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Final Bioslurper Status Report

June 2004 through August 2004

Naval Weapons Station Earle (NWS Earle)
Colts Neck, New Jersey
N62472-03-D-0802

Submitted:

25 October 2004

Prepared For:

U.S. Navy
EFANE
10 Industrial Highway, MS #82
Lester, PA 19113-2090

Prepared By:

ECOR Solutions, Inc.
508 Brandywine Parkway
West Chester, PA 19380

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1.0 INTRODUCTION

ECOR Solutions, Inc. (ECOR) is contracted by Engineering Field Activity Northeast (EFANE) to operate two bioslurper units for Site 16F at Naval Weapons Station (NWS) Earle located in Colts Neck, New Jersey. This system operational report is being submitted to present system operational data from 1 June to 31 August 2004 for Task Order No. 0100 under Contract No. N62472-03-D-0802.

This report summarizes the results of continued bioslurper operations at Site 16F at the NWS-Earle facility, including product recovery, groundwater recovery, and system water and vapor analytical results for both bioslurper systems. ECOR assumed system operation on 5 April 2004. Prior to that date, the systems were operated by Tetra Tech FW, Inc. (TtFW). Historical operational data and background information provided by TtFW are included in this report.

Bioslurper Unit No. 1 (located adjacent to the former location of Building C-16) normally operates from the following extraction wells: 16-MW-04, 16MW-13, 16MW-14, 16MW-15, 16MW-25, 16MW-26, 16MW-27 and vapor extraction wells: 16MW-22 and 16MW-23. Bioslurper Unit No. 2 (located north of Building C-50) normally operates from 16MW-16, 16MW-17, 16MW-18, 16MW-19, 16MW-20, 16MW-21, and C17/20MW-07. Various extraction wells are utilized during system operation based upon the thickness of light non-aqueous phase liquid (LNAPL) present.

2.0 PROJECT LOCATION AND DESCRIPTION

NWS-Earle is located in east-central Monmouth County in the town of Colts Neck, New Jersey as depicted in **Figure 2-1**. Site 16F is located in the north-central portion of NWS-Earle. The areas addressed with the bioslurper remediation system at Site 16F are the LNAPL plume southeast of Building C-16, the small LNAPL plume northwest of Building C-50, and a former gas station west of Building C-18.

An underground fuel line located in the area north of Building C-19 was used to transport diesel fuel from an underground storage tank (UST) located at the northeast corner of Building C-18 to a dispensing station north of Building C-50. A leak in the fuel line was discovered in 1977. All of the former USTs were removed from the former gas station in 1998. Part of the former underground diesel transfer line is still in place.

2.1 Previous Investigations

Between June and October of 1995, Brown and Root Environmental conducted a Remedial Investigation (RI) at Site 16F. The RI Report concluded that hydrocarbons detected in the subsurface impacted the groundwater. The groundwater contamination (primarily volatile organics and fuel constituents) is associated with a free-phase LNAPL layer. This floating product is the source of organics in the groundwater.

In 1995, the Navy conducted an investigation at Site 16F using a Site Characterization and Analysis Penetrometer System (SCAPS). SCAPS is a field screening technique, which detects

polynuclear aromatic hydrocarbon (PAH) compounds using a Laser Induced Fluorescence (LIF) system. The LIF is quantitative to a known matrix with a known contaminant. A soil sample collected at the site was used to calibrate the LIF using diesel fuel marine. The fluorescent mapping, obtained from the push samples, was used to gain a better understanding of the contaminant distribution. Twenty nine (29) SCAPS borings were completed in the area between Building C-16 and C-50.

The LNAPL plume to the south and east of Building C-16 is suspected to have been the result of the leaking former underground diesel fuel line. As evidenced by laboratory analytical results of groundwater samples, there is also some residual gasoline contamination associated with the plume near Building C-16.

The LNAPL plume north of Building C-50 is suspected to have been the result of minor spills at a former diesel dispensing station located between the railroad tracks, north of Building C-50.

2.2 Geology

Site 16F is located within the Outer Coastal Plain of the Atlantic Coastal Plain Physiographic Province, approximately nine miles inland from the Atlantic Ocean. The site is relatively flat with most of the topographic relief being the drainage swales located between the railroad tracks. According to regional mapping, the site is located on an outcropping of the Vincentown Formation and upper colluvium. The upper colluvium, where present, is shallow and consists of massive sand and silty sand, which may contain quartz or ironstone pebbles. The Vincentown Formation consists of grey and green gluaconitic, fine to coarse-grained sand with silt.

According to the information obtained from the well installation logs and the SCAPS Investigation, the soil underlying the site is composed of fine to medium grained sand and silty sand.

3.0 BIOSLURPER OBJECTIVES AND PLUME CHARACTERISTICS

The objectives of the bioslurper systems operations are to conduct remedial operations in three separate areas: 1) the main LNAPL plume located south and southeast of Building C-16; 2) a smaller LNAPL plume northwest of Building C-50; and 3) the residual soil contamination associated with the former gas station site west of Building C-18.

The initial LNAPL phase is mobile, and migrates downward through the unsaturated (vadose) zone due to gravitational forces until either the water table or a stratigraphic barrier is encountered. The viscosity of the LNAPL, the groundwater gradient, and the permeability of the aquifer media control the rate of LNAPL migration. A "smear zone" develops when the mobile LNAPL is smeared vertically through seasonal fluctuations in the water table. Once the smear zone develops, a portion of the LNAPL exists as a discontinuous non-wetting liquid phase (residual) that is relatively immobile except at seasonal low water table. An increased smear zone reduces the volume of the remaining mobile LNAPL.

Based on previous data gathered from water level measurements obtained in the recovery wells, the elevations in the wells vary as much as 3.90 to 7.29-feet below grade, with the average groundwater fluctuation of 5.79-feet in a well. Therefore the LNAPL is being smeared vertically across a smear zone of almost 6-feet. The main free product plume is located to the east and south of Building C-16. The LNAPL plume area is overlain by drainage ditches and railroad tracks. Due to the topographic depressions of the drainage ditches, and the permeability of the ballast associated with the railroad tracks, the localized groundwater table is subject to excessive water table fluctuations from rain events, which cause an increase in the vertical distribution of the oil across the smear zone. According to Peargin, Ireland, and Stephenson (1997), the larger percentages of LNAPL occur within the smear zone versus the vadose zone.

As depicted in the current LNAPL thickness figures (**Figure 5-1** through **Figure 5-3**) the majority of remaining LNAPL is located in the southwest portion of the plume near former Building C-16. The concentration of the LNAPL appears to be underlying the parking lot area south of former Building C-16. LNAPL is also located east of former Building C-16 in the area between the railroad tracks (influenced by groundwater elevation). The western extent of the LNAPL plume is not completely defined. The estimated boundaries of the LNAPL plume generated from the SCAPS Investigation (dashed line in figures) have been used to define the original LNAPL plume boundary. Current data shows that the extent of the LNAPL plume has decreased significantly with treatment over time.

The extent of the LNAPL plume located north of Building C-50 has not been verified with additional wells. The LNAPL boundary depicted is based on the SCAPS Investigation. LNAPL is generally observed at monitoring well 16MW-20, but the thickness has remained less than 0.20 foot since 2001.

The soil contamination associated with the former gas station site was from previously removed USTs. There is no free-phase oil present in the former gas station area. Two bioventing wells (16MW-22 and 16MW-23) are situated in this area to aid in remediating the vadose zone soils.

4.0 BIOSLURPER SYSTEM OPERATION

The bioslurper systems are designed to de-water the smear zone and remove LNAPL through drainage, volatilization, and biodegradation. The high vacuum of the bioslurper system extracts LNAPL from the pore spaces where it was formerly held by capillary tension. Typically, a vacuum pressure of 2 to 5 inches of mercury (Hg) is applied to each well. The velocity in the drop tube must be sufficient to lift water as an entrained fluid.

Unit No. 1, located adjacent to Building C-16, was operated utilizing six extraction wells (16MW-04, 16MW-13, 16MW-14, 16MW-15, 16MW-25, and 16MW-27). The extraction overy wells were operated with the one-inch diameter drop tube set either immediately above the LNAPL level in the well or at the LNAPL/water interface.

Unit No. 2, located north of Building C-50, was operated utilizing five product extraction wells (16MW-16, 16MW-17, 16MW-19, 16MW-20, and C17/20MW-07). The extraction wells were operated with the one-inch diameter drop tube set either immediately above the LNAPL level in

the well or at the LNAPL/water interface. The pipe connections to Unit No. 2 were configured in order to allow extraction from the wells on the outer edge of the LNAPL plume east of Building C-16, and the one extraction well north of Building C-50.

5.0 SYSTEM OPERATIONS SUMMARY

The bioslurper units consist of two self-contained 8 ft. by 40 ft. by 8 ft. high refurbished cargo boxes that house the bioslurper pumps, process equipment, and groundwater treatment units. The turnkey units are connected to the recovery wells via underground piping. Bioslurper Unit No. 1 is equipped with a vapor-phase knock out tank and vapor-phase activated carbon drums to treat the air discharge to comply with the NJDEP Air Discharge Permit. Unit No. 1 requires air treatment because of the suspected gasoline component of the LNAPL plume in the area around Building C-16. The air discharge from Bioslurper No. 2 does not require treatment prior to discharge because of the lower concentrations of volatile organics.

This section discusses the monthly operation of the units during this reporting period and any problems that were encountered. **Table 1** summarizes LNAPL recovery, **Table 2** presents groundwater recovery data, **Table 3** calculates total petroleum hydrocarbon (TPH) recovery, and **Table 4** summarizes system water sample data. **Appendix A** contains graphs depicting the operational times and groundwater and LNAPL extracted on a monthly basis. **Appendix B** depicts groundwater and product elevations in the extraction wells. **Appendix C** summarizes air data, and **Appendix D** presents system water data.

5.1 June 2004

Bioslurper Unit No. 1 was cleaned on 1 June 2001 to remove recovered product and fouling from the oil/water separator. Upon system start-up on 16 June 2004, it was discovered that all vapor carbon vessels were spent. After installation of one new vessel (primary vessel removed, secondary vessel moved to primary position, and a new vessel was installed in the secondary position), elevated PID readings were observed so fresh vapor-phase carbon vessels were installed on 18 June 2004, and the system was reactivated. During June 2004, Bioslurper Unit No. 1 was operated for 95 hours, recovering 0 gallons of product and 31,821 gallons of groundwater. System water and vapor samples were collected on 24 June 2004. Upon review of analytical data on 24 June 2004, ECOR observed that the treated groundwater discharge from the system exceeded the allowable limit of 10 micrograms per liter (mg/L) of TPH during the 26 May 2004 sampling event. The system was deactivated, and a liquid-phase clay and carbon media change-out event was completed on 7 July 2004. The results of the 24 June 2004 system sampling event indicate that no contaminants were detected in the treated groundwater effluent, so the exceedence noted during the 26 May 2004 sampling event was not continuous.

Bioslurper Unit No. 2 was cleaned on 1 June 2001 to remove recovered product and fouling from the oil/water separator. During June 2004, Bioslurper Unit No. 2 was operated for 149 hours, recovering 0 gallons of LNAPL and 34,911 gallons of groundwater. System water and vapor samples were collected on 24 June 2004. Analytical results indicate that no permitted limits were exceeded.

5.2 July 2004

Operation of Bioslurper Unit No. 1 was discussed during the 25 June 2004 technical evaluation meeting among EFANE, NWS, Earle personnel, Batelle, and ECOR. It was decided the drop tubes would be lowered from above the LNAPL interface to the LNAPL/water interface on 7 July 2004. After the tubes were lowered, increased fouling was observed in the oil/water separator and no measurable product was recovered, so the drop tubes were raised back to the LNAPL interface. A liquid-phase carbon and clay media change out was completed on 7 July 2004. During July 2004, Bioslurper Unit No. 1 was operated for 105 hours, recovering 0 gallons of LNAPL and 38,634 gallons of groundwater. System water and vapor samples were collected on 27 July 2004. Analytical results indicate that no permitted limits were exceeded.

Bioslurper Unit No. 2 was operated intermittently during July 2004 due to minimal product thickness detected in the recovery wells. A liquid-phase carbon and clay media change out was completed on 7 July 2004. System water and vapor samples were collected on 27 July 2004. Analytical results indicate that no permitted limits were exceeded.

5.3 August 2004

Bioslurper Unit No. 1 was deactivated on 5 August 2004 due to high back pressure in the system. EFANE was notified, and the system was off-line while an oil/water cleaning was scheduled on 12 August 2004. On 12 August 2004 the primary clay vessel was bypassed because the vessel was clogged and backwashing did not relieve the pressure.

During August 2004, Bioslurper Unit No. 1 was operated for 116 hours, recovering 0 gallons of LNAPL and 44,162 gallons of groundwater. System water and vapor samples were collected on 18 August 2004. Analytical results indicate that no permitted limits were exceeded in the off-gas. However, analytical results indicated an exceedences of the allowable discharge of TPH. A concentration of 148 mg/L was detected (10 mg/L allowable). Upon review of the effluent and midfluent data, it was determined that the two samples may have been inadvertently switched. As a result, the effluent was resampled on 9 September 2004, and no contaminants were detected in the effluent.

Bioslurper Unit No. 2 was operated intermittently during August 2004 due to minimal product thicknesses detected in the recovery wells (less than 0.10 foot). An oil/water separator cleaning was conducted on 12 August 2004. System water and vapor samples were collected on 18 August 2004. On 26 August 2004, the inlet fitting to the primary clay vessel was found to be leaking and beyond repair, so a major service call for purchase of a new vessel and media was authorized by EFANE on 31 August 2004. Bioslurper Unit No. 2 was operated for 79 hours during August 2004, recovering 0 gallon of LNAPL and 23,613 gallons of groundwater. Analytical results indicate that no permitted limits were exceeded.

5.4 Evaluation of Site Conditions

Groundwater level and LNAPL thickness measurements are obtained periodically to establish product thickness isocontours. **Appendix B** contains graphs and tables depicting the depth to product and depth to water in individual extraction wells. As demonstrated by Figures 5-1 through 5-3, it appears that the systems' operations have caused LNAPL thickness and the size of the plume to remain constant or decrease over the operational history of the groundwater treatment. The LNAPL thickness isocontours are based on the corrected thickness, adjusted for LNAPL density (0.852 grams per cubic centimeter [g/cm^3] per TtFW). One extraction well (16MW-13) indicates that LNAPL thickness in excess of one foot was detected on 27 July 2004. This may be a result of LNAPL recharge after limited operation of Bioslurper Unit No. 1. The current product thickness data confirms that the main portion of the LNAPL plume is underlying the southeastern corner of former Building C-16. Building C-16 has been demolished and a grass area is now present in this area.

5.5 Product Recovery Data

LNAPL recovery is presented in **Table 1. Appendix A** depicts the volume of LNAPL and groundwater extracted and the operational hours for each Bioslurper. During the reporting period, 0 gallons of LNAPL were recovered. LNAPL was observed on the oil/water separators, but the volume was not measurable due to emulsification and the degree of fouling present.

To improve LNAPL recovery, the drop tubes at active recovery wells were lowered to the LNAPL/water interface as recommended at the 25 June 2004 technical evaluation meeting. ECOR operated the systems in this manner for approximately four weeks. During this time, increased fouling in the system was observed. The oil/water separators filled with fouling material, the bag filters required more frequent replacement, and the primary clay vessels became clogged. The LNAPL recovery rate did not appear to increase during this time. A sheen of LNAPL was observed but was emulsified with the fouling material.

6.0 HYDROCARBON RECOVERY AND PERMIT COMPLIANCE

6.1 Vapor-phase Recovery and Permit Compliance

Vapor samples are collected on a monthly basis from both Bioslurper Units to evaluate hydrocarbon recovery and ensure discharges are in compliance with the New Jersey Department of Environmental Protection (NJDEP) air discharge permit. The vapor discharge is sampled for total VOCs (including benzene) and TPH. **Appendix C** summarizes the analytical results of the vapor samples and the permit limits and presents calculations for vapor-phase TPH recovery. **Appendix C** also contains the laboratory analytical results of the air samples. As indicated by the analytical results, both bioslurper units are operating within the permit requirements established for air discharge.

It should be noted that Bioslurper Unit No. 2 was operating near the maximum allowable flow rate and effluent loading rate during August 2004. In response, ECOR intends to reduce the

volume of recovered soil vapors and the influent concentration from the recovery wells by diluting the influent stream with ambient air.

During the reporting period, 54.5 pounds of vapor-phase TPH were recovered at Bioslurper Unit No. 1, and 23.2 pounds of vapor-phase TPH were recovered at Bioslurper Unit No. 2.

6.2 Dissolved-phase Recovery and Permit Compliance

The effluent from Bioslurper Unit No.1 is processed through one bag filter (equipped with a 25-micron filter), two to three modified bentonite clay vessels (operating in series), and two liquid-phase granular activated carbon vessels (operating in series). The bag filter removes particulates (mainly precipitated iron), the clay units remove the higher molecular weight VOCs and TPH, and the activated carbon removes the remaining VOC and TPH compounds. The effluent from Bioslurper Unit No. 2 is processed in the same manner, except that only two bentonite vessels in series are used instead of three. Unit No. 2 is configured in this manner because of the lower TPH concentrations of the effluent.

The groundwater influent, midfluent (between carbon vessels), and effluent from the Bioslurper Units are sampled on a monthly to ensure the discharges are in compliance with the requirements set forth by the NWS Earle Sewer Treatment Plant (< 10 parts per million [ppm] TPH).

Table 4 summarizes the TPH results of the effluent samples. **Appendix D** contains dissolved-phase hydrocarbon recovery calculations and the laboratory analytical results of the system water samples.

During the reporting period, 188.5 pounds of dissolved-phase TPH (173.2 pounds from Unit No. 1 and 15.3 pounds from Unit No. 2) were recovered via groundwater extraction.

Both Bioslurper Units were in compliance with the discharge permit during the reporting period except for Bioslurper Unit No. 1 effluent sample collected on 18 August 2004 (148 mg/L TPH). As indicated in **Table 4** and **Appendix D**, the influent TPH concentration increased from 170 mg/L on 16 June 2004 to 317 mg/L on 18 August 2004. The increased product thickness observed during July 2004 likely resulted in the significant increase in TPH concentrations to the system.

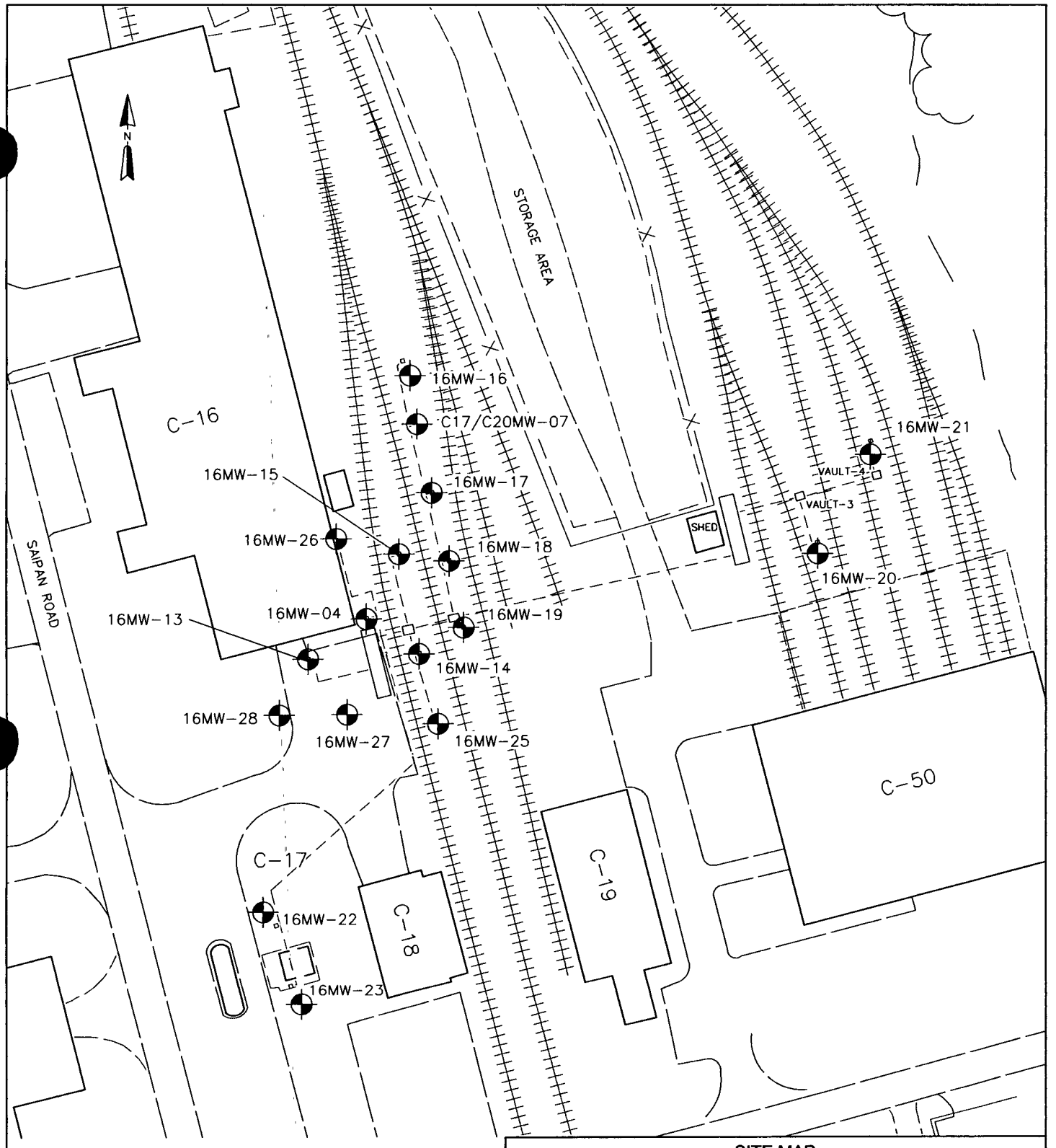
7.0 CONCLUSIONS

Bioslurper Unit No. 1 experienced significant down time due to system fouling and equipment malfunctions during the reporting period. Bioslurper Unit No. 2 was operated intermittently based upon observed LNAPL thicknesses. The increase in LNAPL thickness at an extraction well associated with Bioslurper Unit No. 1 (16MW-13) and the increase in TPH concentrations in the system effluent observed in July 2004 indicate that recoverable LNAPL remains in this area. While LNAPL levels demonstrate a decreasing trend, vapor and dissolved phase TPH concentrations appear to be increasing.

LNAPL recovery has, in the past, been conducted by installing the drop tube above the product level in the extraction wells. Although this may cause a mounding effect at the extraction wells which could inhibit the flow of LNAPL into the extraction well, it appears to be a more successful operational method than lowering the drop tube to the LNAPL/water interface. In July 2004, the drop tubes were installed at the LNAPL/water interface. The LNAPL/water interface increased the amount of fouling and no measurable volume of LNAPL was recovered, so ECOR returned to the original drop tube setting methodology.

At Bioslurper Unit No. 2 it should be noted that there is generally less product present in the extraction wells associated with Unit No. 2. However, there appears to be recoverable LNAPL present along the railroad tracks in extraction wells associated with Bioslurper Unit No. 2.

FIGURES



LEGEND

MONITORING WELL LOCATION

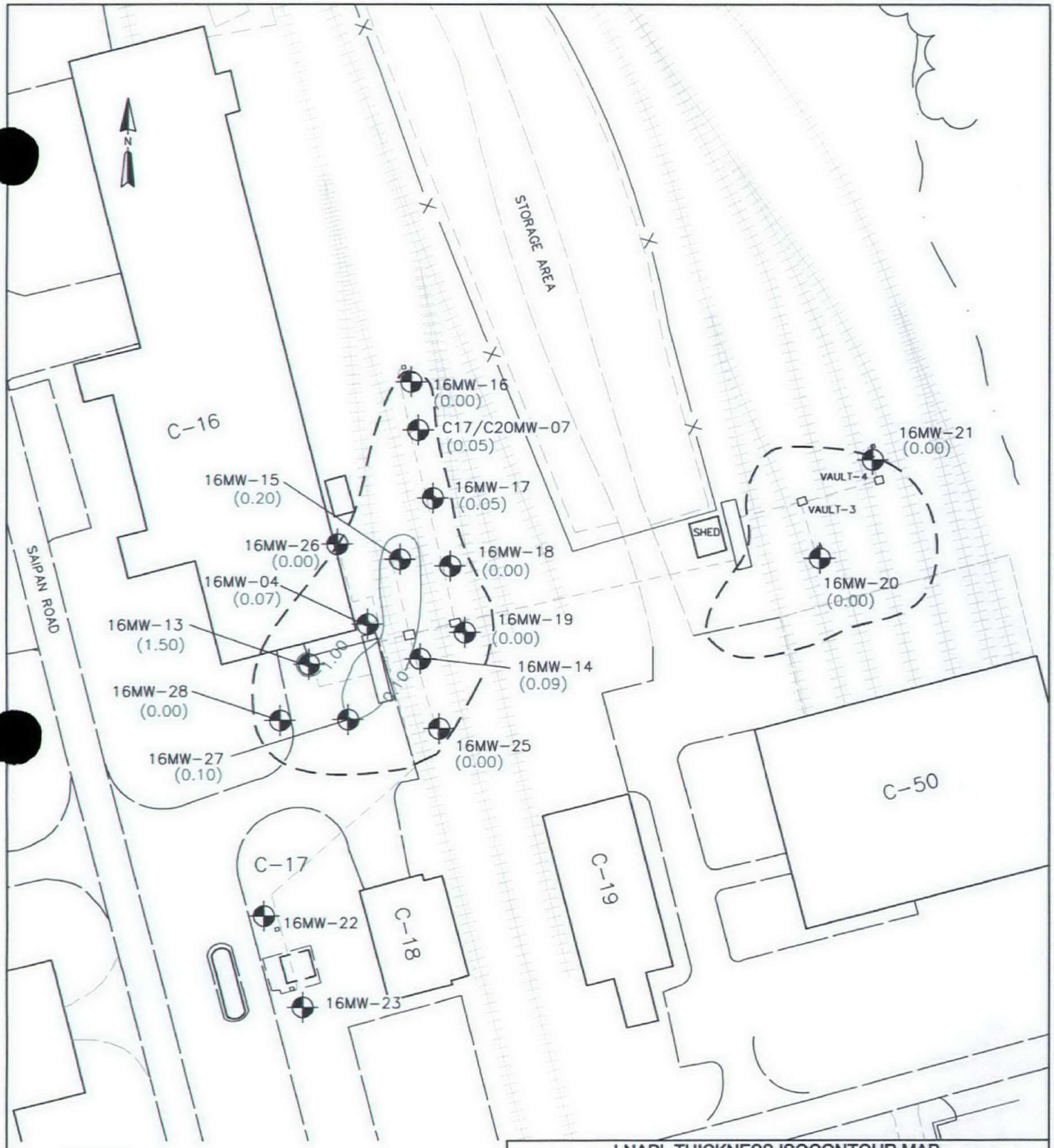
SITE MAP

U.S. NAVY
NWS- EARLE
COLTS NECK, NJ

ECOR Solutions
508 Brandywine Parkway, West Chester, PA 19380

SCALE IN FEET	DATE	FIGURE
0 — 80	10-03-04	2-1

SOURCE: TETRATECH FOSTER WHEELER



LEGEND

16MW-16 — MONITORING WELL LOCATION

(0.10) — LNAPL THICKNESS (ft)

LNAPL THICKNESS ISOCONTOUR (ft)

LNAPL PLUME BOUNDARY BASED ON FORMER SCAPS STUDY

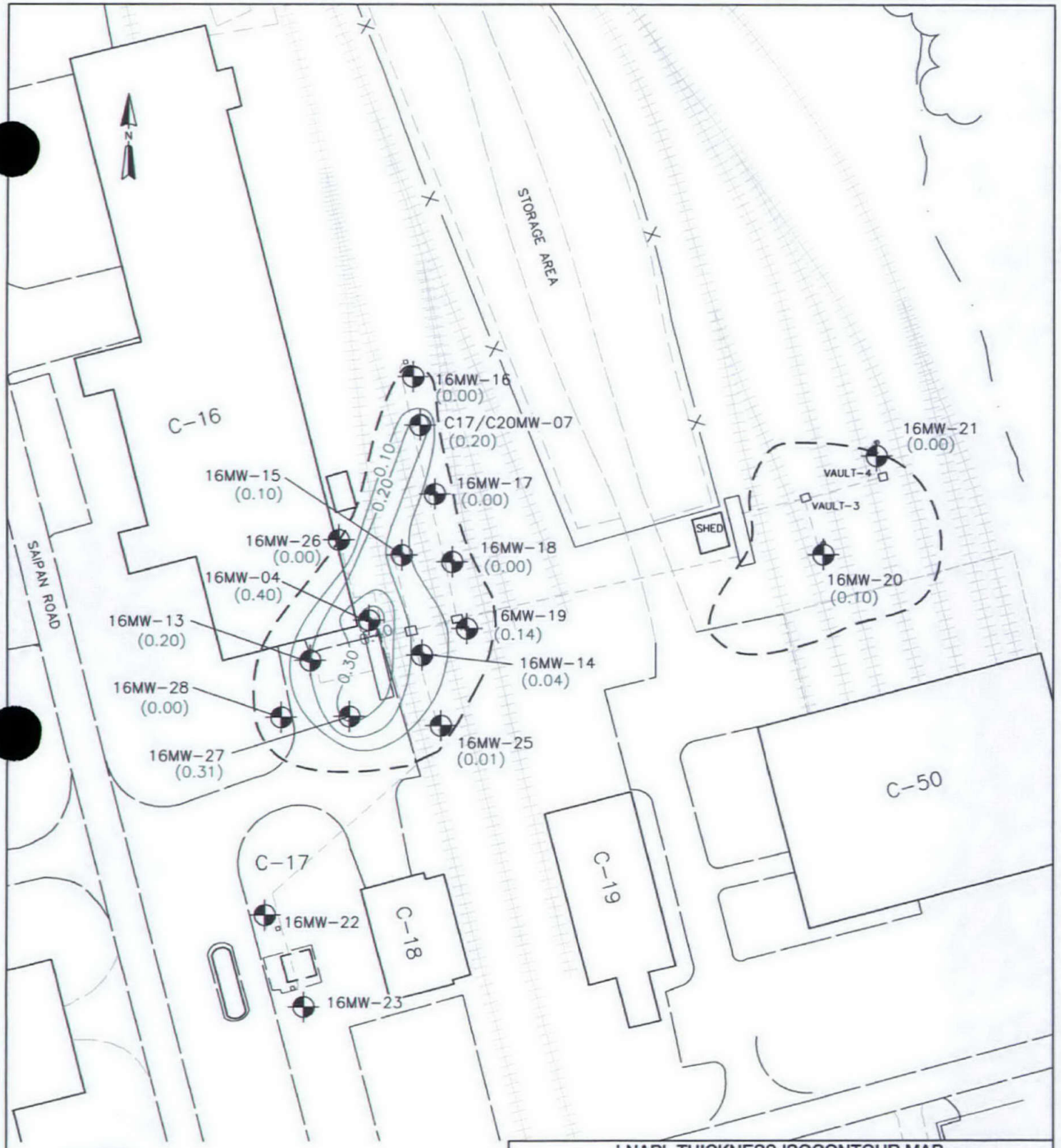
SOURCE: TETRATECH FOSTER WHEELER

LNAPL THICKNESS ISOCONTOUR MAP
27 JULY 2004

U.S. NAVY
NWS- EARLE
COLTS NECK, NJ

ECOR Solutions, Inc.
508 Brandywine Parkway, West Chester, PA 19380

SCALE IN FEET	DATE	FIGURE
0 — 80	10-03-04	5-2



LEGEND

16MW-16 — MONITORING WELL LOCATION

(0.10) — LNAPL THICKNESS (ft)

LNAPL THICKNESS ISOCONTOUR (ft)

LNAPL PLUME BOUNDARY BASED ON FORMER SCAPS STUDY

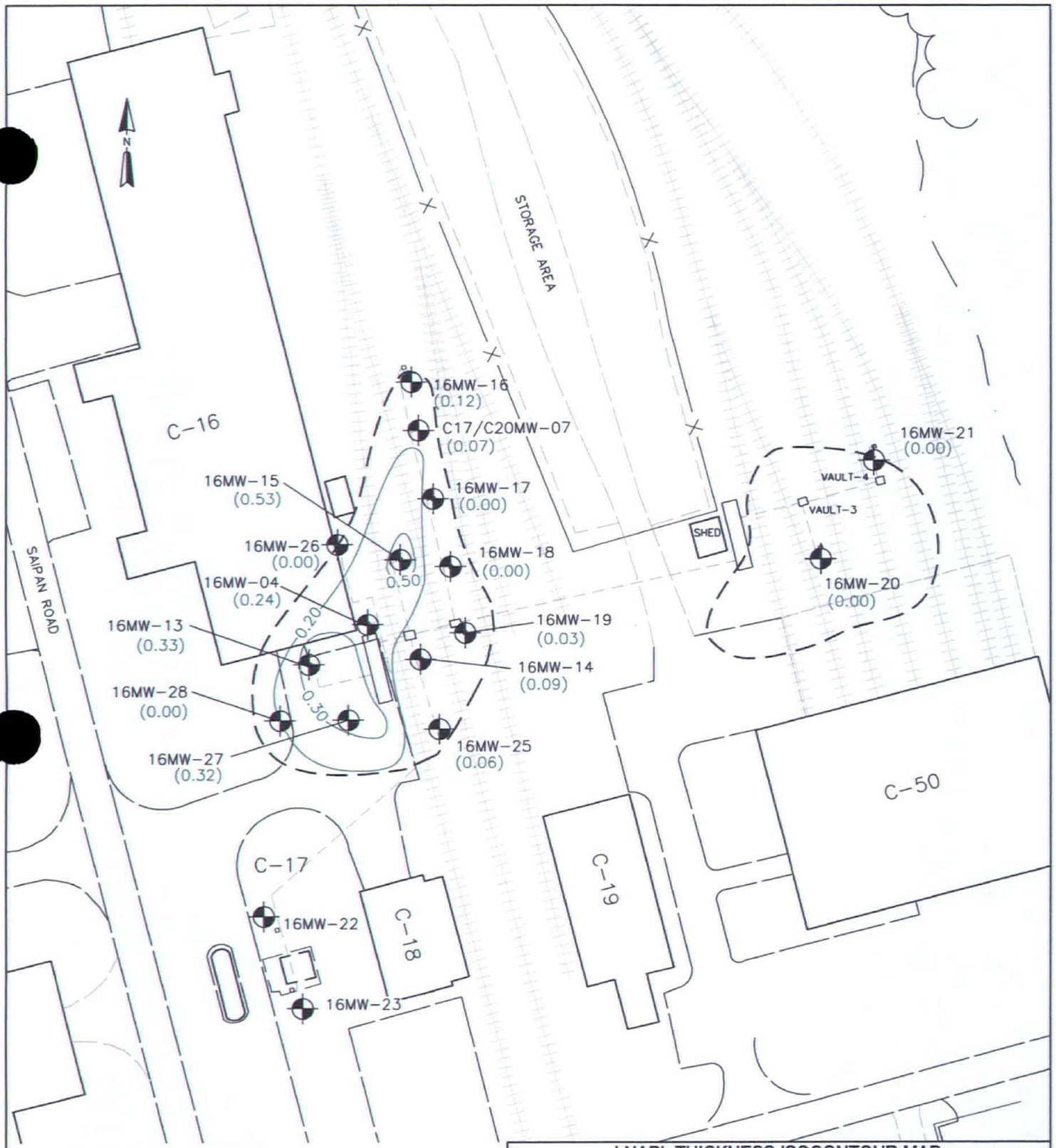
SOURCE: TETRATECH FOSTER WHEELER

LNAPL THICKNESS ISOCONTOUR MAP
18 AUGUST 2004

U.S. NAVY
NWS- EARLE
COLTS NECK, NJ

ECOR Solutions, Inc.
508 Brandywine Parkway, West Chester, PA 19380

SCALE IN FEET	DATE	FIGURE
0 — 80	10-04-04	5-3



LEGEND

16MW-16 — MONITORING WELL LOCATION

(0.09) — LNAPL THICKNESS (ft)

LNAPL THICKNESS ISOCONTOUR (ft)

LNAPL PLUME BOUNDARY BASED ON FORMER SCAPS STUDY

SOURCE: TETRATECH FOSTER WHEELER

LNAPL THICKNESS ISOCONTOUR MAP
29 JUNE 2004

U.S. NAVY
NWS- EARLE
COLTS NECK, NJ

ECOR Solutions, Inc.
508 Brandywine Parkway, West Chester, PA 19380

SCALE IN FEET	DATE	FIGURE
0 — 80	10-03-04	5-1

TABLES

TABLE 1
NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS
LNAPL EXTRACTION TO DATE

	1998 LNAPL Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov	Dec.	Total
Bioslurper System #1		400	375	275	300	ND	ND	225	250	250	140	225	2440.0
Bioslurper System #2		25	50	50	20	ND	ND	55	30	40	20	30	320.0
Total		425	425	325	320			280	280	290	160	255	2760.0
	1999 LNAPL Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec	Total
Bioslurper System #1	220	50	125	65	ND	ND	ND	34	ND	ND	66	ND	560 0
Bioslurper System #2	20	15	15	10	ND	ND	ND	14	ND	ND	14	ND	88 0
Total	240	65	140	75				48			80		648.0
	2000 LNAPL Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov	Dec.	Total
Bioslurper System #1	30	60	78	57	10	15	32	43	57	55	33	32	502.0
Bioslurper System #2	ND	ND	ND	ND	ND	24	1	5	4	0	ND	0	34 0
Total	30	60	78	57	10	39	33	48	61	55	33	32	536 0
	2001 LNAPL Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep	Oct.	Nov.	Dec.	Total
Bioslurper System #1	31	45	35	ND	ND	ND	14	48	30	15	30	10	258.0
Bioslurper System #2	ND	4.5	4.5	ND	ND	ND			2	4	0.5	0	15.5
Total	31	49.5	39.5	0	0	0	14	48	32	19	30 5	10	273.5
	2002 LNAPL Extracted (gallons)												Year
	Jan	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec	Total
Bioslurper System #1	52	21	11	16	34	62	53	87	16	10	17	7	386.0
Bioslurper System #2	6	0.5	0.5	5	2	6	2	5	0	0	4	9	40.0
Total	58	21 5	11.5	21	36	68	55	92	16	10	21	16	426 0
	2003 LNAPL Extracted (gallons)												Year
	Jan	Feb.	March	April	May	June	July	August	Sep.	Oct	Nov.	Dec.	Total
Bioslurper System #1	50.8	5.2	7.85	3 6	22.5	25.7	10	8.9	8 9	16.76	0	ND	160.2
Bioslurper System #2	0.5	0 5	2.75	0	2.62	0	4	5.7	4.19	5.24	0	0	25.5
Total	51.3	5.7	10 6	3 6	25.12	25.7	14	14 6	13.09	22	0	0	185.7
	2004 LNAPL Extracted (gallons)												Year
	Jan	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov	Dec	Total
Bioslurper System #1	0	13.6	10	9.5	5 5	0	0	0					38.6
Bioslurper System #2	0	4.19	4.2	2	1	0	0	0					11.4
Total	0	17.79	14.2	11.5	6.5	0	0	0					50.0

ND - no data due to system not in operation

Total LNAPL extracted to date (g): 4879.2

Source: Tetra Tech Foster Wheeler, Inc. (data prior to March 2004)

TABLE 2
NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS
GROUNDWATER EXTRACTION TO DATE

	1998 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec	Total
Bioslurper System #1		2675	26,169	23898	12799	ND	ND	16498	34612	29974	20503	40611	207739
Bioslurper System #2		5282	20,586	22607	6584	ND	ND	13537	14451	27850	16196	9141	136234
Total		7957	46755	46505	19383			30035	49063	57824	36699	49752	343973
	1999 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep	Oct.	Nov.	Dec.	Total
Bioslurper System #1	35078	6536	49834	40889	ND	ND	ND	7321	ND	ND	ND	ND	139658
Bioslurper System #2	8843	536	12956		ND	ND	ND		ND	ND	ND	ND	22335
Total	43921	7072	62790	40889	ND	ND	ND	7321	ND	ND	ND	ND	161993
	2000 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec	Total
Bioslurper System #1	3393	4618	9842	10945	2764	14112	19758	23298	36900	31669	27785	30231	215315
Bioslurper System #2	ND	ND	ND	ND	ND	2976	5549	17704	21156	21588	ND	20848	89821
Total	3393	4618	9842	10945	2764	17088	25307	41002	58056	53257	27785	51079	305136
	2001 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep	Oct.	Nov.	Dec.	Total
Bioslurper System #1	25897	30981	33832	ND	ND	ND	2812	12136	7669	1665	4635	3080	122707
Bioslurper System #2	ND	15852	19914	ND	ND	ND			2967	6814	1277	345	47169
Total	25897	46833	53746	ND	ND	ND	2812	12136	10636	8479	5912	3425	169876
	2002 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep	Oct.	Nov.	Dec.	Total
Bioslurper System #1	13137	9292	16151	12749	24926	19641	24875	31129	10390	19562	4854	7694	194400
Bioslurper System #2	1095	1224	5726	7639	7727	6464	5362	5977	289	0	4771	4772	51046
Total	14232	10516	21877	20388	32653	26105	30237	37106	10679	19562	9625	12466	245446
	2003 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct	Nov	Dec	Total
Bioslurper System #1	22799	28656	14682	18084	20199	28439	15990	25071	13448	13615	1984	0	202967
Bioslurper System #2	10546	1614	6325	14649	4303	6546	4930	4938	2924	1190	1103	480	59548
Total	33345	30270	21007	32733	24502	34985	20920	30009	16372	14805	3087	480	262515
	2004 Groundwater Extracted (gallons)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct	Nov.	Dec.	Total
Bioslurper System #1	3648	5235	20986	9573	30020	31821	38634	44162					184079
Bioslurper System #2	3954	5692	7370	35264	33154	34911	20298	23613					164256
Total	7602	10927	28356	44837	63174	66732	58932	67775					348335

Total Groundwater Extracted to Date = 1,837,274

Source. Tetra Tech Foster Wheeler, Inc. (data prior to March 2004)

NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS
TOTAL PETROLEUM HYDROCARBON (TPH) REMOVED VIA GROUNDWATER TREATMENT

	1998 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct	Nov.	Dec	Total
Bioslurper System #1		60.75	125.14	306.42	135.56	ND	ND	47 30	ND	175.99	179.16	192.96	1223.28
Bioslurper System #2		4 25	14.17	32.40	9.61	ND	ND	ND	13.99	2.37	4.26	11.48	92.53
Total		65.00	139.31	338.82	145.17	ND	ND	47 30	13.99	178 36	183.42	204 44	1315.81
	1999 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb	March	April	May	June	July	August	Sep.	Oct	Nov	Dec	Total
Bioslurper System #1	60.48	56.18	394.28	285.29	ND	ND	ND	ND	ND	ND	0.29	ND	796.52
Bioslurper System #2	3.84	0.21	29.30	15.20	ND	ND	ND	ND	ND	ND	0.01	ND	48.56
Total	64 32	56.39	423 58	300.49	ND	ND	ND	ND	ND	ND	0.30	ND	845.08
	2000 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb	March	April	May	June	July	August	Sep.	Oct	Nov.	Dec.	Total
Bioslurper System #1	8.58	ND	17.20	30.99	ND	31.80	18 14	ND	95 47	160.86	92.04	327.49	782.56
Bioslurper System #2	0.01	ND	ND	ND	ND	0 11	0 40	ND	2 63	37.55	ND	21.71	62.40
Total	8.59	ND	17 20	30.99	ND	31.91	18 53	ND	98 10	198.40	92.04	349.20	844.96
	2001 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb	March	April	May	June	July	August	Sep.	Oct	Nov	Dec.	Total
Bioslurper System #1	34.31	45.04	50.54	ND	ND	ND	0.07	52.80	2 61	2.25	2 97	10.82	201.42
Bioslurper System #2	ND	8.59	59 43	ND	ND	ND	ND	ND	1.12	3 73	0.13	0 01	73 01
Total	34 31	53 63	109.97				0.07	52.80	3.73	5 98	3.10	10.83	274 42
	2002 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec	Total
Bioslurper System #1	40.35	21.35	13.51	35.86	21.58	7.60	581.16	73.62	68.41	19.99	2.27	22.60	908 30
Bioslurper System #2	2 40	0.18	4.68	0.75	5.08	1 60	2.77	1.13	0.02	ND	1.43	3 54	23.58
Total	42.75	21 53	18.19	36.61	26.66	9 20	583.93	74 75	68.43	19.99	3.70	26.14	931.88
	2003 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.	Total
Bioslurper System #1	95.99	135 13	53.06	25.56	39.69	38.69	76.87	0 26	17.06	14.66	ND	ND	496.97
Bioslurper System #2	ND	0 28	0.64	4.84	0.38	0.91	0 22	0 09	0.16	0.27	0 03	0.07	7.89
Total	95.99	135 41	53 70	30.40	40 07	39.60	77 09	0.35	17 22	14.93	0.03	0.07	504.86
	2004 TPH Removed via Groundwater Treatment (pounds)												Year
	Jan	Feb.	March	April	May	June	July	August	Sep.	Oct	Nov.	Dec.	Total
Bioslurper System #1	5.36	25.17	17.27	11 74	80.17	45 15	65.78	62 29					312.93
Bioslurper System #2	0 12	0.19	0.49	4 44	1 88	5.19	3 42	6.74					22.47
Total	5 48	25 36	17.76	16 18	82.05	50.34	69 20	69.03					335.40

Pounds of TPH Removed via Groundwater Treatment to Date = 5052.42

ND - no data due to system not inoperation

Pounds of TPH. Influent - effluent concentration (mg/l) x 3 785 l/gal x 0.001 g/mg x 0.002205 lb/g x monthly effluent (gal) = lbs TPH

Source: Tetra Tech Foster Wheeler, Inc. (data prior to March 2004)

TABLE 4
NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS NO. 1 AND NO. 2
GROUNDATER SYSTEM TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATIONS (mg/l)

Effluent Sample Date	Unit No. 1		Unit No. 2	
	Before Clay/Carbon	After Clay/Carbon	Before Clay/Carbon	After Clay/Carbon
02/29/00	<0.5	<0.5	NA	NA
04/04/00	210	0.57	NA	NA
04/28/00	16(A)EW00W5	16(A)EW00W6		
	340	0.68	NA	NA
06/19/00	270	<1.0	4.4	<1.0
07/21/00	16(A)EW00W10	16(A)EW00W09	16(B)EW00W05	16(B)EW00W06
	110	<1.0	8.7	<1.0
09/07/00	16(A)EW11	16(A)EW12	16(B)EW07	16(B)EW08
	310	5.1	18	3.1
10/30/00	16(A)EW13	16(A)EW14	16(B)EW09	16(B)EW10
	610	1.4	210	1.6
11/30/00	16(A)EW15	16(A)EW16	16(B)EW11	16(B)EW12
	400	3.1	220	2
12/28/00	16(A)EW17	16(A)EW18	16(B)EW13	16(B)EW14
	1300	2.4	130 I	2.6
01/29/01	16(A)EW19	16(A)EW20	16(B)EW15	16(B)EW16
	210	1.6	75	1.6
02/27/01	16(A)EW21	16(A)EW22	16(B)EW17	16(B)EW18
	160	1.2	67	2.1
03/30/01	16(A)EW23	16(A)EW24	16(B)EW19	16(B)EW20
	180	1	360	2.4
07/31/01	16(A)EW24	16(A)EW25	NA	NA
	3.1	0.018	NA	NA
08/29/01	16(A)EW27	16(A)EW28	NA	NA
	187	<0.068	NA	NA
09/30/01	16(A)EW27	16(A)EW28	16(B)EW19	16(B)EW20
	40.8	<0.068	45.3	<0.067
10/31/01	16(A)EW31	16(A)EW32	16(B)EW01	16(B)EW02
	50	<0.07	65.7	<0.066
11/30/01	16(A)EW33	16(A)EW34	16(B)EW05	16(B)EW06
	76.9	0.18	12	<.20
01/09/02	16(A)EW35	16(A)EW36	16(B)EW07	16(B)EW08
	421	<0.066	2.3	<0.066
01/31/02	16(A)EW31	16(A)EW32	16(B)EW01	16(B)EW02
	368	<0.066	22.1	<0.066
02/27/02	16(A)EW39	16(A)EW40	16(B)EW11	16(B)EW12
	276	0.7	17.6	
02/28/02	16(A)EW41	16(A)EW42	16(B)EW13	16(B)EW14
	101	0.81	98.1	0.19
03/29/02	16(A)EW41	16(A)EW42	16(B)EW13	16(B)EW14
	101	0.81	98.1	0.24
04/23/02	16(A)EW43	16(A)EW44	16(B)EW15	0.24
	338	0.96	12	0.19

Notes:
All units are mg/L.
The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.
ND - not detected above laboratory detection limit
NA - not available (no sample collected)

TABLE 4
NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS NO. 1 AND NO. 2
GROUNDATER SYSTEM TOTAL PETROLEUM HYDROCARBON (TPH)
CONCENTRATIONS (mg/l)

Effluent Sample	Unit No. 1		Unit No. 2	
Date	Before Clay/Carbon	After Clay/Carbon	Before Clay/Carbon	After Clay/Carbon
05/29/02	16(A)EW45	16(A)EW46	16(B)EW17	16(B)EW18
	104	0.28	78.9	0.076
06/28/02	16(A)EW47	16(A)EW48	16(B)EW19	16(B)EW20
	46.6	0.23	29.7	0.11
07/29/02	16(A)EW49	16(A)EW50	16(B)EW21	16(B)EW22
	2800	0.63	62.5	0.54
08/28/02	16(A)EW51	16(A)EW52	16(B)EW23	16(B)EW24
	284	0.61	23.3	0.74
09/30/02	16(A)EW53	16(A)EW54	16(B)EW25	16(B)EW26
	790	1.09	8.8	0.5
10/29/02	16(A)EW55	16(A)EW56	16(B)EW27	16(B)EW28
	124	1.57	97	3.12
11/26/02	16(A)EW57	16(A)EW58	16(B)EW29	16(B)EW30
	56	<0.16	36	<0.17
12/30/02	16(A)EW59	16(A)EW60	16(B)EW31	16(B)EW32
	352	<0.16	89	<0.16
02/03/03	16(A)EW61	16(A)EW62	16(B)EW31	16(B)EW32
	506	1.52	NA	NA
02/26/03	16(A)EW63	16(A)EW64	16(B)EW33	16(B)EW34
	565	<0.17	20.9	<0.16
03/31/03	16(A)EW67	16(A)EW68	16(B)EW33	16(B)EW34
	433	<0.18	12.2	<0.16
04/29/03	16(A)EW69	16(A)EW70	16(B)EW35	16(B)EW36
	176	<0.16	39.6	<0.16
05/23/03	16(A)EW71	16(A)EW72	16(B)EW37	16(B)EW38
	235.61	0.17	10.56	0.03
06/30/03	16(A)EW73	16(A)EW74	16(B)EW39	16(B)EW40
	163	<0.16	16.7	<0.16
07/29/03	16(A)EW77	16(A)EW78	16(B)EW43	16(B)EW44
	576	<0.18	5.25	<0.17
08/27/03	16(A)EW77	16(A)EW78	16(B)EW43	16(B)EW44
	1.4	<0.17	2.2	<0.17
09/30/03	16(A)EW79	16(A)EW80	16(B)EW45	16(B)EW46
	152	<0.18	6.42	<0.17
10/22/03	16(A)EW81	16(A)EW82	16(B)EW47	16(B)EW48
	129	<0.17	27.5	<0.17
12/8/03*	no sample	no sample	16(B)EW49	16(B)EW50
			3.05	<0.17
12/30/03	16(A)EW83	16(A)EW84	16(B)EW51	16(B)EW52
	71.7	<0.17	18.7	<0.16
01/30/04	16(A)EW85	16(A)EW86	16(B)EW53	16(B)EW54
	176	<0.16	3.58	<0.16
02/27/04	16(A)EW87	16(A)EW88	16(B)EW55	16(B)EW56
	576	<0.16	4.45	<0.16

Notes:
All units are mg/L.
The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.
ND - not detected above laboratory detection limit
NA - not available (no sample collected)

TABLE 4
NAVAL WEAPONS STATION-EARLE
BIOSLURPER UNITS NO. 1 AND NO. 2
GROUNDATER SYSTEM TOTAL PETROLEUM HYDROCARBON (TPH)
CONCENTRATIONS (mg/l)

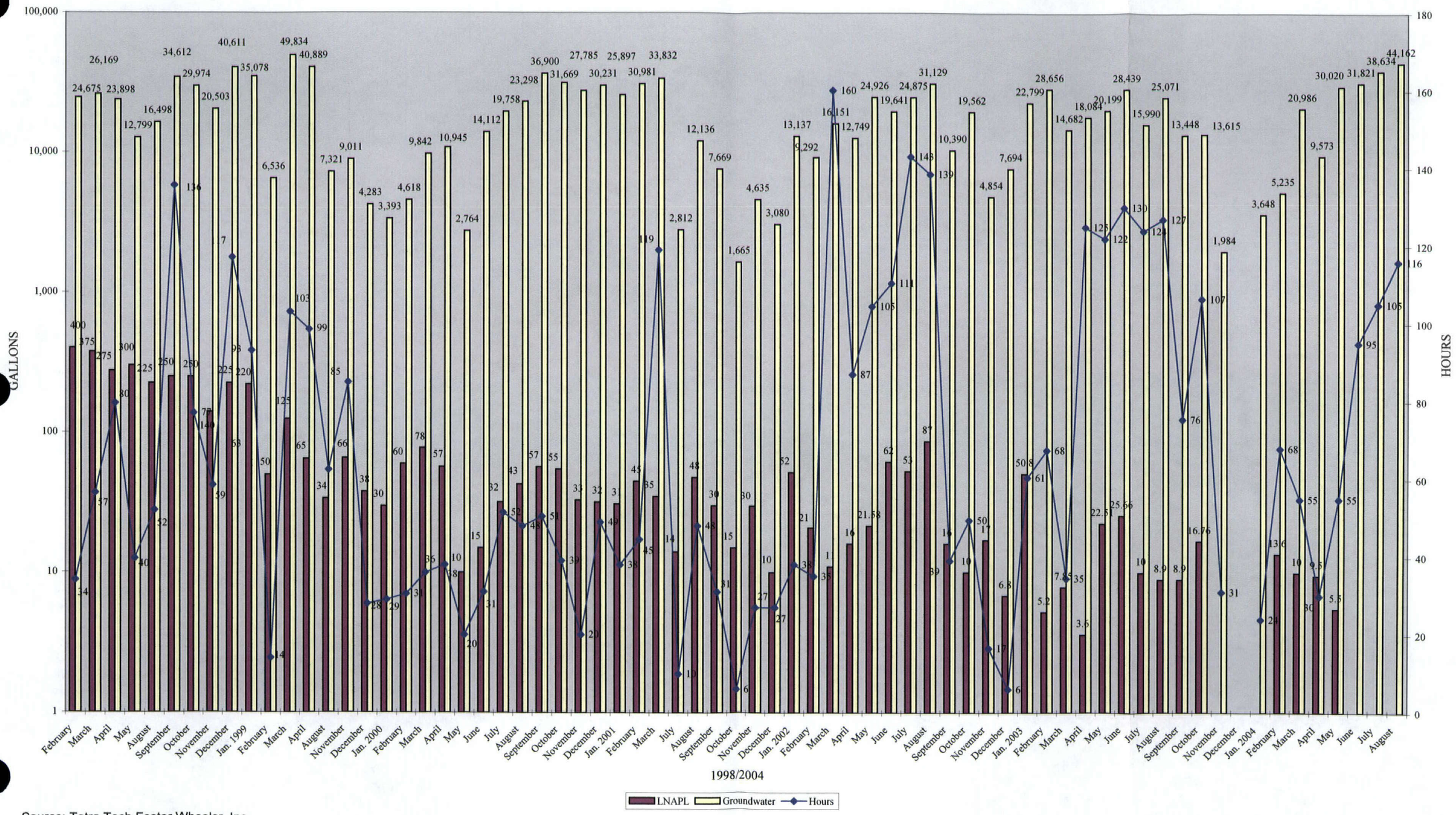
Effluent Sample Date	Unit No. 1		Unit No. 2	
	Before Clay/Carbon	After Clay/Carbon	Before Clay/Carbon	After Clay/Carbon
03/30/04	16(A)EW89	16(A)EW90	16(B)EW57	16(B)EW58
	98.6	<0.17	7.92	0.19
04/21/04	BS-1 Influent	BS-1 Final Effluent	BS-2 Influent	BS-2 Final Effluent
	147	<1.0	15.1	<1.0
05/26/04	BS-1 Influent	BS-1 Final Effluent	BS-2 Influent	BS-2 Final Effluent
	320	17	6.8	<1.0
06/16/04	BS-1 Influent	BS-1 Final Effluent	BS-2 Influent	BS-2 Final Effluent
	170	<1.0	17.8	<1.0
07/27/04	BS-1 Influent	BS-1 Final Effluent	BS-2 Influent	BS-2 Final Effluent
	204	<1.0	20.2	<1.0
08/18/04	BS-1 Influent	BS-1 Final Effluent	BS-2 Influent	BS-2 Final Effluent
	317	148	34.2	<1.0

Unit #1 and #2 were not operating at the time of sample collection (month end) in October 2003
* Samples collected 12/8/03 were for November operating period. Unit #1 was not operating at time of sample collection.
Source: Tetra Tech Foster Wheeler, Inc. (data prior to March 2004)

Notes:
All units are mg/L.
The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.
ND - not detected above laboratory detection limit
NA - not available (no sample collected)

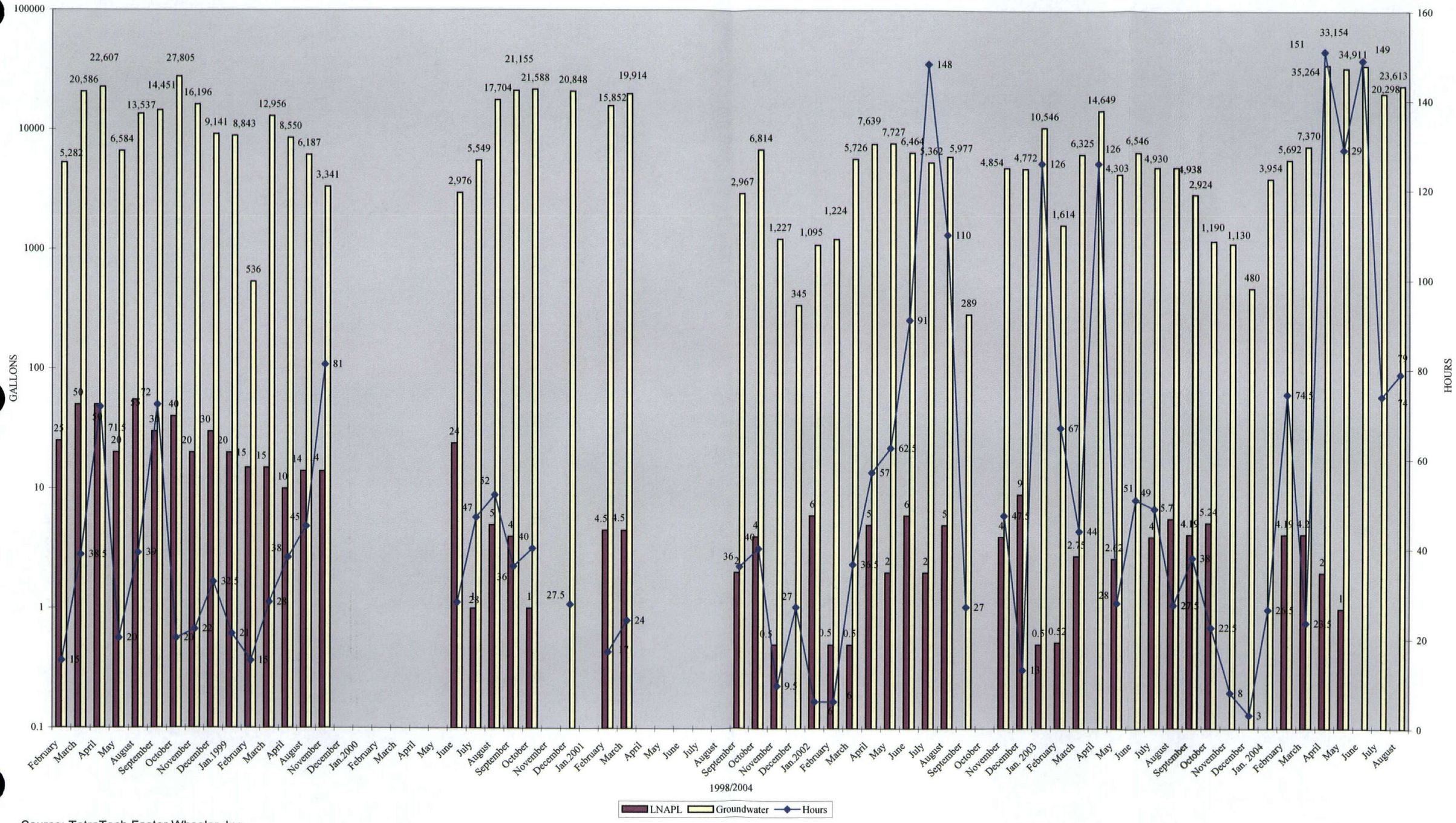
APPENDIX A
GRAPHS OF LNAPL/WATER EXTRACTED TO DATE

BIOSLURPER UNIT 1 LNAPL/WATER RECOVERED VERSUS OPERATIONAL TIME



Source: Tetra Tech Foster Wheeler, Inc.
Data prior to April 2004

BIOSLURPER UNIT 2 LNAPL/WATER RECOVERED VERSUS OPERATIONAL TIME



Source: TetraTech Foster Wheeler, Inc.
Data prior to April 2004

APPENDIX B
GROUNDWATER LEVELS AND LNAPL THICKNESS DATA FROM EXTRACTION WELLS

APPENDIX B
NAVAL WEAPONS STATION EARLE
BIOSLURPER UNITS
GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Correct d Elevation (feet)
16MW-04	8/20/1997	101.23	13.65	87.58	14.23	0.58	88.07
16MW-04	12/12/1997	101.23	11.55	89.68	12.34	0.79	90.35
16MW-04	1/7/1998	101.23	11.85	89.38	12.89	1.04	90.26
16MW-04	1/15/1998	101.23	9.49	91.74	9.87	0.38	92.06
16MW-04	2/10/1998	101.23	10.78	90.45	11.72	0.94	91.25
16MW-04	2/24/1998	101.23	8.78	92.45	9.35	0.57	92.93
16MW-04	3/3/1998	101.23	10.45	90.78	11.45	1.00	91.63
16MW-04	3/12/1998	101.23	9.62	91.61	10.51	0.89	92.36
16MW-04	3/13/1998	101.23	9.15	92.08	9.87	0.72	92.69
16MW-04	3/26/1998	101.23	6.76	94.47	7.60	0.84	95.19
16MW-04	4/3/1998	101.23	8.40	92.83	8.85	0.45	93.21
16MW-04	4/9/1998	101.23	6.90	94.33	6.91	0.01	94.34
16MW-04	4/17/1998	101.23	7.06	94.17	7.10	0.04	94.20
16MW-04	4/24/1998	101.23	0.00	101.23	-	0.00	101.23
16MW-04	5/5/1998	101.23	8.40	92.83	8.89	0.49	93.25
16MW-04	5/15/1998	101.23	8.20	93.03	8.85	0.65	93.59
16MW-04	7/30/1998	101.23	10.15	91.08	10.77	0.62	91.61
16MW-04	8/7/1998	101.23	9.17	92.06	9.44	0.27	92.29
16MW-04	8/13/1998	101.23	8.50	92.73	8.52	0.02	92.75
16MW-04	8/21/1998	101.23	9.20	92.03	9.39	0.19	92.19
16MW-04	9/3/1998	101.23	9.44	91.79	9.67	0.23	91.99
16MW-04	9/10/1998	101.23	9.57	91.66	9.81	0.24	91.86
16MW-04	10/2/1998	101.23	9.65	91.58	9.88	0.23	91.78
16MW-04	10/20/1998	101.23	9.85	91.38	10.11	0.26	91.60
16MW-04	11/6/1998	101.23	9.66	91.57	9.82	0.16	91.71
16MW-04	12/3/1998	101.23	9.93	91.30	10.17	0.24	91.50
16MW-04	12/30/1998	101.23	9.40	91.83	9.48	0.08	91.90
16MW-04	1/26/1999	101.23	8.26	92.97	8.33	0.07	93.03
16MW-04	2/10/1999	101.23	8.92	92.31	9.11	0.19	92.47
16MW-04	3/3/1999	101.23	8.49	92.74	8.55	0.06	92.79
16MW-04	3/9/1999	101.23	8.28	92.95	8.30	0.02	92.97
16MW-04	3/19/1999	101.23	8.40	92.83	8.52	0.12	92.93
16MW-04	4/20/1999	101.23	8.45	92.78	8.59	0.14	92.90
16MW-04	5/7/1999	101.23	8.52	92.71	8.60	0.08	92.78
16MW-04	6/9/1999	101.23	8.99	92.24	-	0.00	92.24
16MW-04	6/9/1999	101.23	9.77	91.46	10.04	0.27	91.69
16MW-04	6/14/1999	101.23	9.52	91.71	9.71	0.19	91.87
16MW-04	6/22/1999	101.23	9.55	91.68	9.74	0.19	91.84
16MW-04	7/29/1999	101.23	10.43	90.80	10.64	0.21	90.97
16MW-04	8/3/1999	101.23	10.51	90.72	10.71	0.20	90.89
16MW-04	8/13/1999	101.23	10.62	90.61	10.82	0.20	90.78
16MW-04	9/3/1999	101.23	9.80	91.43	9.84	0.04	91.46
16MW-04	9/15/1999	101.23	10.34	90.89	10.50	0.16	91.03
16MW-04	10/26/1999	101.23	10.30	90.93	10.66	0.36	91.23
16MW-04	11/2/1999	101.23	10.60	90.63	10.99	0.39	90.96
16MW-04	11/12/1999	101.23	10.05	91.18	10.26	0.21	91.36
16MW-04	11/18/1999	101.23	10.39	90.84	10.66	0.27	91.07
16MW-04	12/1/1999	101.23	9.60	91.63	9.86	0.26	91.85
16MW-04	12/31/1999	101.23	10.03	91.20	10.32	0.29	91.45

APPENDIX B
NAVAL WEAPONS STATION EARLE
BIOSLURPER UNITS
GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-04	1/26/2000	101.23	10.04	91.19	10.26	0.22	91.38
16MW-04	2/18/2000	101.23	9.44	91.79	9.59	0.15	91.92
16MW-04	4/17/2000	101.23	9.10	92.13	9.23	0.13	92.24
16MW-04	5/4/2000	101.23	8.42	92.81	8.58	0.16	92.95
16MW-04	8/9/2000	101.23	10.00	91.23	10.42	0.42	91.59
16MW-04	8/24/2000	101.23	9.91	91.32	10.17	0.26	91.54
16MW-04	11/28/2000	101.23	9.30	91.93	9.37	0.07	91.99
16MW-04	1/16/2001	101.23	9.10	92.13	9.14	0.04	92.16
16MW-04	2/27/2001	101.23	8.61	92.62	8.61	0.00	92.62
16MW-04	3/27/2001	101.23	8.25	92.98	8.55	0.30	93.24
16MW-04	4/19/2001	101.23	9.17	92.06	9.61	0.44	92.43
16MW-04	5/11/2001	101.23	9.76	91.47	10.21	0.45	91.86
16MW-04	6/6/2001	101.23	9.89	91.34	10.30	0.41	91.69
16MW-04	8/14/2001	101.23	9.33	91.90	9.38	0.05	91.94
16MW-04	9/14/2001	101.23	10.08	91.15	10.22	0.14	91.27
16MW-04	10/11/2001	101.23	9.97	91.26	10.03	0.06	91.31
16MW-04	11/13/2001	101.23	10.27	90.96	10.37	0.10	91.05
16MW-04	12/13/2001	101.23	9.76	91.47	9.79	0.03	91.49
16MW-04	2/28/2002	101.23	10.11	91.12	10.17	0.06	91.17
16MW-04	3/28/2002	101.23	9.27	91.96	9.31	0.04	91.99
16MW-04	4/23/2002	101.23	9.63	91.60	9.68	0.05	91.64
16MW-04	5/15/2002	101.23	9.30	91.93	9.33	0.03	91.96
16MW-04	6/8/2002	101.23	9.48	91.75	-	0.00	91.75
16MW-04	6/27/2002	101.23	9.73	91.50	9.81	0.08	91.56
16MW-04	7/16/2002	101.23	10.06	91.17	10.07	0.01	91.17
16MW-04	8/15/2002	101.23	10.90	90.33	11.43	0.53	90.78
16MW-04	9/10/2002	101.23	9.76	91.47	9.76	0.00	91.47
16MW-04	10/18/2002	101.23	8.65	92.58	9.20	0.55	93.05
16MW-04	11/14/2002	101.23	9.07	92.16	9.13	0.06	92.21
16MW-04	11/26/2002	101.23	8.90	92.33	8.95	0.05	92.37
16MW-04	12/16/2002	101.23	8.90	92.33	9.03	0.13	92.44
16MW-04	1/28/2003	101.23	8.55	92.68	8.56	0.01	92.69
16MW-04	2/26/2003	101.23	8.30	92.93	8.40	0.10	93.01
16MW-04	3/31/2003	101.23	7.90	93.33	7.92	0.02	93.35
16MW-04	4/29/2003	101.23	7.92	93.31	7.99	0.07	93.37
16MW-04	5/23/2003	101.23	8.20	93.03	8.22	0.02	93.04
16MW-04	8/1/2003	101.23	8.88	92.35	9.03	0.15	92.48
16MW-04	8/26/2003	101.23	9.12	92.11	9.28	0.16	92.24
16MW-04	9/17/2003	101.23	8.69	92.54	-	0.00	92.54
16MW-04	10/28/2003	101.23	8.90	92.33	-	0.00	92.33
16MW-04	11/11/2003	101.23	8.84	92.39	8.93	0.09	92.47
16MW-04	12/30/2003	101.23	8.60	92.63	8.83	0.23	92.82
16MW-04	1/16/2004	101.23	8.60	92.63	8.71	0.11	92.73
16MW-04	2/18/2004	101.23	8.80	92.43	9.05	0.25	92.64
16MW-04	3/24/2004	101.23	8.27	92.96	7.75	0.25	93.17
16MW-04	4/5/2004	101.23	8.21	93.02	7.51	0.70	93.62
16MW-04	5/5/2004	101.23	8.70	92.53	7.10	1.60	93.89
16MW-04	6/29/2004	101.23	8.87	92.36	8.63	0.24	92.56
16MW-04	7/27/2004	101.23	8.35	92.88	8.28	0.07	92.94

APPENDIX B
NAVAL WEAPONS STATION EARLE
BIOSLURPER UNITS
GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-04	8/18/2004	101.23	9.20	92.03	8.80	0.40	92.37
16MW-13	8/20/1997	100.97	10.90	90.07	11.70	0.80	90.75
16MW-13	10/6/1997	100.97	11.10	89.87	11.85	0.75	90.51
16MW-13	12/12/1997	100.97	10.50	90.47	11.15	0.65	91.02
16MW-13	1/7/1998	100.97	10.22	90.75	10.95	0.73	91.37
16MW-13	1/15/1998	100.97	10.29	90.68	11.04	0.75	91.31
16MW-13	2/10/1998	100.97	10.01	90.96	10.89	0.88	91.71
16MW-13	2/24/1998	100.97	8.82	92.15	9.54	0.72	92.76
16MW-13	3/3/1998	100.97	10.02	90.95	11.06	1.04	91.84
16MW-13	3/12/1998	100.97	9.67	91.30	10.70	1.03	92.17
16MW-13	3/13/1998	100.97	9.02	91.95	9.83	0.81	92.64
16MW-13	3/26/1998	100.97	7.05	93.92	7.35	0.30	94.18
16MW-13	4/3/1998	100.97	7.72	93.25	8.14	0.42	93.61
16MW-13	4/9/1998	100.97	7.34	93.63	7.61	0.27	93.86
16MW-13	4/17/1998	100.97	6.95	94.02	7.13	0.18	94.17
16MW-13	4/24/1998	100.97	8.16	92.81	8.74	0.58	93.30
16MW-13	5/5/1998	100.97	8.85	92.12	9.61	0.76	92.77
16MW-13	5/15/1998	100.97	7.09	93.88	7.61	0.52	94.32
16MW-13	7/30/1998	100.97	10.25	90.72	11.07	0.82	91.42
16MW-13	8/7/1998	100.97	8.57	92.40	8.83	0.26	92.62
16MW-13	8/13/1998	100.97	8.36	92.61	8.51	0.15	92.73
16MW-13	8/21/1998	100.97	8.84	92.13	9.11	0.27	92.36
16MW-13	9/3/1998	100.97	8.69	92.28	8.87	0.18	92.43
16MW-13	9/10/1998	100.97	8.71	92.26	8.86	0.15	92.39
16MW-13	10/2/1998	100.97	9.23	91.74	9.50	0.27	91.97
16MW-13	10/20/1998	100.97	8.88	92.09	9.02	0.14	92.21
16MW-13	11/6/1998	100.97	9.01	91.96	9.15	0.14	92.08
16MW-13	12/3/1998	100.97	8.95	92.02	9.06	0.11	92.11
16MW-13	12/30/1998	100.97	9.29	91.68	9.49	0.20	91.85
16MW-13	1/26/1999	100.97	8.10	92.87	8.28	0.18	93.03
16MW-13	2/10/1999	100.97	9.00	91.97	9.38	0.38	92.29
16MW-13	3/3/1999	100.97	8.13	92.84	8.24	0.11	92.93
16MW-13	3/9/1999	100.97	8.17	92.80	8.31	0.14	92.92
16MW-13	3/19/1999	100.97	7.97	93.00	8.13	0.16	93.13
16MW-13	4/20/1999	100.97	8.00	92.97	8.15	0.15	93.09
16MW-13	5/7/1999	100.97	8.45	92.52	8.59	0.14	92.64
16MW-13	6/9/1999	100.97	7.76	93.21	7.77	0.01	93.21
16MW-13	6/9/1999	100.97	9.80	91.17	10.24	0.44	91.54
16MW-13	6/10/1999	100.97	9.20	91.77	9.30	0.10	91.85
16MW-13	6/14/1999	100.97	9.52	91.45	9.87	0.35	91.75
16MW-13	6/22/1999	100.97	9.76	91.21	10.17	0.41	91.56
16MW-13	7/29/1999	100.97	10.83	90.14	11.32	0.49	90.56
16MW-13	8/3/1999	100.97	10.90	90.07	11.38	0.48	90.47
16MW-13	8/13/1999	100.97	11.03	89.94	11.51	0.48	90.35
16MW-13	9/3/1999	100.97	9.15	91.82	9.18	0.03	91.85
16MW-13	9/15/1999	100.97	9.41	91.56	9.46	0.05	91.60
16MW-13	10/26/1999	100.97	10.24	90.73	10.74	0.50	91.15
16MW-13	11/2/1999	100.97	10.47	90.50	10.99	0.52	90.94

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-13	11/12/1999	100.97	10.07	90.90	10.44	0.37	91.21
16MW-13	11/18/1999	100.97	10.36	90.61	10.78	0.42	90.96
16MW-13	12/1/1999	100.97	10.26	90.71	10.69	0.43	91.07
16MW-13	12/31/1999	100.97	10.12	90.85	10.59	0.47	91.25
16MW-13	1/26/2000	100.97	10.06	90.91	10.44	0.38	91.24
16MW-13	2/18/2000	100.97	8.94	92.03	9.10	0.16	92.17
16MW-13	4/17/2000	100.97	8.87	92.10	9.08	0.21	92.27
16MW-13	5/4/2000	100.97	7.94	93.03	8.04	0.10	93.12
16MW-13	8/9/2000	100.97	8.68	92.29	8.93	0.25	92.50
16MW-13	8/24/2000	100.97	8.71	92.26	8.79	0.08	92.33
16MW-13	10/26/2000	100.97	9.03	91.94	9.10	0.07	92.00
16MW-13	11/28/2000	100.97	9.80	91.17	9.90	0.10	91.26
16MW-13	1/16/2001	100.97	9.03	91.94	9.20	0.17	92.08
16MW-13	2/27/2001	100.97	8.05	92.92	8.09	0.04	92.95
16MW-13	3/27/2001	100.97	8.09	92.88	8.35	0.26	93.10
16MW-13	4/19/2001	100.97	9.61	91.36	10.36	0.75	92.00
16MW-13	5/11/2001	100.97	10.28	90.69	11.06	0.78	91.36
16MW-13	6/6/2001	100.97	10.18	90.79	10.87	0.69	91.38
16MW-13	8/14/2001	100.97	9.67	91.30	10.00	0.33	91.58
16MW-13	9/14/2001	100.97	9.48	91.49	9.63	0.15	91.62
16MW-13	10/11/2001	100.97	9.41	91.56	9.50	0.09	91.63
16MW-13	11/13/2001	100.97	9.45	91.52	9.49	0.04	91.56
16MW-13	12/13/2001	100.97	9.34	91.63	9.39	0.05	91.67
16MW-13	1/8/2002	100.97	9.35	91.62	9.36	0.01	91.63
16MW-13	1/23/2002	100.97	9.35	91.62	9.41	0.06	91.67
16MW-13	2/28/2002	100.97	9.51	91.46	9.56	0.05	91.50
16MW-13	3/28/2002	100.97	9.04	91.93	9.18	0.14	92.05
16MW-13	4/23/2002	100.97	10.12	90.85	10.48	0.36	91.16
16MW-13	5/15/2002	100.97	9.98	90.99	10.38	0.40	91.33
16MW-13	6/8/2002	100.97	9.40	91.57	9.55	0.15	91.70
16MW-13	6/27/2002	100.97	9.70	91.27	9.95	0.25	91.48
16MW-13	7/16/2002	100.97	9.66	91.31	9.72	0.06	91.36
16MW-13	8/15/2002	100.97	9.98	90.99	10.17	0.19	91.15
16MW-13	9/10/2002	100.97	9.74	91.23	-	0.00	91.23
16MW-13	10/18/2002	100.97	9.00	91.97	9.21	0.21	92.14
16MW-13	11/14/2002	100.97	9.40	91.57	9.45	0.05	91.61
16MW-13	11/26/2002	100.97	9.90	91.07	10.42	0.52	91.52
16MW-13	12/16/2002	100.97	9.87	91.10	10.48	0.61	91.62
16MW-13	1/28/2003	100.97	9.00	91.97	9.33	0.33	92.25
16MW-13	2/26/2003	100.97	8.00	92.97	8.30	0.30	93.23
16MW-13	3/31/2003	100.97	7.15	93.82	7.18	0.03	93.85
16MW-13	4/29/2003	100.97	7.80	93.17	8.05	0.25	93.38
16MW-13	5/23/2003	100.97	7.90	93.07	8.03	0.13	93.18
16MW-13	6/26/2003	100.97	7.16	93.81	7.39	0.23	94.00
16MW-13	8/1/2003	100.97	8.21	92.76	8.36	0.15	92.89
16MW-13	8/26/2003	100.97	8.60	92.37	8.79	0.19	92.53
16MW-13	9/17/2003	100.97	8.41	92.56	8.51	0.10	92.65
16MW-13	10/28/2003	100.97	8.55	92.42	8.63	0.08	92.48
16MW-13	12/30/2003	100.97	7.75	93.22	7.94	0.19	93.38

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-13	1/16/2004	100.97	8.16	92.81	8.34	0.18	92.96
16MW-13	2/18/2004	100.97	7.70	93.27	7.83	0.13	93.38
16MW-13	3/24/2004	100.97	7.35	93.62	7.00	0.35	93.92
16MW-13	4/5/2004	100.97	7.20	93.77	6.78	0.42	94.13
16MW-13	5/5/2004	100.97	7.21	93.76	6.38	0.83	94.47
16MW-13	6/29/2004	100.97	8.34	92.63	8.01	0.33	92.91
16MW-13	7/27/2004	100.97	9.00	91.97	7.50	1.50	93.25
16MW-13	8/18/2004	100.97	8.40	92.57	8.20	0.20	92.74
16MW-14	8/20/1997	100.66	10.64	90.02	11.47	0.83	90.72
16MW-14	10/6/1997	100.66	11.61	89.05	12.60	0.99	89.90
16MW-14	12/12/1997	100.66	10.72	89.94	11.51	0.79	90.61
16MW-14	1/7/1998	100.66	10.52	90.14	11.38	0.86	90.87
16MW-14	1/7/1998	100.66	10.52	90.14	11.38	0.86	90.87
16MW-14	1/15/1998	100.66	9.61	91.05	10.25	0.64	91.59
16MW-14	2/10/1998	100.66	10.36	90.30	11.44	1.08	91.22
16MW-14	3/3/1998	100.66	6.40	94.27	7.23	0.84	94.98
16MW-14	3/12/1998	100.66	8.29	92.37	9.04	0.75	93.01
16MW-14	3/13/1998	100.66	8.90	91.76	9.74	0.84	92.47
16MW-14	3/26/1998	100.66	5.70	94.96	5.73	0.03	94.99
16MW-14	4/3/1998	100.66	6.66	94.00	6.87	0.21	94.18
16MW-14	4/9/1998	100.66	5.38	95.28	5.47	0.09	95.36
16MW-14	4/17/1998	100.66	6.05	94.61	6.15	0.10	94.69
16MW-14	4/24/1998	100.66	7.82	92.84	8.37	0.55	93.30
16MW-14	5/5/1998	100.66	7.41	93.25	7.87	0.46	93.64
16MW-14	5/15/1998	100.66	5.70	94.96	5.80	0.10	95.05
16MW-14	7/30/1998	100.66	10.05	90.61	10.90	0.85	91.34
16MW-14	8/7/1998	100.66	7.40	93.26	7.46	0.06	93.31
16MW-14	8/13/1998	100.66	7.71	92.95	7.76	0.05	92.99
16MW-14	8/21/1998	100.66	8.60	92.06	8.87	0.27	92.29
16MW-14	9/3/1998	100.66	8.41	92.25	8.56	0.15	92.38
16MW-14	9/10/1998	100.66	7.96	92.70	8.11	0.15	92.83
16MW-14	10/2/1998	100.66	8.62	92.04	8.80	0.18	92.20
16MW-14	10/20/1998	100.66	8.57	92.09	8.71	0.14	92.21
16MW-14	11/6/1998	100.66	8.65	92.01	8.77	0.12	92.11
16MW-14	12/3/1998	100.66	8.71	91.95	8.84	0.13	92.06
16MW-14	12/30/1998	100.66	9.33	91.33	9.47	0.14	91.45
16MW-14	1/26/1999	100.66	7.62	93.04	7.77	0.15	93.17
16MW-14	2/10/1999	100.66	8.38	92.28	8.68	0.30	92.53
16MW-14	3/3/1999	100.66	8.41	92.25	8.54	0.13	92.36
16MW-14	3/9/1999	100.66	7.45	93.21	7.49	0.04	93.24
16MW-14	3/19/1999	100.66	7.40	93.26	7.49	0.09	93.33
16MW-14	4/20/1999	100.66	7.59	93.07	7.70	0.11	93.17
16MW-14	5/7/1999	100.66	7.77	92.89	7.78	0.01	92.90
16MW-14	6/1/1999	100.66	8.48	92.18	8.70	0.22	92.36
16MW-14	6/9/1999	100.66	7.65	93.01	7.65	0.00	93.01
16MW-14	6/9/1999	100.66	9.04	91.62	9.34	0.30	91.88
16MW-14	6/10/1999	100.66	8.50	92.16	8.63	0.13	92.27
16MW-14	6/14/1999	100.66	8.80	91.86	9.02	0.22	92.04

APPENDIX B
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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-14	6/22/1999	100.66	8.95	91.71	9.20	0.25	91.92
16MW-14	7/29/1999	100.66	10.25	90.41	10.63	0.38	90.73
16MW-14	8/3/1999	100.66	10.40	90.26	10.80	0.40	90.60
16MW-14	8/13/1999	100.66	10.46	90.20	10.85	0.39	90.53
16MW-14	9/3/1999	100.66	8.85	91.81	8.88	0.03	91.84
16MW-14	9/15/1999	100.66	9.29	91.37	9.38	0.09	91.45
16MW-14	10/26/1999	100.66	10.20	90.46	10.77	0.57	90.95
16MW-14	11/2/1999	100.66	10.26	90.40	10.79	0.53	90.85
16MW-14	11/12/1999	100.66	9.60	91.06	9.75	0.15	91.19
16MW-14	11/18/1999	100.66	9.82	90.84	10.00	0.18	90.99
16MW-14	12/1/1999	100.66	9.70	90.96	10.05	0.35	91.26
16MW-14	12/31/1999	100.66	9.50	91.16	9.88	0.38	91.48
16MW-14	1/26/2000	100.66	9.44	91.22	9.73	0.29	91.46
16MW-14	2/18/2000	100.66	8.93	91.73	9.17	0.24	91.94
16MW-14	4/17/2000	100.66	8.42	92.24	8.59	0.17	92.38
16MW-14	5/4/2000	100.66	0.00	100.66	0.00	0.00	100.66
16MW-14	8/9/2000	100.66	8.40	92.26	8.62	0.22	92.45
16MW-14	8/24/2000	100.66	5.56	95.10	5.57	0.01	95.11
16MW-14	10/26/2000	100.66	8.83	91.83	8.90	0.07	91.89
16MW-14	11/28/2000	100.66	9.35	91.31	9.54	0.19	91.47
16MW-14	1/16/2001	100.66	9.30	91.36	9.59	0.29	91.61
16MW-14	2/27/2001	100.66	7.62	93.04	7.63	0.01	93.04
16MW-14	4/19/2001	100.66	7.05	93.61	7.09	0.04	93.64
16MW-14	5/11/2001	100.66	9.17	91.49	9.50	0.33	91.77
16MW-14	6/6/2001	100.66	9.84	90.82	10.36	0.52	91.26
16MW-14	8/14/2001	100.66	9.82	90.84	10.05	0.23	91.04
16MW-14	9/14/2001	100.66	9.67	90.99	9.72	0.05	91.03
16MW-14	10/11/2001	100.66	9.74	90.92	9.77	0.03	90.95
16MW-14	11/13/2001	100.66	9.94	90.72	9.97	0.03	90.75
16MW-14	12/13/2001	100.66	9.88	90.78	9.93	0.05	90.82
16MW-14	1/8/2002	100.66	10.31	90.35	10.53	0.22	90.53
16MW-14	1/23/2002	100.66	9.72	90.94	9.76	0.04	90.98
16MW-14	2/28/2002	100.66	9.87	90.79	9.88	0.01	90.80
16MW-14	3/28/2002	100.66	9.65	91.01	9.84	0.19	91.17
16MW-14	4/23/2002	100.66	10.91	89.75	11.36	0.45	90.13
16MW-14	5/15/2002	100.66	9.64	91.02	9.80	0.16	91.16
16MW-14	6/8/2002	100.66	9.63	91.03	9.70	0.07	91.09
16MW-14	6/27/2002	100.66	9.36	91.30	-	0.00	91.30
16MW-14	7/16/2002	100.66	10.34	90.32	10.45	0.11	90.41
16MW-14	8/15/2002	100.66	10.51	90.15	10.70	0.19	90.31
16MW-14	9/10/2002	100.66	10.69	89.97	11.02	0.33	90.25
16MW-14	10/18/2002	100.66	8.00	92.66	-	0.00	92.66
16MW-14	11/14/2002	100.66	8.05	92.61	8.08	0.03	92.63
16MW-14	11/26/2002	100.66	8.34	92.32	8.36	0.02	92.34
16MW-14	12/16/2002	100.66	7.40	93.26	7.60	0.20	93.43
16MW-14	1/28/2003	100.66	8.20	92.46	8.20	0.00	92.46
16MW-14	2/26/2003	100.66	7.55	93.11	7.62	0.07	93.17
16MW-14	3/31/2003	100.66	7.60	93.06	7.63	0.03	93.08
16MW-14	4/29/2003	100.66	6.61	94.05	-	0.00	94.05

APPENDIX B
NAVAL WEAPONS STATION EARLE
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GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-14	5/23/2003	100.66	7.90	92.76	7.93	0.03	92.78
16MW-14	6/26/2003	100.66	7.20	93.46	7.28	0.08	93.52
16MW-14	8/1/2003	100.66	8.48	92.18	8.56	0.08	92.24
16MW-14	8/26/2003	100.66	8.61	92.05	8.65	0.04	92.09
16MW-14	9/17/2003	100.66	8.47	92.19	8.49	0.02	92.20
16MW-14	10/28/2003	100.66	8.60	92.06	8.63	0.03	92.08
16MW-14	11/11/2003	100.66	8.10	92.56	8.13	0.03	92.58
16MW-14	12/30/2003	100.66	7.45	93.21	7.46	0.01	93.22
16MW-14	1/16/2004	100.66	8.15	92.51	8.18	0.03	92.53
16MW-14	2/18/2004	100.66	7.53	93.13	7.54	0.01	93.14
16MW-14	3/24/2004	100.66	7.65	93.01	7.56	0.09	93.09
16MW-14	4/5/2004	100.66	6.44	94.22	6.35	0.09	94.30
16MW-14	5/5/2004	100.66	7.15	93.51	7.00	0.15	93.64
16MW-14	6/29/2004	100.66	8.63	92.03	8.54	0.09	92.11
16MW-14	7/27/2004	100.66	7.09	93.57	7.00	0.09	93.65
16MW-14	8/18/2004	100.66	8.64	92.02	8.60	0.04	92.05
16MW-15	8/20/1997	100.98	11.49	89.49	12.39	0.90	90.26
16MW-15	8/20/1997	100.98	8.80	92.18	9.70	0.90	92.95
16MW-15	10/6/1997	100.98	11.98	89.00	12.91	0.93	89.79
16MW-15	12/12/1997	100.98	11.96	89.02	12.95	0.99	89.87
16MW-15	1/7/1998	100.98	12.38	88.60	13.65	1.27	89.68
16MW-15	1/15/1998	100.98	10.88	90.10	11.72	0.84	90.82
16MW-15	2/10/1998	100.98	12.40	88.58	13.90	1.50	89.85
16MW-15	3/3/1998	100.98	11.50	89.48	12.88	1.38	90.65
16MW-15	3/12/1998	100.98	10.50	90.48	11.69	1.19	91.49
16MW-15	3/13/1998	100.98	8.60	92.38	9.21	0.61	92.90
16MW-15	3/26/1998	100.98	6.40	94.58	6.43	0.03	94.61
16MW-15	4/3/1998	100.98	8.01	92.97	8.43	0.42	93.32
16MW-15	4/9/1998	100.98	7.19	93.79	7.33	0.14	93.91
16MW-15	4/17/1998	100.98	6.79	94.19	6.85	0.06	94.24
16MW-15	4/24/1998	100.98	8.45	92.53	9.03	0.58	93.02
16MW-15	5/5/1998	100.98	8.50	92.48	9.09	0.59	92.98
16MW-15	5/15/1998	100.98	7.20	93.78	7.56	0.36	94.09
16MW-15	7/30/1998	100.98	10.96	90.02	11.88	0.92	90.81
16MW-15	8/7/1998	100.98	9.06	91.92	9.37	0.31	92.18
16MW-15	8/13/1998	100.98	8.77	92.21	8.94	0.17	92.35
16MW-15	8/21/1998	100.98	9.22	91.76	9.49	0.27	91.99
16MW-15	9/3/1998	100.98	9.12	91.86	9.34	0.22	92.05
16MW-15	9/10/1998	100.98	9.11	91.87	9.29	0.18	92.02
16MW-15	10/2/1998	100.98	9.30	91.68	9.51	0.21	91.85
16MW-15	10/20/1998	100.98	9.25	91.73	9.41	0.16	91.87
16MW-15	11/6/1998	100.98	9.06	91.92	9.12	0.06	91.97
16MW-15	12/3/1998	100.98	9.27	91.71	9.39	0.12	91.81
16MW-15	12/30/1998	100.98	8.67	92.31	8.78	0.11	92.40
16MW-15	1/26/1999	100.98	8.12	92.86	8.25	0.13	92.97
16MW-15	2/10/1999	100.98	8.81	92.17	9.06	0.25	92.38
16MW-15	3/3/1999	100.98	7.77	93.21	7.88	0.11	93.30
16MW-15	3/9/1999	100.98	9.50	91.48	9.90	0.40	91.82

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-15	3/19/1999	100.98	8.21	92.77	8.36	0.15	92.90
16MW-15	4/20/1999	100.98	8.30	92.68	8.44	0.14	92.80
16MW-15	6/1/1999	100.98	8.91	92.07	9.08	0.17	92.21
16MW-15	6/9/1999	100.98	7.96	93.02	-	0.00	93.02
16MW-15	6/9/1999	100.98	9.37	91.61	9.60	0.23	91.80
16MW-15	6/10/1999	100.98	9.01	91.97	9.12	0.11	92.06
16MW-15	6/14/1999	100.98	9.27	91.71	9.45	0.18	91.86
16MW-15	6/22/1999	100.98	9.35	91.63	9.56	0.21	91.80
16MW-15	7/29/1999	100.98	10.61	90.37	10.94	0.33	90.65
16MW-15	8/13/1999	100.98	10.98	90.00	11.35	0.37	90.31
16MW-15	9/3/1999	100.98	9.44	91.54	9.48	0.04	91.57
16MW-15	9/15/1999	100.98	9.94	91.04	10.06	0.12	91.14
16MW-15	10/26/1999	100.98	10.65	90.33	11.20	0.55	90.79
16MW-15	11/2/1999	100.98	10.93	90.05	11.50	0.57	90.54
16MW-15	11/12/1999	100.98	9.70	91.28	10.04	0.34	91.57
16MW-15	11/18/1999	100.98	9.81	91.17	10.16	0.35	91.47
16MW-15	12/1/1999	100.98	9.60	91.38	9.76	0.16	91.52
16MW-15	12/31/1999	100.98	9.48	91.50	9.69	0.21	91.67
16MW-15	1/26/2000	100.98	9.50	91.48	9.64	0.14	91.60
16MW-15	2/18/2000	100.98	8.91	92.07	8.98	0.07	92.13
16MW-15	4/17/2000	100.98	8.83	92.15	8.95	0.12	92.25
16MW-15	5/4/2000	100.98	8.25	92.73	8.32	0.07	92.79
16MW-15	8/9/2000	100.98	9.17	91.81	9.44	0.27	92.04
16MW-15	8/24/2000	100.98	9.05	91.93	9.14	0.09	92.00
16MW-15	10/26/2000	100.98	9.35	91.63	9.43	0.08	91.69
16MW-15	11/28/2000	100.98	8.90	92.08	9.00	0.10	92.17
16MW-15	1/16/2001	100.98	9.00	91.98	9.09	0.09	92.05
16MW-15	2/27/2001	100.98	8.17	92.81	-	0.00	92.81
16MW-15	3/27/2001	100.98	7.65	93.33	7.71	0.06	93.38
16MW-15	4/19/2001	100.98	7.98	93.00	8.19	0.21	93.18
16MW-15	5/11/2001	100.98	9.33	91.65	9.74	0.41	92.00
16MW-15	6/6/2001	100.98	10.06	90.92	10.61	0.55	91.39
16MW-15	8/14/2001	100.98	9.19	91.79	9.29	0.10	91.88
16MW-15	9/14/2001	100.98	9.80	91.18	9.95	0.15	91.30
16MW-15	10/11/2001	100.98	9.72	91.26	9.81	0.09	91.33
16MW-15	11/13/2001	100.98	10.28	90.70	10.49	0.21	90.88
16MW-15	12/13/2001	100.98	10.07	90.91	10.26	0.19	91.07
16MW-15	1/8/2002	100.98	9.82	91.16	9.97	0.15	91.29
16MW-15	1/23/2002	100.98	9.50	91.48	9.54	0.04	91.51
16MW-15	2/28/2002	100.98	9.65	91.33	9.68	0.03	91.36
16MW-15	3/28/2002	100.98	8.80	92.18	8.85	0.05	92.22
16MW-15	4/23/2002	100.98	9.49	91.49	9.60	0.11	91.58
16MW-15	5/15/2002	100.98	9.28	91.70	9.41	0.13	91.81
16MW-15	6/8/2002	100.98	9.40	91.58	9.48	0.08	91.64
16MW-15	6/27/2002	100.98	9.35	91.63	9.41	0.06	91.68
16MW-15	7/16/2002	100.98	9.89	91.09	9.93	0.04	91.12
16MW-15	8/15/2002	100.98	10.23	90.75	10.35	0.12	90.85
16MW-15	9/10/2002	100.98	10.31	90.67	10.63	0.32	90.94
16MW-15	10/18/2002	100.98	8.75	92.23	8.82	0.07	92.29

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-15	11/14/2002	100.98	9.15	91.83	9.31	0.16	91.97
16MW-15	11/26/2002	100.98	10.45	90.53	11.06	0.61	91.05
16MW-15	12/16/2002	100.98	9.75	91.23	10.24	0.49	91.65
16MW-15	1/28/2003	100.98	8.60	92.38	8.71	0.11	92.48
16MW-15	2/26/2003	100.98	8.07	92.91	8.21	0.14	93.03
16MW-15	3/31/2003	100.98	7.60	93.38	7.63	0.03	93.40
16MW-15	4/29/2003	100.98	7.51	93.47	7.55	0.04	93.50
16MW-15	5/23/2003	100.98	8.02	92.96	8.07	0.05	93.00
16MW-15	6/26/2003	100.98	7.40	93.58	7.55	0.15	93.70
16MW-15	8/1/2003	100.98	8.42	92.56	8.53	0.11	92.65
16MW-15	8/26/2003	100.98	7.80	93.18	7.95	0.15	93.31
16MW-15	9/17/2003	100.98	8.74	92.24	8.86	0.12	92.34
16MW-15	10/28/2003	100.98	8.72	92.26	8.78	0.06	92.31
16MW-15	11/11/2003	100.98	8.10	92.88	8.12	0.02	92.89
16MW-15	12/30/2003	100.98	7.80	93.18	7.89	0.09	93.25
16MW-15	1/16/2004	100.98	8.30	92.68	8.43	0.13	92.79
16MW-15	2/18/2004	100.98	8.25	92.73	8.44	0.19	92.89
16MW-15	3/24/2004	100.98	7.87	93.11	7.47	0.40	93.45
16MW-15	4/5/2004	100.98	7.61	93.37	7.19	0.42	93.73
16MW-15	5/5/2004	100.98	7.90	93.08	6.82	1.08	94.00
16MW-15	6/29/2004	100.98	8.82	92.16	8.29	0.53	92.61
16MW-15	7/27/2004	100.98	8.20	92.78	8.00	0.20	92.95
16MW-15	8/18/2004	100.98	8.55	92.43	8.45	0.10	92.52
16MW-16	8/20/1997	98.82	7.01	91.81	7.07	0.06	91.86
16MW-16	10/6/1997	98.82	8.19	90.63	8.55	0.36	90.93
16MW-16	12/12/1997	98.82	10.90	87.92	12.10	1.20	88.94
16MW-16	1/7/1998	98.82	10.40	88.42	11.55	1.15	89.40
16MW-16	1/15/1998	98.82	7.83	90.99	8.39	0.56	91.47
16MW-16	2/10/1998	98.82	7.38	91.44	7.87	0.49	91.86
16MW-16	2/24/1998	98.82	4.05	94.77	4.25	0.20	94.94
16MW-16	3/3/1998	98.82	5.70	93.12	5.87	0.17	93.27
16MW-16	3/12/1998	98.82	4.81	94.01	4.84	0.03	94.03
16MW-16	3/13/1998	98.82	5.12	93.70	5.14	0.02	93.72
16MW-16	3/26/1998	98.82	4.42	94.40	4.43	0.01	94.41
16MW-16	4/3/1998	98.82	5.17	93.65	5.18	0.01	93.66
16MW-16	4/9/1998	98.82	5.35	93.47	5.37	0.02	93.49
16MW-16	4/17/1998	98.82	5.60	93.22	5.74	0.14	93.34
16MW-16	4/24/1998	98.82	5.28	93.54	5.37	0.09	93.62
16MW-16	5/5/1998	98.82	5.32	93.50	5.40	0.08	93.56
16MW-16	5/15/1998	98.82	4.25	94.57	4.36	0.11	94.66
16MW-16	7/30/1998	98.82	7.64	91.18	8.03	0.39	91.51
16MW-16	8/7/1998	98.82	6.92	91.90	7.06	0.14	92.02
16MW-16	8/13/1998	98.82	7.22	91.60	7.39	0.17	91.75
16MW-16	8/21/1998	98.82	6.99	91.83	7.06	0.07	91.89
16MW-16	9/3/1998	98.82	6.86	91.96	6.90	0.04	91.99
16MW-16	9/10/1998	98.82	7.01	91.81	7.05	0.04	91.84
16MW-16	10/2/1998	98.82	7.22	91.60	7.30	0.08	91.67
16MW-16	10/20/1998	98.82	7.16	91.66	7.20	0.04	91.69

APPENDIX B
NAVAL WEAPONS STATION EARLE
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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-16	11/6/1998	98.82	7.25	91.57	7.28	0.03	91.60
16MW-16	12/3/1998	98.82	7.24	91.58	7.28	0.04	91.61
16MW-16	12/30/1998	98.82	7.27	91.55	7.33	0.06	91.60
16MW-16	1/26/1999	98.82	5.89	92.93	5.90	0.01	92.94
16MW-16	2/10/1999	98.82	6.45	92.37	6.53	0.08	92.44
16MW-16	3/9/1999	98.82	6.21	92.61	6.23	0.02	92.62
16MW-16	3/19/1999	98.82	5.85	92.97	5.86	0.01	92.97
16MW-16	4/20/1999	98.82	6.05	92.77	6.06	0.01	92.78
16MW-16	5/7/1999	98.82	6.26	92.56	6.27	0.01	92.57
16MW-16	6/1/1999	98.82	6.95	91.87	7.05	0.10	91.95
16MW-16	6/9/1999	98.82	6.15	92.67	6.15	0.00	92.67
16MW-16	6/9/1999	98.82	7.50	91.32	7.66	0.16	91.46
16MW-16	6/10/1999	98.82	7.05	91.77	7.08	0.03	91.79
16MW-16	6/14/1999	98.82	7.20	91.62	7.26	0.06	91.67
16MW-16	6/22/1999	98.82	7.26	91.56	7.36	0.10	91.64
16MW-16	7/29/1999	98.82	8.62	90.20	8.85	0.23	90.39
16MW-16	8/3/1999	98.82	8.80	90.02	9.05	0.25	90.23
16MW-16	8/13/1999	98.82	8.97	89.85	9.24	0.27	90.08
16MW-16	9/3/1999	98.82	8.35	90.47	8.55	0.20	90.64
16MW-16	9/15/1999	98.82	8.10	90.72	8.19	0.09	90.79
16MW-16	10/26/1999	98.82	8.00	90.82	8.30	0.30	91.08
16MW-16	11/2/1999	98.82	8.22	90.60	8.53	0.31	90.86
16MW-16	11/12/1999	98.82	7.30	91.52	7.33	0.03	91.54
16MW-16	11/18/1999	98.82	7.57	91.25	7.61	0.04	91.29
16MW-16	12/1/1999	98.82	7.51	91.31	7.59	0.08	91.38
16MW-16	12/31/1999	98.82	7.44	91.38	7.48	0.04	91.41
16MW-16	1/26/2000	98.82	7.37	91.45	7.41	0.04	91.49
16MW-16	2/18/2000	98.82	6.85	91.97	6.86	0.01	91.98
16MW-16	4/17/2000	98.82	6.59	92.23	6.61	0.02	92.25
16MW-16	8/9/2000	98.82	6.46	92.36	6.63	0.17	92.51
16MW-16	8/24/2000	98.82	0.00	98.82	-	0.00	98.82
16MW-16	10/26/2000	98.82	7.40	91.42	7.53	0.13	91.53
16MW-16	11/28/2000	98.82	8.57	90.25	8.86	0.29	90.49
16MW-16	1/16/2001	98.82	6.99	91.83	7.02	0.03	91.85
16MW-16	2/27/2001	98.82	6.26	92.56	-	0.00	92.56
16MW-16	3/27/2001	98.82	5.90	92.92	-	0.00	92.92
16MW-16	5/11/2001	98.82	6.38	92.44	6.43	0.05	92.48
16MW-16	6/6/2001	98.82	6.54	92.28	6.58	0.04	92.31
16MW-16	8/14/2001	98.82	7.56	91.26	7.68	0.12	91.36
16MW-16	9/14/2001	98.82	8.22	90.60	8.39	0.17	90.75
16MW-16	10/11/2001	98.82	7.35	91.47	7.52	0.17	91.61
16MW-16	11/13/2001	98.82	8.91	89.91	9.23	0.32	90.18
16MW-16	12/13/2001	98.82	7.57	91.25	7.61	0.04	91.28
16MW-16	1/8/2002	98.82	7.77	91.05	7.87	0.10	91.13
16MW-16	1/23/2002	98.82	7.60	91.22	7.64	0.04	91.25
16MW-16	2/28/2002	98.82	7.75	91.07	7.76	0.01	91.07
16MW-16	3/28/2002	98.82	6.75	92.07	6.76	0.01	92.08
16MW-16	4/23/2002	98.82	7.38	91.44	7.66	0.28	91.68
16MW-16	5/15/2002	98.82	7.09	91.73	7.12	0.03	91.76

APPENDIX B
NAVAL WEAPONS STATION EARLE
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GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Correct d Elevation (feet)
16MW-16	6/8/2002	98.82	7.35	91.47	7.36	0.01	91.48
16MW-16	6/27/2002	98.82	7.50	91.32	7.55	0.05	91.36
16MW-16	8/15/2002	98.82	8.51	90.31	8.63	0.12	90.41
16MW-16	9/10/2002	98.82	7.51	91.31	7.54	0.03	91.34
16MW-16	10/18/2002	98.82	7.10	91.72	7.11	0.01	91.73
16MW-16	11/14/2002	98.82	6.76	92.06	6.78	0.02	92.08
16MW-16	11/26/2002	98.82	5.17	93.65	5.18	0.01	93.65
16MW-16	12/16/2002	98.82	6.33	92.49	6.37	0.04	92.52
16MW-16	1/28/2003	98.82	6.40	92.42	6.43	0.03	92.44
16MW-16	2/26/2003	98.82	4.99	93.83	5.00	0.01	93.84
16MW-16	3/31/2003	98.82	5.31	93.51	5.32	0.01	93.52
16MW-16	4/29/2003	98.82	4.98	93.84	4.99	0.01	93.85
16MW-16	5/23/2003	98.82	5.97	92.85	5.98	0.01	92.85
16MW-16	6/26/2003	98.82	4.00	94.82	4.01	0.01	94.83
16MW-16	8/1/2003	98.82	6.20	92.62	6.21	0.01	92.63
16MW-16	8/26/2003	98.82	6.40	92.42	6.41	0.01	92.43
16MW-16	12/30/2003	98.82	0.00	98.82	-	0.00	98.82
16MW-16	3/24/2004	98.82	4.76	94.06	4.68	0.08	94.06
16MW-16	4/5/2004	98.82	4.51	94.31	4.44	0.07	94.37
16MW-16	5/5/2004	98.82	5.40	93.42	-	0.00	93.42
16MW-16	6/29/2004	98.82	6.75	92.07	6.63	0.12	92.17
16MW-16	7/27/2004	98.82	6.50	92.32	-	0.00	92.32
16MW-16	8/18/2004	98.82	5.40	93.42	-	0.00	93.42
16MW-17	8/20/1997	99.79	10.87	88.92	11.91	1.04	89.80
16MW-17	10/6/1997	99.79	8.19	91.60	9.47	1.28	92.69
16MW-17	10/6/1997	99.79	10.98	88.81	11.92	0.94	89.61
16MW-17	12/12/1997	99.79	10.50	89.29	11.38	0.88	90.04
16MW-17	1/7/1998	99.79	11.15	88.64	12.37	1.22	89.68
16MW-17	1/15/1998	99.79	8.45	91.34	8.89	0.44	91.71
16MW-17	2/10/1998	99.79	10.24	89.55	11.42	1.18	90.55
16MW-17	2/24/1998	99.79	6.70	93.09	7.08	0.38	93.41
16MW-17	3/3/1998	99.79	8.95	90.84	9.91	0.96	91.66
16MW-17	3/12/1998	99.79	7.27	92.52	7.77	0.50	92.94
16MW-17	3/13/1998	99.79	5.55	94.24	5.63	0.08	94.30
16MW-17	3/26/1998	99.79	5.35	94.44	5.37	0.02	94.45
16MW-17	4/3/1998	99.79	5.54	94.25	5.65	0.11	94.34
16MW-17	4/9/1998	99.79	6.12	93.67	6.22	0.10	93.75
16MW-17	4/17/1998	99.79	6.04	93.75	6.18	0.14	93.87
16MW-17	4/24/1998	99.79	6.19	93.60	6.40	0.21	93.77
16MW-17	5/5/1998	99.79	6.45	93.34	6.72	0.27	93.57
16MW-17	5/15/1998	99.79	5.36	94.43	5.45	0.09	94.51
16MW-17	7/30/1998	99.79	10.26	89.53	11.27	1.01	90.39
16MW-17	8/7/1998	99.79	7.72	92.07	7.93	0.21	92.25
16MW-17	8/13/1998	99.79	7.95	91.84	8.17	0.22	92.03
16MW-17	8/21/1998	99.79	7.62	92.17	7.71	0.09	92.25
16MW-17	9/3/1998	99.79	7.76	92.03	7.88	0.12	92.13
16MW-17	9/10/1998	99.79	7.72	92.07	7.80	0.08	92.14
16MW-17	10/2/1998	99.79	8.28	91.51	8.48	0.20	91.68

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-17	10/20/1998	99.79	7.85	91.94	7.92	0.07	92.00
16MW-17	11/6/1998	99.79	8.04	91.75	8.11	0.07	91.81
16MW-17	12/3/1998	99.79	7.99	91.80	8.04	0.05	91.84
16MW-17	12/30/1998	99.79	8.36	91.43	8.54	0.18	91.58
16MW-17	1/26/1999	99.79	6.73	93.06	6.81	0.08	93.12
16MW-17	2/10/1999	99.79	7.74	92.05	7.99	0.25	92.26
16MW-17	3/9/1999	99.79	7.03	92.76	7.09	0.06	92.81
16MW-17	3/19/1999	99.79	6.68	93.11	6.74	0.06	93.16
16MW-17	4/20/1999	99.79	6.90	92.89	6.96	0.06	92.94
16MW-17	5/7/1999	99.79	6.96	92.83	6.98	0.02	92.85
16MW-17	6/1/1999	99.79	7.53	92.26	7.61	0.08	92.33
16MW-17	6/9/1999	99.79	7.16	92.63	-	0.00	92.63
16MW-17	6/9/1999	99.79	7.99	91.80	8.12	0.13	91.91
16MW-17	6/10/1999	99.79	7.74	92.05	7.79	0.05	92.09
16MW-17	6/14/1999	99.79	7.91	91.88	8.01	0.10	91.97
16MW-17	6/22/1999	99.79	8.01	91.78	8.12	0.11	91.88
16MW-17	7/29/1999	99.79	9.40	90.39	9.67	0.27	90.62
16MW-17	8/3/1999	99.79	9.55	90.24	9.83	0.28	90.48
16MW-17	8/13/1999	99.79	9.70	90.09	10.00	0.30	90.34
16MW-17	9/3/1999	99.79	8.49	91.30	8.53	0.04	91.34
16MW-17	9/15/1999	99.79	8.86	90.93	8.97	0.11	91.03
16MW-17	10/26/1999	99.79	9.81	89.98	10.44	0.63	90.51
16MW-17	11/2/1999	99.79	9.99	89.80	10.63	0.64	90.34
16MW-17	11/12/1999	99.79	8.31	91.48	8.41	0.10	91.57
16MW-17	11/18/1999	99.79	8.55	91.24	8.68	0.13	91.35
16MW-17	12/1/1999	99.79	8.87	90.92	9.00	0.13	91.03
16MW-17	12/31/1999	99.79	8.21	91.58	8.37	0.16	91.72
16MW-17	1/26/2000	99.79	8.21	91.58	8.30	0.09	91.65
16MW-17	2/18/2000	99.79	7.57	92.22	7.59	0.02	92.24
16MW-17	4/17/2000	99.79	7.46	92.33	7.51	0.05	92.38
16MW-17	5/4/2000	99.79	7.14	92.65	7.17	0.03	92.67
16MW-17	8/9/2000	99.79	8.40	91.39	8.82	0.42	91.75
16MW-17	8/24/2000	99.79	7.85	91.94	7.91	0.06	91.99
16MW-17	10/26/2000	99.79	8.09	91.70	8.11	0.02	91.72
16MW-17	11/28/2000	99.79	8.48	91.31	8.73	0.25	91.53
16MW-17	1/16/2001	99.79	7.90	91.89	8.00	0.10	91.98
16MW-17	2/27/2001	99.79	7.05	92.74	-	0.00	92.74
16MW-17	3/27/2001	99.79	6.40	93.39	6.43	0.03	93.41
16MW-17	4/19/2001	99.79	6.55	93.24	6.65	0.10	93.33
16MW-17	5/11/2001	99.79	7.42	92.37	7.55	0.13	92.48
16MW-17	6/6/2001	99.79	8.00	91.79	8.25	0.25	92.00
16MW-17	8/14/2001	99.79	9.27	90.52	9.68	0.41	90.87
16MW-17	9/14/2001	99.79	8.70	91.09	8.81	0.11	91.18
16MW-17	10/11/2001	99.79	8.44	91.35	8.46	0.02	91.36
16MW-17	11/13/2001	99.79	8.66	91.13	8.70	0.04	91.16
16MW-17	11/13/2001	99.79	9.22	90.57	-	0.00	90.57
16MW-17	12/13/2001	99.79	8.45	91.34	8.48	0.03	91.36
16MW-17	1/8/2002	99.79	8.51	91.28	8.59	0.08	91.35
16MW-17	1/23/2002	99.79	8.40	91.39	8.43	0.03	91.42

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-17	2/28/2002	99.79	8.51	91.28	8.52	0.01	91.29
16MW-17	3/28/2002	99.79	7.64	92.15	7.66	0.02	92.16
16MW-17	4/23/2002	99.79	8.09	91.70	8.11	0.02	91.72
16MW-17	5/15/2002	99.79	7.83	91.96	7.88	0.05	92.00
16MW-17	6/8/2002	99.79	8.08	91.71	8.09	0.01	91.72
16MW-17	6/27/2002	99.79	8.20	91.59	8.24	0.04	91.62
16MW-17	7/16/2002	99.79	8.77	91.02	8.79	0.02	91.04
16MW-17	8/15/2002	99.79	9.88	89.91	10.84	0.96	90.73
16MW-17	9/10/2002	99.79	8.80	90.99	8.98	0.18	91.14
16MW-17	10/18/2002	99.79	7.13	92.66	7.14	0.01	92.67
16MW-17	11/14/2002	99.79	9.30	90.49	9.83	0.53	90.94
16MW-17	11/26/2002	99.79	7.20	92.59	7.43	0.23	92.78
16MW-17	12/16/2002	99.79	7.50	92.29	7.68	0.18	92.45
16MW-17	1/28/2003	99.79	7.26	92.53	7.30	0.04	92.56
16MW-17	2/26/2003	99.79	6.54	93.25	6.57	0.03	93.27
16MW-17	3/31/2003	99.79	6.50	93.29	6.54	0.04	93.32
16MW-17	4/29/2003	99.79	6.35	93.44	6.37	0.02	93.45
16MW-17	5/23/2003	99.79	7.03	92.76	7.10	0.07	92.82
16MW-17	6/26/2003	99.79	5.80	93.99	5.83	0.03	94.01
16MW-17	8/1/2003	99.79	7.38	92.41	7.49	0.11	92.51
16MW-17	8/26/2003	99.79	7.61	92.18	7.71	0.10	92.27
16MW-17	9/17/2003	99.79	7.49	92.30	7.54	0.05	92.34
16MW-17	10/28/2003	99.79	7.49	92.30	-	0.00	92.30
16MW-17	11/11/2003	99.79	7.38	92.41	7.46	0.08	92.47
16MW-17	12/30/2003	99.79	6.35	93.44	6.36	0.01	93.45
16MW-17	1/16/2004	99.79	6.95	92.84	7.00	0.05	92.88
16MW-17	2/18/2004	99.79	6.57	93.22	6.59	0.02	93.23
16MW-17	3/24/2004	99.79	6.54	93.25	6.37	0.17	93.39
16MW-17	4/5/2004	99.79	6.24	93.55	6.14	0.10	93.64
16MW-17	5/5/2004	99.79	6.50	93.29	-	0.00	93.29
16MW-17	6/29/2004	99.79	7.36	92.43	-	0.00	92.43
16MW-17	7/27/2004	99.79	7.15	92.64	7.10	0.05	92.68
16MW-17	8/18/2004	99.79	7.40	92.39	-	0.00	92.39
16MW-18	8/20/1997	100.69	7.96	92.73	-	0.00	92.73
16MW-18	10/6/1997	100.69	8.21	92.48	-	0.00	92.48
16MW-18	12/12/1997	100.69	7.98	92.71	-	0.00	92.71
16MW-18	1/7/1998	100.69	6.85	93.84	-	0.00	93.84
16MW-18	1/15/1998	100.69	7.24	93.45	-	0.00	93.45
16MW-18	2/10/1998	100.69	5.86	94.83	-	0.00	94.83
16MW-18	2/24/1998	100.69	6.80	93.89	-	0.00	93.89
16MW-18	3/3/1998	100.69	5.30	95.39	-	0.00	95.39
16MW-18	3/12/1998	100.69	4.89	95.80	-	0.00	95.80
16MW-18	3/13/1998	100.69	5.06	95.63	-	0.00	95.63
16MW-18	3/26/1998	100.69	4.78	95.91	-	0.00	95.91
16MW-18	4/3/1998	100.69	5.51	95.18	-	0.00	95.18
16MW-18	4/9/1998	100.69	5.85	94.84	-	0.00	94.84
16MW-18	4/17/1998	100.69	5.20	95.49	-	0.00	95.49
16MW-18	4/24/1998	100.69	5.50	95.19	-	0.00	95.19

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-18	5/5/1998	100.69	4.40	96.29	-	0.00	96.29
16MW-18	5/15/1998	100.69	3.85	96.84	-	0.00	96.84
16MW-18	7/30/1998	100.69	6.93	93.76	-	0.00	93.76
16MW-18	8/7/1998	100.69	7.14	93.55	-	0.00	93.55
16MW-18	8/13/1998	100.69	8.40	92.29	-	0.00	92.29
16MW-18	8/21/1998	100.69	7.61	93.08	-	0.00	93.08
16MW-18	9/3/1998	100.69	7.78	92.91	-	0.00	92.91
16MW-18	9/10/1998	100.69	7.90	92.79	-	0.00	92.79
16MW-18	10/2/1998	100.69	7.66	93.03	-	0.00	93.03
16MW-18	10/20/1998	100.69	8.12	92.57	-	0.00	92.57
16MW-18	11/6/1998	100.69	8.34	92.35	-	0.00	92.35
16MW-18	12/3/1998	100.69	8.20	92.49	-	0.00	92.49
16MW-18	12/30/1998	100.69	8.48	92.21	8.49	0.01	92.21
16MW-18	1/26/1999	100.69	4.36	96.33	-	0.00	96.33
16MW-18	2/10/1999	100.69	6.40	94.29	-	0.00	94.29
16MW-18	3/9/1999	100.69	6.30	94.39	-	0.00	94.39
16MW-18	3/19/1999	100.69	4.80	95.89	-	0.00	95.89
16MW-18	5/7/1999	100.69	7.14	93.55	-	0.00	93.55
16MW-18	6/1/1999	100.69	7.40	93.29	-	0.00	93.29
16MW-18	6/9/1999	100.69	7.79	92.90	-	0.00	92.90
16MW-18	6/9/1999	100.69	7.77	92.92	-	0.00	92.92
16MW-18	6/10/1999	100.69	7.82	92.87	-	0.00	92.87
16MW-18	6/14/1999	100.69	8.90	91.79	-	0.00	91.79
16MW-18	6/22/1999	100.69	8.12	92.57	-	0.00	92.57
16MW-18	7/29/1999	100.69	9.10	91.59	-	0.00	91.59
16MW-18	8/3/1999	100.69	9.25	91.44	-	0.00	91.44
16MW-18	8/13/1999	100.69	9.38	91.31	-	0.00	91.31
16MW-18	9/3/1999	100.69	6.50	94.19	-	0.00	94.19
16MW-18	9/15/1999	100.69	8.99	91.70	-	0.00	91.70
16MW-18	10/26/1999	100.69	7.15	93.54	7.16	0.01	93.55
16MW-18	11/12/1999	100.69	8.39	92.30	8.41	0.02	92.32
16MW-18	11/18/1999	100.69	8.60	92.09	8.61	0.01	92.10
16MW-18	12/1/1999	100.69	8.41	92.28	8.43	0.02	92.29
16MW-18	12/31/1999	100.69	7.50	93.19	7.78	0.28	93.42
16MW-18	1/26/2000	100.69	8.39	92.30	8.41	0.02	92.32
16MW-18	2/18/2000	100.69	6.17	94.52	6.20	0.03	94.55
16MW-18	4/17/2000	100.69	6.32	94.37	6.37	0.05	94.41
16MW-18	5/4/2000	100.69	6.81	93.88	-	0.00	93.88
16MW-18	8/9/2000	100.69	5.26	95.43	5.27	0.01	95.44
16MW-18	8/24/2000	100.69	7.31	93.38	7.34	0.03	93.40
16MW-18	10/26/2000	100.69	8.35	92.34	8.36	0.01	92.35
16MW-18	11/28/2000	100.69	7.05	93.64	7.06	0.01	93.65
16MW-18	1/16/2001	100.69	7.72	92.97	7.73	0.01	92.97
16MW-18	2/27/2001	100.69	6.40	94.29	-	0.00	94.29
16MW-18	3/27/2001	100.69	5.20	95.49	-	0.00	95.49
16MW-18	4/19/2001	100.69	5.43	95.26	-	0.00	95.26
16MW-18	5/11/2001	100.69	7.06	93.63	-	0.00	93.63
16MW-18	6/6/2001	100.69	7.68	93.01	7.68	0.00	93.01
16MW-18	8/14/2001	100.69	8.21	92.48	8.24	0.03	92.50

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-18	9/14/2001	100.69	8.91	91.78	8.92	0.01	91.79
16MW-18	10/11/2001	100.69	8.48	92.21	-	0.00	92.21
16MW-18	12/13/2001	100.69	8.51	92.18	8.55	0.04	92.22
16MW-18	1/8/2002	100.69	7.95	92.74	8.01	0.06	92.79
16MW-18	1/23/2002	100.69	8.50	92.19	8.56	0.06	92.24
16MW-18	2/28/2002	100.69	8.83	91.86	-	0.00	91.86
16MW-18	3/28/2002	100.69	6.03	94.66	-	0.00	94.66
16MW-18	4/23/2002	100.69	8.23	92.46	-	0.00	92.46
16MW-18	5/15/2002	100.69	6.43	94.26	-	0.00	94.26
16MW-18	6/8/2002	100.69	8.91	91.78	8.92	0.01	91.79
16MW-18	6/27/2002	100.69	8.93	91.76	8.95	0.02	91.77
16MW-18	7/16/2002	100.69	9.30	91.39	9.43	0.13	91.50
16MW-18	8/15/2002	100.69	9.65	91.04	-	0.00	91.04
16MW-18	9/10/2002	100.69	8.42	92.27	8.43	0.01	92.27
16MW-18	10/18/2002	100.69	5.91	94.78	-	0.00	94.78
16MW-18	11/14/2002	100.69	6.91	93.78	-	0.00	93.78
16MW-18	11/26/2002	100.69	6.21	94.48	-	0.00	94.48
16MW-18	12/16/2002	100.69	5.91	94.78	-	0.00	94.78
16MW-18	1/28/2003	100.69	7.28	93.41	-	0.00	93.41
16MW-18	2/26/2003	100.69	5.56	95.13	-	0.00	95.13
16MW-18	3/31/2003	100.69	5.86	94.83	-	0.00	94.83
16MW-18	4/29/2003	100.69	6.00	94.69	-	0.00	94.69
16MW-18	5/23/2003	100.69	7.05	93.64	-	0.00	93.64
16MW-18	6/26/2003	100.69	4.91	95.78	-	0.00	95.78
16MW-18	8/1/2003	100.69	7.02	93.67	-	0.00	93.67
16MW-18	8/26/2003	100.69	7.49	93.20	-	0.00	93.20
16MW-18	9/17/2003	100.69	7.29	93.40	-	0.00	93.40
16MW-18	10/28/2003	100.69	7.84	92.85	-	0.00	92.85
16MW-18	11/11/2003	100.69	6.20	94.49	6.21	0.01	94.50
16MW-18	12/30/2003	100.69	5.95	94.74	5.96	0.01	94.75
16MW-18	1/16/2004	100.69	6.98	93.71	6.99	0.01	93.72
16MW-18	2/18/2004	100.69	6.20	94.49	6.21	0.01	94.50
16MW-18	3/24/2004	100.69	5.61	95.08	5.55	0.06	95.13
16MW-18	4/5/2004	100.69	5.03	95.66	4.95	0.08	95.73
16MW-18	5/5/2004	100.69	5.42	95.27	-	0.00	95.27
16MW-18	6/29/2004	100.69	7.60	93.09	-	0.00	93.09
16MW-18	7/27/2004	100.69	7.10	93.59	-	0.00	93.59
16MW-18	8/18/2004	100.69	7.40	93.29	-	0.00	93.29
16MW-19	8/20/1997	100.54	7.70	92.84	-	0.00	92.84
16MW-19	10/6/1997	100.54	10.29	90.25	10.91	0.62	90.78
16MW-19	12/12/1997	100.54	12.02	88.52	13.15	1.13	89.48
16MW-19	1/7/1998	100.54	10.00	90.54	10.83	0.83	91.24
16MW-19	1/15/1998	100.54	7.03	93.51	7.21	0.18	93.67
16MW-19	2/10/1998	100.54	6.07	94.47	6.16	0.09	94.55
16MW-19	2/24/1998	100.54	5.10	95.44	-	0.00	95.44
16MW-19	3/3/1998	100.54	5.35	95.19	5.37	0.02	95.20
16MW-19	3/12/1998	100.54	4.91	95.63	4.93	0.02	95.64
16MW-19	3/13/1998	100.54	5.05	95.49	-	0.00	95.49

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-19	3/26/1998	100.54	4.98	95.56	-	0.00	95.56
16MW-19	4/3/1998	100.54	5.31	95.23	-	0.00	95.23
16MW-19	4/9/1998	100.54	5.54	95.00	5.55	0.01	95.01
16MW-19	4/17/1998	100.54	5.15	95.39	5.19	0.04	95.42
16MW-19	4/24/1998	100.54	4.95	95.59	4.97	0.02	95.61
16MW-19	5/5/1998	100.54	4.73	95.81	4.77	0.04	95.85
16MW-19	5/15/1998	100.54	3.60	96.94	3.61	0.01	96.95
16MW-19	7/30/1998	100.54	7.12	93.42	7.23	0.11	93.51
16MW-19	8/7/1998	100.54	6.97	93.57	6.97	0.00	93.57
16MW-19	8/13/1998	100.54	7.22	93.32	7.23	0.01	93.32
16MW-19	8/21/1998	100.54	7.41	93.13	-	0.00	93.13
16MW-19	9/3/1998	100.54	7.55	92.99	-	0.00	92.99
16MW-19	9/10/1998	100.54	8.53	92.01	8.55	0.02	92.03
16MW-19	10/2/1998	100.54	7.69	92.85	7.70	0.01	92.86
16MW-19	10/20/1998	100.54	7.90	92.64	7.91	0.01	92.65
16MW-19	11/6/1998	100.54	8.17	92.37	8.18	0.01	92.38
16MW-19	12/3/1998	100.54	7.95	92.59	-	0.00	92.59
16MW-19	12/30/1998	100.54	8.09	92.45	8.11	0.02	92.46
16MW-19	1/26/1999	100.54	5.81	94.73	5.85	0.04	94.76
16MW-19	3/9/1999	100.54	6.52	94.02	6.55	0.03	94.05
16MW-19	3/19/1999	100.54	6.20	94.34	6.25	0.05	94.38
16MW-19	4/20/1999	100.54	6.60	93.94	6.61	0.01	93.95
16MW-19	5/7/1999	100.54	7.11	93.43	7.14	0.03	93.45
16MW-19	6/1/1999	100.54	7.25	93.29	7.28	0.03	93.31
16MW-19	6/9/1999	100.54	6.94	93.60	-	0.00	93.60
16MW-19	6/9/1999	100.54	7.71	92.83	7.74	0.03	92.86
16MW-19	6/10/1999	100.54	7.68	92.86	-	0.00	92.86
16MW-19	6/14/1999	100.54	7.80	92.74	7.81	0.01	92.75
16MW-19	6/22/1999	100.54	8.01	92.53	8.04	0.03	92.55
16MW-19	7/29/1999	100.54	9.01	91.53	9.06	0.05	91.57
16MW-19	8/3/1999	100.54	9.14	91.40	9.20	0.06	91.45
16MW-19	8/13/1999	100.54	9.05	91.49	-	0.00	91.49
16MW-19	9/3/1999	100.54	9.07	91.47	9.21	0.14	91.59
16MW-19	9/15/1999	100.54	8.99	91.55	9.01	0.02	91.57
16MW-19	10/26/1999	100.54	9.35	91.19	9.77	0.42	91.54
16MW-19	11/2/1999	100.54	9.99	90.55	10.46	0.47	90.95
16MW-19	11/12/1999	100.54	8.45	92.09	8.46	0.01	92.10
16MW-19	11/18/1999	100.54	8.59	91.95	-	0.00	91.95
16MW-19	12/1/1999	100.54	8.35	92.19	8.36	0.01	92.20
16MW-19	12/31/1999	100.54	8.07	92.47	8.11	0.04	92.50
16MW-19	1/26/2000	100.54	8.36	92.18	8.37	0.01	92.19
16MW-19	2/18/2000	100.54	7.51	93.03	7.52	0.01	93.04
16MW-19	4/17/2000	100.54	7.52	93.02	-	0.00	93.02
16MW-19	5/4/2000	100.54	7.22	93.32	7.28	0.06	93.37
16MW-19	8/9/2000	100.54	7.30	93.24	7.52	0.22	93.42
16MW-19	8/24/2000	100.54	8.00	92.54	8.06	0.06	92.59
16MW-19	10/26/2000	100.54	8.77	91.77	8.86	0.09	91.84
16MW-19	11/28/2000	100.54	8.32	92.22	8.38	0.06	92.27
16MW-19	1/16/2001	100.54	8.60	91.94	8.78	0.18	92.09

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-19	2/27/2001	100.54	7.37	93.17	-	0.00	93.17
16MW-19	3/27/2001	100.54	6.20	94.34	6.28	0.08	94.41
16MW-19	4/19/2001	100.54	6.40	94.14	6.51	0.11	94.23
16MW-19	5/11/2001	100.54	7.48	93.06	7.60	0.12	93.16
16MW-19	6/6/2001	100.54	7.57	92.97	7.67	0.10	93.05
16MW-19	8/14/2001	100.54	7.30	93.24	7.35	0.05	93.28
16MW-19	9/14/2001	100.54	9.12	91.42	9.24	0.12	91.52
16MW-19	10/11/2001	100.54	8.97	91.57	9.01	0.04	91.60
16MW-19	11/13/2001	100.54	9.10	91.44	9.13	0.03	91.47
16MW-19	12/13/2001	100.54	8.97	91.57	9.01	0.04	91.60
16MW-19	1/8/2002	100.54	8.93	91.61	8.99	0.06	91.66
16MW-19	1/23/2002	100.54	8.82	91.72	8.84	0.02	91.73
16MW-19	2/28/2002	100.54	8.98	91.56	-	0.00	91.56
16MW-19	3/28/2002	100.54	8.00	92.54	8.09	0.09	92.61
16MW-19	4/23/2002	100.54	8.58	91.96	8.61	0.03	91.98
16MW-19	5/15/2002	100.54	8.20	92.34	8.26	0.06	92.39
16MW-19	6/8/2002	100.54	8.55	91.99	8.58	0.03	92.01
16MW-19	6/27/2002	100.54	8.57	91.97	8.59	0.02	91.99
16MW-19	7/16/2002	100.54	9.26	91.28	9.28	0.02	91.29
16MW-19	8/15/2002	100.54	9.52	91.02	-	0.00	91.02
16MW-19	9/10/2002	100.54	8.70	91.84	8.71	0.01	91.85
16MW-19	10/18/2002	100.54	6.91	93.63	6.91	0.00	93.63
16MW-19	11/14/2002	100.54	7.57	92.97	7.58	0.01	92.97
16MW-19	11/26/2002	100.54	7.18	93.36	-	0.00	93.36
16MW-19	12/16/2002	100.54	6.90	93.64	6.93	0.03	93.66
16MW-19	1/28/2003	100.54	7.31	93.23	7.31	0.00	93.23
16MW-19	2/26/2003	100.54	6.43	94.11	6.49	0.06	94.16
16MW-19	3/31/2003	100.54	6.25	94.29	6.26	0.01	94.30
16MW-19	4/29/2003	100.54	6.32	94.22	6.34	0.02	94.23
16MW-19	5/23/2003	100.54	7.08	93.46	7.11	0.03	93.48
16MW-19	6/26/2003	100.54	5.56	94.98	-	0.00	94.98
16MW-19	8/1/2003	100.54	7.28	93.26	7.33	0.05	93.30
16MW-19	8/26/2003	100.54	7.37	93.17	7.38	0.01	93.17
16MW-19	9/17/2003	100.54	7.65	92.89	-	0.00	92.89
16MW-19	10/28/2003	100.54	8.12	92.42	8.20	0.08	92.48
16MW-19	12/30/2003	100.54	6.46	94.08	-	0.00	94.08
16MW-19	1/16/2004	100.54	7.10	93.44	7.12	0.02	93.45
16MW-19	2/18/2004	100.54	6.63	93.91	6.66	0.03	93.93
16MW-19	3/24/2004	100.54	6.40	94.14	6.22	0.18	94.29
16MW-19	4/5/2004	100.54	5.98	94.56	5.96	0.02	94.58
16MW-19	5/5/2004	100.54	6.15	94.39	-	0.00	94.39
16MW-19	6/29/2004	100.54	7.57	92.97	7.54	0.03	93.00
16MW-19	7/27/2004	100.54	7.50	93.04	-	0.00	93.04
16MW-19	8/18/2004	100.54	7.73	92.81	7.59	0.14	92.93
16MW-20	8/20/1997	100.82	9.88	90.94	10.33	0.45	91.32
16MW-20	10/6/1997	100.82	10.22	90.60	10.68	0.46	90.99
16MW-20	12/12/1997	100.82	10.55	90.27	11.16	0.61	90.79
16MW-20	1/7/1998	100.82	10.36	90.46	11.06	0.70	91.05

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-20	1/22/1998	100.82	10.50	90.32	11.27	0.77	90.97
16MW-20	2/10/1998	100.82	7.71	93.11	7.86	0.15	93.24
16MW-20	2/24/1998	100.82	6.80	94.02	6.88	0.08	94.09
16MW-20	3/3/1998	100.82	6.85	93.97	6.92	0.07	94.03
16MW-20	3/12/1998	100.82	6.37	94.45	6.39	0.02	94.47
16MW-20	3/13/1998	100.82	6.43	94.39	6.45	0.02	94.41
16MW-20	3/26/1998	100.82	6.21	94.61	6.21	0.00	94.61
16MW-20	4/3/1998	100.82	6.60	94.22	6.64	0.04	94.25
16MW-20	4/9/1998	100.82	6.68	94.14	6.70	0.02	94.16
16MW-20	4/17/1998	100.82	6.49	94.33	6.50	0.01	94.34
16MW-20	4/24/1998	100.82	6.48	94.34	6.51	0.03	94.36
16MW-20	5/5/1998	100.82	5.70	95.12	5.76	0.06	95.17
16MW-20	5/15/1998	100.82	5.54	95.29	5.59	0.06	95.33
16MW-20	7/30/1998	100.82	8.98	91.84	9.35	0.37	92.15
16MW-20	8/7/1998	100.82	8.11	92.71	8.16	0.05	92.75
16MW-20	8/13/1998	100.82	8.29	92.53	8.34	0.05	92.57
16MW-20	8/21/1998	100.82	8.40	92.42	8.45	0.05	92.46
16MW-20	9/3/1998	100.82	8.65	92.17	8.71	0.06	92.22
16MW-20	9/10/1998	100.82	8.48	92.34	8.50	0.02	92.36
16MW-20	10/2/1998	100.82	8.73	92.09	8.78	0.05	92.13
16MW-20	10/20/1998	100.82	8.66	92.16	-	0.00	92.16
16MW-20	11/6/1998	100.82	8.79	92.03	-	0.00	92.03
16MW-20	12/3/1998	100.82	9.03	91.79	9.09	0.06	91.84
16MW-20	1/26/1999	100.82	7.70	93.12	7.73	0.03	93.14
16MW-20	2/10/1999	100.82	8.05	92.77	8.10	0.05	92.81
16MW-20	3/9/1999	100.82	7.95	92.87	7.98	0.03	92.89
16MW-20	3/19/1999	100.82	7.66	93.16	7.67	0.01	93.17
16MW-20	4/20/1999	100.82	7.70	93.12	7.71	0.01	93.12
16MW-20	5/7/1999	100.82	7.91	92.91	7.93	0.02	92.92
16MW-20	6/1/1999	100.82	8.36	92.46	8.40	0.04	92.49
16MW-20	6/9/1999	100.82	8.80	92.02	8.88	0.08	92.09
16MW-20	6/10/1999	100.82	7.72	93.10	7.77	0.05	93.14
16MW-20	6/14/1999	100.82	8.85	91.97	8.94	0.09	92.04
16MW-20	6/22/1999	100.82	8.59	92.23	8.68	0.09	92.30
16MW-20	7/29/1999	100.82	9.40	91.42	-	0.00	91.42
16MW-20	8/3/1999	100.82	10.25	90.57	10.44	0.19	90.73
16MW-20	9/3/1999	100.82	9.45	91.37	9.47	0.02	91.38
16MW-20	9/15/1999	100.82	9.72	91.10	9.79	0.07	91.16
16MW-20	11/2/1999	100.82	10.08	90.74	10.40	0.32	91.01
16MW-20	11/12/1999	100.82	9.17	91.65	9.20	0.03	91.68
16MW-20	11/18/1999	100.82	9.40	91.42	-	0.00	91.42
16MW-20	12/1/1999	100.82	9.31	91.51	9.39	0.08	91.58
16MW-20	12/31/1999	100.82	8.84	91.98	8.87	0.03	92.01
16MW-20	1/26/2000	100.82	9.28	91.54	9.37	0.09	91.62
16MW-20	2/18/2000	100.82	8.82	92.00	8.88	0.06	92.05
16MW-20	4/17/2000	100.82	9.21	91.61	9.48	0.27	91.84
16MW-20	5/4/2000	100.82	8.05	92.77	8.27	0.22	92.96
16MW-20	8/9/2000	100.82	8.32	92.50	8.34	0.02	92.52
16MW-20	8/24/2000	100.82	7.70	93.12	-	0.00	93.12

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-20	10/26/2000	100.82	9.21	91.61	9.25	0.04	91.64
16MW-20	1/16/2001	100.82	9.15	91.67	9.31	0.16	91.81
16MW-20	2/27/2001	100.82	8.40	92.42	8.50	0.10	92.50
16MW-20	3/27/2001	100.82	7.80	93.02	7.93	0.13	93.13
16MW-20	4/19/2001	100.82	7.77	93.05	7.94	0.17	93.20
16MW-20	5/11/2001	100.82	8.88	91.94	9.22	0.34	92.23
16MW-20	6/6/2001	100.82	9.85	90.97	10.37	0.52	91.41
16MW-20	8/14/2001	100.82	10.59	90.23	11.12	0.53	90.68
16MW-20	9/14/2001	100.82	10.80	90.02	11.24	0.44	90.40
16MW-20	10/11/2001	100.82	9.62	91.20	9.69	0.07	91.26
16MW-20	11/13/2001	100.82	9.73	91.09	9.79	0.06	91.14
16MW-20	12/13/2001	100.82	9.67	91.15	9.75	0.08	91.21
16MW-20	1/8/2002	100.82	9.81	91.01	9.97	0.16	91.14
16MW-20	1/23/2002	100.82	9.63	91.19	9.73	0.10	91.28
16MW-20	2/28/2002	100.82	9.69	91.13	9.74	0.05	91.17
16MW-20	3/28/2002	100.82	8.75	92.07	8.76	0.01	92.07
16MW-20	4/23/2002	100.82	9.30	91.52	9.37	0.07	91.58
16MW-20	5/15/2002	100.82	9.14	91.68	9.26	0.12	91.78
16MW-20	6/8/2002	100.82	9.19	91.63	9.22	0.03	91.65
16MW-20	6/27/2002	100.82	9.45	91.37	9.56	0.11	91.47
16MW-20	7/16/2002	100.82	9.75	91.07	-	0.00	91.07
16MW-20	8/15/2002	100.82	10.13	90.69	10.14	0.01	90.70
16MW-20	9/10/2002	100.82	9.60	91.22	9.67	0.07	91.28
16MW-20	10/18/2002	100.82	5.70	95.12	-	0.00	95.12
16MW-20	11/14/2002	100.82	8.60	92.22	-	0.00	92.22
16MW-20	11/26/2002	100.82	8.40	92.42	8.43	0.03	92.44
16MW-20	12/16/2002	100.82	8.30	92.52	8.36	0.06	92.57
16MW-20	1/28/2003	100.82	8.23	92.59	8.26	0.03	92.62
16MW-20	2/26/2003	100.82	7.76	93.06	7.83	0.07	93.12
16MW-20	3/31/2003	100.82	7.51	93.31	7.54	0.03	93.34
16MW-20	4/29/2003	100.82	7.98	92.84	8.17	0.19	93.00
16MW-20	5/23/2003	100.82	8.10	92.72	8.20	0.10	92.81
16MW-20	6/26/2003	100.82	6.91	93.91	6.94	0.03	93.93
16MW-20	8/1/2003	100.82	8.15	92.67	8.21	0.06	92.72
16MW-20	8/26/2003	100.82	8.70	92.12	8.83	0.13	92.23
16MW-20	9/17/2003	100.82	8.68	92.14	-	0.00	92.14
16MW-20	10/28/2003	100.82	8.45	92.37	8.46	0.01	92.38
16MW-20	12/30/2003	100.82	7.49	93.33	7.51	0.02	93.34
16MW-20	2/18/2004	100.82	7.73	93.09	7.74	0.01	93.10
16MW-20	3/24/2004	100.82	7.51	93.31	7.38	0.13	93.42
16MW-20	4/5/2004	100.82	7.15	93.67	7.09	0.06	93.72
16MW-20	5/5/2004	100.82	6.87	93.95	-	0.00	93.95
16MW-20	6/29/2004	100.82	8.16	92.66	-	0.00	92.66
16MW-20	7/27/2004	100.82	8.20	92.62	-	0.00	92.62
16MW-20	8/18/2004	100.82	8.55	92.27	8.45	0.10	92.36
16MW-21	8/20/1997	99.78	7.57	92.21	-	0.00	92.21
16MW-21	10/6/1997	99.78	7.80	91.98	-	0.00	91.98
16MW-21	12/12/1997	99.78	7.70	92.08	-	0.00	92.08

APPENDIX B
NAVAL WEAPONS STATION EARLE
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GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-21	1/7/1998	99.78	7.12	92.66	-	0.00	92.66
16MW-21	2/10/1998	99.78	6.00	93.78	-	0.00	93.78
16MW-21	2/24/1998	99.78	5.67	94.11	-	0.00	94.11
16MW-21	3/3/1998	99.78	5.40	94.38	-	0.00	94.38
16MW-21	3/12/1998	99.78	5.03	94.75	-	0.00	94.75
16MW-21	3/13/1998	99.78	5.17	94.61	-	0.00	94.61
16MW-21	3/26/1998	99.78	4.90	94.88	-	0.00	94.88
16MW-21	4/3/1998	99.78	5.25	94.53	-	0.00	94.53
16MW-21	4/9/1998	99.78	5.55	94.23	-	0.00	94.23
16MW-21	4/17/1998	99.78	5.10	94.68	-	0.00	94.68
16MW-21	4/24/1998	99.78	5.93	93.85	-	0.00	93.85
16MW-21	5/5/1998	99.78	4.88	94.90	-	0.00	94.90
16MW-21	5/15/1998	99.78	4.10	95.68	-	0.00	95.68
16MW-21	7/30/1998	99.78	6.95	92.83	-	0.00	92.83
16MW-21	8/7/1998	99.78	7.21	92.57	-	0.00	92.57
16MW-21	8/13/1998	99.78	7.41	92.37	-	0.00	92.37
16MW-21	8/21/1998	99.78	7.51	92.27	-	0.00	92.27
16MW-21	9/3/1998	99.78	7.57	92.21	-	0.00	92.21
16MW-21	9/10/1998	99.78	7.70	92.08	-	0.00	92.08
16MW-21	10/2/1998	99.78	7.77	92.01	-	0.00	92.01
16MW-21	10/20/1998	99.78	7.86	91.92	-	0.00	91.92
16MW-21	11/6/1998	99.78	0.00	99.78	-	0.00	99.78
16MW-21	12/3/1998	99.78	8.00	91.78	-	0.00	91.78
16MW-21	1/26/1999	99.78	5.05	94.73	-	0.00	94.73
16MW-21	3/9/1999	99.78	6.57	93.21	-	0.00	93.21
16MW-21	3/19/1999	99.78	5.56	94.22	-	0.00	94.22
16MW-21	4/20/1999	99.78	6.40	93.38	-	0.00	93.38
16MW-21	5/7/1999	99.78	7.05	92.73	-	0.00	92.73
16MW-21	6/1/1999	99.78	7.45	92.33	-	0.00	92.33
16MW-21	6/9/1999	99.78	7.15	92.63	-	0.00	92.63
16MW-21	6/14/1999	99.78	7.77	92.01	-	0.00	92.01
16MW-21	6/22/1999	99.78	7.00	92.78	-	0.00	92.78
16MW-21	7/29/1999	99.78	8.75	91.03	-	0.00	91.03
16MW-21	8/3/1999	99.78	8.89	90.89	-	0.00	90.89
16MW-21	9/15/1999	99.78	8.70	91.08	-	0.00	91.08
16MW-21	11/18/1999	99.78	8.33	91.45	-	0.00	91.45
16MW-21	2/18/2000	99.78	7.51	92.27	-	0.00	92.27
16MW-21	4/17/2000	99.78	7.35	92.43	-	0.00	92.43
16MW-21	5/4/2000	99.78	7.20	92.58	-	0.00	92.58
16MW-21	8/9/2000	99.78	6.20	93.58	-	0.00	93.58
16MW-21	8/24/2000	99.78	7.88	91.90	-	0.00	91.90
16MW-21	10/26/2000	99.78	8.30	91.48	-	0.00	91.48
16MW-21	1/16/2001	99.78	7.80	91.98	-	0.00	91.98
16MW-21	2/27/2001	99.78	7.27	92.51	-	0.00	92.51
16MW-21	3/27/2001	99.78	5.65	94.13	-	0.00	94.13
16MW-21	4/19/2001	99.78	5.70	94.08	-	0.00	94.08
16MW-21	5/11/2001	99.78	6.95	92.83	-	0.00	92.83
16MW-21	6/6/2001	99.78	7.19	92.59	-	0.00	92.59
16MW-21	8/14/2001	99.78	8.00	91.78	-	0.00	91.78

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-21	9/14/2001	99.78	8.51	91.27	-	0.00	91.27
16MW-21	10/11/2001	99.78	8.59	91.19	-	0.00	91.19
16MW-21	11/13/2001	99.78	8.74	91.04	-	0.00	91.04
16MW-21	12/13/2001	99.78	8.58	91.20	-	0.00	91.20
16MW-21	1/8/2002	99.78	8.41	91.37	-	0.00	91.37
16MW-21	1/22/2002	99.78	7.06	92.72	-	0.00	92.72
16MW-21	1/23/2002	99.78	8.46	91.32	-	0.00	91.32
16MW-21	2/28/2002	99.78	8.69	91.09	-	0.00	91.09
16MW-21	3/28/2002	99.78	5.86	93.92	-	0.00	93.92
16MW-21	4/23/2002	99.78	8.22	91.56	-	0.00	91.56
16MW-21	5/15/2002	99.78	6.17	93.61	-	0.00	93.61
16MW-21	6/8/2002	99.78	8.26	91.52	-	0.00	91.52
16MW-21	6/27/2002	99.78	8.05	91.73	-	0.00	91.73
16MW-21	7/16/2002	99.78	9.00	90.78	-	0.00	90.78
16MW-21	8/15/2002	99.78	9.36	90.42	-	0.00	90.42
16MW-21	9/10/2002	99.78	7.78	92.00	-	0.00	92.00
16MW-21	10/18/2002	99.78	5.75	94.03	5.83	0.08	94.09
16MW-21	11/14/2002	99.78	6.17	93.61	6.18	0.01	93.61
16MW-21	11/26/2002	99.78	6.31	93.47	-	0.00	93.47
16MW-21	12/16/2002	99.78	5.80	93.98	-	0.00	93.98
16MW-21	1/28/2003	99.78	7.21	92.57	-	0.00	92.57
16MW-21	2/26/2003	99.78	5.79	93.99	-	0.00	93.99
16MW-21	3/31/2003	99.78	4.60	95.18	-	0.00	95.18
16MW-21	4/29/2003	99.78	4.70	95.08	-	0.00	95.08
16MW-21	5/23/2003	99.78	6.88	92.90	-	0.00	92.90
16MW-21	6/26/2003	99.78	0.00	99.78	-	0.00	99.78
16MW-21	8/1/2003	99.78	7.00	92.78	-	0.00	92.78
16MW-21	8/26/2003	99.78	7.30	92.48	-	0.00	92.48
16MW-21	9/17/2003	99.78	7.28	92.50	-	0.00	92.50
16MW-21	10/28/2003	99.78	7.61	92.17	-	0.00	92.17
16MW-21	12/30/2003	99.78	6.15	93.63	-	0.00	93.63
16MW-21	2/18/2004	99.78	6.55	93.23	-	0.00	93.23
16MW-21	3/24/2004	99.78	6.10	93.68	-	0.00	93.68
16MW-21	4/5/2004	99.78	4.91	94.87	-	0.00	94.87
16MW-21	5/5/2004	99.78	5.53	94.25	-	0.00	94.25
16MW-21	6/29/2004	99.78	7.58	92.20	-	0.00	92.20
16MW-21	7/27/2004	99.78	7.50	92.28	-	0.00	92.28
16MW-21	8/18/2004	99.78	8.60	91.18	-	0.00	91.18
16MW-22	12/12/1997	102.22	7.70	94.52	-	0.00	94.52
16MW-22	1/7/1998	102.22	5.34	96.88	-	0.00	96.88
16MW-22	2/10/1998	102.22	2.98	99.24	-	0.00	99.24
16MW-22	2/24/1998	102.22	1.60	100.62	-	0.00	100.62
16MW-22	3/3/1998	102.22	2.87	99.35	-	0.00	99.35
16MW-22	3/26/1998	102.22	1.85	100.37	-	0.00	100.37
16MW-22	4/3/1998	102.22	2.05	100.17	-	0.00	100.17
16MW-22	4/17/1998	102.22	2.10	100.12	-	0.00	100.12
16MW-22	4/24/1998	102.22	1.52	100.70	-	0.00	100.70
16MW-22	5/15/1998	102.22	2.86	99.36	-	0.00	99.36

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Correct d Elevation (feet)
16MW-22	7/30/1998	102.22	6.03	96.19	-	0.00	96.19
16MW-22	8/13/1998	102.22	6.10	96.12	-	0.00	96.12
16MW-22	10/2/1998	102.22	7.78	94.44	-	0.00	94.44
16MW-22	11/6/1998	102.22	8.79	93.43	-	0.00	93.43
16MW-22	1/26/1999	102.22	1.81	100.41	-	0.00	100.41
16MW-22	3/9/1999	102.22	3.45	98.77	-	0.00	98.77
16MW-22	3/19/1999	102.22	8.38	93.84	-	0.00	93.84
16MW-22	4/20/1999	102.22	4.15	98.07	-	0.00	98.07
16MW-22	5/7/1999	102.22	7.05	95.17	-	0.00	95.17
16MW-22	6/1/1999	102.22	5.81	96.41	-	0.00	96.41
16MW-22	6/9/1999	102.22	6.11	96.11	-	0.00	96.11
16MW-22	6/14/1999	102.22	7.57	94.65	7.62	0.05	94.69
16MW-22	6/22/1999	102.22	7.11	95.11	-	0.00	95.11
16MW-22	5/4/2000	102.22	8.86	93.36	-	0.00	93.36
16MW-23	12/12/1997	102.58	9.19	93.39	-	0.00	93.39
16MW-23	1/7/1998	102.58	8.67	93.91	-	0.00	93.91
16MW-23	1/7/1998	102.58	8.67	93.91	-	0.00	93.91
16MW-23	2/10/1998	102.58	7.80	94.78	-	0.00	94.78
16MW-23	2/24/1998	102.58	7.20	95.38	-	0.00	95.38
16MW-23	3/3/1998	102.58	7.10	95.48	-	0.00	95.48
16MW-23	3/26/1998	102.58	6.60	95.98	-	0.00	95.98
16MW-23	4/3/1998	102.58	6.90	95.68	-	0.00	95.68
16MW-23	4/17/1998	102.58	6.95	95.63	-	0.00	95.63
16MW-23	4/24/1998	102.58	6.84	95.74	-	0.00	95.74
16MW-23	5/15/1998	102.58	5.89	96.69	-	0.00	96.69
16MW-23	7/30/1998	102.58	8.03	94.55	-	0.00	94.55
16MW-23	8/13/1998	102.58	8.46	94.12	-	0.00	94.12
16MW-23	10/2/1998	102.58	9.03	93.55	-	0.00	93.55
16MW-23	1/26/1999	102.58	8.21	94.37	-	0.00	94.37
16MW-23	3/9/1999	102.58	8.53	94.05	-	0.00	94.05
16MW-23	3/19/1999	102.58	8.31	94.27	-	0.00	94.27
16MW-23	4/20/1999	102.58	8.32	94.26	-	0.00	94.26
16MW-23	6/1/1999	102.58	8.80	93.78	-	0.00	93.78
16MW-23	6/9/1999	102.58	9.01	93.57	-	0.00	93.57
16MW-23	6/22/1999	102.58	9.75	92.83	-	0.00	92.83
16MW-23	8/3/1999	102.58	10.00	92.58	-	0.00	92.58
16MW-23	9/15/1999	102.58	10.11	92.47	-	0.00	92.47
16MW-23	4/17/2000	102.58	0.00	102.58	-	0.00	102.58
16MW-23	5/4/2000	102.58	0.00	102.58	-	0.00	102.58
16MW-24	3/27/2001	102.06	8.15	93.91	-	0.00	93.91
16MW-24	4/19/2001	102.06	7.83	94.23	-	0.00	94.23
16MW-24	5/11/2001	102.06	8.49	93.57	-	0.00	93.57
16MW-24	6/6/2001	102.06	8.78	93.28	-	0.00	93.28
16MW-24	8/14/2001	102.06	9.48	92.58	-	0.00	92.58
16MW-24	9/14/2001	102.06	9.93	92.13	-	0.00	92.13
16MW-24	10/11/2001	102.06	10.12	91.94	-	0.00	91.94
16MW-24	11/13/2001	102.06	10.31	91.75	-	0.00	91.75

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-24	12/13/2001	102.06	10.23	91.83	-	0.00	91.83
16MW-24	1/8/2002	102.06	10.13	91.93	-	0.00	91.93
16MW-24	1/23/2002	102.06	10.19	91.87	-	0.00	91.87
16MW-24	2/28/2002	102.06	10.34	91.72	-	0.00	91.72
16MW-24	3/28/2002	102.06	9.62	92.44	-	0.00	92.44
16MW-24	4/23/2002	102.06	9.88	92.18	-	0.00	92.18
16MW-24	5/15/2002	102.06	9.63	92.43	-	0.00	92.43
16MW-24	6/8/2002	102.06	9.88	92.18	-	0.00	92.18
16MW-24	6/27/2002	102.06	9.84	92.22	-	0.00	92.22
16MW-24	7/16/2002	102.06	10.43	91.63	-	0.00	91.63
16MW-24	8/15/2002	102.06	10.81	91.25	-	0.00	91.25
16MW-25	3/27/2001	100.92	8.01	92.91	-	0.00	92.91
16MW-25	4/19/2001	100.92	6.20	94.72	-	0.00	94.72
16MW-25	6/6/2001	100.92	7.37	93.55	-	0.00	93.55
16MW-25	8/14/2001	100.92	8.48	92.44	8.50	0.02	92.45
16MW-25	9/14/2001	100.92	8.91	92.01	8.92	0.01	92.02
16MW-25	10/11/2001	100.92	9.08	91.84	9.10	0.02	91.85
16MW-25	11/13/2001	100.92	9.23	91.69	9.24	0.01	91.70
16MW-25	12/13/2001	100.92	9.18	91.74	9.19	0.01	91.75
16MW-25	1/8/2002	100.92	9.07	91.85	9.08	0.01	91.85
16MW-25	1/23/2002	100.92	9.11	91.81	-	0.00	91.81
16MW-25	2/28/2002	100.92	9.28	91.64	-	0.00	91.64
16MW-25	3/28/2002	100.92	8.50	92.42	8.51	0.01	92.43
16MW-25	4/23/2002	100.92	8.84	92.08	8.85	0.01	92.09
16MW-25	5/15/2002	100.92	8.57	92.35	8.58	0.01	92.36
16MW-25	6/8/2002	100.92	8.81	92.11	8.83	0.02	92.12
16MW-25	6/27/2002	100.92	8.85	92.07	8.88	0.03	92.09
16MW-25	7/16/2002	100.92	10.47	90.45	10.50	0.03	90.47
16MW-25	8/15/2002	100.92	9.76	91.16	9.79	0.03	91.19
16MW-25	9/10/2002	100.92	9.12	91.80	9.15	0.03	91.83
16MW-25	10/18/2002	100.92	8.10	92.82	8.11	0.01	92.83
16MW-25	11/14/2002	100.92	8.40	92.52	8.43	0.03	92.54
16MW-25	11/26/2002	100.92	7.95	92.97	7.99	0.04	93.00
16MW-25	12/16/2002	100.92	7.70	93.22	7.74	0.04	93.25
16MW-25	1/28/2003	100.92	7.85	93.07	7.86	0.01	93.08
16MW-25	2/26/2003	100.92	7.29	93.63	7.34	0.05	93.67
16MW-25	3/31/2003	100.92	6.98	93.94	7.00	0.02	93.96
16MW-25	4/29/2003	100.92	6.86	94.06	-	0.00	94.06
16MW-25	5/23/2003	100.92	7.26	93.66	7.29	0.03	93.68
16MW-25	6/26/2003	100.92	6.46	94.46	6.47	0.01	94.47
16MW-25	8/1/2003	100.92	7.70	93.22	7.74	0.04	93.26
16MW-25	8/26/2003	100.92	8.00	92.92	8.05	0.05	92.96
16MW-25	9/17/2003	100.92	7.68	93.24	7.70	0.02	93.25
16MW-25	10/28/2003	100.92	8.18	92.74	-	0.00	92.74
16MW-25	11/11/2003	100.92	7.98	92.94	8.01	0.03	92.96
16MW-25	12/30/2003	100.92	7.17	93.75	7.19	0.02	93.77
16MW-25	1/16/2004	100.92	7.55	93.37	7.58	0.03	93.39
16MW-25	3/24/2004	100.92	7.14	93.78	7.05	0.09	93.86

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-25	4/5/2004	100.92	6.65	94.27	6.57	0.08	94.34
16MW-25	5/5/2004	100.92	6.60	94.32	6.46	0.14	94.44
16MW-25	6/29/2004	100.92	7.94	92.98	7.88	0.06	93.03
16MW-25	7/27/2004	100.92	7.50	93.42	-	0.00	93.42
16MW-25	8/18/2004	100.92	8.06	92.86	8.05	0.01	92.87
16MW-26	3/27/2001	101.67	8.52	93.15	8.53	0.01	93.15
16MW-26	4/19/2001	101.67	5.82	95.85	-	0.00	95.85
16MW-26	5/11/2001	101.67	8.41	93.26	8.42	0.01	93.26
16MW-26	6/6/2001	101.67	7.45	94.22	-	0.00	94.22
16MW-26	8/14/2001	101.67	9.22	92.45	-	0.00	92.45
16MW-26	9/14/2001	101.67	9.90	91.77	-	0.00	91.77
16MW-26	10/11/2001	101.67	9.08	92.59	-	0.00	92.59
16MW-26	11/13/2001	101.67	10.38	91.29	-	0.00	91.29
16MW-26	12/13/2001	101.67	9.97	91.70	9.98	0.01	91.70
16MW-26	6/8/2002	101.67	7.50	94.17	-	0.00	94.17
16MW-26	6/27/2002	101.67	6.40	95.27	-	0.00	95.27
16MW-26	8/15/2002	101.67	10.21	91.46	-	0.00	91.46
16MW-26	10/18/2002	101.57	6.00	95.57	-	0.00	95.57
16MW-26	11/14/2002	101.57	6.09	95.48	-	0.00	95.48
16MW-26	11/26/2002	101.57	6.11	95.46	-	0.00	95.46
16MW-26	12/16/2002	101.67	5.56	96.11	-	0.00	96.11
16MW-26	1/28/2003	101.67	7.55	94.12	-	0.00	94.12
16MW-26	2/26/2003	101.67	0.00	101.67	-	0.00	101.67
16MW-26	5/23/2003	101.67	8.10	93.57	-	0.00	93.57
16MW-26	6/26/2003	101.67	4.16	97.51	-	0.00	97.51
16MW-26	8/1/2003	101.67	7.10	94.57	-	0.00	94.57
16MW-26	8/26/2003	101.67	6.80	94.87	-	0.00	94.87
16MW-26	9/17/2003	101.67	6.29	95.38	-	0.00	95.38
16MW-26	10/28/2003	101.67	7.65	94.02	-	0.00	94.02
16MW-26	11/11/2003	101.67	4.98	96.69	-	0.00	96.69
16MW-26	12/30/2003	101.67	4.15	97.52	-	0.00	97.52
16MW-26	2/18/2004	101.67	5.13	96.54	-	0.00	96.54
16MW-26	3/24/2004	101.67	4.35	97.32	-	0.00	97.32
16MW-26	4/5/2004	101.67	3.59	98.08	-	0.00	98.08
16MW-26	5/5/2004	101.67	4.35	97.32	-	0.00	97.32
16MW-26	6/29/2004	101.67	8.64	93.03	-	0.00	93.03
16MW-26	7/27/2004	101.67	8.00	93.67	-	0.00	93.67
16MW-26	8/18/2004	101.67	5.45	96.22	-	0.00	96.22
16MW-27	3/27/2001	100.80	10.22	90.58	10.80	0.58	91.07
16MW-27	4/19/2001	100.80	9.53	91.27	10.32	0.79	91.95
16MW-27	5/11/2001	100.80	9.63	91.17	10.29	0.66	91.73
16MW-27	6/6/2001	100.80	9.23	91.57	9.78	0.55	92.04
16MW-27	8/14/2001	100.80	9.22	91.58	9.47	0.25	91.79
16MW-27	9/14/2001	100.80	9.67	91.13	9.92	0.25	91.34
16MW-27	10/11/2001	100.80	9.48	91.32	9.63	0.15	91.45
16MW-27	11/13/2001	100.80	10.26	90.54	10.59	0.33	90.82
16MW-27	12/13/2001	100.80	9.79	91.01	10.01	0.22	91.19

APPENDIX B
NAVAL WEAPONS STATION EARLE
BIOSLURPER UNITS
GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-27	1/8/2002	100.80	10.55	90.25	10.95	0.40	90.59
16MW-27	1/23/2002	100.80	10.14	90.66	10.46	0.32	90.93
16MW-27	2/28/2002	100.80	10.40	90.40	10.75	0.35	90.70
16MW-27	3/28/2002	100.80	9.56	91.24	9.88	0.32	91.51
16MW-27	4/23/2002	100.80	9.92	90.88	10.26	0.34	91.17
16MW-27	5/15/2002	100.80	9.25	91.55	9.47	0.22	91.74
16MW-27	6/8/2002	100.80	9.15	91.65	9.26	0.11	91.75
16MW-27	6/27/2002	100.80	9.00	91.80	9.08	0.08	91.86
16MW-27	7/16/2002	100.80	10.36	90.44	10.69	0.33	90.72
16MW-27	8/15/2002	100.80	10.72	90.08	11.94	1.22	91.12
16MW-27	9/10/2002	100.80	7.35	93.45	-	0.00	93.45
16MW-27	10/18/2002	100.80	8.65	92.15	8.79	0.14	92.27
16MW-27	11/14/2002	100.80	8.80	92.00	8.95	0.15	92.12
16MW-27	11/26/2002	100.80	8.70	92.10	8.91	0.21	92.28
16MW-27	12/16/2002	100.80	0.00	100.80	-	0.00	100.80
16MW-27	1/28/2003	100.80	7.65	93.15	7.70	0.05	93.19
16MW-27	2/26/2003	100.80	7.95	92.85	8.24	0.29	93.10
16MW-27	3/31/2003	100.80	7.25	93.55	7.32	0.07	93.61
16MW-27	4/29/2003	100.80	7.10	93.70	7.15	0.05	93.74
16MW-27	5/23/2003	100.80	7.46	93.34	7.56	0.10	93.43
16MW-27	6/26/2003	100.80	6.51	94.29	6.61	0.10	94.38
16MW-27	8/1/2003	100.80	8.16	92.64	8.41	0.25	92.85
16MW-27	8/26/2003	100.80	8.10	92.70	8.19	0.09	92.77
16MW-27	9/17/2003	100.80	7.94	92.86	7.96	0.02	92.88
16MW-27	10/28/2003	100.80	8.25	92.55	8.36	0.11	92.65
16MW-27	12/30/2003	100.80	7.00	93.80	7.06	0.06	93.85
16MW-27	1/16/2004	100.80	7.64	93.16	7.79	0.15	93.29
16MW-27	2/18/2004	100.80	7.25	93.55	7.26	0.01	93.56
16MW-27	4/5/2004	100.80	7.18	93.62	6.75	0.43	93.99
16MW-27	5/5/2004	100.80	7.50	93.30	6.39	1.11	94.25
16MW-27	6/29/2004	100.80	8.08	92.72	7.76	0.32	92.99
16MW-27	7/27/2004	100.80	7.60	93.20	7.50	0.10	93.29
16MW-27	8/18/2004	100.80	8.23	92.57	7.92	0.31	92.83
16MW-28	3/27/2001	100.62	7.46	93.16	-	0.00	93.16
16MW-28	4/19/2001	100.62	7.85	92.77	7.86	0.01	92.78
16MW-28	5/11/2001	100.62	7.16	93.46	7.82	0.66	94.02
16MW-28	6/6/2001	100.62	7.28	93.34	-	0.00	93.34
16MW-28	8/14/2001	100.62	8.27	92.35	-	0.00	92.35
16MW-28	9/14/2001	100.62	8.62	92.00	-	0.00	92.00
16MW-28	10/11/2001	100.62	8.81	91.81	-	0.00	91.81
16MW-28	11/13/2001	100.62	8.94	91.68	-	0.00	91.68
16MW-28	12/13/2001	100.62	8.87	91.75	-	0.00	91.75
16MW-28	1/8/2002	100.62	9.00	91.62	-	0.00	91.62
16MW-28	1/23/2002	100.62	8.84	91.78	-	0.00	91.78
16MW-28	2/28/2002	100.62	9.01	91.61	-	0.00	91.61
16MW-28	3/28/2002	100.62	8.30	92.32	-	0.00	92.32
16MW-28	4/23/2002	100.62	8.56	92.06	-	0.00	92.06
16MW-28	5/15/2002	100.62	8.29	92.33	-	0.00	92.33

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
16MW-28	6/8/2002	100.62	8.55	92.07	-	0.00	92.07
16MW-28	7/16/2002	100.62	9.11	91.51	-	0.00	91.51
16MW-28	8/15/2002	100.62	9.48	91.14	-	0.00	91.14
16MW-28	9/10/2002	100.62	8.75	91.87	-	0.00	91.87
16MW-28	10/18/2002	100.62	7.80	92.82	-	0.00	92.82
16MW-28	11/14/2002	100.62	7.85	92.77	-	0.00	92.77
16MW-28	11/26/2002	100.62	7.60	93.02	-	0.00	93.02
16MW-28	12/16/2002	100.62	7.30	93.32	-	0.00	93.32
16MW-28	1/28/2003	100.62	7.40	93.22	-	0.00	93.22
16MW-28	2/26/2003	100.62	7.00	93.62	-	0.00	93.62
16MW-28	3/31/2003	100.62	6.85	93.77	-	0.00	93.77
16MW-28	4/29/2003	100.62	6.65	93.97	-	0.00	93.97
16MW-28	5/23/2003	100.62	7.25	93.37	-	0.00	93.37
16MW-28	9/17/2003	100.62	7.78	92.84	-	0.00	92.84
16MW-28	12/30/2003	100.62	6.78	93.84	-	0.00	93.84
16MW-28	2/18/2004	100.62	7.00	93.62	-	0.00	93.62
16MW-28	3/24/2004	100.62	6.76	93.86	-	0.00	93.86
16MW-28	4/5/2004	100.62	6.02	94.60	-	0.00	94.60
16MW-28	5/5/2004	100.62	6.20	94.42	-	0.00	94.42
16MW-28	6/29/2004	100.62	7.67	92.95	-	0.00	92.95
16MW-28	7/27/2004	100.62	7.50	93.12	-	0.00	93.12
16MW-28	8/18/2004	100.62	7.05	93.57	-	0.00	93.57
C17MW-07	10/6/1997	100.16	12.03	88.13	13.31	1.28	89.22
C17MW-07	12/12/1997	100.16	11.69	88.47	12.95	1.26	89.54
C17MW-07	1/7/1998	100.16	11.78	88.38	13.20	1.42	89.59
C17MW-07	1/15/1998	100.16	7.95	92.21	8.27	0.32	92.48
C17MW-07	2/10/1998	100.16	9.05	91.11	9.89	0.84	91.82
C17MW-07	2/24/1998	100.16	6.00	94.16	6.15	0.15	94.29
C17MW-07	3/3/1998	100.16	5.89	94.27	6.38	0.49	94.69
C17MW-07	3/12/1998	100.16	5.99	94.17	6.17	0.18	94.32
C17MW-07	3/13/1998	100.16	5.96	94.20	6.10	0.14	94.32
C17MW-07	3/26/1998	100.16	5.35	94.81	5.36	0.01	94.82
C17MW-07	4/3/1998	100.16	5.90	94.26	5.99	0.09	94.34
C17MW-07	4/9/1998	100.16	6.02	94.14	6.10	0.08	94.21
C17MW-07	4/17/1998	100.16	5.99	94.17	6.11	0.12	94.27
C17MW-07	4/24/1998	100.16	5.90	94.26	6.03	0.13	94.37
C17MW-07	5/5/1998	100.16	6.50	93.66	6.78	0.28	93.94
C17MW-07	5/15/1998	100.16	5.50	94.66	5.72	0.22	94.85
C17MW-07	7/30/1998	100.16	10.61	89.55	11.73	1.12	90.50
C17MW-07	8/7/1998	100.16	7.80	92.36	8.05	0.25	92.57
C17MW-07	8/13/1998	100.16	7.61	92.55	7.72	0.11	92.65
C17MW-07	8/21/1998	100.16	7.27	92.89	7.39	0.11	92.98
C17MW-07	9/3/1998	100.16	7.76	92.40	7.91	0.15	92.53
C17MW-07	9/10/1998	100.16	7.42	92.75	7.50	0.09	92.82
C17MW-07	10/2/1998	100.16	8.16	92.00	8.37	0.21	92.17
C17MW-07	10/20/1998	100.16	7.88	92.28	7.98	0.10	92.37
C17MW-07	12/3/1998	100.16	7.96	92.20	8.04	0.08	92.27
C17MW-07	12/30/1998	100.16	8.03	92.13	8.15	0.12	92.23

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Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
C17MW-07	1/26/1999	100.16	6.65	93.51	6.75	0.10	93.59
C17MW-07	2/10/1999	100.16	7.20	92.96	7.37	0.17	93.11
C17MW-07	3/9/1999	100.16	6.95	93.21	7.06	0.11	93.31
C17MW-07	3/19/1999	100.16	6.46	93.70	6.54	0.08	93.77
C17MW-07	4/20/1999	100.16	6.92	93.24	7.03	0.11	93.33
C17MW-07	5/7/1999	100.16	7.00	93.16	7.08	0.08	93.22
C17MW-07	6/1/1999	100.16	7.61	92.55	7.75	0.14	92.67
C17MW-07	6/9/1999	100.16	7.20	92.96	-	0.00	92.96
C17MW-07	6/9/1999	100.16	8.39	91.77	8.67	0.28	92.00
C17MW-07	6/10/1999	100.16	7.93	92.23	8.06	0.13	92.34
C17MW-07	6/14/1999	100.16	8.25	91.91	8.47	0.22	92.10
C17MW-07	6/22/1999	100.16	8.55	91.61	8.87	0.32	91.88
C17MW-07	7/29/1999	100.16	10.40	89.76	11.00	0.60	90.27
C17MW-07	8/3/1999	100.16	10.62	89.54	11.25	0.63	90.08
C17MW-07	8/13/1999	100.16	10.96	89.20	11.66	0.70	89.80
C17MW-07	9/3/1999	100.16	8.37	91.79	8.41	0.04	91.83
C17MW-07	9/15/1999	100.16	9.37	90.79	9.66	0.29	90.81
C17MW-07	10/26/1999	100.16	11.04	89.12	12.06	1.02	89.99
C17MW-07	11/2/1999	100.16	10.99	89.17	11.92	0.93	89.96
C17MW-07	11/18/1999	100.16	8.56	91.60	8.73	0.17	91.74
C17MW-07	12/1/1999	100.16	8.45	91.71	8.64	0.19	91.87
C17MW-07	12/31/1999	100.16	8.30	91.86	8.52	0.22	92.05
C17MW-07	1/26/2000	100.16	8.20	91.96	8.32	0.12	92.06
C17MW-07	2/18/2000	100.16	7.47	92.69	7.50	0.03	92.72
C17MW-07	4/17/2000	100.16	7.38	92.78	7.46	0.08	92.85
C17MW-07	5/4/2000	100.16	7.92	92.24	7.98	0.06	92.29
C17MW-07	8/9/2000	100.16	7.07	93.09	7.13	0.06	93.14
C17MW-07	8/24/2000	100.16	7.50	92.66	7.52	0.02	92.68
C17MW-07	10/26/2000	100.16	8.08	92.08	8.14	0.06	92.13
C17MW-07	11/28/2000	100.16	8.00	92.16	8.16	0.16	92.29
C17MW-07	1/16/2001	100.16	8.10	92.06	8.30	0.20	92.23
C17MW-07	2/27/2001	100.16	6.42	93.74	6.43	0.01	93.74
C17MW-07	3/27/2001	100.16	6.25	93.91	6.29	0.04	93.95
C17MW-07	4/19/2001	100.16	6.44	93.72	6.58	0.14	93.84
C17MW-07	5/11/2001	100.16	7.19	92.97	7.34	0.15	93.10
C17MW-07	6/6/2001	100.16	7.57	92.59	7.76	0.19	92.75
C17MW-07	8/14/2001	100.16	8.96	91.20	9.33	0.37	91.52
C17MW-07	9/14/2001	100.16	8.76	91.40	8.94	0.18	91.55
C17MW-07	10/11/2001	100.16	8.36	91.80	8.40	0.04	91.83
C17MW-07	11/13/2001	100.16	8.91	91.25	9.06	0.15	91.38
C17MW-07	12/13/2001	100.16	8.93	91.23	9.14	0.21	91.40
C17MW-07	1/8/2002	100.16	9.38	90.78	9.76	0.38	91.11
C17MW-07	1/23/2002	100.16	9.70	90.46	10.17	0.47	90.86
C17MW-07	2/28/2002	100.16	9.21	90.95	9.47	0.26	91.17
C17MW-07	3/28/2002	100.16	8.30	91.86	8.68	0.38	92.18
C17MW-07	4/23/2002	100.16	8.70	91.46	8.98	0.28	91.70
C17MW-07	5/15/2002	100.16	8.50	91.66	8.84	0.34	91.95
C17MW-07	6/8/2002	100.16	8.80	91.36	9.14	0.34	91.65
C17MW-07	6/27/2002	100.16	8.80	91.36	9.15	0.35	91.66

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NAVAL WEAPONS STATION EARLE
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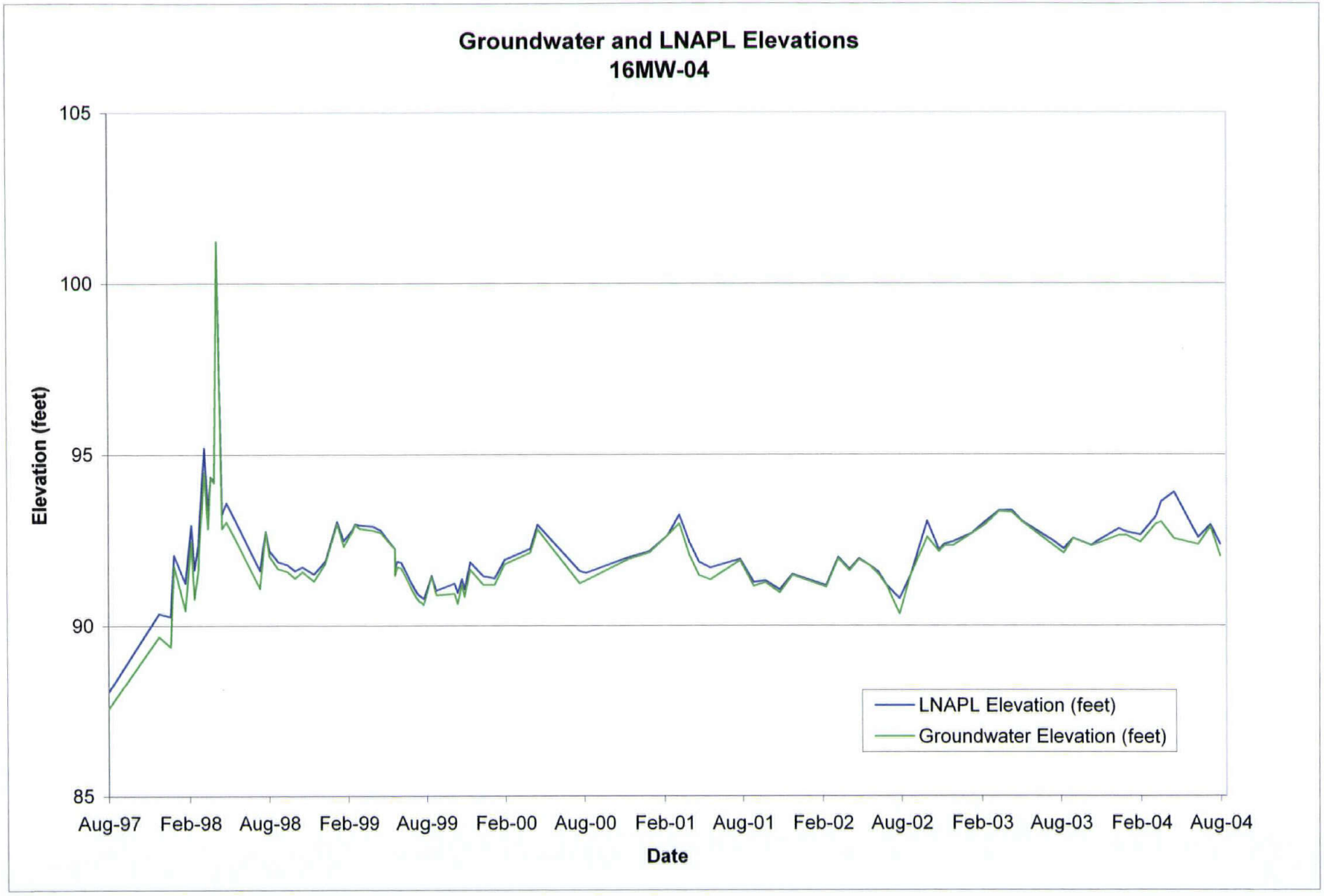
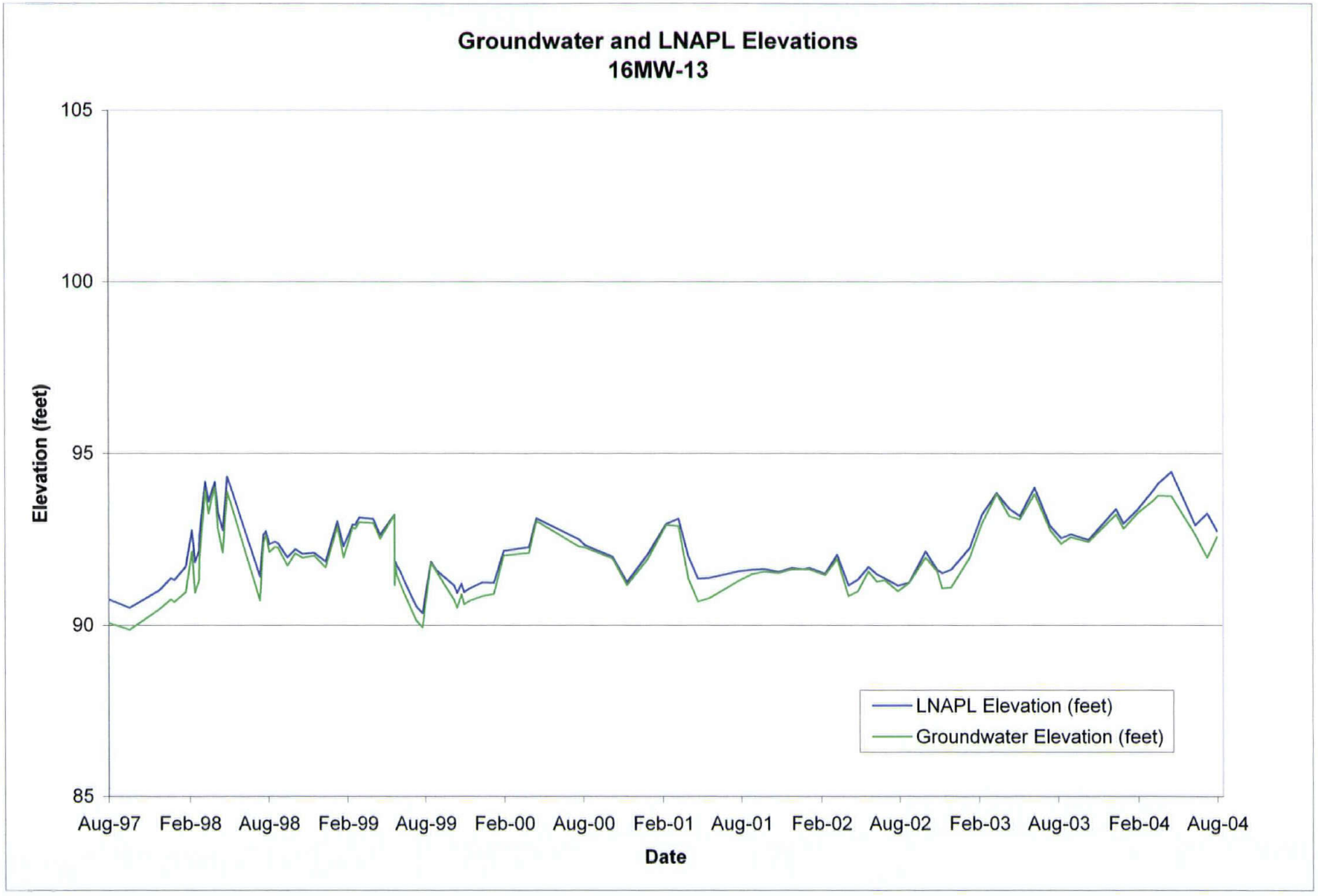
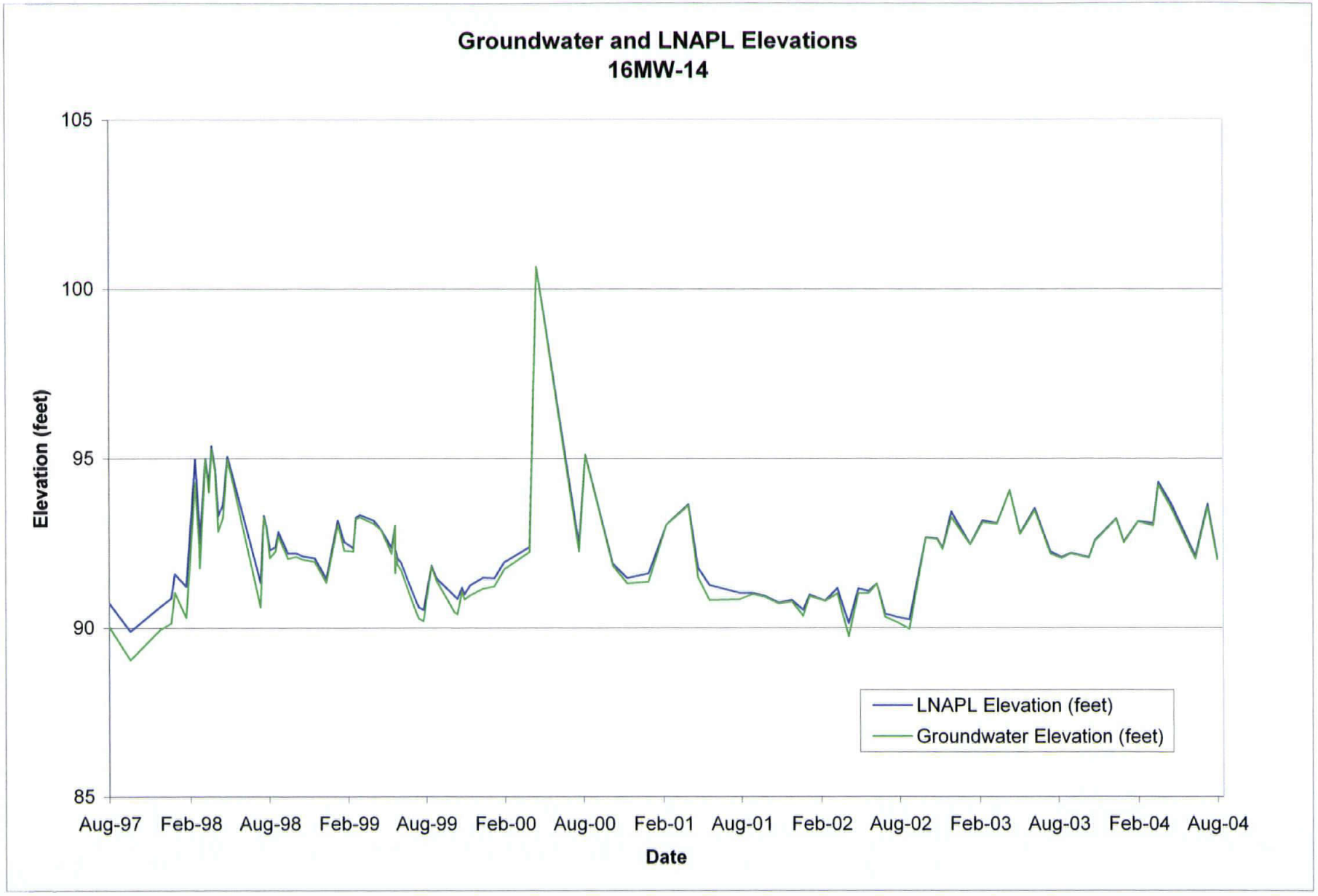
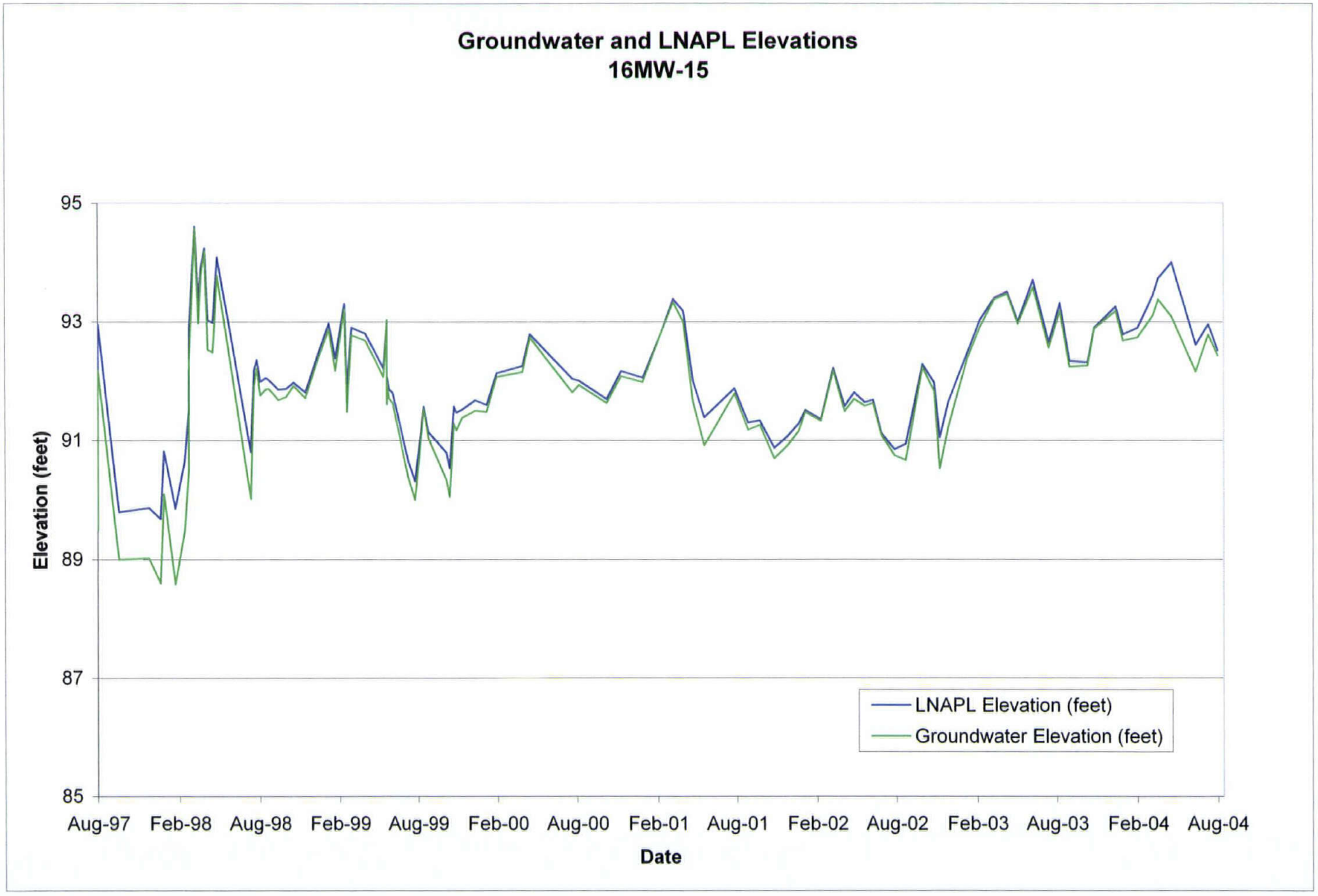
GROUNDWATER LEVEL AND LNAPL THICKNESS DATA

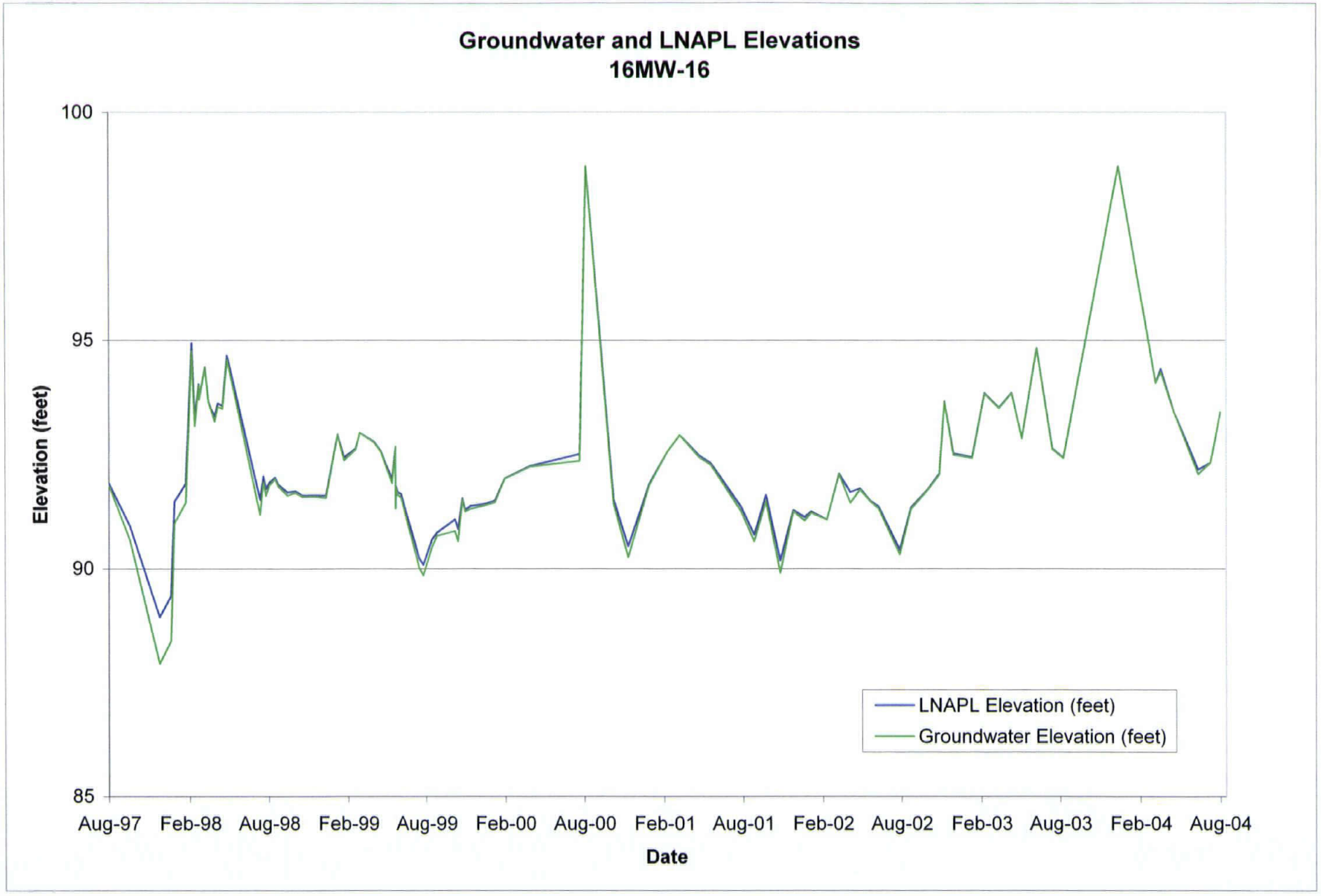
Well ID	Date	Top of Casing (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Corrected Elevation (feet)
C17MW-07	7/16/2002	100.16	8.65	91.51	8.68	0.03	91.53
C17MW-07	8/15/2002	100.16	9.53	90.63	10.23	0.70	91.23
C17MW-07	9/10/2002	100.16	8.10	92.06	8.14	0.04	92.10
C17MW-07	10/18/2002	100.16	7.18	92.98	7.22	0.04	93.02
C17MW-07	11/14/2002	100.16	7.60	92.56	7.70	0.10	92.65
C17MW-07	11/26/2002	100.16	7.12	93.04	7.16	0.04	93.08
C17MW-07	12/16/2002	100.16	6.55	93.61	6.58	0.03	93.63
C17MW-07	1/28/2003	100.16	7.75	92.41	8.05	0.30	92.67
C17MW-07	2/26/2003	100.16	6.33	93.83	6.35	0.02	93.85
C17MW-07	3/31/2003	100.16	6.03	94.13	6.04	0.01	94.13
C17MW-07	4/29/2003	100.16	5.80	94.36	5.81	0.01	94.36
C17MW-07	5/23/2003	100.16	6.47	93.69	6.49	0.02	93.70
C17MW-07	6/26/2003	100.16	5.20	94.96	5.22	0.02	94.97
C17MW-07	8/1/2003	100.16	6.52	93.64	6.54	0.02	93.66
C17MW-07	8/26/2003	100.16	6.73	93.43	6.76	0.03	93.45
C17MW-07	9/17/2003	100.16	6.71	93.45	6.72	0.01	93.46
C17MW-07	10/28/2003	100.16	7.20	92.96	7.23	0.03	92.98
C17MW-07	12/30/2003	100.16	5.32	94.84	5.33	0.01	94.85
C17MW-07	2/18/2004	100.16	6.03	94.13	6.04	0.01	94.14
C17MW-07	3/24/2004	100.16	5.66	94.50	5.61	0.05	94.54
C17MW-07	4/5/2004	100.16	5.42	94.74	5.38	0.04	94.77
C17MW-07	5/5/2004	100.16	5.12	95.04	-	0.00	95.04
C17MW-07	6/29/2004	100.16	7.58	92.58	7.51	0.07	92.64
C17MW-07	7/27/2004	100.16	6.95	93.21	6.90	0.05	93.25
C17MW-07	8/18/2004	100.16	7.60	92.56	7.40	0.20	92.73

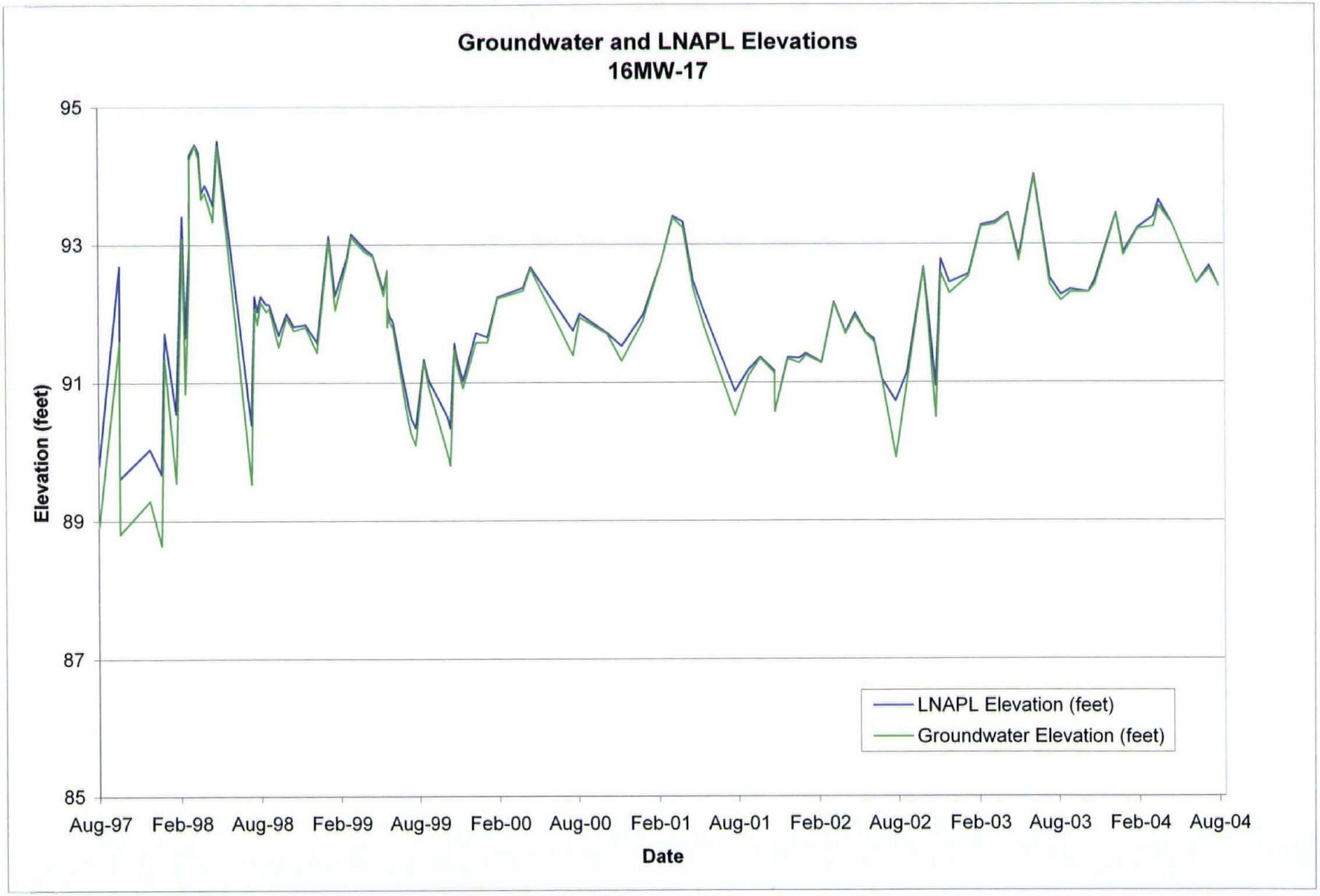

Groundwater and LNAPL Elevations
16MW-04
105
100
95
90
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

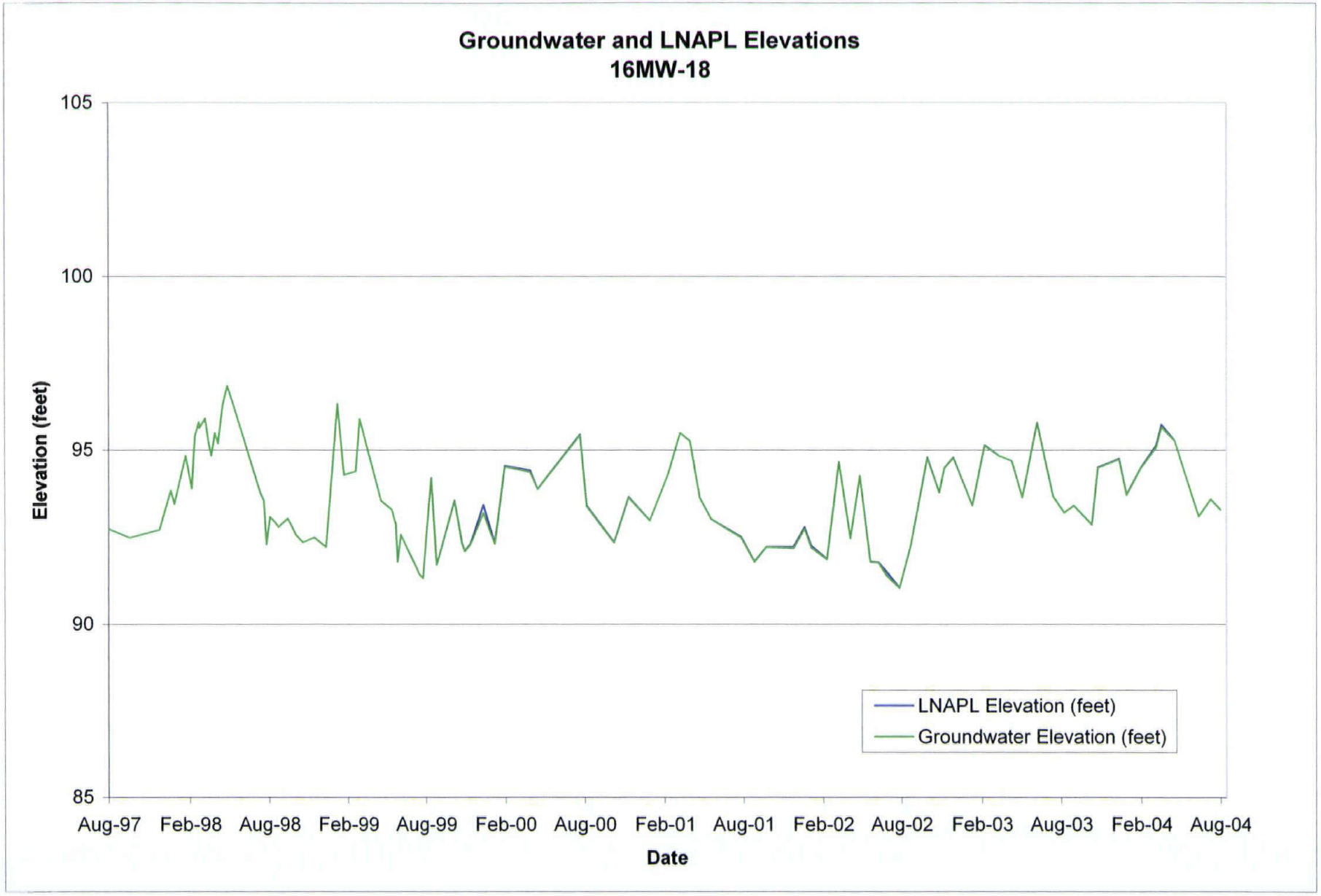

Groundwater and LNAPL Elevations
16MW-13
105
100
95
90
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

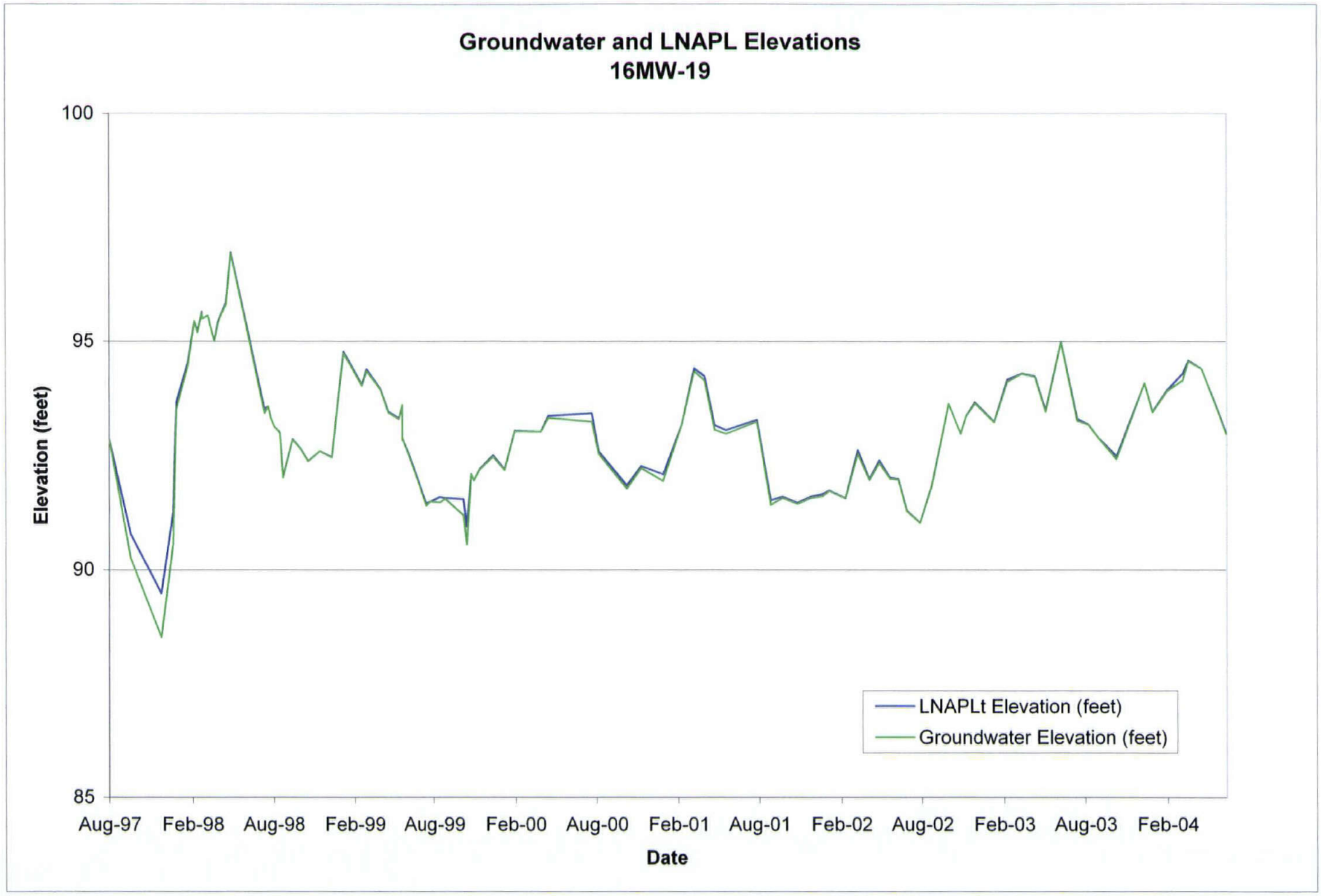

Groundwater and LNAPL Elevations
16MW-14
Elevation (feet)
105
100
95
90
85
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

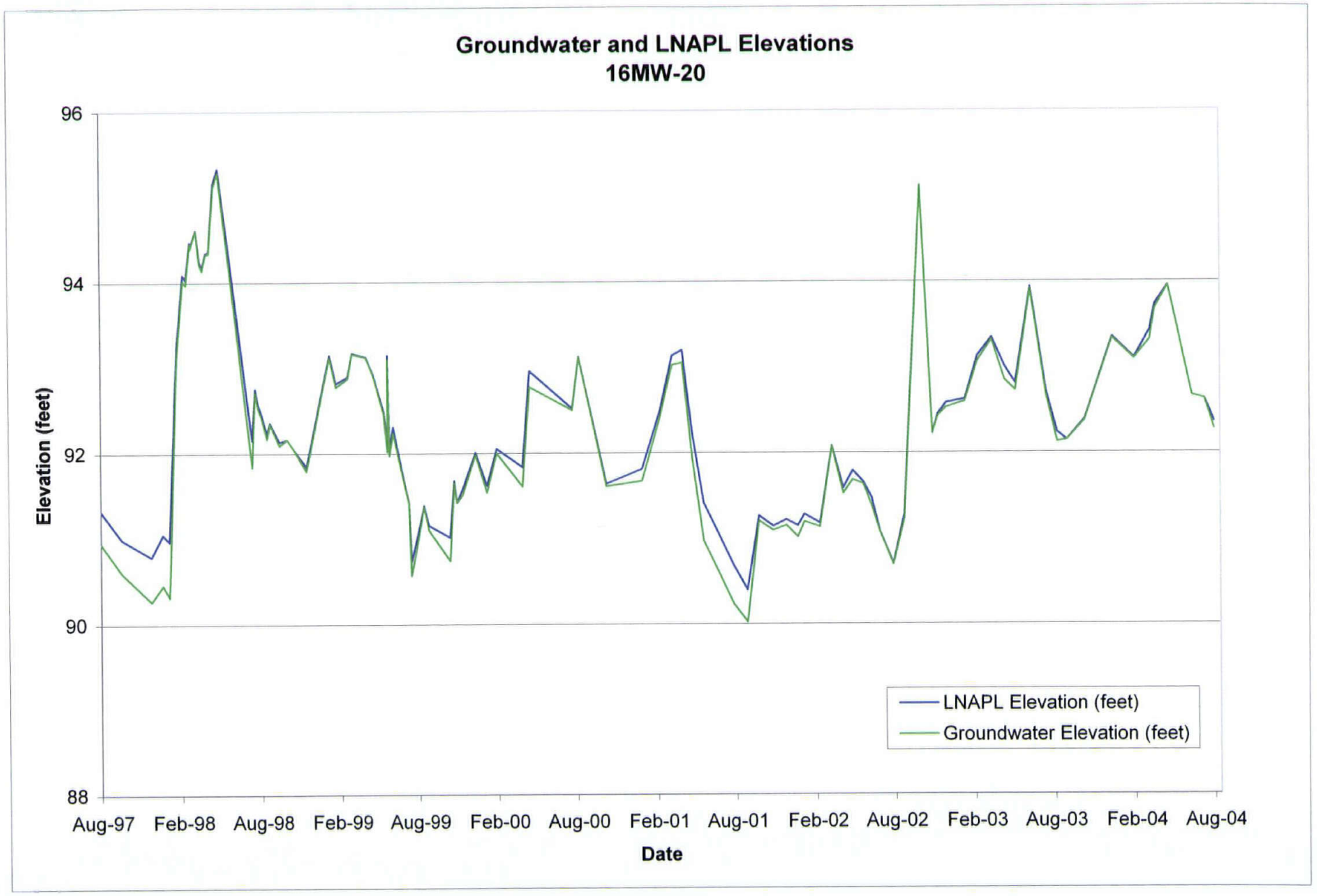

Groundwater and LNAPL Elevations
16MW-15
95
93
91
89
87
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

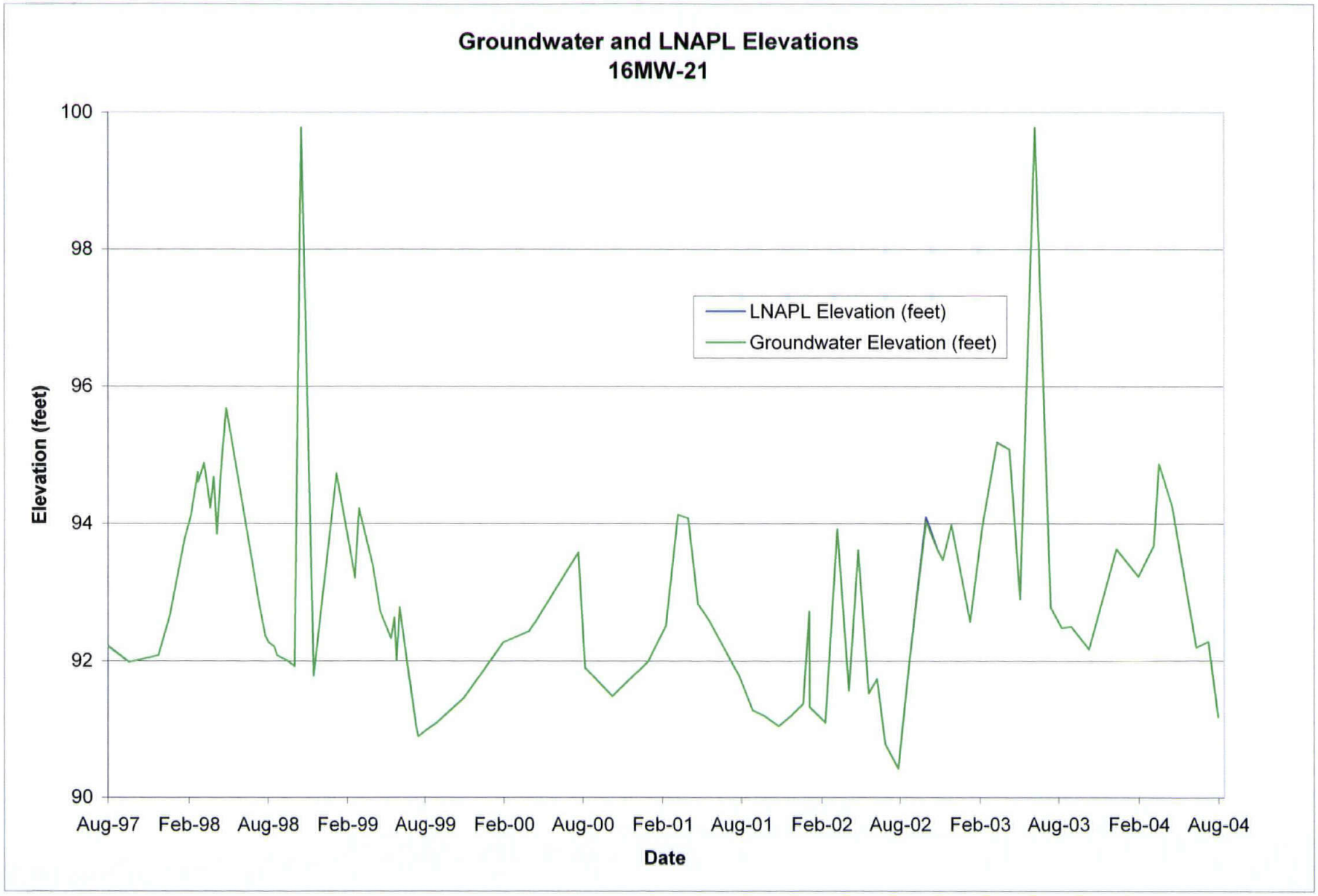

Groundwater and LNAPL Elevations
16MW-16
100
95
90
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

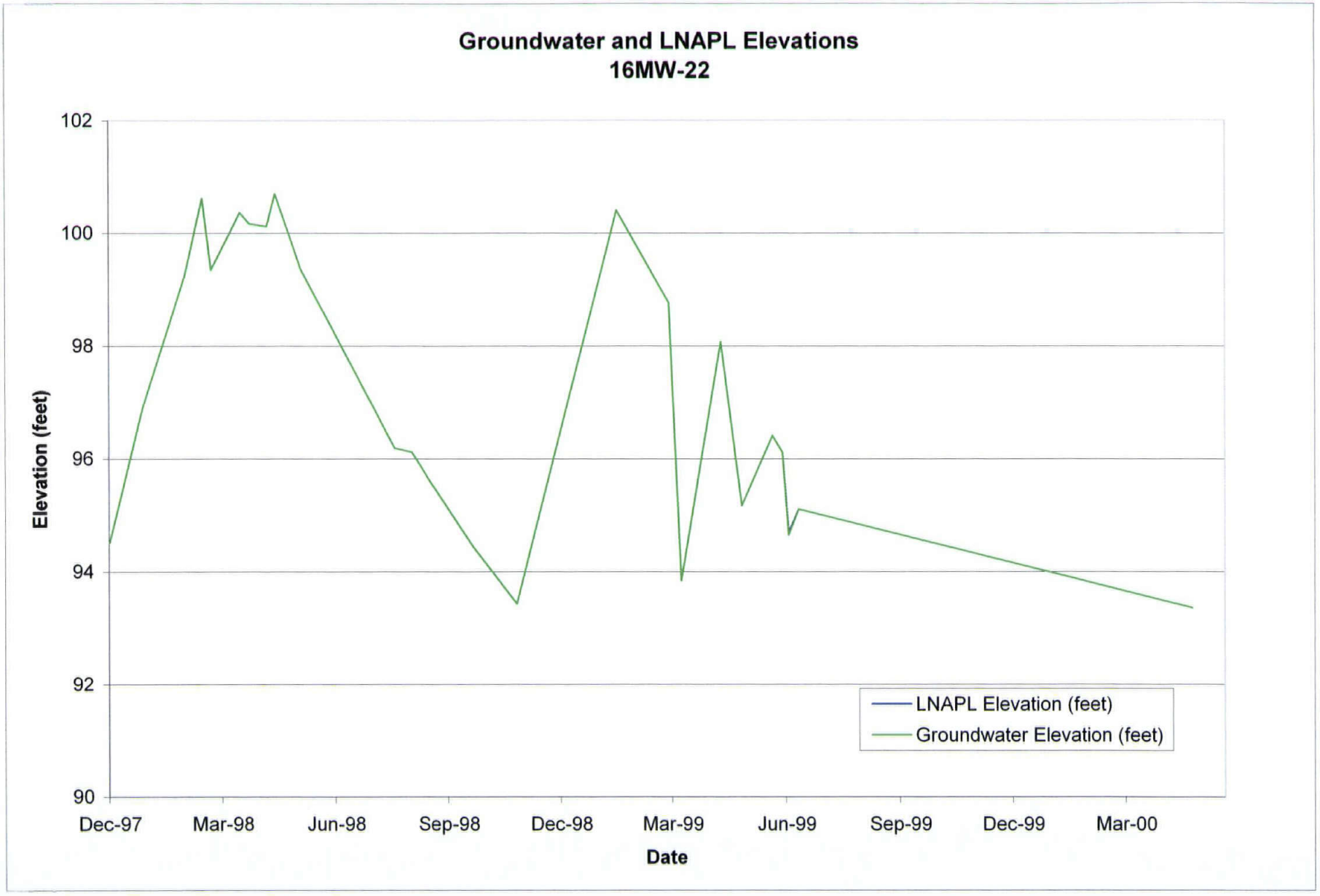

Groundwater and LNAPL Elevations
16MW-17
95
93
91
89
87
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

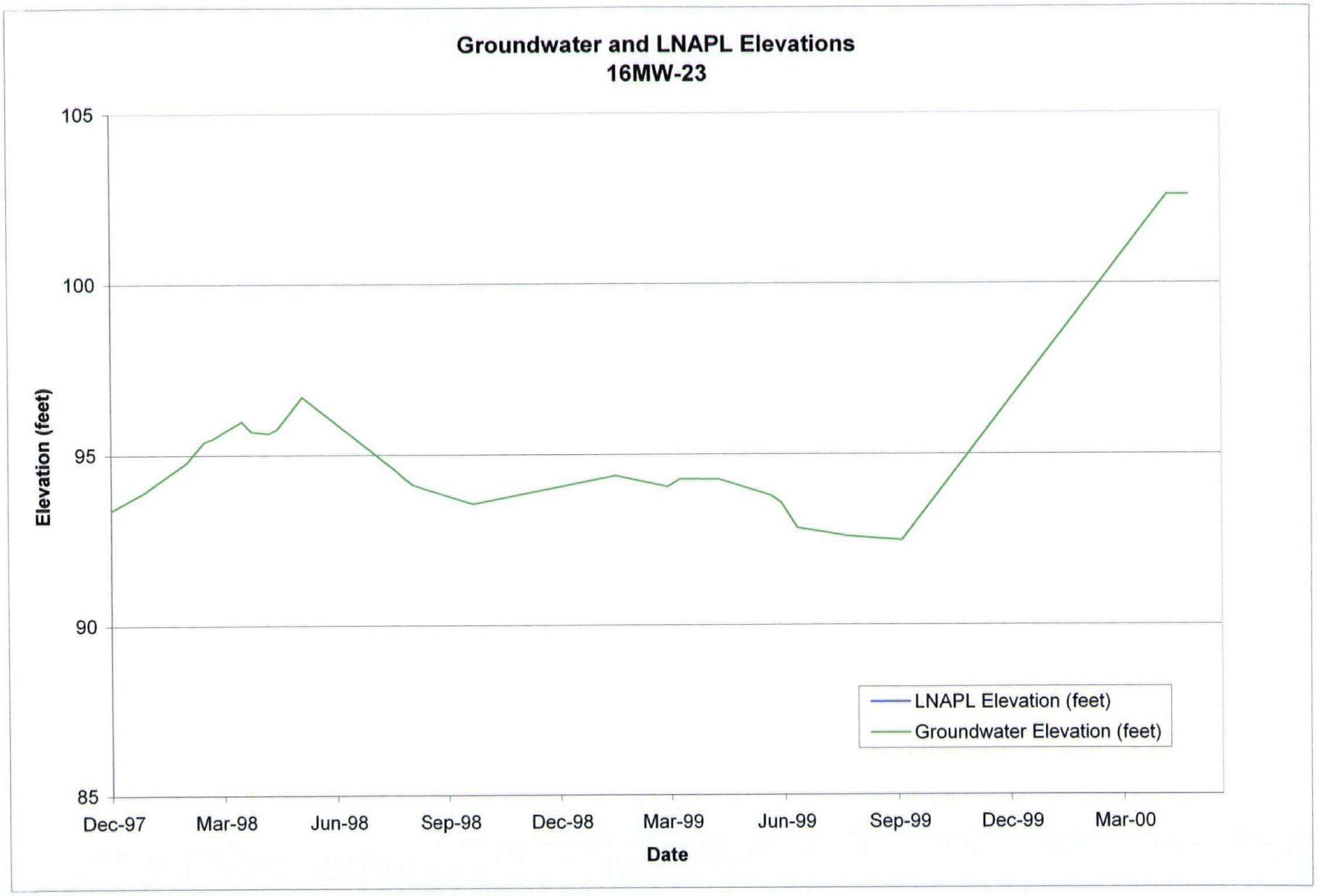

Groundwater and LNAPL Elevations
16MW-18
105
100
95
90
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

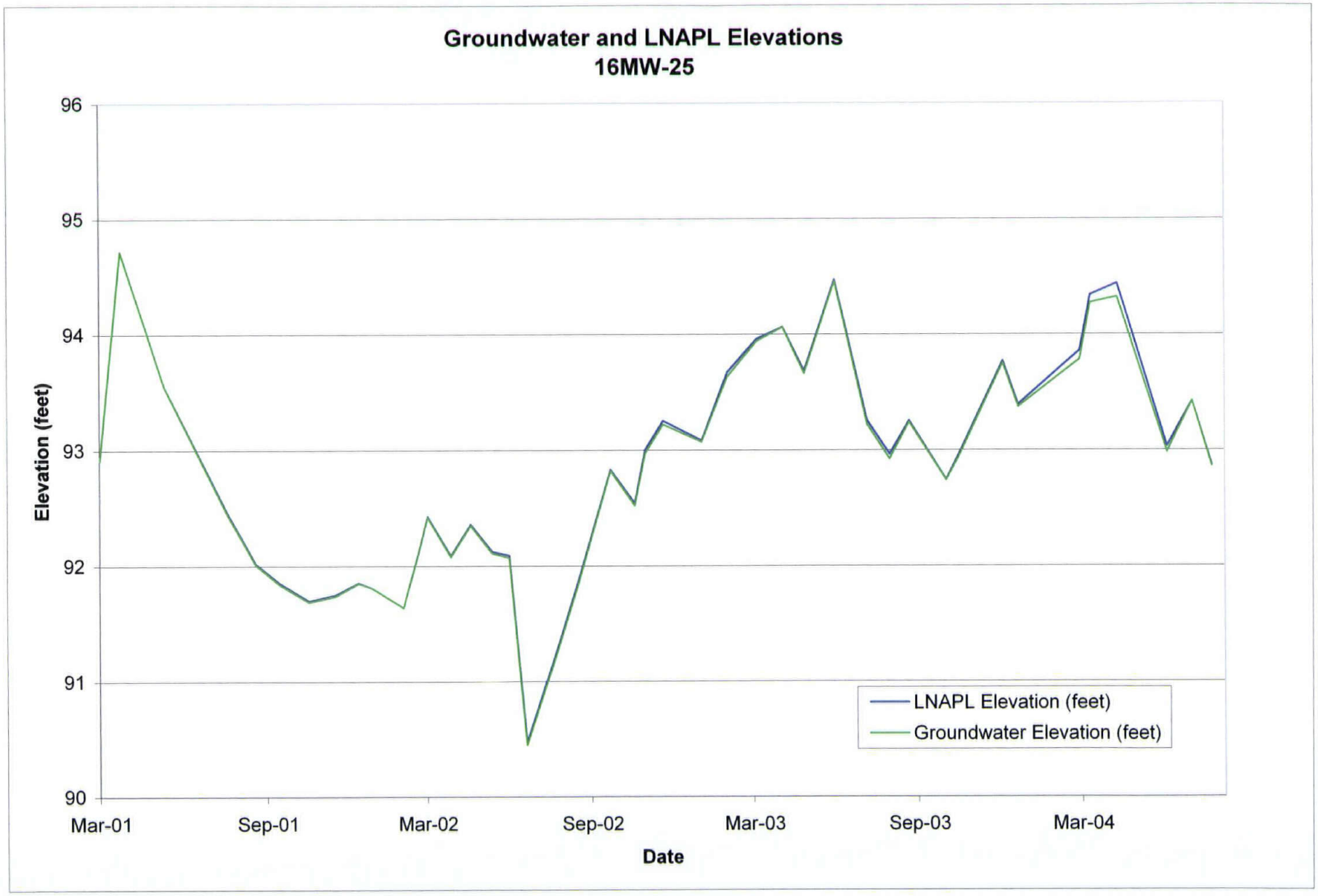

Groundwater and LNAPL Elevations
16MW-19
100
95
90
85
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Date
LNAPLt Elevation (feet)
Groundwater Elevation (feet)

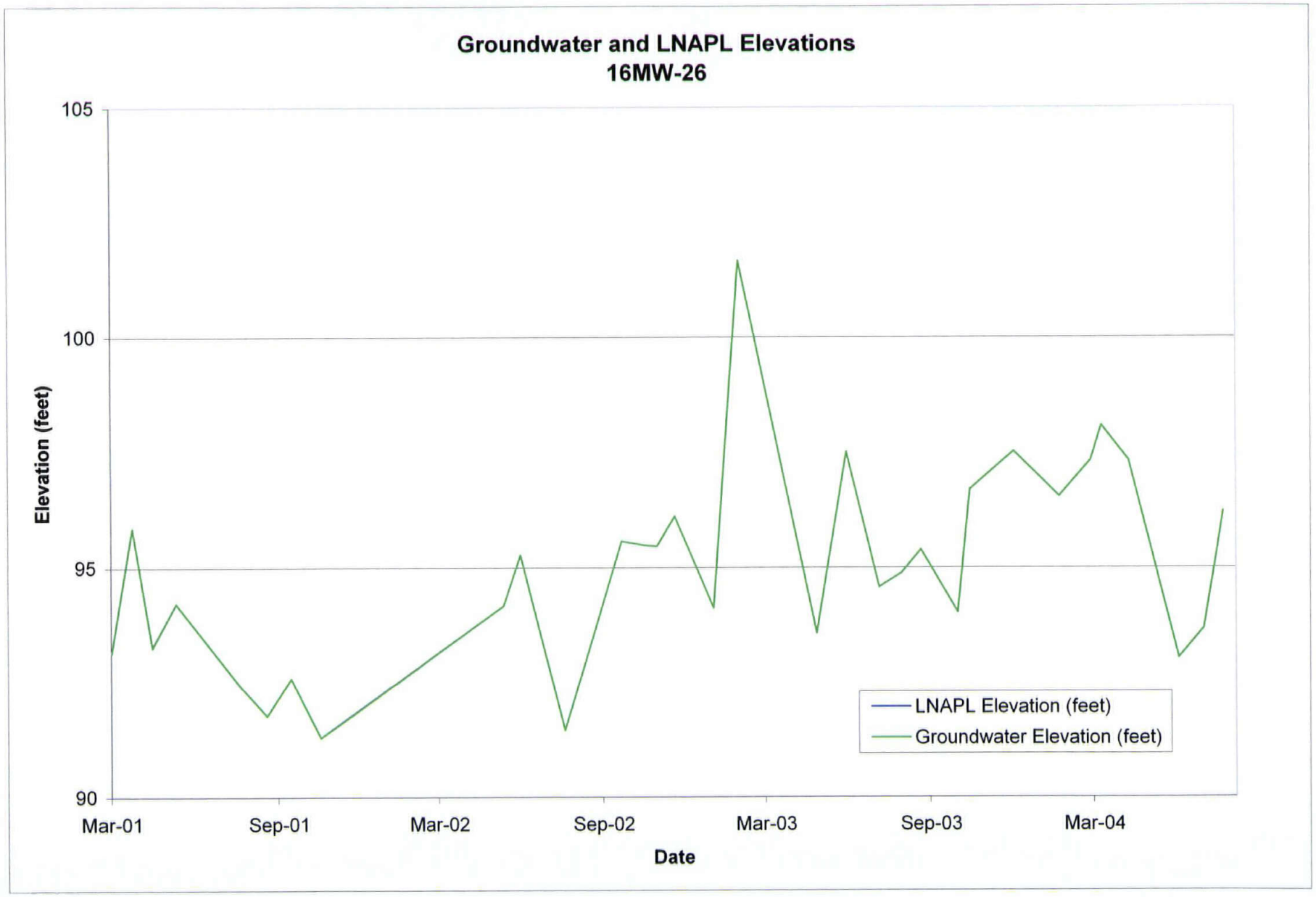

Groundwater and LNAPL Elevations
16MW-20
96
94
92
90
88
Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

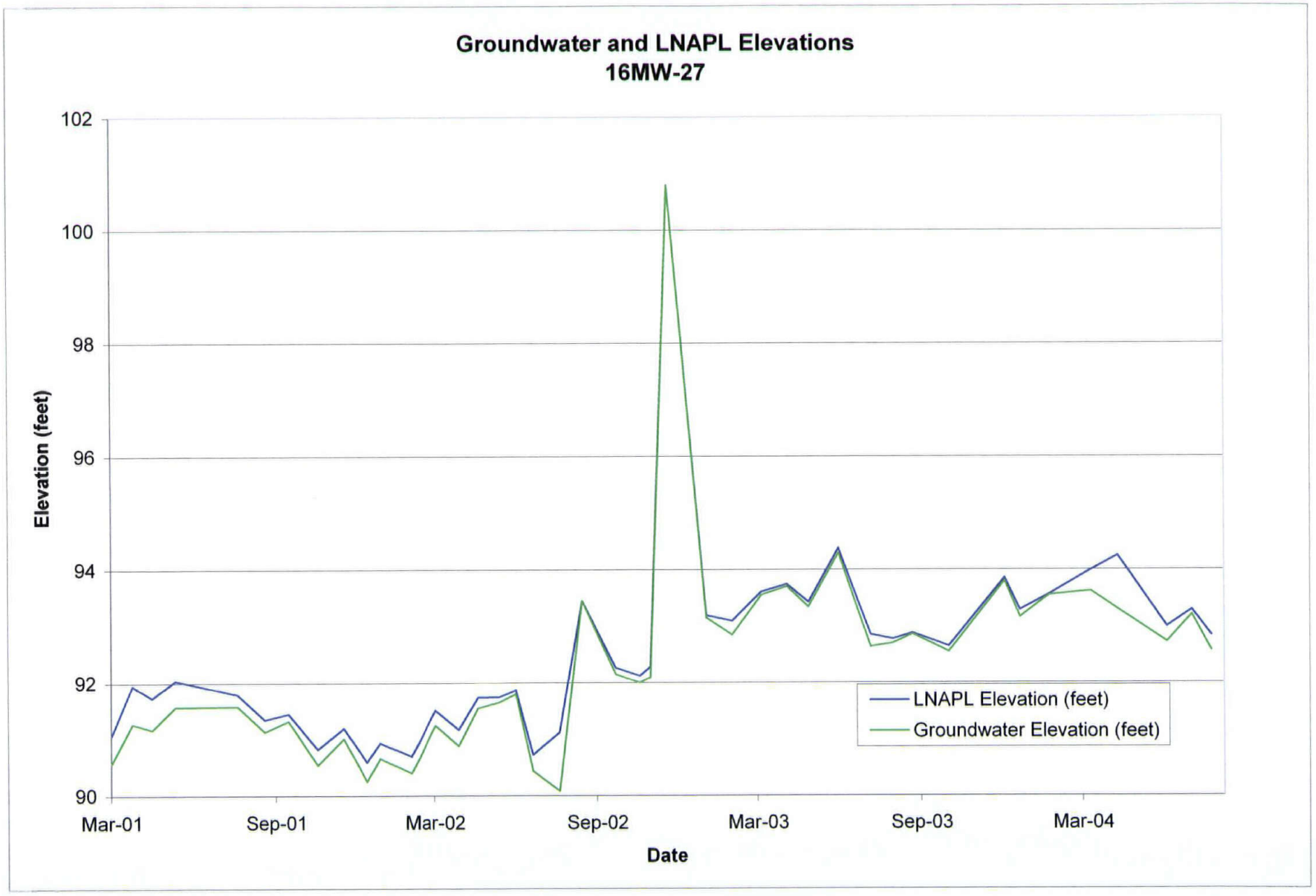

Groundwater and LNAPL Elevations
16MW-21
100
98
96
94
92
90
Elevation (feet)
LNAPL Elevation (feet)
Groundwater Elevation (feet)
Aug-97
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Date

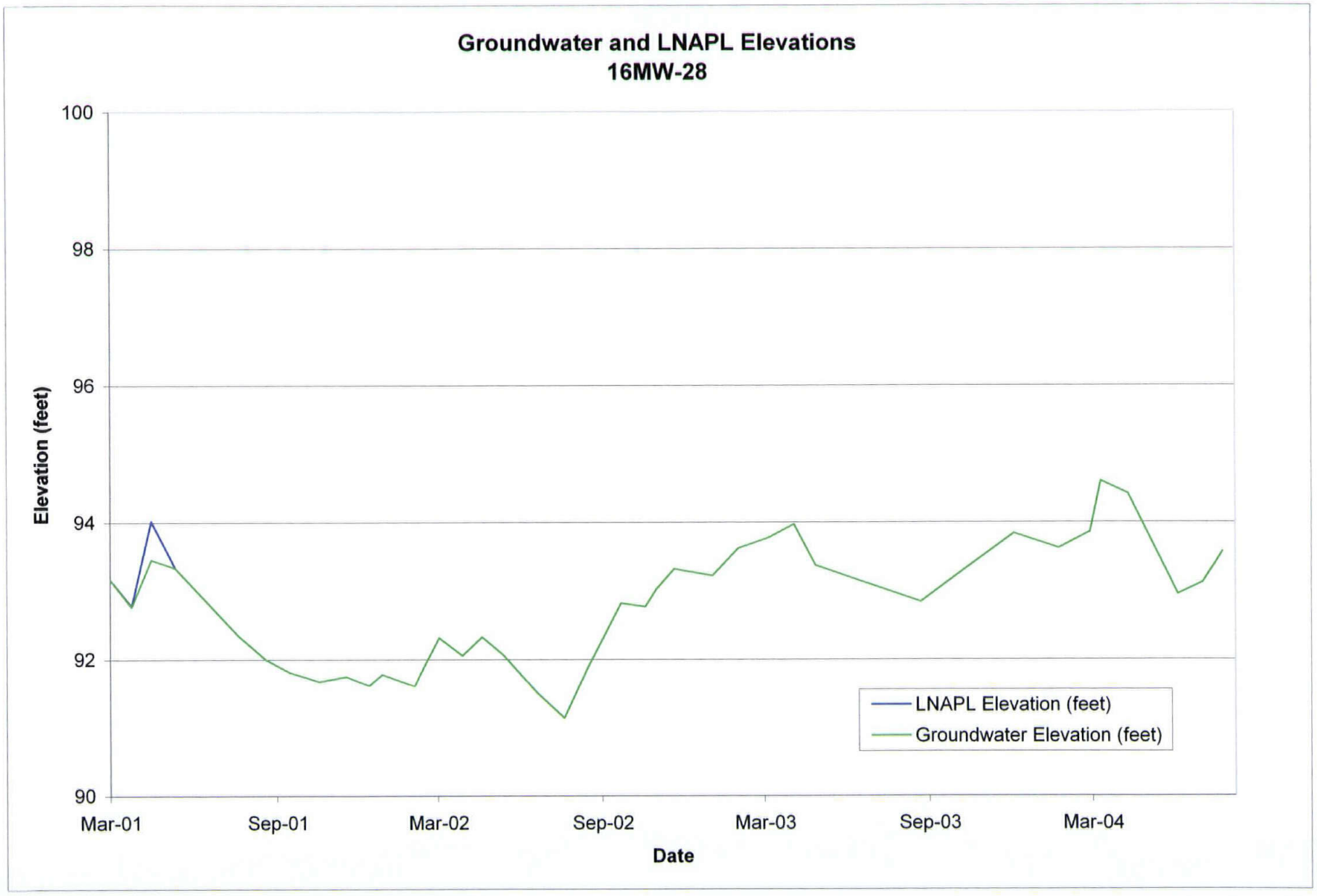

Groundwater and LNAPL Elevations
16MW-22
Elevation (feet)
102
100
98
96
94
92
90
Dec-97
Mar-98
Jun-98
Sep-98
Dec-98
Mar-99
Jun-99
Sep-99
Dec-99
Mar-00
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

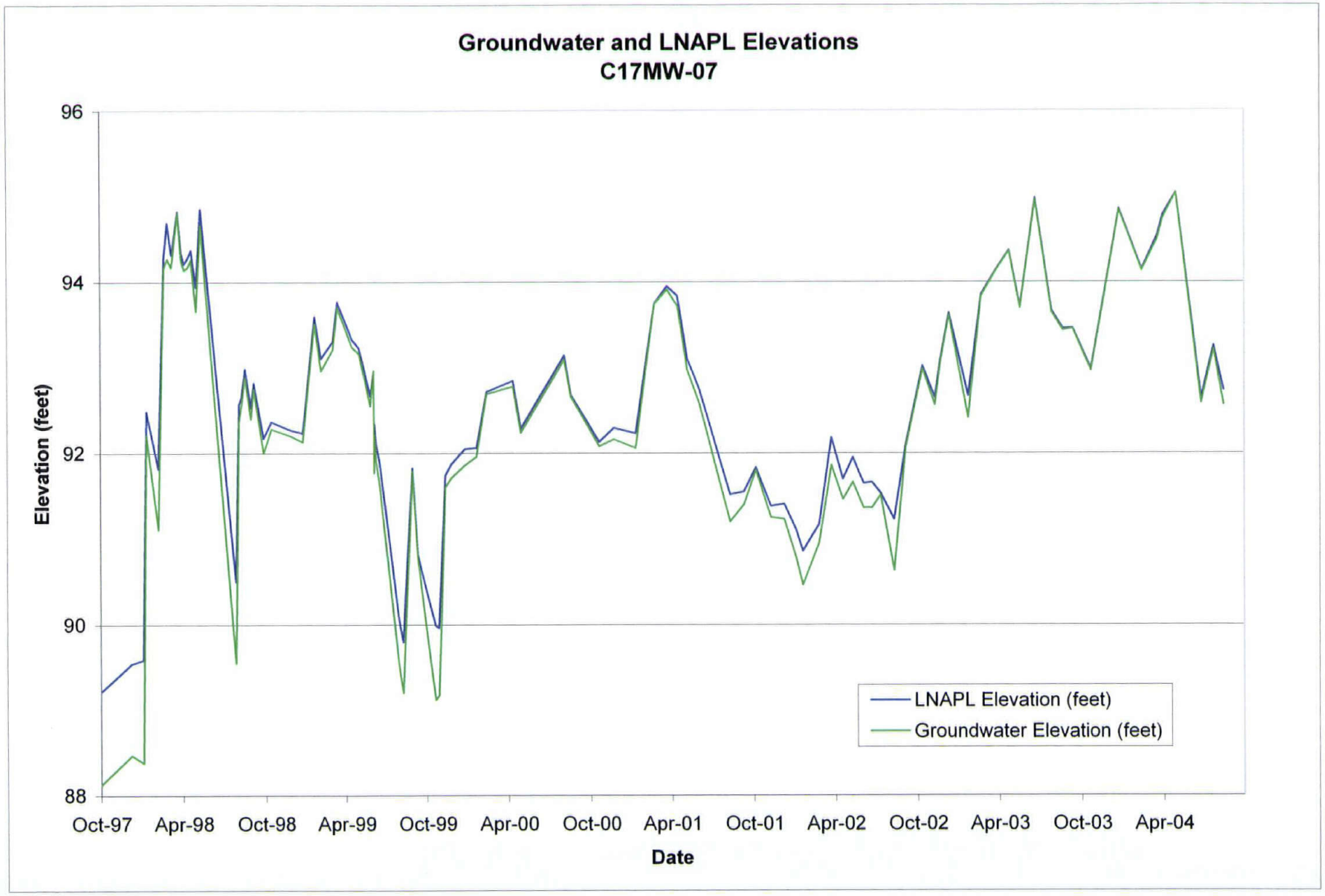

Groundwater and LNAPL Elevations
16MW-23
105
100
95
90
85
Elevation (feet)
Dec-97
Mar-98
Jun-98
Sep-98
Dec-98
Mar-99
Jun-99
Sep-99
Dec-99
Mar-00
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)


Groundwater and LNAPL Elevations
16MW-25
96
95
94
93
92
91
90
Elevation (feet)
Mar-01
Sep-01
Mar-02
Sep-02
Mar-03
Sep-03
Mar-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)


Groundwater and LNAPL Elevations
16MW-26
105
100
95
90
Elevation (feet)
Mar-01
Sep-01
Mar-02
Sep-02
Mar-03
Sep-03
Mar-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)


Groundwater and LNAPL Elevations
16MW-27
Elevation (feet)
102
100
98
96
94
92
90
Mar-01
Sep-01
Mar-02
Sep-02
Mar-03
Sep-03
Mar-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)


Groundwater and LNAPL Elevations
16MW-28
Elevation (feet)
100
98
96
94
92
90
Mar-01
Sep-01
Mar-02
Sep-02
Mar-03
Sep-03
Mar-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)


Groundwater and LNAPL Elevations
C17MW-07
96
94
92
90
88
Elevation (feet)
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Date
LNAPL Elevation (feet)
Groundwater Elevation (feet)

APPENDIX C
ANALYTICAL SUMMARY TABLES FOR VAPOR DISCHARGES AND LABORATORY ANALYTICAL DATA

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. BS #1 Final Effluent **Sample Date:** 6/16/2004 **Compound**	**Molecular Weight (lbs/lbs-mol)**	**Conversion Constant (cu. ft/lbs-mol)**	**Time Conversion (min/hr)**	**Weekly Flow Rate (cu. ft/min)**	**Compound Conc. (ppm(v))**	**Compound Emission Limit ppm(v)**	**Output Rate (lbs/hr)**	**Emission Limits (lbs/hr)**
Acetone	58.1	384.6	60.0	20.0	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	20.0	**0.000**	**7.0**	**0.00E+00**	**8.00E-03**
Toluene	92.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
m,p-Xylenes	106.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
o-Xylene	106.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	20.0	0.000	N/A	0.00E+00	
				Total Emissions:	**0.00**	**27.5**	**0.00E+00**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{(\text{Mol. Wt.})\times(\text{Time Conv.})\times(\text{Concentration})\times(\text{Flow Rate})}{(\text{Conv. Constant})\times 10^{6}}$

Note: Sample collected after carbon treatment.

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 2
Analytical Results of Air Samples

Bioslurper Unit #2

SAMPLE NO. BS #2 Final Effluent **Sample Date:** 6/16/2004 **Compound**	**Molecular Weight (lbs/lbs-mol)**	**Conversion Constant (cu. ft/lbs-mol)**	**Time Conversion (min/hr)**	**Weekly Flow Rate (cu. ft/min)**	**Compound Conc. (ppm(v))**	**Compound Emission Limit ppm(v)**	**Output Rate (lbs/hr)**	**Emission Limits (lbs/hr)**
Acetone	58.1	384.6	60.0	20.0	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	20.0	**0.081**	**7.0**	**1.97E-05**	**8.00E-03**
Toluene	92.0	384.6	60.0	20.0	0.004	N/A	1.23E-06	
Ethylbenzene	106.0	384.6	60.0	20.0	0.130	N/A	4.30E-05	
m,p-Xylenes	106.0	384.6	60.0	20.0	0.230	N/A	7.61E-05	
o-Xylene	106.0	384.6	60.0	20.0	0.430	N/A	1.42E-04	
Vinyl Chloride	62.5	384.6	60.0	20.0	0.100	N/A	1.95E-05	
cis 1-2 Dichlorethene	96.9	384.6	60.0	20.0	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	20.0	0.120	N/A	4.49E-05	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	20.0	0.600	N/A	2.25E-04	
			Total Emissions:		**1.70**	**27.5**	**5.52E-04**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{\text{(Mol. Wt.)x(Time Conv.)x(Concentration)x(Flow Rate)}}{\text{(Conv. Constant)x}10^6}$

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. BS #1 Final Effluent Sample Date: 7/27/2004 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol)	Time Conversion (min/hr)	Weekly Flow Rate (cu. ft/min)	Compound Conc. (ppm(v))	Compound Emission Limit ppm(v)	Output Rate (lbs/hr)	Emission Limits (lbs/hr)
Acetone	58.1	384.6	60.0	49.0	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	49.0	**0.000**	**7.0**	**0.00E+00**	**8.00E-03**
Toluene	92.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
m,p-Xylenes	106.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
o-Xylene	106.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	49.0	0.000	N/A	0.00E+00	
			Total Emissions:		**0.00**	**27.5**	**0.00E+00**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{(\text{Mol. Wt.})\times(\text{Time Conv.})\times(\text{Concentration})\times(\text{Flow Rate})}{(\text{Conv. Constant})\times 10^{6}}$

Note: Sample collected after carbon treatment.

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 2
Analytical Results of Air Samples

Bioslurper Unit #2

SAMPLE NO. BS #2 Final Effluent **Sample Date:** 7/27/2004 **Compound**	**Molecular Weight (lbs/lbs-mol)**	**Conversion Constant (cu. ft/lbs-mol)**	**Time Conversion (min/hr)**	**Weekly Flow Rate (cu. ft/min)**	**Compound Conc. (ppm(v))**	**Compound Emission Limit ppm(v)**	**Output Rate (lbs/hr)**	**Emission Limits (lbs/hr)**
Acetone	58.1	384.6	60.0	49.0	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	49.0	**0.058**	**7.0**	**3.46E-05**	**8.00E-03**
Toluene	92.0	384.6	60.0	49.0	0.005	N/A	3.52E-06	
Ethylbenzene	106.0	384.6	60.0	49.0	0.180	N/A	1.46E-04	
m,p-Xylenes	106.0	384.6	60.0	49.0	0.680	N/A	5.51E-04	
o-Xylene	106.0	384.6	60.0	49.0	0.130	N/A	1.05E-04	
Vinyl Chloride	62.5	384.6	60.0	49.0	0.130	N/A	6.21E-05	
cis 1-2 Dichlorethene	96.9	384.6	60.0	49.0	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	49.0	0.380	N/A	3.49E-04	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	49.0	1.200	N/A	1.10E-03	
			Total Emissions:		**2.76**	**27.5**	**2.29E-03**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{(\text{Mol. Wt.})\text{x}(\text{Time Conv.})\text{x}(\text{Concentration})\text{x}(\text{Flow Rate})}{(\text{Conv. Constant})\text{x}10^{6}}$

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. BS #1 Final Effluent **Sample Date:** 8/18/2004 **Compound**	**Molecular Weight (lbs/lbs-mol)**	**Conversion Constant (cu. ft/lbs-mol)**	**Time Conversion (min/hr)**	**Weekly Flow Rate (cu. ft/min)**	**Compound Conc. (ppm(v))**	**Compound Emission Limit ppm(v)**	**Output Rate (lbs/hr)**	**Emission Limits (lbs/hr)**
Acetone	58.1	384.6	60.0	78.5	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	78.5	**0.000**	**7.0**	**0.00E+00**	**8.00E-03**
Toluene	92.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
m,p-Xylenes	106.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
o-Xylene	106.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	78.5	0.000	N/A	0.00E+00	
			Total Emissions:		**0.00**	**27.5**	**0.00E+00**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{(\text{Mol. Wt.})\times(\text{Time Conv.})\times(\text{Concentration})\times(\text{Flow Rate})}{(\text{Conv. Constant})\times 10^{6}}$

Note: Sample collected after carbon treatment.

U.S. Navy RAC Contract No. N62472-03-D-0802
Naval Weapons Station-Earle: Bioslurper Unit No. 2
Analytical Results of Air Samples

Bioslurper Unit #2

SAMPLE NO. BS #2 Final Effluent **Sampl Date:** 8/18/2004 **Compound**	**Molecular Weight (lbs/lbs-mol)**	**Conversion Constant (cu. ft/lbs-mol)**	**Time Conversion (min/hr)**	**Weekly Flow Rate (cu. ft/min)**	**Compound Conc. (ppm(v))**	**Compound Emission Limit ppm(v)**	**Output Rate (lbs/hr)**	**Emission Limits (lbs/hr)**
Acetone	58.1	384.6	60.0	98.0	0.000	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	98.0	**0.470**	**7.0**	**5.60E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	98.0	0.065	N/A	9.14E-05	
Ethylbenzene	106.0	384.6	60.0	98.0	2.800	N/A	4.54E-03	
m,p-Xylenes	106.0	384.6	60.0	98.0	5.000	N/A	8.10E-03	
o-Xylene	106.0	384.6	60.0	98.0	0.800	N/A	1.30E-03	
Vinyl Chloride	62.5	384.6	60.0	98.0	0.450	N/A	4.30E-04	
cis 1-2 Dichlorethene	96.9	384.6	60.0	98.0	0.000	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	98.0	1.600	N/A	2.94E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	98.0	7.500	N/A	1.38E-02	
			Total Emissions:		**18.69**	**27.5**	**3.13E-02**	**3.50E-02**

Formula: Output Rate per Compound = $\frac{(\text{Mol. Wt.})\times(\text{Time Conv.})\times(\text{Concentration})\times(\text{Flow Rate})}{(\text{Conv. Constant})\times 10^{6}}$

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH REMOVED VIA VAPOR EXTRACTION

BIOSLURPER UNIT 1

OPERATED (hours):	95	
AVERAGE FLOW RATE (cfm):	20	
TPH CONCENTRATION (mg/m^3):	1800	
(as per analytical)	**6/16/2004**	
	12.81	=POUNDS OF TPH

BIOSLURPER UNIT 2

OPERATED (hours):	149	
AVERAGE FLOW RATE (cfm):	20	
TPH CONCENTRATION (mg/m^3):	390	
(as per analytical)	**6/16/2004**	
	4.35	=POUNDS OF TPH

POUNDS OF TPH=

AVERAGE FLOW RATE (cfm) * $0.02832 m^3/ft^3$ * **TPH CONC**(mg/m^3) * 0.001g/mg * 0.002205 lbs/g * 60 min/hr * **OPERATED** (hours)

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH REMOVED VIA VAPOR EXTRACTION

BIOSLURPER UNIT 1

OPERATED (hours):	105	
AVERAGE FLOW RATE (cfm):	49	
TPH CONCENTRATION (mg/m^3):	730	
(as per analytical)	**7/27/2004**	
	14.07	=POUNDS OF TPH

BIOSLURPER UNIT 2

OPERATED (hours):	74	
AVERAGE FLOW RATE (cfm):	49	
TPH CONCENTRATION (mg/m^3):	66	
(as per analytical)	**7/27/2004**	
	0.90	=POUNDS OF TPH

POUNDS OF TPH=

AVERAGE FLOW RATE (cfm) * $0.02832 m^3/ft^3$ * **TPH CONC**(mg/m^3) * 0.001g/mg * 0.002205 lbs/g * 60 min/hr * **OPERATED** (hours)

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH REMOVED VIA VAPOR EXTRACTION

BIOSLURPER UNIT 1

OPERATED (hours):	116
AVERAGE FLOW RATE (cfm):	78.5
TPH CONCENTRATION (mg/m^3):	810
(as per analytical) 8/18/2004	
	27.64 =POUNDS OF TPH

BIOSLURPER UNIT 2

OPERATED (hours):	79
AVERAGE FLOW RATE (cfm):	98
TPH CONCENTRATION (mg/m^3):	620
(as per analytical) 8/18/2004	
	17.98 =POUNDS OF TPH

POUNDS OF TPH=

AVERAGE FLOW RATE (cfm) * 0.02832m^3/ft^3 * **TPH CONC**(mg/m^3) * 0.001g/mg * 0.002205 lbs/g * 60 min/hr * **OPERATED** (hours)

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
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Page 1 of 1

Contact Person: Rich Evans
Company: ECOR SOLUTIONS INC
Address: 508 Brandywine Pkwy City: Westchester State: PA Zip: 19380
Phone: 610 431 8731 FAX: 610 431 2852
Collected By: Signature: Jean Modla

Project Info:
P.O. #:
Project #: N1100.100
Project Name: NWS Earle Colts Neck, NJ

Turn Around Time:
☒ Normal → on BS#2 eff only
☒ Rush 3 day Specify
on BS#1 samples

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
01A	BS # 1 Final effluent	6-16-04 1230	T03 + T014			3.5" Hg
02A	BS # 1 INFLUENT	6-16-04 1235	T03 + T014			3.5" Hg
—	BS # 2 EFFLUENT	6-16-04 1240	T03 + T014			

Jean Modla 6/18

Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
Jean Modla	6-16-04
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time
	Nicole Lasenga AZ 1035 6/17/04
Relinquished By: (Signature) Date/Time	Received By: (Signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS	1Z142680079	Neo	n/a	GOOD	Yes No None	0406314D

Form 1296 rev. 09

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Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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Hours 8:00 A.M to 6:00 P.M. Pacific
E-mail to:sampl rec iving@airtoxics.com

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0406314D

Work Order Summary

CLIENT:	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380	**BILL TO:**	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380
PHONE:	610-431-8731	**P.O. #**	050531
FAX:	610-431-2852	**PROJECT #**	N100.100 NWS EARLE Colts Neck, NJ
DATE RECEIVED:	6/17/04	**CONTACT:**	Ausha Scott
DATE COMPLETED:	6/21/04		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BS# 1 FINAL EFFLUENT	Modified TO-3	3.5 "Hg
02A	BS# 1 INFLUENT	Modified TO-3	3.5 "Hg
02AA	BS# 1 INFLUENT Duplicate	Modified TO-3	3.5 "Hg
03A	Lab Blank	Modified TO-3	NA
04A	LCS	Modified TO-3	NA

CERTIFIED BY: Linda S. Freeman

Laboratory Director

DATE: 06/21/04

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/04, Expiration date: 06/30/05
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-3
ECOR Solutions Inc.
Workorder# 0406314D

Two 6 Liter Summa Canister samples were received on June 17, 2004. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system. See the data sheets for the reporting limits for each compound.

Requirement	*TO-3*	*ATL Modifications*
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: BS# 1 FINAL EFFLUENT

ID#: 0406314D-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061813	Date of Collection:	6/16/04
Dil. Factor:	1.52	Date of Analysis:	6/18/04 01:46 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.038	0.16	0.073	0.30

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	87	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS# 1 INFLUENT

ID#: 0406314D-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061816	Date of Collection:	6/16/04
Dil. Factor:	50.7	Date of Analysis:	6/18/04 03:29 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	1.3	5.3	440	1800

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	108	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS# 1 INFLUENT Duplicate

ID#: 0406314D-02AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061814	Date of Collection:	6/16/04
Dil. Factor:	105	Date of Analysis:	6/18/04 02:21 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	2.6	11	460	1900

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	102	75-150

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0406314D-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061805	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/18/04 09:10 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	83	75-150

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0406314D-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061823	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 6/18/04 08:48 PM	

Compound	%Recovery
TPH (C5+ Hydrocarbons) ref. to Gasoline	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	99	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS# 1 FINAL EFFLUENT

ID#: 0406314CR1-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d061921	Date of Collection:	6/16/04
Dil. Factor:	1.52	Date of Analysis:	6/20/04 12:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.76	Not Detected	3.8	Not Detected
Freon 114	0.76	Not Detected	5.4	Not Detected
Chloromethane	3.0	Not Detected	6.4	Not Detected
Vinyl Chloride	0.76	Not Detected	2.0	Not Detected
1,3-Butadiene	0.76	Not Detected	1.7	Not Detected
Bromomethane	0.76	Not Detected	3.0	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
Freon 11	0.76	Not Detected	4.3	Not Detected
Ethanol	3.0	Not Detected	5.8	Not Detected
Freon 113	0.76	Not Detected	5.9	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.1	Not Detected
Acetone	3.0	Not Detected	7.3	Not Detected
2-Propanol	3.0	Not Detected	7.6	Not Detected
Carbon Disulfide	0.76	Not Detected	2.4	Not Detected
3-Chloropropene	3.0	Not Detected	9.7	Not Detected
Methylene Chloride	0.76	Not Detected	2.7	Not Detected
Methyl tert-butyl ether	0.76	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.76	Not Detected	3.1	Not Detected
Hexane	0.76	Not Detected	2.7	Not Detected
Vinyl Acetate	3.0	Not Detected	11	Not Detected
1,1-Dichloroethane	0.76	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.76	1.6	2.3	4.7
cis-1,2-Dichloroethene	0.76	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.76	3.9	2.3	12
Chloroform	0.76	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.76	Not Detected	4.2	Not Detected
Cyclohexane	0.76	Not Detected	2.6	Not Detected
Carbon Tetrachloride	0.76	Not Detected	4.9	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.76	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.76	Not Detected	3.1	Not Detected
Heptane	0.76	Not Detected	3.2	Not Detected
Trichloroethene	0.76	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.76	Not Detected	3.6	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.76	Not Detected	5.2	Not Detected
cis-1,3-Dichloropropene	0.76	Not Detected	3.5	Not Detected
4-Methyl-2-pentanone	0.76	Not Detected	3.2	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
trans-1,3-Dichloropropene	0.76	Not Detected	3.5	Not Detected
1,1,2-Trichloroethane	0.76	Not Detected	4.2	Not Detected
Tetrachloroethene	0.76	Not Detected	5.2	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS# 1 FINAL EFFLUENT

ID#: 0406314CR1-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d061921	Date of Collection:	6/16/04
Dil. Factor:	1.52	Date of Analysis:	6/20/04 12:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.0	Not Detected	13	Not Detected
Dibromochloromethane	0.76	Not Detected	6.6	Not Detected
1,2-Dibromoethane (EDB)	0.76	Not Detected	5.9	Not Detected
Chlorobenzene	0.76	Not Detected	3.6	Not Detected
Ethyl Benzene	0.76	Not Detected	3.4	Not Detected
m,p-Xylene	0.76	Not Detected	3.4	Not Detected
o-Xylene	0.76	Not Detected	3.4	Not Detected
Styrene	0.76	Not Detected	3.3	Not Detected
Bromoform	0.76	Not Detected	8.0	Not Detected
Cumene	0.76	Not Detected	3.8	Not Detected
1,1,2,2-Tetrachloroethane	0.76	Not Detected	5.3	Not Detected
Propylbenzene	0.76	Not Detected	3.8	Not Detected
4-Ethyltoluene	0.76	Not Detected	3.8	Not Detected
1,3,5-Trimethylbenzene	0.76	Not Detected	3.8	Not Detected
1,2,4-Trimethylbenzene	0.76	Not Detected	3.8	Not Detected
1,3-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
1,4-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
alpha-Chlorotoluene	0.76	Not Detected	4.0	Not Detected
1,2-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
1,2,4-Trichlorobenzene	3.0	Not Detected	23	Not Detected
Hexachlorobutadiene	3.0	Not Detected	33	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS# 2 EFFLUENT

ID#: 0406314A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s062614	Date of Collection:	6/16/04
Dil. Factor:	7.60	Date of Analysis:	6/26/04 09:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	3.8	Not Detected	19	Not Detected
Freon 114	3.8	Not Detected	27	Not Detected
Chloromethane	15	Not Detected	32	Not Detected
Vinyl Chloride	3.8	100	9.9	260
1,3-Butadiene	3.8	Not Detected	8.5	Not Detected
Bromomethane	3.8	Not Detected	15	Not Detected
Chloroethane	3.8	Not Detected	10	Not Detected
Freon 11	3.8	430	22	2400
Ethanol	15	Not Detected	29	Not Detected
Freon 113	3.8	Not Detected	30	Not Detected
1,1-Dichloroethene	3.8	Not Detected	15	Not Detected
Acetone	15	Not Detected	37	Not Detected
2-Propanol	15	Not Detected	38	Not Detected
Carbon Disulfide	3.8	8.2	12	26
3-Chloropropene	15	Not Detected	48	Not Detected
Methylene Chloride	3.8	Not Detected	13	Not Detected
Methyl tert-butyl ether	3.8	Not Detected	14	Not Detected
trans-1,2-Dichloroethene	3.8	Not Detected	15	Not Detected
Hexane	3.8	59	14	210
Vinyl Acetate	15	Not Detected	54	Not Detected
1,1-Dichloroethane	3.8	Not Detected	16	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	3.8	Not Detected	15	Not Detected
Tetrahydrofuran	3.8	Not Detected	11	Not Detected
Chloroform	3.8	Not Detected	19	Not Detected
1,1,1-Trichloroethane	3.8	Not Detected	21	Not Detected
Cyclohexane	3.8	60	13	210
Carbon Tetrachloride	3.8	Not Detected	24	Not Detected
2,2,4-Trimethylpentane	3.8	37	18	180
Benzene	3.8	81	12	260
1,2-Dichloroethane	3.8	Not Detected	16	Not Detected
Heptane	3.8	37	16	150
Trichloroethene	3.8	Not Detected	21	Not Detected
1,2-Dichloropropane	3.8	Not Detected	18	Not Detected
1,4-Dioxane	15	Not Detected	56	Not Detected
Bromodichloromethane	3.8	Not Detected	26	Not Detected
cis-1,3-Dichloropropene	3.8	Not Detected	18	Not Detected
4-Methyl-2-pentanone	3.8	Not Detected	16	Not Detected
Toluene	3.8	4.3	14	16
trans-1,3-Dichloropropene	3.8	Not Detected	18	Not Detected
1,1,2-Trichloroethane	3.8	Not Detected	21	Not Detected
Tetrachloroethene	3.8	Not Detected	26	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS# 2 EFFLUENT

ID#: 0406314A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s062614	Date of Collection:	6/16/04
Dil. Factor:	7.60	Date of Analysis:	6/26/04 09:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	15	Not Detected	63	Not Detected
Dibromochloromethane	3.8	Not Detected	33	Not Detected
1,2-Dibromoethane (EDB)	3.8	Not Detected	30	Not Detected
Chlorobenzene	3.8	Not Detected	18	Not Detected
Ethyl Benzene	3.8	130	17	560
m,p-Xylene	3.8	230	17	1000
o-Xylene	3.8	43	17	190
Styrene	3.8	Not Detected	16	Not Detected
Bromoform	3.8	Not Detected	40	Not Detected
Cumene	3.8	51	19	250
1,1,2,2-Tetrachloroethane	3.8	Not Detected	26	Not Detected
Propylbenzene	3.8	87	19	440
4-Ethyltoluene	3.8	310	19	1500
1,3,5-Trimethylbenzene	3.8	120	19	630
1,2,4-Trimethylbenzene	3.8	600	19	3000
1,3-Dichlorobenzene	3.8	Not Detected	23	Not Detected
1,4-Dichlorobenzene	3.8	Not Detected	23	Not Detected
alpha-Chlorotoluene	3.8	Not Detected	20	Not Detected
1,2-Dichlorobenzene	3.8	Not Detected	23	Not Detected
1,2,4-Trichlorobenzene	15	Not Detected	110	Not Detected
Hexachlorobutadiene	15	Not Detected	160	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS# 2 EFFLUENT

ID#: 0406314A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s062614	Date of Collection:	6/16/04
Dil. Factor:	7.60	Date of Analysis:	6/26/04 09:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	3.8	Not Detected	19	Not Detected
Freon 114	3.8	Not Detected	27	Not Detected
Chloromethane	15	Not Detected	32	Not Detected
Vinyl Chloride	3.8	100	9.9	260
1,3-Butadiene	3.8	Not Detected	8.5	Not Detected
Bromomethane	3.8	Not Detected	15	Not Detected
Chloroethane	3.8	Not Detected	10	Not Detected
Freon 11	3.8	430	22	2400
Ethanol	15	Not Detected	29	Not Detected
Freon 113	3.8	Not Detected	30	Not Detected
1,1-Dichloroethene	3.8	Not Detected	15	Not Detected
Acetone	15	Not Detected	37	Not Detected
2-Propanol	15	Not Detected	38	Not Detected
Carbon Disulfide	3.8	8.2	12	26
3-Chloropropene	15	Not Detected	48	Not Detected
Methylene Chloride	3.8	Not Detected	13	Not Detected
Methyl tert-butyl ether	3.8	Not Detected	14	Not Detected
trans-1,2-Dichloroethene	3.8	Not Detected	15	Not Detected
Hexane	3.8	59	14	210
Vinyl Acetate	15	Not Detected	54	Not Detected
1,1-Dichloroethane	3.8	Not Detected	16	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	3.8	Not Detected	15	Not Detected
Tetrahydrofuran	3.8	Not Detected	11	Not Detected
Chloroform	3.8	Not Detected	19	Not Detected
1,1,1-Trichloroethane	3.8	Not Detected	21	Not Detected
Cyclohexane	3.8	60	13	210
Carbon Tetrachloride	3.8	Not Detected	24	Not Detected
2,2,4-Trimethylpentane	3.8	37	18	180
Benzene	3.8	81	12	260
1,2-Dichloroethane	3.8	Not Detected	16	Not Detected
Heptane	3.8	37	16	150
Trichloroethene	3.8	Not Detected	21	Not Detected
1,2-Dichloropropane	3.8	Not Detected	18	Not Detected
1,4-Dioxane	15	Not Detected	56	Not Detected
Bromodichloromethane	3.8	Not Detected	26	Not Detected
cis-1,3-Dichloropropene	3.8	Not Detected	18	Not Detected
4-Methyl-2-pentanone	3.8	Not Detected	16	Not Detected
Toluene	3.8	4.3	14	16
trans-1,3-Dichloropropene	3.8	Not Detected	18	Not Detected
1,1,2-Trichloroethane	3.8	Not Detected	21	Not Detected
Tetrachloroethene	3.8	Not Detected	26	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS# 2 EFFLUENT

ID#: 0406314A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s062614	Date of Collection:	6/16/04
Dil. Factor:	7.60	Date of Analysis:	6/26/04 09:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	15	Not Detected	63	Not Detected
Dibromochloromethane	3.8	Not Detected	33	Not Detected
1,2-Dibromoethane (EDB)	3.8	Not Detected	30	Not Detected
Chlorobenzene	3.8	Not Detected	18	Not Detected
Ethyl Benzene	3.8	130	17	560
m,p-Xylene	3.8	230	17	1000
o-Xylene	3.8	43	17	190
Styrene	3.8	Not Detected	16	Not Detected
Bromoform	3.8	Not Detected	40	Not Detected
Cumene	3.8	51	19	250
1,1,2,2-Tetrachloroethane	3.8	Not Detected	26	Not Detected
Propylbenzene	3.8	87	19	440
4-Ethyltoluene	3.8	310	19	1500
1,3,5-Trimethylbenzene	3.8	120	19	630
1,2,4-Trimethylbenzene	3.8	600	19	3000
1,3-Dichlorobenzene	3.8	Not Detected	23	Not Detected
1,4-Dichlorobenzene	3.8	Not Detected	23	Not Detected
alpha-Chlorotoluene	3.8	Not Detected	20	Not Detected
1,2-Dichlorobenzene	3.8	Not Detected	23	Not Detected
1,2,4-Trichlorobenzene	15	Not Detected	110	Not Detected
Hexachlorobutadiene	15	Not Detected	160	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS# 2 EFFLUENT

ID#: 0406314B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6061817	Date of Collection:	6/16/04
Dil. Factor:	30.4	Date of Analysis:	6/18/04 04:04 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.76	3.2	93	390

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	87	75-150

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Page ____ of ____

CHAIN-OF-CUSTODY RECORD

Contact Person: Rich Evens
Company: ELOR Solutions Email:
Address: 508 Brandywine Pkwy City: W. Chester State: PA Zip:
Phone: 610 431 3554 Fax:
Collected by: (Signature) [illegible]

Project Info:
P.O. #:
Project #:
Project Name: NWS EARLE Cotts Neck

Turn Around Time: ☒ Normal ☐ Rush ____ specify

Lab Use Only
Pressurized by: GM
Date: 8/2/04
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	BS #1 Inf	22704	8:31	TO3 + TO14			1.0 Hg	Spu
02A	BS #1 Final Eff	22704	8:30	" "			1.0 Hg	
03A	BS #2 Eff	22704	9:00	" "			1.0 Hg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
W Marosit	72704 3:	Laura Thomas AIR	7/29/04 930
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS	F044 535 504 6	—	Good	Yes No None	04075475

Form 1293 rev.12

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Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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E-mail to:samplereceiving@airtoxics.com

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WORK ORDER #: 0407547B

Work Order Summary

CLIENT:	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380	**BILL TO:**	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380
PHONE:	610-431-8731	**P.O. #**	050531
FAX:	610-431-2852	**PROJECT #**	NWS EARLE Colts Neck
DATE RECEIVED:	7/29/04	**CONTACT:**	Ausha Scott
DATE COMPLETED:	8/11/04		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BS #1 Inf	Modified TO-3	1.0 "Hg
02A	BS #1 Final Eff	Modified TO-3	1.0 "Hg
03A	BS #2 Eff	Modified TO-3	1.0 "Hg
03AA	BS #2 Eff Duplicate	Modified TO-3	1.0 "Hg
04A	Lab Blank	Modified TO-3	NA
05A	LCS	Modified TO-3	NA

CERTIFIED BY: Linda J. Freeman

Laboratory Director

DATE: 08/11/04

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/04, Expiration date: 06/30/05
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-3
ECOR Solutions Inc.
Workorder# 0407547B

Three 6 Liter Summa Canister samples were received on July 29, 2004. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system. See the data sheets for the reporting limits for TPH.

Requirement	*TO-3*	*ATL Modifications*
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

According to the Chain of Custody (COC), all samples were collected on 2/27/04. However, the date on the sample tag reflects a collection date of 7/27/04. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the date on the sample tags was used to calculate the sample holding time.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Inf

ID#: 0407547B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081018	Date of Collection:	7/27/04
Dil. Factor:	77.2	Date of Analysis:	8/10/04 05:16 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	1.9	8.0	730	3000

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	133	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Final Eff

ID#: 0407547B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081016	Date of Collection:	7/27/04
Dil. Factor:	1.39	Date of Analysis:	8/10/04 03:45 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.035	0.14	0.046	0.19

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	86	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS #2 Eff

ID#: 0407547B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081017	Date of Collection:	7/27/04
Dil. Factor:	7.94	Date of Analysis:	8/10/04 04:30 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.20	0.82	66	270

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	91	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS #2 Eff Duplicate

ID#: 0407547B-03AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081014	Date of Collection:	7/27/04
Dil. Factor:	63.2	Date of Analysis:	8/10/04 02:23 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	1.6	6.6	56	230

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	87	75-150

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0407547B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081003	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/10/04 07:58 AM	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	85	75-150

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0407547B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6081012	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/10/04 01:14 PM	

Compound	%Recovery
TPH (C5+ Hydrocarbons) ref. to Gasoline	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	110	75-150

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CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Contact Person: Rich Evens
Company: ECOR Solutions Email:
Address: 503 Brandywine Pky City: W. Chester State: PA Zip:
Phone: 610 431 3554 Fax:
Collected by: (Signature) WM

Project Info:
P.O. #:
Project #:
Project Name: NWS EARLE COHB NAVY

Turn Around Time:
☒ Normal
☐ Rush ____ specify

Lab Use Only
Pressurized by: GM
Date: 8/2/04
Pressurization Gas: (N_2) H

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	BS #1 Inf	2-27-04	8:35	TO3 & TO14			1.0"Hg	5psi
02A	BS #1 Final Eff	2-27-04	8:30	" "			1.0"Hg	
03A	BS #2 Eff	2-27-04	9:00	" "			1.0"Hg	↓

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
W Marosi	7/27/04 3:1	Lamar Thomas AIR	7/29/04 930
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS	F044 535 504 6	—	Good	Yes N None	0407547A

Form 1293 rev.10

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This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0407547A

Work Order Summary

CLIENT:	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380	**BILL TO:**	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380
PHONE:	610-431-8731	**P.O. #**	050531
FAX:	610-431-2852	**PROJECT #**	NWS EARLE Colts Neck
DATE RECEIVED:	7/29/2004	**CONTACT:**	Ausha Scott
DATE COMPLETED:	8/11/2004		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BS #1 Inf	Modified TO-14A	1.0 "Hg
02A	BS #1 Final Eff	Modified TO-14A	1.0 "Hg
03A	BS #2 Eff	Modified TO-14A	1.0 "Hg
04A	Lab Blank	Modified TO-14A	NA
04B	Lab Blank	Modified TO-14A	NA
05A	CCV	Modified TO-14A	NA
05B	CCV	Modified TO-14A	NA
06A	LCS	Modified TO-14A	NA
06B	LCS	Modified TO-14A	NA

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 08/11/04

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/04, Expiration date: 06/30/05
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-14A
ECOR Solutions Inc.
Workorder# 0407547A

Three 6 Liter Summa Canister samples were received on July 29, 2004. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	*TO-14A/TO-15*	*ATL Modifications*
Continuing Calibration criteria	</= 30% Difference	</= 30% Difference with two allowed out to </= 40% Difference; flag and narrate outliers
Initial Calibration criteria	RSD<30% (TO-14A)	RSD</=30%, two compounds allowed up to 40%.
Moisture control	Nafion Dryer (TO-14A)	Multisorbent trap
Blank acceptance criteria	<0.20 ppbv (TO-14A)	<Reporting Limit
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91, Vinyl Acetate: 43, 2-Butanone: 43, 4-Methyl-2-Pentanone: 43.	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106, Vinyl Acetate: 86, 2-Butanone: 72, 4-Methyl-2-Pentanone: 58.
Dilutions for Initial Calibration	Dynamic dilutions or static using canisters	Syringe dilutions
BFB absolute abundance criteria	Within 10% of that from previous day. (TO-14A)	CCV internal standard area counts are compared to ICAL, corrective action for > 40% D.
Sample Load Volume	400 mL (TO-14A)	Varied to 200 mL
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Concentration of IS Spike.	10 ppbv (TO-15)	25 ppbv.
BFB Abundance	CLP Protocol (TO-15)	SW-846 Protocol
IS Recoveries.	Within 40% of mean over ICAL for blanks, and within 40% of daily CCV for samples. (TO-15)	Within 40% of CCV recoveries for blanks and samples.

Receiving Notes

According to the Chain of Custody (COC), all samples were collected on 2/27/04. However, the date on the sample tag reflects a collection date of 7/27/04. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the date on the sample tags was used to calculate the sample holding time.

Analytical Notes

Dilution was performed on samples BS #1 Inf and BS #2 Eff due to the presence of high level target species.

There were no other analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Inf

ID#: 0407547A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080815	Date of Collection: 7/27/04
Dil. Factor:	139	Date of Analysis: 8/9/04 08:07 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	70	Not Detected	350	Not Detected
Freon 114	70	Not Detected	490	Not Detected
Chloromethane	280	Not Detected	580	Not Detected
Vinyl Chloride	70	Not Detected	180	Not Detected
1,3-Butadiene	70	Not Detected	160	Not Detected
Bromomethane	70	Not Detected	270	Not Detected
Chloroethane	70	Not Detected	190	Not Detected
Freon 11	70	Not Detected	400	Not Detected
Ethanol	280	Not Detected	530	Not Detected
Freon 113	70	Not Detected	540	Not Detected
1,1-Dichloroethene	70	Not Detected	280	Not Detected
Acetone	280	Not Detected	670	Not Detected
2-Propanol	280	Not Detected	690	Not Detected
Carbon Disulfide	70	Not Detected	220	Not Detected
3-Chloropropene	280	Not Detected	880	Not Detected
Methylene Chloride	70	Not Detected	240	Not Detected
Methyl tert-butyl ether	70	Not Detected	250	Not Detected
trans-1,2-Dichloroethene	70	Not Detected	280	Not Detected
Hexane	70	17000	250	60000
Vinyl Acetate	280	Not Detected	990	Not Detected
1,1-Dichloroethane	70	Not Detected	280	Not Detected
2-Butanone (Methyl Ethyl Ketone)	70	Not Detected	210	Not Detected
cis-1,2-Dichloroethene	70	Not Detected	280	Not Detected
Tetrahydrofuran	70	Not Detected	210	Not Detected
Chloroform	70	Not Detected	340	Not Detected
1,1,1-Trichloroethane	70	Not Detected	380	Not Detected
Cyclohexane	70	4200	240	14000
Carbon Tetrachloride	70	Not Detected	440	Not Detected
2,2,4-Trimethylpentane	70	4300	330	20000
Benzene	70	5000	220	16000
1,2-Dichloroethane	70	Not Detected	280	Not Detected
Heptane	70	5200	290	22000
Trichloroethene	70	Not Detected	380	Not Detected
1,2-Dichloropropane	70	Not Detected	330	Not Detected
1,4-Dioxane	280	Not Detected	1000	Not Detected
Bromodichloromethane	70	Not Detected	470	Not Detected
cis-1,3-Dichloropropene	70	Not Detected	320	Not Detected
4-Methyl-2-pentanone	70	Not Detected	290	Not Detected
Toluene	70	470	270	1800
trans-1,3-Dichloropropene	70	Not Detected	320	Not Detected
1,1,2-Trichloroethane	70	Not Detected	380	Not Detected
Tetrachloroethene	70	Not Detected	480	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Inf

ID#: 0407547A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080815	Date of Collection:	7/27/04
Dil. Factor:	139	Date of Analysis:	8/9/04 08:07 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	280	Not Detected	1200	Not Detected
Dibromochloromethane	70	Not Detected	600	Not Detected
1,2-Dibromoethane (EDB)	70	Not Detected	540	Not Detected
Chlorobenzene	70	Not Detected	320	Not Detected
Ethyl Benzene	70	4200	310	18000
m,p-Xylene	70	13000	310	57000
o-Xylene	70	2400	310	10000
Styrene	70	Not Detected	300	Not Detected
Bromoform	70	Not Detected	730	Not Detected
Cumene	70	900	350	4500
1,1,2,2-Tetrachloroethane	70	Not Detected	480	Not Detected
Propylbenzene	70	1700	350	8300
4-Ethyltoluene	70	8100	350	40000
1,3,5-Trimethylbenzene	70	3000	350	15000
1,2,4-Trimethylbenzene	70	9500	350	48000
1,3-Dichlorobenzene	70	Not Detected	420	Not Detected
1,4-Dichlorobenzene	70	Not Detected	420	Not Detected
alpha-Chlorotoluene	70	Not Detected	360	Not Detected
1,2-Dichlorobenzene	70	Not Detected	420	Not Detected
1,2,4-Trichlorobenzene	280	Not Detected	2100	Not Detected
Hexachlorobutadiene	280	Not Detected	3000	Not Detected

Container Type: 6 Liter Summa Canister

Surr gates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Final Eff

ID#: 0407547A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080814	Date of Collection: 7/27/04
Dil. Factor:	1.39	Date of Analysis: 8/9/04 07:28 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.70	Not Detected	3.5	Not Detected
Freon 114	0.70	Not Detected	4.9	Not Detected
Chloromethane	2.8	Not Detected	5.8	Not Detected
Vinyl Chloride	0.70	Not Detected	1.8	Not Detected
1,3-Butadiene	0.70	Not Detected	1.6	Not Detected
Bromomethane	0.70	Not Detected	2.7	Not Detected
Chloroethane	0.70	Not Detected	1.9	Not Detected
Freon 11	0.70	Not Detected	4.0	Not Detected
Ethanol	2.8	Not Detected	5.3	Not Detected
Freon 113	0.70	Not Detected	5.4	Not Detected
1,1-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Acetone	2.8	Not Detected	6.7	Not Detected
2-Propanol	2.8	Not Detected	6.9	Not Detected
Carbon Disulfide	0.70	Not Detected	2.2	Not Detected
3-Chloropropene	2.8	Not Detected	8.8	Not Detected
Methylene Chloride	0.70	Not Detected	2.4	Not Detected
Methyl tert-butyl ether	0.70	Not Detected	2.5	Not Detected
trans-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Hexane	0.70	Not Detected	2.5	Not Detected
Vinyl Acetate	2.8	Not Detected	9.9	Not Detected
1,1-Dichloroethane	0.70	Not Detected	2.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.70	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Tetrahydrofuran	0.70	Not Detected	2.1	Not Detected
Chloroform	0.70	Not Detected	3.4	Not Detected
1,1,1-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Cyclohexane	0.70	Not Detected	2.4	Not Detected
Carbon Tetrachloride	0.70	Not Detected	4.4	Not Detected
2,2,4-Trimethylpentane	0.70	Not Detected	3.3	Not Detected
Benzene	0.70	Not Detected	2.2	Not Detected
1,2-Dichloroethane	0.70	Not Detected	2.8	Not Detected
Heptane	0.70	Not Detected	2.9	Not Detected
Trichloroethene	0.70	Not Detected	3.8	Not Detected
1,2-Dichloropropane	0.70	Not Detected	3.3	Not Detected
1,4-Dioxane	2.8	Not Detected	10	Not Detected
Bromodichloromethane	0.70	Not Detected	4.7	Not Detected
cis-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
4-Methyl-2-pentanone	0.70	Not Detected	2.9	Not Detected
Toluene	0.70	Not Detected	2.7	Not Detected
trans-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
1,1,2-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Tetrachloroethene	0.70	Not Detected	4.8	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS #1 Final Eff

ID#: 0407547A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080814	Date of Collection:	7/27/04
Dil. Factor:	1.39	Date of Analysis:	8/9/04 07:28 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.8	Not Detected	12	Not Detected
Dibromochloromethane	0.70	Not Detected	6.0	Not Detected
1,2-Dibromoethane (EDB)	0.70	Not Detected	5.4	Not Detected
Chlorobenzene	0.70	Not Detected	3.2	Not Detected
Ethyl Benzene	0.70	Not Detected	3.1	Not Detected
m,p-Xylene	0.70	Not Detected	3.1	Not Detected
o-Xylene	0.70	Not Detected	3.1	Not Detected
Styrene	0.70	Not Detected	3.0	Not Detected
Bromoform	0.70	Not Detected	7.3	Not Detected
Cumene	0.70	Not Detected	3.5	Not Detected
1,1,2,2-Tetrachloroethane	0.70	Not Detected	4.8	Not Detected
Propylbenzene	0.70	Not Detected	3.5	Not Detected
4-Ethyltoluene	0.70	Not Detected	3.5	Not Detected
1,3,5-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,2,4-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,3-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,4-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
alpha-Chlorotoluene	0.70	Not Detected	3.6	Not Detected
1,2-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,2,4-Trichlorobenzene	2.8	Not Detected	21	Not Detected
Hexachlorobutadiene	2.8	Not Detected	30	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS #2 Eff

ID#: 0407547A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	I080907	Date of Collection: 7/27/04
Dil. Factor:	6.95	Date of Analysis: 8/9/04 02:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	3.5	Not Detected	17	Not Detected
Freon 114	3.5	Not Detected	25	Not Detected
Chloromethane	14	Not Detected	29	Not Detected
Vinyl Chloride	3.5	130	9.0	330
1,3-Butadiene	3.5	Not Detected	7.8	Not Detected
Bromomethane	3.5	Not Detected	14	Not Detected
Chloroethane	3.5	Not Detected	9.3	Not Detected
Freon 11	3.5	240	20	1400
Ethanol	14	Not Detected	27	Not Detected
Freon 113	3.5	Not Detected	27	Not Detected
1,1-Dichloroethene	3.5	Not Detected	14	Not Detected
Acetone	14	Not Detected	34	Not Detected
2-Propanol	14	Not Detected	35	Not Detected
Carbon Disulfide	3.5	3.6	11	11
3-Chloropropene	14	Not Detected	44	Not Detected
Methylene Chloride	3.5	Not Detected	12	Not Detected
Methyl tert-butyl ether	3.5	Not Detected	13	Not Detected
trans-1,2-Dichloroethene	3.5	Not Detected	14	Not Detected
Hexane	3.5	32	12	110
Vinyl Acetate	14	Not Detected	50	Not Detected
1,1-Dichloroethane	3.5	Not Detected	14	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.5	Not Detected	10	Not Detected
cis-1,2-Dichloroethene	3.5	Not Detected	14	Not Detected
Tetrahydrofuran	3.5	Not Detected	10	Not Detected
Chloroform	3.5	33	17	160
1,1,1-Trichloroethane	3.5	Not Detected	19	Not Detected
Cyclohexane	3.5	45	12	160
Carbon Tetrachloride	3.5	Not Detected	22	Not Detected
2,2,4-Trimethylpentane	3.5	11	16	53
Benzene	3.5	58	11	190
1,2-Dichloroethane	3.5	Not Detected	14	Not Detected
Heptane	3.5	47	14	200
Trichloroethene	3.5	Not Detected	19	Not Detected
1,2-Dichloropropane	3.5	Not Detected	16	Not Detected
1,4-Dioxane	14	Not Detected	51	Not Detected
Bromodichloromethane	3.5	9.1	24	62
cis-1,3-Dichloropropene	3.5	Not Detected	16	Not Detected
4-Methyl-2-pentanone	3.5	Not Detected	14	Not Detected
Toluene	3.5	5.0	13	19
trans-1,3-Dichloropropene	3.5	Not Detected	16	Not Detected
1,1,2-Trichloroethane	3.5	Not Detected	19	Not Detected
Tetrachloroethene	3.5	Not Detected	24	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS #2 Eff

ID#: 0407547A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080907	Date of Collection:	7/27/04
Dil. Factor:	6.95	Date of Analysis:	8/9/04 02:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	14	Not Detected	58	Not Detected
Dibromochloromethane	3.5	Not Detected	30	Not Detected
1,2-Dibromoethane (EDB)	3.5	Not Detected	27	Not Detected
Chlorobenzene	3.5	Not Detected	16	Not Detected
Ethyl Benzene	3.5	180	15	800
m,p-Xylene	3.5	680	15	3000
o-Xylene	3.5	130	15	580
Styrene	3.5	Not Detected	15	Not Detected
Bromoform	3.5	Not Detected	36	Not Detected
Cumene	3.5	91	17	460
1,1,2,2-Tetrachloroethane	3.5	Not Detected	24	Not Detected
Propylbenzene	3.5	180	17	880
4-Ethyltoluene	3.5	930	17	4600
1,3,5-Trimethylbenzene	3.5	380	17	1900
1,2,4-Trimethylbenzene	3.5	1200	17	5800
1,3-Dichlorobenzene	3.5	Not Detected	21	Not Detected
1,4-Dichlorobenzene	3.5	Not Detected	21	Not Detected
alpha-Chlorotoluene	3.5	Not Detected	18	Not Detected
1,2-Dichlorobenzene	3.5	Not Detected	21	Not Detected
1,2,4-Trichlorobenzene	14	Not Detected	100	Not Detected
Hexachlorobutadiene	14	Not Detected	150	Not Detected

Container Type: 6 Liter Summa Canister

Surr gates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0407547A-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	I080806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/04 02:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.6	Not Detected
Chloromethane	2.0	Not Detected	4.2	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	2.0	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.9	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	5.0	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.4	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Vinyl Acetate	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.5	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.2	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.4	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.1	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.3	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.1	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0407547A-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080806	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/04 02:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.3	Not Detected
Dibromochloromethane	0.50	Not Detected	4.3	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.9	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.2	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.5	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.5	Not Detected
Propylbenzene	0.50	Not Detected	2.5	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.5	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	22	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0407547A-04B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/9/04 01:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.6	Not Detected
Chloromethane	2.0	Not Detected	4.2	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	2.0	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.9	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	5.0	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.4	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Vinyl Acetate	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.5	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.2	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.4	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.1	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.3	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.1	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0407547A-04B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080906	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/9/04 01:08 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.3	Not Detected
Dibromochloromethane	0.50	Not Detected	4.3	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.9	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.2	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.5	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.5	Not Detected
Propylbenzene	0.50	Not Detected	2.5	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.5	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	22	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0407547A-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080802	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/04 09:47 AM

Compound	%Recovery
Freon 12	108
Freon 114	99
Chloromethane	101
Vinyl Chloride	106
1,3-Butadiene	98
Bromomethane	101
Chloroethane	105
Freon 11	99
Ethanol	102
Freon 113	98
1,1-Dichloroethene	99
Acetone	91
2-Propanol	104
Carbon Disulfide	96
3-Chloropropene	95
Methylene Chloride	74
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	95
Hexane	96
Vinyl Acetate	113
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	101
Tetrahydrofuran	110
Chloroform	103
1,1,1-Trichloroethane	100
Cyclohexane	98
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	99
Benzene	102
1,2-Dichloroethane	100
Heptane	105
Trichloroethene	100
1,2-Dichloropropane	103
1,4-Dioxane	105
Bromodichloromethane	104
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	113
Toluene	99
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	100
Tetrachloroethene	103

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0407547A-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080802	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/8/04 09:47 AM	

Compound	%Recovery
2-Hexanone	115
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	102
Chlorobenzene	98
Ethyl Benzene	100
m,p-Xylene	106
o-Xylene	100
Styrene	111
Bromoform	112
Cumene	92
1,1,2,2-Tetrachloroethane	98
Propylbenzene	94
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	89
Hexachlorobutadiene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0407547A-05B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	I080902	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/9/04 10:18 AM	

Compound	%Recovery
Freon 12	102
Freon 114	98
Chloromethane	101
Vinyl Chloride	106
1,3-Butadiene	100
Bromomethane	100
Chloroethane	106
Freon 11	97
Ethanol	108
Freon 113	99
1,1-Dichloroethene	100
Acetone	95
2-Propanol	106
Carbon Disulfide	98
3-Chloropropene	97
Methylene Chloride	76
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	97
Hexane	100
Vinyl Acetate	112
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	101
Tetrahydrofuran	112
Chloroform	103
1,1,1-Trichloroethane	99
Cyclohexane	101
Carbon Tetrachloride	101
2,2,4-Trimethylpentane	100
Benzene	100
1,2-Dichloroethane	98
Heptane	101
Trichloroethene	97
1,2-Dichloropropane	100
1,4-Dioxane	102
Bromodichloromethane	103
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	113
Toluene	98
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	98
Tetrachloroethene	101

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0407547A-05B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080902	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/9/04 10:18 AM

Compound	%Recovery
2-Hexanone	114
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	100
Chlorobenzene	97
Ethyl Benzene	98
m,p-Xylene	105
o-Xylene	99
Styrene	110
Bromoform	112
Cumene	92
1,1,2,2-Tetrachloroethane	99
Propylbenzene	94
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0407547A-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080803	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/8/04 11:10 AM	

Compound	%Recovery
Freon 12	99
Freon 114	97
Chloromethane	100
Vinyl Chloride	98
1,3-Butadiene	95
Bromomethane	101
Chloroethane	102
Freon 11	96
Ethanol	60
Freon 113	96
1,1-Dichloroethene	96
Acetone	96
2-Propanol	110
Carbon Disulfide	98
3-Chloropropene	88
Methylene Chloride	69 Q
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	99
Hexane	99
Vinyl Acetate	107
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	126
cis-1,2-Dichloroethene	102
Tetrahydrofuran	113
Chloroform	105
1,1,1-Trichloroethane	104
Cyclohexane	101
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	105
Benzene	106
1,2-Dichloroethane	105
Heptane	106
Trichloroethene	104
1,2-Dichloropropane	112
1,4-Dioxane	100
Bromodichloromethane	105
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	115
Toluene	102
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	102
Tetrachloroethene	105

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0407547A-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080803	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/04 11:10 AM

Compound	%Recovery
2-Hexanone	120
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	107
Chlorobenzene	99
Ethyl Benzene	100
m,p-Xylene	110
o-Xylene	98
Styrene	107
Bromoform	112
Cumene	75
1,1,2,2-Tetrachloroethane	98
Propylbenzene	83
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	90
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	114
Hexachlorobutadiene	109

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0407547A-06B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/9/04 11:38 AM

Compound	%Recovery
Freon 12	98
Freon 114	94
Chloromethane	102
Vinyl Chloride	99
1,3-Butadiene	94
Bromomethane	100
Chloroethane	102
Freon 11	94
Ethanol	60 Q
Freon 113	95
1,1-Dichloroethene	96
Acetone	95
2-Propanol	108
Carbon Disulfide	98
3-Chloropropene	89
Methylene Chloride	69 Q
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	98
Hexane	98
Vinyl Acetate	105
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	125
cis-1,2-Dichloroethene	102
Tetrahydrofuran	112
Chloroform	104
1,1,1-Trichloroethane	102
Cyclohexane	100
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	105
Benzene	108
1,2-Dichloroethane	105
Heptane	107
Trichloroethene	105
1,2-Dichloropropane	113
1,4-Dioxane	103
Bromodichloromethane	106
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	117
Toluene	104
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	104
Tetrachloroethene	108

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0407547A-06B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	i080904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/9/04 11:38 AM

Compound	%Recovery
2-Hexanone	120
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	108
Chlorobenzene	100
Ethyl Benzene	102
m,p-Xylene	112
o-Xylene	98
Styrene	108
Bromoform	113
Cumene	76
1,1,2,2-Tetrachloroethane	98
Propylbenzene	84
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	90
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	121
Hexachlorobutadiene	116

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

ALSI BOTTLE REQUEST FORM

Date Ordered:	8/6/04	Company Name:	ECOR Solutions
Time:		Requested by:	Mr. Rich Evans 610-431-8731
Order Taken by:	SJB	Project Name/ No.:	Navy Trenton (ALSI quote 32677)

TRANSFER OF BOTTLES

BOTTLES ARE DUE DATE	TIME	METHOD OF DELIVERY
		☐ CUSTOMER PICKUP
08/13/04	courier	☒ DELIVERY VIA FIELD SVCS
If using mail services:		☐ OTHER
Mail by:		☐ MAIL
		☐ UPS - GROUND
		☐ FED EX ☐ 1 Day or ☐ 2 Day
		☐ AIRBORNE
ADDRESS:		
ATTN:		
PHONE:		

ADDITIONAL SUPPLIES Indicate "how many"	
	EXTRA LABELS
5	CHAIN-OF-CUSTODIES
x	COOLER (S)
	TRIP BLANKS
	PACK BOTTLES BY SETS
	TEMPERATURE BLANKS
	CUSTODY SEALS
	BOTTLEWARE COC REQUIRED
	PROJECT SPECIFIC LABEL (SEE NOTES)
	Client requested some bubble wrap. There is no need to wrap the bottles when they are sent.
	Do not stick pre-printed labels.

NO. OF BOTTLES	SIZE	TYPE	PRESERVATION	PARAMETERS/TEST METHOD
46	40ml	VOA	HCl	8260B Use small bags for each vial set.
7	4 oz	soil	NONE	Mercury
4	40ml	VOA	HCL	8260B-Fill for Trip Blank

SPECIAL NOTES:

Bottles prepared by:	Date:

Analytical Laboratory Services, Inc.

Rev 06/01

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Sample Transp rtati n N tice
Relinqu shing signature on this document indicates that sample is being shipped in comp lance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify A r Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

CHAIN-OF-CUSTODY RECORD

Contact Person: Rich Evens
Company: ECOR
Address: 508 Brandywine Pkwy City: Westchester State: PA Zip:
Phone: 610 431-3554 Fax:
Email:
Collected by: (Signature): LM

Project Info:
P.O. #: N2100.100
Project #:
Project Name: NVSEDACE

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
								5.15
01A	BS #1 INF	8-18-04	1030	T03 & T014			1.5"Hg	
02A	BS #2 EFF		10:40				3.0"Hg	
03A	BS #1 EFF		10:35				1.0"Hg	

Relinquished by: (signature) W Marvel Date/Time 8/18/04 11:5
Received by: (signature) Lauren Thomas ATL Date/Time 8/20/04 1000
Notes:

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS	F044 535 525 1	—	Good	Yes No None	0408411A

Form 1293 rev.10

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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E-mail to:sampler ceiving@airt xics.com

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0408411A

Work Order Summary

CLIENT:	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380	**BILL TO:**	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380
PHONE:	610-431-8731	**P.O. #**	050531
FAX:	610-431-2852	**PROJECT #**	N0100.100 NWS EARLE
DATE RECEIVED:	8/20/2004	**CONTACT:**	Ausha Scott
DATE COMPLETED:	9/2/2004		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BS#1 INF	Modified TO-14A	1.5 "Hg
02A	BS#2 EFF	Modified TO-14A	3.0 "Hg
03A	BS#1 EFF	Modified TO-14A	1.0 "Hg
04A	Lab Blank	Modified TO-14A	NA
04B	Lab Blank	Modified TO-14A	NA
05A	CCV	Modified TO-14A	NA
05B	CCV	Modified TO-14A	NA
06A	LCS	Modified TO-14A	NA
06B	LCS	Modified TO-14A	NA

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 09/02/04

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/04, Expiration date: 06/30/05
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-14A
ECOR Solutions Inc.
Workorder# 0408411A

Three 6 Liter Summa Canister samples were received on August 20, 2004. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	*TO-14A/TO-15*	*ATL Modifications*
Continuing Calibration criteria	</= 30% Difference	</= 30% Difference with two allowed out to </= 40% Difference; flag and narrate outliers
Initial Calibration criteria	RSD<30% (TO-14A)	RSD</=30%, two compounds allowed up to 40%.
Moisture control	Nafion Dryer (TO-14A)	Multisorbent trap
Blank acceptance criteria	<0.20 ppbv (TO-14A)	<Reporting Limit
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91, Vinyl Acetate: 43, 2-Butanone: 43, 4-Methyl-2-Pentanone: 43.	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106, Vinyl Acetate: 86, 2-Butanone: 72, 4-Methyl-2-Pentanone: 58.
Dilutions for Initial Calibration	Dynamic dilutions or static using canisters	Syringe dilutions
BFB absolute abundance criteria	Within 10% of that from previous day. (TO-14A)	CCV internal standard area counts are compared to ICAL, corrective action for > 40% D.
Sample Load Volume	400 mL (TO-14A)	Varied to 200 mL
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Concentration of IS Spike.	10 ppbv (TO-15)	25 ppbv.
BFB Abundance	CLP Protocol (TO-15)	SW-846 Protocol
IS Recoveries.	Within 40% of mean over ICAL for blanks, and within 40% of daily CCV for samples. (TO-15)	Within 40% of CCV recoveries for blanks and samples.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: BS#1 INF

ID#: 0408411A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082916	Date of Collection: 8/18/04
Dil. Factor:	141	Date of Analysis: 8/30/04 09:55 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	70	Not Detected	350	Not Detected
Freon 114	70	Not Detected	500	Not Detected
Chloromethane	280	Not Detected	590	Not Detected
Vinyl Chloride	70	Not Detected	180	Not Detected
1,3-Butadiene	70	Not Detected	160	Not Detected
Bromomethane	70	Not Detected	280	Not Detected
Chloroethane	70	Not Detected	190	Not Detected
Freon 11	70	Not Detected	400	Not Detected
Ethanol	280	Not Detected	540	Not Detected
Freon 113	70	Not Detected	550	Not Detected
1,1-Dichloroethene	70	Not Detected	280	Not Detected
Acetone	280	Not Detected	680	Not Detected
2-Propanol	280	Not Detected	700	Not Detected
Carbon Disulfide	70	Not Detected	220	Not Detected
3-Chloropropene	280	Not Detected	900	Not Detected
Methylene Chloride	70	Not Detected	250	Not Detected
Methyl tert-butyl ether	70	82	260	300
trans-1,2-Dichloroethene	70	Not Detected	280	Not Detected
Hexane	70	14000	250	51000
Vinyl Acetate	280	Not Detected	1000	Not Detected
1,1-Dichloroethane	70	Not Detected	290	Not Detected
2-Butanone (Methyl Ethyl Ketone)	70	Not Detected	210	Not Detected
cis-1,2-Dichloroethene	70	Not Detected	280	Not Detected
Tetrahydrofuran	70	Not Detected	210	Not Detected
Chloroform	70	Not Detected	350	Not Detected
1,1,1-Trichloroethane	70	Not Detected	390	Not Detected
Cyclohexane	70	3900	250	14000
Carbon Tetrachloride	70	Not Detected	450	Not Detected
2,2,4-Trimethylpentane	70	3700	330	18000
Benzene	70	4700	230	15000
1,2-Dichloroethane	70	Not Detected	290	Not Detected
Heptane	70	4300	290	18000
Trichloroethene	70	Not Detected	380	Not Detected
1,2-Dichloropropane	70	Not Detected	330	Not Detected
1,4-Dioxane	280	Not Detected	1000	Not Detected
Bromodichloromethane	70	Not Detected	480	Not Detected
cis-1,3-Dichloropropene	70	Not Detected	320	Not Detected
4-Methyl-2-pentanone	70	Not Detected	290	Not Detected
Toluene	70	480	270	1800
trans-1,3-Dichloropropene	70	Not Detected	320	Not Detected
1,1,2-Trichloroethane	70	Not Detected	390	Not Detected
Tetrachloroethene	70	Not Detected	490	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS#1 INF

ID#: 0408411A-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082916	Date of Collection:	8/18/04
Dil. Factor:	141	Date of Analysis:	8/30/04 09:55 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	280	Not Detected	1200	Not Detected
Dibromochloromethane	70	Not Detected	610	Not Detected
1,2-Dibromoethane (EDB)	70	Not Detected	550	Not Detected
Chlorobenzene	70	Not Detected	330	Not Detected
Ethyl Benzene	70	3600	310	16000
m,p-Xylene	70	9900	310	44000
o-Xylene	70	1800	310	8100
Styrene	70	Not Detected	300	Not Detected
Bromoform	70	Not Detected	740	Not Detected
Cumene	70	720	350	3600
1,1,2,2-Tetrachloroethane	70	Not Detected	490	Not Detected
Propylbenzene	70	1200	350	6000
4-Ethyltoluene	70	5300	350	27000
1,3,5-Trimethylbenzene	70	2100	350	10000
1,2,4-Trimethylbenzene	70	6000	350	30000
1,3-Dichlorobenzene	70	Not Detected	430	Not Detected
1,4-Dichlorobenzene	70	Not Detected	430	Not Detected
alpha-Chlorotoluene	70	Not Detected	370	Not Detected
1,2-Dichlorobenzene	70	Not Detected	430	Not Detected
1,2,4-Trichlorobenzene	280	Not Detected	2100	Not Detected
Hexachlorobutadiene	280	Not Detected	3000	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS#2 EFF

ID#: 0408411A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082915	Date of Collection:	8/18/04
Dil. Factor:	59.6	Date of Analysis:	8/30/04 09:15 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	30	Not Detected	150	Not Detected
Freon 114	30	Not Detected	210	Not Detected
Chloromethane	120	Not Detected	250	Not Detected
Vinyl Chloride	30	450	77	1200
1,3-Butadiene	30	Not Detected	67	Not Detected
Bromomethane	30	Not Detected	120	Not Detected
Chloroethane	30	Not Detected	80	Not Detected
Freon 11	30	530	170	3000
Ethanol	120	Not Detected	230	Not Detected
Freon 113	30	Not Detected	230	Not Detected
1,1-Dichloroethene	30	Not Detected	120	Not Detected
Acetone	120	Not Detected	290	Not Detected
2-Propanol	120	Not Detected	300	Not Detected
Carbon Disulfide	30	Not Detected	94	Not Detected
3-Chloropropene	120	Not Detected	380	Not Detected
Methylene Chloride	30	Not Detected	100	Not Detected
Methyl tert-butyl ether	30	Not Detected	110	Not Detected
trans-1,2-Dichloroethene	30	Not Detected	120	Not Detected
Hexane	30	1200	110	4500
Vinyl Acetate	120	Not Detected	430	Not Detected
1,1-Dichloroethane	30	Not Detected	120	Not Detected
2-Butanone (Methyl Ethyl Ketone)	30	Not Detected	89	Not Detected
cis-1,2-Dichloroethene	30	Not Detected	120	Not Detected
Tetrahydrofuran	30	250	89	750
Chloroform	30	Not Detected	150	Not Detected
1,1,1-Trichloroethane	30	Not Detected	160	Not Detected
Cyclohexane	30	1500	100	5400
Carbon Tetrachloride	30	Not Detected	190	Not Detected
2,2,4-Trimethylpentane	30	480	140	2300
Benzene	30	470	97	1500
1,2-Dichloroethane	30	Not Detected	120	Not Detected
Heptane	30	1600	120	6800
Trichloroethene	30	Not Detected	160	Not Detected
1,2-Dichloropropane	30	Not Detected	140	Not Detected
1,4-Dioxane	120	Not Detected	440	Not Detected
Bromodichloromethane	30	Not Detected	200	Not Detected
cis-1,3-Dichloropropene	30	Not Detected	140	Not Detected
4-Methyl-2-pentanone	30	Not Detected	120	Not Detected
Toluene	30	65	110	250
trans-1,3-Dichloropropene	30	Not Detected	140	Not Detected
1,1,2-Trichloroethane	30	Not Detected	160	Not Detected
Tetrachloroethene	30	Not Detected	200	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS#2 EFF

ID#: 0408411A-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082915	Date of Collection:	8/18/04
Dil. Factor:	59.6	Date of Analysis:	8/30/04 09:15 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	120	Not Detected	500	Not Detected
Dibromochloromethane	30	Not Detected	260	Not Detected
1,2-Dibromoethane (EDB)	30	Not Detected	230	Not Detected
Chlorobenzene	30	Not Detected	140	Not Detected
Ethyl Benzene	30	2800	130	12000
m,p-Xylene	30	5000	130	22000
o-Xylene	30	800	130	3500
Styrene	30	Not Detected	130	Not Detected
Bromoform	30	Not Detected	310	Not Detected
Cumene	30	1000	150	5300
1,1,2,2-Tetrachloroethane	30	Not Detected	210	Not Detected
Propylbenzene	30	1800	150	8800
4-Ethyltoluene	30	4900	150	24000
1,3,5-Trimethylbenzene	30	1600	150	8200
1,2,4-Trimethylbenzene	30	7500	150	37000
1,3-Dichlorobenzene	30	Not Detected	180	Not Detected
1,4-Dichlorobenzene	30	Not Detected	180	Not Detected
alpha-Chlorotoluene	30	Not Detected	160	Not Detected
1,2-Dichlorobenzene	30	Not Detected	180	Not Detected
1,2,4-Trichlorobenzene	120	Not Detected	900	Not Detected
Hexachlorobutadiene	120	Not Detected	1300	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: BS#1 EFF

ID#: 0408411A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082715	Date of Collection:	8/18/04
Dil. Factor:	1.39	Date of Analysis:	8/27/04 09:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.70	Not Detected	3.5	Not Detected
Freon 114	0.70	Not Detected	4.9	Not Detected
Chloromethane	2.8	Not Detected	5.8	Not Detected
Vinyl Chloride	0.70	1.4	1.8	3.7
1,3-Butadiene	0.70	Not Detected	1.6	Not Detected
Bromomethane	0.70	Not Detected	2.7	Not Detected
Chloroethane	0.70	Not Detected	1.9	Not Detected
Freon 11	0.70	Not Detected	4.0	Not Detected
Ethanol	2.8	Not Detected	5.3	Not Detected
Freon 113	0.70	Not Detected	5.4	Not Detected
1,1-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Acetone	2.8	Not Detected	6.7	Not Detected
2-Propanol	2.8	Not Detected	6.9	Not Detected
Carbon Disulfide	0.70	Not Detected	2.2	Not Detected
3-Chloropropene	2.8	Not Detected	8.8	Not Detected
Methylene Chloride	0.70	0.81	2.4	2.8
Methyl tert-butyl ether	0.70	Not Detected	2.5	Not Detected
trans-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Hexane	0.70	Not Detected	2.5	Not Detected
Vinyl Acetate	2.8	Not Detected	9.9	Not Detected
1,1-Dichloroethane	0.70	Not Detected	2.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.70	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Tetrahydrofuran	0.70	0.98	2.1	2.9
Chloroform	0.70	Not Detected	3.4	Not Detected
1,1,1-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Cyclohexane	0.70	Not Detected	2.4	Not Detected
Carbon Tetrachloride	0.70	Not Detected	4.4	Not Detected
2,2,4-Trimethylpentane	0.70	Not Detected	3.3	Not Detected
Benzene	0.70	Not Detected	2.2	Not Detected
1,2-Dichloroethane	0.70	Not Detected	2.8	Not Detected
Heptane	0.70	Not Detected	2.9	Not Detected
Trichloroethene	0.70	Not Detected	3.8	Not Detected
1,2-Dichloropropane	0.70	Not Detected	3.3	Not Detected
1,4-Dioxane	2.8	Not Detected	10	Not Detected
Bromodichloromethane	0.70	Not Detected	4.7	Not Detected
cis-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
4-Methyl-2-pentanone	0.70	Not Detected	2.9	Not Detected
Toluene	0.70	Not Detected	2.7	Not Detected
trans-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
1,1,2-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Tetrachloroethene	0.70	Not Detected	4.8	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: BS#1 EFF

ID#: 0408411A-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082715	Date of Collection:	8/18/04
Dil. Factor:	1.39	Date of Analysis:	8/27/04 09:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.8	Not Detected	12	Not Detected
Dibromochloromethane	0.70	Not Detected	6.0	Not Detected
1,2-Dibromoethane (EDB)	0.70	Not Detected	5.4	Not Detected
Chlorobenzene	0.70	Not Detected	3.2	Not Detected
Ethyl Benzene	0.70	Not Detected	3.1	Not Detected
m,p-Xylene	0.70	Not Detected	3.1	Not Detected
o-Xylene	0.70	Not Detected	3.1	Not Detected
Styrene	0.70	Not Detected	3.0	Not Detected
Bromoform	0.70	Not Detected	7.3	Not Detected
Cumene	0.70	Not Detected	3.5	Not Detected
1,1,2,2-Tetrachloroethane	0.70	Not Detected	4.8	Not Detected
Propylbenzene	0.70	Not Detected	3.5	Not Detected
4-Ethyltoluene	0.70	Not Detected	3.5	Not Detected
1,3,5-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,2,4-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,3-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,4-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
alpha-Chlorotoluene	0.70	Not Detected	3.6	Not Detected
1,2-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,2,4-Trichlorobenzene	2.8	Not Detected	21	Not Detected
Hexachlorobutadiene	2.8	Not Detected	30	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0408411A-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/27/04 01:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.6	Not Detected
Chloromethane	2.0	Not Detected	4.2	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	2.0	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.9	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	5.0	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.4	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Vinyl Acetate	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.5	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.2	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.4	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.1	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.3	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.1	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0408411A-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082706	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/27/04 01:50 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.3	Not Detected
Dibromochloromethane	0.50	Not Detected	4.3	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.9	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.2	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.5	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.5	Not Detected
Propylbenzene	0.50	Not Detected	2.5	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.5	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	22	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0408411A-04B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082906	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/29/04 03:09 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.6	Not Detected
Chloromethane	2.0	Not Detected	4.2	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	2.0	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.9	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	5.0	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.4	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Vinyl Acetate	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.5	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.2	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.4	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.1	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.3	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.1	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0408411A-04B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082906	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/29/04 03:09 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.3	Not Detected
Dibromochloromethane	0.50	Not Detected	4.3	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.9	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.2	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.5	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.5	Not Detected
Propylbenzene	0.50	Not Detected	2.5	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.5	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	22	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0408411A-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082702	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/27/04 10:59 AM	

Compound	%Recovery
Freon 12	122
Freon 114	127
Chloromethane	107
Vinyl Chloride	112
1,3-Butadiene	107
Bromomethane	104
Chloroethane	88
Freon 11	116
Ethanol	98
Freon 113	110
1,1-Dichloroethene	109
Acetone	102
2-Propanol	105
Carbon Disulfide	109
3-Chloropropene	98
Methylene Chloride	115
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	104
Hexane	107
Vinyl Acetate	91
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	105
Tetrahydrofuran	108
Chloroform	112
1,1,1-Trichloroethane	113
Cyclohexane	109
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	111
Benzene	97
1,2-Dichloroethane	112
Heptane	103
Trichloroethene	105
1,2-Dichloropropane	107
1,4-Dioxane	98
Bromodichloromethane	111
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	111
Toluene	107
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	103
Tetrachloroethene	105

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0408411A-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082702	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/27/04 10:59 AM

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	112
Chlorobenzene	105
Ethyl Benzene	102
m,p-Xylene	102
o-Xylene	98
Styrene	106
Bromoform	121
Cumene	99
1,1,2,2-Tetrachloroethane	102
Propylbenzene	102
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	95
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0408411A-05B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082902	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/29/04 12:23 PM	

Compound	%Recovery
Freon 12	124
Freon 114	125
Chloromethane	106
Vinyl Chloride	113
1,3-Butadiene	108
Bromomethane	107
Chloroethane	90
Freon 11	115
Ethanol	105
Freon 113	110
1,1-Dichloroethene	109
Acetone	104
2-Propanol	106
Carbon Disulfide	108
3-Chloropropene	98
Methylene Chloride	115
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	102
Hexane	107
Vinyl Acetate	92
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	108
cis-1,2-Dichloroethene	101
Tetrahydrofuran	119
Chloroform	109
1,1,1-Trichloroethane	110
Cyclohexane	106
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	110
Benzene	95
1,2-Dichloroethane	109
Heptane	99
Trichloroethene	103
1,2-Dichloropropane	106
1,4-Dioxane	96
Bromodichloromethane	108
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	108
Toluene	104
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	101
Tetrachloroethene	103

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0408411A-05B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082902	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/29/04 12:23 PM	

Compound	%Recovery
2-Hexanone	107
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	112
Chlorobenzene	102
Ethyl Benzene	101
m,p-Xylene	100
o-Xylene	97
Styrene	102
Bromoform	120
Cumene	98
1,1,2,2-Tetrachloroethane	100
Propylbenzene	100
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	95
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0408411A-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082703	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/27/04 11:40 AM	

Compound	%Recovery
Freon 12	124
Freon 114	118
Chloromethane	135 Q
Vinyl Chloride	121
1,3-Butadiene	105
Bromomethane	117
Chloroethane	111
Freon 11	112
Ethanol	67
Freon 113	108
1,1-Dichloroethene	109
Acetone	106
2-Propanol	114
Carbon Disulfide	113
3-Chloropropene	95
Methylene Chloride	107
Methyl tert-butyl ether	111
trans-1,2-Dichloroethene	109
Hexane	112
Vinyl Acetate	75
1,1-Dichloroethane	114
2-Butanone (Methyl Ethyl Ketone)	115
cis-1,2-Dichloroethene	109
Tetrahydrofuran	118
Chloroform	115
1,1,1-Trichloroethane	120
Cyclohexane	115
Carbon Tetrachloride	122
2,2,4-Trimethylpentane	120
Benzene	103
1,2-Dichloroethane	120
Heptane	104
Trichloroethene	113
1,2-Dichloropropane	123
1,4-Dioxane	102
Bromodichloromethane	118
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	121
Toluene	115
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	109
Tetrachloroethene	112

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0408411A-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082703	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/27/04 11:40 AM	

Compound	%Recovery
2-Hexanone	120
Dibromochloromethane	118
1,2-Dibromoethane (EDB)	121
Chlorobenzene	110
Ethyl Benzene	107
m,p-Xylene	111
o-Xylene	99
Styrene	108
Bromoform	128
Cumene	80
1,1,2,2-Tetrachloroethane	104
Propylbenzene	88
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	88
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	96

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0408411A-06B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082903	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/29/04 01:04 PM

Compound	%Recovery
Freon 12	123
Freon 114	118
Chloromethane	117
Vinyl Chloride	122
1,3-Butadiene	110
Bromomethane	110
Chloroethane	127
Freon 11	115
Ethanol	153 Q
Freon 113	114
1,1-Dichloroethene	113
Acetone	118
2-Propanol	111
Carbon Disulfide	124
3-Chloropropene	72
Methylene Chloride	114
Methyl tert-butyl ether	126
trans-1,2-Dichloroethene	119
Hexane	127
Vinyl Acetate	119
1,1-Dichloroethane	131 Q
2-Butanone (Methyl Ethyl Ketone)	129
cis-1,2-Dichloroethene	115
Tetrahydrofuran	140
Chloroform	125
1,1,1-Trichloroethane	132 Q
Cyclohexane	127
Carbon Tetrachloride	130
2,2,4-Trimethylpentane	78
Benzene	104
1,2-Dichloroethane	129
Heptane	114
Trichloroethene	116
1,2-Dichloropropane	134 Q
1,4-Dioxane	122
Bromodichloromethane	126
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	133
Toluene	106
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	108
Tetrachloroethene	107

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0408411A-06B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	d082903	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/29/04 01:04 PM	

Compound	%Recovery
2-Hexanone	131
Dibromochloromethane	127
1,2-Dibromoethane (EDB)	119
Chlorobenzene	107
Ethyl Benzene	97
m,p-Xylene	104
o-Xylene	100
Styrene	92
Bromoform	120
Cumene	64
1,1,2,2-Tetrachloroethane	105
Propylbenzene	55 Q
4-Ethyltoluene	127
1,3,5-Trimethylbenzene	96
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	126
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	102

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	95	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

CHAIN-OF-CUSTODY RECORD

Contact Person: Rich Evens
Company: ECOR
Email:
Address: 508 Brandywine Pkw City: Winchester State: PA Zip:
Phone: 610431-3554 Fax:
Collected by: (Signature) LM

Project Info:
P.O # 102100.100
Project #:
Project Name: NVSEAGE

Turn Around Time:
☒ Normal
☐ Rush
____ specify

Lab Use Only:
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
01A	BS #1 INF	8/18/04	1030	TO3 & TO14			15" Hg	25"
02A	BS #2 Eff		10:40				30" Hg	—
03A	BS #1 Eff		10:35				10" Hg	—

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
L. Marvin	8/18/04 11:5	Lamiah Thomas ATL	8/20/04 1000
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp	Condition	Custody Seals Intact?	Work Order #
	UPS	FOU1 535 525 1	—	Good	Yes No None	0408411B

Form 1293 rev 1.1

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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Hours 8:00 A.M to 6:00 P.M. Pacific
E-mail to:samplereceiving@airtoxics.com

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0408411B

Work Order Summary

CLIENT:	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380	**BILL TO:**	Mr. Rich Evans ECOR Solutions Inc. 508 Brandywine Parkway West Chester, PA 19380
PHONE:	610-431-8731	**P.O. #**	050531
FAX:	610-431-2852	**PROJECT #**	N0100.100 NWS EARLE
DATE RECEIVED:	8/20/04	**CONTACT:**	Ausha Scott
DATE COMPLETED:	8/31/04		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BS#1 INF	Modified TO-3	1.5 "Hg
02A	BS#2 EFF	Modified TO-3	3.0 "Hg
03A	BS#1 EFF	Modified TO-3	1.0 "Hg
04A	Lab Blank	Modified TO-3	NA
05A	LCS	Modified TO-3	NA

CERTIFIED BY: Linda J. Truman

Laboratory Director

DATE: 08/31/04

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/04, Expiration date: 06/30/05
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-3
ECOR Solutions Inc.
Workorder# 0408411B

Three 6 Liter Summa Canister samples were received on August 20, 2004. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system. See the data sheets for the reporting limits for TPH.

Requirement	*TO-3*	*ATL Modifications*
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch <= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: BS#1 INF

ID#: 0408411B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6082616	Date of Collection:	8/18/04
Dil. Factor:	94.0	Date of Analysis:	8/26/04 03:37 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	2.4	9.8	810	3400

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	139	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS#2 EFF

ID#: 0408411B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6082615	Date of Collection:	8/18/04
Dil. Factor:	99.3	Date of Analysis:	8/26/04 02:56 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	2.5	10	620	2600

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	97	75-150

AIR TOXICS LTD.

SAMPLE NAME: BS#1 EFF

ID#: 0408411B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6082614	Date of Collection:	8/18/04
Dil. Factor:	1.39	Date of Analysis:	8/26/04 02:14 PM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.035	0.14	0.37	1.5

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	96	75-150

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0408411B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6082604	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/26/04 08:28 AM

Compound	Rpt. Limit (ppmv)	Rpt. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	91	75-150

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0408411B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	6082627	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/26/04 10:21 PM

Compound	%Recovery
TPH (C5+ Hydrocarbons) ref. to Gasoline	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	120	75-150

APPENDIX D

ANALYTICAL SUMMARY TABLES FOR SYSTEM WATER SAMPLES AND LABORATORY ANALYTICAL DATA

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH EXTRACTED VIA GROUNDWATER TREATMENT

BIOSLURPER UNIT 1

TPH INFLUENT* (mg/L):	170	
TPH EFFLUENT* (mg/L):	0	
GALLONS GROUNDWATER TREATED:	31821	
* as per analytical average if more than one sample	6/16/2004	
	45.15	=POUNDS OF TPH

BIOSLURPER UNIT 2

TPH INFLUENT* (mg/L):	17.8	
TPH EFFLUENT* (mg/L):	0	
GALLONS GROUNDWATER TREATED:	34911	
* as per analytical average if more than one sample	6/16/2004	
	5.19	=POUNDS OF TPH

POUNDS OF TPH=

Gallons Groundwater Treated * (3.785 L/gal) *(TPH INFLUENT (mg/L) -TPH EFFLUENT (mg/l))*0.001g/mg*0.002205 pounds/g)

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH EXTRACTED VIA GROUNDWATER TREATMENT

BIOSLURPER UNIT 1

TPH INFLUENT* (mg/L):	204	
TPH EFFLUENT* (mg/L):	0	
GALLONS GROUNDWATER TREATED:	38634	
* as per analytical average if more than one sample	7/27/2004	
	65.78	=POUNDS OF TPH

BIOSLURPER UNIT 2

TPH INFLUENT* (mg/L):	20.2	
TPH EFFLUENT* (mg/L):	0	
GALLONS GROUNDWATER TREATED:	20298	
* as per analytical average if more than one sample	7/27/2004	
	3.42	=POUNDS OF TPH

POUNDS OF TPH=

Gallons Groundwater Treated * (3.785 L/gal) *(TPH INFLUENT (mg/L) -TPH EFFLUENT (mg/l))*0.001g/mg*0.002205 pounds/g)

NWS-EARLE
BIOSLURPER UNIT #1 AND #2
TPH EXTRACTED VIA GROUNDWATER TREATMENT

BIOSLURPER UNIT 1

TPH INFLUENT* (mg/L):	317	
TPH EFFLUENT* (mg/L):	148	
GALLONS GROUNDWATER TREATED:	44162	
* as per analytical	8/18/2004	
average if more than one sample		
	62.29	=POUNDS OF TPH

BIOSLURPER UNIT 2

TPH INFLUENT* (mg/L):	34.2	
TPH EFFLUENT* (mg/L):	0	
GALLONS GROUNDWATER TREATED:	23613	
* as per analytical	8/18/2004	
average if more than one sample		
	6.74	=POUNDS OF TPH

POUNDS OF TPH=

Gallons Groundwater Treated * (3.785 L/gal) *(TPH INFLUENT (mg/L) -TPH EFFLUENT (mg/l))*0.001g/mg*0.002205 pounds/g)

SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel 732 549 3900 Fax 732 549 3679
www.stl-inc.com

06/30/2004

ECOR Solutions
508 Brandywine Parkway
West Chester, PA 19380

Attention: Mr. Rich Evans

Laboratory Results
Job No. F818 - NWS Earle ColtsNeck

Dear Mr. Evans:

Enclosed are the results you requested for the following sample(s) received at our laboratory on June 17, 2004.

Lab No.	Client ID	Analysis Required
538796	BS1_Final_Efflue	PHC
538797	BS2_1st_GAC_Eff	PHC
538798	BS1_Influent	PHC
538799	BS2_Final_Efflue	PHC
538800	BS2_1st_GAC_Eff	PHC
538801	BS2_Influent	PHC

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Joy Kelly, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

Analytical Results Summary **1**

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Petroleum Hydrocarbons Forms and Data **15**
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QA Summary 17
IR Spectra 19

This is the Last Page of the Document **31**

Analytical Results Summary

Site: NWS Earle ColtsNeck

Lab Job No: F818

Date Received: 06/17/2004

Date Sampled: 06/16/04

Matrix: WATER

QA Batch: 7590

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
538796	BS1_Final_Efflue	06/23/04	06/24/04	1.0	ND
538797	BS2_1st_GAC_Eff	06/23/04	06/24/04	25	38.1
538798	BS1_Influent	06/23/04	06/24/04	25	170
538799	BS2_Final_Efflue	06/23/04	06/24/04	1.0	ND
538800	BS2_1st_GAC_Eff	06/23/04	06/24/04	1.0	ND
538801	BS2_Influent	06/23/04	06/24/04	1.0	17.8

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

General Information

Chain of Custody

F818

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Nam (for report and invoice): RICH EVANS
Company: ECOR SOLUTIONS INC.
Address: 508 Brandywine PKWY
City: West Chester PA State: 19380
Phone: 610 431 8731 Fax: 610 431 2852

Samplers Name (Printed): Jan Modla
P.O. #:

Site/Project Id ntification: NWS Earle Colts Neck
State (Location of site): NJ: ☒ NY: ☐ Other:
Regulatory Program:

Analysis Turnaround Time
Standard ☒
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐ _____

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: F818

Sample Identification	Date	Time	Matrix	No. of. Cont.	TPH 418.1	Sample Numbers
BS#1 Final effluent	6-16-04	1030	W	1	✓	538796
BS#1 1ST GAC effluent	↓	1035	W	1	✓	797
BS#1 INFLUENT	↓	1040	W	1	✓	798
BS#2 Final effluent	6-16-04	1100	W	1	✓	538799
BS#2 1ST GAC effluent	↓	1105	W	1	✓	800
BS#2 Influent	↓	1110	W	1	✓	801

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____
Soil:
Water: ✓

Special Instructions: packed on ice @ 4°C
Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Jan Modla	ECOR Solutions	6-17-04	1) [signature]	STL
2) [signature]		06-17-04 12:30	2) [signature]	STL
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhod Island (132).

STL-6003

STL Edison

Laboratory Chronicles

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

J b No: F818 **Site:** NWS Earle ColtsNeck

Client: ECOR Solutions

WET CHEM

PET HYDROCARBONS

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
538796	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590
538797	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590
538798	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590
538799	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590
538800	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590
538801	6/16/2004	6/17/2004	6/23/2004	Yang, Xiufeng	6/24/2004	Raisa, Kamenetskaya	7590

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2 Rev 4.1. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method - 200.7/SW846 6010B and for solid matrix - 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1/7470A and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method Furnace	Solid Test Method Furnace
Antimony	200.9	7041
Arsenic	200.9	7060A
Cadmium	200.9	7131A
Lead	200.9	7421
Selenium	200.9	7740
Thallium	200.9	7841

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in water and solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

Nonconformance Summary

STL Edison Job Number: F818

Client: ECOR Solutions

Date: 6/29/2004

Sample Receipt:

Sample delivery conforms with requirements.

Wet Chemistry \ Microbiology:

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sharon Ercoliani for

Michael J.Urban
Laboratory Manager

Petroleum Hydrocarbons Forms and Data

Analytical Results Summary

Site: NWS Earle ColtsNeck

Lab Job No: F818

Date Received: 06/17/2004
Matrix: WATER

Date Sampled: 06/16/04
QA Batch: 7590

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
538796	BS1_Final_Efflue	06/23/04	06/24/04	1.0	ND
538797	BS2_1st_GAC_Eff	06/23/04	06/24/04	25	38.1
538798	BS1_Influent	06/23/04	06/24/04	25	170
538799	BS2_Final_Efflue	06/23/04	06/24/04	1.0	ND
538800	BS2_1st_GAC_Eff	06/23/04	06/24/04	1.0	ND
538801	BS2_Influent	06/23/04	06/24/04	1.0	17.8

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

QA Summary

PETROLEUM HYDROCARBONS

Matrix: WATER

Lab Sample No.: 540678

QA Batch No.: 7590

Lab Job No.: G169

Laboratory Blank	
Blank Conc Units: mg/l	Quant Limit Units: mg/l
ND	1.0

Matrix Spike				
Spike Added Units: mg/l	Sample Conc Units: mg/l	MS Conc Units: mg/l	MS % Rec	QC Limits Rec
4.064	ND	3.75	92.3	80-120

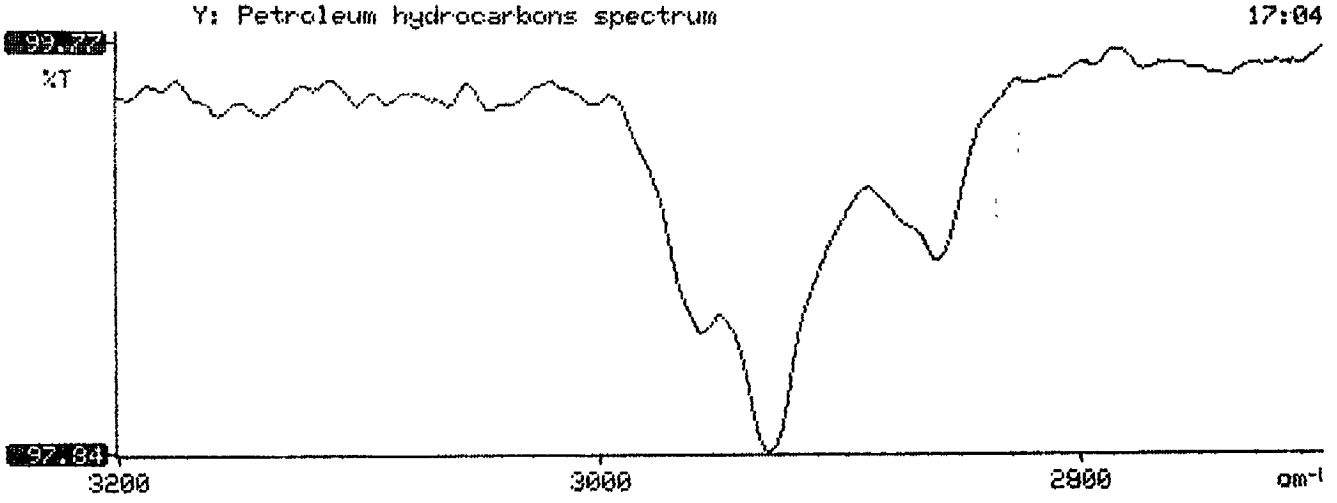
Matrix Spike Duplicate					
Spike Added Units: mg/l	MSD Conc Units: mg/l	MSD % Rec	% RPD	QC LIMITS RPD	REC
4.064	3.74	92.0	0.3	10.0	80-120

Blank Spike			
Spike Conc Units: mg/l	BS Conc Units: mg/l	% Rec	BS LIMITS (%)
4.064	4.239	104	80-120

IR Spectra

7590
F818 W

```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petrol um Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/06/24  17:04
*
*  Sample identification
 538796
*
*  Initial mass of sample, g
 135.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.301
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.008
*
*
*
```



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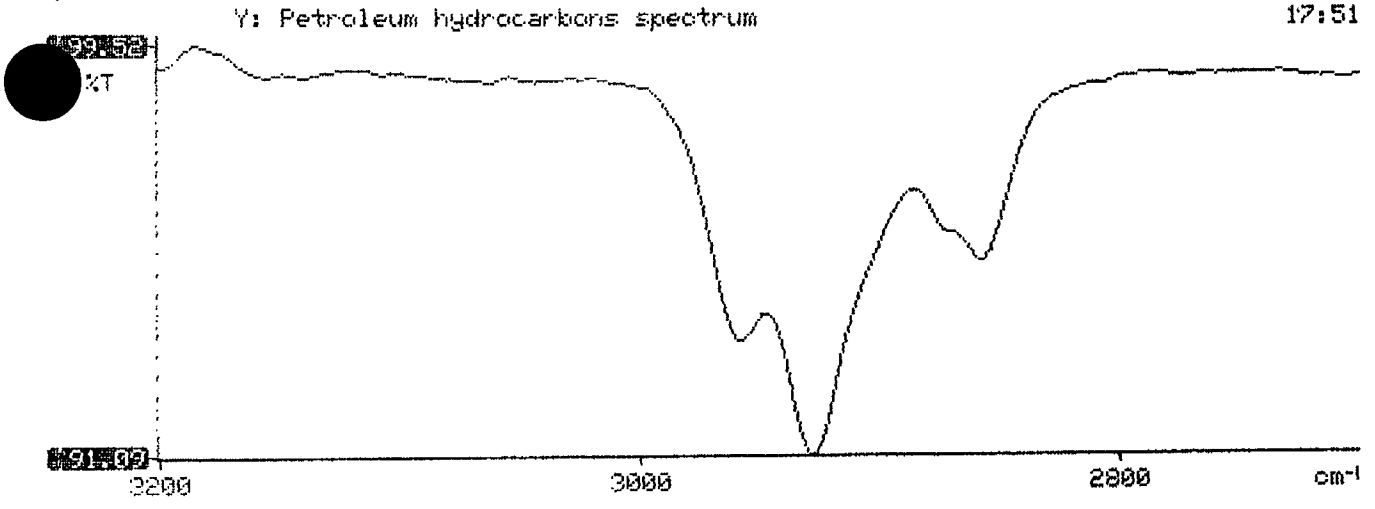
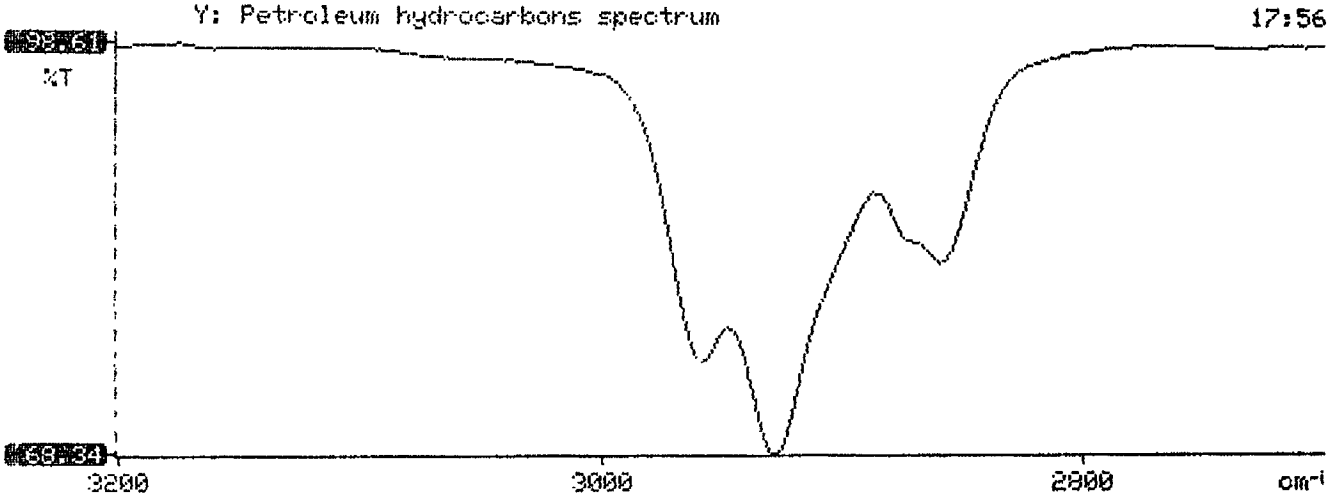
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test M thod for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
                  in Water and Soil                 *
                                                    *
            Perkin-Elmer Model 1600 FT-IR           *
*                 Analysis Report                   *
*****************************************************
*
 04/06/24  17:51
*
*  Sample identification
 538797
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 38.120
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.036
*
*
*
```



```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/06/24  17:55
*
*  Sample identification
 538798
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 170.213
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.159
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  T st Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
                  in Water and Soil                 *
                                                    *
            Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/06/24  17:32
*
*  Sample identification
 538799
*
*  Initial mass of sample, g
 135.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.054
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.002
*
*
*
```

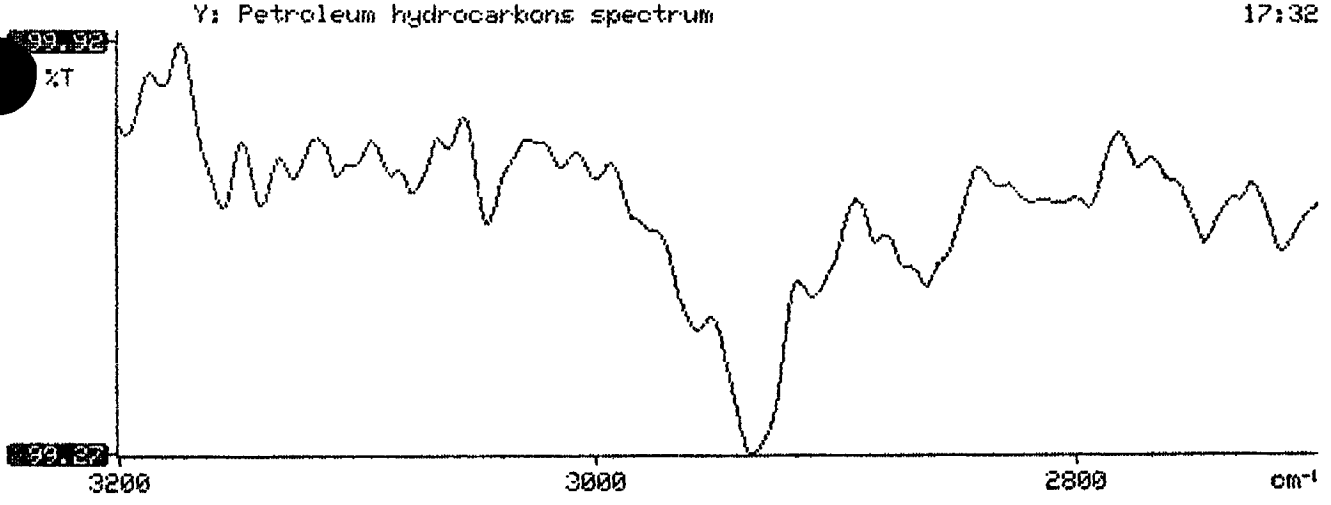

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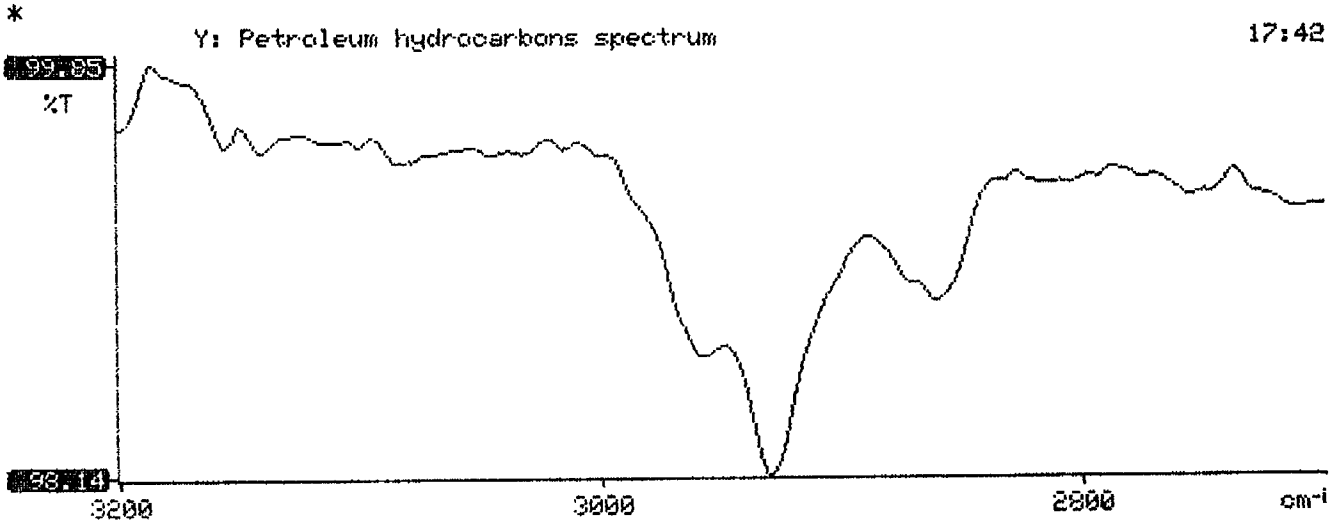
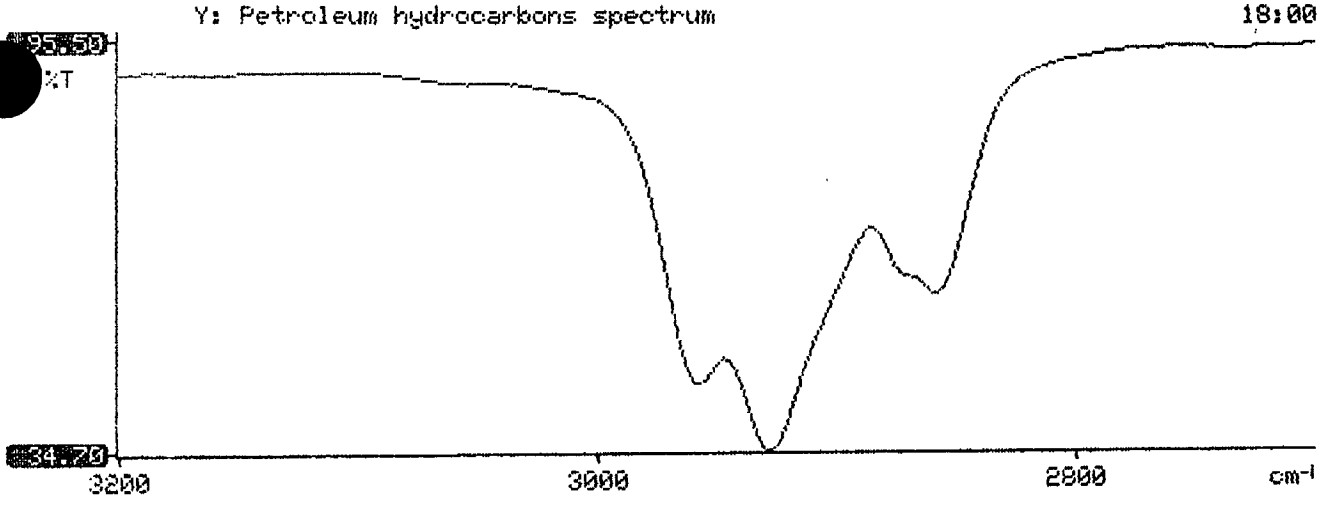
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Greas  and Petroleum Hydrocarbons     *
*                 in Wat r and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/06/24  17:42
*
*  Sample identification
 538800
*
*  Initial mass of sample, g
 130.000
*
*  Volum  of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.211
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.006
*
*
*
```



```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
                  in Water and Soil                 *
                                                    *
            Perkin-Elmer Model 1600 FT-IR           *
*                 Analysis Report                   *
*****************************************************
*
 04/06/24  17:59
*
*  Sample identification
 538801
*
*  Initial mass of sample, g
 135.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 17.775
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.429
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/06/23  12:40
*
*  Sample identification
 6/23/04  PBW
*
*  Initial mass of sample, g
 100.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.120
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.003
*
*
*
```

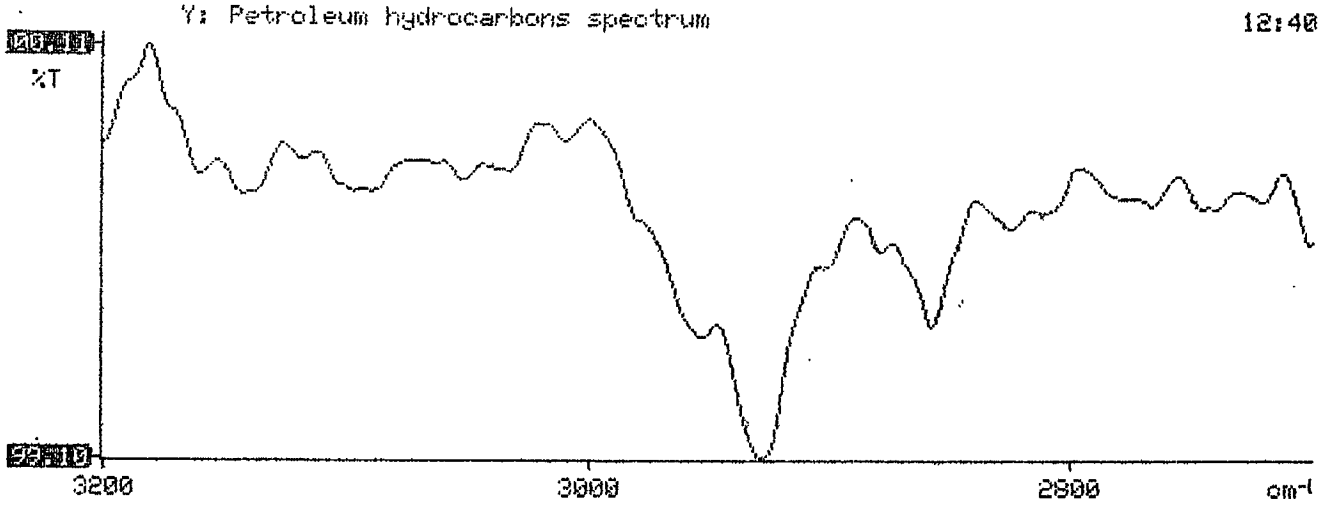

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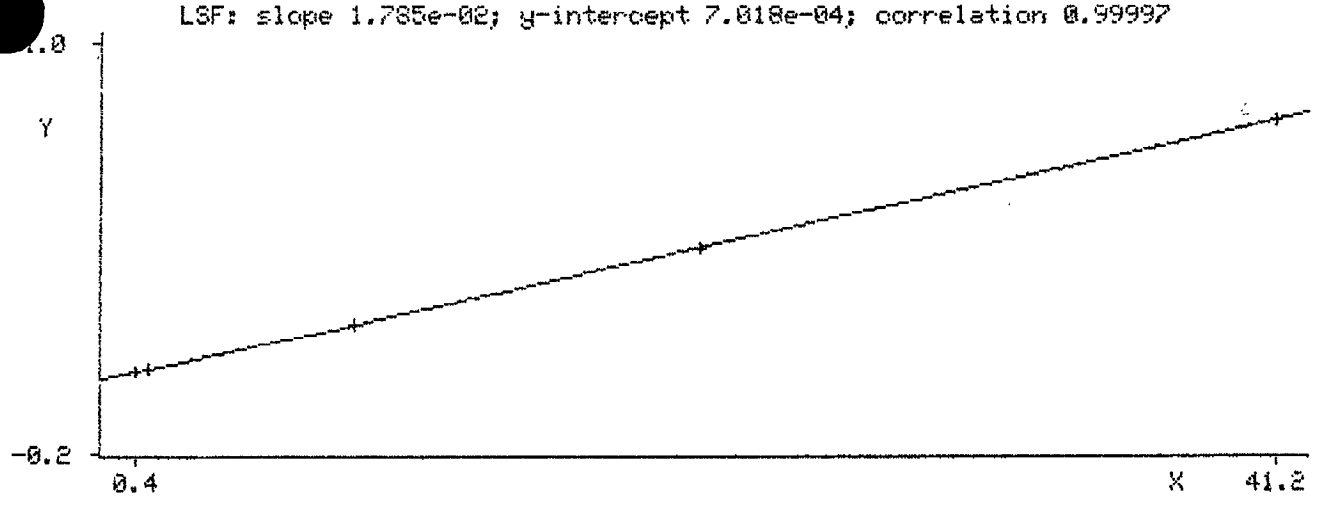
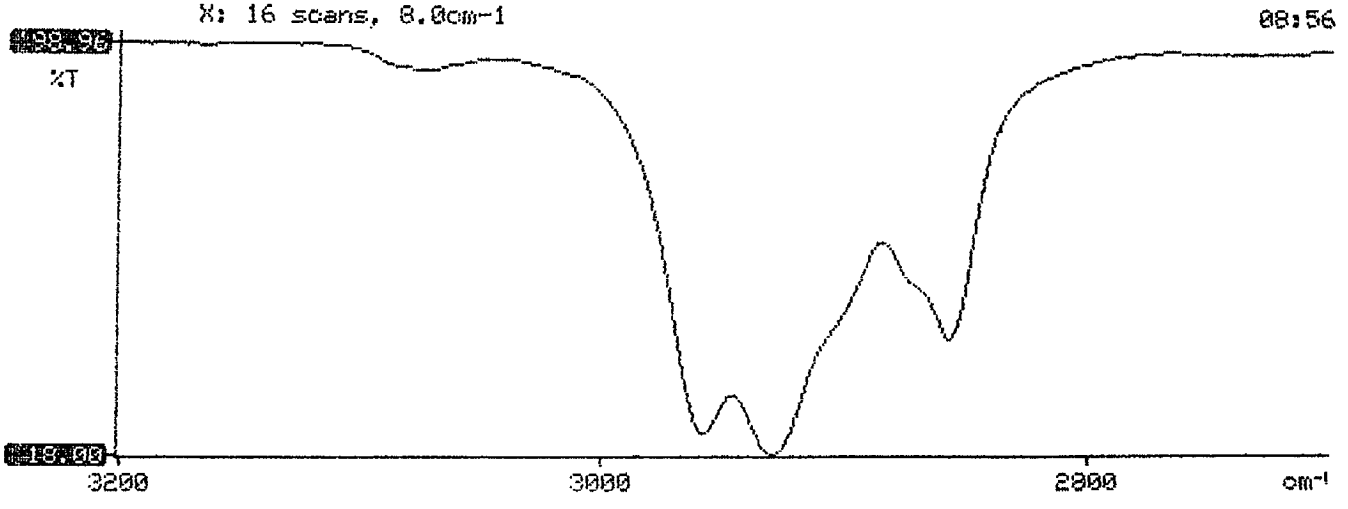
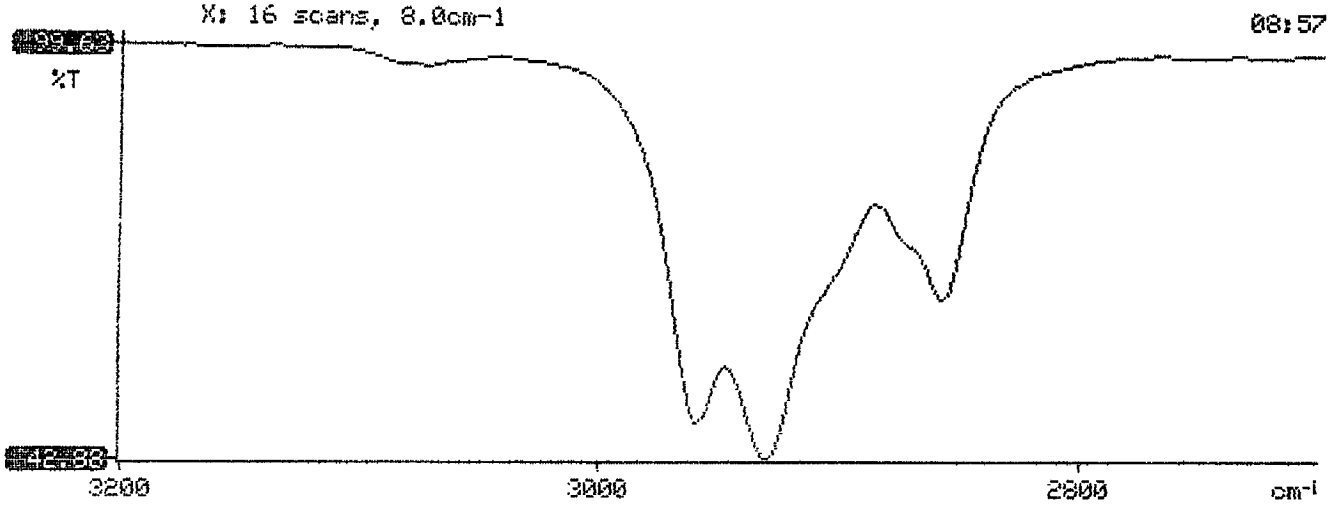
*****************************************************
*                    STL Edison                     *
*                                                   *
*                   Test Method for                 *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                  in Water and Soil                *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Calibration Report               *
*****************************************************
*
 04/06/24  08:23
*
*
*  Concentrations of standards, mg/100 ml
 41.220
 20.610
 8.244
 0.824
 0.412
*
*
*  Net absorbance of standards
 0.738
 0.364
 0.150
 0.016
 0.008
*
*
```



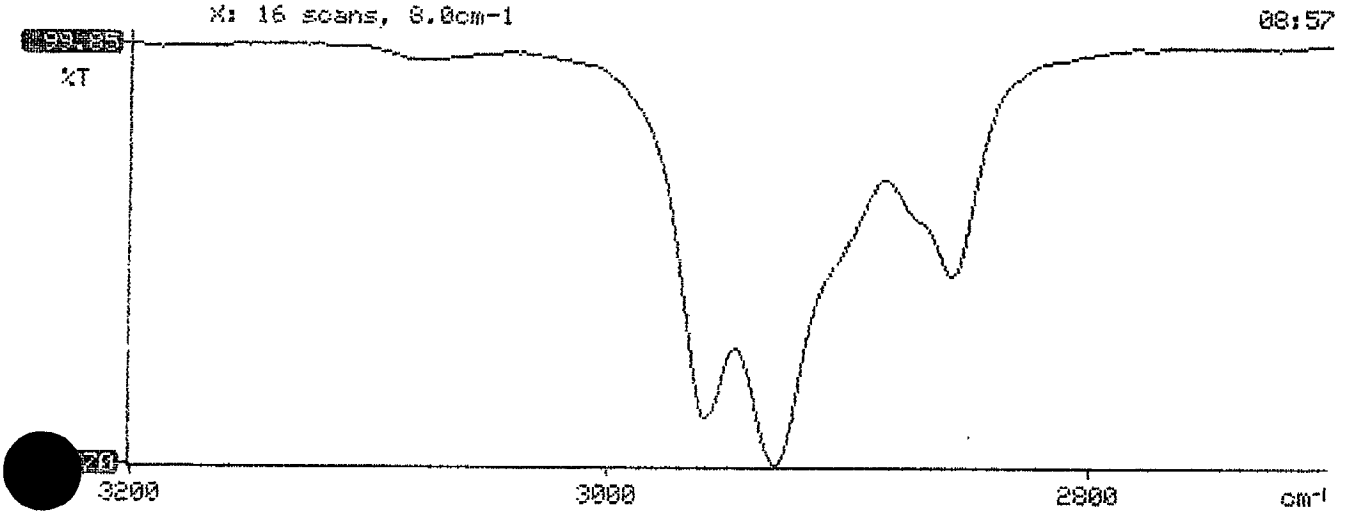
```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*           Calibration Standards Spectra           *
*****************************************************
*
 04/06/24  08:56
*
*
*
*
*  Concentration of standard, mg/100 ml
 41.220
*
*
*
*
*  Net absorbance of standard
 0.738
*
*
*
*
*
```



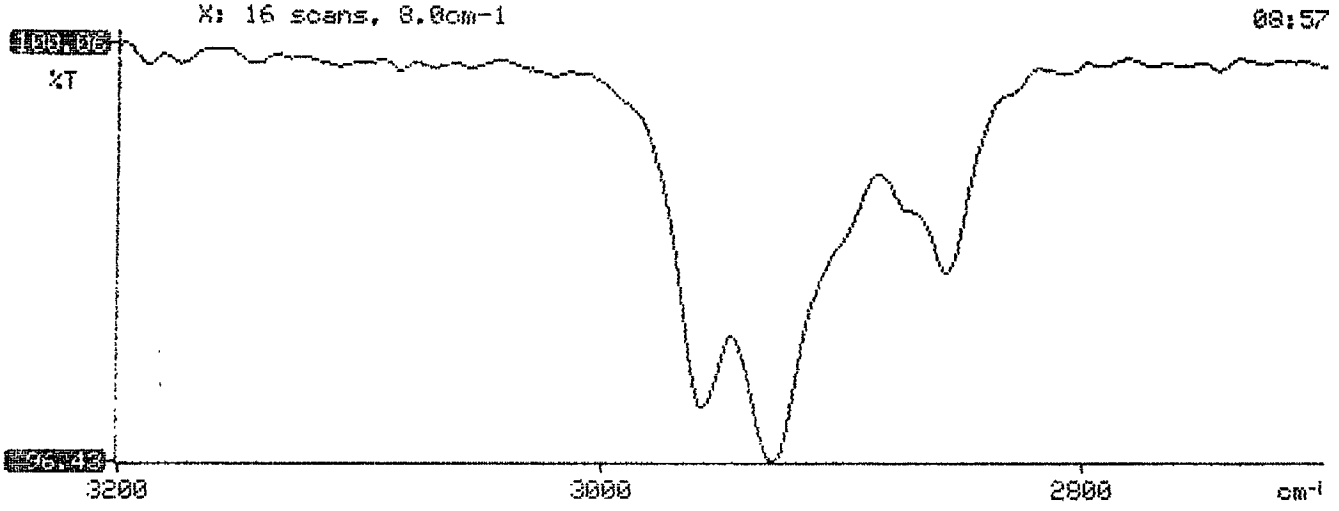
*
* Concentration of standard, mg/100 ml
20.610
*
**
* Net absorbance of standard
0.364
*
**
*



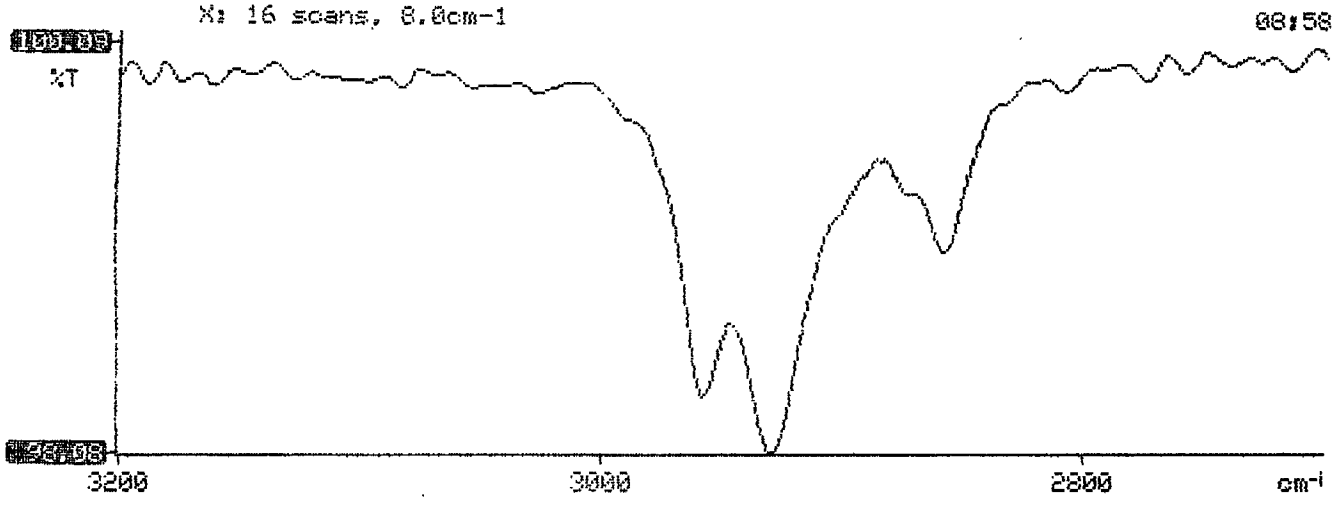
**
*
* Concentration of standard, mg/100 ml
8.244
*
**
* Net absorbance of standard
0.150
*
**
*



*
* Concentration of standard, mg/100 ml
0.824
*
*
* N t absorbance of standard
0.016
*
*
*



*
*
* Concentration of standard, mg/100 ml
0.412
*
*
* Net absorbance of standard
0.008
*
*
*



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SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel 732 549 3900 Fax 732 549 3679
www.stl-inc.com

08/12/2004

ECOR Solutions
508 Brandywine Parkway
West Chester, PA 19380

Attention: Mr. Rich Evans

Laboratory Results
Job No. I150 - NAWC Earle

Dear Mr. Evans:

Enclosed are the results you requested for the following sample(s) received at our laboratory on July 28, 2004.

Lab No.	Client ID	Analysis Required
550454	BS1_Final_Eff	PHC
550455	BS1_Gac_Eff	PHC
550456	BS1_Inf	PHC
550457	BS2_Final_Eff	PHC
550458	BS2_Gac_Eff	PHC
550459	BS2_Inf	PHC

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Joy Kelly, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

Analytical Results Summary **1**

General Information **3**
Chain of Custody 3
Laboratory Chronicles 5
Methodology Review 7
Data Reporting Qualifiers 11
Non-Conformance Summary 13

Petroleum Hydrocarbons Forms and Data **15**
Analytical Results Summary 15
QA Summary 17
IR Spectra 19

This is the Last Page of the Document **31**

Analytical Results Summary

Site: NAWC Earle

Lab Job No: I150

Date Received: 07/28/2004

Date Sampled: 07/27/04

Matrix: WATER

QA Batch: 7647

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
550454	BS1_Final_Eff	07/30/04	08/02/04	1.0	ND
550455	BS1_Gac_Eff	07/30/04	08/02/04	1.0	ND
550456	BS1_Inf	07/30/04	08/02/04	25	204
550457	BS2_Final_Eff	07/30/04	08/02/04	1.0	ND
550458	BS2_Gac_Eff	07/30/04	08/02/04	1.0	ND
550459	BS2_Inf	07/30/04	08/02/04	1.0	20.2

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

General Information

Chain of Custody

I150

STL Edison

4

EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice) Rich Evans	Samplers Name (Printed) WM	Site/Project Identification NWS EARIE cells Mon
Company ECOR Solutions	P.O. #	State (Location of site): NJ: [X] NY: [ ] Other:
Address 508 Brandywine Pkwy	Analysis Turnaround Time: Standard [X]	Regulatory Program:
City W. Chester State PA	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	LAB USE ONLY Project No:
Phone 610-431-3554 Fax		Job No: FISO

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	TPH 418.1	Sample Numbers
						550454
GS#1 Final Eff	7/27/04	815	W	1	1	55
GS#1 CAC Eff		820		1	1	56
GS#1 INF		885		1	1	
GS#2 Final Eff		9:05		1	1	57
GS#2 CAC Eff		9:10		1	1	58
GS#2 INF		9:11		1	1	550459
Rich Evans						

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH Soil:
6 = Other _____, 7 = Other _____ Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) V Morris	ECOR	7/28/04 935	1) [signature]	STL
2) [signature]		07.28.04 1100	2) [signature]	STL EDISON
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

Laboratory Chronicles

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

Job No: I150 **Site:** NAWC Earle

Client: ECOR Solutions

WET CHEM

PET HYDROCARBONS

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
550454	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647
550455	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647
550456	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647
550457	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647
550458	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647
550459	7/27/2004	7/28/2004	7/30/2004	Schiglik, Viktoriya	8/2/2004	Zhang, Li	7647

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2 Rev 4.1. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method - 200.7/SW846 6010B and for solid matrix - 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1/7470A and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method Furnace	Solid Test Method Furnace
Antimony	200.9	7041
Arsenic	200.9	7060A
Cadmium	200.9	7131A
Lead	200.9	7421
Selenium	200.9	7740
Thallium	200.9	7841

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in water and solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

Nonconformance Summary

STL Edison Job Number: I150

Client: ECOR Solutions

Date: 8/11/2004

Sample Receipt:

Sample delivery conforms with requirements.

Wet Chemistry \ Microbiology:

Data have not been reviewed by the department.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Michael J. Urban

Michael J.Urban
Laboratory Manager

Petroleum Hydrocarbons Forms and Data

Analytical Results Summary

Site: NAWC Earle

Lab Job No: I150

Date Received: 07/28/2004

Date Sampled: 07/27/04

Matrix: WATER

QA Batch: 7647

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
550454	BS1_Final_Eff	07/30/04	08/02/04	1.0	ND
550455	BS1_Gac_Eff	07/30/04	08/02/04	1.0	ND
550456	BS1_Inf	07/30/04	08/02/04	25	204
550457	BS2_Final_Eff	07/30/04	08/02/04	1.0	ND
550458	BS2_Gac_Eff	07/30/04	08/02/04	1.0	ND
550459	BS2_Inf	07/30/04	08/02/04	1.0	20.2

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

QA Summary

PETROLEUM HYDROCARBONS

Matrix: WATER

Lab Sample No.: 551027

QA Batch No.: 7647

Lab Job No.: I 285

Laboratory Blank	
Blank Conc Units: mg/l	Quant Limit Units: mg/l
ND	1.0

Matrix Spike				
Spike Added Units: mg/l	Sample Conc Units: mg/l	MS Conc Units: mg/l	MS % Rec	QC Limits Rec
4.15	ND	4.17	100	80-120

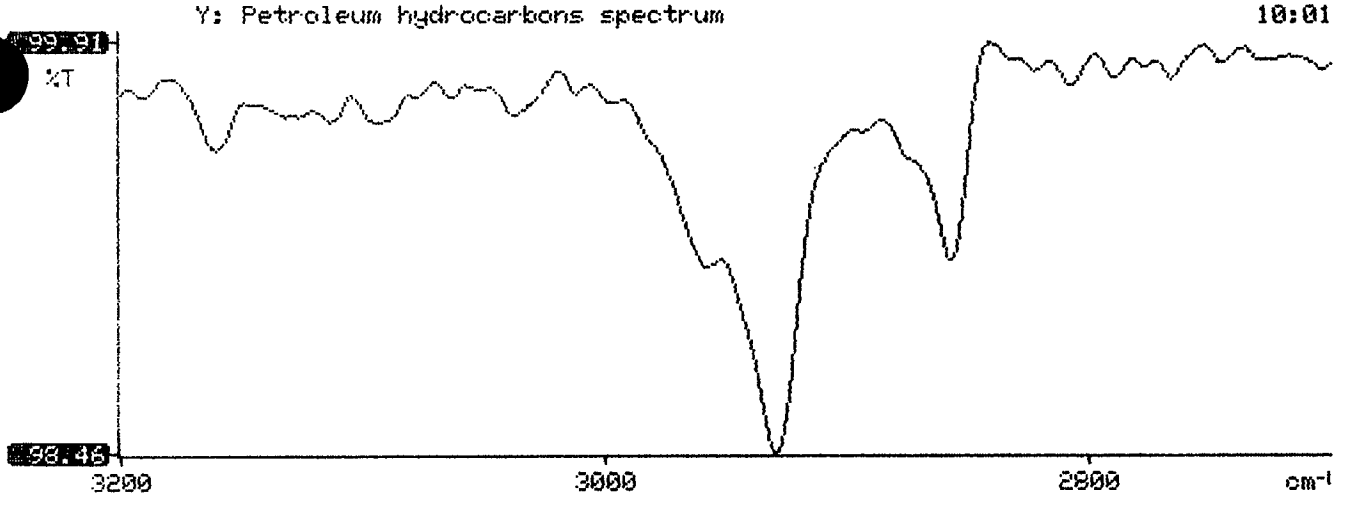
Matrix Spike Duplicate					
Spike Added Units: mg/l	MSD Conc Units: mg/l	MSD % Rec	% RPD	QC LIMITS RPD	REC
4.15	4.24	102	1.7	10.0	80-120

Blank Spike			
Spike Conc Units: mg/l	BS Conc Units: mg/l	% Rec	BS LIMITS (%)
4.15	4.28	103	80-120

IR Spectra

QA 7647
I 150 W

```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  T st Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                   Analysis Report                 *
*****************************************************
*
 04/08/02  10:01
*
*  Sample identification
 550454
*
*  Initial mass of sample, g
 120.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.236
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.006
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  T st M thod for                  *
*     Oil and Grease and P troleum Hydrocarbons     *
*                 in Wat r and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/02  10:03
*
*  Sample identification
 550455
*
*  Initial mass of sample, g
 120.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.357
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.008
*
*
*
```
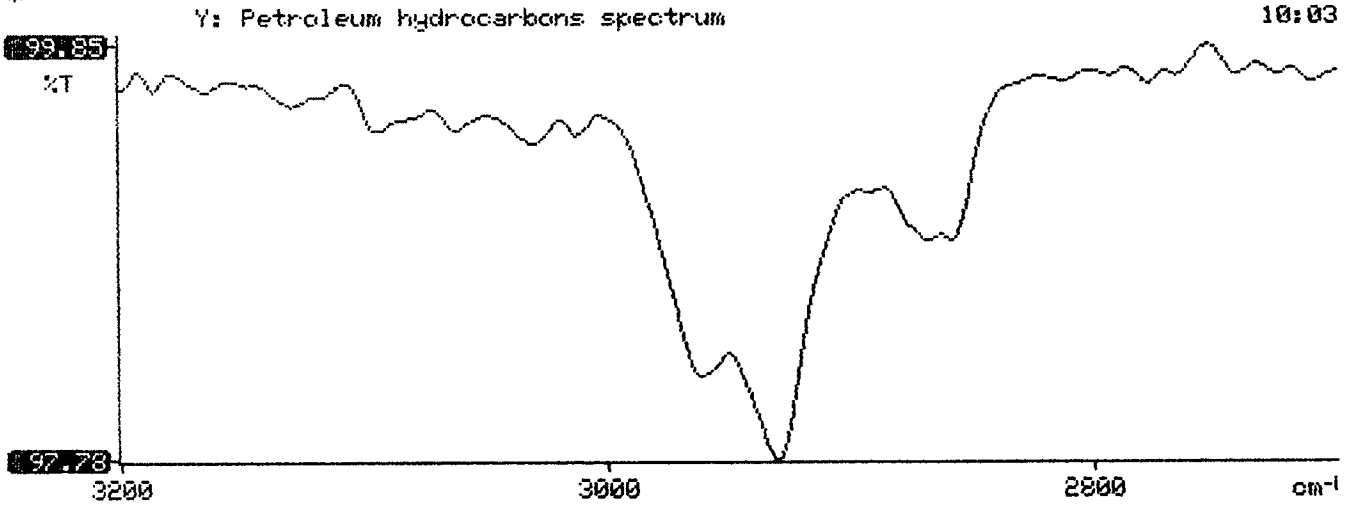
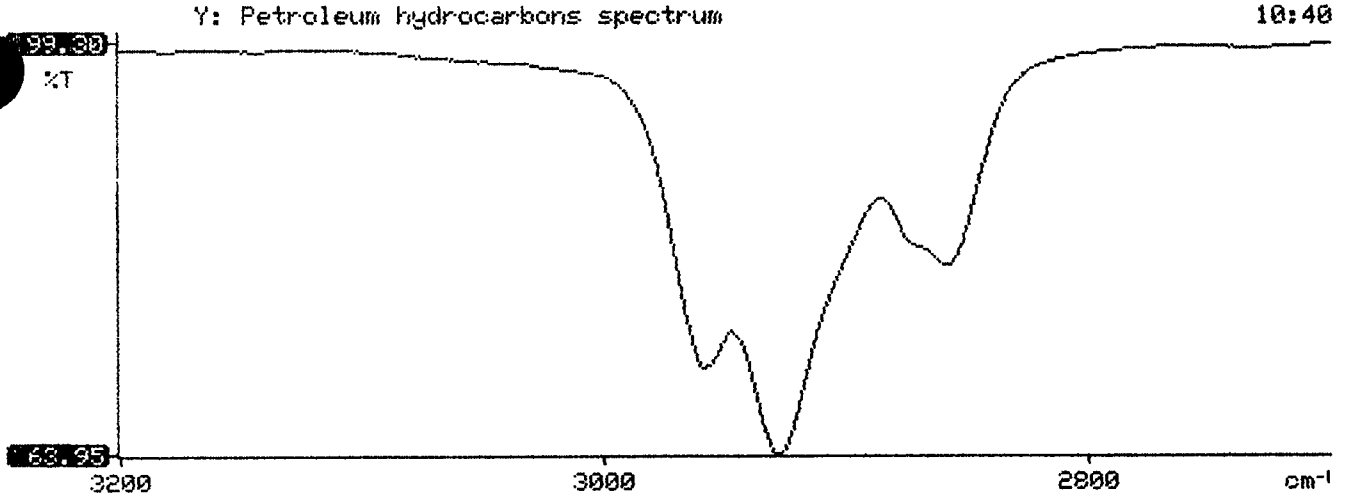
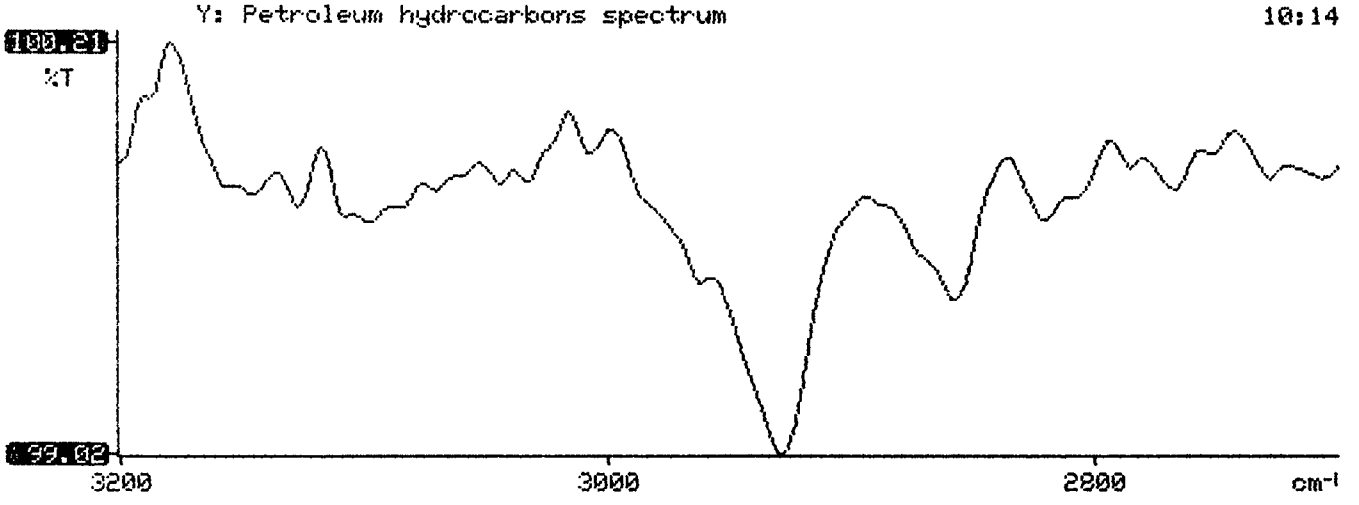



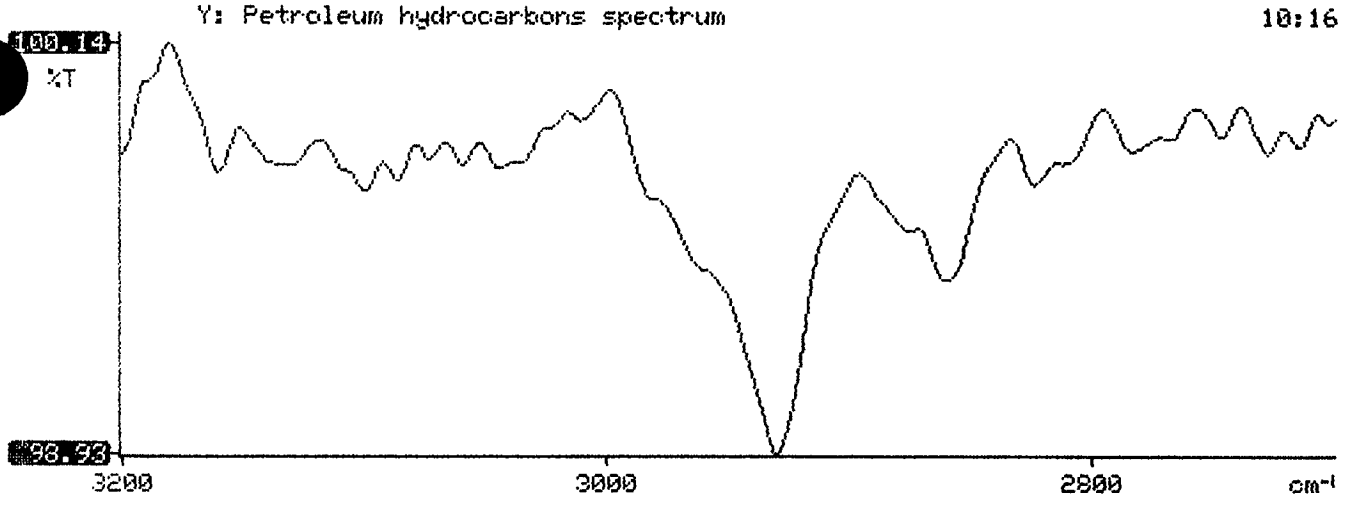
```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/08/02  10:40
*
*  Sample identification
 550456
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 203.726
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.190
*
*
*
```



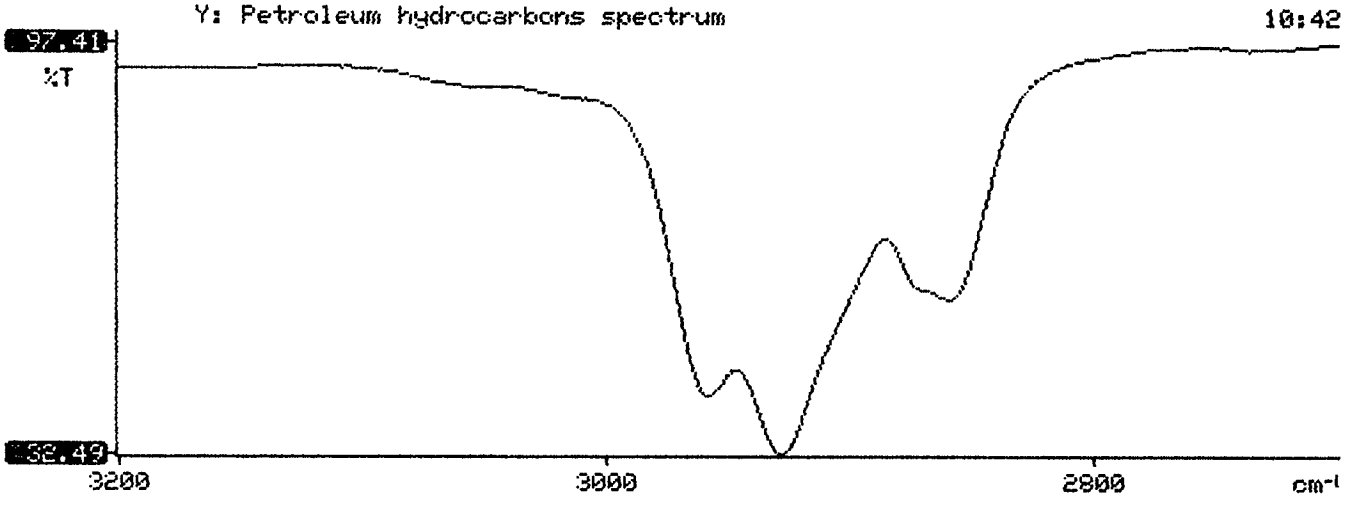
```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and P troleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                 Analysis Report                   *
*****************************************************
*
 04/08/02  10:14
*
*  Sample identification
 550457
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.129
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.004
*
*
*
```



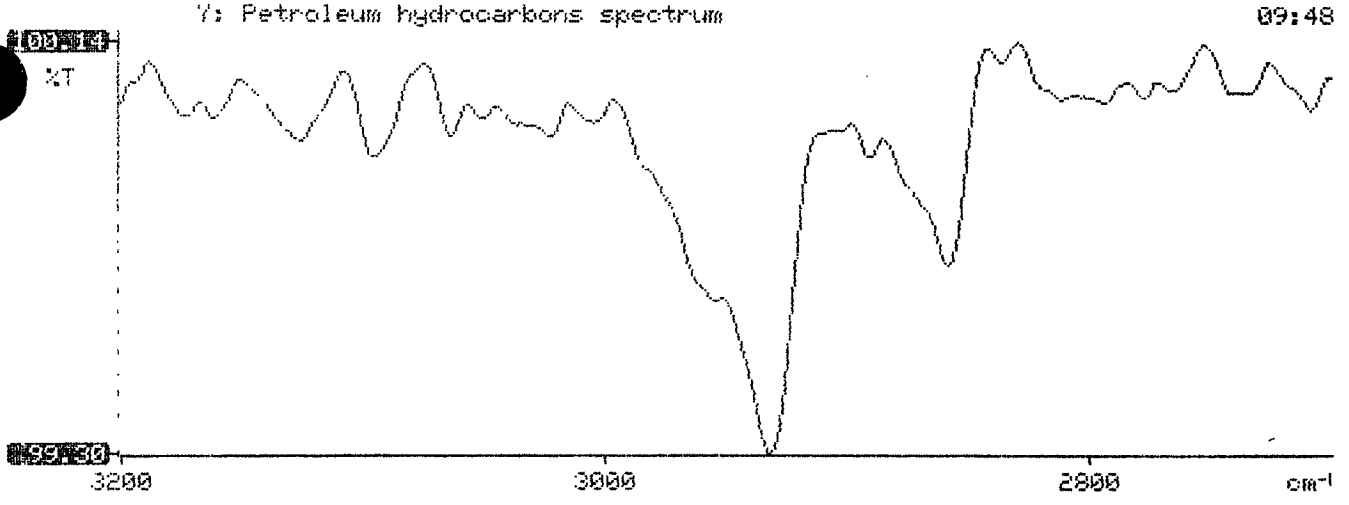
```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test M thod for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/02  10:15
*
*  Sample identification
 550458
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.148
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.004
*
*
*
```



```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Wat r and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/08/02  10:42
*
*  Sample identification
 550459
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 20.153
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.468
*
*
*
```

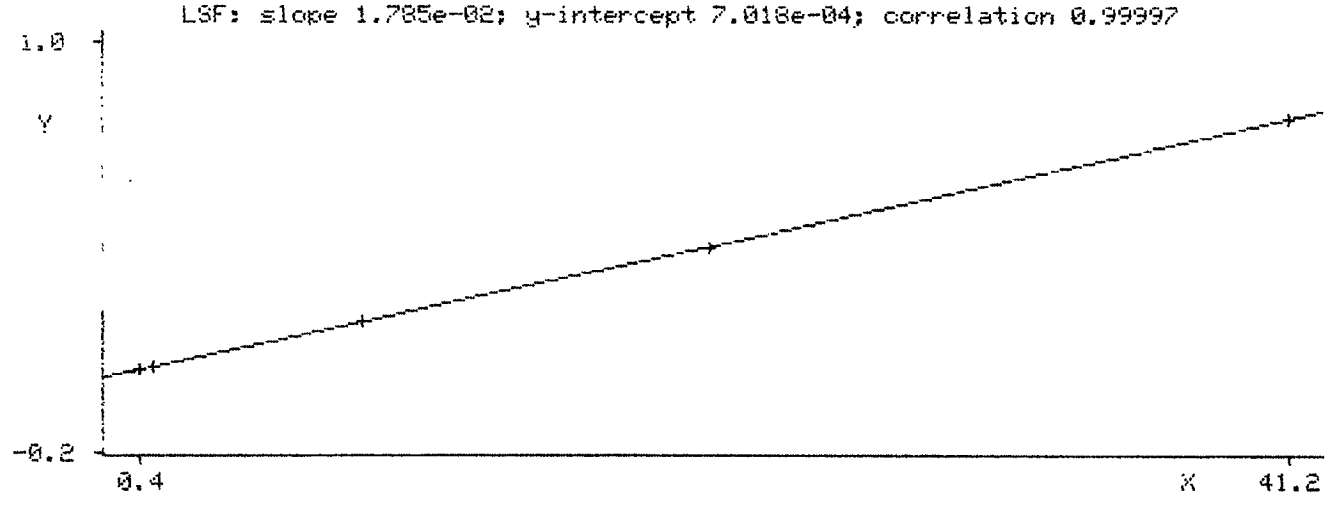


```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petrol um Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/02  09:48
*
*  Sample identification
 7/30/04                    PBW
*
*  Initial mass of sample, g
 100.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.141
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.003
*
*
*
```

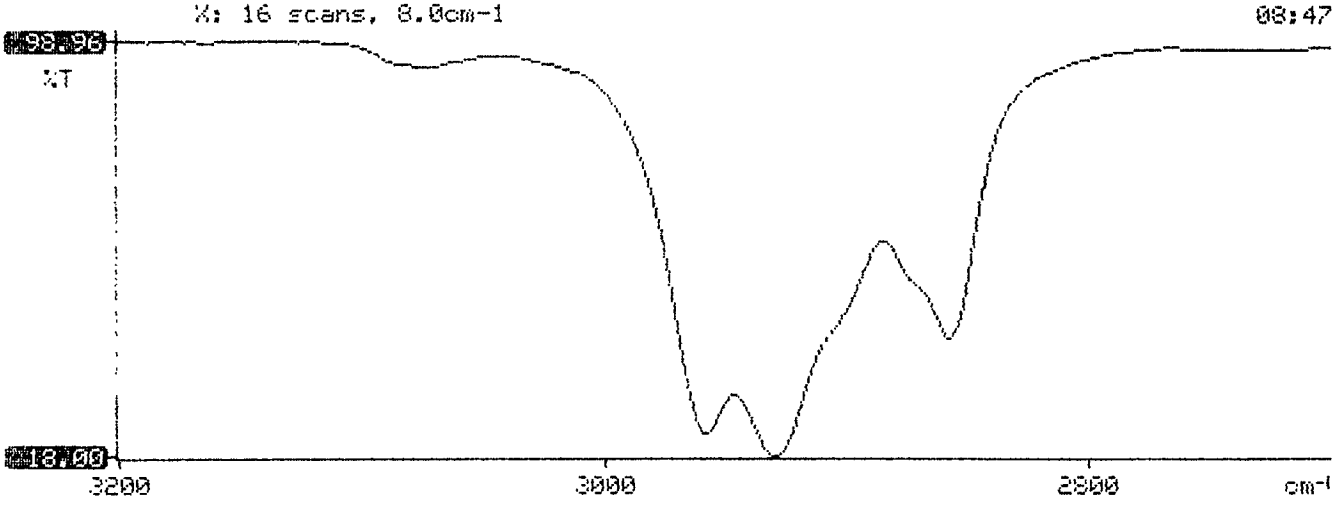


```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                 Calibration Report                *
*****************************************************
*
 04/08/02  08:46
*
*
*  Concentrations of standards, mg/100 ml
 41.220
 20.610
 8.244
 0.824
 0.412
*
*
*  Net absorbance of standards
 0.738
 0.364
 0.150
 0.016
 0.008
*
*
*
```

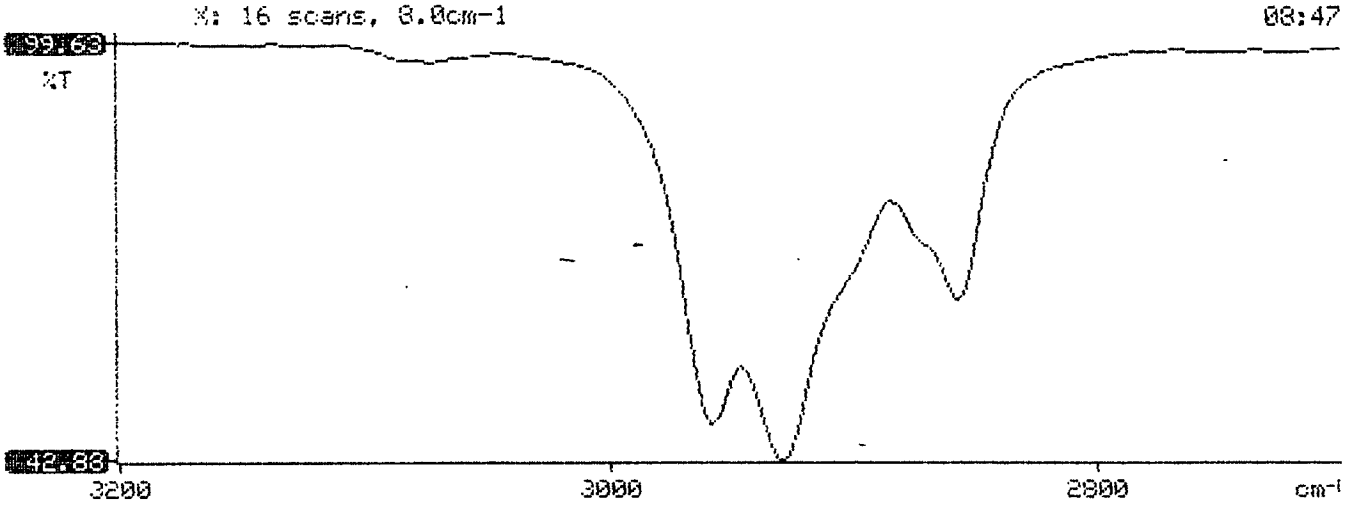
LSF: slope 1.785e-02; y-intercept 7.018e-04; correlation 0.99997



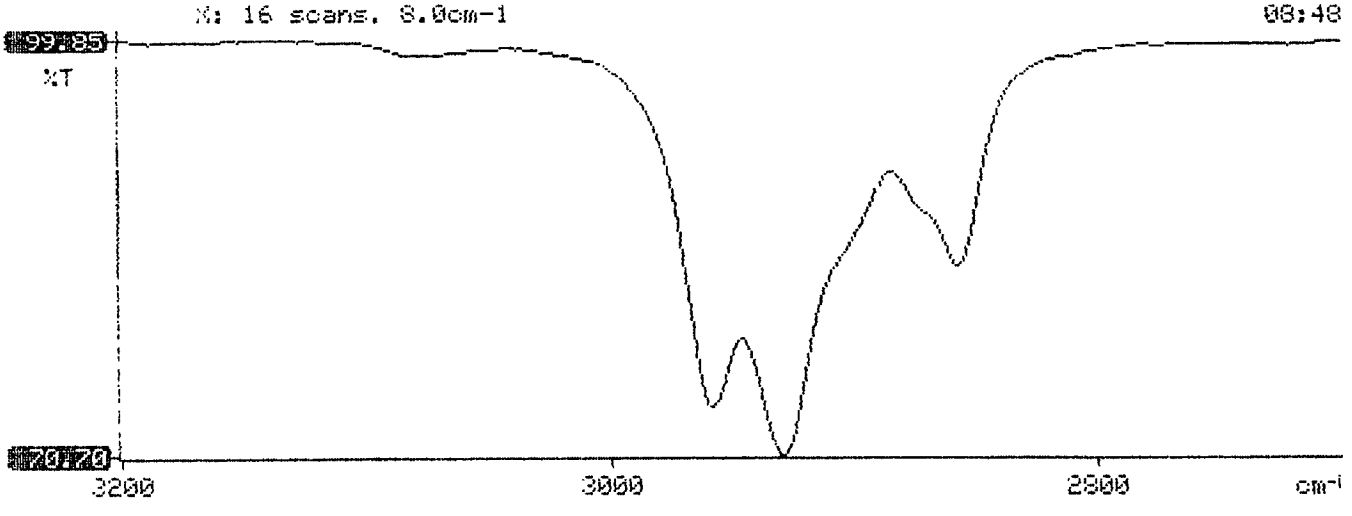
```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*            Calibration Standards Spectra          *
*****************************************************
*
 04/08/02  08:47
*
*
*
*
*  Concentration of standard, mg/100 ml
 41.220
*
*
*
*
*  Net absorbance of standard
 0.738
*
*
*
*
*
```



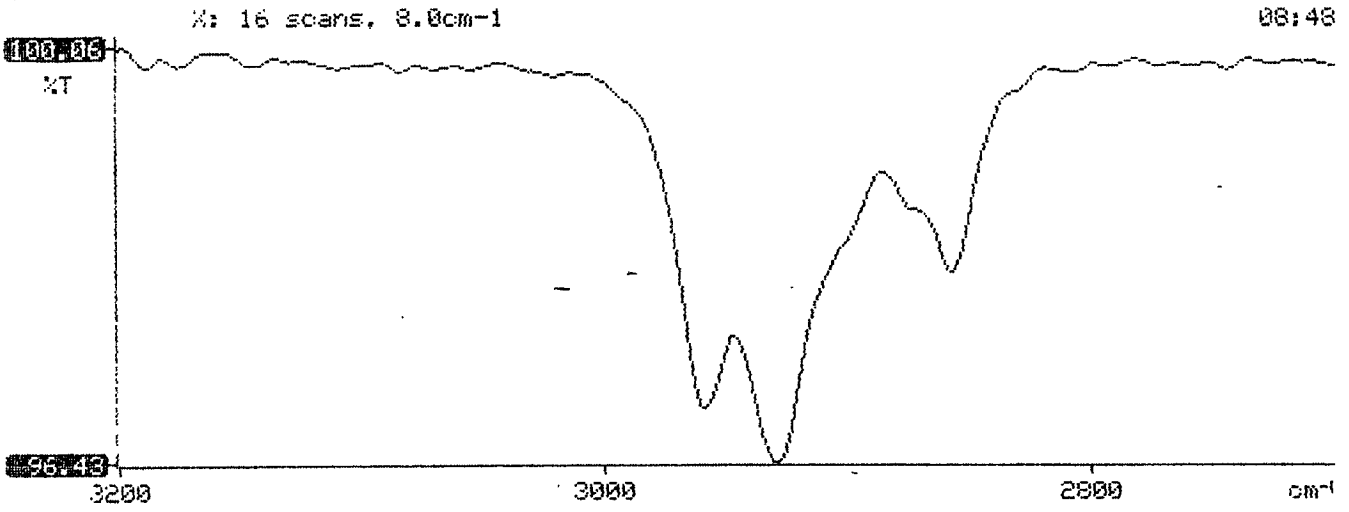
*
*
* Concentration of standard, mg/100 ml
20.610
*
*
* Net absorbance of standard
0.364
*
*
*



*
*
* Concentration of standard, mg/100 ml
8.244
*
*
* Net absorbance of standard
0.150
*
*
*

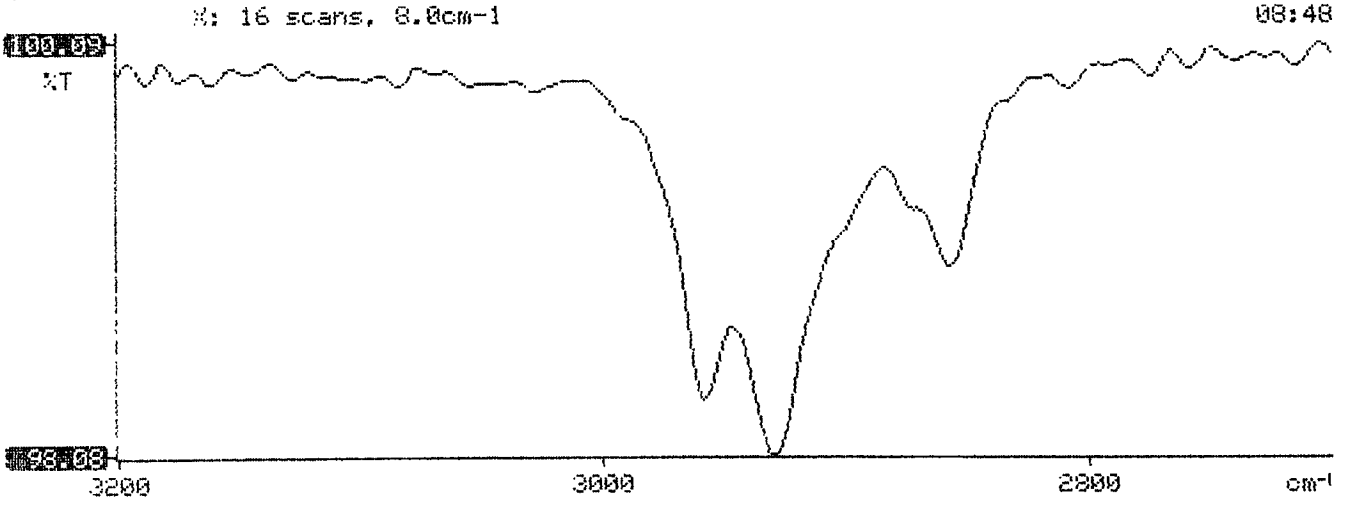


*
* Concentration of standard, mg/100 ml
0.824
*
*
* Net absorbance of standard
0.016
*
*
*



*
*
* Concentration of standard, mg/100 ml
0.412

* Net absorbance of standard
0.008
*
*
*



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SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel 732 549 3900 Fax 732 549 3679
www.stl-inc.com

09/01/2004

ECOR Solutions
508 Brandywine Parkway
West Chester, PA 19380

Attention: Mr. Rich Evans

Laboratory Results
Job No. J360 - NAWC Earle

Dear Mr. Evans:

Enclosed are the results you requested for the following sample(s) received at our laboratory on August 18, 2004.

Lab No.	Client ID	Analysis Required
555865	BS-1_FinalEff	PHC
555866	BS-1_GacEff	PHC
555867	BS-1_Inf	PHC
555868	BS-2_FinalEff	PHC
555869	BS-2_GacEff	PHC
555870	BS-2_Inf	PHC

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Joy Kelly, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

Analytical Results Summary **1**

General Information **3**
Chain of Custody 3
Laboratory Chronicles 5
Methodology Review 7
Data Reporting Qualifiers 11
Non-Conformance Summary 13

Petroleum Hydrocarbons Forms and Data **15**
Analytical Results Summary 15
QA Summary 17
IR Spectra 19

This is the Last Page of the Document **31**

Analytical Results Summary

Site: NAWC Earle

Lab Job No: J360

Date Received: 08/18/2004

Date Sampled: 08/18/04

Matrix: WATER

QA Batch: 7676

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
555865	BS-1_FinalEff	08/25/04	08/26/04	25	148
555866	BS-1_GacEff	08/25/04	08/26/04	1.0	ND
555867	BS-1_Inf	08/25/04	08/26/04	25	317
555868	BS-2_FinalEff	08/25/04	08/26/04	1.0	ND
555869	BS-2_GacEff	08/25/04	08/26/04	1.0	ND
555870	BS-2_Inf	08/25/04	08/26/04	25	34.2

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

General Information

Chain of Custody

J360

STL EDISON

777 New Durham Road
Edison, N w J rs y 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice): Rich Evens	Samplers Name (Printed): VM	Site/Project Identification: NWS Earle Colts Neck
Company: ECOR SOLUTIONS	P.O. #: NO 100.100	State (Location of site): NJ: [X] NY: [ ] Other:
Address: 508 Brandywine Pkw	Analysis Turnaround Time: Standard [X]	Regulatory Program:
City: West chester State: PA	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	LAB USE ONLY Project N :
Phone: 610-431-3554 Fax:		Job No: 1360

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	TPH 418-1	Sample Numbers
BS #1 Final Eff	8.18.04	9:45	W	1	1	555865
BS #1 GAC Eff		9.50		1	1	66
BS #1 INF		9:55		1	1	67
BS #2 Final Eff		10.10		1	1	68
BS #2 GAC Eff		10:15		1	1	69
BS #2 INF		10:20		1	1	555870

Pres rvation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) W Marosik	ECOR	8.18.04 / 12:00	1) Dan Clune	STL Edison
2)		/	2)	
3)		/	3)	
4)		/	4)	

Laboratory Certifications: New J rsey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL Edison

4

6

Laboratory Chronicles

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

Job No: J360 **Site:** NAWC Earle

Client: ECOR Solutions

WET CHEM

PET HYDROCARBONS

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
555865	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676
555866	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676
555867	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676
555868	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676
555869	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676
555870	8/18/2004	8/18/2004	8/25/2004	Schiglik, Viktoriya	8/26/2004	Zhang, Li	7676

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2 Rev 4.1. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method - 200.7/SW846 6010B and for solid matrix - 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1/7470A and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method Furnace	Solid Test Method Furnace
Antimony	200.9	7041
Arsenic	200.9	7060A
Cadmium	200.9	7131A
Lead	200.9	7421
Selenium	200.9	7740
Thallium	200.9	7841

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in water and solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

Nonconformance Summary

STL Edison Job Number: J360

Client: ECOR Solutions

Date: 8/31/2004

Sample Receipt:

Sample delivery conforms with requirements.

Wet Chemistry \ Microbiology:

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Michael J. Urban

Michael J.Urban
Laboratory Manager

Petroleum Hydrocarbons Forms and Data

Analytical Results Summary

Site: NAWC Earle

Lab Job No: J360

Date Received: 08/18/2004

Date Sampled: 08/18/04

Matrix: WATER

QA Batch: 7676

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
555865	BS-1_FinalEff	08/25/04	08/26/04	25	148
555866	BS-1_GacEff	08/25/04	08/26/04	1.0	ND
555867	BS-1_Inf	08/25/04	08/26/04	25	317
555868	BS-2_FinalEff	08/25/04	08/26/04	1.0	ND
555869	BS-2_GacEff	08/25/04	08/26/04	1.0	ND
555870	BS-2_Inf	08/25/04	08/26/04	25	34.2

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

QA Summary

PETROLEUM HYDROCARBONS

Matrix: WATER

Lab Sample No.: 557046

QA Batch No.: 7676

Lab Job No.: J585

Laboratory Blank	
Blank Conc Units: mg/l	Quant Limit Units: mg/l
ND	1.0

Matrix Spike				
Spike Added Units: mg/l	Sample Conc Units: mg/l	MS Conc Units: mg/l	MS % Rec	QC Limits Rec
4.066	ND	3.898	95.9	80-120

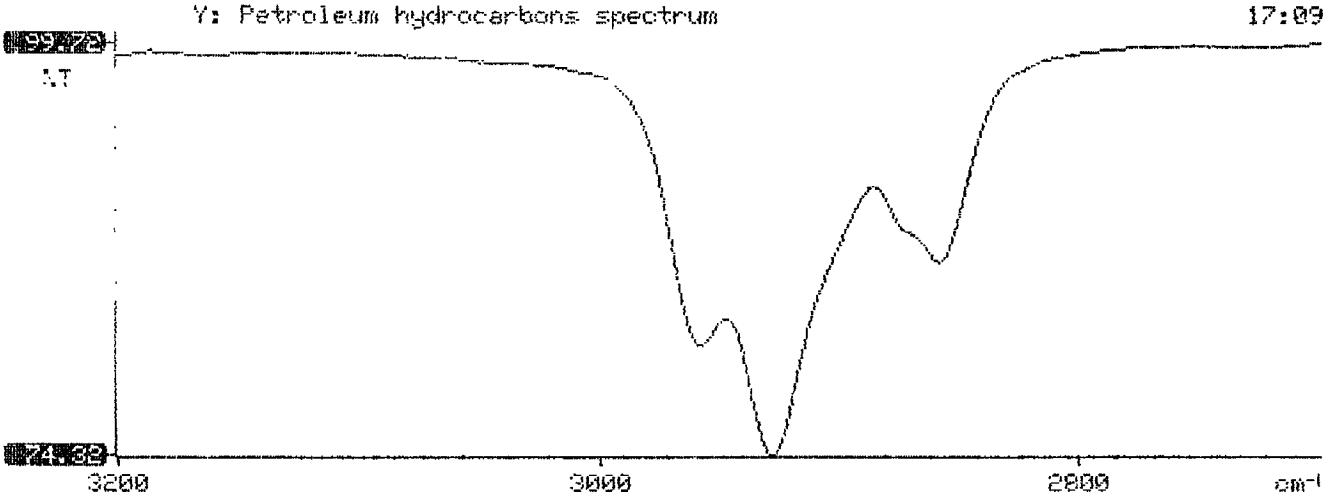
Matrix Spike Duplicate					
Spike Added Units: mg/l	MSD Conc Units: mg/l	MSD % Rec	% RPD	QC LIMITS RPD	REC
4.066	3.737	91.9	4.2	10.0	80-120

Blank Spike			
Spike Conc Units: mg/l	BS Conc Units: mg/l	% Rec	BS LIMITS (%)
4.066	4.243	104	80-120

IR Spectra

9A7676
J360 W

```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                   Analysis Report                 *
*****************************************************
*
 04/08/25  17:09
*
*  Sample identification
 555865
*
*  Initial mass of sample, g
 120.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 148.033
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.126
*
*
*
```



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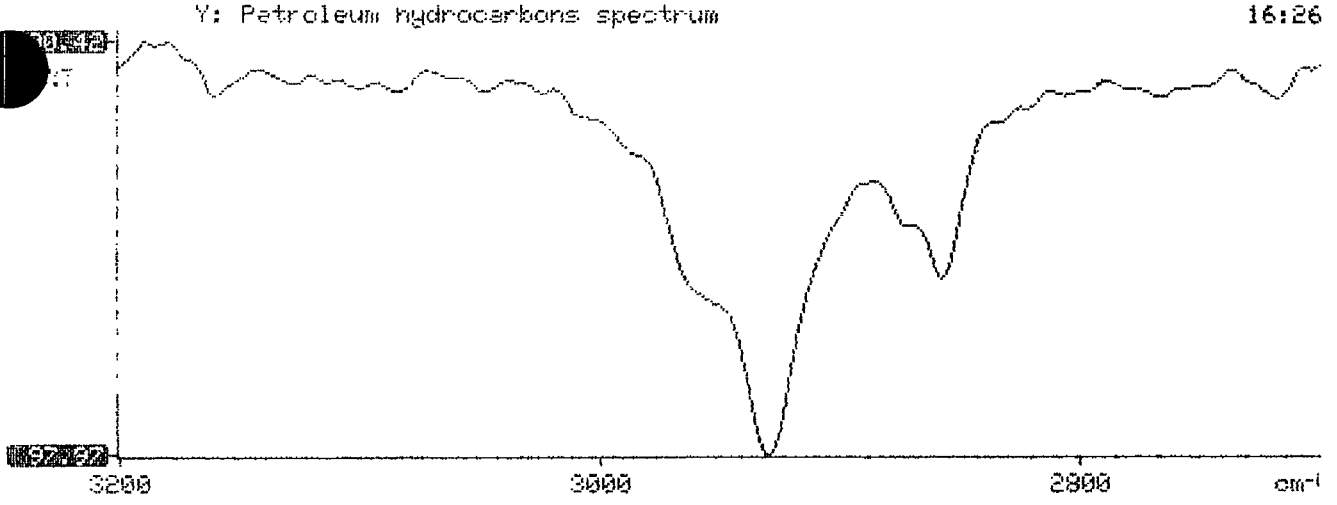
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  16:25
*
*  Sample identification
 555866
*
*  Initial mass of sample, g
 120.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.396
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.010
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  17:11
*
*  Sample identification
 555867
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 317.344
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.290
*
*
*
```

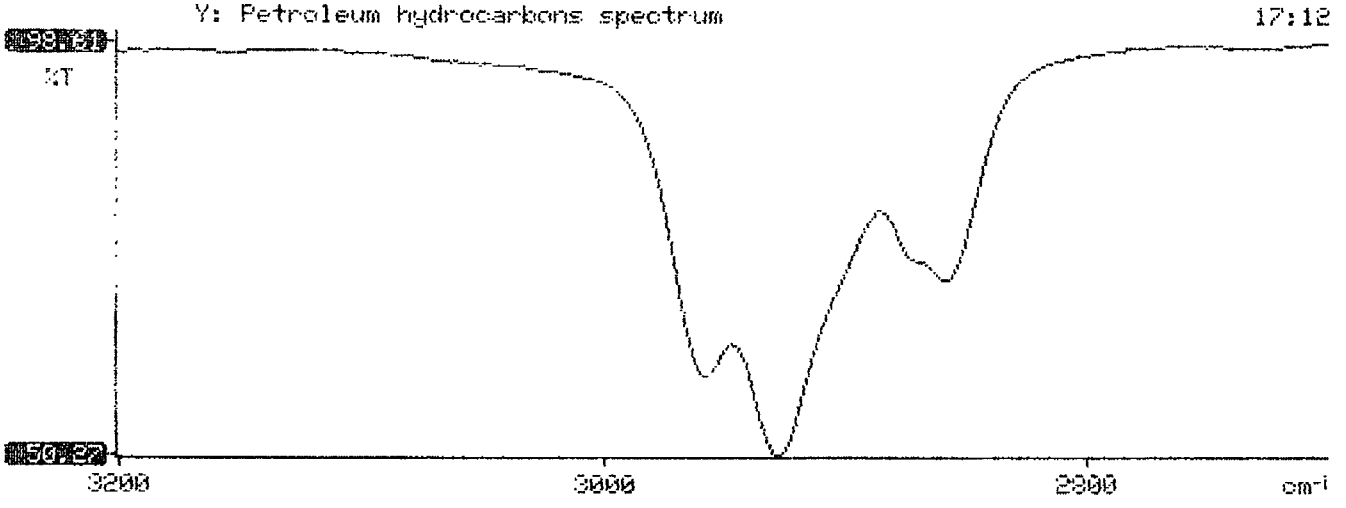

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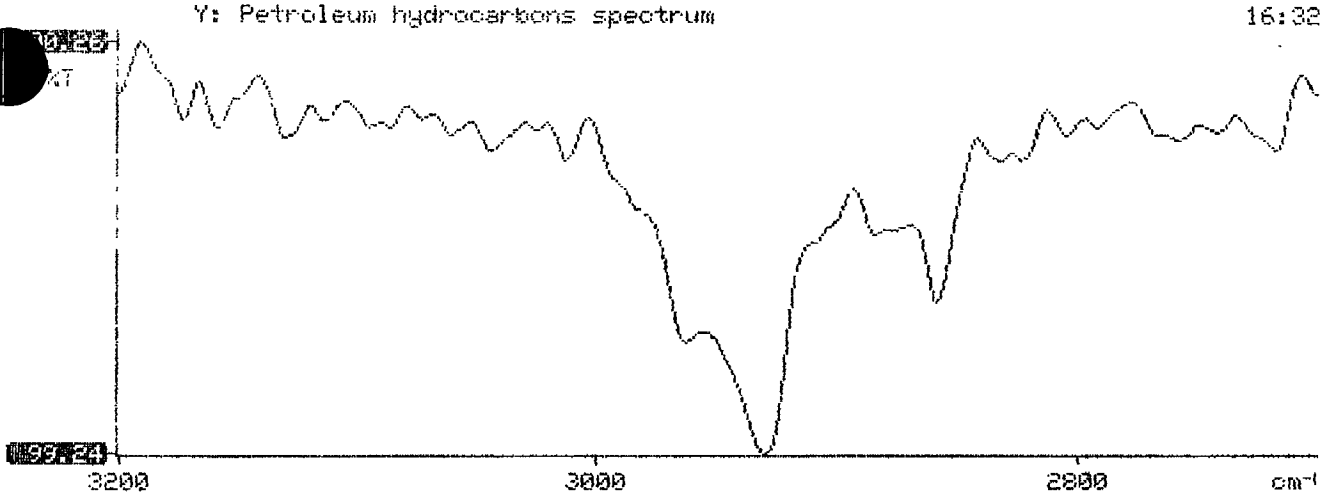
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  16:32
*
*  Sample identification
 555868
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.094
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.004
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  16:34
*
*  Sample identification
 555869
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.180
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.006
*
*
*
```

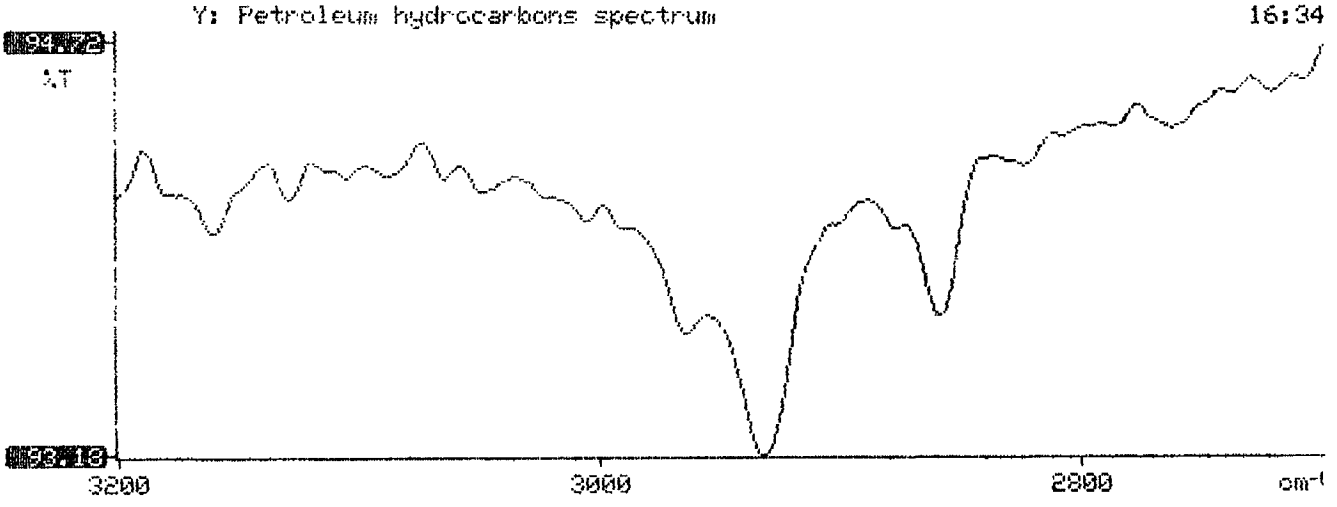

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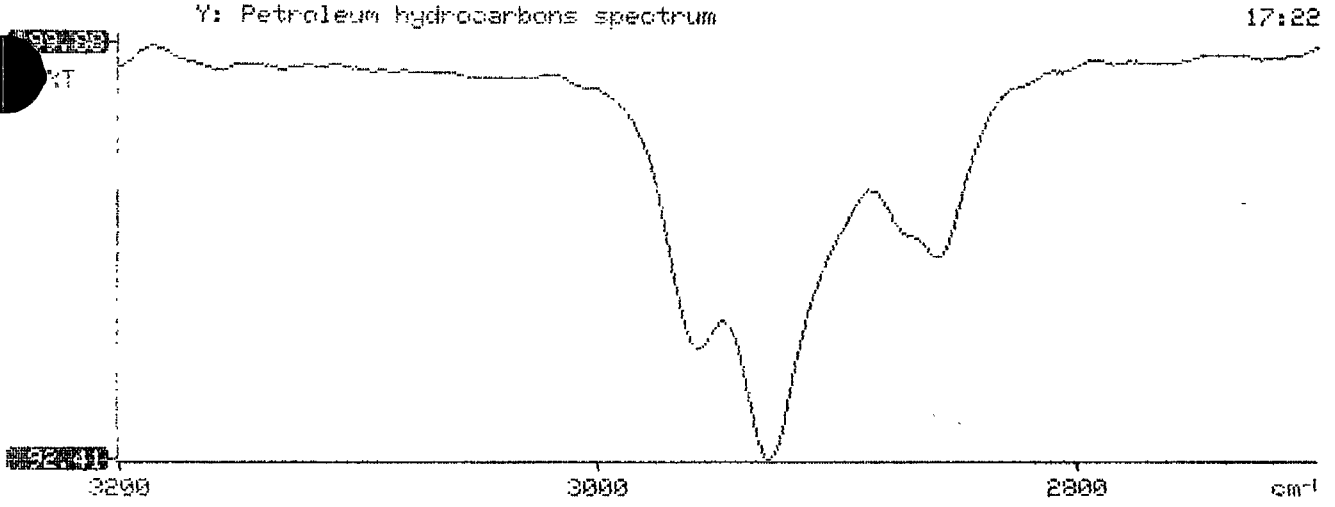
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  17:22
*
*  Sample identification
 555870
*
*  Initial mass of sample, g
 130.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 25.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 34.168
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.033
*
*
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                  Analysis Report                  *
*****************************************************
*
 04/08/25  16:06
*
*  Sample identification
 8/24/04  PBW
*
*  Initial mass of sample, g
 100.000
*
*  Volume of sample after extraction, ml
 1.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.404
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.072
*
*
*
```

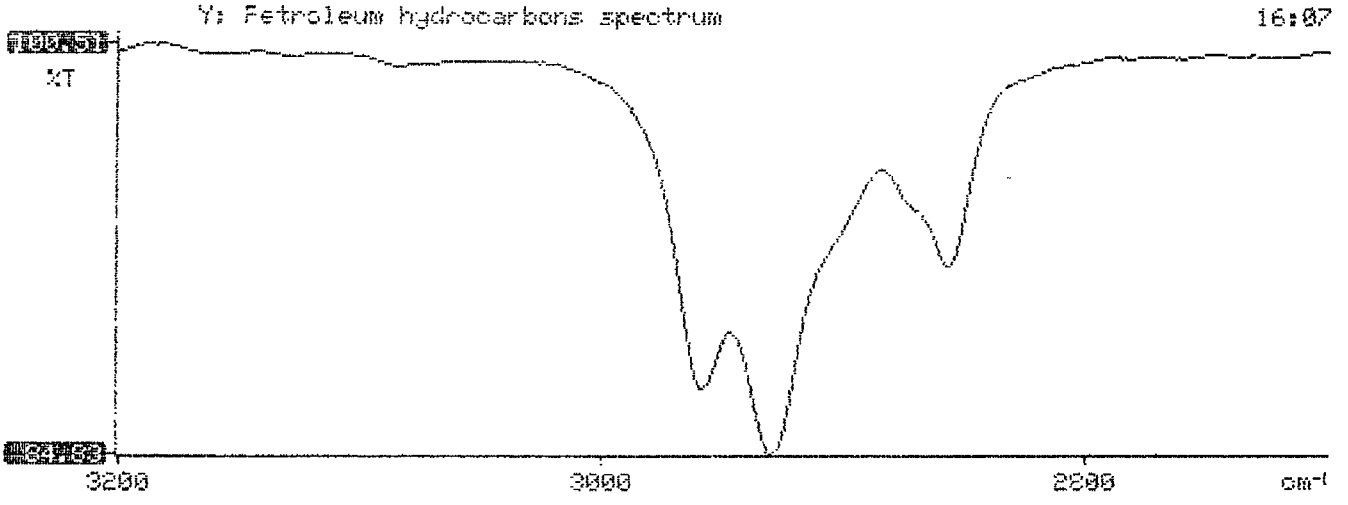

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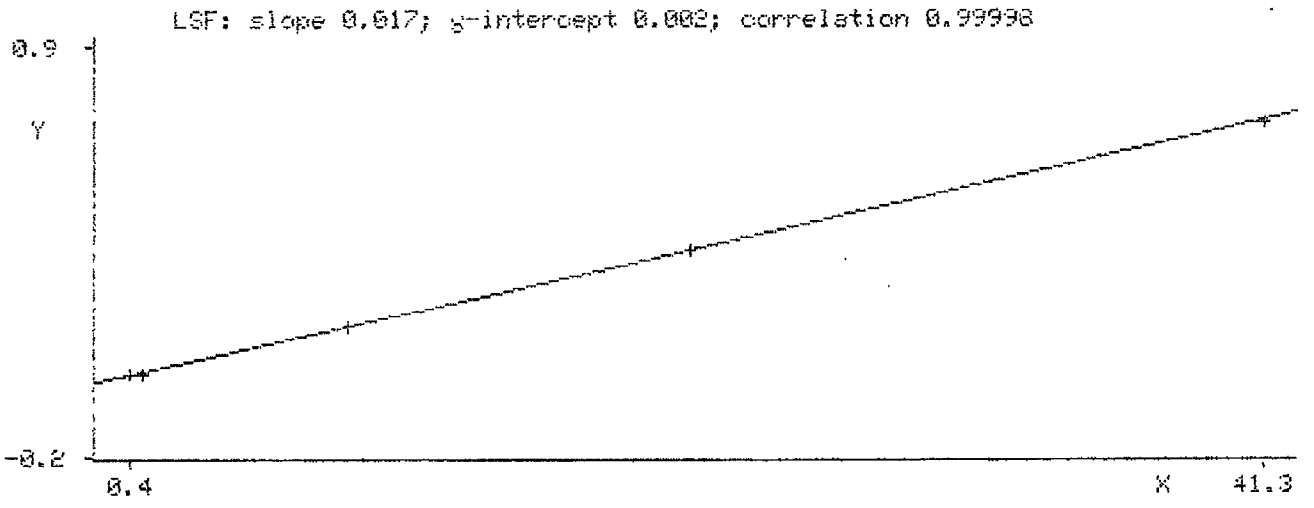
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                 Calibration Report                *
*****************************************************
*
 04/08/25  08:14
*
*
*  Concentrations of standards, mg/100 ml
 41.290
 20.645
 8.258
 0.826
 0.413
*
*
*  Net absorbance of standards
 0.722
 0.366
 0.147
 0.014
 0.009
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*           Calibration Standards Spectra           *
*****************************************************
*
 04/08/25  08:14
*
*
*
*
*  Concentration of standard, mg/100 ml
 41.290
*
*
*
*
*  Net absorbance of standard
 0.722
*
*
*
*
```
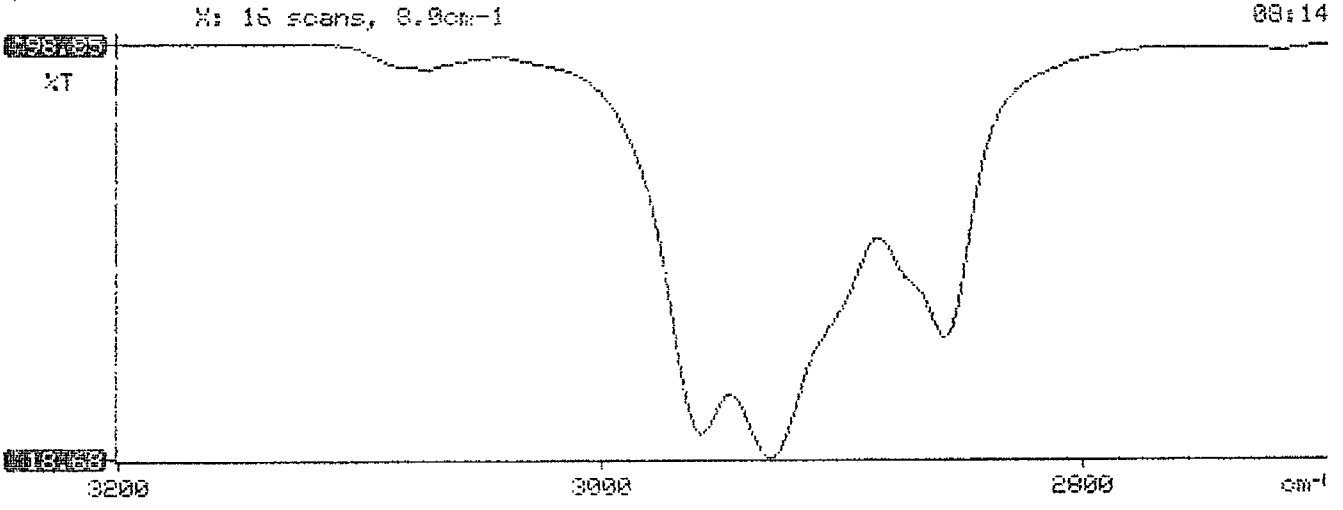
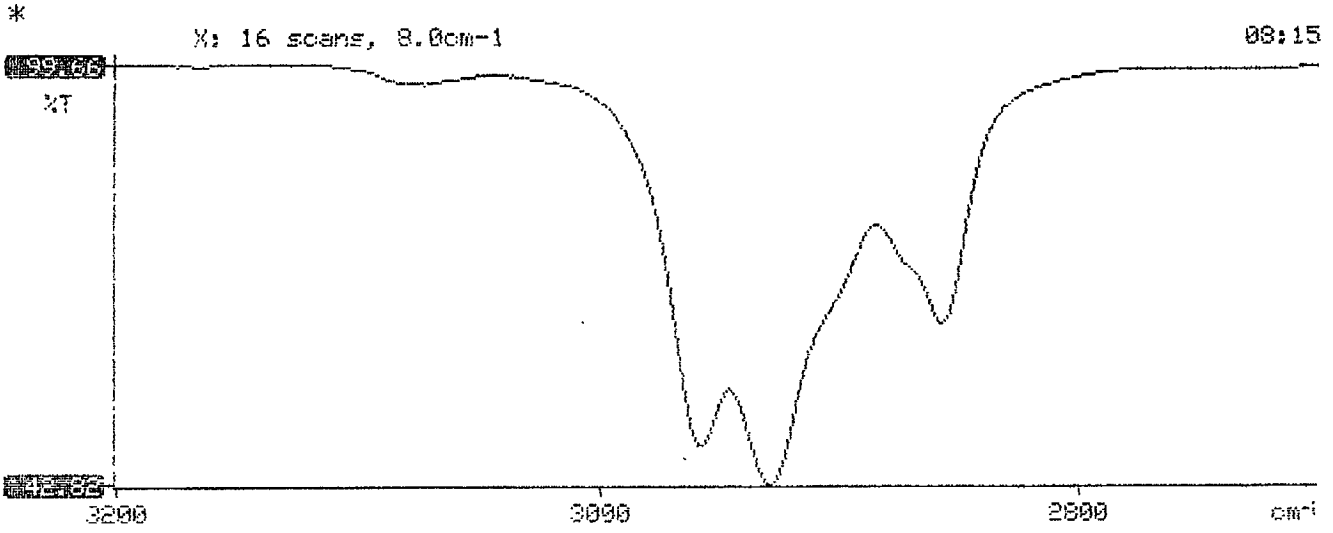
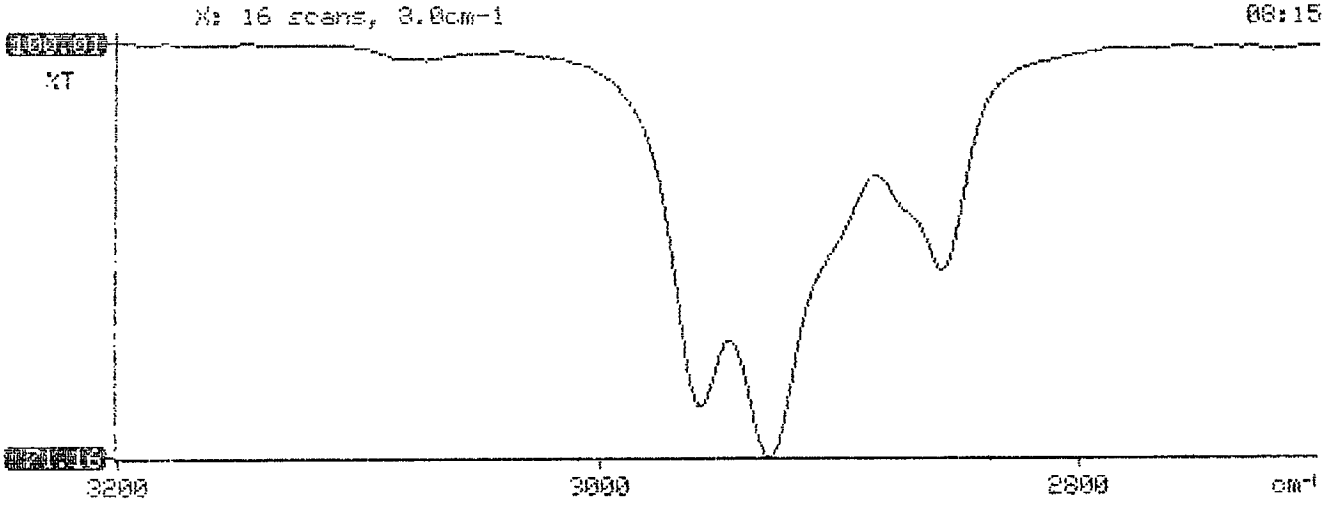



*
*
* Concentration of standard, mg/100 ml
20.645

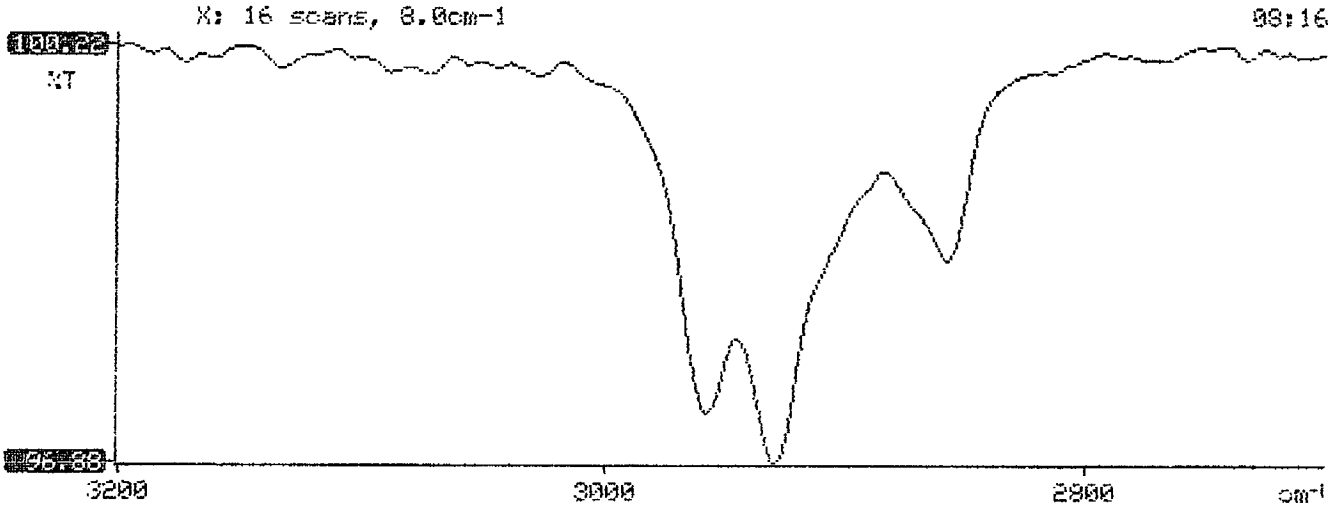
* Net absorbance of standard
0.366
*
*
*



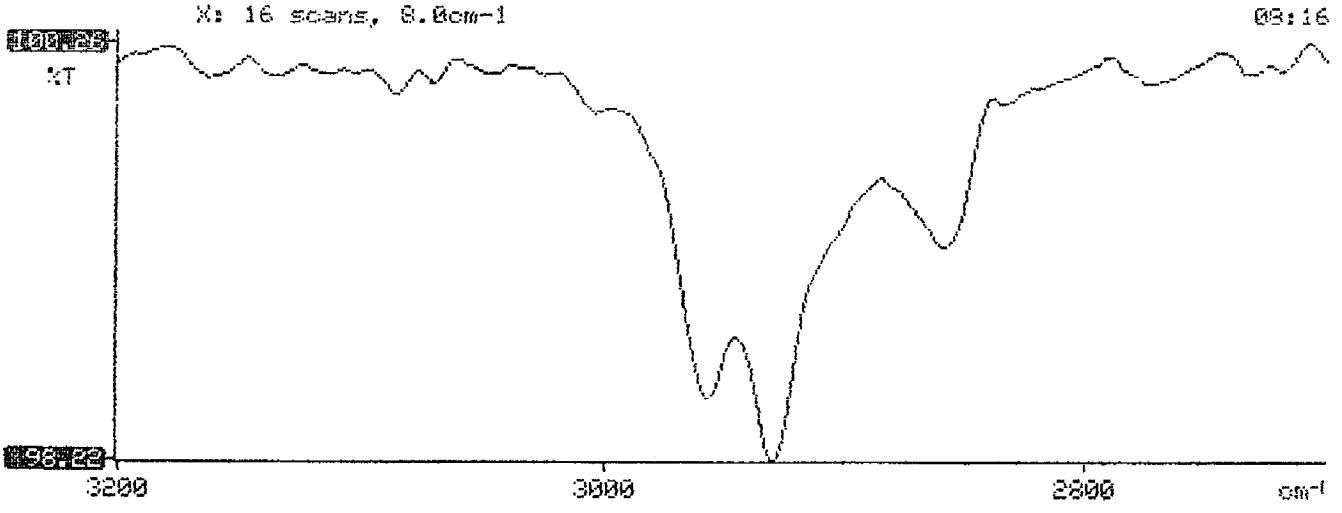
*
Concentration of standard, mg/100 ml
.258
*
*
* Net absorbance of standard
0.147
*
*
*



*
* Concentration of standard, mg/100 ml
0.826
*
*
* Net absorbance of standard
0.014
*
*
*



*
*
* Concentration of standard, mg/100 ml
0.413
*
*
* Net absorbance of standard
0.009
*
*
*



SEVERN TRENT STL

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel 732 549 3900 Fax 732 549 3679
www.stl-inc.com

09/30/2004

ECOR Solutions
508 Brandywine Parkway
West Chester, PA 19380

Attention: Mr. Rich Evans

Laboratory Results
Job No. K613 - Earle Mainside

Dear Mr. Evans:

Enclosed are the results you requested for the following sample(s) received at our laboratory on September 10, 2004.

Lab No.	Client ID	Analysis Required
562169	BS_1-Final_Eff	PHC

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Joy Kelly, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

Analytical Results Summary **1**

General Information **3**
Chain of Custody 3
Laboratory Chronicles 5
Methodology Review 7
Data Reporting Qualifiers 11
Non-Conformance Summary 13

Petroleum Hydrocarbons Forms and Data **15**
Analytical Results Summary 15
QA Summary 17
IR Spectra 19

This is the Last Page of the Document **27**

Analytical Results Summary

Site: Earle Mainside

Lab Job No: K613

Date Received: 09/10/2004

Date Sampled: 09/09/04

Matrix: WATER

QA Batch: 7709

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
562169	BS_1-Final_Eff	09/13/04	09/14/04	1.0	ND

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

General Information

Chain of Custody

K613

STL EDISON

777 New Durham Road
Edison, N w Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice) Bart Brophy	Samplers Name (Printed) Bart Brophy	Site/Project Identification Earle Mainside / Bio-Slurper #1
Company ECOR Solutions	P.O. #	State (Location of site): NJ: ☑ NY: ☐ Other:
		Regulatory Program:
Address 508 Brandywine PKWY	Analysis Turnaround Time: Standard ☐	
City West Chester, State PA	Rush Charges Authorized For: 2 Week ☐	
Phone 610-431-8731 Fax 610-431-2852	1 Week ☐ Other ☑ 48hr.	

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: K613

Sample Identification	Date	Time	Matrix	No. of Cont.	TPH										Sample Numbers
Bio-Slurper #1 Final EFFluent	9-9-04	17:35	WW	1	X										562169

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH Soil:
6 = Other _____, 7 = Other _____ Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Bart Brophy	ECOR Solutions	9-10-04 / 0800	1) [signature]	STL
2) [signature]	STL	9-10-04 / 1200	2) [signature]	STL EDISON
3)		/	3)	
4)		/	4)	

Laboratory Certifications: New Jers y (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL Edison

4

Laboratory Chronicles

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

Job No: K613 **Site:** Earle Mainside

Client: ECOR Solutions

WET CHEM

PET HYDROCARBONS

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
562169	9/9/2004	9/10/2004	9/13/2004	Yang, Xiufeng	9/14/2004	Trubanova, Olga	7709

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2 Rev 4.1. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method - 200.7/SW846 6010B and for solid matrix - 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1/7470A and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method Furnace	Solid Test Method Furnace
Antimony	200.9	7041
Arsenic	200.9	7060A
Cadmium	200.9	7131A
Lead	200.9	7421
Selenium	200.9	7740
Thallium	200.9	7841

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in water and solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

Nonconformance Summary

STL Edison Job Number: K613

Client: ECOR Solutions

Date: 9/29/2004

Sample Receipt:

Sample delivery conforms with requirements.

Wet Chemistry \ Microbiology:

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Michael J. Urban

Michael J.Urban
Laboratory Manager

Petroleum Hydrocarbons Forms and Data

Analytical Results Summary

Site: Earle Mainside

Lab Job No: K613

Date Received: 09/10/2004
Matrix: WATER

Date Sampled: 09/09/04
QA Batch: 7709

Total Petroleum Hydrocarbons (418.1)

STL Edison Sample #	Client ID	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/l
562169	BS_1-Final_Eff	09/13/04	09/14/04	1.0	ND

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l.

QA Summary

PETROLEUM HYDROCARBONS

Matrix: WATER

Lab Sample No.: 562991

QA Batch No.: 7709

Lab Job No.: K747

Laboratory Blank	
Blank Conc Units: mg/l	Quant Limit Units: mg/l
ND	1.0

Matrix Spike				
Spike Added Units: mg/l	Sample Conc Units: mg/l	MS Conc Units: mg/l	MS % Rec	QC Limits Rec
4.13	ND	3.95	95.6	80-120

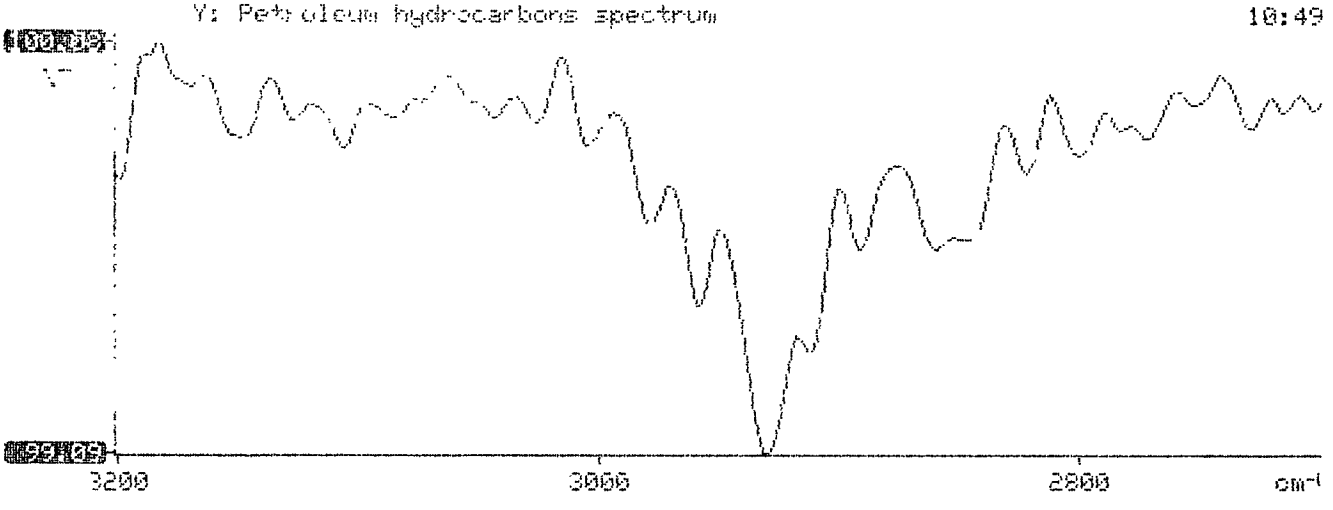
Matrix Spike Duplicate					
Spike Added Units: mg/l	MSD Conc Units: mg/l	MSD % Rec	% RPD	QC LIMITS RPD	REC
4.13	4.07	98.5	3.0	10.0	80-120

Blank Spike			
Spike Conc Units: mg/l	BS Conc Units: mg/l	% Rec	BS LIMITS (%)
4.13	4.15	100	80-120

IR Spectra

K613/7709 ω

```
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                  Analysis Report                  *
*****************************************************
*
 04/09/14  10:48
*
*  Sample identification
 562169
*
*  Initial mass of sample, g
 135.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.094
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.003
*
*
*
```



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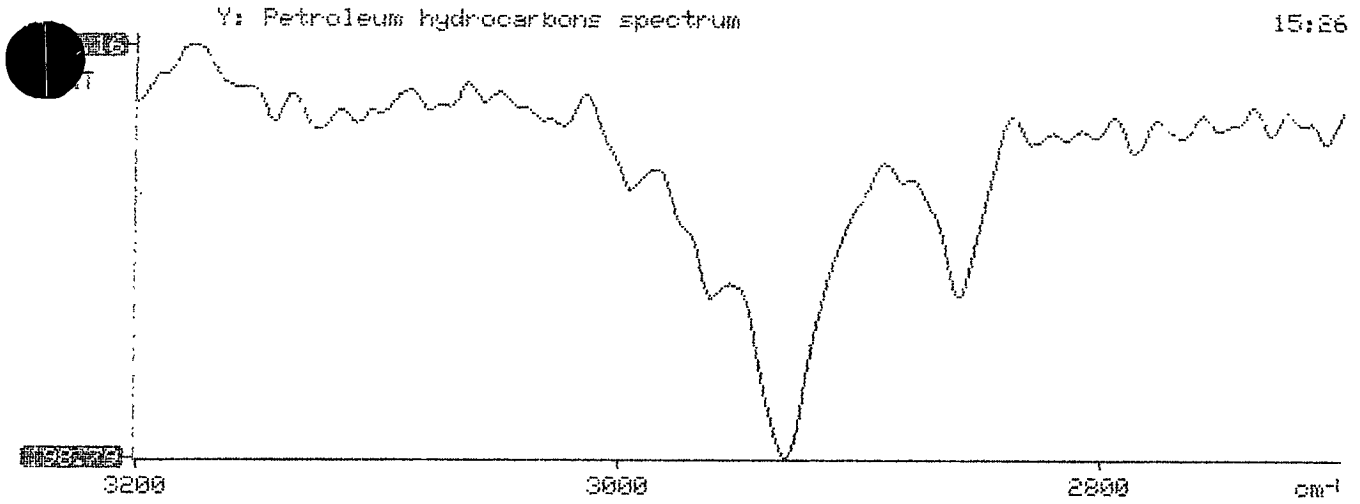
*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                 Analysis Report                   *
*****************************************************
*
 04/09/13  15:26
*
*  Sample identification
 9/13/04 PBW
*
*  Initial mass of sample, g
 100.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 0.227
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.005
*
**
*
```



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*           Perkin-Elmer Model 1600 FT-IR           *
*                 Calibration Report                *
*****************************************************
*
 04/09/14  07:53
*
*
*  Concentrations of standards, mg/100 ml
 41.229
 20.614
 8.246
 0.825
 0.412
*
*
*  Net absorbance of standards
 0.736
 0.370
 0.150
 0.015
 0.007
*
*
*
```

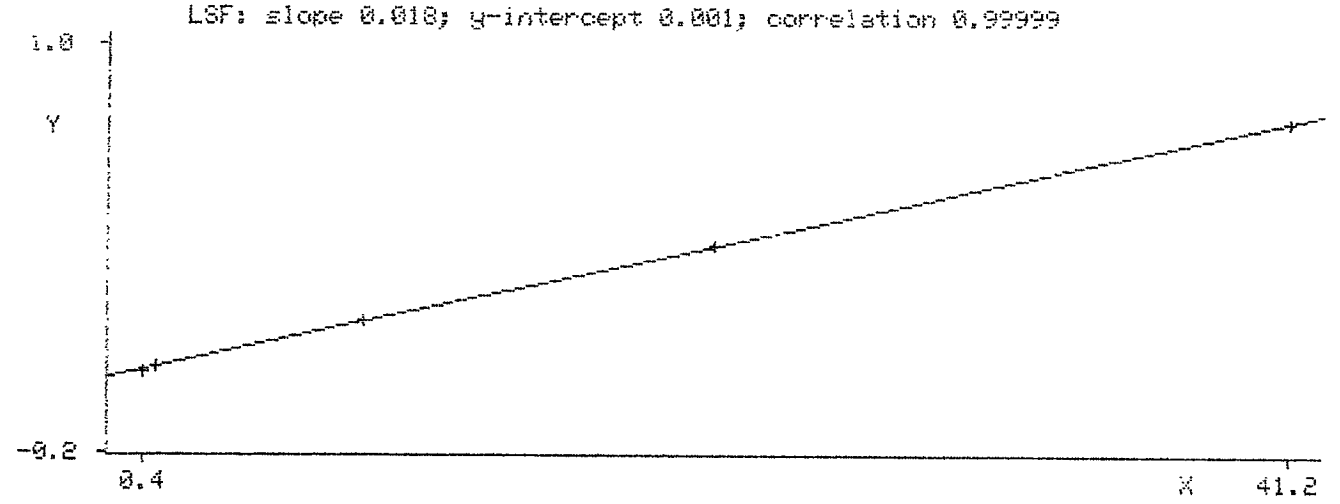

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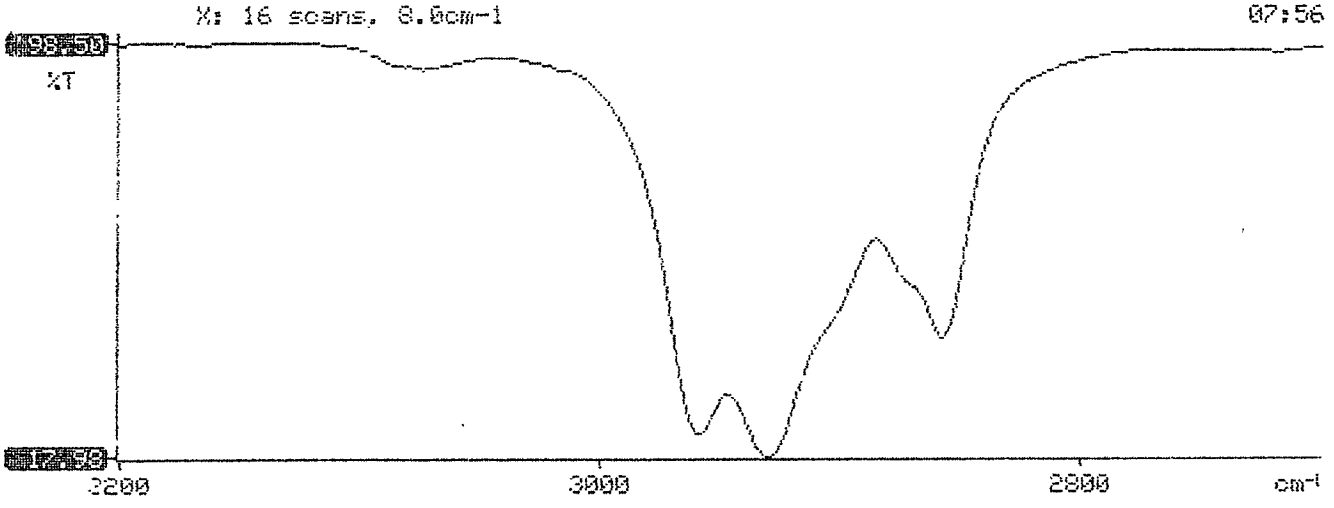
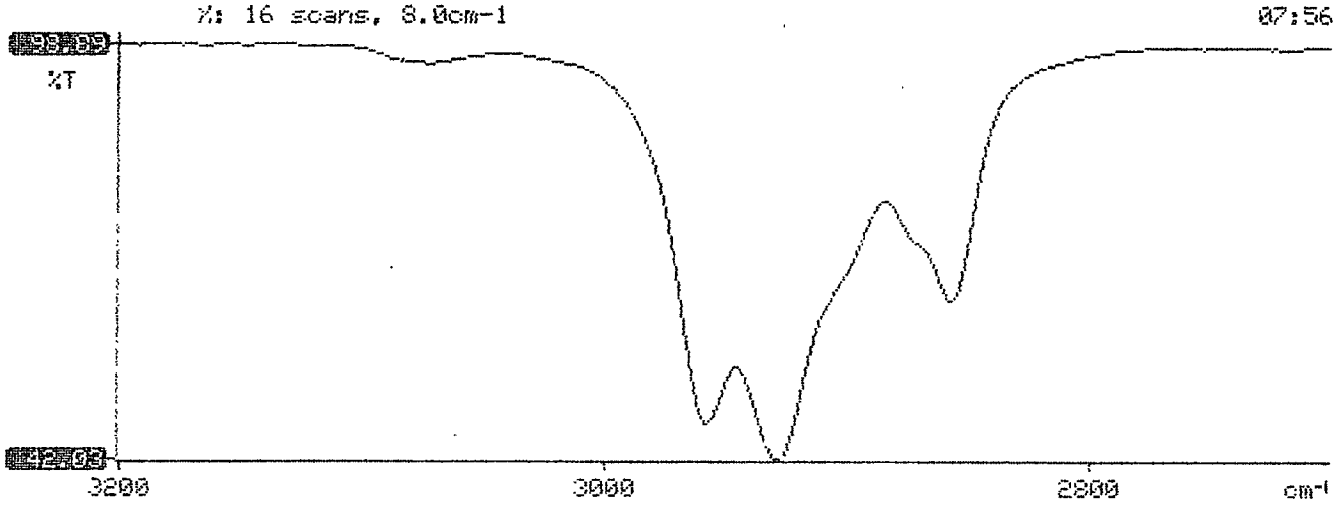
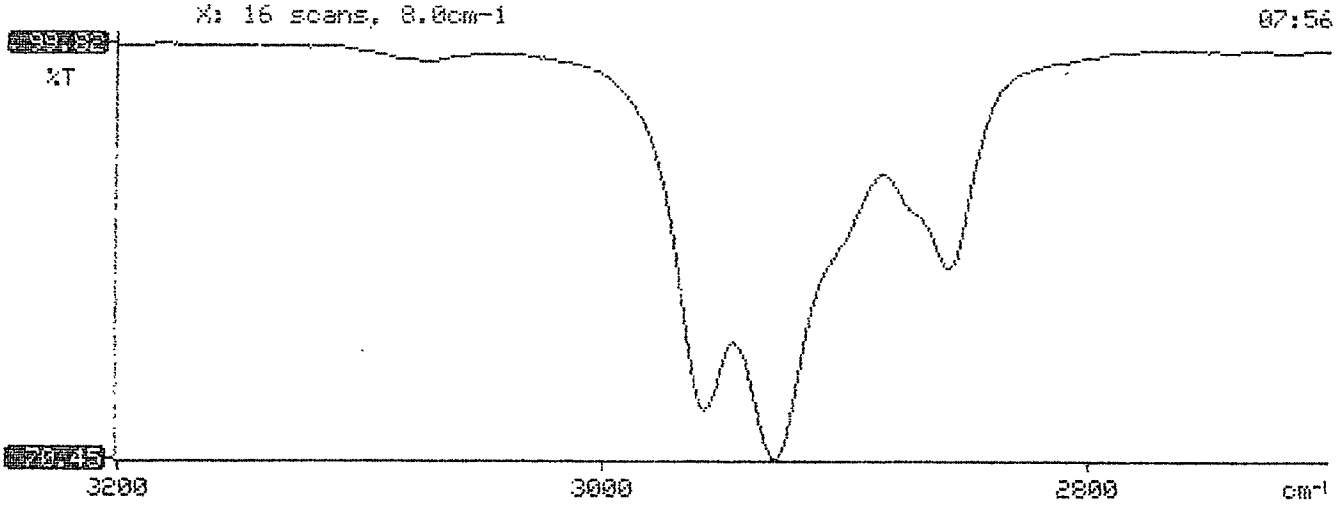
*****************************************************
                    STL Edison                       *
                                                     *
                  Test Method for                    *
*     Oil and Grease and Petroleum Hydrocarbons      *
*                 in Water and Soil                  *
*                                                    *
*           Perkin-Elmer Model 1600 FT-IR            *
*           Calibration Standards Spectra            *
*****************************************************
*
 04/09/14  07:56
*
*
*
*
*  Concentration of standard, mg/100 ml
 41.229
*
*
*
*
*  Net absorbance of standard
 0.736
*
*
*
*
*
```



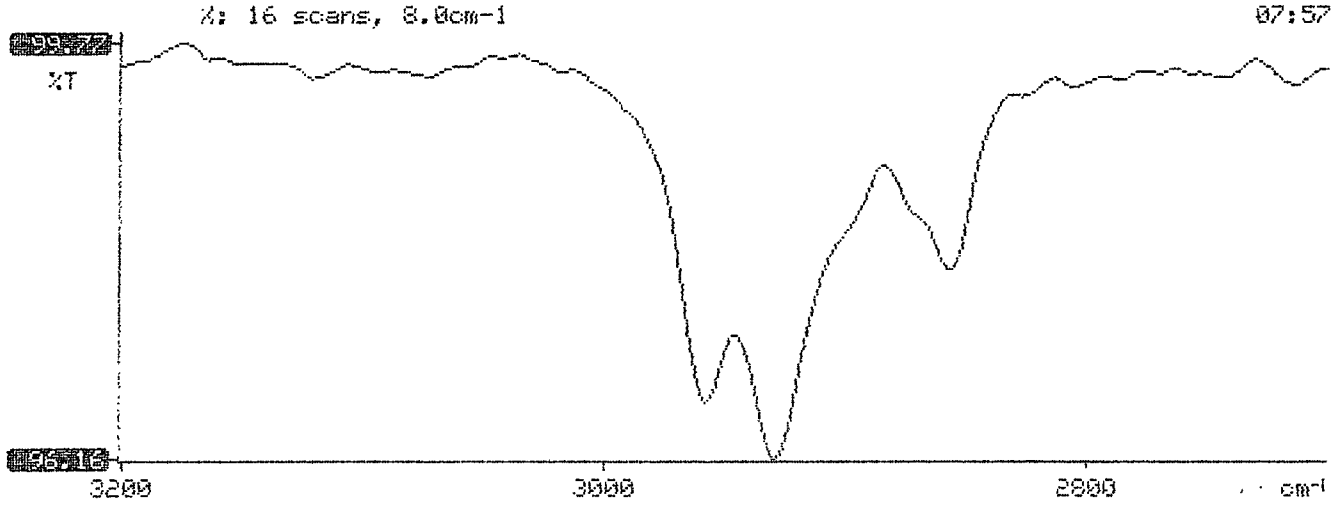
*
**
* Concentration of standard, mg/100 ml
20.614
*
**
* Net absorbance of standard
0.370
*
**
*



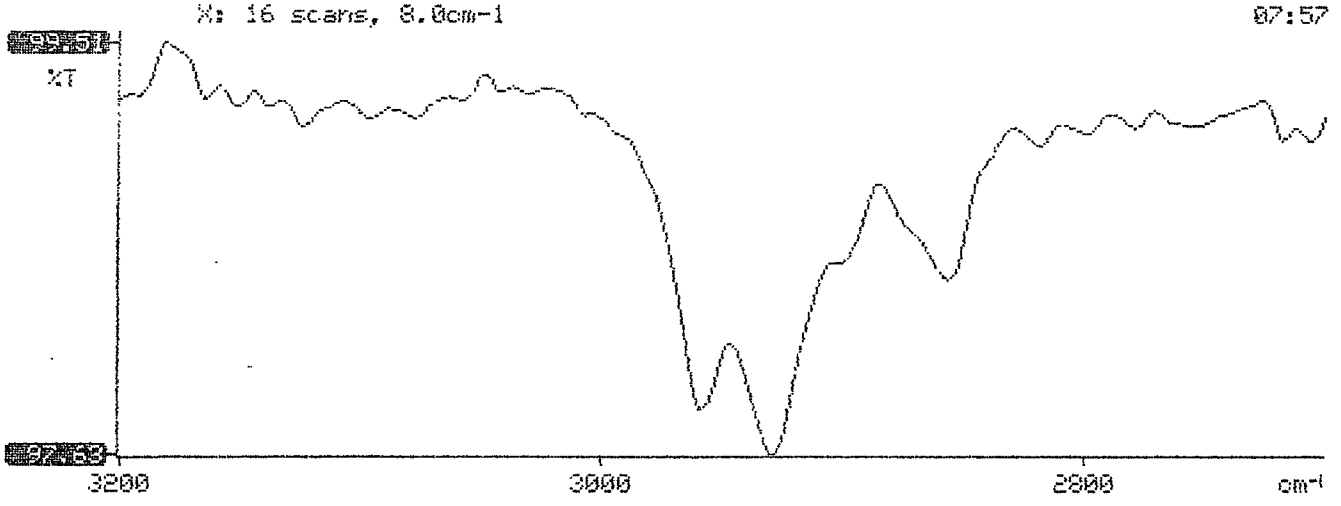
*
**
* Concentration of standard, mg/100 ml
8.246
*
**
* Net absorbance of standard
0.150
*
**
*



*
* Concentration of standard, mg/100 ml
.825
*
* Net absorbance of standard
0.015
*
**
*



Concentration of standard, mg/100 ml
0.412
*
**
* Net absorbance of standard
0.007
*
**
*



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*****************************************************
*                    STL Edison                     *
*                                                   *
*                  Test Method for                  *
*     Oil and Grease and Petroleum Hydrocarbons     *
*                 in Water and Soil                 *
*                                                   *
*            Perkin-Elmer Model 1600 FT-IR          *
*                   Analysis Report                 *
*****************************************************
*
 04/09/13  15:30
*
*  Sample identification
 9/13/04 BSW
*
*  Initial mass of sample, g
 100.000
*
*  Volume of sample after extraction, ml
 10.000
*
* dilution factor, 1 = no dilution
 1.000
*
* percent solids, 100% = dry soil or water sample
 100.000
*
*  Petroleum hydrocarbons, ppm
 4.219
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.076
*
*
*
```

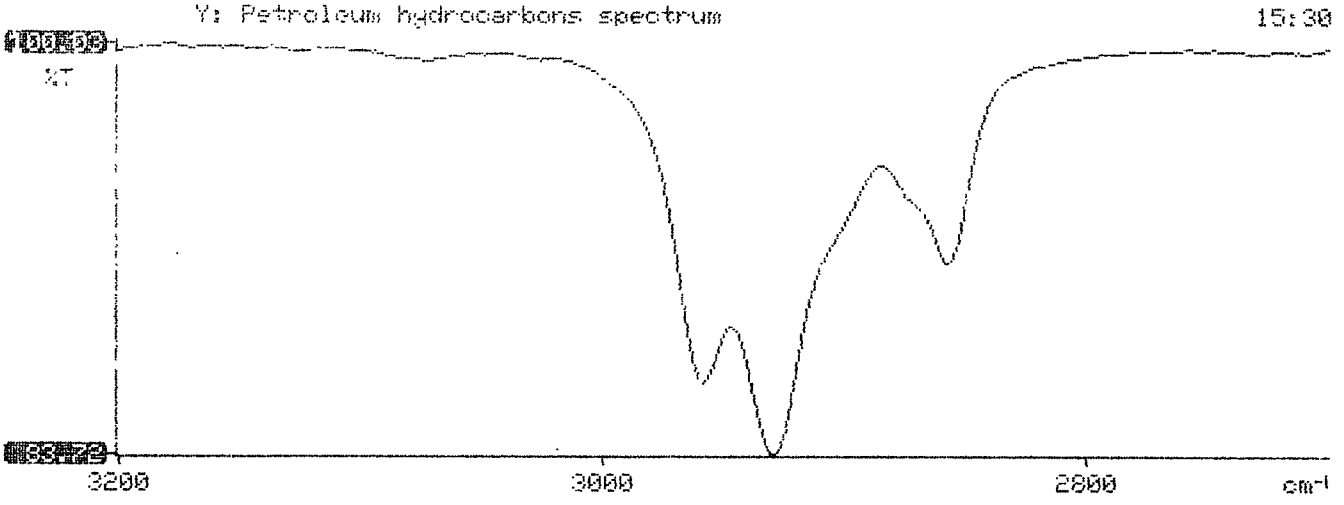

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