID (Soil) & Water	VOC, TPH, SVOC
MW-5 [7]	Roundhouse/Fuel Plant	3 - 13	PID (Soil) & Free Product	
MW-6 [10]	Fuel Plant	3 - 13	PID (Soil) & Water	TPH, Metals
MW-6A [10]	Fuel Plant	19 - 24	Water	TPH
L-1 [15]	Lagoon #1 Water	0.5	Water	VOC, TPH, SVOC
L-2 [15]	Lagoon #2 Water	0.5	Water	TPH

- Notes: 1. See Figure 4 for location of explorations & Figure 3 for Area Designation. See Appendix A for exploration logs.
2. PID = Photoionization Detector
3. Analytes: Volatile Organic Compounds (VOCs) by Method 8260; SemiVolatile Organic Compounds (SVOCs) by Method 8270; Total Petroleum Hydrocarbons (TPH) by Method 8100; Metals (13 Priority Pollutants) by Method 6010.



- EXPLANATION:**
- ⊕ TEST PIT (TP) LOCATION W/ NUMBER
 - ⊠ HAND BORING LOCATION
 - ⊕ GEOPROBE WELL LOCATION
 - ⊙ SEDIMENT SAMPLE LOCATION
 - △ SURFACE WATER SAMPLE LOCATION
 - ◀ SITE BENCHMARK

0 100
SCALE (FT)

FIGURE 4
SUMMARY OF EXPLORATION LOCATIONS
NEWPORT RAILYARD

SOURCE: BASE MAP FROM CPR FILE 8887280 NEWPORT.DWG

3.2 TEST PITS

Twenty nine test pits were dug across the yard to assess shallow subsurface stratigraphy and evaluate soil conditions at the areas listed in Table 2. One shallow hand boring was completed with a bucket auger beside Dike Skimmer #2 in lieu of a test pit. Reference soil samples were collected in ziplock-type bags for field analysis of headspace volatile compounds and to classify the soil type. Headspace analysis of soil samples was conducted by warming each sample to approximately 50° to 60° F, allowing the vapors in the bag to equilibrate with the soil, opening the sealed bag and using a photoionization detector (PID) to analyze the headspace vapor within the bag. The PID was a Photovac Microtip calibrated with an 100 parts per million (ppm) isobutylene standard. Following headspace analysis, the reference samples were examined to determine soil classification. This information, together with observations about odors, staining and evidence of groundwater were noted in the field book and recorded on the Test Pit logs included in Appendix A.

Soil analysis by PID headspace was a primary method used to characterize soil quality at those test pit locations where there was no evidence of odors, staining or residual chemicals in soil. This included test pits excavated at the office UST, the Agway lease, and the RIP Tracks. Based on low PID responses and the absence of visual or olfactory evidence of chemical residues, no laboratory sampling was performed in these areas.

There were several areas which exhibited staining, odors and/or elevated PID responses. A number of soil samples within these areas were collected for laboratory analysis to identify the specific chemicals present and to quantify their concentration. Table 2 lists the samples collected for laboratory analysis and the methods which were used by the laboratory.

Shallow soil samples from test pits TP-17 and TP-18 were also tested in the field to determine whether they were "saturated" with residual petroleum. This was done by filling a glass jar approximately one-third full with soil, filling the second third of the jar with clean water, sealing the jar and shaking to mix the contents. After allowing time to settle, each jar was observed to determine whether a layer of separate-phase petroleum was present on the water surface in the jar.

3.3 MONITORING WELLS

Seven monitoring wells were installed in six locations in the vicinity of the roundhouse and fuel plant (see Figure 4). A two-well pair (MW-6 and MW-6A) was installed immediately east of the fuel plant. These wells were installed using Geoprobe direct-push techniques described below.

The Geoprobe advances subsurface soil probes using a hydraulic ram and a hydraulic hammer to push small diameter drilling tools. Soil samples consisting of 0.75-inch diameter soil cores recovered in plastic sleeves were collected at selected depths in the boreholes. Once a final well depth was selected, a steel casing with a 1.5-inch inner diameter is pushed to the desired depth. A 1-inch inner diameter PVC monitoring well was placed in this cased hole. Wells were constructed of flush-threaded PVC with 0.010-inch machine slotted screens with either 5- or 10-foot lengths. The casing was extracted and natural formation sand was allowed to fill the annulus around the well. Clean filter sand was added to the annulus from the surface, as needed. The top two feet of the borehole annulus was filled with a

bentonite clay seal, followed by cement to anchor the steel protective casing into the ground. The wells were marked with the appropriate designation to permit clear identification in the future.

3.4 SEDIMENT SAMPLING

Sampling of subaqueous sediments was conducted at the outfall of each dike skimmer into South Bay and in the two lagoons. The sediment samples were collected from water less than three feet deep by wading to the sampling location and using a hand bucket auger to collect sediment. Sediment samples from the bucket auger were placed in Ziploc bags and analyzed with a PID in a manner similar to the procedure described in Section 3.2. In selected locations, sediment samples were also collected from the bucket auger for laboratory analysis.

3.5 SITE SURVEY

The locations of the test pit and Geoprobe explorations were determined using a measuring tape to locate the distance of each point relative to fixed features at the site (e.g., buildings, track lines, roadways, etc.).

The relative elevation of the ground surface and the top of the PVC at each monitoring well riser were determined using a Topcon level and survey rod. Elevations were determined relative to an assumed datum of 200.00 feet established at the site. The benchmark identified with this elevation is on the concrete slab, outside a former doorway on the south side of the Roundhouse.

3.6 HYDROGEOLOGIC PARAMETERS

In order to understand the hydrogeologic regime at the site, the monitoring wells were used to collect water level and insitu permeability data. These data, together with the survey information, were used to determine the elevation of the water table at selected locations and to interpret the direction and rate of groundwater flow beneath the site.

The hydraulic conductivity of the soil was calculated from rising, falling and constant head permeability testing completed at the Geoprobe well installations. The hydraulic conductivity values determined at the site are listed in Table 3 and the data are presented in Appendix C.

TABLE 3
SUMMARY OF PERMEABILITY TESTING
NEWPORT RAIL YARD

Location	Test	Analysis	Hydraulic Conductivity (ft/d)	Hydraulic Conductivity (cm/sec)
MW-3	Falling Head	B & R	0.52	1.8×10^{-4}
MW-3	Rising Head	B & R	1.15	4.1×10^{-4}
MW-4	Rising Head	B & R	0.36	1.3×10^{-4}
MW-6A	Rising Head	CBP	0.28	9.9×10^{-5}
MW-1	Constant Head	Hvor	27.9	9.8×10^{-3}

Notes: 1. B & R = Bouwer & Rice, 1976; CBP= Cooper, Bredehoeft & Papadopolous (1966)
Hvor = Hvorslev (1951)

The geometric mean of the rising and falling head data is 0.5 ft/day (1.7×10^{-4} cm/sec).

3.7 SOIL SAMPLING PROGRAM

Soil samples were collected for laboratory chemical analysis from the test pit explorations and sediment sampling locations around the yard. The samples were collected from surface and shallow subsurface depths to a maximum depth of 9 feet bgs. The samples were collected from the backhoe bucket or the bucket auger using a clean stainless steel spoon. Soil samples selected for laboratory analysis were placed directly into pre-cleaned sample bottles provided by the laboratory. The sample bottles were labeled, packed and transported on ice in a cooler to Katahdin Analytical Services in Westbrook, Maine. The samples were accompanied by a chain-of-custody form which was used to track the transfer and analysis of the samples.

Samples were selected for laboratory analysis based on field observations of obvious staining, odor, PID readings, knowledge of the historical operations in the specific area of investigation and hydrogeologic setting. The predominant type of chemicals used and handled at the yard were petroleum compounds, principally diesel, fuel oil and engine oil. Therefore, all soil samples submitted for laboratory analysis were tested for petroleum hydrocarbons. A subset of the soil samples were also analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) to evaluate specific petroleum-related compounds such as benzene, naphthalene, etc.

In several locations, soil samples were analyzed for a both chlorinated and petroleum-related VOCs, SVOCs or metals on the basis of historical information which indicated the potential for non-petroleum related compounds. These are described below.

- o Area 5 is the location of the former 4,000-gallon waste oil tank. The soil sample TP10-9 from this location was analyzed for VOCs to evaluate possible waste cleaning solvents held in the tank.

- o Area 8 is the closed dry well in the oil room of the Roundhouse. The soil sample collected from the test pit outside this room (TP14-5) was analyzed for metals which might have been derived from anti-scaling chemicals used in the nearby boiler.
- o Area 10, the Fuel Plant, is underlain by cinders and fill. In this location, a soil sample (TP17-3) was analyzed for metals to characterize the cinders and fill beneath the central yard area.
- o Area 14 is Dike Skimmer #2. Here analyses were also conducted for (a) VOCs which might have been derived from cleaning solvents used in the Roundhouse and (b) metals which might have been contained in the locomotive engine coolant which was disposed via this drain system.

Soil samples were analyzed using the following methods:

- total petroleum hydrocarbons (TPH-diesel/fuel oil Method Mod.8100; C9 to C36 range);
- volatile organics (VOC Method 8260);
- semivolatile organics (SVOA Method 8270B for the Target Compound List);
- antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium and zinc metals (Method 6010/200.7); and mercury (Method 7471).

The laboratory analytical reports for the soil and sediment samples are provided in Appendix D.

3.8 GROUNDWATER SAMPLING PROGRAM

Water samples were collected for laboratory chemical analysis from five of the seven Geoprobe well installations and from each of the two lagoons. The samples were collected in pre-cleaned, pre-preserved sample bottles provided by the laboratory. The lagoon samples were collected by directly submersing the sampling containers below the surface of the lagoon. The groundwater samples were collected using a modified low-drawdown sampling procedure. Wells were purged at the lowest pumping rate feasible using an ISCO peristaltic pump (approximately 500 ml/min) to remove at least three well volumes. Several wells could not sustain this pumping rate and were purged by cycling the pump on and off, and allowing the wells to recharge as necessary between pumping cycles. At the completion of the purging, field parameters included temperature, pH, specific conductance, salinity and dissolved oxygen were measured using a Horiba U-10 Water Quality Analyzer. After the purging was completed, water samples were collected in the appropriate containers, packed in a cooler with ice and delivered to Katahdin Analytical Services of Westbrook, Maine along with chain-of-custody tracking forms.

The field parameters collected during the water sampling are summarized below in Table 4.

**TABLE 4
WATER QUALITY FIELD PARAMETERS
NEWPORT RAIL YARD**

Location:	MW-1	MW-3	MW-4	MW-6	MW-6A	L-1
Purging Drawdown	<0.5'	3'	cycle	cycle	10'	NA
Temp °C	9.1	8.1	6.8	5.9	8.6	4.6
pH	6.0	6.5	6.0	6.1	6.4	6.1
Specific Cond. (umhos/cm)	781	849	799	788	713	731
Dissolved Oxygen (mg/L)	0.1	0.14	0.11	NM	2.4	1.9

low for surface water

Note: Data collected with a Horiba U-10, calibrated to a pH 4 and 4480 umhos/cm standard
 NM = Not Measured; NA = Not Applicable

All water samples were submitted for TPH analysis. Samples from MW-1, MW-4 and Lagoon #1 were also submitted for VOC and SVOC analysis to characterize the concentration of these parameters in wells located near the 1972 spill (MW-1), the fuel plant and oil/water separator (MW-4), and the Lagoon. Well MW-6 was sampled for metals to provide data on the concentration of these parameters in the cinders which underlie the central yard area.

The results are summarized in tables and the significant data are presented in figures in remainder of this report. The laboratory analytical reports for the water samples are provided in Appendix E.

4.0 INVESTIGATIVE RESULTS FROM THE NEWPORT RAIL YARD

This section discusses the geologic and hydrogeologic conditions present at the Newport rail yard and present the results of the soil and groundwater analyses.

4.1 ON-SITE GEOLOGY

The Newport rail yard is mapped as a being underlain by stratified drift deposits which are fine-grained to the south and coarse-grained to the north. The test pit and Geoprobe explorations indicate that the native soils which underlie the Newport yard are predominantly fine-grained lacustrine deposits, ranging from fine sand to stratified silt and fine sand. Explorations in the central part of the yard encountered native soils containing somewhat more fines than explorations located to the north or south. However, there were no explorations which encountered the coarse-grained deposits which are mapped to be present north of the yard.

The central part of the yard, beneath the rail tracks and extending east of test pits TP-17 and TP-14, contains a layer of granular fill, consisting of sand, gravel, cinders and slag. This fill lies above the native soil and ranges from less than 2 feet thick at TP-21, west of the Fuel Plant, to more than 5 feet thick at TP-17, near the Fuel Plant. Figure 5 shows an interpretive geologic profile extending from the turntable on the north to Lagoon #1 on the south. This profile illustrates the relationship between the two geologic units (granular fill and fine-grained native soil) which underlie the yard.

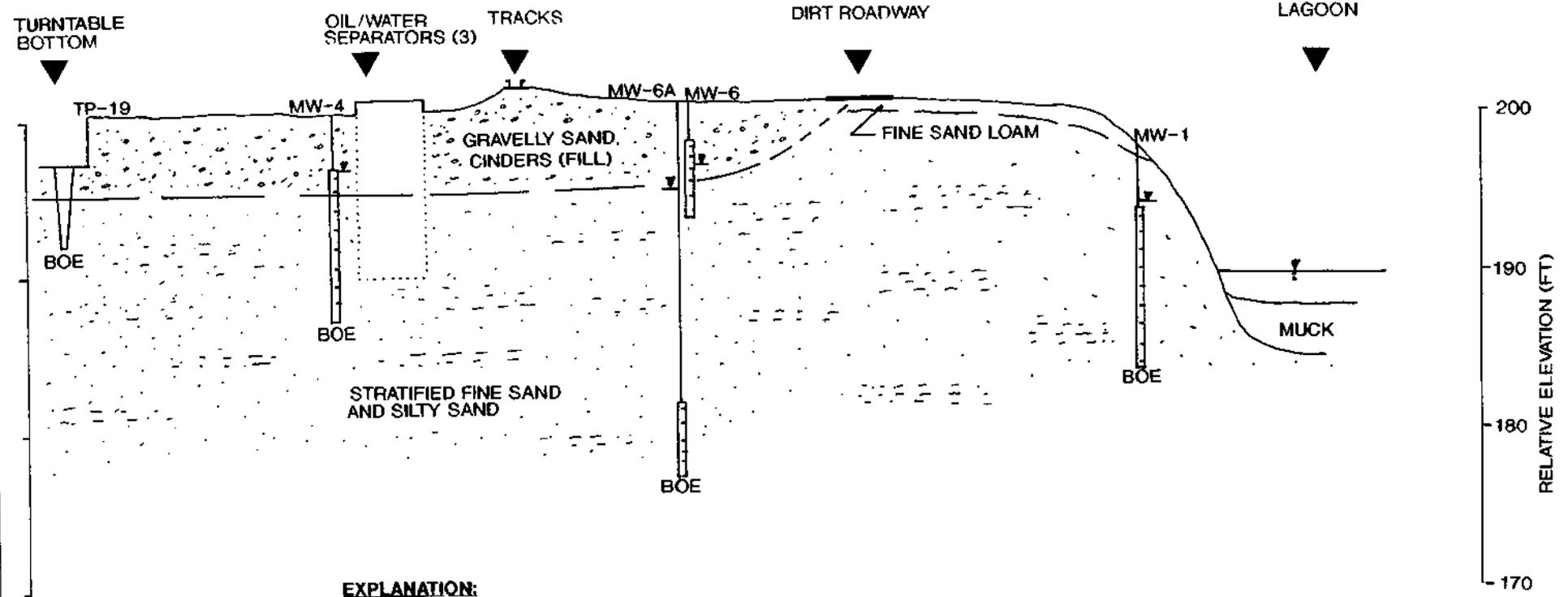
4.2 HYDROGEOLOGIC SETTING

Groundwater flow conditions were evaluated in the central part of the Newport yard on the basis of the geology, water level data and hydraulic conductivity data. The regional topography slopes from east to west and is expected to control the regional movement of groundwater. South Bay is interpreted to represent a location of regional groundwater discharge. It is also a point of local discharge for shallow groundwater flowing beneath the rail yard, with local topography and the shore line configuration influencing flow at the scale of the rail yard.

Groundwater was encountered in test pits and in the monitoring wells in the shallow soils around the yard area at a depths ranging from 2 to more than 11 feet below ground surface. In the central part of the yard, where there is granular fill, the groundwater was encountered in this fill and readily flowed into open test pits. The depth to groundwater and relative groundwater elevations measured in the monitoring wells installed at the site are summarized in Table 5.

A
(NORTH)

A'
(SOUTH)



EXPLANATION:

- WATER LEVEL (12/97)
- WELL SCREEN
- BOTTOM OF EXPLORATION

SEE FIGURE 4 FOR LOCATION OF PROFILE



FIGURE 5
INTERPRETIVE GEOLOGIC PROFILE A - A'
NEWPORT RAILYARD

**TABLE 5
GROUNDWATER ELEVATION DATA
NEWPORT RAIL YARD**

Well	Measuring Point Ref. Elev. (ft)	November 21, 1997 Water Depth (ft)	Water Elev. (ft)	December 3, 1997 Water Depth (ft)	Water Elev. (ft)
MW-1	201.44	6.56	194.88	6.41	195.03
MW-2	202.99	7.70	195.29	7.54	195.45
MW-3	202.51	4.99	197.52	4.97	197.54
MW-4	203.39	5.95	197.44	5.83	197.56
MW-5	203.07	NM		NM	
MW-6	204.44	7.30	197.14	7.19	197.25
MW-6A	205.01	9.42	195.59	9.29	195.72

Note: Reference elevations are relative to assumed site datum of 200 ft. Measurements were made from the top of the PVC well riser. NM = Not Measured.

The elevation data collected during December 1997 have been used to prepare the groundwater equipotential map shown in Figure 6. Groundwater flow is eastward toward the Lake as would be expected from the regional setting. The water elevation data indicate that the lagoons are a local point of discharge in the central part of the yard.

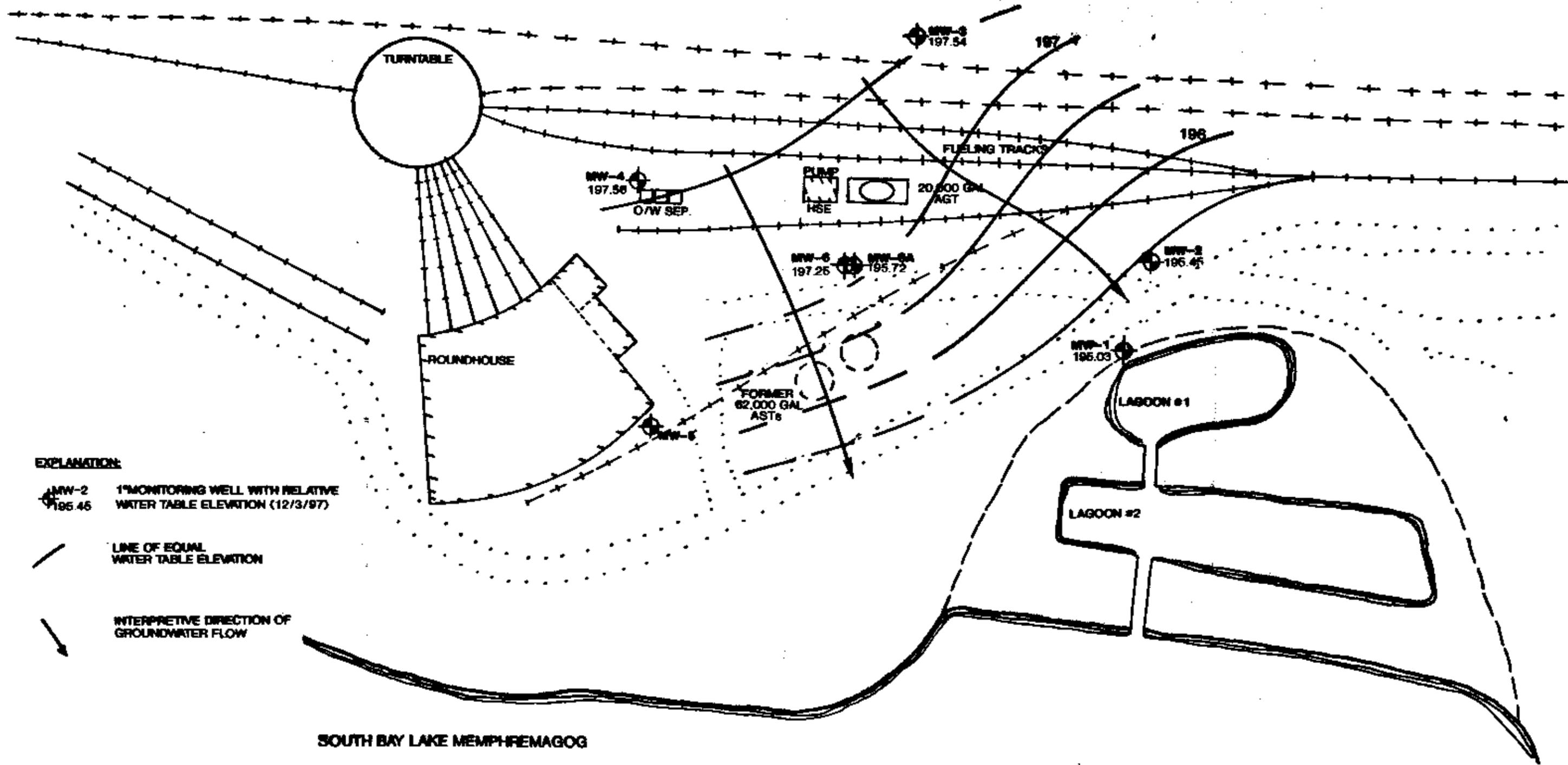
On the basis of the hydraulic conductivity data presented in Section 3.6, the hydraulic gradient depicted in Figure 6 of approximately 0.01 ft/ft, and an estimated effective soil porosity of 25 percent, the calculated velocity of groundwater flow in native soil beneath the central yard would be on the order of 10 feet per year. However, the hydraulic conductivity data include local variations (e.g., MW-1) where higher hydraulic conductivities, and therefore higher rates of groundwater flow, might be expected.

*affairs low porosity
by conservative*

4.3 RESULTS OF THE GEOPHYSICAL INVESTIGATION

The results of the magnetometer survey in Area 2 (the alleged drum disposal area) and at Area 6 (the former Stored Building) are reported in Appendix B. Two anomalies were identified within the grid survey in Area 2. Both locations were explored with test pits (TP-2 and TP-28). TP-3 and TP-23 were excavated within the reconnaissance survey in Area 2. A buried drum was discovered in TP-2 and several railroad tie plates were discovered in TP-3. Soil sampling was performed in TP-2 and is discussed later in Sections 4 and 6.

One magnetic anomaly was recorded at the former Stores Building. Test pit TP-11, excavated at this anomaly, discovered a buried metal tank measuring 4.5 feet by 4 feet by 3 feet. This tank and the results of soil samples collected in TP-11 are discussed later in Sections 4 and 6.



EXPLANATION:

-  MW-2 186.45 1" MONITORING WELL WITH RELATIVE WATER TABLE ELEVATION (12/3/97)
-  LINE OF EQUAL WATER TABLE ELEVATION
-  INTERPRETIVE DIRECTION OF GROUNDWATER FLOW

SOUTH BAY LAKE MEMPHREMAGOG



FIGURE 6
INTERPRETIVE GROUNDWATER FLOW MAP
NEWPORT RAILYARD

4.4 RESULTS OF CHEMICAL ANALYSIS

Field PID and laboratory data from the Newport Rail Yard have been tabulated by media for soil, sediment and water. This section presents the tabulated data, along with figures which display concentrations of the predominant compounds detected in the yard. Appendix C includes the laboratory data reports for the soil and sediment data. Appendix D included the laboratory data reports for the water data.

4.4.1 Results of Soil Analysis

Photoionization Detector Data: The investigation at the Newport Yard included headspace analysis of more than 50 soil samples to screen for the presence of chlorinated and petroleum VOCs. The PID data for soil collected from the 29 test pits and one hand boring are summarized in Figure 7. The PID readings were typically less than 10 ppm in locations where there was no visual evidence or odors encountered in the test pit. The absence of (i) a PID response above 10 ppm, (ii) chemical odors and (iii) visible staining or discoloration of soil was interpreted to mean that the area had not been impacted by rail yard activities.

There were a number of test pits where elevated PID readings were recorded, ranging up to 405 ppm. Frequently, these locations exhibited petroleum odors and soil discoloration. Soil samples were collected and submitted for laboratory analyses from a representative number of locations with elevated PID readings.

Petroleum-Related Compounds in Soil: The principal chemicals used at the railyard were petroleum compounds, mostly diesel fuel. Eleven soil samples were submitted for laboratory analysis for petroleum compounds and the results are tabulated in Table 6. TPH data are also presented with the PID data on Figure 7.

The presence and distribution of petroleum at the Newport Yard has been evaluated through the analysis of the bulk TPH parameter as well as through analysis of specific volatile and semivolatile compounds known to be present in petroleum. TPH concentrations in the shallow granular fill extending from the fuel plant (TP-17) to the turntable (TP-19) range from 18,000 to 24,000 mg/kg. Lower TPH concentrations ranging from 17 to 490 mg/kg were detected in the native soil below the fill in the central yard area (e.g., TP-14 and TP-18). TPH concentrations of 4,900 mg/kg were reported in the vicinity of the 1972 pipe leak (e.g., TP-16). Outside the central yard area (i.e., the area between the turntable and the 1972 pipe leak) elevated TPH concentrations were reported at three specific locations including at the drum discovered west of the yard office (110,000 mg/kg), at a tank discovered at the former Stores Building (11,000 mg/kg) and adjacent to Dike Skimmer #2 (14,000 mg/kg).



GLEN ROAD

TRUCK TRACKS

TP-30:
2': 1
5': 1.2/140

TP-20
1.5': 1.0

TP-22
3': 17.0

TP-21
2': 92.8
4': 8.8

TP-7
2': 5.5
4': 6.1
7': 0.5

TP-6
1': 2.8
3': 1.0
8': 0.6

TP-18
2.5': 405
4': 238
5.5': 30.4/17

TP-19
1': 38.9/24,000
4': 6.3

TP-15
3.5': 73.1
7': 138

TP-9
2': 6.2
8': 4.9

TP-17
4': 133/18,000

TP-16
4': 99.5
6': 58.9/4,900

TP-1
11': 0.6

TP-11
5': 20.1/11,000
8': 27.2

TP-10
8': 5.9/13

TP-14
3': 6.5
5': 25.2/490

DS-2
1.5': 63.4
3': 71.4/14,000

TP-12
7': 11.5
10': 9.7

TP-13
8': 65.8/5,400

TP-2
4.5': 10.4
Drum: 27.8/110,000
10': 1.1

EXPLANATION:

⊠ TEST PIT (TP) LOCATION W/ NUMBER

⊠ HAND BORING LOCATION WITH NUMBER

LOCATION
DEPTH: PID (ppm)/TPH (mg/kg)
(WHERE ANALYZED)

SOUTH BAY LAKE MEMPHREMAGOG

SEE TABLE 6 FOR COMPLETE ANALYTICAL DATA

0 100
SCALE (FT)

FIGURE 7
PID & PETROLEUM DATA IN SOIL
NEWPORT RAILYARD

**TABLE 6
LABORATORY ANALYSES OF SOIL
NEWPORT RAILYARD**

p. 1 of 2

Sample:	TP2-5	TP10-9	TP11-5	TP13-8	TP14-5	TP16-6	TP17-3	TP17-4	TP18-5	TP19-2	TP30-5	DS2-3
Depth:	5 ft	9 ft	5 ft	8 ft	5 ft	6 ft	3 ft	4 ft	5 ft	2 ft	5 ft	3 ft
PID (ppm):	27.6	5.9	20.1	65.8	25.2	58.9		133	30.4		1.2	71.4
Parameter												
TPH PETROLEUM (mg/kg)	110000	13	11000	5400	490	4900	NA	18000	17	24000	140	14000
VOCs (ug/kg)			NA	NA		NA	NA	NA	NA		NA	NA
Methylene Chloride	180	B7			B20					B54		
Benzene	nd	nd			nd							
Toluene	nd	nd			nd							
Ethylbenzene	nd	nd			nd							
m/p-Xylene	nd	nd			nd							
o-Xylene	nd	nd			nd							
Styrene	41	nd			nd							
1,3,5-Trimethylbenzene	nd	nd			nd					13		
tert-Butylbenzene	nd	nd			nd					28		
1,2,4-Trimethylbenzene	540	nd			nd					nd		
sec-Butylbenzene	210	nd			nd					120		
1,3-Dichlorobenzene	220	nd			nd					nd		
4-Isopropyltoluene	1100	nd			nd					nd		
Acetone	300	B11			730					220		
2-Butanone	nd	nd			nd					59		
SVOCs (ug/kg)	NA	NA		NA	NA	NA	NA	NA	NA		NA	NA
Naphthalene			nd							J4200		
2Methylnaphthalene			nd							J3400		
Acenaphthene			nd							J2000		
Dibenzofuran			nd							J2600		
Fluorene			3600							5200		
Phenanthrene			6100							J3500		
Fluoranthene			nd							J2700		
Pyrene			nd							J2600		
Chrysene			nd							J1800		
Benzo(k)fluoranthene			nd							J2700		

ppb

**TABLE 6
LABORATORY ANALYSES OF SOIL
NEWPORT RAILYARD**

p. 2 of 2

Sample:	TP2-5	TP10-9	TP11-5	TP13-8	TP14-5	TP16-6	TP17-3	TP17-4	TP18-5	TP19-2	TP30-5	DS2-3
Depth:	5 ft	9 ft	5 ft	8 ft	5 ft	6 ft	3 ft	4 ft	5 ft	2 ft	5 ft	3 ft
Parameter												
PP Metals (mg/kg)	NA	NA	NA	NA		NA		NA	NA		NA	NA
Antimony					nd		nd					
Arsenic					11.6		25.7					
Beryllium					nd		0.5					
Cadmium					nd		nd					
Chromium					47.6		8.46					
Copper					17		16.4					
Lead					8.3		13.9					
Mercury					nd		nd					
Nickel					91		13.9					
Selenium					nd		nd					
Silver					nd		nd					
Thallium					nd		nd					
Zinc					36.4		18.9					

Notes: 1. See Figure 7 for Location of Samples.

2. TPH by Method 8100, VOCs by Method 8260, SVOCs by Method 8270, PP Metals by 6010/200.7

③ Only Compounds Detected are Listed, See Appendix D for Complete List of Analytes.

4. nd = Not Detected Above Sample Specific Laboratory PQL, See Appendix D for PQLs.

5. NA = Analysis Not Requested for these Parameters.

6. B = Analyte Detected in Laboratory Blank Associated with this Sample.

⑦ J = Estimated Concentration Below Sample Specific PQL.

Four of the 11 soil samples were also analyzed for petroleum-related VOCs and 2 of the 11 samples were analyzed for petroleum-related SVOCs. Benzene, toluene, ethylbenzene or xylene (BTEX) were not reported in any soil samples. These compounds tend to be susceptible to volatilization and natural degradation processes and their absence indicates that the TPH concentrations are not the result of recent releases. Table 6 shows that compounds such as trimethylbenzene and isopropyltoluene were detected in soil with high TPH concentrations. These compounds are more persistent in the environment and remain after the BTEX compounds have attenuated.

SVOC data from soil in the bottom of the turntable include a number of polycyclic aromatic hydrocarbons (PAHs). These compounds are contained in petroleum fuel, such as diesel and in creosote found on the treated railroad ties surrounding the turntable. A combination of petroleum and creosote appear to have contributed PAHs to shallow soil in this location.

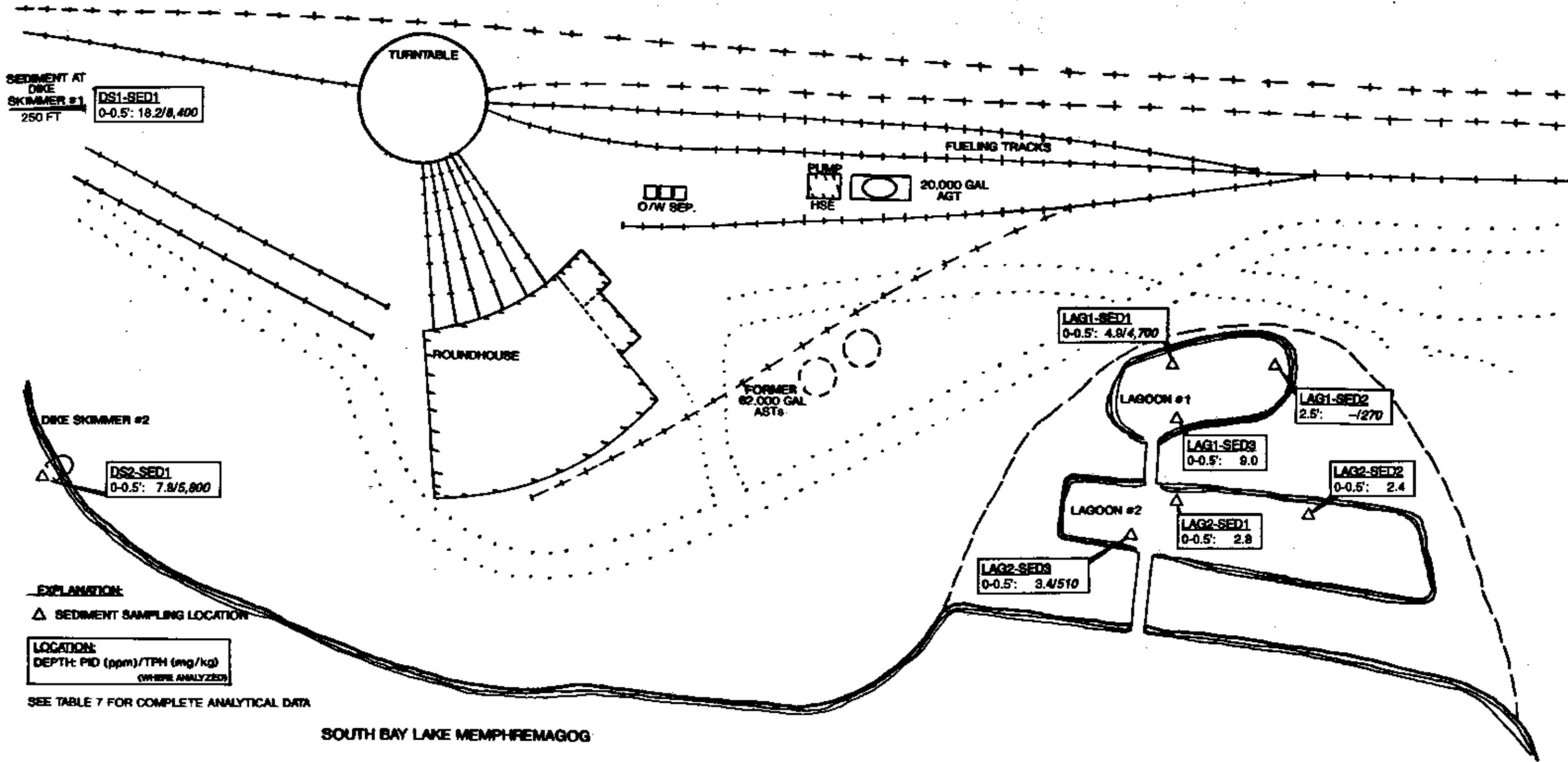
Non Petroleum-Related Compounds in Soil: Historical information about the Newport Yard did not reveal significant use, handling or storage of non-petroleum chemicals such as solvents and the laboratory data did not detect these compounds in appreciable concentrations. The only location where these sorts of compounds were regularly used was in maintenance activities performed in the Roundhouse. Waste cleaning solvents were reportedly added to the former 4,000-gallon waste oil UST outside the Roundhouse. Test Pit TP-10, excavated beneath the location of the former tank, showed that this tank did not release petroleum or solvents to the environment.

Two soil samples were analyzed for the 13 priority pollutant metals. The sample from TP-14 was collected to assess potential release of metals from a dry well in the roundhouse which may have received water containing boiler anti-scaling additives. The sample from TP-17 was collected from the granular fill which underlies the central yard and tracks to determine whether metals concentrations in this material were elevated. The concentration of metals reported in both samples is near the lower end of the range reported as typical for soils by Dragun (*Soil Chemistry of Hazardous Materials, 1988*).

4.4.2 Results of Sediment Analysis

Photoionization Detector Data: Sediment samples were collected from the two lagoons and the lake, at the outfalls of the two dike skimmers. The location of the sampling stations, and the PID data from each location are shown on Figure 8. PID readings ranged from 2.4 to 18.2 ppm.

PID analysis of sediment samples yielded a lower magnitude of instrument response than the PID analyses performed on soil samples. Several of the sediment samples caused a small petroleum sheen on the water during sample. However, the highest sediment PID reading of 18.2 ppm was substantially lower than soil with a comparable petroleum concentration. (Examination of laboratory chromatograms from soil and sediment show that, in comparison to soil, the sediment samples contained fewer short-chain, volatile hydrocarbons. This is presumed to be the result of differential weathering in the soil and subaqueous sediment environment.)



EXPLANATION:

△ SEDIMENT SAMPLING LOCATION

LOCATION:
 DEPTH: PID (ppm)/TPH (mg/kg)
 (WHERE ANALYZED)

SEE TABLE 7 FOR COMPLETE ANALYTICAL DATA

SOUTH BAY LAKE MEMPHREMAGOG



FIGURE 8
PID & PETROLEUM DATA IN SEDIMENT
NEWPORT RAILYARD

Petroleum-Related Compounds in Sediment: Five sediment samples, collected from the lagoons, and from sediment immediately outside the dike skimmer outfalls, were submitted for laboratory analysis (see Table 7). TPH concentrations in the lagoons ranged from 4,700 mg/L in the shallow sediment in Lagoon #1 to 510 mg/L in shallow sediment in Lagoon #2. A sample of native soil beneath the sediment in Lagoon #1 contained 270 mg/kg TPH.

TPH concentrations in Lake sediment outside the two dike skimmers were 8,400 mg/kg and 5,800 mg/kg for skimmers #1 and #2, respectively. TPH compounds near Dike Skimmer #2 are dominated by C10 to C18 hydrocarbons. TPH compounds in sediments near Dike Skimmer #1 include an appreciable percentage of C28 to C36 hydrocarbons, which may be derived from grease drippings around the yard.

BTEX compounds were not detected in sediment at significant concentrations. The VOCs and SVOCs which were detected reflected compounds are more persistent in the environment (e.g., trimethylbenzenes).

Non Petroleum-Related Compounds in Sediment: VOCs and SVOCs which were detected in sediments reflected petroleum rather than solvents or other non-petroleum compounds. The data do not reflect discharge of solvents to South Bay via the dike skimmers or to the lagoons via groundwater.

Sediments from Lagoon #1 were analyzed for metals. The sediment concentrations were typically somewhat higher than the concentrations reported in soil beneath the yard. Lead was reported at 115 mg/kg and nickel was reported at 466 mg/kg.

Sediments in South Bay at Dike Skimmer #2 contained chromium at 5,710 mg/kg and lead at 384 mg/kg. These data are discussed further in Section 6.4.

4.4.3 Results of Water Analysis

Five groundwater and two surface water samples were collected to provide an initial assessment of impact from the petroleum constituents detected in soil.

Free-Phase Petroleum Assessment: During the excavation of test pits in the central yard area, groundwater in the shallow fill frequently flowed into the test pit. Often, this water exhibited a slight to moderate sheen, which is consistent with the PID and subsequent soil data indicating the presence of elevated petroleum concentrations in these soils. Soil samples from TP-17 and TP-18 were tested for petroleum "saturation" as discussed in Section 3.2. Both samples created a sheen on water in the test jar, however, a separate product layer was not observed in either sample.

In order to determine whether free-phase petroleum is present beneath the central yard area, monitoring wells MW-1 through MW-6 were tested for floating oil using a clean bailer. No product was detected in wells MW-1 and MW-2, near the 1972 petroleum spill, or in wells MW-3, MW-4 or MW-6, around the fuel plant and oil/water separator.

**TABLE 7
LABORATORY ANALYSES OF SEDIMENTS
NEWPORT RAILYARD**

Sample:	DS1-SED1	DS2-SED1	LAG1-SED1	LAG1-SED2	LAG2-SED3
Depth:	0-0.5'	0-0.5'	0-0.5'	2.5'	0-0.5'
PID (ppm):	18.2	7.8	4.9		3.4
Parameter					
TPH PETROLEUM (mg/kg)	8400	5800	4700	270	510
VOCs (ug/kg)	NA		NA		NA
Methylene Chloride		B17			nd
Chlorobenzene		nd			5
Benzene		nd			nd
Toluene		nd			nd
Ethylbenzene		nd			15
m/p-Xylene		nd			B28
o-Xylene		nd			nd
Styrene		nd			73
1,2,4-Trimethylbenzene		28			nd
sec-Butylbenzene		19			nd
4-Isopropyltoluene		32			nd
Acetone		38			nd
2-Butanone		J11			nd
SVOCs (ug/kg)	NA			NA	NA
Naphthalene		670	nd		
2Methylnaphthalene		870	nd		
Fluorene		560	nd		
Phenanthrene		J550	nd		
Fluoranthene		J540	nd		
Pyrene		J500	nd		
Benzo(a)anthracene		J310	nd		
Chrysene		J390	nd		
Benzo(k)fluoranthene		610	nd		
Benzo(a)pyrene		J390	nd		
PP Metals (mg/kg)	NA			NA	NA
Antimony		14.8	nd		
Arsenic		15.9	38.4		
Beryllium		0.77	nd		
Cadmium		1.1	1.7		
Chromium		5710	78.1		
Copper		384	44		
Lead		520	115		
Mercury		0.494	nd		
Nickel		37.6	466		
Selenium		1.7	nd		
Zinc		275	163		

Notes: 1. See Figure 8 for Location of Samples.

2. TPH by Method 8100, VOCs by Method 8260, SVOCs by Method 8270, PP Metals by 6010/200.7

3. Only Compounds Detected are Listed, See Appendix D for Complete List of Analytes.

4. nd = Not Detected Above Sample Specific Laboratory PQL, See Appendix D for PQLs.

5. NA = Analysis Not Requested for these Parameters.

6. B = Analyte Detected in Laboratory Blank Associated with this Sample.

7. J = Estimated Concentration Below Sample-Specific PQL.

Approximately 3 feet of petroleum was detected in well MW-5. A sample of the petroleum was submitted for laboratory analysis to identify the type and possible degree of weathering. The oil was identified as moderately weathered diesel fuel (see Appendix F).

Laboratory Analysis of Groundwater and Surface Water: Groundwater and surface water samples were collected and submitted for laboratory analysis from wells screened in the following locations:

- o at the water table upgradient of the fuel plant (MW-3);
- o at the water table in the central yard area (MW-4 and MW-6);
- o approximately 20 feet below the water table in the central yard area (MW-6A);
- o at the water table downgradient of the 1972 spill area (MW-1); and,
- o in Lagoons #1 and #2.

The data are summarized in Table 8 and presented in Figure 9. TPH concentrations from wells MW-1, MW-4 and MW-6 ranged from 20,000 ug/L to 39,000 ug/L. The principal individual petroleum-related compounds reported included benzene (4 ug/L), xylene (1 to 81 ug/L), 1,3,5 trimethylbenzene (47 to 52 ug/L), 1,2,4 trimethylbenzene (140 to 190 ug/L) and naphthalene (140 to 200 ug/L). Methylterbutyl ether (MTBE) was reported at 6 ug/L in MW-1.

The TPH concentration in Lagoon #1 was 10,000 mg/L. Benzene, trimethylbenzene, naphthalene and MTBE were also reported in water at Lagoon #1, at concentrations which were lower than those reported in groundwater. The TPH concentration in Lagoon #2 was 5,600 mg/L.

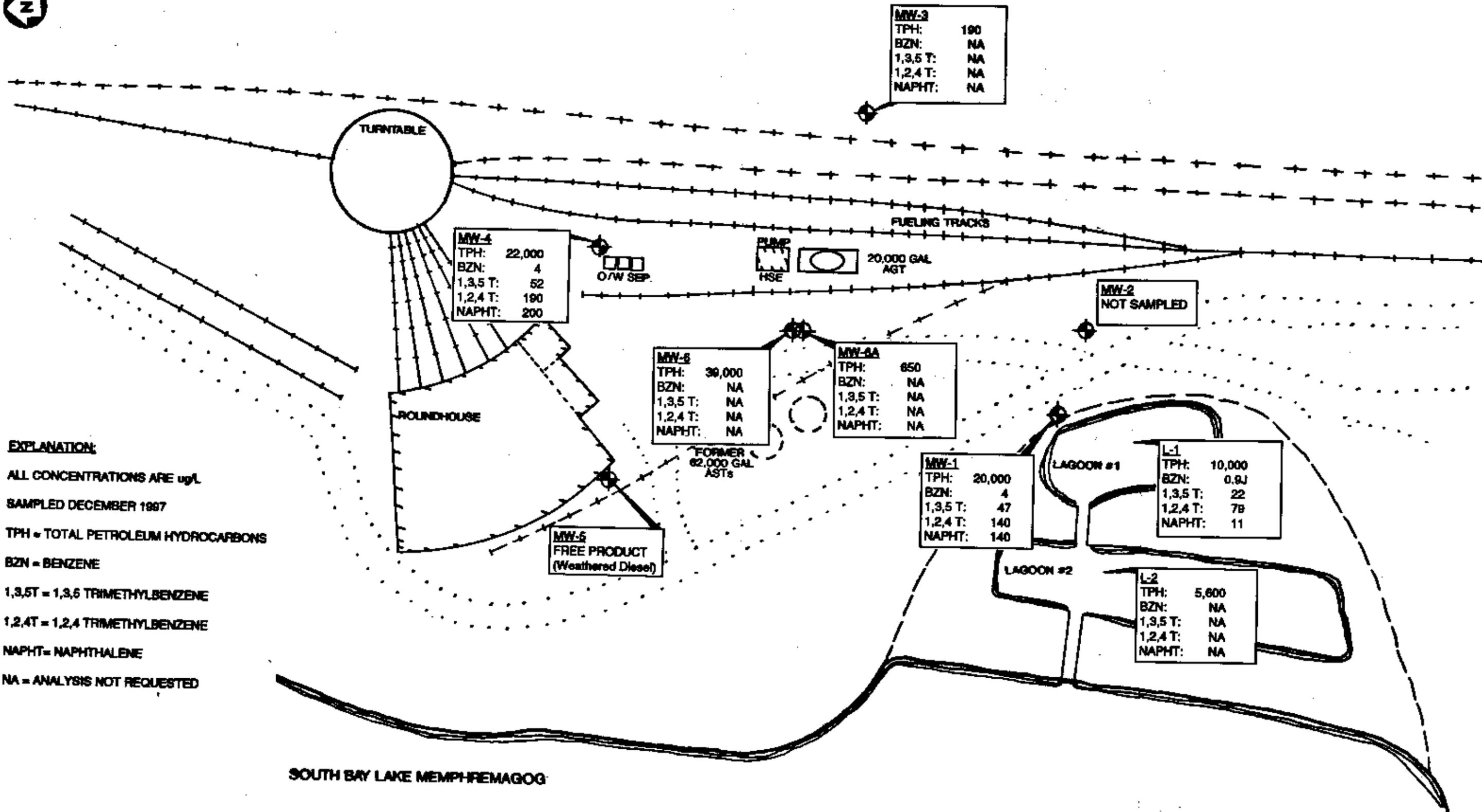
There were no significant detections of non-petroleum related compounds in groundwater or surface water. This is consistent with historical use information and laboratory soil and sediment data.

**TABLE 8
LABORATORY ANALYSES OF WATER
NEWPORT RAILYARD**

Sample:	MW-1	MW-3	MW-4	MW-6	MW-6A	L-1	L-2	TB-1
Depth (ft):	4 to 14	3 to 13	3 to 13	2.5 to 7.5	19 to 24	0.5	0.5	Blank
Parameter								
TPH PETROLEUM (ug/L)	20000	190	22000	39000	650	10000	5600	NA
VOCs (ug/L)		NA		NA			NA	
Methylene Chloride	B9		B8			B7		B50
1,1 Dichloroethane	nd		J0.7			nd		nd
Benzene	4		4			J0.9		nd
Toluene	J0.7		J0.7			J0.8		nd
Ethylbenzene	1		29			18		nd
m/p-Xylene	27		81			57		nd
o-Xylene	3		1			1		nd
Isopropylbenzene	7		13			2		nd
n-Propylbenzene	10		18			3		nd
1,3,5-Trimethylbenzene	47		52			22		nd
tert-Butylbenzene	1		J0.6			nd		nd
1,2,4-Trimethylbenzene	140		190			79		nd
sec-Butylbenzene	4		8			J0.8		nd
4-Isopropyltoluene	nd		14			nd		nd
n-Butylbenzene	10		13			3		nd
Naphthalene	B220		B300			130		BJ0.6
Acetone	5		J4			6		6
Methyltertbutyl ether	6		nd			3		nd
SVOCs (ug/L)		NA		NA	NA		NA	NA
Naphthalene	140		200			11		
2Methylnaphthalene	95		250			21		
Acenaphthylene	J6		nd			nd		
Acenaphthene	J6		11			nd		
Fluorene	nd		12			nd		
Phenanthrene	nd		16			nd		
PP Metals (mg/L)	NA	NA	NA		NA	NA	NA	NA
Zinc				0.0401				

MW-5
A4C
3' Rec-
product

- Notes: 1. See Figure 9 for Location of Samples.
2. TPH by Method 8100, VOCs by Method 8260, SVOCs by Method 8270, PP Metals by 6010/200.7
3. Only Compounds Detected are Listed, See Appendix E for Complete List of Analytes.
4. nd = Not Detected Above Sample Specific Laboratory PQL, See Appendix E for PQLs.
5. NA = Analysis Not Requested for these Parameters.
6. B = Analyte Detected in Laboratory Blank Associated with this Sample.
7. J = Estimated Concentration Below Sample-A22 Specific PQL.



EXPLANATION:
 ALL CONCENTRATIONS ARE ug/L
 SAMPLED DECEMBER 1997
 TPH = TOTAL PETROLEUM HYDROCARBONS
 BZN = BENZENE
 1,3,5T = 1,3,5 TRIMETHYLBENZENE
 1,2,4T = 1,2,4 TRIMETHYLBENZENE
 NAPHT = NAPHTHALENE
 NA = ANALYSIS NOT REQUESTED



FIGURE 9
PETROLEUM AND VOC DATA IN WATER
NEWPORT RAIL YARD

5.0 REGULATORY OVERVIEW

The investigation of the Newport Rail Yard detected petroleum-related compounds in the soil and groundwater resulting from the historic use of the property for railroad operations. In response to these findings, Tewhey Associates has used VtDEC regulatory requirements to assess the significance and possible need for remediation of environmental conditions at the yard. Because the property has been in railroad use for many years and will continue in this use, it is appropriate to assess site conditions in the context of ongoing rail yard operations.

Section 5.1 describes the regulatory framework and guidance levels that could be applied to the conditions in the rail yard. Section 5.2 lists the standards or guidance criteria for individual parameters that were used to evaluate the investigative findings.

5.1 Assessment Framework

The Site Investigation and Corrective Action Guidance provided by the VtDEC provide for two approaches to assess conditions discovered during investigation of properties such as the Newport Rail Yard. The first approach is to compare the concentrations of detected compounds to published standards or guidelines derived from non-site specific risk calculations. The second approach is to conduct a site-specific assessment of the potential risks posed by the conditions at the site.

At this time, a site-specific risk assessment has not been conducted to evaluate the data from the Newport Rail Yard. This preliminary analysis compares the data to published standards or guidelines as a first level of evaluation. On the basis of this comparative assessment, and discussions with VtDEC staff, it may be appropriate to refine potential risks and remedial goals with a site-specific risk analysis.

Soil Quality. The following regulatory standards and guidance information have been used for comparative purposes for soil data.

1. *Agency Guidelines For Petroleum Contaminated Soil and Debris*, Vermont State Agency of Natural Resources, Department of Environmental Conservation, Waste Management Division, Effective Date August 1996.
2. *Region III Risk-Based Correction Action Levels*, U.S. EPA Region III.
3. Telephone Discussion, January 1998, with John Schmelzer of the Vermont Department of Environmental Conservation regarding guidance values for TPH laboratory detections in soil.
4. Dragun, James, Ph.D., 1988, *The Soil Chemistry of Hazardous Materials*, The Hazardous Materials Control Research Institute, Silver Spring, Maryland, p. 77 (native soil concentrations).

Sediment Quality. The assessment of sediment concentrations and their potential impacts is based on the following information.

1. *The Potential for Biological Effects of Sediment-Sorbed Contaminants tested in the National Status and Trends Program*, NOAA Technical Memorandum NOS OMA 52, U.S. Department of Commerce, August 1991.

Groundwater Quality. The assessment of groundwater quality at the rail yard is based on the following regulatory information.

1. *Chapter 12 Groundwater Protection Rule and Strategy*, State of Vermont, Agency of Natural Resources, Department of Environmental Conservation, Rule Number 97-P14, Effective Date November 15, 1997.

5.2 Assessment Criteria

Tables 9, 10 and 11 have been prepared using the assessment framework described in Section 5.1. These tables list (1) the range of concentrations for the compounds detected in the rail yard investigation, and (2) regulatory or guidance information derived from the sources listed in Section 5.1.

Tables 9, 10 and 11 include a number of "guidance" criteria as well as standards which have been derived for non-industrial water or land uses. Northern Vermont Railroad will continue to operate a railyard at the Newport site. Therefore, non-industrial criteria are not appropriate to adopt as criteria for site remediation. Where non-industrial criteria are not available, CPR will work with the VtDEC to identify appropriate remediation objectives.

**TABLE 9
POTENTIAL ASSESSMENT CRITERIA FOR SOIL
NEWPORT RAIL YARD**

PARAMETER	SITE RANGE	EPA REGION III Industrial	DRAGUN
Volatile Organics (ug/kg)			
Methylene Chloride	20B-180B	NA	--
Styrene	41	410,000,000	--
1,3,5 Trimethylbenzene	13	100,000,000	--
tert Butylbenzene	28	20,000,000	--
1,2,4 Trimethylbenzene	540	100,000,000	--
sec-Butylbenzene	120 - 210	20,000,000	--
1,3 Dichlorobenzene	220	180,000,000	--
4 Isopropyltoluene	1100	NA	--
Acetone	11B - 730	NA	--
Semivolatile Organics (ug/kg)			
Napthalene	4,200J	82,000,000	--
2-Methylnapthalene	3,400J	NA	--
Acenaphthene	2,000J	120,000,000	--
Dibenzofuran	2,600J	8,200,000	--
Fluorene	3,600J - 5,200	82,000,000	--
Phenanthrene	3,500J - 6,100	NA	--
Fluoranthene	2,700J	82,000,000	--
Pyrene	2,600J	61,000,000	--
Chrysene	1,800J	780,000	--
Benzo(k)fluoranthene	2,700J	7,800	--
TPH (mg/kg)	11-110,000	NA	--
Metals (mg/kg)			
Arsenic	11.6 - 25.7	610	1.0-40
Beryllium	0.5	1.3	0.1-40
Chromium	8.46 - 47.6	10,000	5.0-3000
Copper	16.4 - 17	82,000	2.0-100
Lead	8.3 - 13.9	400 (Residential)	2.0-200
Nickel	13.9 - 91	41,000	5.0-1000
Zinc	18.9 - 36.4	610,000	10-300

- Notes: 1. See Section 5.1 for reference sources
2. NA = standard or criteria is not available from this source
3. Dragun source applicable to metals only

**TABLE 9A
ASSESSMENT CRITERIA FOR PETROLEUM IN SOIL
NEWPORT RAIL YARD**

VtDEC SOIL GUIDELINE THRESHOLD PID (ppm)	PRODUCT	VtDEC CORRECTIVE ACTION GUIDANCE FOR REMEDIATION
<u>Category I:</u> < 20 < 10	Gasoline Fuel Oils	Backfill on-site providing no sensitive receptors immediately threatened by the soil.
<u>Category II:</u> 20-100 10-40	Gasoline Fuel Oils	Treat soil either on- or off-site, or backfill if a full site investigation will be performed.
<u>Category III:</u> 100-1,000 40-400	Gasoline Fuel Oils	Treat soil on-site. Encouraged to backfill to minimize vapor release. Full site investigation is required.
<u>Category IV:</u> > 1,000 > 400	Gasoline Fuel Oils	Treat soil in-situ. Encouraged to backfill to minimize vapor release. Full site investigation is required. If excavated for removal, treat as hazardous waste.

Note: 1. *Agency Guidelines For Petroleum Contaminated Soil and Debris*, Vermont State Agency of Natural Resources, Department of Environmental Conservation, Waste Management Division, Effective Date August 1996.
 2. Discussions with VtDEC indicate that < 200 ppm TPH in soil is acceptable for a residential setting and < 1,000 ppm TPH in soil is acceptable for an industrial setting.

**TABLE 10
POTENTIAL ASSESSMENT CRITERIA FOR GROUNDWATER
NEWPORT RAIL YARD**

PARAMETER	SITE RANGE in GW	VtDEC GQS
Volatile Organics (ug/L)		
Methylene Chloride	7B - 9B	5
1,2-Dichloroethane	0.7J	5
Benzene	0.9J - 4	5
Toluene	0.7J-0.8J	1,000
Ethylbenzene	1-29	700
m,p-Xylene	27-81	10,000
o-Xylene	1-3	10,000
Methyltertbutyl Ether	3-6	40
Isopropylbenzene	2-13	NA
nPropylbenzene	3-18	NA
1,3,5-Trimethylbenzene	22-52	4
tert-Butylbenzene	0.6J-1	NA
1,2,4-Trimethylbenzene	79-190	5
sec-Butylbenzene	0.8J-8	NA
4-Isopropyltoluene	14	NA
n-Butylbenzene	3-13	NA
Acetone	4J-6	700
TPH (ug/L)	190 - 39,000	NA
PAHs (ug/L)		
Naphthalene	11 - 200	20
2-Methylnaphthalene	21-250	NA
Acenaphthylene	6J	NA
Acenaphthene	6J-11	NA
Fluorene	12	280
Phenanthrene	16	NA
Metals (mg/L)		
Zinc	0.04	5

- Notes: 1. See Section 5.1 for Source Reference
 2. "NA" indicates a VtDEC Groundwater Quality Standard (GQS) is not available.
 3. "J" indicated estimated concentration; "B" indicates compound also detected in lab blank

**TABLE 11
POTENTIAL ASSESSMENT CRITERIA FOR SEDIMENT
NEWPORT RAIL YARD**

PARAMETER	SITE RANGE	NOAA ER-L/ER-M
Volatile Organics (ug/kg)	5-73	NA
TPH (mg/kg)	270-8,400	NA
PAHs (ug/kg)		
Naphthalene	670	340 / 2,100
2-Methylnaphthalene	870	65 / 670
Fluorene	560	35 / 640
Phenanthrene	550J	225 / 1,380
Fluoranthene	540J	600 / 3,600
Pyrene	500J	350 / 2,200
Benzo(a)anthracene	310J	230 / 1,600
Chrysene	390J	400 / 2,800
Benzo(k)fluoranthene	610	NA
Benzo(a)pyrene	390J	400 / 2,500
Metals (mg/kg)		
Antimony	14.8	2 / 25
Arsenic	15.9-38.4	33 / 85
Beryllium	0.77	NA
Cadmium	1.1-1.7	5 / 9
Chromium	78.1-5,710	80 / 145
Copper	44-384	70 / 390
Lead	115-520	35 / 110
Mercury	0.494	0.15 / 1.3
Nickel	37.6-466	30 / 50
Selenium	1.7	NA
Zinc	163-275	120 / 270

- Notes: 1. See Section 5.1 for Source Reference
 2. ER-L = Effects Range-Low: Lower 10 percentile concentration with observed or predicted biological effects
 3. ER-M = Effects Range-Median: Median concentration with observed or predicted biological effects
 4. "NA" indicates compound not assessed in National Oceanic and Atmospheric Administration Memoranda (NOAA) Technical Memorandum NOS OMA 52.

6.0 CHARACTERIZATION OF THE NEWPORT RAIL YARD

The Newport Rail Yard site has been used for a variety of railroad operations for more than 100 years. Beginning in the 1940s, when the stationary fuel plant was constructed, the yard has been a principal fueling depot along the Lyndonville Subdivision rail line extending from St. Johnsbury north to Canada. According to CPR records, as much as 70,000 gallons of diesel fuel per month was dispensed from the fuel plant in the 1970s. In 1995, the average was 15,000 gallon/month. The yard has also been used for maintenance of locomotives and freight cars, storage and repair of track maintenance equipment and for the classification and assembly of freight trains.

Railyard operations predated many of the land uses which are present in the area at this time. As a result, there has not been high density residential or other sensitive development near the yard. The presence of human or ecological receptors is reviewed below.

Assessment of Sensitive Receptors. Several potential receptors have been evaluated to determine whether there could be potential impacts from conditions at the rail yard. These are described briefly below.

- o **Groundwater Consumers:** There do not appear to be any current or reasonably foreseeable future groundwater uses which could be adversely impacted by conditions at the rail yard. The properties surrounding the rail yard, as well as the buildings at the yard, are supplied with potable water by the Newport Water Department. There are no domestic water supply wells known to be active within or downgradient of the yard. The Newport Water Department draws its water supply from wells screened in granular deposits north and west of the Yard, across South Bay.
- o **Buildings:** The only buildings which are present in the central yard area, where petroleum residues have been encountered, are the Roundhouse and the pump house at the fuel plant. Both these buildings are built on concrete slabs, without subsurface basements. Therefore, there does not appear to be any threat of vapors entering and collecting in basements.
- o **South Bay:** The South Bay of Lake Memphremagog, and the wetlands which border the lake, received stormwater, surface water runoff and groundwater discharge from the rail yard. Therefore, there is a potential for the historical and current practices at the rail yard to influenced the quality of lake water and sediments.

The sensitivity of the Lake to these discharges will need to be evaluated in conjunction with the VtDEC. The Vermont Water Quality Division classifies the South Bay as a "Class B" water body and manages the Bay for wildlife rather than recreational uses. They consider the South Bay to be "impaired", with elevated levels of nutrients, turbidity, organic matter, dissolved oxygen and pathogens. As a result, the Bay is eutrophic and suffers from algal blooms. The Water Quality Division has identified agricultural runoff, combined sewer overflows and discharges from the municipal sewerage treatment plant as existing discharges to the lake.

In order to determine the existing conditions of the South Bay and to assess whether conditions at the rail yard have the potential to further impair the lake, additional evaluation may be necessary.

The 1997 investigation examined the soil, sediment and water conditions at 15 areas where petroleum or other chemicals had been stored or handled in the rail yard. The results of this investigation provide a general characterization of the yard. Section 6.1 discusses those areas where there appears to have been no impact from rail operations. Section 6.2 discusses the areas west of the Yard Office and at the former Stores Building, where there was evidence of limited impact. Section 6.3 discusses the central yard area, where several co-located activities have contributed to soil and groundwater impacts.

6.1 PERIPHERAL AREAS OF ACTIVITY

The investigation at the Newport Rail Yard explored a number of areas which did not exhibit evidence of impact in either soil or groundwater. These included:

- o The active underground heating oil tank at the Yard Office (see Figure 3, Location 1)
- o The above and underground fuel tanks at the Agway lease, south of the main yard (see Figure 2A)
- o The former and current RIP tracks (see Figure 3, Locations 4); and
- o The former 4,000-gallon waste oil UST at the Roundhouse (see Figure 3, Location 5).

Regulatory Assessment. Soil at these locations did not appear stained, or exhibit a chemical odor. PID readings were typically less than the VtDEC guideline of 10 ppm. There is no evidence to suggest that additional investigations would be required in these areas.

6.2 LAND WEST OF THE OFFICE AND THE STORES BUILDING

Geophysical techniques were used to assess the potential for buried waste oil drums beneath undeveloped land west of the Yard Office and to assess whether USTs were present at the former Stores Building, north of the Roundhouse. Test pits were excavated in locations where the survey detected buried metal objects. The findings of the geophysical survey, test pits and soil analyses are presented below.

6.2.1 Land West of the Yard Office

The magnetometer survey conducted west of the Yard Office (Area 2, Figure 3) screened more than 10,000 square feet of land which long-time employees identified as the most likely areas to have been used for waste disposal. The survey focused on areas which were along a dirt trail which provides the most likely access to this undeveloped area. Several weak metal anomalies were identified within the

survey area. In addition, a reconnaissance survey with the EM-61 was conducted west, southwest and north of the grid area along paths and routes which would have been accessible by vehicle or where the land surface showed evidence of past disturbance. Only one metal anomaly was identified during this walkover. There were no metal anomalies encountered which were of sufficient areal extent to be indicative of a cache of buried drums.

Test pits TP-2 and TP-3 were excavated at the location of the two strongest metal anomalies. A metal rail road tie plate was found immediately below the ground surface at TP-3, however, no other significant metal or stained soil was encountered in this test pit.

Test Pit TP-2 did encounter a buried drum which contained loosely packed soil at a depth of approximately 4 feet. Soil around the drum extending several feet above and below and 5 to 10 feet laterally was somewhat discolored (i.e., light gray rather than native brown). Soil within the drum exhibited a TPH concentration of 110,000 mg/kg. BTEX compounds were not reported in sample TP2-5, however, less degradable petroleum compounds (e.g., trimethylbenzenes) were present at concentrations ranging from 210 to 1,100 mg/kg.

Before backfilling TP-2, the drum and the soil contained within the drum were removed, set near the test pit and covered with plastic sheeting. Soil around the drum was left in place in the test pit.

Regulatory Assessment. It appears that this drum contained petroleum residues when it was buried and it should be properly disposed off-site. PID readings in the vicinity of the drum were within the Category II VtDEC guidelines (i.e. 10 - 40 ppm). The TPH concentration of 110,000 mg/kg within the drum was above the Category VI VtDEC guidelines for industrial land uses. However, the petroleum material is not at the ground surface and would not pose a direct contact risk. No compound specific standards were exceeded in the soil sample from this location.

The residues in soil around the drum have impacted a limited volume of soil (30 to 50 cubic yards) in close proximity to the drum. PID data as well as visual soil discoloration suggested that the impact from this drum diminishes below a depth of approximately 7 feet. On the basis of the limited impact in this area, removal, and proper disposal of the drum and its soil contents would be an appropriate remedial response.

6.2.2 Former Stores Building

The reconnaissance magnetometer survey north of the Roundhouse, at the location of the former Stores Building (see Area 6, Figure 3) revealed one strong metallic anomaly. Test pit TP-11 encountered a very old, rectangular steel tank which measured 4 ft by 4.5 ft by 3 ft. The top of the tank was encountered at a depth of 1 foot below ground. Valve and pipe fittings had been removed from the top of the tank, and the interior of the tank had been emptied of liquid and filled with bricks, soil and wood debris. The exterior of this tank was framed with wooden timbers. As a part of the investigation of the Stores Building, the steel tank was removed from the test pit and set aside. Soil and debris within the tank was backfilled in the test pit.

A soil sample (TP11-5) collected from an 0.5 foot thick layer of stained soil immediately beneath the tank and timbers contained 11,000 mg/kg TPH as well as the PAHs fluorene (3,600 ug/kg) and phenanthrene (6,100 ug/kg). PID headspace readings at this test pit location ranged from 20.1 at 5 feet (sample TP11-5) to 27.2 at 8 feet. Native soil surrounding the tank was gray silty fine sand.

Regulatory Assessment. The observations and data from TP-11 indicate that the soil surrounding the Stores Building tank contains petroleum residues. PID readings were within the Category II VtDEC guidelines. The concentrations of individual chemicals were below Region III risk-based concentrations. The relatively low PID responses, in comparison to the reported TPH concentration, suggest that the petroleum residues have been subject to evaporative and perhaps biological weathering.

The full extent of impact from this tank were not determined during this investigation. Test pits at the active RIP tracks, located within 25 to 50 feet upgradient of the tank, did not exhibit evidence of impact. This suggests a localized, rather than broad, area of impact from the tank.

The former Stores Building tank is close to the central yard area discussed in Section 6.3. The presence of petroleum residues in the subsurface soil at the former Stores Building do not pose a direct contact risk to site workers or visitors; nor do these conditions pose a vapor risk to nearby buildings. There are no groundwater uses within or downgradient of the yard who might come in contact with groundwater containing petroleum-related compounds. Based on the proximity of the former Stores Building to the central yard, it is appropriate to work with the VtDEC to develop a remedial goal which is consistent for both areas. Once this objective has been identified, additional investigation or remedial activities can be planned as needed.

6.3 CENTRAL YARD AREA

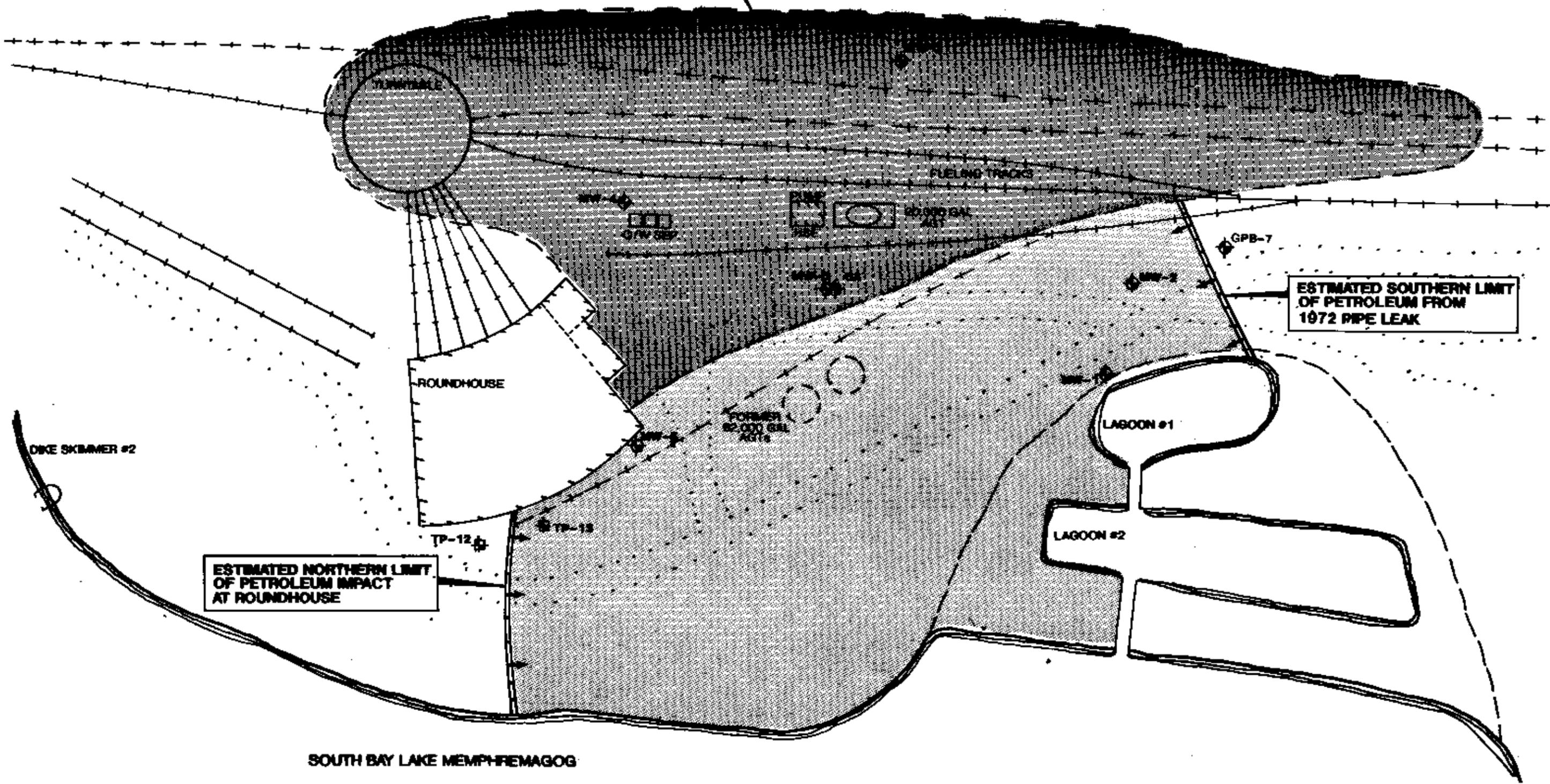
The central yard area has been used for the majority of the maintenance and fuel handling activities for more than 50 years. Specific structures in the central yard include (I) the Roundhouse, (II) the Fuel Plant, with the associated tanks and piping, (III) the oil/water separator system and (IV) the turntable. These were introduced in Section 2 as Areas 7, 10, 11 and 12, respectively (see Figure 3). In the early 1970s, there was a pipe leak along the tracks immediately south of the fuel plant (Area 9, Figure 3). Based on the proximity of this leak and the observations made during the investigation, the area of impact from this spill appears to be contiguous with the other major features in the central yard and is also discussed in this section.

6.3.1 Soil Conditions at the Fuel Plant Area

The presence and distribution of petroleum compounds in soil near the Fuel Plant, oil/water separator and turntable is influenced by the shallow subsurface geology as well as the location of specific structures within the yard. An area of more than 2 acres beneath the central yard is underlain by 3 to 5 feet of granular fill above the native fine-grained sandy soil (see Figure 10). This granular fill material appears to have permitted water and any associated petroleum residues to migrate laterally within the fill, with the result that the distribution of petroleum compounds appears to be relatively uniform across much of this area.



ESTIMATED EXTENT OF
FILL & CINDERS



ESTIMATED SOUTHERN LIMIT
OF PETROLEUM FROM
1972 PIPE LEAK

ESTIMATED NORTHERN LIMIT
OF PETROLEUM IMPACT
AT ROUNDHOUSE

SOUTH BAY LAKE MEMPHREMAGOG

0 80
SCALE (FT)

FIGURE 10
PETROLEUM IN CENTRAL YARD
NEWPORT RAIL YARD

On the basis of the PID, TPH and chemical specific data presented in Figure 7 and Table 6, the shallow fill material encountered in TP-17 (Fuel Plant), TP-18 (Oil/Water Separator), TP-19 and 22 (Turntable) and at TP-21 (East of the Fuel Plant) can be generally characterized as follows:

- PID: 40 to 400 ppm
- TPH: 18,000 to 24,000 mg/kg
- BTEX are low or absent;
- Trimethyl- and butylbenzenes are present

Three samples of native soil beneath the fill in the Central Yard Area were screened with the PID and/or submitted for laboratory analysis (e.g., TP18-5, TP-19-4, TP-21-4). These samples typically had PID readings below 10 ppm. The laboratory TPH concentration from TP18-5 was 17 mg/kg. These data indicate that the fine grained native soil acts to limit downward migration of petroleum-related compounds in the area where shallow granular fill is present.

6.3.2 Soil Near 1972 Pipe Leak

Historical information indicates that in 1972 there was a leak in an oil pipeline which ran from the fuel plant to a small oil burner in the Sand House, opposite the current Yard Office. At that time, petroleum migrated through the soil and seeped into an embayment in South Bay. To control the seepage of oil into South Bay, the embayment was partially filled to create the two lagoons with skimmer weirs.

On the basis of the observations and data from TP-15 and TP-16, the soil between the spill location and the lagoon continues to be impacted with petroleum residues, although free-phase petroleum was not encountered in this area. A shallow Geoprobe boring (GPB-7) completed 100 feet south of MW-2 exhibited low PID readings and does not appear to contain significant petroleum residues.

No explorations were completed north of the spill area, in the direction of the fuel plant. However, petroleum impact from the spill and the fuel plant may coalesce in the granular fill beneath the area (see Figure 10).

PID data from soil in test pits TP-15 and TP-16 and in shallow Geoprobe borings MW-1 and MW-2, collected near the former spill, ranged from 39.5 to 138 ppm. A laboratory sample from 6 feet in TP-16 contained TPH at a concentration of 4,900 mg/kg.

Deeper soil samples were collected from 11 to 14 feet in borings MW-1 and MW-2. PID readings from these deeper samples were 4.3 and 2.3 ppm, respectively, which suggests that petroleum residues decrease rapidly between a depth of 8 and 10 feet.

6.3.3 Soil Near the Roundhouse

The Roundhouse has been the central maintenance facility at the Newport Yard since the 1940s. Based on information gathered by CPR in its review of historical information, the maintenance activities which have taken place in the Roundhouse are described below.

- The main Roundhouse building contains six maintenance pits which were connected to the Dike Skimmer #2 system prior to 1992. Since that time, the pits have been sealed and liquids which accumulate within the pits are managed within the building.
- The building also contained a closed dry well (Area 8, Figure 3) which may have received lubricating oil or liquid from a procedure used to steam clean oil and fuel filters. This dry well was covered with concrete and could not be investigated directly, however, TP-14 was excavated immediately outside the Roundhouse near this location.
- Until 1992, the building was heated with an oil-fired boiler supplied from a 500 gallon above ground oil tank located outside the small addition on the south side of the building. There are no records which indicate that there were other petroleum storage tanks within or immediately adjacent to the Roundhouse.
- According to the Buildings and Bridges supervisor, who maintains the Roundhouse infrastructure, there is a perimeter drain around the west side of the roundhouse. This drain is a few feet below ground and is designed to carry runoff from the roof out to South Bay.
- Sanitary waste from the Roundhouse is disposed in a septic system which is located outside the southwest corner of the building (see Figure 2).

Soil conditions near the Roundhouse were investigated at four test pit locations (TP-10, 12, 13 and 14) and at MW-5. Soil along the north and northwest sides of the building had low PID readings and did not exhibit odors or staining suggestive of petroleum residues. Soil below the water table at MW-5, TP-13 and TP-14 had PID readings ranging from 25 to 65 ppm. TPH concentrations in soil ranged from 490 to 5,400 mg/kg. The soil sample from TP-14 did not contain any petroleum-related VOCs, which may indicate that residues in this area have been subject to significant weathering.

Test pit data suggest that petroleum concentrations decrease sharply between TP-12 and TP-13, marking the northern extent of impact at the Roundhouse (see Figure 10). Explorations were not conducted between TP-14 and MW-5 and the Fuel Plant. However, the historical land uses in this area included the two former 62,000 gallon diesel tanks. Therefore, it is possible that petroleum compounds in soil near the Roundhouse may also coalesce with similar compounds in the area of the Fuel Plant.

6.3.4 Groundwater and Surface Water Near the Central Yard Area

Groundwater is present within 3 to 5 feet of the ground surface under the central portion of the Newport Rail Yard. The lower 1 to 2 feet of the shallow granular fill is saturated in this area. During the exploration program, groundwater encountered in the shallow fill readily flowed into the open test

pits. These fill soils have acted as a pathway to distribute water and petroleum compounds throughout the central yard area. In addition, the Roundhouse and the location of the 1972 spill lie immediately adjacent to, and are contiguous with the area where shallow fill underlies the Fuel Plant. Based on the information gathered during this investigation, it appears to be appropriate to consider shallow soils in the central yard area to act as a single source of petroleum compounds to groundwater, rather than to distinguish among the various sources within and adjacent to this central yard area.

The groundwater system beneath the rail yard contains separate-phase and dissolved petroleum as a result of historical rail operations. The principal findings of the investigation are as follows.

- o Separate phase diesel is present in a layer on the groundwater table at the southwest corner of the Roundhouse. Well MW-5 was found to contain approximately 3 feet of oil shortly after being installed. The thickness of the product in this well suggests that there may be 0.5 to 1 foot of petroleum in the formation in this location. No separate-phase petroleum was detected in the other monitoring wells at the yard.
- o Groundwater beneath the central yard, extending from the oil/water separators (MW-4) to the lagoons (MW-1), contains dissolved petroleum (TPH) concentrations ranging from 20,000 to 39,000 ug/L. BTEX concentrations in these wells are generally low. The concentration of the trimethylbenzenes ranges from 22 to 190 ug/L and the concentration of naphthalene ranges from 11 to 200 ug/L. The presence of trimethylbenzene and naphthalene and the paucity of BTEX compounds indicates an older, rather than a more recent, source for the petroleum.
- o Groundwater collected from MW-3, upgradient of the fuel plant, and from MW-6A, screened in the native fine sand unit beneath the fuel plant, exhibited TPH concentrations ranging from 190 to 650 ug/L. These concentrations are approximately 2 orders of magnitude lower than the shallow groundwater concentrations and highlight sharp decreases in petroleum impact in the upgradient and vertical directions.
- o The hydrogeologic data indicate that shallow groundwater flow discharges into the lagoons west of MW-1. Water quality in Lagoon #1 and Lagoon #2 reflects this upgradient groundwater with an incremental decrease in the concentration of all parameters. TPH concentrations decrease from 20,000 ug/L in MW-1 to 10,000 ug/L in Lagoon #1 to 5,600 ug/L in Lagoon #2. Individual compounds such as trimethylbenzene and naphthalene also decrease in a similar magnitude as groundwater discharges to and flows through the lagoons.

Regulatory Assessment of Soil and Groundwater: The central yard area contains petroleum residues in soil and groundwater as a result of historical fuel handling and uses. Comparison of the field and laboratory data to the regulatory standards and guidelines summarized in Tables 9 and 10 indicates the following.

- o Shallow fill soil PID readings fall within the Category II and III VtDEC guidelines.
- o While the VtDEC has not formally adopted a guideline for TPH concentrations in soil on industrial sites, the staff reported that an informal guideline of 1,000 mg/kg TPH is being

considered. Soil concentrations which exceed this informal guideline were reported in the shallow fill soil, in deeper native soil near the 1972 leak and in the native soil south and west of the Roundhouse.

- o The concentrations of individual chemicals were below Region III risk-based concentrations. A number of soil samples exhibited relatively low PID responses, in comparison to the reported TPH concentration. This suggests that the petroleum residues have been weathered.
- o The presence of separate phase diesel in MW-5 requires that corrective actions be undertaken if it is feasible to recover the product.
- o The VtDEC has not adopted a Groundwater Quality Standard (GQS) for TPH. Groundwater concentrations for BTEX compounds do not exceed the GQSs, however, concentrations for the less degradable trimethylbenzenes and naphthalene do exceed GQSs.

The presence of petroleum residues in the subsurface soil and groundwater in the central portion of the rail yard does not pose a direct contact risk to the public or a vapor risk to nearby buildings. There are no groundwater users within or downgradient of the yard who might come in contact with groundwater containing petroleum-related compounds. A substantial part of the area in which these compounds have been detected is beneath rail tracks and buildings which will continue to be in active use into the future. For this reason, it is appropriate to consult with the VtDEC to develop site-specific remedial objectives, rather than adopt general regulatory guidelines.

6.4 SEDIMENTS IN SOUTH BAY OF LAKE MEMPHREMAGOG

The South Bay of Lake Memphremagog is a potentially significant ecological receptor near the rail yard. Groundwater flowing beneath the yard discharges to South Bay. In addition, there are two drain systems, described in Section 2.3, which have discharged to South Bay via dike skimmers. Lake sediments near the two dike skimmer outfalls were investigated as part of the site evaluation.

6.4.1 Sediments Near Dike Skimmer #1

Dike Skimmer #1 is a permitted stormwater discharge from the Fuel Plant and Turntable to South Bay (VtDEC #3-1333). Since 1992, the outfall has been sampled twice monthly from April through November for BTEX, oil and grease and TPH. During the past 4 years, the discharge has only exceeded the permit criteria on two occasions when there has been unusually high run-off.

Exploration of the sediments near the outfall of Dike Skimmer #1 revealed a small area (i.e., a few hundred square feet) where sediments contained oily residues which caused a sheen on the water surface when disturbed. The TPH concentration in sample DS1-SED1, collected in this location, was 8,400 mg/kg. The PID headspace reading in this sample was 18 ppm. The laboratory chromatogram for this sample shows evidence of both diesel-like (i.e., C12 to C20) and heavier grease-like (i.e. greater than C28) hydrocarbons.

Beyond the immediate outfall, the Lake bottom is vegetated with water plants and there did not appear to be any oily residues in the sediments. A PID headspace reading taken 20 feet from the outfall was 2.7 ppm.

6.4.2 Sediment Near Dike Skimmer #2

Dike Skimmer #2 received waste liquids from the Roundhouse floor pits until 1992, when the pits were cleaned and sealed. The Dike Skimmer now receives only stormwater entering one of the catch basins north of the Roundhouse (see Figure 2). Records indicate that, prior to 1992, this drain system may have received liquids containing petroleum, cleaning solvents and coolant containing metal additives.

Unlike Dike Skimmer #1, the lake bed near the outfall of Dike Skimmer #2 contains granular sediment with only sparse vegetation. Exploration of the sediments near the outfall revealed an area of approximately 5,000 square feet where sediments contained oily residues which caused a sheen on the water surface when disturbed. The TPH concentration in sample DS2-SED1, collected within 20 feet of the outfall, was 5,800 mg/kg. PID headspace reading from sediment within the 5,000 square foot area ranged from 5 to 10 ppm.

Sediment near the outfall of Dike Skimmer #2 was also analyzed for VOCs and metals to determine whether these compounds, which may have been discharged from the Roundhouse, had accumulated in lake sediment. Low concentrations of petroleum-related trimethylbenzenes were detected in DS2-SED1, however, no chlorinated compounds indicative of cleaning solvents were detected. Low concentrations of PAHs, possibly related to petroleum, were also detected in sediments.

Several metals were detected at concentrations which were above other locations at the yard. These included chromium at 5,710 mg/kg and lead at 520 mg/kg.

Regulatory Assessment of Lake Sediments The historic discharge of stormwater and wastewater via the two Dike Skimmers has resulted in the localized accumulation of petroleum residues in lake sediments. The low PID readings and the sample chromatograms indicate that the reported TPH values represent a combination of weathered diesel and heavy petroleum. At this time, Dike Skimmer #1 is permitted by the VtDEC and appears to meet the requirements of the permit except under very high runoff conditions. Dike Skimmer #2 is inactive.

The VtDEC or other agencies have not established TPH guidelines in sediment. For comparative purposes, the data for individual compounds have been compared to information summarized in Table 11 (NOAA, 1991). The concentrations of chromium in sediments at the outfall of Dike Skimmer #2 exceeded the NOAA ecological response values by approximately 50 times. The concentrations of lead and nickel in these sediments also exceed the NOAA values by a factor of 5 and 10, respectively.

The sediment data indicates that site-related petroleum and metals are present in sediment. The potential for these compounds to pose an actual risk to the lake habitat near the rail yard has not been quantitatively evaluated at this time. It is appropriate to consult with the VtDEC regarding general water quality of the Lake, other permitted and unpermitted discharges to the Lake and the future management of this water body in order to determine the need for additional evaluation of these data.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

At CPR's request, Tewhey Associates conducted a Phase II Environmental Site Investigation of the 74 acre Newport Rail Yard. Soil, sediment and groundwater conditions were investigated in areas which CPR determined may have been used to handle or store petroleum or other chemicals. When appropriate, laboratory and field data have been compared to regulatory standards and criteria to determine whether consultation with the VtDEC and/or corrective actions may be necessary. A summary of the principal findings are as follows.

1. The Newport Rail Yard is located on the eastern shore of the South Bay of Lake Memphremagog and has been used for railroad operations since the late 1800s. Since the 1940s, the yard has been the primary fuel and maintenance facility along the line from St. Johnsbury to the main line in Canada. CPR operated the yard from 1927 until 1997, when ownership was transferred to the Northern Vermont Railroad.
2. The Newport Water Department provides potable water to buildings in the yard. Sanitary wastewater is disposed in several on-site septic systems. There are no public or domestic water supply wells near to or downgradient of the rail yard.
3. The yard is situated on a flat terrace along the shore of South Bay. The ground surface rises steeply to the east of the yard, across Glen Road. Subsurface soils consist primarily of fine-grained stratified sand and silty sand deposits. Above the fine grained native soil in the central part of the yard, there is 3 to 5 feet of coarse grained fill consisting of sand, gravel and cinders.

Groundwater flow beneath the yard is from east to west, where it discharges into South Bay. On the basis of the hydraulic parameters measured during the investigation, groundwater flow rates in the native soils are estimated to be on the order of 10 feet per year, with locally varying conditions of higher flow.

4. CPR identified 15 areas to be evaluated during the investigation. Four of these areas showed no evidence of petroleum or other chemical residues. Two areas contained limited residues as a result of underground tanks or buried drums. The remaining areas, which are clustered together in the central part of the yard, exhibited broader evidence of petroleum residues.
5. Investigations at the active Yard Office UST, the Agway lease parcel, the RIP tracks and at the former waste oil UST north of the Roundhouse did not encounter evidence of petroleum or other chemical residues in soil. As a result, no further investigation is necessary in these areas.
6. Investigation of the undeveloped land west of the Yard Office revealed one drum which contained soil with 110,000 mg/kg of petroleum residues. A limited volume of soil around the drum (i.e., 30 to 50 cubic yards) was discolored and gave PID readings above 10 ppm. Soil discoloration diminished and PID readings returned to background within two to three feet

below the drum. On the basis of the field observations and PID data, impact in this area appeared to be limited.

7. Investigations at the former Stores Building discovered a former underground petroleum storage tank. The tank, which had a capacity of approximately 400 gallons, had been emptied of petroleum and filled with soil and brick debris. PID readings below the tank ranged from 20 to 27 ppm and the TPH concentration in soil immediately beneath the tank was 11,000 mg/kg.

The downgradient extent of petroleum impact in this location was not specifically evaluated during this investigation. Nearby upgradient test pits did not exhibit evidence of petroleum residues which would be attributable to the Stores Building tank. This suggests that the extent of impact may be limited. The comparatively low PID response from soil near the tank also suggests that the petroleum residues have been subjected to weathering.

8. There have historically been a number of petroleum handling activities which have taken place in the central part of the rail yard, extending approximately 500 feet south from the Roundhouse and turntable. These have included bulk fuel storage and dispensing at the Fuel Plant, collection of runoff via the oil/water separator, a pipeline leak south of the Fuel Plant and various maintenance activities conducted in the Roundhouse.

Residual petroleum concentrations in shallow soil in the central yard range from 4,900 mg/kg to 24,000 mg/kg. Dissolved petroleum concentrations in shallow groundwater range from 20,000 ug/L to 39,000 ug/L. BTEX compounds were only present in groundwater at low concentrations. Less degradable compounds such as trimethylbenzenes and naphthalene were present at concentrations ranging from 47 to 200 ug/L. Separate-phase petroleum was detected in one of the monitoring wells at the southwest corner of the Roundhouse.

Groundwater beneath the central yard discharges to South Bay and the two lagoons southwest of the Fuel Plant. Surface water in the lagoons contained petroleum at concentrations ranging from 5,600 to 10,000 ug/L, with trimethylbenzene and naphthalene concentrations ranging from 11 to 79 ug/L.

9. The rail yard has historically included two drain systems which discharged to South Bay. One system controls stormwater runoff from the Fuel Plant area and discharges to South Bay at Dike Skimmer #1. This drain system is permitted by the VtDEC (#3-1333). A second drain system used to originate in the Roundhouse floor pits, but was cleaned and closed in 1992.

Sediment was sampled from South Bay at the outfall of each drain system. In both locations, the sediments contained residues of petroleum which caused a sheen on the water surface when sediments were disturbed. TPH concentrations were 8,400 mg/kg and 5,600 mg/kg at Dike Skimmer #1 and #2, respectively. Chromium was detected in sediments at Dike Skimmer #2 at a concentration of 5,710 mg/kg. Lead was detected in this location at 520 mg/kg.

7.2 RECOMMENDATIONS

Petroleum residues have been detected in soil, groundwater and sediments at the Newport Rail Yard as a result of the historical railroad operations. The primary groundwater and surface water discharge point from the rail yard is South Bay, rather than groundwater users or building basements. Therefore, it is appropriate to address the conditions in the rail yard in a manner which is protective for South Bay.

A second factor which should be considered is that Northern Vermont Railroad plans to continue operating the rail yard in the future, including activities such as fueling locomotives and repairing locomotives and freight cars.

In this context, the following actions are recommended:

1. Remove and properly dispose of the drum excavated west of the Office which contains petroleum residues.
2. Determine the extent of the separate-phase petroleum present near the Roundhouse and, if feasible, begin recovery of this product.
3. Meet with the VtDEC to review and discuss the data from the investigation, and potential impacts to South Bay, with the objective of identifying appropriate water and habitat conditions for South Bay.
4. Using the quality objectives for South Bay, determine the effect of the existing rail yard conditions on South Bay.
5. Finally, develop a corrective action strategy to achieve conditions in the rail yard which will meet the South Bay quality objectives. This may include additional investigations and design of remedial systems, if necessary.

APPENDIX A
EXPLORATION LOGS

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard
PROJECT NO: 97-046
DATE: 11-12-97
INVESTIGATOR: MDR

PIT NO: TP-2
LOCATION: Drum Area- in borrow on grid: 50' from West end, 70' from SW

PID (ppm) Ref. Soil Samples Description Depth (Feet)

		0' - 0.5': LOAM.	0.5
			1.0
			1.5
		0.5' - 3.5': Brown fine SAND.	2.0
			2.5
			3.0
			3.5
		3.5' - 4.5': Slightly darker brown fine SAND.	4.0
27.6	TP-2-4.5	4.5': Gray fine SAND with partially crushed drum; slight odor. Removed drum which is filled with gray soil (PID in drum 10.4).	4.5
			5.0
			5.5
		4.5' - 7': Gray fine SAND, soil staining and odor decrease with depth.	6.0
			6.5
			7.0
			7.5
		7'-10': Gray becoming brown with depth fine SAND.	8.0
			8.5
			9.0
			9.5
1.1	TP-2-10	Bottom of test pit = 10 ft.	10.0

Comments: Collected sample for laboratory analysis from drum.

Water Table Present: Yes
Depth To Water: 10 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-12-97

INVESTIGATOR: MDR

PIT NO: TP-3

LOCATION: From W baseline of EM area at 70'N go N + 50'

PID (ppm) Ref. Soil Samples Description Depth (Feet)

0.6

TP-3-8

0.5': Rail Road tie with metal plate.

0 - 2': Brown fine SAND.

2' - 2.5': Sand with gravel (FILL).

2.5' - 5': Brown fine SAND.

5' - 8': Gray fine SAND with SILT.

6': Seepage.

Bottom of test pit = 8 ft.

Comments:

No odor or staining.

Water Table Present:

Seepage at 6 ft.

Depth To Water:

6 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-12-97

INVESTIGATOR: MDR

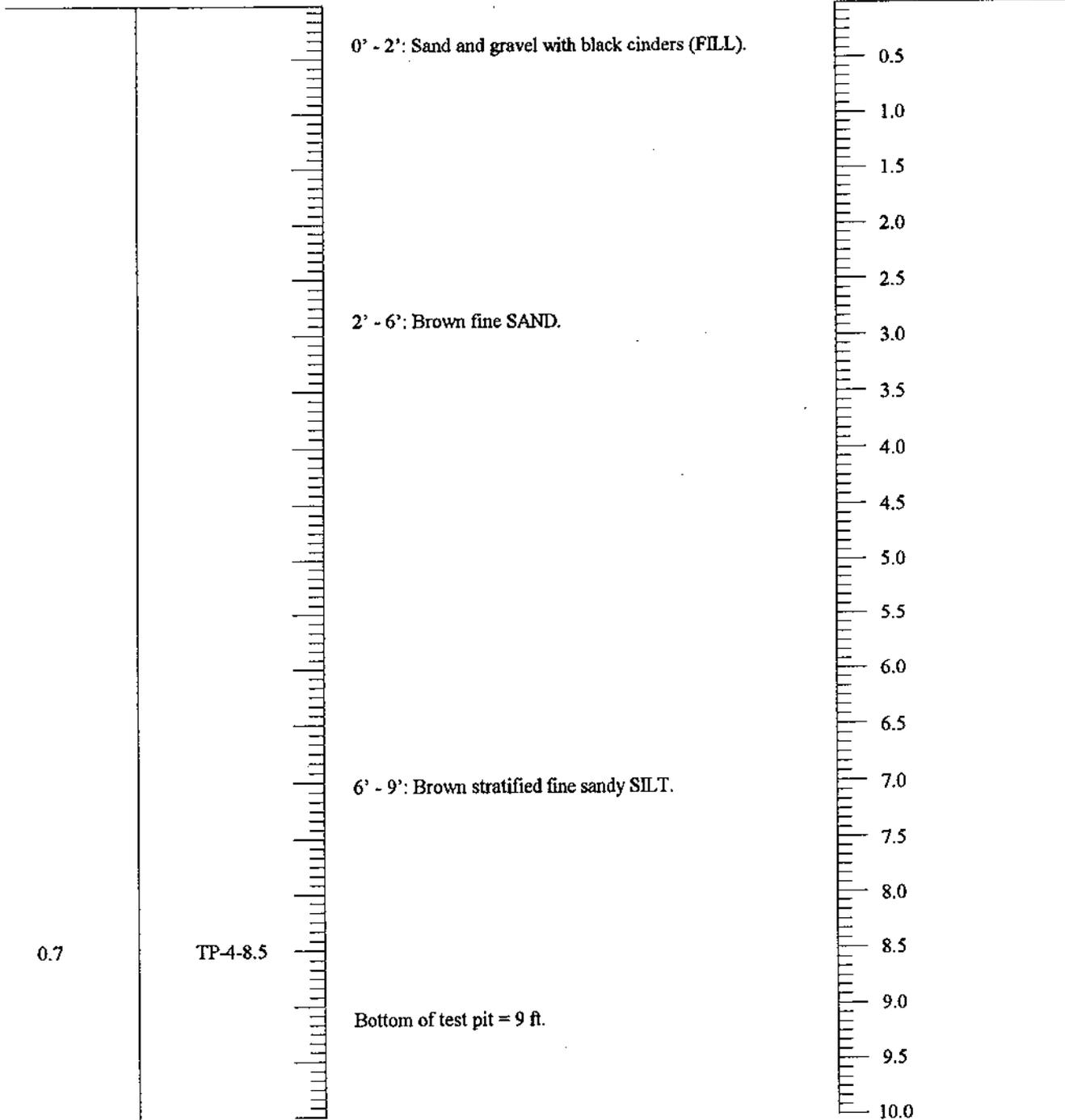
PIT NO: TP-4

LOCATION: Agway Tanks

PID (ppm) Ref. Soil Samples

Description

Depth (Feet)



Comments: No odor or staining observed.

Water Table Present: Yes

Depth To Water: 7 ft.

TEWHEY ASSOCIATES		TEST PIT LOG	
PROJECT:	Newport, Vermont Railyard	PIT NO:	TP-5
PROJECT NO:	97-046	LOCATION:	Behind Agway Addition, 20' from bldg at inside edge of Rd.
DATE:	11-12-97		
INVESTIGATOR:	MDR		

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
		0' - 1.5': Brown silty sand (LOAM).	0.5
		1.5' - 2': Dark brown cinders (FILL).	2.0
		2' - 6': Brown fine SAND.	3.5
		6' - 11': Stratified olive brown fine SAND and gray fine sandy silt.	7.0
0.7	TP-5-10	Bottom of test pit = 11 ft.	10.0

Comments: No odor or staining.

Water Table Present: Yes
Depth To Water: 6 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-12-97

INVESTIGATOR: MDR

PIT NO: TP-6

LOCATION: Old RIP Track- S end

PID (ppm) Ref. Soil Samples

Description

Depth (Feet)

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
2.8	TP-6-1	0' - 1.5': Gray silty sand (FILL).	0.5
			1.0
			1.5
		1.5' - 3': Black cinders (FILL).	2.0
			2.5
1.0	TP-6-3		3.0
			3.5
			4.0
		3' - 7': Brown fine SAND.	4.5
			5.0
			5.5
			6.0
			6.5
		7' - 8': Stratified fine SAND and gray silt.	7.0
			7.5
0.8	TP-6-8	Bottom of test pit = 8 ft.	8.0
			8.5
			9.0
			9.5
			10.0

Comments: No odors or staining .

Water Table Present: Yes

Depth To Water: 4 ft.

TEWHEY ASSOCIATES**TEST PIT LOG**

PROJECT: Newport, Vermont Railyard
PROJECT NO: 97-046
DATE: 11-12-97
INVESTIGATOR: MDR

PIT NO: TP-10
LOCATION: Old Waste Oil Tank, NE Corner of Roundhouse

PID (ppm) Ref. Soil Samples**Description****Depth (Feet)**

5.9

TP-10-8.5

0' - 8': Dark brown sand and gravel (FILL).

8' - 9': Brown stratified fine SAND.

Bottom of test pit = 9 ft.

0.5

1.0

1.5

2.0

2.5

3.0

3.5

4.0

4.5

5.0

5.5

6.0

6.5

7.0

7.5

8.0

8.5

9.0

9.5

10.0

Comments:

No odors, staining or sheen. Collected sample for laboratory analysis from bottom of pit.

Water Table Present: Yes**Depth To Water:** 6 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-12-97

INVESTIGATOR MDR

PIT NO: TP-11

LOCATION Former Mechanical Stores Bldg

PID (ppm) Ref. Soil Samples

Description

Depth (Feet)

20.1

TP-11-4.5

0' - 1': Brown sand, gravel and bricks (FILL).

1' - 4': Metal, square tank measuring 3'H x 4'W x 4.5'L.
Pipe fittings on top of tank had been removed
and tank had been emptied of liquid and filled
with gravelly soil and bricks.

4' - 5': Timbers beneath tank.

5' - 5.5': Black fine-medium SAND.

5.5' - 8': Gray fine silty SAND.

27.2

TP-11-8

Bottom of test pit = 8 ft.

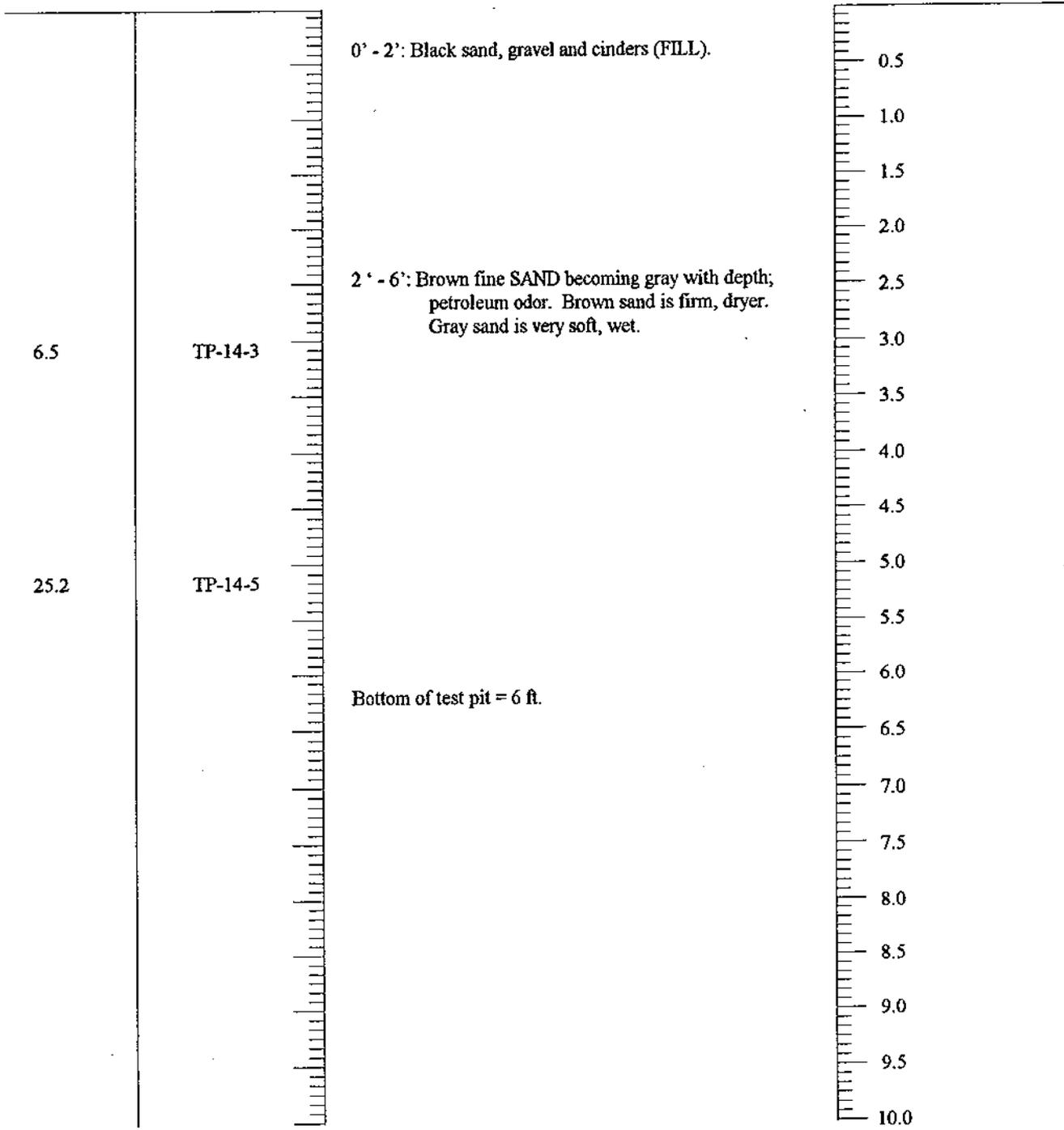
Comments:

Metal tank was surrounded by timbers on sides and bottom. Tank was removed and soil and wood debris backfilled into test pit hole. Soil collected for laboratory analysis from 5 to 5.5 ft.

Water Table Present: Yes**Depth To Water:** 6 to 7 ft.

TEWHEY ASSOCIATES		TEST PIT LOG	
PROJECT:	Newport, Vermont Railyard	PIT NO:	TP-14
PROJECT NO:	97-046	LOCATION:	Outside Roundhouse Door, S Side
DATE:	11-12-97		
INVESTIGATOR:	MDR		

PID (ppm) Ref. Soil Samples Description Depth (Feet)



Comments: Petroleum odor below 2 ft. Collected sample for laboratory analysis at 5 ft.

Water Table Present: Yes
Depth To Water: 3 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard
PROJECT NO: 97-046
DATE: 11-13-97
INVESTIGATOR: MDR

PIT NO: TP-17
LOCATION: At Siding, W of Pump House

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
		0' - 5': Sand, cinders and ash (FILL).	0.5
	TP-17-3		3.0
133	TP-17-4	Heavy petroleum sheen on water.	4.0
		5': Gray fine SAND.	5.0
		Bottom of test pit = 5 ft.	5.5
			6.0
			6.5
			7.0
			7.5
			8.0
			8.5
			9.0
			9.5
			10.0

Comments: No free-flowing petroleum observed in test pit. Did saturation test at 4 ft.; soil not petroleum "saturated". Hit old 1" copper fuel line. Line crimped closed. Minor drippage from line. Collected samples for laboratory analysis from 3 and 4 ft.

Water Table Present: Yes

Depth To Water: 4 ft.

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-13-97

INVESTIGATOR MDR

PIT NO: TP-18

LOCATION Corner of Oil/ Water Separator

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
		0' - 4.5': Sand, cinders and ash (FILL).	0.5
			1.0
			1.5
405	TP-18-2		2.0
			2.5
			3.0
		3.5': Water draining in with heavy sheen.	3.5
238	TP-18-4		4.0
			4.5
		4.5' - 8' Gray stratified fine SAND & fine sandy silt, some brown fine sand.	5.0
			5.5
30.4	TP-18-5.5		6.0
			6.5
			7.0
			7.5
		Bottom of test pit = 8 ft.	8.0
			8.5
			9.0
			9.5
			10.0

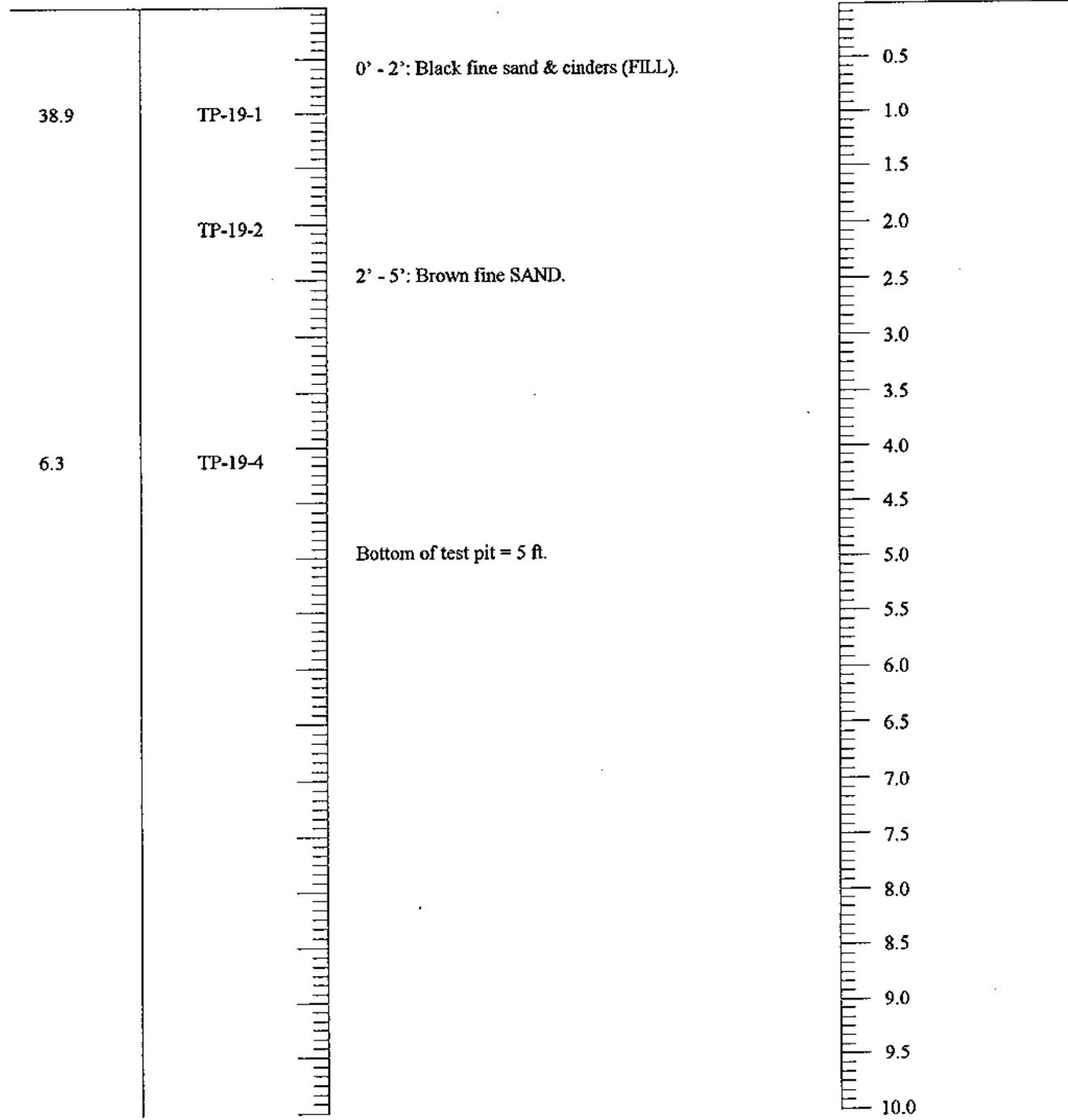
Comments:

No free-flowing petroleum observed in test pit. Did saturation test at 2 ft.; soil not "saturated".
Collected sample for laboratory analysis from 5.5 ft. (below fill).

Water Table Present: Yes**Depth To Water:** 3.5 ft.

TEWHEY ASSOCIATES		TEST PIT LOG	
PROJECT:	Newport, Vermont Railyard	PIT NO:	TP-19
PROJECT NO:	97-046	LOCATION:	Turntable Bottom, South Half
DATE:	11-13-97		
INVESTIGATOR:	MDR		

PID (ppm) Ref. Soil Samples Description Depth (Feet)



Comments: Heavy sheen with petroleum globules on water. Collected soil sample for laboratory analysis from fill at 2 ft.

Water Table Present: Yes

Depth To Water: 1 ft.

TEWHEY ASSOCIATES

TEST PIT LOG

PROJECT: Newport, Vermont Railyard

PROJECT NO: 97-046

DATE: 11-13-97

PIT NO: TP-20

INVESTIGATOR: MDR

LOCATION: North Side of Turntable Bottom

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
-----------	-------------------	-------------	--------------

0.4

TP-1-0.5

0' - 2': Black & gray sandy FILL.

0.5

1.5

TP-20-1.5

2' - 4': Brown fine SAND.

1.0

1.5

2.0

2.5

3.0

3.5

4.0

Bottom of test pit = 4 ft.

4.5

5.0

5.5

6.0

6.5

7.0

7.5

8.0

8.5

9.0

9.5

10.0

Comments:

Mild to no odor at 1.5 ft.

Water Table Present: Yes

Depth To Water: 1 ft.

TEWHEY ASSOCIATES		TEST PIT LOG	
PROJECT:	Newport, Vermont Railyard	PIT NO:	TP-21
PROJECT NO:	97-046	LOCATION:	E Side of Fuel Plant, 75' from AGT at N End
DATE:	11-13-97		
INVESTIGATOR:	MDR		

PID (ppm)	Ref. Soil Samples	Description	Depth (Feet)
		0' - 2': Black sand and cinders (FILL); water running in at base.	0.5
92.8	TP-21-2		1.0
		2' - 4.5': Brown fine SAND.	1.5
			2.0
			2.5
			3.0
			3.5
8.8	TP-21-4		4.0
		Bottom of test pit = 4.5 ft.	4.5
			5.0
			5.5
			6.0
			6.5
			7.0
			7.5
			8.0
			8.5
			9.0
			9.5
			10.0

Comments: Water has faint sheen.

Water Table Present: Yes
Depth To Water: 2 ft.

TEWHEY ASSOCIATES**TEST PIT LOG****PROJECT:** Newport, Vermont Railyard**PROJECT NO:** 97-046**DATE:** 11-13-97**INVESTIGATOR:** MDR**PIT NO:** Trench TP-23**LOCATION:** SW of Old Bunkhouse**PID (ppm) Ref. Soil Samples****Description****Depth (Feet)**

0' - 1': Sandy LOAM.

0.5

1.0

1.5

2.0

1' - 7': Brown fine stratified SAND. Trench also
crossed gravel trenches for former leach
field at depth of 3 - 4 ft.

2.5

3.0

3.5

4.0

4.5

5.0

5.5

6.0

6.5

7.0

Bottom of test pit = 7 ft.

7.5

8.0

8.5

9.0

9.5

10.0

Comments:

100' long test trench. No odor or staining observed.

Water Table Present: NOT OBSERVED**Depth To Water:**



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LOG OF BORING MW-1

Project: **NEWPORT RAIL YARD**
 Job No.: **97-046**
 Location: **NEWPORT, VT**
 Coordinates:

Surface Elev.: **198.7**
 Top of Casing Elev.: **201.44**
 Drilling Method: **GEOPROBE**
 Sampling Method: **DIRECT PUSH**

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
198.7	0							CEMENT SEAL
	5		S-1	25	Gray fine SAND, wet, petroleum odor. PID = 51.2 ppm.			NATIVE BACKFILL
	10		S-2	75	Gray fine SAND, stratified with fine sandy SILT, trace to little clay, mild petroleum odor. PID = 4.3 ppm.			10-SLOT, 1" PVC SCREEN
198.9					Bottom of Boring = 14 ft.			

Completion Depth: 14.0
 Date Boring Started: 11/20/97
 Date Boring Completed: 11/20/97
 Engineer/Geologist: MDR
 Drilling Contractor: ATL. ECOTECH

Sample Types:
 Auger Cutting
 Vane Shear
 SPT
 HydroPunch
 Penetrometer
 Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.

LB 746 3/24/98



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LOG OF BORING MW-2

Project: NEWPORT RAIL YARD
 Job No.:
 Location: NEWPORT, VT
 Coordinates:

Surface Elev.: 200.1
 Top of Casing Elev.: 202.99
 Drilling Method: GEOPROBE
 Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
200.1	0							
195	5	S-1	40		Gray fine SAND, little medium sand, trace to little silt, wet, petroleum odor. PID = 45.2 ppm.			← CEMENT SEAL
190	10	S-2	90		Brown fine SAND with trace silt above gray fine sand with trace silt and trace medium sand, wet. PID = 2.3 ppm.			← NATIVE BACKFILL
187.1	13				Bottom of Boring = 13 ft.			← 10-SLOT, 1" PVC SCREEN

LB 746 3/24/98

Completion Depth: 13.0
 Date Boring Started: 11/20/97
 Date Boring Completed: 11/20/97
 Engineer/Geologist: MDR
 Drilling Contractor: ATL ECOTECH

Sample Types:

- Auger Cutting
- Vane Shear
- SPT
- HydroPunch
- Penetrometer
- Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.



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LOG OF BORING MW-3

Project: NEWPORT RAIL YARD
Job No.: 97-046
Location: NEWPORT, VT
Coordinates:

Surface Elev.: 199.6
Top of Casing Elev.: 202.51
Drilling Method: GEOPROBE
Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or ROD %	COMMENTS	WELL INSTALLATION DETAILS
199.6	0				Black GRAVEL with fine to coarse sand, cinders (FILL)			
196.6			S-1	75	Gray/brown fine SAND, trace to little silt. PID = 2.8 ppm			
195	5							
190	10		S-2	90	Brown fine silty SAND, wet. PID = 3.6 ppm.			
186.6					Bottom of Boring = 13 ft.			

Completion Depth: 13.0
Date Boring Started: 11/20/97
Date Boring Completed: 11/20/97
Engineer/Geologist: MDR
Drilling Contractor: ATL ECOTECH

Sample Types:

- Auger Cutting
- Vane Shear
- SPT
- HydroPunch
- Penetrometer
- Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

LB 746 3/24/98

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.



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LOG OF BORING MW-4

Project: NEWPORT RAIL YARD
 Job No.: 97-046
 Location: NEWPORT, VT
 Coordinates:

Surface Elev.: 200.4
 Top of Casing Elev.: 203.39
 Drilling Method: GEOPROBE
 Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
200.4 200	0							
			S-1		Black gravel with fine to coarse SAND, trace silt, cinders (FILL), petroleum odor and sheen. PID = 104 ppm.			
195.4 195	5							
			S-2		Gray stratified fine SAND and silty fine sand, wet. PID = 4.1 ppm.			
190	10							
187.4					Bottom of Boring = 13 ft.			

LB 746 3/24/98

Completion Depth: 13.0
 Date Boring Started: 11/20/97
 Date Boring Completed: 11/20/97
 Engineer/Geologist: MDR
 Drilling Contractor: ATL ECOTECH

Sample Types:
 Auger Cutting
 Vane Shear
 SPT
 HydroPunch
 Penetrometer
 Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.



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LOG OF BORING MW-5

Project: NEWPORT RAIL YARD
Job No.: 97-046
Location: NEWPORT, VT
Coordinates:

Surface Elev.: 200.1
Top of Casing Elev.: 203.07
Drilling Method: GEOPROBE
Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
200.1	0		S-1		Gray fine SAND, wet, trace silt. PID = 38.8 ppm.			
195	5				Stratified brown fine SAND with silt and gray fine sand, wet. PID = 2.4 ppm.			
190	10		S-2					
187.1	13.0				Bottom of Boring = 13 ft.			

Completion Depth: 13.0
Date Boring Started: 11/20/97
Date Boring Completed: 11/20/97
Engineer/Geologist: MDR
Drilling Contractor: ATLECOTECH

Sample Types:

- Auger Cutting
- Vane Shear
- SPT
- HydroPunch
- Penetrometer
- Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

LB 746 3/24/88

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.



TEWHEY ASSOCIATES
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LOG OF BORING MW-6

Project: NEWPORT RAIL YARD Job No.: 97-046 Location: NEWPORT, VT Coordinates:	Surface Elev.: 201.7 Top of Casing Elev.: 204.44 Drilling Method: GEOPROBE Sampling Method: DIRECT PUSH
--	--

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
201.7	0							<p>← CEMENT SEAL</p> <p>← NATIVE BACKFILL</p> <p>← 10-SLOT, 1" PVC SCREEN</p>
			S-1		Black gravel with fine to coarse SAND, trace silt, cinders (FILL), heavy sheen. PID = 77.8 ppm.			
196.7	5		S-2		Gray fine SAND, with layer of cinders on top. PID = 58.8 ppm.			
195								
194.2					Bottom of Boring = 7.5 ft.			

Completion Depth: 7.5 Date Boring Started: 11/20/97 Date Boring Completed: 11/20/97 Engineer/Geologist: MDR Drilling Contractor: ATL ECOTECH	Sample Types: Auger Cutting Vane Shear SPT HydroPunch Penetrometer Rock Core	Remarks: Elevations relative to assumed site datum of 200.00
---	---	---

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.

LB 746 3/24/98



TEWHEY ASSOCIATES

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LOG OF BORING MW-6A

Project: NEWPORT RAIL YARD
Job No.: 97-046
Location: NEWPORT, VT
Coordinates:

Surface Elev.: 201.7
Top of Casing Elev.: 205.01
Drilling Method: GEOPROBE
Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or ROD %	COMMENTS	WELL INSTALLATION DETAILS
201.7	0				No Sampling See description for MW-6.			CEMENT SEAL
200								HOLE CASSED TO 5.5'
196.7	5							
195								
190	10							NATIVE BACKFILL
185	15							
180	20							10-SLOT, 1" PVC SCREEN
177.7					Bottom of Boring = 24 ft.			

LB 746 3/24/98

Completion Depth: 24.0
Date Boring Started: 11/20/97
Date Boring Completed: 11/20/97
Engineer/Geologist: MDR
Drilling Contractor: ATLEECOTECH

Sample Types:

- Auger Cutting
- Vane Shear
- SPT
- HydroPunch
- Penetrometer
- Rock Core

Remarks: Elevations relative to assumed site datum of 200.00

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.



TEWHEY ASSOCIATES

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LOG OF BORING GPB-7

Project: NEWPORT RAIL YARD
Job No.: 97-046
Location: NEWPORT, VT
Coordinates:

Surface Elev.: 200.0
Top of Casing Elev.:
Drilling Method: GEOPROBE
Sampling Method: DIRECT PUSH

Elevation, feet	Depth, feet	Graphic Log and Sample Types	Sample No.	% Recovery	MATERIAL DESCRIPTION	SPT, N value or RQD %	COMMENTS	WELL INSTALLATION DETAILS
200.0	0							
195	5				Brown fine SAND, little medium sand, trace to little silt, damp, no odor PID = 2.0 ppm			
194.0					Bottom of Boring = 6 ft.			

LB 746 3/24/98

Completion Depth: 6.0
Date Boring Started: 11/20/97
Date Boring Completed: 11/20/97
Engineer/Geologist: MDR
Drilling Contractor: ATL ECOTECH

Sample Types:

Auger Cutting	HydroPunch
Vane Shear	Penetrometer
SPT	Rock Core

Remarks:

Unless otherwise noted, water encountered but not recorded.

The stratification lines represent approximate boundaries. The transition may be gradual.

APPENDIX B

GEOPHYSICAL SURVEY REPORT

Northeast Geophysical Services
4 Union Street, Suite 3, Bangor, ME 04401

**ELECTROMAGNETIC
METAL DETECTION SURVEY
OF THE NEWPORT RAILYARD SITE
NEWPORT, VERMONT
For:
TEWHEY ASSOCIATES**

December, 1997

Northeast Geophysical Services
4 Union Street, Suite 3, Bangor, ME 04401

December 11, 1997

**ELECTROMAGNETIC METAL DETECTION SURVEY
OF THE NEWPORT RAILYARD SITE, NEWPORT, VERMONT**

INTRODUCTION

At the request of Matt Reynolds of Tewhey Associates an electromagnetic (EM-61 metal detection) geophysical survey was conducted at the Newport Railyard site located on Glen Road, in Newport, Vermont. The objective of this survey was to locate possible caches of buried metal drums or buried metal tanks at the site. The field survey was completed on November 11, 1997 by Mike Scully of Northeast Geophysical Services (NGS) with the assistance of Matt Reynolds. This report summarizes site conditions, methods used, and the results of the geophysical survey.

SITE LOCATION AND CONDITIONS

The configuration of the site surveyed is shown on Figure 1. Surface cover of the areas surveyed included brushy woods, lawn and gravel driveway. At the time of the survey the areas were generally clear of any large metallic objects which would interfere with the survey.

METHODS AND INSTRUMENTATION

A Geonics EM-61 instrument was used for this survey. The EM-61 is a portable time-domain instrument with a coincident transmitter/receiver coil and second parallel receiver coil for depth to target estimation and rejection of surface metal response. It measures the secondary electromagnetic field response in milli-volts (mV). The instrument is designed specifically to locate medium to large buried metal objects such as drums and tanks while being relatively insensitive to surficial metallic objects such as fences, buildings and power lines. The technique is sensitive to conductive metal up to a depth of approximately 10 feet. The size and burial depth of the metal determine the strength of the response.

A 130-foot by 70-foot survey grid was laid-out west of the railyard office building as shown on Figure 1. Grid lines were spaced 10 feet apart with stations marked every 10 feet along the lines using pin flags. The grid is centered approximately 150 feet west of the west wall of the office building. The EM-61 survey was conducted at a slow walking pace along the northeast-southwest bearing lines with a reading recorded every 5 feet. Reconnaissance surveying was conducted outside of the established grid by using the audible and digital signals of the EM-61 instrument to locate anomalies while walking the instrument back and forth over the area. Anomalies were marked with fluorescent pink flagging.

SURVEY RESULTS

The geophysical survey results over the gridded portion of the site are shown on Figure 2. Three areas having probable buried metal objects are labeled on the map. Anomalies 1 and 2 are of sufficient strength to be caused by one or more buried drums. It is possible that other types of metallic debris cause these anomalies. Anomaly 3 may represent a buried drum, but is more likely caused some smaller metallic debris. None of the anomalies are of sufficient size and strength to represent more than a few drums.

Other portions of the railyard site were surveyed without setting-up formal grids or recording data. This reconnaissance surveying included primarily the areas west and south of the grid shown in Figure 2, as well as an area north of the roundhouse approximately 700 feet north of the grid. Matt Reynolds provided guidance for this work based upon his knowledge of the site history. A few small metallic anomalies were located west and south of the grid. These were marked in the field with pink flagging for later backhoe testing. Some anomalies could be explained by metallic debris visible at the surface. A large and very strong anomaly ($>5,000$ mV) was located in the area surveyed north of the roundhouse. This anomaly was also marked for later direct testing.

Backhoe investigation of the metal detector anomalies was conducted the following day under the direction of Matt Reynolds. He reports that one metal drum was found at Anomaly 1 (Figure 2) and that other types of metal debris was found to explain the other anomalies in that area. A 4 foot by 4 foot abandoned metal fuel storage tank was found in the anomalous area north of the roundhouse.

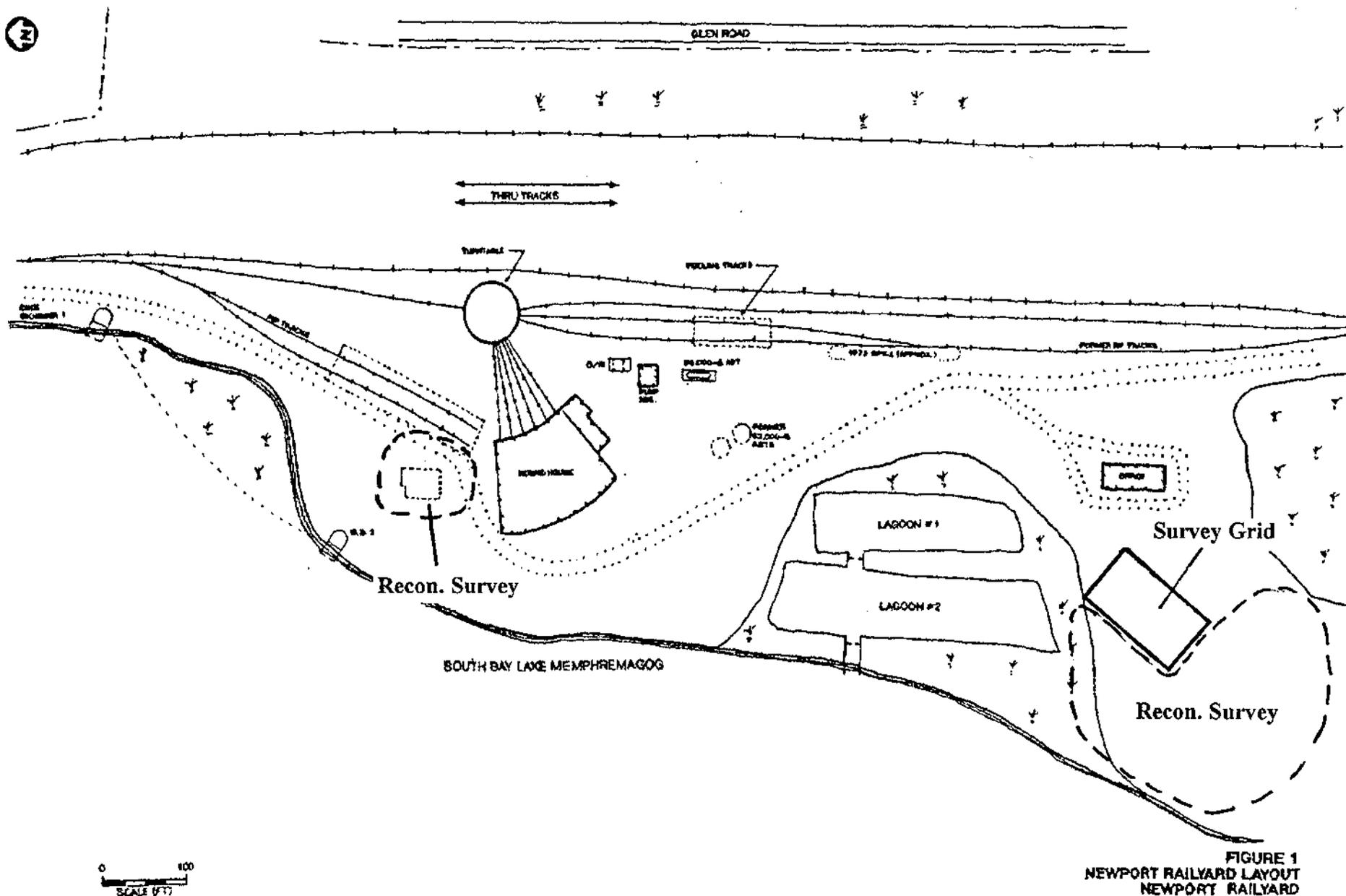


FIGURE 1
NEWPORT RAILYARD LAYOUT
NEWPORT RAILYARD

Figure 1. Site Layout - Newport Railyard Site, Newport, Vermont.

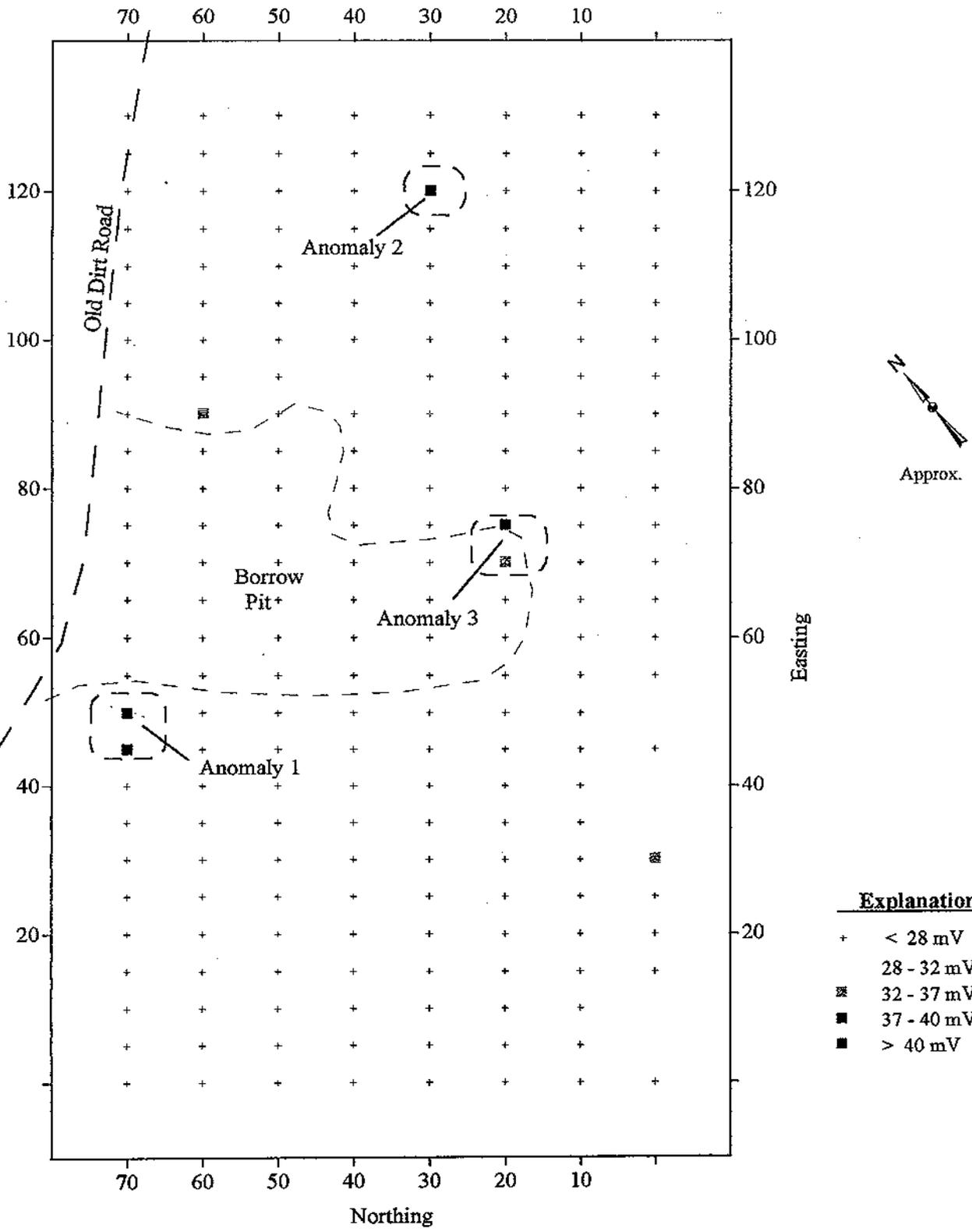
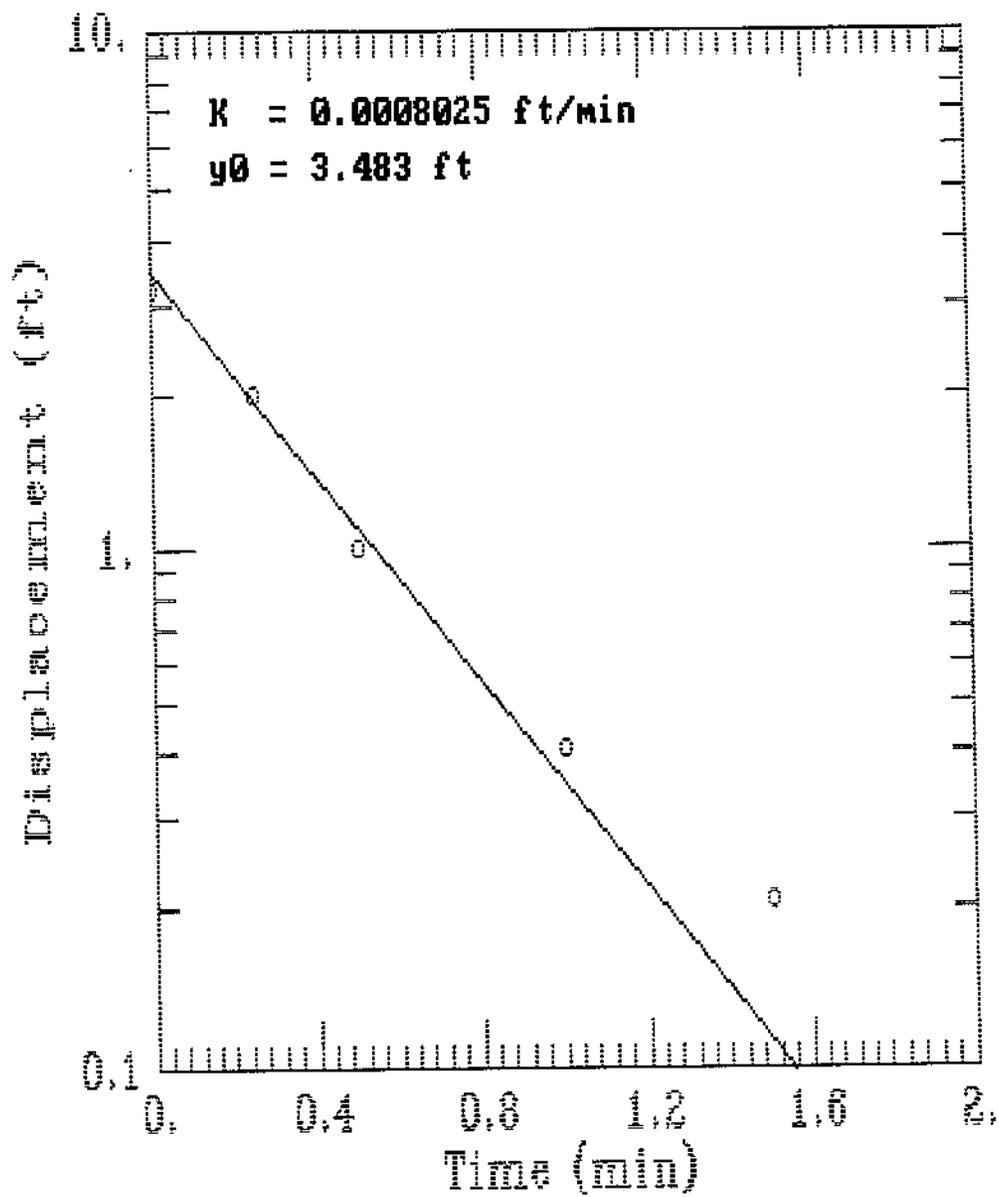


Figure 2. Metal Detection Survey Map - Newport Railyard Site, Newport, Vermont.

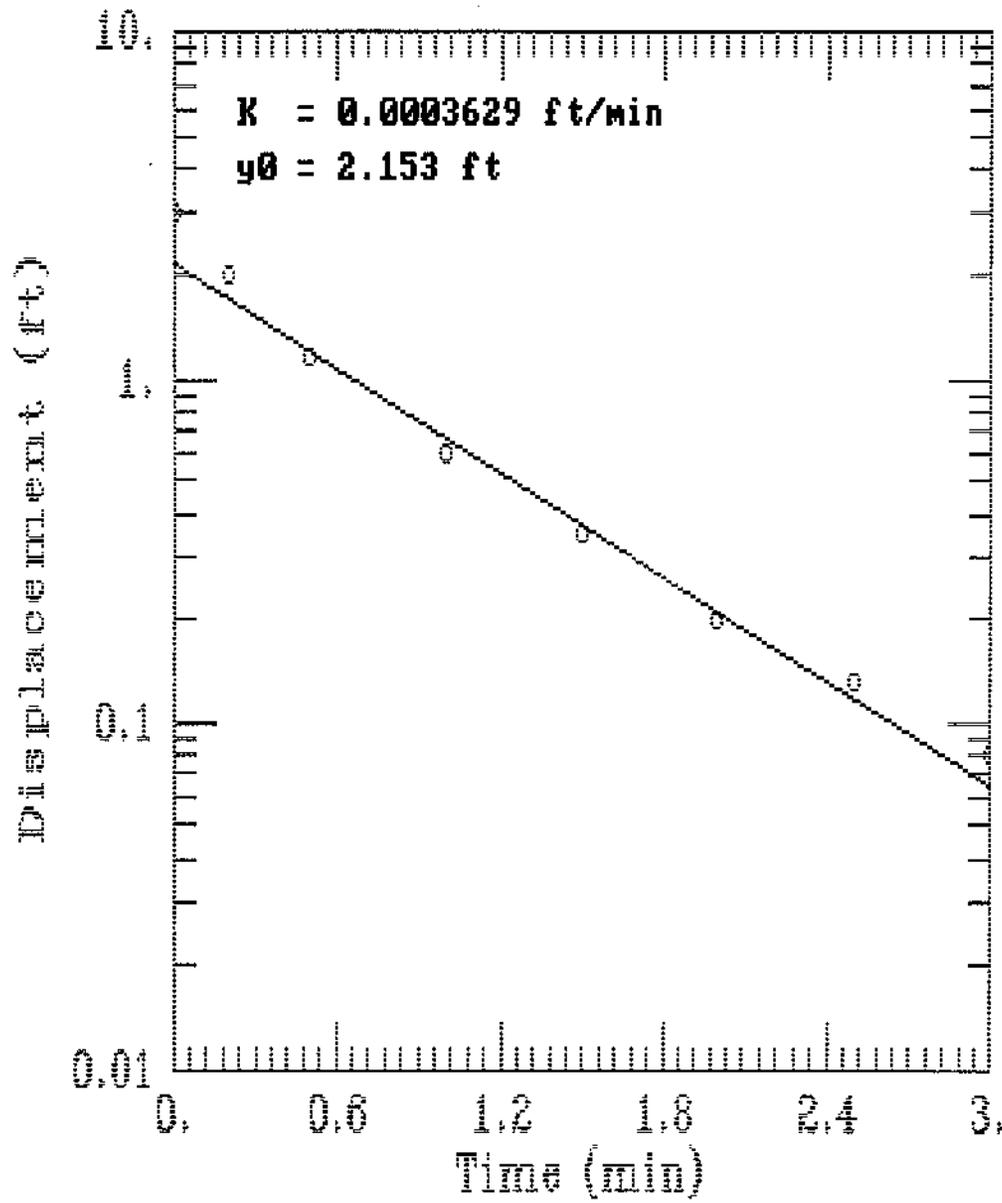
APPENDIX C

PERMEABILITY TESTING DATA

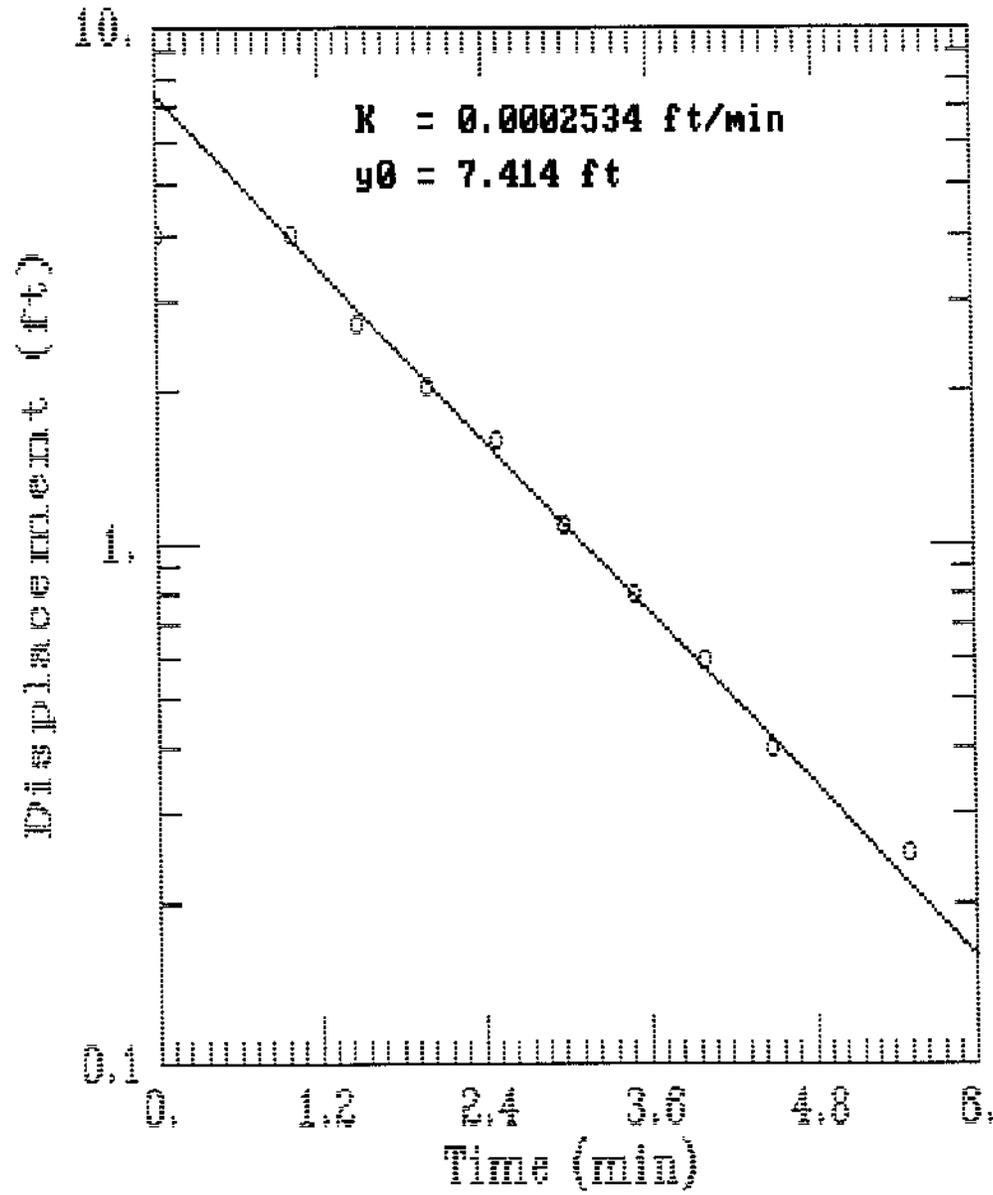
NEWPORT YARD MW-3



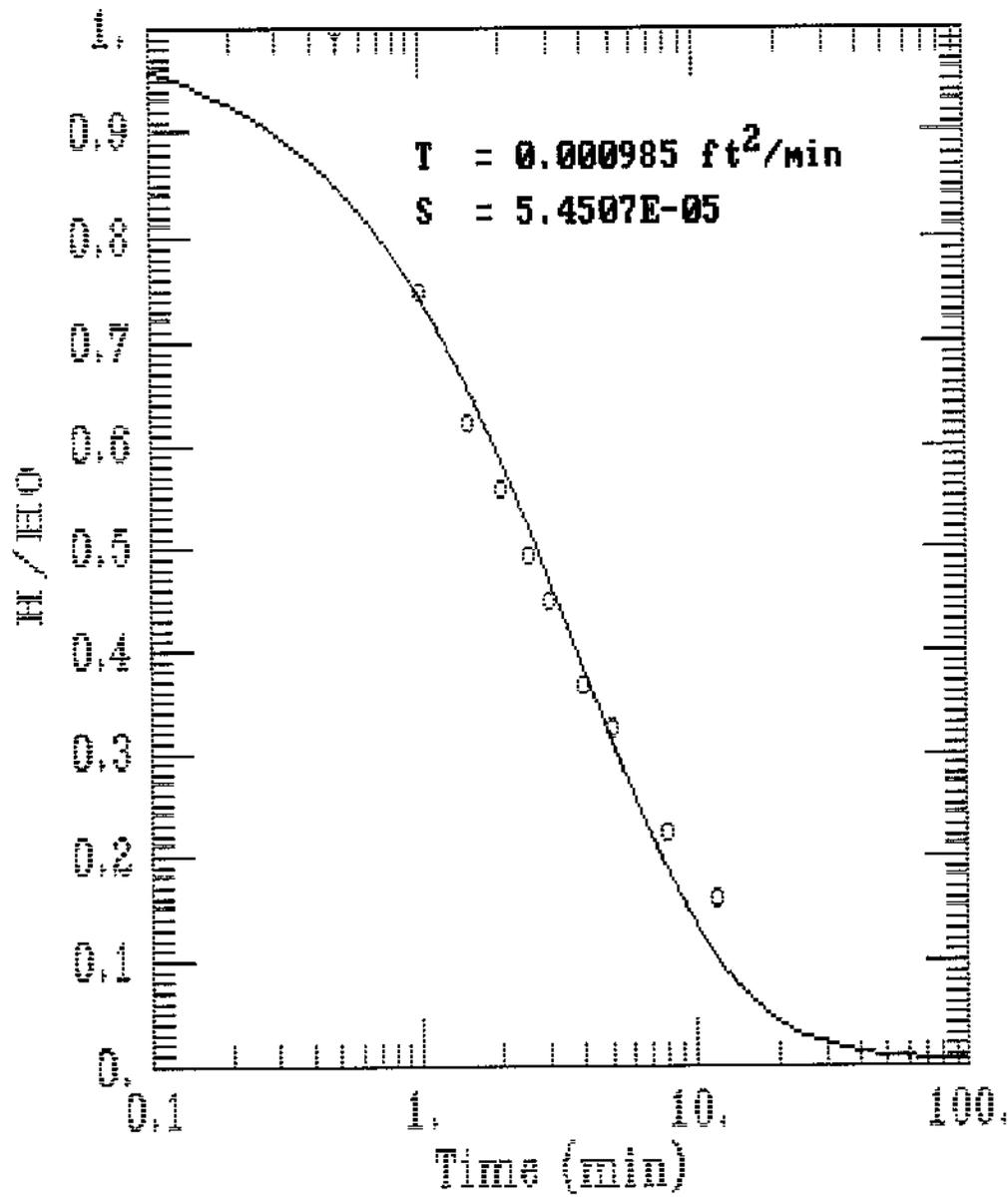
NEWPORT YARD MW-3F



NEWPORT YARD MW-4



NEWPORT YARD MW-6A



APPENDIX D

**LABORATORY REPORT OF ANALYSES:
SOIL AND SEDIMENT**

SOIL DATA



December 15, 1997

Mr. Matt Reynolds
John D. Tewhey Assoc.
500 Southborough Drive
South Portland, ME 04106

RE: Katahdin Lab Number: WN2533
Project ID: CPR #746
Project Manager: Ms. Kelly Perkins
Sample Receipt Date: November 14, 1997

Dear Mr. Reynolds:

Please find enclosed the following information:

- * Report of Analysis
- * Confirmation
- * Chain of Custody

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES

Maria Crouch
Authorized Signature

12/15/97
Date



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

Page 1 of 94

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	38.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
TP2-5	Solid	M.REYNOLDS			11/12/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	110000.	mg/kgdrywt	2600	5.0	Mod.8100	11/25/97 RH	
o-Terphenyl	DL	%	2600		Mod.8100	11/25/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2,3,4
Dichlorodifluoromethane	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
Chloromethane	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
Vinyl chloride	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
Bromomethane	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
Chloroethane	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
Trichlorofluoromethane	<26.	µg/kgdrywt	13.2		2 EPA 8260	11/25/97	KB	
1,1-Dichloroethene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
Methylene chloride	180.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
trans-1,2-Dichloroethene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
1,1-Dichloroethane	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
cis-1,2-Dichloroethene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
2,2-Dichloropropane	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) "\$" flag denotes surrogate compound recovery is out of criteria. Re-extraction or re-analysis confirmed matrix interference.
 - (2) Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.
 - (3) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (4) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Bromochloromethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Chloroform	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,1,1-Trichloroethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,2-Dichloroethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,1-Dichloropropene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Carbon tetrachloride	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Benzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,2-Dichloropropane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Trichloroethene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
cis-1,3-Dichloropropene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Dibromomethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Bromodichloromethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Toluene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
trans-1,3-Dichloropropene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,1,2-Trichloroethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,3-Dichloropropane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Dibromochloromethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Tetrachloroethene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,2-Dibromoethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Chlorobenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,1,1,2-tetrachloroethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Ethylbenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
m-Xylene/p-Xylene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Bromoform	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
o-Xylene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Styrene	41.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/krib/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,2,2-Tetrachloroethane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,2,3-Trichloropropane	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Isopropylbenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
Bromobenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
2-Chlorotoluene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
n-Propylbenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
4-Chlorotoluene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,3,5-Trimethylbenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
tert-Butylbenzene	<13.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,2,4-Trimethylbenzene	540.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
sec-Butylbenzene	210.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
1,3-Dichlorobenzene	220.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	
4-Isopropyltoluene	1100.	µg/kgdrywt	13.2	1	EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,4-Dichlorobenzene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
1,2-Dichlorobenzene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
n-Butylbenzene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
1,2-Dibromo-3-chloropropane	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
1,2,4-Trichlorobenzene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
Naphthalene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
Hexachlorobutadiene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
1,2,3-Trichlorobenzene	<13.	µg/kgdrywt	13.2		1 EPA 8260	11/25/97	KB	
Dibromofluoromethane (Surr.)	\$147	%	13.2		EPA 8260	11/25/97	KB	
Toluene-d8 (%)	\$78	%	13.2		EPA 8260	11/25/97	KB	
p-Bromofluorobenzene (%)	\$34	%	13.2		EPA 8260	11/25/97	KB	
Acetone	300.	µg/kgdrywt	13.2		5 EPA 8260	11/25/97	KB	
2-Butanone	<66.	µg/kgdrywt	13.2		5 EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/krib/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEMHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-1
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP2-5	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
4-Methyl-2-pentanone	<40.	µg/kgdrywt	13.2		3 EPA 8260	11/25/97	KB
2-Hexanone	<53.	µg/kgdrywt	13.2		4 EPA 8260	11/25/97	KB
Methyltertbutyl ether	<26.	µg/kgdrywt	13.2		2. EPA 8260	11/25/97	KB

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP10-9	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	80.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

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 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP10-9	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1
TPH	13.	mg/kgdrywt	1.2	5.0	Mod.8100	11/25/97	RH	
o-Terphenyl	66.	%	1.2		Mod.8100	11/25/97	RH	

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 (1) Sample Preparation on 11/20/97 by ESE using SW3550

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MAIT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP10-9	Solid		M.REYNOLDS		11/12/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
VOAs (8260)							1,2
Dichlorodifluoromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Chloromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Vinyl chloride	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Bromomethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Chloroethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Trichlorofluoromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
1,1-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
Methylene chloride	B7	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
trans-1,2-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
1,1-Dichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
cis-1,2-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
2,2-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
Bromochloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
Chloroform	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	

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(1) Sample Preparation on 12/11/97

(2) A result reported with a "B" qualifier indicates the analytes were detected in the laboratory method blank analyzed concurrently with the sample. The concentrations of Methylene Chloride and Acetone in the method blank were 6 ug/kg and 11 ug/kg, respectively.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHCROUCH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP10-9	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,1-Trichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Carbon tetrachloride	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Benzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Trichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
cis-1,3-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Dibromomethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Bromodichloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Toluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
trans-1,3-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,2-Trichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,3-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Dibromochloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEMHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED	
TP10-9	Solid	M.REYNOLDS	11/12/97	11/14/97

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Tetrachloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dibromoethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Chlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,1,2-tetrachloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Ethylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
m-Xylene/p-Xylene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Bromoform	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
o-Xylene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Styrene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,2,2-Tetrachloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,3-Trichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Isopropylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Bromobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
2-Chlorotoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
n-Propylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/kmb/kp (dlw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP10-9	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Chlorotoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,3,5-Trimethylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
tert-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,4-Trimethylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
sec-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,3-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
4-Isopropyltoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,4-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
n-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dibromo-3-chloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,4-Trichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Naphthalene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Hexachlorobutadiene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,3-Trichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-2
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP10-9	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibromofluoromethane (Surr.)	92.	%	1.3		EPA 8260	11/25/97	KB	
Toluene-d8 (%)	98.	%	1.3		EPA 8260	11/25/97	KB	
p-Bromofluorobenzene (%)	90.	%	1.3		EPA 8260	11/25/97	KB	
Acetone	B11	µg/kgdrywt	1.3		5 EPA 8260	11/25/97	KB	
2-Butanone	<6.5	µg/kgdrywt	1.3		5 EPA 8260	11/25/97	KB	
4-Methyl-2-pentanone	<3.9	µg/kgdrywt	1.3		3 EPA 8260	11/25/97	KB	
2-Hexanone	<5.2	µg/kgdrywt	1.3		4 EPA 8260	11/25/97	KB	
Methyltertbutyl ether	<2.6	µg/kgdrywt	1.3		2. EPA 8260	11/25/97	KB	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP11-5	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	88.	wt %	1.0	0.10	CLP/CIP SCW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP11-5	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	11000.	mg/kgdrywt	220	5.0	Mod.8100	12/02/97 RH	
o-Terphenyl	DL	%	220		Mod.8100	12/02/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP11-5	Solid		M.REYNOLDS		11/12/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TCL Semivolatile Organics by USEPA 8270B							1,2,3
Phenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
bis(2-Chloroethyl) ether	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
2-Chlorophenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
1,3-Dichlorobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
1,4-Dichlorobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
1,2-Dichlorobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
2-Methylphenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
bis(2-Chloroisopropyl) ether	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
4-Methylphenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
n-Nitroso-dipropylamine	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
Hexachloroethane	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	
Nitrobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97 SW	

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- (1) Sample Preparation on 11/19/97 by KRT using SW3550
- (2) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore , standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "#" flag denotes surrogate compound recovery is out of criteria.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP11-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Isophorane	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2-Nitrophenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4-Dimethylphenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
bis(2-Chloroethoxy)methane	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4-Dichlorophenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
1,2,4-Trichlorobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Naphthalene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
4-Chloroaniline	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Hexachlorobutadiene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
4-Chloro-3-methylphenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2-Methylnaphthalene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Hexachlorocyclopentadiene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4,6-Trichlorophenol	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4,5-Trichlorophenol	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
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 PO No. : 97-046
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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
TP11-5	Solid		M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2-Chloronaphthalene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2-Nitroaniline	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
Dimethylphthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Acenaphthylene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,6-Dinitrotoluene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
3-Nitroaniline	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
Acenaphthene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrophenol	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
4-Nitrophenol	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
Dibenzofuran	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrotoluene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Diethylphthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
4-Chlorophenyl phenyl ether	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Fluorene	3600.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP11-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Nitroaniline	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
4,6-Dinitro-2-methylphenol	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
n-Nitrosodiphenylamine	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
4-Bromophenyl phenyl ether	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Hexachlorobenzene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Pentachlorophenol	<4700.	µg/kgdrywt	5.7	820	EPA 8270B	11/25/97	SW	
Phenanthrene	6100.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Anthracene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Carbazole	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Di-n-butylphthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Fluoranthene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Pyrene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
Butyl benzylphthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	
3,3'-Dichlorobenzidine	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WIN-3178-4
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP11-5	Solid		M.REYNOLDS		11/12/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Benzo (a) anthracene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Chrysene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
bis (2-Ethylhexyl) phthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Di-n-octylphthalate	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Benzo (b) fluoranthene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Benzo (k) fluoranthene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Benzo (a) pyrene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Indeno (1, 2, 3-cd) pyrene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Dibenzo (a, h) anthracene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
Benzo (g, h, i) perylene	<1900.	µg/kgdrywt	5.7	330	EPA 8270B	11/25/97	SW
2-Fluorophenol (% Recovery)	63.	%	5.7		EPA 8270B	11/25/97	SW
Phenol-d5 (% Recovery)	55.	%	5.7		EPA 8270B	11/25/97	SW
Nitrobenzene-d5 (% Recovery)	#137	%	5.7		EPA 8270B	11/25/97	SW
2-Fluorobiphenyl (% Recovery)	#35	%	5.7		EPA 8270B	11/25/97	SW

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
JOHN D TEWHEY ASSOC
500 SOUTHBOROUGH DRIVE
SO PORTLAND, ME 04106

Lab Number : WN-3178-4
Report Date: 12/15/97
PO No. : 97-046
Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED					
TP11-5	Solid	M.REYNOLDS	11/12/97	11/14/97				
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4,6-Tribromophenol (% Recovery)	114.	%	5.7		EPA 8270B	11/25/97	SW	
Terphenyl-d14 (% Recovery)	34.	%	5.7		EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-5
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP13-8	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	82.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /mem



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-5
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP13-8	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	5400.	mg/kgdrywt	120	5.0	Mod.8100	12/02/97 RH	
o-Terphenyl	DL	%	120		Mod.8100	12/02/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED				
TP14-5	Solid		M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
Antimony, Total	<0.8	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1	
Arsenic, Total	11.6	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1	
Beryllium, Total	<0.53	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1	
Cadmium, Total	<0.53	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1	
Chromium, Total	47.6	mg/Kgdrywt	1.0	1.50	6010/200.7	11/24/97	EM	1	
Copper, Total	17.0	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1	
Lead, Total	8.3	mg/Kgdrywt	1.0	0.5	6010/200.7	11/24/97	EM	1	
Mercury, Total	<0.0400	µg/gdrywt	1.0	0.0400	7471	11/24/97	GB	2	
Nickel, Total	91.0	mg/Kgdrywt	1.0	4.00	6010/200.7	11/24/97	EM	1	
Selenium, Total	<1.0	mg/Kgdrywt	1.0	1.0	6010/200.7	11/24/97	EM	1	
Silver, Total	<1.6	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1	
Thallium, Total	<1.6	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1	
Zinc, Total	36.4	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 11/22/97 by PLC using 3050
- (2) Sample Preparation on 11/22/97 by GFB using 7471

12/15/97

LJO/ejnkp(dw)
 NK22ICS1



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP14-5	Solid	M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	79.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
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 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
TP14-5	Solid	M.REYNOLDS			11/12/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	490.	mg/kgdrywt	12	5.0	Mod.8100	12/02/97 RH	
o-Terphenyl	DL	%	12		Mod.8100	12/02/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbksp(dw)/rh



CLIENT: MATT REYNOLDS
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 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
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 PO No. : 97-046
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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP14-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2,3
Dichlorodifluoromethane	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
Chloromethane	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
Vinyl chloride	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
Bromomethane	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
Chloroethane	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
Trichlorofluoromethane	<13.	µg/kgdrywt	6.4	2	EPA 8260	11/26/97	KB	
1,1-Dichloroethene	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
Methylene chloride	B20	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
trans-1,2-Dichloroethene	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
1,1-Dichloroethane	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
cis-1,2-Dichloroethene	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
2,2-Dichloropropane	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	
Bromochloromethane	<6.4	µg/kgdrywt	6.4	1	EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) A result reported with a "B" qualifier indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample. The concentration of Methylene Chloride in the method blank was 3 µg/kg.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
TP14-5	Solid		M.REYNOLDS		11/12/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chloroform	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,1,1-Trichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2-Dichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,1-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Carbon tetrachloride	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Benzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2-Dichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Trichloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
cis-1,3-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Dibromomethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Bromodichloromethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Toluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
trans-1,3-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,1,2-Trichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP14-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,3-Dichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Dibromochloromethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Tetrachloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2-Dibromoethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Chlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,1,1,2-tetrachloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Ethylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
m-Xylene/p-Xylene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Bromoform	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
o-Xylene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Styrene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,1,2,2-Tetrachloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2,3-Trichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Isopropylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/lkp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP14-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Bromobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
2-Chlorotoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
n-Propylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
4-Chlorotoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,3,5-Trimethylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
tert-Butylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2,4-Trimethylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
sec-Butylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,3-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
4-Isopropyltoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,4-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
n-Butylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2-Dibromo-3-chloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-13
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP14-5	Solid	M.REYNOLDS		11/12/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,2,4-Trichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Naphthalene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Hexachlorobutadiene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
1,2,3-Trichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	KB	
Dibromofluoromethane (Surr.)	97.	%	6.4		EPA 8260	11/26/97	KB	
Toluene-d8 (%)	96.	%	6.4		EPA 8260	11/26/97	KB	
p-Bromofluorobenzene (%)	79.	%	6.4		EPA 8260	11/26/97	KB	
Acetone	730.	µg/kgdrywt	6.4		5 EPA 8260	11/26/97	KB	
2-Butanone	<32.	µg/kgdrywt	6.4		5 EPA 8260	11/26/97	KB	
4-Methyl-2-pentanone	<19.	µg/kgdrywt	6.4		3 EPA 8260	11/26/97	KB	
2-Hexanone	<26.	µg/kgdrywt	6.4		4 EPA 8260	11/26/97	KB	
Methyltertbutyl ether	<6.4	µg/kgdrywt	6.4		6.4 EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dlw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBROOK DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-6
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP16-6	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	83.	wt %	1.0	0.10	CLP/CIP SCW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-6
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP16-6	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	4900.	mg/kgdrywt	120	5.0	Mod.8100	12/02/97	RH	
o-Terphenyl	DL	%	120		Mod.8100	12/02/97	RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-14
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
TP-17-3	Solid		M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Antimony, Total	<0.8	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Arsenic, Total	25.7	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Beryllium, Total	0.50	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Cadmium, Total	<0.50	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Chromium, Total	8.46	mg/Kgdrywt	1.0	1.50	6010/200.7	11/24/97	EM	1
Copper, Total	16.4	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1
Lead, Total	13.9	mg/Kgdrywt	1.0	0.5	6010/200.7	11/24/97	EM	1
Mercury, Total	<0.0401	µg/gdrywt	1.0	0.0400	7471	11/24/97	GB	2
Nickel, Total	13.9	mg/Kgdrywt	1.0	4.00	6010/200.7	11/24/97	EM	1
Selenium, Total	<1.0	mg/Kgdrywt	1.0	1.0	6010/200.7	11/24/97	EM	1
Silver, Total	<1.5	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Thallium, Total	<1.5	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Zinc, Total	18.9	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/22/97 by PLC using 3050
 (2) Sample Preparation on 11/22/97 by GFB using 7471

12/15/97

LJO/ejnkp(dw)
 NK22ICS1



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-14
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP-17-3	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	82.	wt %	1.0	0.10	CLP/CIP SCW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP19-2	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
2,4,6-Trichlorophenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4,5-Trichlorophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
2-Chloronaphthalene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2-Nitroaniline	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Dimethylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Acenaphthylene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,6-Dinitrotoluene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
3-Nitroaniline	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Acenaphthene	J2000	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4-Dinitrophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
4-Nitrophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Dibenzofuran	J2600	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4-Dinitrotoluene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-7
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP17-4	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	18000.	mg/kgdrywt	570	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	DL	%	570		Mod.8100	12/03/97 RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 11/20/97 by ESE using SW3550
- (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-8
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED				
TP18-5	Solid	M.REYNOLDS	11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	81.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-8
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP18-5	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1
TPH	17.	mg/kgdrywt	1.2	5.0	Mod.8100	11/25/97 RH	
o-Terphenyl	58.	%	1.2		Mod.8100	11/25/97 RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

(1) Sample Preparation on 11/20/97 by ESE using SW3550

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS	11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	78.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
JOHN D TEWHEY ASSOC
500 SOUTHBOROUGH DRIVE
SO PORTLAND, ME 04106

Lab Number : WN-3178-15
Report Date: 12/15/97
PO No. : 97-046
Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	24000.	mg/kgdrywt	1300	5.0	Mod.8100	11/25/97	RH	
o-Terphenyl	DL	%	1300		Mod.8100	11/25/97	RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 11/20/97 by ESE using SW3550
- (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TCL Semivolatile Organics by USEPA 8270B							1,2,3,4
Phenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
bis(2-Chloroethyl) ether	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2-Chlorophenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
1,3-Dichlorobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
1,4-Dichlorobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
1,2-Dichlorobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2-Methylphenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
bis(2-Chloroisopropyl) ether	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
4-Methylphenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
n-Nitroso-dipropylamine	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Hexachloroethane	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 11/19/97 by KRT using SW3550
- (2) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
- (3) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore , standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (4) "#" flag denotes surrogate compound recovery is out of criteria.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Nitrobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Isophorone	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
2-Nitrophenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
2,4-Dimethylphenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
bis (2-Chloroethoxy) methane	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
2,4-Dichlorophenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
1,2,4-Trichlorobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Naphthalene	J4200	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
4-Chloroaniline	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Hexachlorobutadiene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
4-Chloro-3-methylphenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
2-Methylnaphthalene	J3400	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Hexachlorocyclopentadiene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	

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12/15/97

LJO/jcbebg/jjc/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP19-2	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
2,4,6-Trichlorophenol	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4,5-Trichlorophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
2-Chloronaphthalene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2-Nitroaniline	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Dimethylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Acenaphthylene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,6-Dinitrotoluene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
3-Nitroaniline	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Acenaphthene	J2000	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4-Dinitrophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
4-Nitrophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC
Dibenzofuran	J2600	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
2,4-Dinitrotoluene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Diethylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
4-Chlorophenyl phenyl ether	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Fluorene	5200.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
4-Nitroaniline	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC	
4,6-Dinitro-2-methylphenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC	
n-Nitrosodiphenylamine	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
4-Bromophenyl phenyl ether	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Hexachlorobenzene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Pentachlorophenol	<11000.	µg/kgdrywt	13	820	EPA 8270B	12/01/97	JC	
Phenanthrene	J3500	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Anthracene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Carbazole	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
Di-n-butylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Fluoranthene	J2700	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Pyrene	J2600	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Butyl benzylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
3,3'-Dichlorobenzidine	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Benzo (a) anthracene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Chrysene	J1800	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
bis (2-Ethylhexyl) phthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Di-n-octylphthalate	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Benzo (b) fluoranthene	J2700	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Benzo (k) fluoranthene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Benzo (a) pyrene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Indeno (1,2,3-cd) pyrene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC
Dibenzo (a,h) anthracene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo(g,h,i)perylene	<4300.	µg/kgdrywt	13	330	EPA 8270B	12/01/97	JC	
2-Fluorophenol (% Recovery)	71.	%	13		EPA 8270B	12/01/97	JC	
Phenol-d5 (% Recovery)	44.	%	13		EPA 8270B	12/01/97	JC	
Nitrobenzene-d5 (% Recovery)	93.	%	13		EPA 8270B	12/01/97	JC	
2-Fluorobiphenyl (% Recovery)	#12	%	13		EPA 8270B	12/01/97	JC	
2,4,6-Tribromophenol (% Recovery)	#146	%	13		EPA 8270B	12/01/97	JC	
Terphenyl-d14 (% Recovery)	#3	%	13		EPA 8270B	12/01/97	JC	

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12/15/97

LJO/jcbabg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
TP19-2	Solid	M.REYNOLDS			11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
VOAs (8260)							1,2,3,4
Dichlorodifluoromethane	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
Chloromethane	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
Vinyl chloride	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
Bromomethane	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
Chloroethane	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
Trichlorofluoromethane	<13.	µg/kgdrywt	6.4		2 EPA 8260	11/26/97 JY	
1,1-Dichloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	
Methylene chloride	B54	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	
trans-1,2-Dichloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	
1,1-Dichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	
cis-1,2-Dichloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	
2,2-Dichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97 JY	

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- "\$" flag denotes surrogate compound recovery is out of criteria. Re-extraction or re-analysis confirmed matrix interference.
 - Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.
 - Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - A result reported with a "B" qualifier indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample. The concentration of Methylene Chloride in the method blank was 3 ug/kg..

12/15/97

LJO/jcbebg/kmb/kp(dw)



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REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Bromochloromethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Chloroform	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,1,1-Trichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2-Dichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,1-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Carbon tetrachloride	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Benzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2-Dichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Trichloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
cis-1,3-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Dibromomethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Bromodichloromethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Toluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	

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12/15/97

LJO/jcbebg/kario/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
TP19-2	Solid		M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
trans-1,3-Dichloropropene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,1,2-Trichloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,3-Dichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Dibromochloromethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Tetrachloroethene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2-Dibromoethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Chlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,1,1,2-tetrachloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Ethylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
m-Xylene/p-Xylene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Bromoform	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
o-Xylene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Styrene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



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Lab Number : WN-3178-15
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 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED	
TP19-2	Solid	M.REYNOLDS	11/13/97	11/14/97

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,2,2-Tetrachloroethane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2,3-Trichloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Isopropylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Bromobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
2-Chlorotoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
n-Propylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
4-Chlorotoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,3,5-Trimethylbenzene	13.	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
tert-Butylbenzene	28.	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2,4-Trimethylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
sec-Butylbenzene	120.	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,3-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
4-Isopropyltoluene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEMHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
TP19-2	Solid		M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,4-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2-Dichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
n-Butylbenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2-Dibromo-3-chloropropane	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2,4-Trichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Naphthalene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Hexachlorobutadiene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
1,2,3-Trichlorobenzene	<6.4	µg/kgdrywt	6.4		1 EPA 8260	11/26/97	JY	
Dibromofluoromethane (Surr.)	112.	%	6.4		EPA 8260	11/26/97	JY	
Toluene-d8 (%)	\$77	%	6.4		EPA 8260	11/26/97	JY	
p-Bromofluorobenzene (%)	\$60	%	6.4		EPA 8260	11/26/97	JY	
Acetone	220.	µg/kgdrywt	6.4		5 EPA 8260	11/26/97	JY	
2-Butanone	59.	µg/kgdrywt	6.4		5 EPA 8260	11/26/97	JY	

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12/15/97

LJO/jcbebg/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-15
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TP19-2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Methyl-2-pentanone	<19.	µg/kgdrywt	6.4		3 EPA 8260	11/26/97	JY	
2-Hexanone	<26.	µg/kgdrywt	6.4		4 EPA 8260	11/26/97	JY	
Tetrahydrofuran	<12.8	µg/kgdrywt	6.4		2 EPA 8260	11/26/97	JY	

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12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-9
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TP30-5	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	69.	wt %	1.0	0.10	CLP/CIP SCW	11/20/97 JF	1

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 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-9
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
TP30-5	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2
TPH	140.	mg/kgdrywt	7.2	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	97.	%	7.2		Mod.8100	12/03/97 RH	

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 (1) Sample Preparation on 11/20/97 by ESE using SW3550
 (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHCROUCH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-10
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
DS2-3	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	74.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-10
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-3	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	14000.	mg/kgdrywt	530	5.0	Mod.8100	12/03/97	RH	
o-Terphenyl	DL	%	530		Mod.8100	12/03/97	RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh

SEDIMENT DATA



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-11
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
DS1-SED1	Solid	M.REYNOLDS			11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	20.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-11
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
DS1-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	8400.	mg/kgdrywt	200	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	DL	%	200		Mod.8100	12/03/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkcp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Antimony, Total	14.8	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Arsenic, Total	15.9	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Beryllium, Total	0.77	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Cadmium, Total	1.1	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Chromium, Total	5710.	mg/Kgdrywt	10.0	1.50	6010/200.7	11/25/97	EM	1
Copper, Total	384.	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1
Lead, Total	520.	mg/Kgdrywt	1.0	0.5	6010/200.7	11/24/97	EM	1
Mercury, Total	0.494	µg/gdrywt	1.0	0.0400	7471	11/24/97	GB	2
Nickel, Total	37.6	mg/Kgdrywt	1.0	4.00	6010/200.7	11/24/97	EM	1
Selenium, Total	1.7	mg/Kgdrywt	1.0	1.0	6010/200.7	11/24/97	EM	1
Silver, Total	<2.2	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Thallium, Total	<2.2	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Zinc, Total	275.	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/22/97 by PLC using 3050
 (2) Sample Preparation on 11/22/97 by GFB using 7471

12/15/97

LJO/ejnpk(dw)
 NK22ICS1



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	58.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	5800.	mg/kgdrywt	170	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	DL	%	170		Mod.8100	12/03/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkcp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
DS2-SEDI	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TCL Semivolatile Organics by USEPA 8270B							1,2
Phenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
bis(2-Chloroethyl) ether	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
2-Chlorophenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
1,3-Dichlorobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
1,4-Dichlorobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
1,2-Dichlorobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
2-Methylphenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
bis(2-Chloroisopropyl) ether	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
4-Methylphenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
n-Nitroso-dipropylamine	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
Hexachloroethane	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
Nitrobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	
Isophorone	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97 SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by KRT using SW3550
 (2) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2-Nitrophenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4-Dimethylphenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
bis(2-Chloroethoxy)methane	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4-Dichlorophenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
1,2,4-Trichlorobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Naphthalene	670.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
4-Chloroaniline	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Hexachlorobutadiene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
4-Chloro-3-methylphenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2-Methylnaphthalene	870.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Hexachlorocyclopentadiene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4,6-Trichlorophenol	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4,5-Trichlorophenol	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
2-Chloronaphthalene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2-Nitroaniline	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
DS2-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dimethylphthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Acenaphthylene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,6-Dinitrotoluene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
3-Nitroaniline	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
Acenaphthene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrophenol	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
4-Nitrophenol	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
Dibenzofuran	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrotoluene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Diethylphthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
4-Chlorophenyl phenyl ether	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Fluorene	560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
4-Nitroaniline	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
4,6-Dinitro-2-methylphenol	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
n-Nitrosodiphenylamine	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SEDI	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Bromophenyl phenyl ether	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Hexachlorobenzene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Pentachlorophenol	<1400.	µg/kgdrywt	1.7	820	EPA 8270B	11/25/97	SW	
Phenanthrene	J550	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Anthracene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Carbazole	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Di-n-butylphthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Fluoranthene	J540	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Pyrene	J500	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Butyl benzylphthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
3,3'-Dichlorobenzidine	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Benzo(a)anthracene	J310	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Chrysene	J390	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
bis(2-Ethylhexyl)phthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	
Di-n-octylphthalate	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
DS2-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Benzo (b) fluoranthene	610.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
Benzo (k) fluoranthene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
Benzo (a) pyrene	J390	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
Indeno (1,2,3-cd) pyrene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
Dibenzo (a,h) anthracene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
Benzo (g,h,i) perylene	<560.	µg/kgdrywt	1.7	330	EPA 8270B	11/25/97	SW
2-Fluorophenol (% Recovery)	53.	%	1.7		EPA 8270B	11/25/97	SW
Phenol-d5 (% Recovery)	53.	%	1.7		EPA 8270B	11/25/97	SW
Nitrobenzene-d5 (% Recovery)	56.	%	1.7		EPA 8270B	11/25/97	SW
2-Fluorobiphenyl (% Recovery)	59.	%	1.7		EPA 8270B	11/25/97	SW
2,4,6-Tribromophenol (% Recovery)	107.	%	1.7		EPA 8270B	11/25/97	SW
Terphenyl-d14 (% Recovery)	60.	%	1.7		EPA 8270B	11/25/97	SW

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								2,3,4,5,6
Dichlorodifluoromethane	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
Chloromethane	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
Vinyl chloride	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
Bromomethane	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
Chloroethane	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
Trichlorofluoromethane	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97	KB	
1,1-Dichloroethene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Methylene chloride	B17	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
trans-1,2-Dichloroethene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,1-Dichloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 12/12/97
- (2) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore , standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "\$" flag denotes surrogate compound recovery is out of criteria. Re-extraction or re-analysis confirmed matrix interference.
- (4) Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.
- (5) A result reported with a "B" qualifier indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample. The concentration of Methylene Chloride in the method blank was 3 ug/kg..
- (6) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

12/15/97

LJO/jcbebg/drt/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
cis-1,2-Dichloroethene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
2,2-Dichloropropane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Bromochloromethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Chloroform	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,1,1-Trichloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,2-Dichloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,1-Dichloropropene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Carbon tetrachloride	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Benzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,2-Dichloropropane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Trichloroethene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	

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12/15/97

LJO/jcbebg/drt/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
cis-1,3-Dichloropropene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Dibromomethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Bromodichloromethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Toluene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
trans-1,3-Dichloropropene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,1,2-Trichloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,3-Dichloropropane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Dibromochloromethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Tetrachloroethene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,2-Dibromoethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
Chlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	

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12/15/97

LJO/jcbebg/drc/kmb/kep(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
DS2-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
1,1,1,2-tetrachloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
Ethylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
m-Xylene/p-Xylene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
Bromoform	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
o-Xylene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
Styrene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
1,1,2,2-Tetrachloroethane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
1,2,3-Trichloropropane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
Isopropylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
Bromobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	
2-Chlorotoluene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97 KB	

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12/15/97

LJO/jcbebg/art/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
n-Propylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
4-Chlorotoluene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,3,5-Trimethylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
tert-Butylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,2,4-Trimethylbenzene	28.	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
sec-Butylbenzene	19.	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,3-Dichlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
4-Isopropyltoluene	32.	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,4-Dichlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
1,2-Dichlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	
n-Butylbenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB	

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12/15/97

LJO/jcbebg/drt/knb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
DS2-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
1,2-Dibromo-3-chloropropane	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB
1,2,4-Trichlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB
Naphthalene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB
Hexachlorobutadiene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB
1,2,3-Trichlorobenzene	<3.4	µg/kgdrywt	3.4		1 EPA 8260	11/26/97	KB
Dibromofluoromethane (Surr.)	101.	%	3.4		EPA 8260	11/26/97	KB
Toluene-d8 (%)	\$83	%	3.4		EPA 8260	11/26/97	KB
p-Bromofluorobenzene (%)	\$75	%	3.4		EPA 8260	11/26/97	KB
Acetone	38.	µg/kgdrywt	3.4		5 EPA 8260	11/26/97	KB
2-Butanone	J11	µg/kgdrywt	3.4		5 EPA 8260	11/26/97	KB
4-Methyl-2-pentanone	<10.	µg/kgdrywt	3.4		3 EPA 8260	11/26/97	KB

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12/15/97

LJO/jcbebg/drt/kmb/kp(dw)



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 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-16
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
DS2-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
2-Hexanone	<14.	µg/kgdrywt	3.4		4 EPA 8260	11/26/97 KB	
Methyltertbutyl ether	<6.8	µg/kgdrywt	3.4		2 EPA 8260	11/26/97 KB	

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12/15/97

LJO/jcbebg/drt/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-17
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED	
LAG1-SED1	Solid	M.REYNOLDS	11/13/97	11/14/97

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Antimony, Total	<2.	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Arsenic, Total	38.4	mg/Kgdrywt	1.0	0.8	6010/200.7	11/24/97	EM	1
Beryllium, Total	<1.3	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Cadmium, Total	1.7	mg/Kgdrywt	1.0	0.50	6010/200.7	11/24/97	EM	1
Chromium, Total	78.1	mg/Kgdrywt	1.0	1.50	6010/200.7	11/24/97	EM	1
Copper, Total	44.0	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1
Lead, Total	115.	mg/Kgdrywt	1.0	0.5	6010/200.7	11/24/97	EM	1
Mercury, Total	<0.0941	µg/gdrywt	1.0	0.0400	7471	11/24/97	GB	2
Nickel, Total	466.	mg/Kgdrywt	1.0	4.00	6010/200.7	11/24/97	EM	1
Selenium, Total	<2.6	mg/Kgdrywt	1.0	1.0	6010/200.7	11/24/97	EM	1
Silver, Total	<3.8	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Thallium, Total	<3.8	mg/Kgdrywt	1.0	1.5	6010/200.7	11/24/97	EM	1
Zinc, Total	163.	mg/Kgdrywt	1.0	2.50	6010/200.7	11/24/97	EM	1

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 (1) Sample Preparation on 11/22/97 by PLC using 3050
 (2) Sample Preparation on 11/22/97 by GFB using 7471

12/15/97
 LJO/ejnkp(dw)
 NK22ICS1



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WIN-3178-17
 Report Date: 12/15/97
 PO No. : 97-046
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REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
LAG1-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	33.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

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 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp (dw) /msm

CLIENT: MATT REYNOLDS
JOHN D TEMHEY ASSOC
500 SOUTHBOROUGH DRIVE
SO PORTLAND, ME 04106

Lab Number : WN-3178-17
Report Date: 12/15/97
PO No. : 97-046
Project : CPR #746

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED		
LAG1-SED1	Solid		M.REYNOLDS		11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	4700.	mg/kgdrywt	150	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	DL	%	150		Mod.8100	12/03/97 RH	

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- (1) Sample Preparation on 11/20/97 by ESE using SW3550
- (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-17
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
LAG1-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TCL Semivolatile Organics by USEPA 8270B							1,2,3
Phenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
bis (2-Chloroethyl) ether	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
2-Chlorophenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
1,3-Dichlorobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
1,4-Dichlorobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
1,2-Dichlorobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
2-Methylphenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
bis (2-Chloroisopropyl) ether	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
4-Methylphenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
n-Nitroso-dipropylamine	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
Hexachloroethane	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	
Nitrobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97 SW	

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- (1) Sample Preparation on 11/19/97 by KRT using SW3550
- (2) "#" flag denotes surrogate compound recovery is out of criteria.
- (3) Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore , standard laboratory Practical Quantitation Level (PQL) could not be achieved.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEMHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-17
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CFR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED	
LAG1-SED1	Solid	M.REYNOLDS	11/13/97	11/14/97

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Isophorone	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2-Nitrophenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4-Dimethylphenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
bis(2-Chloroethoxy)methane	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4-Dichlorophenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
1,2,4-Trichlorobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Naphthalene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
4-Chloroaniline	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Hexachlorobutadiene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
4-Chloro-3-methylphenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2-Methylnaphthalene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Hexachlorocyclopentadiene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4,6-Trichlorophenol	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4,5-Trichlorophenol	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-17
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 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2-Chloronaphthalene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2-Nitroaniline	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
Dimethylphthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Acenaphthylene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,6-Dinitrotoluene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
3-Nitroaniline	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
Acenaphthene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrophenol	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
4-Nitrophenol	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
Dibenzofuran	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2,4-Dinitrotoluene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Diethylphthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
4-Chlorophenyl phenyl ether	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Fluorene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	

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12/15/97

LJO/jcbebg/jjc/kp(dw)



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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Nitroaniline	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
4,6-Dinitro-2-methylphenol	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
n-Nitrosodiphenylamine	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
4-Bromophenyl phenyl ether	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Hexachlorobenzene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Pentachlorophenol	<2500.	µg/kgdrywt	3	820	EPA 8270B	11/25/97	SW	
Phenanthrene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Anthracene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Carbazole	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Di-n-butylphthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Fluoranthene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Pyrene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Butyl benzylphthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
3,3'-Dichlorobenzidine	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	

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LJO/jcbebg/jjc/kp(dw)



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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED1	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo (a) anthracene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Chrysene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
bis (2-Ethylhexyl) phthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Di-n-octylphthalate	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Benzo (b) fluoranthene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Benzo (k) fluoranthene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Benzo (a) pyrene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Indeno (1,2,3-cd) pyrene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Dibenzo (a,h) anthracene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
Benzo (g,h,i) perylene	<990.	µg/kgdrywt	3	330	EPA 8270B	11/25/97	SW	
2-Fluorophenol (% Recovery)	37.	%	3		EPA 8270B	11/25/97	SW	
Phenol-d5 (% Recovery)	34.	%	3		EPA 8270B	11/25/97	SW	
Nitrobenzene-d5 (% Recovery)	#34	%	3		EPA 8270B	11/25/97	SW	
2-Fluorobiphenyl (% Recovery)	#39	%	3		EPA 8270B	11/25/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
JOHN D TEWHEY ASSOC
500 SOUTHBOROUGH DRIVE
SO PORTLAND, ME 04106

Lab Number : WN-3178-17
Report Date: 12/15/97
PO No. : 97-046
Project : CPR #746

REPORT OF ANALYTICAL RESULTS

Page 94 of 94

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED					
LAG1-SED1	Solid	M.REYNOLDS	11/13/97	11/14/97				
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4,6-Tribromophenol (% Recovery)	71.	%	3		EPA 8270B	11/25/97	SW	
Terphenyl-d14 (% Recovery)	38.	%	3		EPA 8270B	11/25/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/jjc/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED				
LAG1-SED2	Solid	M.REYNOLDS	11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Solids-Total Residue (TS)	77.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97 JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
LAG1-SED2	Solid	M.REYNOLDS			11/13/97	11/14/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2
TPH	270.	mg/kgdrywt	6.4	5.0	Mod.8100	12/02/97 RH	
o-Terphenyl	113.	%	6.4		Mod.8100	12/02/97 RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/20/97 by ESE using SW3550
 (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.

12/15/97

LJO/jcbkp(dw)/rh



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED	
LAG1-SED2	Solid	M.REYNOLDS	11/13/97	11/14/97

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
VOAs (8260)							1,2,3
Dichlorodifluoromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Chloromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Vinyl chloride	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Bromomethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Chloroethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
Trichlorofluoromethane	<2.6	µg/kgdrywt	1.3		2 EPA 8260	11/25/97 KB	
1,1-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
Methylene chloride	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
trans-1,2-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
1,1-Dichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
cis-1,2-Dichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
2,2-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	
Bromochloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97 KB	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.
 - (2) "\$" flag denotes surrogate compound recovery is out of criteria. Re-extraction or re-analysis confirmed matrix interference.
 - (3) A result reported with a "B" qualifier indicates the analytes were detected in the laboratory method blank analyzed concurrently with the sample. The concentrations of m&p Xylene in the method blank were J0.5 ug/kg respectively.

12/15/97

LJO/jcbebg/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chloroform	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,1-Trichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Carbon tetrachloride	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Benzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Trichloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
cis-1,3-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Dibromomethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Bromodichloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Toluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
trans-1,3-Dichloropropene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,2-Trichloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,3-Dichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Dibromochloromethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Tetrachloroethene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dibromoethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Chlorobenzene	5.	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,1,2-tetrachloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Ethylbenzene	15.	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
m-Xylene/p-Xylene	B28	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Bromoform	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
o-Xylene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Styrene	73.	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,1,2,2-Tetrachloroethane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,3-Trichloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Isopropylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Bromobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
2-Chlorotoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
n-Propylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
4-Chlorotoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,3,5-Trimethylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
tert-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,4-Trimethylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
sec-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,3-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
4-Isopropyltoluene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,4-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
n-Butylbenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2-Dibromo-3-chloropropane	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-3
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG1-SED2	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,2,4-Trichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Naphthalene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Hexachlorobutadiene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
1,2,3-Trichlorobenzene	<1.3	µg/kgdrywt	1.3		1 EPA 8260	11/25/97	KB	
Dibromofluoromethane (Surr.)	\$5	%	1.3		EPA 8260	11/25/97	KB	
Toluene-d8 (%)	\$120	%	1.3		EPA 8260	11/25/97	KB	
p-Bromofluorobenzene (%)	\$7	%	1.3		EPA 8260	11/25/97	KB	
Acetone	<6.5	µg/kgdrywt	1.3		5 EPA 8260	11/25/97	KB	
2-Butanone	<6.5	µg/kgdrywt	1.3		5 EPA 8260	11/25/97	KB	
4-Methyl-2-pentanone	<3.9	µg/kgdrywt	1.3		3 EPA 8260	11/25/97	KB	
2-Hexanone	<5.2	µg/kgdrywt	1.3		4 EPA 8260	11/25/97	KB	
Methyltertbutyl ether	<2.6	µg/kgdrywt	1.3		2. EPA 8260	11/25/97	KB	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/15/97

LJO/jcbebg/kmb/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-12
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

Page 45 of 94

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
LAG2-SED3	Solid	M.REYNOLDS		11/13/97	11/14/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Solids-Total Residue (TS)	64.	wt %	1.0	0.10	CLP/CIP SOW	11/20/97	JF	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 11/19/97 by JF

12/15/97

LJO/backp(dw)/msm



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3178-12
 Report Date: 12/15/97
 PO No. : 97-046
 Project : CPR #746

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
LAG2-SED3	Solid	M.REYNOLDS		11/13/97	11/14/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	510.	mg/kgdrywt	16	5.0	Mod.8100	12/03/97 RH	
o-Terphenyl	DL	%	16		Mod.8100	12/03/97 RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 11/20/97 by ESE using SW3550
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/15/97

LJO/jcbkp(dw)/rh



340 County Road No. 5
 P.O. Box 720
 Westbrook, ME 04098
 Tel: (207) 874-2400
 Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Page 1 of 2

Client: Towhey ASSOCIATES Contact: Matthew Reynolds Phone #: (207) 772-2242 Fax #: (207) 772-7944
 Address: 500 SOUTH BOROVIEW DR City: S. PORTLAND State: ME Zip Code: 04106
 Purchase Order #: 97-046 Proj. Name / No.: CPR#746 Katahdin Quote #:

Bill (if different than above) Address: _____
 Sampler (Print / Sign): Matthew Reynolds Copies To: _____

LAB USE ONLY
 WORK ORDER #: WN 3178
 KATAHDIN PROJECT MANAGER: KAP
 REMARKS: _____
 SHIPPING INFO: FED EX UPS CLIENT
 AIRBILL NO: _____
 TEMP °C: _____ TEMP BLANK INTACT NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

* Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.
				OYON	OYON	OYON	OYON	OYON	OYON	OYON	OYON	OYON	OYON
				TP4-8100	VOA-8260	SUA-8270	13 Pouches	POUCH METALS					
1 TP2-5	12/97/0945	S	2	1	1								
2 TP10-9	12/97/1500	S	2	1	1								
4 TP11-5	12/97/1530	S	1	1		1							
5 TP13-8	12/97/1600	S	1	1									
13 TP14-5	12/97/1630	S	1	1	1			1					
6 TP16-6	11/97/0715	S	1	1									
14 TP-17-3	11/97/0745	S	1					1					
7 TP17-4	11/97/0745	S	1	1									
8 TP18-5	11/97/10830	S	1	1									
15 TP19-2	11/97/0900	S	2	1	1	1							
9 TP30-5	11/97/1500	S	1	1									
10 DS2-3	11/97/1400	S	1	1									
11 DS1-SS01	11/97/1330	SEP	1	1									
16 DS2-SS01	11/97/1345	SEP	2	1	1	1	1						

COMMENTS: _____

Relinquished By: (Signature) <u>[Signature]</u>	Date / Time <u>11/14/97 1330</u>	Received By: (Signature) <u>[Signature]</u>	Relinquished By: (Signature) <u>[Signature]</u>	Date / Time <u>11/17 1825</u>	Received By: (Signature) <u>[Signature]</u>
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

APPENDIX E

**LABORATORY REPORT OF ANALYSES:
WATER**

WAGE 12

December 24, 1997

Mr. Matt Reynolds
John D. Tewhey Associates
500 Southborough Drive
So. Portland, ME 04106

RE: Katahdin Lab Number: WN3375
Project ID: CPR#746VT
Project Manager: Ms. Kelly Perkins
Sample Receipt Date: December 5, 1997

Dear Mr. Reynolds:

Please find enclosed the following information:

- * Report of Analysis
- * Confirmation
- * Chain of Custody

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES

Maria Crouch
Authorized Signature

12/24/97
Date



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	20000.	µg/L	10		50 Mod.8100	12/18/97	RH	
o-Terphenyl	DL	%	10		Mod.8100	12/18/97	RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 12/09/97 by KGT
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/24/97

LJO/jcbkp (dw)/rh
 NL09TPW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Semivolatile Organics by USEPA								1,2
8270B								
Phenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
bis(2-Chloroethyl) ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Isophorone	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 12/08/97 by TCB using EPA 3520
 (2) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Naphthalene	140.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Methylnaphthalene	95.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp (dw)
 NL08ENW9

CLIENT: MATT REYNOLDS
JOHN D TEWHEY ASSOC
500 SOUTHBOROUGH DRIVE
SO PORTLAND, ME 04106

Lab Number : WN-3375-1
Report Date: 12/24/97
PO No. : 97-046
Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Acenaphthylene	J6	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW
Acenaphthene	J6	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Fluorene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/24/97

LJO/jcbebg/kp (dw)
NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Carbazole	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Chrysene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
bis(2-Ethylhexyl)phthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp(dw)
 NL08ENW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX			SAMPLED BY		SAMPLED DATE RECEIVED		
MW-1	Aqueous			REYNOLDS		12/03/97	12/05/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo (b) fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo (k) fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo (a) pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Indeno (1,2,3-cd) pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Dibenzo (a,h) anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo (g,h,i) perylene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Fluorophenol (% Recovery)	42.	%	1.0		EPA 8270B	12/12/97	SW	
Phenol-d5 (% Recovery)	48.	%	1.0		EPA 8270B	12/12/97	SW	
Nitrobenzene-d5 (% Recovery)	81.	%	1.0		EPA 8270B	12/12/97	SW	
2-Fluorobiphenyl (% Recovery)	79.	%	1.0		EPA 8270B	12/12/97	SW	
2,4,6-Tribromophenol (% Recovery)	58.	%	1.0		EPA 8270B	12/12/97	SW	
Terphenyl-d14 (% Recovery)	76.	%	1.0		EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2
Dichlorodifluoromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
Chloromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
Vinyl chloride	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
Bromomethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
Chloroethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
Trichlorofluoromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JY	
1,1-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Methylene chloride	B9	µg/L	1.0		1 EPA 8260	12/12/97	JY	
trans-1,2-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,1-Dichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
cis-1,2-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
2,2-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Bromochloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Chloroform	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	

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 (1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
 (2) A result reported with a "B" qualifier indicates the analytes were detected in the laboratory method blank analyzed concurrently with the sample. The concentrations of Methylene Chloride and Napthalene in the method blank were 3ug/L and 1ug/L respectively.

12/24/97

LJO/jcbebg/jey/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHCROUCH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,1-Trichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2-Dichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,1-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Carbon tetrachloride	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Benzene	4.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Trichloroethene	1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
cis-1,3-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Dibromomethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Bromodichloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Toluene	10.7	µg/L	1.0		1 EPA 8260	12/12/97	JY	
trans-1,3-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,1,2-Trichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,3-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Dibromochloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Tetrachloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2-Dibromoethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Chlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,1,1,2-tetrachloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Ethylbenzene	1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
m-Xylene/p-Xylene	27.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Bromoform	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
o-Xylene	3.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Styrene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,1,2,2-Tetrachloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2,3-Trichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Isopropylbenzene	7.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Bromobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
2-Chlorotoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
n-Propylbenzene	10.	µg/L	1.0		1 EPA 8260	12/12/97	JY	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
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 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED			
MW-1	Aqueous	REYNOLDS			12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Chlorotoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,3,5-Trimethylbenzene	47.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
tert-Butylbenzene	1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2,4-Trimethylbenzene	140.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
sec-Butylbenzene	4.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,3-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
4-Isopropyltoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,4-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
n-Butylbenzene	10.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2-Dibromo-3-chloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2,4-Trichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
Naphthalene	B220	µg/L	2.0		1 EPA 8260	12/12/97	JY	
Hexachlorobutadiene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	
1,2,3-Trichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JY	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-1
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibromofluoromethane (Surr.)	105.	%	1.0		EPA 8260	12/12/97	JY	
Toluene-d8 (%)	101.	%	1.0		EPA 8260	12/12/97	JY	
p-Bromofluorobenzene (%)	105.	%	1.0		EPA 8260	12/12/97	JY	
Acetone	5.	µg/L	1.0		5 EPA 8260	12/12/97	JY	
2-Butanone	<5.	µg/L	1.0		5 EPA 8260	12/12/97	JY	
4-Methyl-2-pentanone	<3.	µg/L	1.0		3 EPA 8260	12/12/97	JY	
2-Hexanone	<4.	µg/L	1.0		4 EPA 8260	12/12/97	JY	
Methyltertbutyl ether	6.	µg/L	1.0		2. EPA 8260	12/12/97	JY	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-4
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
MW-3	Aqueous	REYNOLDS			12/03/97	12/05/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1
TPH	190.	µg/L	1.1		50 Mod.8100	12/13/97 RH	
o-Terphenyl	70.	%	1.1		Mod.8100	12/13/97 RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 12/09/97 by KGT

12/24/97

LJO/jcbkp(dw)/rh
 NL09TPW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	22000.	µg/L	20		50 Mod.8100	12/18/97	RH	
o-Terphenyl	DL	%	20		Mod.8100	12/18/97	RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 12/09/97 by KGT
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/24/97

LJO/jcbkp (dw) /rh
 NL09TPW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TCL Semivolatile Organics by USEPA							
8270B							1
Phenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
bis(2-Chloroethyl) ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
Isophorone	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW

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 (1) Sample Preparation on 12/08/97 by TCB using EPA 3520

12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED					
MW-4	Aqueous	REYNOLDS	12/03/97	12/05/97				
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4-Dimethylphenol	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
bis (2-Chloroethoxy)methane	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
2,4-Dichlorophenol	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
Naphthalene	200.	µg/L	3.0		10 EPA 8270B	12/12/97	SW	
4-Chloroaniline	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
Hexachlorobutadiene	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
4-Chloro-3-methylphenol	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
2-Methylnaphthalene	250.	µg/L	3.0		10 EPA 8270B	12/12/97	SW	
Hexachlorocyclopentadiene	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
2,4,6-Trichlorophenol	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
2,4,5-Trichlorophenol	<25.	µg/L	1.0		25 EPA 8270B	12/12/97	SW	
2-Chloronaphthalene	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
2-Nitroaniline	<25.	µg/L	1.0		25 EPA 8270B	12/12/97	SW	
Dimethylphthalate	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	
Acenaphthylene	<10.	µg/L	1.0		10 EPA 8270B	12/12/97	SW	

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12/24/97

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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
Acenaphthene	11.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Fluorene	12.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



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 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Phenanthrene	16.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Carbazole	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Chrysene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
bis(2-Ethylhexyl)phthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



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 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
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 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibenzo (a, h) anthracene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
Benzo (g, h, i) perylene	<10.	µg/L	1.0	10	EPA 8270B	12/12/97	SW	
2-Fluorophenol (% Recovery)	74.	%	1.0		EPA 8270B	12/12/97	SW	
Phenol-d5 (% Recovery)	73.	%	1.0		EPA 8270B	12/12/97	SW	
Nitrobenzene-d5 (% Recovery)	91.	%	1.0		EPA 8270B	12/12/97	SW	
2-Fluorobiphenyl (% Recovery)	76.	%	1.0		EPA 8270B	12/12/97	SW	
2,4,6-Tribromophenol (% Recovery)	70.	%	1.0		EPA 8270B	12/12/97	SW	
Terphenyl-d14 (% Recovery)	75.	%	1.0		EPA 8270B	12/12/97	SW	

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12/24/97

LJO/jcbebg/kp (dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
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 500 SOUTHBOROUGH DRIVE
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Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED DATE RECEIVED			
MW-4	Aqueous		REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2
Dichlorodifluoromethane	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Chloromethane	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Vinyl chloride	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Bromomethane	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Chloroethane	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Trichlorofluoromethane	<2	µg/L	1.0		2 EPA 8260	12/12/97	JG	
1,1-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Methylene chloride	B8	µg/L	1.0		1 EPA 8260	12/12/97	JG	
trans-1,2-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1-Dichloroethane	J0.7	µg/L	1.0		1 EPA 8260	12/12/97	JG	
cis-1,2-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
2,2-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromochloromethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Chloroform	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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- (1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
 - (2) A result reported with a "B" qualifier indicates the analytes were detected in the laboratory method blank analyzed concurrently with the sample. The concentrations of Methylene Chloride and Napthlene in the method blank were 3 ug/L and 1 ug/L respectively.

12/24/97

LJO/jcbebg/jey/kp(dw)



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Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,1-Trichloroethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dichloroethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Carbon tetrachloride	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Benzene	4.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Trichloroethene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
cis-1,3-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Dibromomethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromodichloromethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Toluene	10.7	µg/L	1.0		1 EPA 8260	12/12/97	JG	
trans-1,3-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,2-Trichloroethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Dibromochloromethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
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REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Tetrachloroethene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dibromoethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Chlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,1,2-tetrachloroethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Ethylbenzene	29.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
m-Xylene/p-Xylene	81.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromoform	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
o-Xylene	1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Styrene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,2,2-Tetrachloroethane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,3-Trichloropropane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Isopropylbenzene	13.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
2-Chlorotoluene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
n-Propylbenzene	18.	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
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 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED			
MW-4	Aqueous	REYNOLDS			12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Chlorotoluene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3,5-Trimethylbenzene	52.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
tert-Butylbenzene	10.6	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,4-Trimethylbenzene	190.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
sec-Butylbenzene	8.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
4-Isopropyltoluene	14.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,4-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
n-Butylbenzene	13.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dibromo-3-chloropropane	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,4-Trichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Naphthalene	B300	µg/L	2.0		1 EPA 8260	12/12/97	JG	
Hexachlorobutadiene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,3-Trichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-2
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
MW-4	Aqueous	REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
Dibromofluoromethane (Surr.)	97.	%	1.0		EPA 8260	12/12/97 JG	
Toluene-d8 (%)	104.	%	1.0		EPA 8260	12/12/97 JG	
p-Bromofluorobenzene (%)	104.	%	1.0		EPA 8260	12/12/97 JG	
Acetone	J4	µg/L	1.0		5 EPA 8260	12/12/97 JG	
2-Butanone	<5	µg/L	1.0		5 EPA 8260	12/12/97 JG	
4-Methyl-2-pentanone	<3	µg/L	1.0		3 EPA 8260	12/12/97 JG	
2-Hexanone	<4	µg/L	1.0		4 EPA 8260	12/12/97 JG	
Methyltertbutyl ether	<2.	µg/L	1.0		2. EPA 8260	12/12/97 JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-5
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
MW-6A	Aqueous	REYNOLDS			12/03/97	12/05/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1
TPH	650.	µg/L	1.0		50 Mod.8100	12/13/97 RH	
o-Terphenyl	62.	%	1.0		Mod.8100	12/13/97 RH	

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 (1) Sample Preparation on 12/09/97 by KGT

12/24/97

LJO/jcbkp(dw)/rh
 NL09TEW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-7
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
		REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
MW-6	Aqueous							
Antimony, Total	<0.008	mg/L	1.0	0.008	6010/200.7	12/12/97	EM	1
Arsenic, Total	<0.008	mg/L	1.0	0.008	6010/200.7	12/12/97	EM	1
Beryllium, Total	<0.0050	mg/L	1.0	0.0050	6010/200.7	12/12/97	EM	1
Cadmium, Total	<0.0100	mg/L	1.0	0.0100	6010/200.7	12/12/97	EM	1
Chromium, Total	<0.0150	mg/L	1.0	0.0150	6010/200.7	12/12/97	EM	1
Copper, Total	<0.0250	mg/L	1.0	0.0250	6010/200.7	12/12/97	EM	1
Lead, Total	<0.005	mg/L	1.0	0.005	6010/200.7	12/12/97	EM	1
Mercury, Total	<0.200	µg/L	1.0	0.200	245.1	12/08/97	GB	2
Nickel, Total	<0.0400	mg/L	1.0	0.0400	6010/200.7	12/12/97	EM	1
Selenium, Total	<0.010	mg/L	1.0	0.010	6010/200.7	12/12/97	EM	1
Silver, Total	<0.015	mg/L	1.0	0.015	6010/200.7	12/12/97	EM	1
Thallium, Total	<0.015	mg/L	1.0	0.015	6010/200.7	12/12/97	EM	1
Zinc, Total	0.0401	mg/L	1.0	0.0250	6010/200.7	12/12/97	EM	1

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 12/08/97 by PLC using 3010
 (2) Sample Preparation on 12/06/97 by GFB using 245.1

12/24/97

LJO/ejnpk(dw)
 NL08ICW1



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-7
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED		
MW-6	Aqueous	REYNOLDS			12/03/97	12/05/97	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
TPH							1,2,3
TPH	39000.	µg/L	21		50 Mod.8100	12/19/97 RH	
o-Terphenyl	DL	%	21		Mod.8100	12/19/97 RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

- (1) Sample Preparation on 12/09/97 by KGT
- (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
- (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/24/97

LJO/jcbkp(dw)/rh
 NL09TPW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-8
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TB-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1
Dichlorodifluoromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Chloromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Vinyl chloride	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Bromomethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Chloroethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
Trichlorofluoromethane	<2.	µg/L	1.0		2 EPA 8260	12/12/97	JG	
1,1-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Methylene chloride	B50	µg/L	1.0		1 EPA 8260	12/12/97	JG	
trans-1,2-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1-Dichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
cis-1,2-Dichloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
2,2-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromochloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Chloroform	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,1-Trichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) A result reported with a "B" qualifier indicates the analytes were detected in the laboratory method blank analyzed concurrently with the sample. The concentrations of Methylene Chloride and Naphthalene in the method blank were 3 ug/L and 0.7J respectively.

12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-8
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED			
TB-1	Aqueous	REYNOLDS			12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,2-Dichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Carbon tetrachloride	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Benzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Trichloroethene	1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
cis-1,3-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Dibromomethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromodichloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Toluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
trans-1,3-Dichloropropene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,2-Trichloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3-Dichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Dibromochloromethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Tetrachloroethene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dibromoethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/lcp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-8
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TB-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,1,2-tetrachloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Ethylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
m-Xylene/p-Xylene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromoform	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
o-Xylene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Styrene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,1,2,2-Tetrachloroethane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,3-Trichloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Isopropylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Bromobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
2-Chlorotoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
n-Propylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
4-Chlorotoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3,5-Trimethylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
tert-Butylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-8
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
TB-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,2,4-Trimethylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
sec-Butylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,3-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
4-Isopropyltoluene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,4-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
n-Butylbenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2-Dibromo-3-chloropropane	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,4-Trichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Naphthalene	BJ0.6	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Hexachlorobutadiene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
1,2,3-Trichlorobenzene	<1.	µg/L	1.0		1 EPA 8260	12/12/97	JG	
Dibromofluoromethane (Surr.)	93.	%	1.0		EPA 8260	12/12/97	JG	
Toluene-d8 (%)	103.	%	1.0		EPA 8260	12/12/97	JG	
p-Bromofluorobenzene (%)	102.	%	1.0		EPA 8260	12/12/97	JG	
Acetone	6.	µg/L	1.0		5 EPA 8260	12/12/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-8
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
TB-1	Aqueous	REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
2-Butanone	<5.	µg/L	1.0		5 EPA 8260	12/12/97	JG
4-Methyl-2-pentanone	<3.	µg/L	1.0		3 EPA 8260	12/12/97	JG
2-Hexanone	<4.	µg/L	1.0		4 EPA 8260	12/12/97	JG
Methyltertbutyl ether	<2.0	µg/L	1.0		2.0 EPA 8260	12/12/97	JG

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TENHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2,3
TPH	10000.	µg/L	10		50 Mod.8100	12/19/97	RH	
o-Terphenyl	DL	%	10		Mod.8100	12/19/97	RH	

- * PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
- (1) Sample Preparation on 12/09/97 by KGT
 - (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.
 - (3) "DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

12/24/97

LJO/jcbkp(dw)/rh
 NL09TPW8



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Semivolatile Organics by USEPA								1
8270B								
Phenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
bis(2-Chloroethyl) ether	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Chlorophenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
1,3-Dichlorobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
1,4-Dichlorobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
1,2-Dichlorobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Methylphenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
bis(2-Chloroisopropyl) ether	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Methylphenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
n-Nitroso-dipropylamine	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Hexachloroethane	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Nitrobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Isophorone	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Nitrophenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 12/08/97 by TCB using EPA 3520

12/24/97

LJO/jcbebg/kp (dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4-Dimethylphenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
bis(2-Chloroethoxy)methane	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2,4-Dichlorophenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
1,2,4-Trichlorobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Naphthalene	11.	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Chloroaniline	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Hexachlorobutadiene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Chloro-3-methylphenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Methylnaphthalene	21.	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Hexachlorocyclopentadiene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2,4,6-Trichlorophenol	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2,4,5-Trichlorophenol	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
2-Chloronaphthalene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Nitroaniline	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
Dimethylphthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Acenaphthylene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/24/97

LJO/jcbebg/kp (dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,6-Dinitrotoluene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
3-Nitroaniline	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
Acenaphthene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2,4-Dinitrophenol	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
4-Nitrophenol	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
Dibenzofuran	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2,4-Dinitrotoluene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Diethylphthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Chlorophenyl phenyl ether	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Fluorene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Nitroaniline	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
4,6-Dinitro-2-methylphenol	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	
n-Nitrosodiphenylamine	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
4-Bromophenyl phenyl ether	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Hexachlorobenzene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Pentachlorophenol	<25	µg/L	1.0	25	EPA 8270B	12/15/97	SW	

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12/24/97

LJO/jcbebg/kp (dw)
 NLO8ENW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Phenanthrene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Anthracene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Carbazole	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Di-n-butylphthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Fluoranthene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Pyrene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Butyl benzylphthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
3,3'-Dichlorobenzidine	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Benzo(a)anthracene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Chrysene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
bis(2-Ethylhexyl)phthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Di-n-octylphthalate	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Benzo(b)fluoranthene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Benzo(k)fluoranthene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Benzo(a)pyrene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Indeno(1,2,3-cd)pyrene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibenzo(a,h)anthracene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
Benzo(g,h,i)perylene	<10	µg/L	1.0	10	EPA 8270B	12/15/97	SW	
2-Fluorophenol (% Recovery)	58.	%	1.0		EPA 8270B	12/15/97	SW	
Phenol-d5 (% Recovery)	71.	%	1.0		EPA 8270B	12/15/97	SW	
Nitrobenzene-d5 (% Recovery)	65.	%	1.0		EPA 8270B	12/15/97	SW	
2-Fluorobiphenyl (% Recovery)	64.	%	1.0		EPA 8270B	12/15/97	SW	
2,4,6-Tribromophenol (% Recovery)	114.	%	1.0		EPA 8270B	12/15/97	SW	
Terphenyl-d14 (% Recovery)	63.	%	1.0		EPA 8270B	12/15/97	SW	

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12/24/97

LJO/jcbebg/kp(dw)
 NL08BNW9



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED			
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED BY	NOTES
VOAs (8260)							1,2
Dichlorodifluoromethane	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
Chloromethane	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
Vinyl chloride	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
Bromomethane	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
Chloroethane	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
Trichlorofluoromethane	<2	µg/L	1.0		2 EPA 8260	12/15/97 JG	
1,1-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
Methylene chloride	B7	µg/L	1.0		1 EPA 8260	12/15/97 JG	
trans-1,2-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
1,1-Dichloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
cis-1,2-Dichloroethene	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
2,2-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
Bromochloromethane	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	
Chloroform	<1	µg/L	1.0		1 EPA 8260	12/15/97 JG	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
 (2) A result reported with a "B" qualifier indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample. The concentration of Methylene Chloride in the method blank was 1 ug/L.

12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,1-Trichloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2-Dichloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,1-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Carbon tetrachloride	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Benzene	J0.9	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Trichloroethene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
cis-1,3-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Dibromomethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Bromodichloromethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Toluene	J0.8	µg/L	1.0		1 EPA 8260	12/15/97	JG	
trans-1,3-Dichloropropene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,1,2-Trichloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,3-Dichloropropane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Dibromochloromethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Tetrachloroethene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2-Dibromoethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Chlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,1,1,2-tetrachloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Ethylbenzene	18.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
m-Xylene/p-Xylene	57.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Bromoform	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
o-Xylene	1.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Styrene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,1,2,2-Tetrachloroethane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2,3-Trichloropropane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Isopropylbenzene	2.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Bromobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
2-Chlorotoluene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
n-Propylbenzene	3.	µg/L	1.0		1 EPA 8260	12/15/97	JG	

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12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-1	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Chlorotoluene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,3,5-Trimethylbenzene	22.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
tert-Butylbenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2,4-Trimethylbenzene	79.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
sec-Butylbenzene	10.8	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,3-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
4-Isopropyltoluene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,4-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2-Dichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
n-Butylbenzene	3.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2-Dibromo-3-chloropropane	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2,4-Trichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Naphthalene	130.	µg/L	1.0		1 EPA 8260	12/15/97	JG	
Hexachlorobutadiene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	
1,2,3-Trichlorobenzene	<1	µg/L	1.0		1 EPA 8260	12/15/97	JG	

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12/24/97

LJO/jcbebg/jey/kp (dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-3
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY			SAMPLED DATE RECEIVED			
L-1	Aqueous	REYNOLDS			12/03/97	12/05/97		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibromofluoromethane (Surr.)	94.	%	1.0		EPA 8260	12/15/97	JG	
Toluene-d8 (%)	102.	%	1.0		EPA 8260	12/15/97	JG	
p-Bromofluorobenzene (%)	102.	%	1.0		EPA 8260	12/15/97	JG	
Acetone	6.	µg/L	1.0		5 EPA 8260	12/15/97	JG	
2-Butanone	<5	µg/L	1.0		5 EPA 8260	12/15/97	JG	
4-Methyl-2-pentanone	<3	µg/L	1.0		3 EPA 8260	12/15/97	JG	
2-Hexanone	<4	µg/L	1.0		4 EPA 8260	12/15/97	JG	
Methyltertbutyl ether	3.	µg/L	1.0	2.0	EPA 8260	12/15/97	JG	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/24/97

LJO/jcbebg/jey/kp(dw)



CLIENT: MATT REYNOLDS
 JOHN D TEWHEY ASSOC
 500 SOUTHBOROUGH DRIVE
 SO PORTLAND, ME 04106

Lab Number : WN-3375-6
 Report Date: 12/24/97
 PO No. : 97-046
 Project : CPR#746VT

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVED				
L-2	Aqueous	REYNOLDS		12/03/97	12/05/97			
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TPH								1,2
TPH	5600.	µg/L	4.1		50 Mod.8100	12/19/97	RH	
o-Terphenyl	85.	%	4.1		Mod.8100	12/19/97	RH	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
 (1) Sample Preparation on 12/09/97 by KGT
 (2) Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.

12/24/97

LJO/jcbkcp (dw) /rh
 NL09TPWB



340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Page 1 of 1

Client: Tenney Associates Contact: Matt Reynolds Phone #: (207) 772-2242 Fax #: (207) 772-7963
 Address: 500 Southborough Dr City: S. BORO State: ME Zip Code: 04106
 Purchase Order #: 97-046 Proj. Name / No.: CPR #746VT Katahdin Quote #

Bill (if different than above) SAME Address
 Sampler (Print / Sign) Matt Reynolds MDR Copies To:

LAB USE ONLY WORK ORDER #: WH 3575
 KATAHDIN PROJECT MANAGER
 REMARKS:
 SHIPPING INFO: FED EX UPS CLIENT
 AIRBILL NO.:
 TEMP°C TEMP BLANK INTACT NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

* Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	PRESERVATIVES																
				Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON	Filt. OYON							
MW-1	12/3/97/1645	GW	7	X	X	X														
MW-3	1/16/15		2	X																
MW-4	1/18/15		7	X	X	X														
MW-6	1/17/15		3	X																
MW-6A	1/17/15			X																
	/																			
I-1	1/18/15	SLW	7	X	X	X														
I-2	1/18/15	"	2	X																
	/																			
TB-1	" /					X														
	/																			
	/																			
	/																			
	/																			
	/																			
	/																			

COMMENTS

Relinquished By: (Signature) <u>[Signature]</u>	Date / Time <u>12/5/97 1142</u>	Received By: (Signature) <u>[Signature]</u>	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

APPENDIX F

**LABORATORY REPORT OF ANALYSES:
PETROLEUM**

DEC 23 1997

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 18, 1997

Matthew Reynolds, Project Manager
Tewhey Associates
500 Southborough Drive
South Portland, ME 04106

Dear Mr. Reynolds:

Included are the results from the testing of material submitted on December 10, 1997 from your Newport #97-046 project.

Introduction

Sample MW-5 was submitted for hydrocarbon characterization. The sample consisted of a dark amber product. We were asked to determine the possible fuels present in the sample, and to characterize the weathering that has occurred to this material. Enclosed are the GC/FID and GC/ECD traces produced. In general, on a GC trace, the volatile material elutes first, close to time zero. The remaining material elutes in increasing boiling point order as the GC run progresses. A GC/FID trace of a standard consisting of normal alkanes is provided for reference purposes.

Background

Key to the identification of an unknown material is the boiling range of the compounds present. This is because the boiling point of a compound provides information on the physical properties that this compound will impart on a material. For example, low boiling compounds easily evaporate and are common constituents present in crude oil, as well as compounds created in various refining processes. These commonly include normal alkanes from crude oil and aromatic hydrocarbons from refining processes involving cracking or reformulating. These compounds can often be identified as a particular pattern of peaks, which gives an indication of the type of fuel present.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Matthew Reynolds
December 18, 1997
Page 2

Two factors are key to determining approximate release dates for material found in the environment. The first is assessing the level of degradation which has occurred in the product. Certain compounds commonly found in petroleum products will degrade more quickly than others. Specifically, the most volatile compounds will be lost faster than the less volatile. Also, as a product ages, microorganisms preferentially digest the *n*-alkanes, leaving the other constituents behind. Therefore, the absence of volatile constituents and/or *n*-alkanes in a product which would normally contain them is an indication that the product is degraded. The second factor which is needed to determine an approximate release date is information about the conditions at the site where the product was found. Conditions such as soil porosity, contact with groundwater, temperature and biological activity will affect the rate of degradation of a product at a particular location.

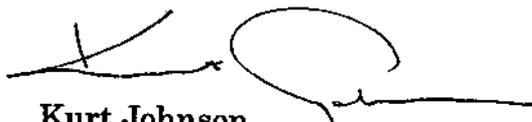
Results

The material present in sample MW-5 is indicative of weathered diesel fuel. The middle distillate appears as a pattern of peaks eluting from approximately 4 to 23 minutes on the GC/FID trace. The absence of a prominent pattern of *n*-alkanes suggests that the product has undergone biological degradation. Furthermore, the prominent pattern of peaks from 6 to 18 minutes are indicative of isoprenoids, including pristane and phytane, which are more resistant to biological degradation. The level of volatile material present between 2 and 6 minutes on the GC/FID trace indicates that significant evaporative weathering has also occurred. The diesel fuel identified in sample MW-5 can be characterized as moderately to highly degraded.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions. We will hold your samples for 30 days before disposal unless directed otherwise.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson
Chemist

Enclosures
NAA1218R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/97
Date Received: 12/10/97
Project: Newport #97-046
Date Extracted: 12/12/97
Date Analyzed: 12/12/97

**RESULTS FROM THE ANALYSIS OF THE PRODUCT SAMPLE
FOR FINGERPRINT CHARACTERIZATION
BY CAPILLARY GAS CHROMATOGRAPHY
USING A FLAME IONIZATION DETECTOR (FID)
AND ELECTRON CAPTURE DETECTOR (ECD)**

Sample ID

GC Characterization

MW-5

The GC trace using the flame ionization detector (FID) showed the presence of medium boiling compounds. The patterns displayed by these peaks are indicative of diesel fuel.

The medium boiling compounds appeared as a pattern of peaks eluting from $n\text{-C}_{10}$ to $n\text{-C}_{23}$ showing a maximum near $n\text{-C}_{15}$. A dominant pattern of n -alkanes was not seen. The medium boiling material appears to have undergone degradation by evaporative processes as well as biological degradation.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis. There is a second surrogate present that is seen on the GC/ECD trace at about 26 minutes which is dibutyl chlorendate.

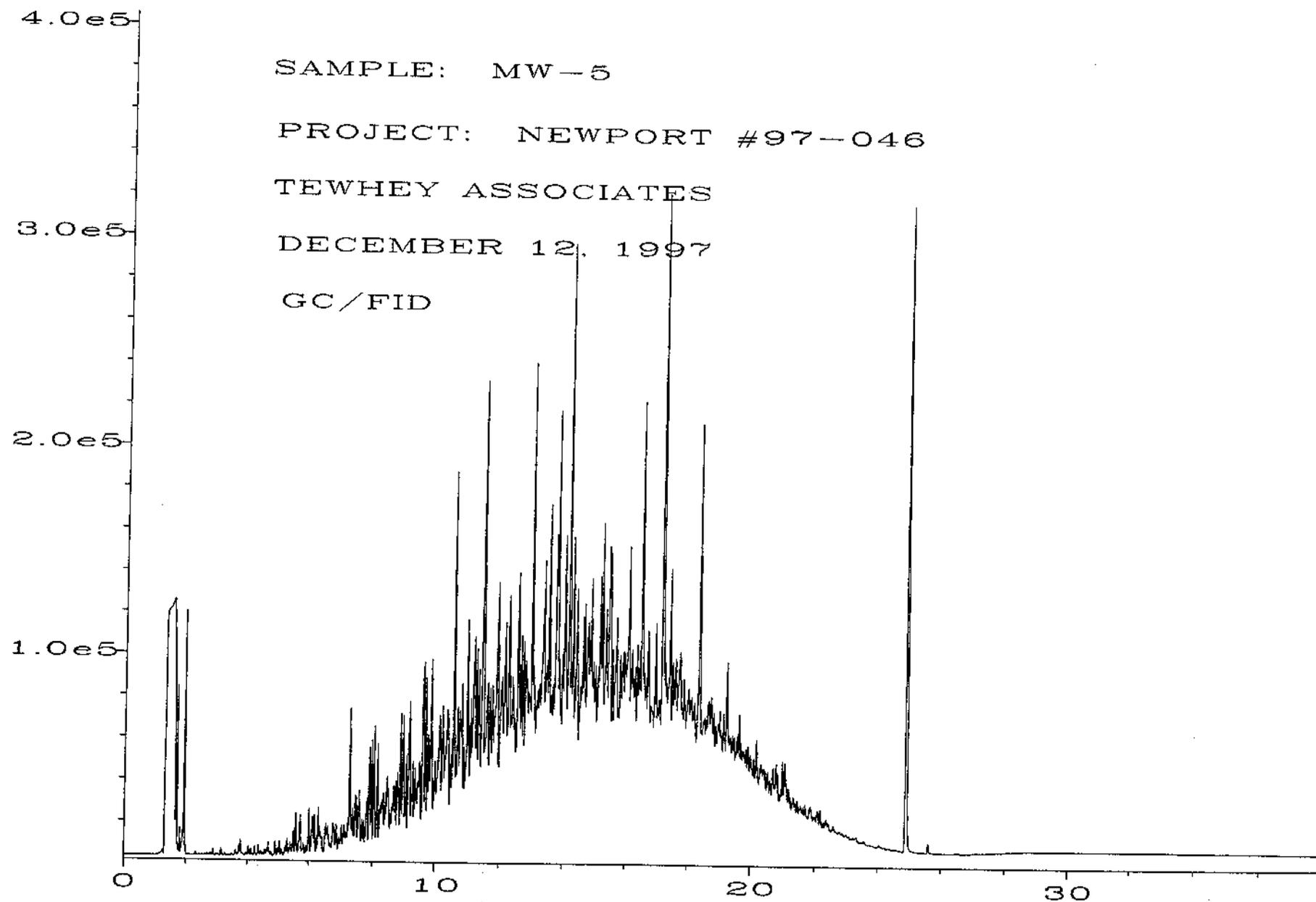


Fig. 1 in C:\HPCHEM\4\DATA\12-12-97\006F1101.D

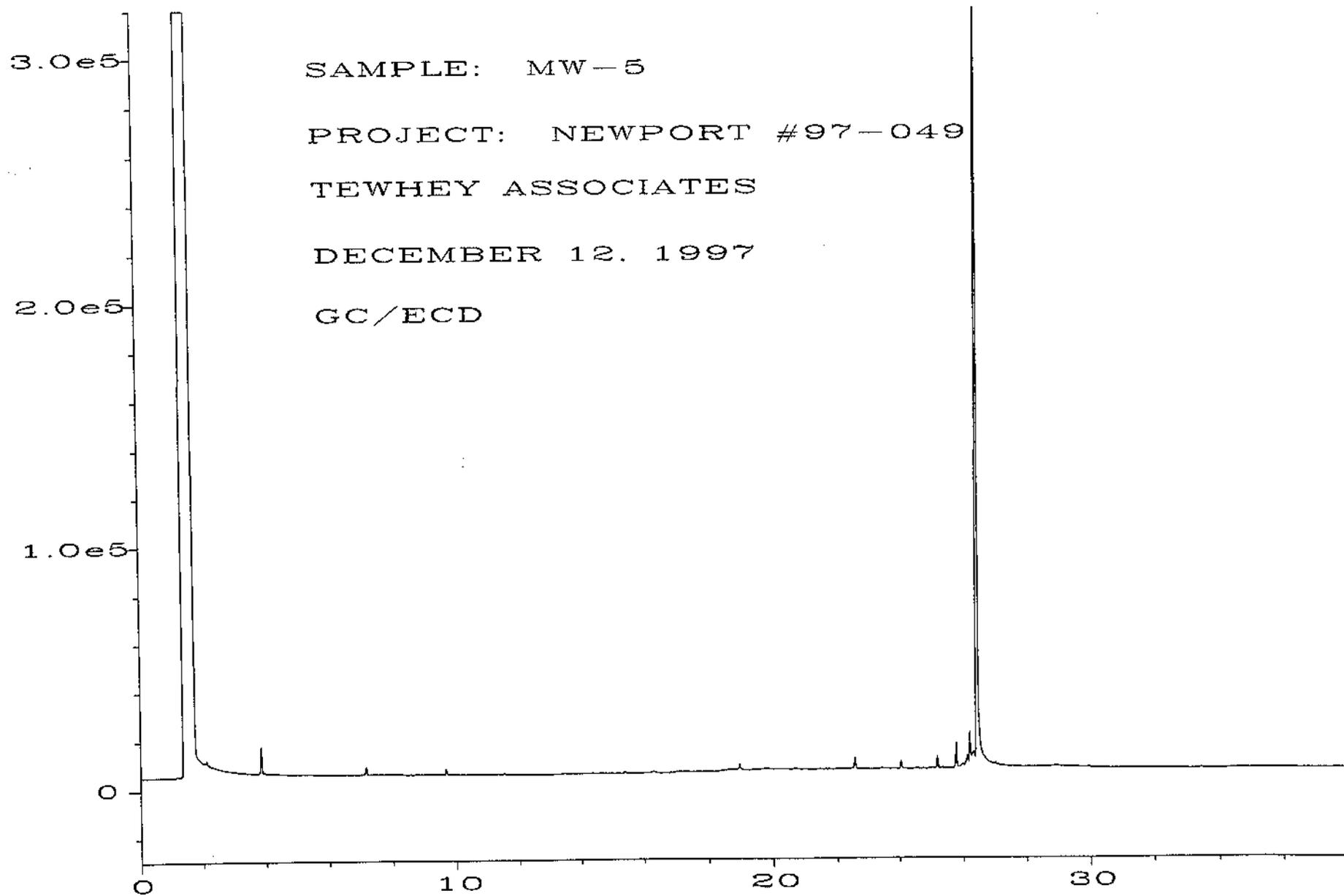


Fig. 2 in C:\HPCHEM\4\DATA\12-12-97\006R1101.D

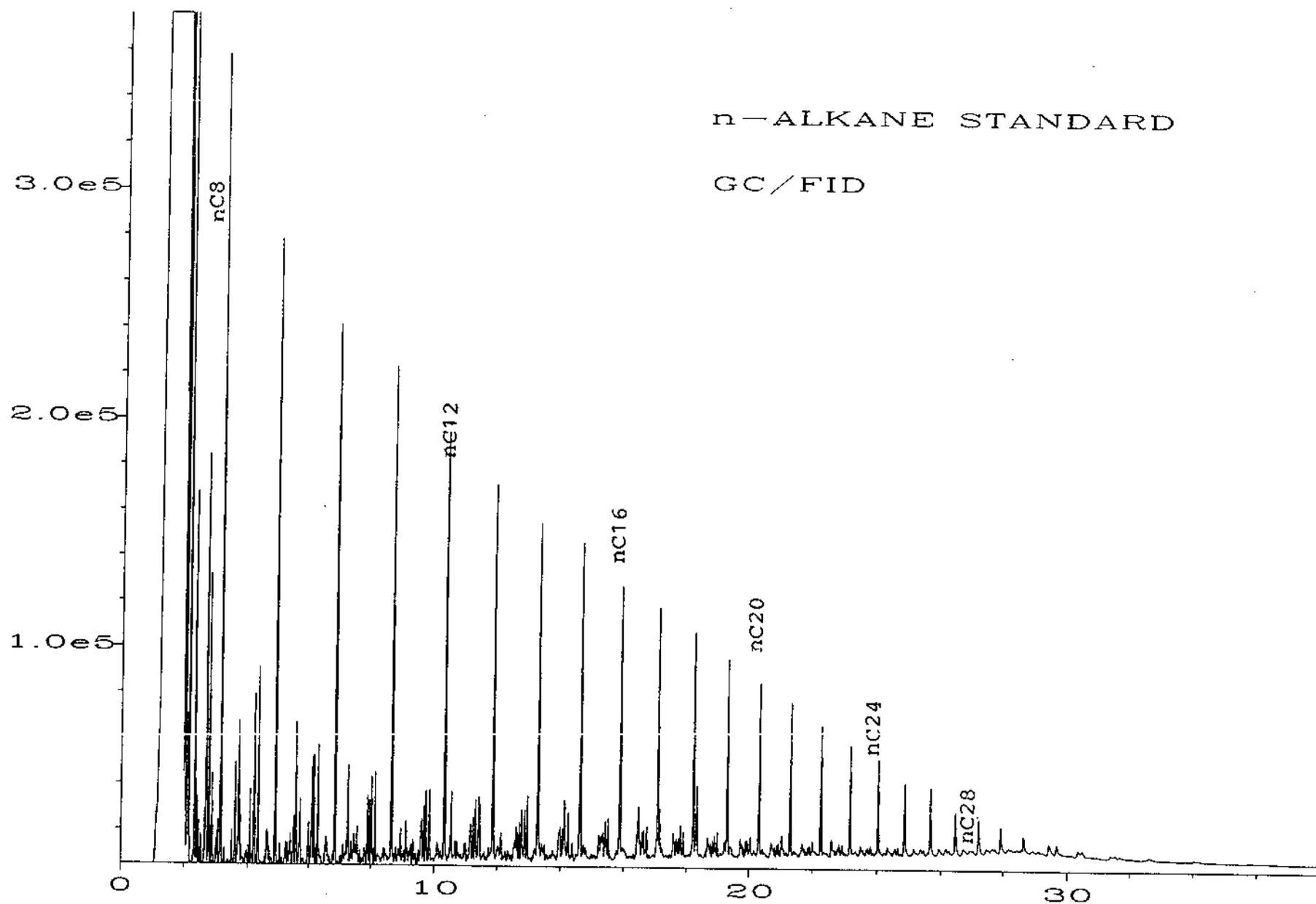


Fig. 1 in C:\HPCHEM\4\DATA\12-12-97\097F1201.D