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BIOSLURPER STATUS REPORT
FOR APRIL THROUGH AUGUST 1998
NAVAL WEAPONS STATION - EARLE
COLTS NECK, NEW JERSEY

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1.0 INTRODUCTION

This report summarizes the second quarter results for the ongoing bioslurper operations at Site 16 at the Naval Weapons Station-Earle facility. The report summarizes the product recovered, groundwater treated, and the analytical results of the air and effluent discharges from the bioslurper systems. The operation period was from April 1, 1998 through August 21, 1998, however, the recovery numbers for the entire operational time are summarized in the report.

Bioslurper Unit #1 (located adjacent to Building C-16) recovers product from the following product extraction wells: 16MW-13, 16MW-14, 16MW-15, MW16-04, and vapor extraction wells: 16MW-22 and 16MW-23. Bioslurper Unit #2 (located north of Building C-50) extracts from 16MW-20, 16MW-16, C17/20MW-07, 16MW-17 and 16MW-19. Figure 1 depicts the locations of the extraction wells and bioslurping systems.

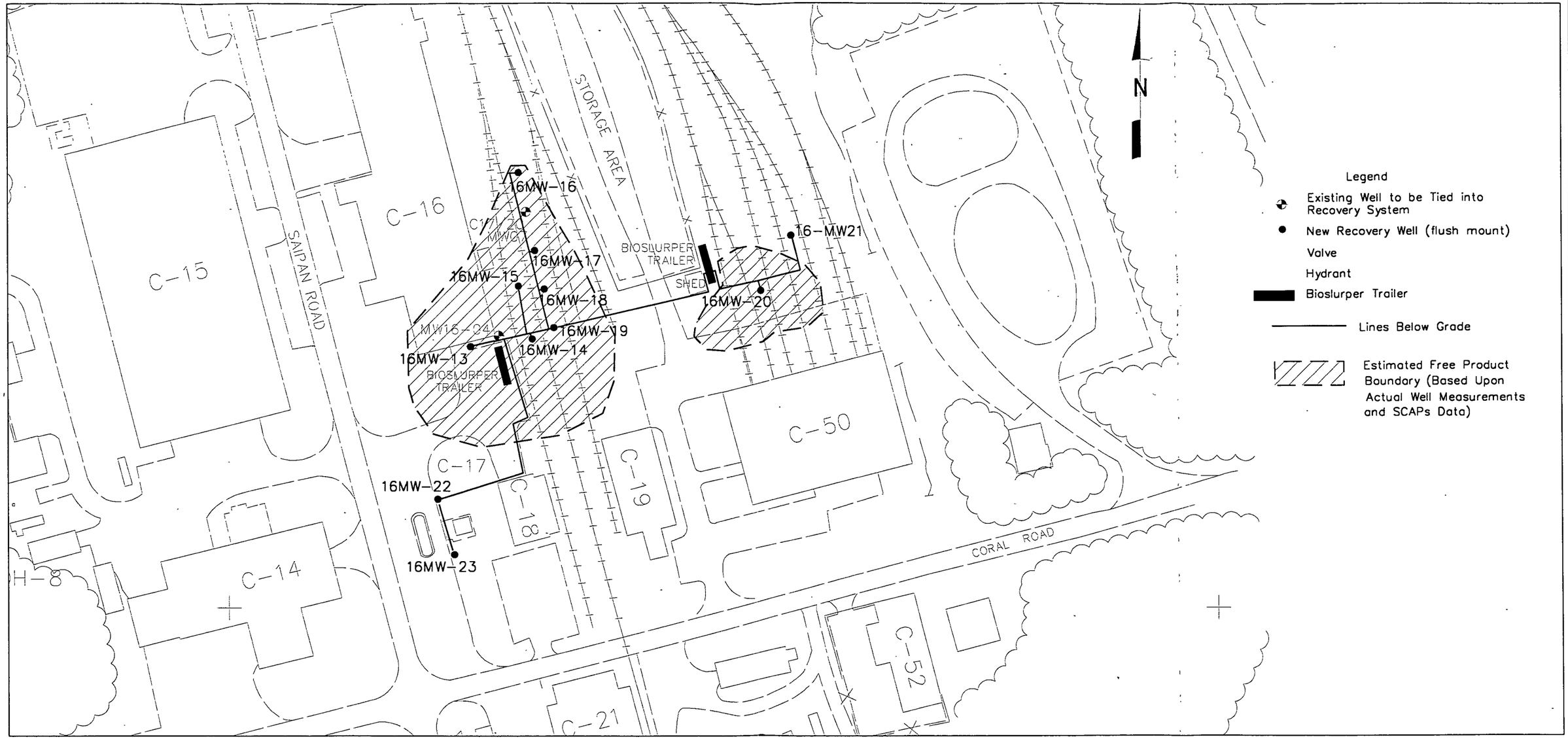
2.0 OPERATIONS AND DIFFICULTIES ENCOUNTERED

APRIL 1998

Bioslurper Unit #1 was operated for a total of 79.5 hours between April 1, 1998 and April 30, 1998, and Bioslurper Unit #2 was operated for a total of 71.5 hours. The total amount of groundwater extracted during this time period was 46,505 gallons, with approximately 325 gallons of free-phase oil removed. Appendix A provides a graphical representation of the amount of oil/groundwater extracted, and the operational hours for each Unit.

Analytical results of an air discharge sample collected from Bioslurper Unit No. 1 on April 3, 1998, revealed that the discharge concentration slightly exceeded the NJDEP Air Discharge Permit levels. The total volatile organic concentration of air sample 16-98-VD04 was 27.3 ppm(v), and the permit limit was 27 ppm(v); the total volatile organic discharge rate was calculated to be 0.039 lbs./hr., and the permit limit was 0.035 lbs./hr. Since four other air samples from the same bioslurper unit were all within the air discharge limits, and no system modifications were implemented during the air sampling event in question. The precision of the laboratory results from the air sample is questionable. As per conversations with the analytical laboratory, there could be as much as a 20% error factor in the T014 EPA analytical method, even though the laboratory results meet the surrogate recovery limits specified in the EPA analytical method. There is also a 2% error factor associated with the air flow measurements of the Magnehelic gauge.

Unit No.1 was operating for approximately 3 full weeks (not consecutive) prior to the air sample being taken. Three air samples were obtained during the three weeks of operation, and all of the analytical parameters were below the Air Permit Limits. The system was operated until review of the analytical results of the air sample in question



U.S. Navy RAC Naval Weapons Station - Earle									
Recovery Well /System Layout									
FOSTER WHEELER ENVIRONMENTAL CORPORATION									
1"=100'			Issued for Construction				Figure 1		C. Tippmann
SCALE	NO.	DATE	DESCRIPTION	PREP	CHECK	APPROVED	DRAWING NO.	DRAWN BY	APPROVED

SITEPLN1

(16-98-VD-04) indicated there may have been a permit violation. Appendix B contains the tables summarizing the analytical results of the air samples collected during this operational period.

Foster Wheeler Environmental notified the Navy of the air permit exceedence. The Navy notified the New Jersey Department of Environmental Protection (NJDEP) of the air permit violation via telephone, and then in writing. NJDEP was advised that while the emissions were above the permit limit, they were not above the NJDEP de-minimus quantities allowed for discharge by NJDEP regulations. The NJDEP informed the Navy that the sytems could remain operational.

MAY 1998

Bioslurper Unit #1 was operated for a total of 39.5 hours from May 1, 1998 through June 2, 1998, and Bioslurper Unit #2 was operated for a total of 20 hours. The total amount of groundwater extracted during March was 19,383 gallons, with approximately 320 gallons of free-phase oil also removed. Appendix A provides a graphical representation of the amount of oil/groundwater extracted, and the operational hours for each Unit.

On Tuesday, June 2, 1998, Foster Wheeler Environmental was informed that the Navy Weapons Station-Earle Fire Department was responding to a spill at Bioslurper Unit #2, located north of Building C-50. Water was discharging from the top of the bioslurper unit, and beyond the northern side of the bermed area, onto soils north and northeast of the Unit. The Fire Department responded by placing oil-absorbent booms and pads in and around the spilled water. Foster Wheeler Environmental personnel responded to the Unit within an hour of notification by the Navy. Foster Wheeler Environmental proceeded to turn off the potable water line that caused the spill. The water that spilled from Unit No. 1 was potable water, which may have come in contact with minimal petroleum residue inside the seal water tank. The water was an orange rust color due to the high iron build-up on the inside of the tank. There was no free-product or sheen visible on the water that spilled from the unit.

The potable water spill was caused by a broken mechanical float which shuts off the potable water to the seal water tank. As the water level inside the tank rises, the float assembly lifts up and places a seal on the incoming water line. The tank is equipped with low- and high-sensors, which are wired to the control panel to shut off the entire system, if they are activated. The high sensor was activated at the time of the spill, and the entire system was shut down, insuring no oil or water were being brought into the system from the wells. However, the high sensor does not shut down the water supply line; the float assembly inside the tank is designed to shut off the potable supply.

The remaining water inside the seal water tank was sampled (CSO-AG-1) and the laboratory analysis revealed a total petroleum hydrocarbon (TPH) concentration of 190 parts per million (ppm). This TPH concentration was probably from potable water

coming into contact with vapor phase knock-out in the seal water tank. The analytical results of the spill samples are located in Appendix C. The soils at the downgradient side of the berm were sampled (CSO-Soil-1) and found to exhibit minimal TPH concentrations (145 ppm) and no detectable volatile organic compounds (VOCs). A second soil sample (CSO-Soil-2), collected further downgradient from the berm, also exhibited minimal TPH concentrations (78.6 ppm) and no VOCs. Even though the soils did not exceed the New Jersey soil clean-up criteria, the first two inches of soil in the area immediately downgradient of the berm was removed via shovel and placed in a drum. The excavated soil was transferred to Building 566, and placed with the TPH-contaminated soil being hauled from there for recycling.

JUNE 1998

After several discussions and a meeting with the Navy, it was determined that the bioslurper systems should be shut down until modifications could be made to the Units. The following modifications were made to the bioslurper units in July 1998:

- Solenoid valves were installed on the potable water lines coming into each of the bioslurper units. As requested by the Navy, the solenoid valves were located on the outside of the units. The potable water lines to the units supply water for the operation of the liquid ring pumps, which supply the vacuum for the product recovery operations.
    - The solenoid valves were installed in the "normally closed" position, such that if power to the systems is interrupted, the solenoid valve will shut, cutting off water to the Unit.
    - The solenoid valves were wired into the motor relays of the liquid ring pumps. Wiring the solenoid valves in this manner shuts off the water supply to the Units any time an alarm condition occurs within the Units and the liquid ring pump shuts down. The liquid ring pumps automatically shut down anytime an alarm condition occurs in the Units.
    - The upgraded modification allows the water supply to be regulated by a mechanical float assembly inside the seal water tank; however, if the mechanism fails, the water level will rise and activate the high-water level sensor, which in turn shuts off the entire Unit, including the water supply line.

- A vapor-phase knock out tank (with a demister pad) and two vapor-phase activated carbon drums were installed in the wooden shed adjacent to Bioslurper Unit No.1. This air treatment equipment was installed in the shed due to space limitations within the treatment trailer. The vapor-phase knock-out tank was equipped with low level, high level, and high/high-level float switches. The high- and low-level switches activate and deactivate opening of a solenoid valve, to drain the water from the vapor-phase tank. A one-inch diameter PVC line connects the vapor-phase knock out tank to the phase separator tank inside the bioslurper unit. This drain line is equipped with the solenoid valve previously discussed. When the solenoid valve opens, the drain

line is subject to the vacuum on the phase separator tank, and the water from the vapor-phase knock-out tank is vacuumed out into the phase separator tank. The water from the phase separator tank is subsequently treated with the water in the oil/water separator. The high/high level on the phase separator tank was wired into the Master Control Panel to turn off the entire system in the event of activation to prevent overflows.

- Two revised New Jersey Department of Environmental Protection (NJDEP) Air Discharge Permit Applications were completed to reflect the following modifications:
  1. The air treatment equipment was added to Bioslurper Unit No. 1.
  2. The air discharge limits for both Bioslurper Unit No. 1 and Unit No.2 were elevated to the maximum total volatile organic concentrations allowable by NJDEP.

AUGUST 1998

Bioslurper Unit #1 was operated for a total of 52 hours from August 3, 1998 through August 21, 1998, and Bioslurper Unit #2 was operated for a total of 39 hours. The total amount of groundwater extracted during August was 30,035 gallons, with approximately 280 gallons of free-phase oil also removed. Appendix A provides a graphical representation of the amount of oil/groundwater extracted, and the operational hours for each Unit.

The only operational problems encountered were float levels on the effluent side of the oil/water separator sticking once and a while, and shutting the systems down. The floats were modified to increase their buoyancy, and have operated flawlessly since the modification.

3.0 EVALUATION OF SITE CONDITIONS

Water level and product thickness measurements have been obtained periodically from the extraction wells since August 1997 to establish product thickness and groundwater elevation trends. Appendix D provides a graphical representation of the water levels and product thickness in the extraction wells. All of the product extraction wells contained measurable product, with the exception of 16MW-18 and 16MW-21. As expected, the vapor extraction wells (16MW-22 and 16MW-23) located near the former gas station, did not contain measurable free-product.

As depicted on the graphs in Appendix D, groundwater levels have been dropping since May due to seasonal changes. During the time period the systems were shut off (June 6, 1998 through August 3, 1998), measurements indicate that there was an increase in product thickness levels in the extraction wells. As soon as the systems were restarted, the product thickness levels returned to what they were prior the system being shut down.

The systems are being operated during working hours using the telemetry systems of the units. Bioslurper Unit #1 is being operated 7 to 9 hours a day, and Bioslurper Unit #2 is being operated 2 to 4 hours a day. As indicated on the graphs in Appendix A, increased system run times do not greatly increase the amount of free product recovered. By cycling the systems during the days and turning them off at night, the wells are allowed to recharge, and the O&M and disposal costs of the groundwater filter media are reduced. The product recovery rates versus the water recovery rates have varied from 1.1% to 2.3% for Unit #1, and 0.22% to 0.47% for Unit #2. This means that for every gallon of water recovered, 1.1% to 2.3% is oil for Unit #1, and 0.22% to 0.47% of the water recovered from Unit #2 is oil. Unit #1 shall be allowed to operate for longer periods to further evaluate if the oil recovery ratio can be maintained with increased water recovery without any problematic effects.

Baseline air measurements were also obtained prior to system start-up and during system operation. The air measurement readings from the wells are presented in Appendix E. As anticipated, the air levels in most extraction wells are showing an increase in oxygen concentration, while showing a decrease in carbon dioxide and methane, indicating increased air introduction from the system operation and an environment conducive for aerobic biodegradation of the hydrocarbons.

4.0 PRODUCT RECOVERY DATA

Table 1 summarizes the amount of free-phase oil recovered from the Bioslurper Extraction Units. Appendix A provides a graphical representation of the amount of oil/groundwater extracted and the operational hours of the system. Table 2 summarizes the groundwater extracted/treated to date. Table 3 summarizes the volume of total petroleum hydrocarbons (TPH) removed via the groundwater treatment component of bioslurper systems. Table 4 summarizes the volume of TPH removed via the air extraction component of bioslurper systems.

5.0 EFFLUENT AND AIR ANALYSIS

The effluent and the air discharges from the bioslurper units are routinely sampled to ensure discharges are in compliance with the NJDEP air discharge permit and the requirements set forth by the Navy Weapons Station-Earle Sewer Treatment Plant. The air discharge is sampled for total volatile organics (including benzene) and total petroleum hydrocarbons (TPH). Appendix B summarizes the analytical results of the air discharge samples and the permit limits. Tables 4 and 5 summarize the TPH analytical results for the groundwater effluent discharge samples collected from the bioslurper treatment units. Laboratory results are provided in Appendix F.

The effluent from the bioslurpers is analyzed weekly for TPH in order to ensure the discharge is within the NWS-Earle Sewer Treatment Plant's NJPDES Permit. The effluent is also occasionally sampled for a full range of organics, metals, PCBs, and

pesticides to document that no elevated levels are being discharged to the sewer treatment plant. On April 6, 1998, the effluent of Unit #1 (16(A)EW-98-W20 was also analyzed for volatile organic compounds (VOCs), semi-volatile organic compound (S-VOCs), PCBs/pesticides, and metals. No S-VOCs, PCBs or pesticides were detected in the effluent sample collected in April 1998. Low levels of xylenes (19.8 ppb) and 1,2,4-trimethylbenzene (17.4 ppb) were detected in the VOC analysis. It should be noted that the NWS-Earle Sewer Treatment Plant is not required to meet discharge criteria for dissolved petroleum constituents, only total petroleum hydrocarbons (TPH)(limit of 10 ppm). Low levels of some metals were detected in the effluent, but none of the analytes are above discharge criteria.

On June 6, 1998, the effluent of Unit #1 (16(A)EW-98-W55 and the effluent from Unit #2 were analyzed for volatile organic compounds (VOCs), semi-volatile organic compound (S-VOCs), PCBs/pesticides, and metals. No VOCs, S-VOCs, PCBs or pesticides were detected in the effluent samples collected in June 1998. Low levels of some metals were detected in the effluent, but none of the analytes are above discharge criteria. The effluent samples collected in August 1998 were also analyzed for VOCs, in addition to TPH, but no concentrations of VOCs were detected in the effluent.

As indicated by the analytical results, both bioslurper units are operating within the permit requirements established for air and treated water discharge. The only exception was the air permit exceedence discussed under the April Operational Summary. The analytical results for the air samples are provided in Appendix B. The effluent analytical results are provided in Appendix F.

TABLE 1
NAVAL WEAPONS STATION-EARLE BIOSLURPER UNITS
OIL EXTRACTED TO DATE

	Free-Phase Oil Extracted in February	**Free-Phase Oil Extracted in March**	**Free-Phase Oil Extracted in April**	**Free-Phase Oil Extracted in May**	**Free-Phase Oil Extracted in August**	**Total Free-Product Extracted to Date**
Bioslurper System #1	400 gallons	375 gallons	275 gallons	300 gallons	225 gallons	1,575 gallons
Bioslurper System #2	25 gallons	50 gallons	50 gallons	20 gallons	55 gallons	200 gallons
Total	425 gallons	425 gallons	325 gallons	320 gallons	280 gallons	1,775 gallons

TABLE 2
NAVAL WEAPONS STATION-EARLE BIOSLURPER UNITS
GROUNDWATER EXTRACTED/TREATED TO DATE

	Groundwater Extracted in February	**Groundwater Extracted in March**	**Groundwater Extracted in April**	**Groundwater Extracted in May**	**Groundwater Extracted in August**	**Total Groundwater Extracted/Treated to Date**
Bioslurper System #1	2,675 gallons	26,169 gallons	23,898 gallons	12,799 gallons	16,498 gallons	82,039 gallons
Bioslurper System #2	5,282 gallons	20,586 gallons	22,607 gallons	6,584 gallons	13,537 gallons	68,596 gallons
Total	7,957 gallons	46,755 gallons	46,505 gallons	19,383 gallons	30,035 gallons	150,635 gallons

TABLE 3
NAVAL WEAPONS STATION-EARLE BIOSLURPER UNITS
TOTAL PETROLEUM HYDROCARBONS (TPH) REMOVED VIA GROUNDWATER TREATMENT

	TPH Extracted via Groundwater Treatment in February	**TPH Extracted via Groundwater Treatment in March**	**TPH Extracted via Groundwater Treatment in April**	**TPH Extracted via Groundwater Treatment in May**	**TPH Extracted via Groundwater Treatment in August**	**Total TPH Extracted via Groundwater to Date**
Bioslurper System #1	60.75 lbs.	125.14 lbs.	306.42 lbs.	135.56 lbs.	47.30 lbs.	659.33 lbs.
Bioslurper System #2	4.25 lbs.	14.17 lbs.	32.40 lbs.	9.61 lbs.	----	60.43 lbs.
Total	65.00 lbs.	139.31 lbs.	338.82 lbs.	145.17 lbs.	47.30	719.76

TABLE 4
NAVAL WEAPONS STATION-EARLE BIOSLURPER UNITS
TOTAL PETROLEUM HYDROCARBONS (TPH) REMOVED VIA AIR EXTRACTION

	TPH Removed via Vapor Extraction in February	**TPH Removed via Vapor Extraction in March**	**TPH Removed via Vapor Extraction in April**	**TPH Removed via Vapor Extraction in May**	**TPH Removed via Vapor Extraction in August**	**Total TPH Removed via Vapor Extraction to Date**
Bioslurper System #1	22.4 lbs.	16.95 lbs.	36.73 lbs.	34.37 lbs.	24.79 lbs.	135.24 lbs
Bioslurper System #2	4.5 lbs.	7.7 lbs.	20.74 lbs.	9.96 lbs.	18.89 lbs.	61.79 lbs.
Total	26.9 lbs.	24.65 lbs.	57.47 lbs.	44.33 lbs.	43.68 lbs.	197.03 lbs.

TABLE 5:
BIOSLURPER UNIT NO.1
TOTAL PETROLEUM HYDROCARBON (TPH) EFFLUENT CONCENTRATIONS

EFFLUENT SAMPLES April 3, 1998	TPH Concentration	EFFLUENT SAMPLES April 9, 1998	TPH Concentration	EFFLUENT SAMPLES April 17, 1998	TPH Concentration	EFFLUENT SAMPLES May 1, 1998	TPH Concentration
Untreated Effluent **16(A)EW-98-W15**	969 ppm	Untreated Effluent	---*	Untreated Effluent **16(A)EW-98-W23**	610 ppm	Untreated Effluent **16(A)EW-98-W29**	516 ppm
After 1st Clay Unit **16(A)EW-98-W16**	771 ppm	After 1st Clay Unit	---*	After 1st Clay Unit **16(A)EW-98-W24**	852 ppm	After 1st Clay Unit **16(A)EW-98-W30**	48.6 ppm
After 2 Clay Units **16(A)EW-98-W17**	557 ppm	After 2 Clay Units	---*	After 2 Clay Units **16(A)EW-98-W25**	428 ppm	After 2 Clay Units **16(A)EW-98-W31**	3.39 ppm
After 3 Clay Units **16(A)EW-98-W18**	28.1 ppm	After 3 Clay Units **16(A)EW-98-21**	231 ppm	After 3 Clay Units **16(A)EW-98-W26**	112 ppm	After 3 Clay Units **16(A)EW-98-W32**	ND
After 2 Clay Units and 1 Carbon Unit **16(A)EW-98-W19**	5.15 ppm	After 3 Clay Units and 1 Carbon Unit	---*	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W27**	4.16 ppm	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W33**	ND
After 3 Clay Units and 2 Carbon Units (2/9/98) **16(A)EW-98-W20**	1.35 ppm	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W22**	3.77 ppm	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W28**	ND	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W34**	ND

The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.
***= The laboratory only sent enough bottles to collect two aqueous samples.**

TABLE 5
(Page 2 of 2):
BIOSLURPER UNIT NO.1
TOTAL PETROLEUM HYDROCARBON (TPH) EFFLUENT CONCENTRATIONS

EFFLUENT SAMPLES June 1, 1998	**TPH Concentration**	**EFFLUENT SAMPLES August 7, 1998**	**TPH Concentration**	**EFFLUENT SAMPLES August 13, 1998**	**TPH Concentration**
Untreated Effluent **16(A)EW-98-W50**	1160 ppm	Untreated Effluent **16(A)EW-98-W56**	581 ppm	Untreated Effluent **16(A)EW-98-W62**	106 ppm
After 1st Clay Unit **16(A)EW-98-W51**	1230 ppm	After 1st Clay Unit **16(A)EW-98-W57**	442 ppm	After 1st Clay Unit **16(A)EW-98-W63**	67 ppm
After 2 Clay Units **16(A)EW-98-W52**	2730	After 2 Clay Units **16(A)EW-98-W58**	2.14 ppm	After 2 Clay Units **16(A)EW-98-W64**	1.65 ppm
After 3 Clay Units **16(A)EW-98-W53**	929 ppm	After 3 Clay Units **16(A)EW-98-W59**	1.1 ppm	After 3 Clay Units **16(A)EW-98-W65**	ND
After 2 Clay Units and 1 Carbon Unit **16(A)EW-98-W54**	ND	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W60**	1.02 ppm	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W66**	ND
After 2 Clay Units and 2 Carbon Units **16(A)EW-98-W55**	ND	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W61**	ND	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W67**	ND

The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.

TABLE 6:
BIOSLURPER UNIT NO.2
TOTAL PETROLEUM HYDROCARBON (TPH) EFFLUENT CONCENTRATIONS

EFFLUENT SAMPLES April 3, 1998	TPH Concentration	EFFLUENT SAMPLES April 9, 1998	TPH Concentration	EFFLUENT SAMPLES April 17, 1998	TPH Concentration	EFFLUENT SAMPLES April 17, 1998	TPH Concentration
Untreated Effluent **16(B)EW-98-W15**	58.1 ppm	Untreated Effluent	---*	Untreated Effluent **16(A)EW-98-W23**	213 ppm	Untreated Effluent **16(A)EW-98-W29**	244 ppm
After 1st Clay Unit **16(B)EW-98-W16**	7.24 ppm	After 1st Clay Unit	---*	After 1st Clay Unit **16(A)EW-98-W24**	54.3 ppm	After 1st Clay Unit **16(A)EW-98-W30**	143 ppm
After 2 Clay Units **16(B)EW-98-W17**	1.19 ppm	After 2 Clay Units	---*	After 2 Clay Units **16(A)EW-98-W25**	4.2 ppm	After 2 Clay Units **16(A)EW-98-W31**	27 ppm
After 3 Clay Units **16(B)EW-98-W18**	ND ppm	After 3 Clay Units **16(B)EW-98-21**	ND	After 3 Clay Units **16(A)EW-98-W26**	ND	After 3 Clay Units **16(A)EW-98-W32**	ND
After 2 Clay Units and 1 Carbon Unit **16(B)EW-98-W19**	ND ppm	After 3 Clay Units and 1 Carbon Unit	---*	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W27**	ND	After 3 Clay Units and 1 Carbon Unit **16(A)EW-98-W34**	ND
After 3 Clay Units and 2 Carbon Units (2/9/98) **16(B)EW-98-W20**	ND ppm	After 3 Clay Units and 2 Carbon Units **16(B)EW-98-W22**	ND	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W28**	ND	After 3 Clay Units and 2 Carbon Units **16(A)EW-98-W35**	ND

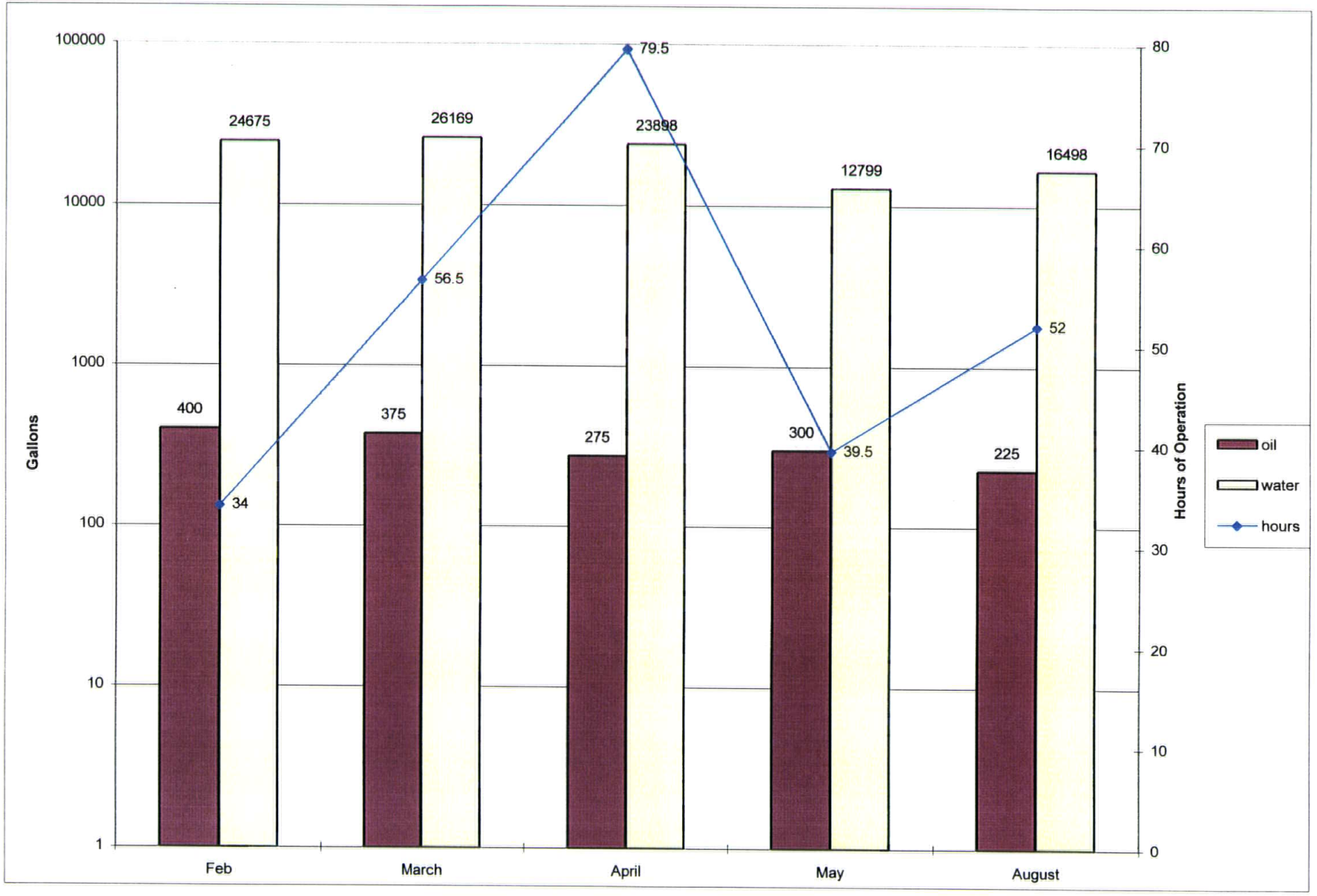
The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.
***= The laboratory only sent enough bottles to collect two aqueous samples.**

TABLE 6
(Page 2 of 2)
BIOSLURPER UNIT NO.2
TOTAL PETROLEUM HYDROCARBON (TPH) EFFLUENT CONCENTRATIONS

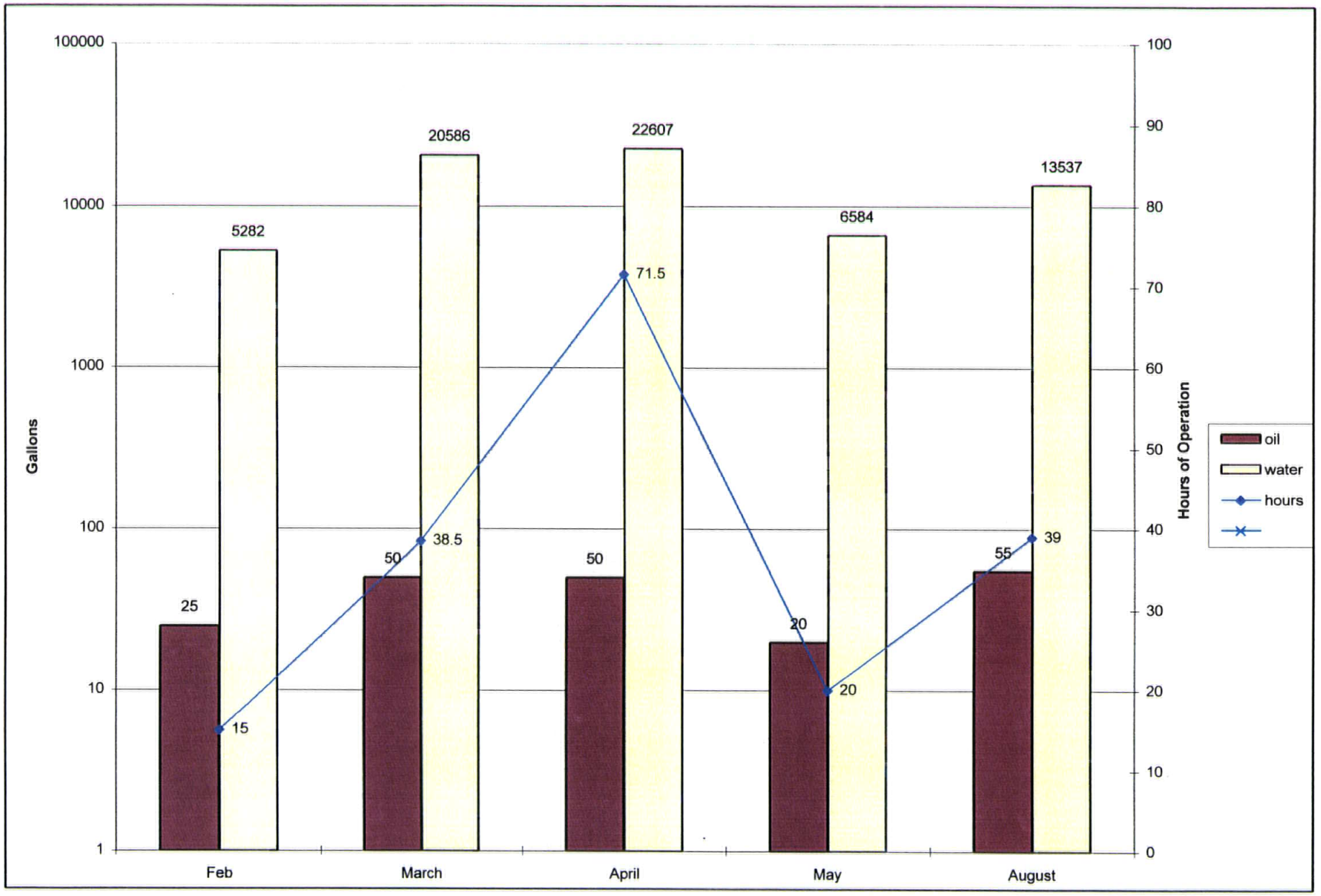
EFFLUENT SAMPLES June 1, 1998	**TPH Concentration**	**EFFLUENT SAMPLES August 7, 1998**	**TPH Concentration**	**EFFLUENT SAMPLES August 13 1998**	**TPH Concentration**
Untreated Effluent **16(B)EW-98-W44**	175 ppm	Untreated Effluent	----	Untreated Effluent	----
After 1st Clay Unit **16(B)EW-98-W45**	80.2 ppm	After 1st Clay Unit **16(B)EW-98-W50**	ND	After 1st Clay Unit **16(B)EW-98-W54**	ND
After 2 Clay Units **16(B)EW-98-W46**	109 ppm	After 2 Clay Units **16(B)EW-98-W51**	ND	After 2 Clay Units **16(B)EW-98-W55**	ND
After 3 Clay Units **16(B)EW-98-W47**	1.44 ppm			After 3 Clay Units	----
After 2 Clay Units and 1 Carbon Unit **16(B)EW-98-W48**	ND	After 2 Clay Units and 1 Carbon Unit **16(B)EW-98-W52**	ND	After 3 Clay Units and 1 Carbon Unit **16(B)EW-98-W56**	ND
After 2 Clay Units and 2 Carbon Units **16(B)EW-98-W49**	ND	After 2 Clay Units and 2 Carbon Units **16(B)EW-98-W53**	ND	After 3 Clay Units and 2 Carbon Units **16(B)EW-98-W57**	ND

The NWS-Earle Sewer Treatment Plant NJPDES Permit Discharge Limit for TPH is 10 ppm.

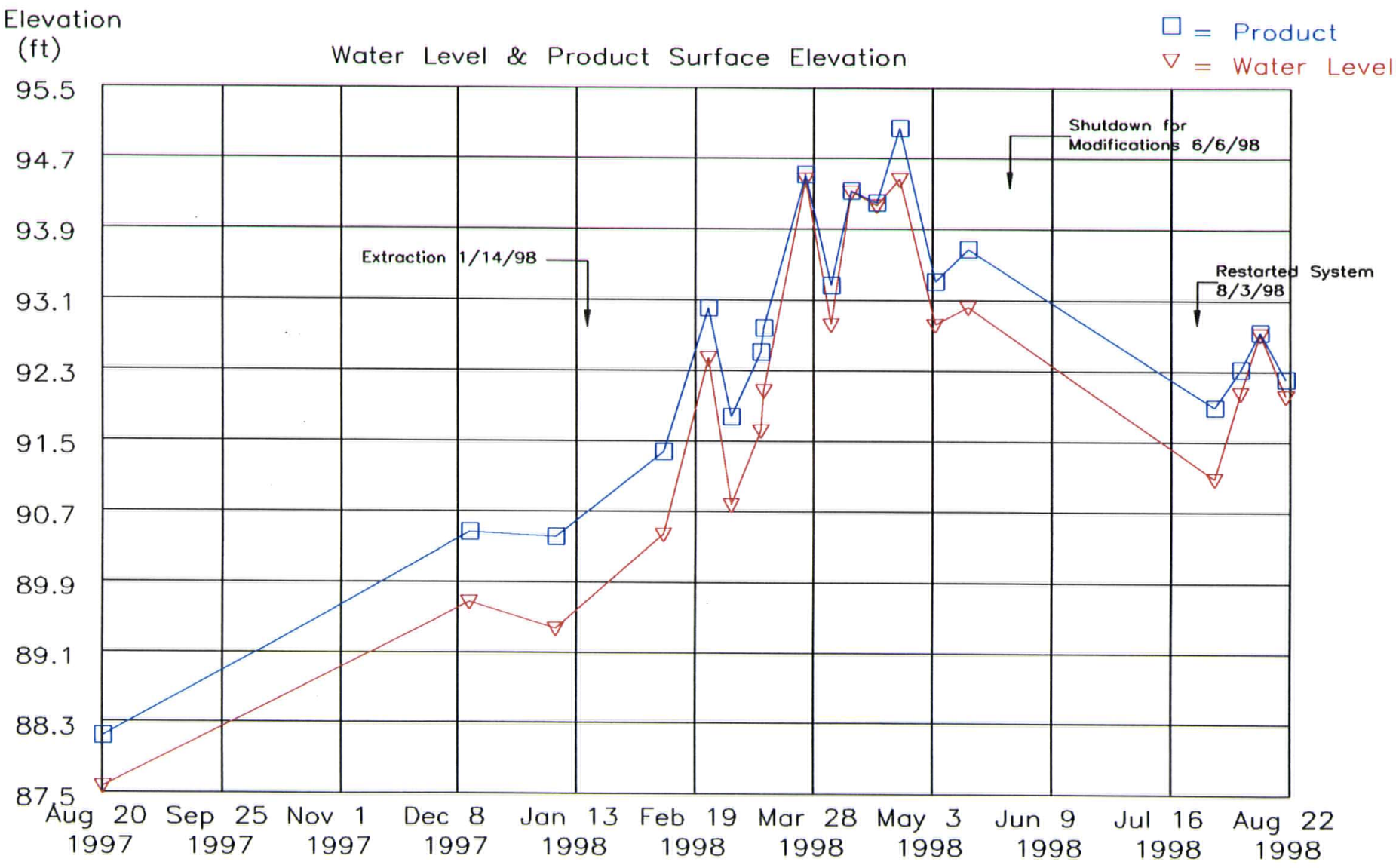
Bioslurper Unit #1: Groundwater/Oil Recovery Versus Operational Time



Bioslurper Unit #2: Groundwater/Oil Recovery Versus Operational Time



Well: 16MW-04


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
95.5
94.7
93.9
93.1
92.3
91.5
90.7
89.9
89.1
88.3
87.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-04				Sample Date: 4/3/98				
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	88.9	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	88.9	**3.4**	**7.0**	**3.68E-03**	**8.00E-03**
Toluene	92.0	384.6	60.0	88.9	1.7	N/A	2.17E-03	
Ethylbenzene	106.0	384.6	60.0	88.9	3.6	N/A	5.29E-03	
m,p-Xylenes	106.0	384.6	60.0	88.9	11.0	N/A	1.62E-02	
o-Xylene	106.0	384.6	60.0	88.9	3.3	N/A	4.85E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	88.9	1.2	N/A	2.00E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	88.9	3.1	N/A	5.16E-03	
				Total Emissions:	**27.3**	**27**	**3.93E-02**	**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. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD05 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 4/17/98 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	86.9	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	86.9	**0.5**	**7.0**	**5.29E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	86.9	0.2	N/A	2.49E-04	
Ethylbenzene	106.0	384.6	60.0	86.9	0.5	N/A	7.19E-04	
m,p-Xylenes	106.0	384.6	60.0	86.9	1.5	N/A	2.16E-03	
o-Xylene	106.0	384.6	60.0	86.9	0.5	N/A	7.19E-04	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	86.9	0.0	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	86.9	0.6	N/A	9.76E-04	
			Total Emissions:		**3.8**	**27**	**5.35E-03**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-06				Sample Date: 5/1/98				
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	92.7	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	92.7	**0.3**	**7.0**	**3.38E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	92.7	0.0	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	92.7	0.2	N/A	3.07E-04	
m,p-Xylenes	106.0	384.6	60.0	92.7	0.6	N/A	9.20E-04	
o-Xylene	106.0	384.6	60.0	92.7	0.2	N/A	3.07E-04	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	92.7	0.0	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	92.7	0.3	N/A	5.21E-04	
				Total Emissions:	**1.6**	**27**	**2.39E-03**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-07 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 5/15/98 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	88.9	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	88.9	**4.5**	**7.0**	**4.87E-03**	**8.00E-03**
Toluene	92.0	384.6	60.0	88.9	1.2	N/A	1.53E-03	
Ethylbenzene	106.0	384.6	60.0	88.9	2.5	N/A	3.68E-03	
m,p-Xylenes	106.0	384.6	60.0	88.9	6.3	N/A	9.26E-03	
o-Xylene	106.0	384.6	60.0	88.9	2.0	N/A	2.94E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	88.9	1.2	N/A	2.00E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	88.9	2.6	N/A	4.33E-03	
			Total Emissions:		**20.3**	**27**	**2.86E-02**	**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. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-08 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 6/1/98 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	90.2	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	90.2	3.0	7.0	3.29E-03	8.00E-03
Toluene	92.0	384.6	60.0	90.2	1.5	N/A	1.94E-03	
Ethylbenzene	106.0	384.6	60.0	90.2	2.3	N/A	3.43E-03	
m,p-Xylenes	106.0	384.6	60.0	90.2	7.3	N/A	1.09E-02	
o-Xylene	106.0	384.6	60.0	90.2	2.6	N/A	3.88E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	90.2	1.4	N/A	2.36E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	90.2	4.3	N/A	7.26E-03	
				Total Emissions:	**22.4**	**27**	**3.31E-02**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-09 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 8/7/98 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	60.0	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	60.0	**0.056**	**7.0**	**4.09E-05**	**8.00E-03**
Toluene	92.0	384.6	60.0	60.0	0.028	N/A	2.41E-05	
Ethylbenzene	106.0	384.6	60.0	60.0	0.0	N/A	0.00E+00	
m,p-Xylenes	106.0	384.6	60.0	60.0	0.0	N/A	0.00E+00	
o-Xylene	106.0	384.6	60.0	60.0	0.0	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	60.0	0.0	N/A	0.00E+00	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	60.0	0.0	N/A	0.00E+00	
			Total Emissions:		**0.084**	**27**	**6.50E-05**	**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. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 1
Analytical Results of Air Samples

Bioslurper Unit #1

SAMPLE NO. 16(A)VD-10				Sample Date: 8/13/98				
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	58.0	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	58.0	**0.002**	**7.0**	**1.41E-06**	**8.00E-03**
Toluene	92.0	384.6	60.0	58.0	0.1	N/A	8.32E-05	
Ethylbenzene	106.0	384.6	60.0	58.0	0.0	N/A	0.00E+00	
m,p-Xylenes	106.0	384.6	60.0	58.0	0.001	N/A	9.59E-07	
o-Xylene	106.0	384.6	60.0	58.0	0.0	N/A	0.00E+00	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	58.0	0.001	N/A	1.09E-06	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	58.0	0.0	N/A	0.00E+00	
				Total Emissions:	**0.104**	**27**	**8.67E-05**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit #2

SAMPLE NO. 16(B)VD05				Sample Date: 4/17/98				
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	95.0	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	95.0	**0.0**	**7.0**	**0.00E+00**	**8.00E-03**
Toluene	92.0	384.6	60.0	95.0	0.0	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	95.0	0.3	N/A	4.71E-04	
m,p-Xylenes	106.0	384.6	60.0	95.0	0.8	N/A	1.26E-03	
o-Xylene	106.0	384.6	60.0	95.0	0.3	N/A	4.71E-04	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	95.0	0.2	N/A	3.56E-04	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	95.0	0.0	N/A	0.00E+00	
			Total Emissions:		**1.6**	**27**	**2.56E-03**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit # 2

SAMPLE NO. 16(B)VD06 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 5/1/98 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	94.3	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	94.3	0.0	7.0	0.00E+00	8.00E-03
Toluene	92.0	384.6	60.0	94.3	0.0	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	94.3	0.1	N/A	1.56E-04	
m,p-Xylenes	106.0	384.6	60.0	94.3	0.3	N/A	4.68E-04	
o-Xylene	106.0	384.6	60.0	94.3	0.1	N/A	1.56E-04	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	94.3	0.2	N/A	3.53E-04	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	94.3	0.4	N/A	7.06E-04	
			Total Emissions:		1.1	27	1.84E-03	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. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit # 2

SAMPLE NO. 16(B)VD-07 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 5/21/98 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	88.9	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	88.9	0.9	7.0	9.74E-04	8.00E-03
Toluene	92.0	384.6	60.0	88.9	0.0	N/A	0.00E+00	
Ethylbenzene	106.0	384.6	60.0	88.9	1.4	N/A	2.06E-03	
m,p-Xylenes	106.0	384.6	60.0	88.9	3.8	N/A	5.59E-03	
o-Xylene	106.0	384.6	60.0	88.9	1.5	N/A	2.21E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	88.9	1.5	N/A	2.50E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	88.9	3.2	N/A	5.33E-03	
			Total Emissions:		12.3	27	1.86E-02	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. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit # 2

SAMPLE NO. 16(B)VD-08 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)
				Sample Date: 6/1/98				
Acetone	58.1	384.6	60.0	99.6	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	99.6	**0.8**	**7.0**	**9.70E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	99.6	0.6	N/A	8.58E-04	
Ethylbenzene	106.0	384.6	60.0	99.6	1.6	N/A	2.64E-03	
m,p-Xylenes	106.0	384.6	60.0	99.6	4.9	N/A	8.07E-03	
o-Xylene	106.0	384.6	60.0	99.6	1.6	N/A	2.64E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	99.6	1.4	N/A	2.61E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	99.6	3.7	N/A	6.90E-03	
			Total Emissions:		**14.6**	**27**	**2.47E-02**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit # 2

SAMPLE NO. 16(B)VD-09 Compound	Molecular Weight (lbs/lbs-mol)	Conversion Constant (cu. ft/lbs-mol	Time Conversion (min/hr)	Sample Date: 8/7/98 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	80.0	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	80.0	**0.61**	**7.0**	**5.94E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	80.0	0.16	N/A	1.84E-04	
Ethylbenzene	106.0	384.6	60.0	80.0	2.1	N/A	2.78E-03	
m,p-Xylenes	106.0	384.6	60.0	80.0	5.0	N/A	6.61E-03	
o-Xylene	106.0	384.6	60.0	80.0	2.0	N/A	2.65E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	80.0	1.7	N/A	2.55E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	80.0	4.0	N/A	5.99E-03	
			Total Emissions:		**15.6**	**27**	**2.14E-02**	**3.50E-02**

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

U.S. Navy RAC Contract No. 62472-94-D-0398
Naval Weapons Station-Earle: Bioslurper No. 2
Analytical Results of Air Samples

Bioslurper Unit # 2

SAMPLE NO. 16(B)VD-10 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)
				Sample Date: 8/14/98				
Acetone	58.1	384.6	60.0	80.0	0.0	N/A	0.00E+00	
Benzene	78.0	384.6	60.0	80.0	**0.50**	**7.0**	**4.87E-04**	**8.00E-03**
Toluene	92.0	384.6	60.0	80.0	1.10	N/A	1.26E-03	
Ethylbenzene	106.0	384.6	60.0	80.0	1.7	N/A	2.25E-03	
m,p-Xylenes	106.0	384.6	60.0	80.0	4.1	N/A	5.42E-03	
o-Xylene	106.0	384.6	60.0	80.0	1.6	N/A	2.12E-03	
1,3,5-Trimethylbenzene	120.0	384.6	60.0	80.0	1.6	N/A	2.40E-03	
1,2,4-Trimethylbenzene	120.0	384.6	60.0	80.0	3.6	N/A	5.39E-03	
			Total Emissions:		**14.2**	**27**	**1.93E-02**	**3.50E-02**

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

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (A) VD-04
PROJECT #:	1284-B017	AAI RFS#	9809601
PROJECT NAME:	NWS EARLE	AAI ID#:	9809601-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	4/3/98
INITIAL PRESSURE:	14.10 psia	DATE RECEIVED:	4/6/98
FINAL PRESSURE:	24.70 psia	DATE ANALYZED:	4/8/98
PRES. DILUTION :	1.75		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.438	ND<	0.212
74-83-9	Bromomethane	ND<	0.438	ND<	0.113
75-01-04	Vinyl Chloride	ND<	0.438	ND<	0.171
75-00-3	Chloroethane	ND<	0.438	ND<	0.166
75-69-4	Freon 11	ND<	0.438	ND<	0.078
75-35-4	1,1-Dichloroethene	ND<	0.438	ND<	0.111
76-13-1	Freon 113	ND<	0.438	ND<	0.057
75-09-2	Methylene Chloride	ND<	0.438	ND<	0.126
75-35-3	1,1-Dichloroethane	ND<	0.438	ND<	0.108
156-60-5	trans-1,2-Dichloroethene	ND<	0.438	ND<	0.111
156-59-2	cis-1,2-Dichloroethene	ND<	0.438	ND<	0.111
67-66-3	Chloroform	ND<	0.438	ND<	0.090
71-55-6	1,1,1-Trichloroethane	ND<	0.438	ND<	0.080
56-23-5	Carbon Tetrachloride	ND<	0.438	ND<	0.070
71-43-2	Benzene	11	0.438	3.4	0.137
107-06-2	1,2-Dichloroethane	ND<	0.438	ND<	0.108
79-01-6	Trichloroethene	ND<	0.438	ND<	0.082
78-87-5	1,2-Dichloropropane	ND<	0.438	ND<	0.095
10061-02-6	trans-1,3-Dichloropropene	ND<	0 438	ND<	0.097
108-88-3	Toluene	6.6	0.438	1.7	0.116
10061-01-5	cis-1,3-Dichloropropene	ND<	0.438	ND<	0.097
79-00-5	1,1-2-Trichloroethane	ND<	0.438	ND<	0.080
127-18-4	Tetrachloroethene	ND<	0.438	ND<	0.065
106-93-4	Ethylene Dibromide	ND<	0.438	ND<	0.057
108-90-7	Chlorobenzene	ND<	0.438	ND<	0.095
100-41-4	Ethylbenzene	16	0.438	3.6	0.101
1330-20-7	m,p-Xylene	46	0.438	11	0.101
95-47-6	o-Xylene	14	0.438	3.3	0.101
100-42-5	Styrene	ND<	0.438	ND<	0.103
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.438	ND<	0.064
108-67-8	1,3,5-Trimethyl Benzene	6.1	0.438	1.2	0.089
95-63-6	1,2,4-Trimethyl Benzene	15	0.438	3.1	0.089
541-73-1	1,3-Dichlorobenzene	ND<	0.438	ND<	0.073
106-46-7	1,4-Dichlorobenzene	ND<	0.438	ND<	0.073
100-44-7	Chlorotoluene	ND<	0.438	ND<	0.085
95-50-1	1,2-Dichlorobenzene	ND<	0.438	ND<	0.073
67-64-1	Acetone	ND<	0.438	ND<	0.185
78-93-3	2-Butanone	ND<	0.438	ND<	0.149
108-10-1	4-methyl-2-pentanone	ND<	0.438	ND<	0.107
591-78-6	2-Hexanone	ND<	0.438	ND<	0.107

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	93	70-130
Toluene-d8 (SS2)	106	70-130
4- Bromofluorobenzene (SS3)	113	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (B) VD-04
PROJECT #:	1284-B017	AAI RFS#	9809601
PROJECT NAME:	NWS EARLE	AAI ID#:	9809601-002
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	4/3/98
INITIAL PRESSURE:	13.90 psia	DATE RECEIVED:	4/6/98
FINAL PRESSURE:	24.90 psia	DATE ANALYZED:	4/8/98
PRES. DILUTION :	1.79		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.448	ND<	0.217
74-83-9	Bromomethane	ND<	0.448	ND<	0.115
75-01-04	Vinyl Chloride	ND<	0.448	ND<	0.175
75-00-3	Chloroethane	ND<	0.448	ND<	0.170
75-69-4	Freon 11	ND<	0.448	ND<	0.080
75-35-4	1,1-Dichloroethene	ND<	0.448	ND<	0.113
76-13-1	Freon 113	ND<	0.448	ND<	0.058
75-09-2	Methylene Chloride	ND<	0.448	ND<	0.129
75-35-3	1,1-Dichloroethane	ND<	0.448	ND<	0.111
156-60-5	trans-1,2-Dichloroethene	ND<	0.448	ND<	0.113
156-59-2	cis-1,2-Dichloroethene	ND<	0.448	ND<	0.113
67-66-3	Chloroform	ND<	0.448	ND<	0.092
71-55-6	1,1,1-Trichloroethane	ND<	0.448	ND<	0.082
56-23-5	Carbon Tetrachloride	ND<	0.448	ND<	0.071
71-43-2	Benzene	0.9	0.448	0.3	0.140
107-06-2	1,2-Dichloroethane	ND<	0.448	ND<	0.111
79-01-6	Trichloroethene	ND<	0.448	ND<	0.083
78-87-5	1,2-Dichloropropane	ND<	0.448	ND<	0.097
10061-02-6	trans-1,3-Dichloropropene	ND<	0.448	ND<	0.099
108-88-3	Toluene	ND<	0.448	ND<	0.119
10061-01-5	cis-1,3-Dichloropropene	ND<	0.448	ND<	0.099
79-00-5	1,1-2-Trichloroethane	ND<	0.448	ND<	0.082
127-18-4	Tetrachloroethene	ND<	0.448	ND<	0.066
106-93-4	Ethylene Dibromide	ND<	0.448	ND<	0.058
108-90-7	Chlorobenzene	ND<	0.448	ND<	0.097
100-41-4	Ethylbenzene	3.1	0.448	0.7	0.103
1330-20-7	m,p-Xylene	9.0	0.448	2.1	0.103
95-47-6	o-Xylene	2.9	0.448	0.7	0.103
100-42-5	Styrene	ND<	0.448	ND<	0.105
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.448	ND<	0.065
108-67-8	1,3,5-Trimethyl Benzene	2.1	0.448	0.4	0.091
95-63-6	1,2,4-Trimethyl Benzene	4.5	0.448	0.9	0.091
541-73-1	1,3-Dichlorobenzene	ND<	0.448	ND<	0.075
106-46-7	1,4-Dichlorobenzene	ND<	0.448	ND<	0.075
100-44-7	Chlorotoluene	ND<	0.448	ND<	0.087
95-50-1	1,2-Dichlorobenzene	ND<	0.448	ND<	0.075
67-64-1	Acetone	ND<	0.448	ND<	0.189
78-93-3	2-Butanone	ND<	0.448	ND<	0.152
108-10-1	4-methyl-2-pentanone	ND<	0.448	ND<	0.110
591-78-6	2-Hexanone	ND<	0.448	ND<	0.109

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	99	70-130
Toluene-d8 (SS2)	91	70-130
4- Bromofluorobenzene (SS3)	98	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	1284-B017	AAI RFS#	9809601
PROJECT NAME:	NWS EARLE	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	4/3/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	4/6/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	4/8/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.250	ND<	0 036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	97	70-130
Toluene-d8 (SS2)	91	70-130
4- Bromofluorobenzene (SS3)	145*	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9809601

Client Name: Foster Wheeler Environmental
Project Name: NWS EARLE
Project #: 1284-B017
Matrix: Air/Canister

Date(s) Sampled: 4/3/98
Date(s) Analyzed: 4/6/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (A) VD-04 9809601 -001	16 (B) VD-04 9809601 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	1,610	340	ND<1.0

QUALITY CONTROL

AAI RFS #: 9809601

Client Name: Foster Wheeler Environmental
Project Name: NWS EARLE
Project #: 1284-B017
Matrix: Air/Canister

Date(s) Sampled: 4/3/98
Date(s) Analyzed: 4/6/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9809601-001 (mg/m3)	Duplicate Result 9809601-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	1,610	1,750	8	30

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	**CLIENT SAMPLE ID:**	16 (A) VDO5
PROJECT #:	1284-B017-0209	**AAI RFS#**	9811004
PROJECT NAME:	Navy Weapons Station - Earle	**AAI ID#:**	9811004-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	**DATE SAMPLED:**	4/17/98
INITIAL PRESSURE:	13.70 psia	**DATE RECEIVED:**	4/20/98
FINAL PRESSURE:	27.10 psia	**DATE ANALYZED:**	4/23/98
PRES. DILUTION :	1.98		
DILUTION FACTOR:	1	**ANALYTICAL METHOD:**	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.495	ND<	0.240
74-83-9	Bromomethane	ND<	0.495	ND<	0.127
75-01-04	Vinyl Chloride	ND<	0.495	ND<	0.194
75-00-3	Chloroethane	ND<	0.495	ND<	0.187
75-69-4	Freon 11	ND<	0.495	ND<	0.088
75-35-4	1,1-Dichloroethene	ND<	0.495	ND<	0.125
76-13-1	Freon 113	ND<	0.495	ND<	0.065
75-09-2	Methylene Chloride	ND<	0.495	ND<	0.142
75-35-3	1,1-Dichloroethane	ND<	0.495	ND<	0.122
156-60-5	trans-1,2-Dichloroethene	ND<	0.495	ND<	0.125
156-59-2	cis-1,2-Dichloroethene	ND<	0.495	ND<	0.125
67-66-3	Chloroform	ND<	0.495	ND<	0.101
71-55-6	1,1,1-Trichloroethane	ND<	0.495	ND<	0.091
56-23-5	Carbon Tetrachloride	ND<	0.495	ND<	0.079
71-43-2	Benzene	1.7	0.495	0.5	0.155
107-06-2	1,2-Dichloroethane	ND<	0.495	ND<	0.122
79-01-6	Trichloroethene	ND<	0.495	ND<	0.092
78-87-5	1,2-Dichloropropane	ND<	0.495	ND<	0.107
10061-02-6	trans-1,3-Dichloropropene	ND<	0.495	ND<	0.109
108-88-3	Toluene	0.9	0.495	0.2	0.131
10061-01-5	cis-1,3-Dichloropropene	ND<	0.495	ND<	0.109
79-00-5	1,1-2-Trichloroethane	ND<	0.495	ND<	0.091
127-18-4	Tetrachloroethene	ND<	0.495	ND<	0.073
106-93-4	Ethylene Dibromide	ND<	0.495	ND<	0.064
108-90-7	Chlorobenzene	ND<	0.495	ND<	0.107
100-41-4	Ethylbenzene	2.2	0.495	0.5	0.114
1330-20-7	m,p-Xylene	6.4	0.495	1.5	0.114
95-47-6	o-Xylene	2.2	0.495	0.5	0.114
100-42-5	Styrene	ND<	0.495	ND<	0.116
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0 495	ND<	0.072
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.495	ND<	0.101
95-63-6	1,2,4-Trimethyl Benzene	2.8	0.495	0.6	0.101
541-73-1	1,3-Dichlorobenzene	ND<	0.495	ND<	0.082
106-46-7	1,4-Dichlorobenzene	ND<	0.495	ND<	0.082
100-44-7	Chlorotoluene	ND<	0.495	ND<	0.096
95-50-1	1,2-Dichlorobenzene	ND<	0.495	ND<	0.082
67-64-1	Acetone	ND<	0.495	ND<	0.209
78-93-3	2-Butanone	ND<	0.495	ND<	0.168
108-10-1	4-methyl-2-pentanone	ND<	0.495	ND<	0.121
591-78-6	2-Hexanone	ND<	0.495	ND<	0.121

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	115	70-130
Toluene-d8 (SS2)	98	70-130
4- Bromofluorobenzene (SS3)	99	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (B) VDO5
PROJECT #:	1284-B017-0209	AAI RFS#	9811004
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9811004-002
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	4/17/98
INITIAL PRESSURE:	13.70 psia	DATE RECEIVED:	4/20/98
FINAL PRESSURE:	27.20 psia	DATE ANALYZED:	4/23/98
PRES. DILUTION :	1.99		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.496	ND<	0.240
74-83-9	Bromomethane	ND<	0.496	ND<	0.128
75-01-04	Vinyl Chloride	ND<	0.496	ND<	0.194
75-00-3	Chloroethane	ND<	0.496	ND<	0.188
75-69-4	Freon 11	ND<	0.496	ND<	0.088
75-35-4	1,1-Dichloroethene	ND<	0.496	ND<	0.125
76-13-1	Freon 113	ND<	0.496	ND<	0.065
75-09-2	Methylene Chloride	ND<	0.496	ND<	0.143
75-35-3	1,1-Dichloroethane	ND<	0.496	ND<	0.123
156-60-5	trans-1,2-Dichloroethene	ND<	0.496	ND<	0.125
156-59-2	cis-1,2-Dichloroethene	ND<	0.496	ND<	0.125
67-66-3	Chloroform	ND<	0.496	ND<	0.102
71-55-6	1,1,1-Trichloroethane	ND<	0.496	ND<	0.091
56-23-5	Carbon Tetrachloride	ND<	0.496	ND<	0.079
71-43-2	Benzene	ND<	0.496	ND<	0.155
107-06-2	1,2-Dichloroethane	ND<	0.496	ND<	0.123
79-01-6	Trichloroethene	ND<	0.496	ND<	0.092
78-87-5	1,2-Dichloropropane	ND<	0.496	ND<	0.107
10061-02-6	trans-1,3-Dichloropropene	ND<	0.496	ND<	0.109
108-88-3	Toluene	ND<	0.496	ND<	0.132
10061-01-5	cis-1,3-Dichloropropene	ND<	0.496	ND<	0.109
79-00-5	1,1-2-Trichloroethane	ND<	0.496	ND<	0.091
127-18-4	Tetrachloroethene	ND<	0.496	ND<	0.073
106-93-4	Ethylene Dibromide	ND<	0.496	ND<	0.065
108-90-7	Chlorobenzene	ND<	0.496	ND<	0.108
100-41-4	Ethylbenzene	1.2	0.496	0.3	0.114
1330-20-7	m,p-Xylene	3.5	0.496	0.8	0.114
95-47-6	o-Xylene	1.1	0.496	0.3	0.114
100-42-5	Styrene	ND<	0.496	ND<	0.117
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.496	ND<	0.072
108-67-8	1,3,5-Trimethyl Benzene	0.8	0.496	0.2	0.101
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.496	ND<	0.101
541-73-1	1,3-Dichlorobenzene	ND<	0.496	ND<	0.083
106-46-7	1,4-Dichlorobenzene	ND<	0.496	ND<	0.083
100-44-7	Chlorotoluene	ND<	0.496	ND<	0.096
95-50-1	1,2-Dichlorobenzene	ND<	0.496	ND<	0.083
67-64-1	Acetone	ND<	0.496	ND<	0.209
78-93-3	2-Butanone	ND<	0.496	ND<	0.169
108-10-1	4-methyl-2-pentanone	ND<	0.496	ND<	0.121
591-78-6	2-Hexanone	ND<	0.496	ND<	0.121

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	104	70-130
Toluene-d8 (SS2)	96	70-130
4- Bromofluorobenzene (SS3)	105	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

QUALITY CONTROL

AAI RFS #: 9811004

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 4/17/98
Date(s) Analyzed: 4/22/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9811004-001 (ppm(v))	Duplicate Result 9811004-001 (ppm(v))	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	490	490	0	30

	Sample Result 9811004-001 (mg/m3)	Duplicate Result 9811004-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	1,710	1,730	1	30

ANALYTICAL RESULTS

AAI RFS #: 9811004

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 4/17/98
Date(s) Analyzed: 4/22/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (A) VDO5 9811004 -001	16 (B) VDO5 9811004 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(ppm(v))	490	250	ND<10

	Units	16 (A) VDO5 9811004 -001	16 (B) VDO5 9811004 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	1,710	880	ND<1.0

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	1284-B017-0209	AAI RFS#	9811004
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	4/17/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	4/20/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	4/22/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.250	ND<	0.036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	92	70-130
Toluene-d8 (SS2)	93	70-130
4- Bromofluorobenzene (SS3)	101	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

Apollo Analytics

CHAIN OF CUSTODY RECORD

WORK ORDER #: ____-____-____

DUE DATE : ____-____-____

COMPANY: Foster Wheeler Environ.
ADDRESS: One Oxford Valley Suite 200
Langhorne, PA 19047
PHONE #: (215) 702-4015 FAX #: (215) 702-4045
P.O. #:
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: Navy Weapons Station - Earle

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

ANALYSES

TOXIKON LAB #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH Volatile Organics	SPECIAL INSTRUCTIONS COMMENTS
-001	16(A)VD05	Air	Summa	canister	1	4/17/98	12:30	N/A		- Report in both ppm(v)
-002	16(B)VD05	Air	Summa	Canister	1	4/17/98	13:00	↓		and mg/m³

SAMPLED BY: [signature] DATE: 4 - 17 - 98 TIME: - - QUOTATION #: AAI RFS# 9811004

RELINQUISHED BY: [signature] DATE: 4 - 17 - 98 TIME: - - RECEIVED BY: DATE: - - TIME: - -

RELINQUISHED BY: DATE: - - TIME: - - RECEIVED FOR LAB BY: Leticia Zelaya DATE: 04 - 20 - 98 TIME: 10:00 A.M.

METHOD OF SHIPMENT COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known _____

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (A) VD06
PROJECT #:	1284-B017-0209	AAI RFS#	9812401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9812401-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/1/98
INITIAL PRESSURE:	9.15 psia	DATE RECEIVED:	5/1/98
FINAL PRESSURE:	26.80 psia	DATE ANALYZED:	5/4/98
PRES. DILUTION :	2.93		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.732	ND<	0.355
74-83-9	Bromomethane	ND<	0.732	ND<	0.189
75-01-04	Vinyl Chloride	ND<	0.732	ND<	0.287
75-00-3	Chloroethane	ND<	0.732	ND<	0.278
75-69-4	Freon 11	ND<	0.732	ND<	0.130
75-35-4	1,1-Dichloroethene	ND<	0.732	ND<	0.185
76-13-1	Freon 113	ND<	0.732	ND<	0.096
75-09-2	Methylene Chloride	ND<	0.732	ND<	0.211
75-35-3	1,1-Dichloroethane	ND<	0.732	ND<	0.181
156-60-5	trans-1,2-Dichloroethene	ND<	0.732	ND<	0.185
156-59-2	cis-1,2-Dichloroethene	ND<	0.732	ND<	0.185
67-66-3	Chloroform	ND<	0.732	ND<	0.150
71-55-6	1,1,1-Trichloroethane	ND<	0.732	ND<	0.134
56-23-5	Carbon Tetrachloride	ND<	0.732	ND<	0.116
71-43-2	Benzene	0.8	0.732	0.3	0.229
107-06-2	1,2-Dichloroethane	ND<	0.732	ND<	0.181
79-01-6	Trichloroethene	ND<	0.732	ND<	0.136
78-87-5	1,2-Dichloropropane	ND<	0.732	ND<	0.159
10061-02-6	trans-1,3-Dichloropropene	ND<	0.732	ND<	0.161
108-88-3	Toluene	ND<	0.732	ND<	0.194
10061-01-5	cis-1,3-Dichloropropene	ND<	0.732	ND<	0.161
79-00-5	1,1-2-Trichloroethane	ND<	0.732	ND<	0.134
127-18-4	Tetrachloroethene	ND<	0.732	ND<	0.108
106-93-4	Ethylene Dibromide	ND<	0.732	ND<	0.095
108-90-7	Chlorobenzene	ND<	0.732	ND<	0.159
100-41-4	Ethylbenzene	0.9	0.732	0.2	0.169
1330-20-7	m,p-Xylene	2.5	0.732	0.6	0.169
95-47-6	o-Xylene	0.8	0.732	0.2	0.169
100-42-5	Styrene	ND<	0.732	ND<	0.172
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.732	ND<	0.107
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.732	ND<	0.149
95-63-6	1,2,4-Trimethyl Benzene	1.3	0.732	0.3	0.149
541-73-1	1,3-Dichlorobenzene	ND<	0.732	ND<	0.122
106-46-7	1,4-Dichlorobenzene	ND<	0.732	ND<	0.122
100-44-7	Chlorotoluene	ND<	0.732	ND<	0.141
95-50-1	1,2-Dichlorobenzene	ND<	0.732	ND<	0.122
67-64-1	Acetone	2.2	0.732	0.9	0.309
78-93-3	2-Butanone	ND<	0.732	ND<	0.249
108-10-1	4-methyl-2-pentanone	ND<	0.732	ND<	0.179
591-78-6	2-Hexanone	ND<	0.732	ND<	0.179

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	122	70-130
Toluene-d8 (SS2)	79	70-130
4- Bromofluorobenzene (SS3)	84	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (B) VD06
PROJECT #:	1284-B017-0209	AAI RFS#	9812401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9812401-002
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/1/98
INITIAL PRESSURE:	13.96 psia	DATE RECEIVED:	5/1/98
FINAL PRESSURE:	26.20 psia	DATE ANALYZED:	5/4/98
PRES. DILUTION :	1.88		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.469	ND<	0.227
74-83-9	Bromomethane	ND<	0.469	ND<	0.121
75-01-04	Vinyl Chloride	ND<	0.469	ND<	0.184
75-00-3	Chloroethane	ND<	0.469	ND<	0.178
75-69-4	Freon 11	ND<	0.469	ND<	0.084
75-35-4	1,1-Dichloroethene	ND<	0.469	ND<	0.118
76-13-1	Freon 113	ND<	0.469	ND<	0.061
75-09-2	Methylene Chloride	ND<	0.469	ND<	0.135
75-35-3	1,1-Dichloroethane	ND<	0.469	ND<	0.116
156-60-5	trans-1,2-Dichloroethene	ND<	0.469	ND<	0.118
156-59-2	cis-1,2-Dichloroethene	ND<	0.469	ND<	0.118
67-66-3	Chloroform	ND<	0.469	ND<	0.096
71-55-6	1,1,1-Trichloroethane	ND<	0.469	ND<	0.086
56-23-5	Carbon Tetrachloride	ND<	0.469	ND<	0.075
71-43-2	Benzene	ND<	0.469	ND<	0.147
107-06-2	1,2-Dichloroethane	ND<	0.469	ND<	0.116
79-01-6	Trichloroethene	ND<	0.469	ND<	0.087
78-87-5	1,2-Dichloropropane	ND<	0.469	ND<	0.102
10061-02-6	trans-1,3-Dichloropropene	ND<	0.469	ND<	0.103
108-88-3	Toluene	ND<	0.469	ND<	0.125
10061-01-5	cis-1,3-Dichloropropene	ND<	0.469	ND<	0.103
79-00-5	1,1-2-Trichloroethane	ND<	0.469	ND<	0.086
127-18-4	Tetrachloroethene	ND<	0.469	ND<	0.069
106-93-4	Ethylene Dibromide	ND<	0.469	ND<	0.061
108-90-7	Chlorobenzene	ND<	0.469	ND<	0.102
100-41-4	Ethylbenzene	0.5	0.469	0.1	0.108
1330-20-7	m,p-Xylene	1.5	0.469	0.3	0.108
95-47-6	o-Xylene	0.5	0.469	0.1	0.108
100-42-5	Styrene	ND<	0.469	ND<	0.110
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.469	ND<	0.068
108-67-8	1,3,5-Trimethyl Benzene	0.8	0.469	0.2	0.095
95-63-6	1,2,4-Trimethyl Benzene	2.0	0.469	0.4	0.095
541-73-1	1,3-Dichlorobenzene	ND<	0.469	ND<	0.078
106-46-7	1,4-Dichlorobenzene	ND<	0 469	ND<	0.078
100-44-7	Chlorotoluene	ND<	0.469	ND<	0.091
95-50-1	1,2-Dichlorobenzene	ND<	0.469	ND<	0.078
67-64-1	Acetone	1.5	0.469	0.6	0.198
78-93-3	2-Butanone	ND<	0.469	ND<	0.159
108-10-1	4-methyl-2-pentanone	ND<	0.469	ND<	0.115
591-78-6	2-Hexanone	ND<	0.469	ND<	0.115

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	128	70-130
Toluene-d8 (SS2)	81	70-130
4- Bromofluorobenzene (SS3)	91	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9812401

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/1/98
Date(s) Analyzed: 5/4/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (A) VD06 9812401 -001	16 (B) VD06 9812401 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(ppm(v))	330	220	ND<10

	Units	16 (A) VD06 9812401 -001	16 (B) VD06 9812401 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	1,100	770	ND<1.0

QUALITY CONTROL

AAI RFS #: 9812401

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/1/98
Date(s) Analyzed: 5/4/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9812401-001 (ppm(v))	Duplicate Result 9812401-001 (ppm(v))	RPD (%)	Quality Contr l Limits (%)
EPA 8015mod				
TPH as gasoline	330	340	3	30

	Sample Result 9812401-001 (mg/m3)	Duplicate Result 9812401-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	1,100	1,200	9	30

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	1284-B017-0209	AAI RFS#	9812401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/1/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	5/1/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	5/4/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0 250	ND<	0.036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	120	70-130
Toluene-d8 (SS2)	86	70-130
4- Bromofluorobenzene (SS3)	132	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16VD-07
PROJECT #:	1284-B017-0209	AAI RFS#	9813901
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9813901-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/15/98
INITIAL PRESSURE:	14.00 psia	DATE RECEIVED:	5/19/98
FINAL PRESSURE:	26.00 psia	DATE ANALYZED:	5/21/98
PRES. DILUTION :	1.86		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.464	ND<	0.225
74-83-9	Bromomethane	ND<	0.464	ND<	0.120
75-01-04	Vinyl Chloride	ND<	0.464	ND<	0.182
75-00-3	Chloroethane	ND<	0.464	ND<	0.176
75-69-4	Freon 11	ND<	0.464	ND<	0.083
75-35-4	1,1-Dichloroethene	ND<	0.464	ND<	0.117
76-13-1	Freon 113	ND<	0.464	ND<	0.061
75-09-2	Methylene Chloride	ND<	0.464	ND<	0.134
75-35-3	1,1-Dichloroethane	ND<	0.464	ND<	0.115
156-60-5	trans-1,2-Dichloroethene	ND<	0.464	ND<	0.117
156-59-2	cis-1,2-Dichloroethene	ND<	0.464	ND<	0.117
67-66-3	Chloroform	ND<	0.464	ND<	0.095
71-55-6	1,1,1-Trichloroethane	ND<	0.464	ND<	0.085
56-23-5	Carbon Tetrachloride	ND<	0.464	ND<	0.074
71-43-2	Benzene	14	0.464	4.5	0.145
107-06-2	1,2-Dichloroethane	ND<	0.464	ND<	0.115
79-01-6	Trichloroethene	ND<	0.464	ND<	0.086
78-87-5	1,2-Dichloropropane	ND<	0.464	ND<	0.101
10061-02-6	trans-1,3-Dichloropropene	ND<	0.464	ND<	0.102
108-88-3	Toluene	4.4	0.464	1.2	0.123
10061-01-5	cis-1,3-Dichloropropene	ND<	0.464	ND<	0.102
79-00-5	1,1-2-Trichloroethane	ND<	0.464	ND<	0.085
127-18-4	Tetrachloroethene	ND<	0.464	ND<	0.068
106-93-4	Ethylene Dibromide	ND<	0.464	ND<	0.060
108-90-7	Chlorobenzene	ND<	0.464	ND<	0.101
100-41-4	Ethylbenzene	11	0.464	2.5	0.107
1330-20-7	m,p-Xylene	27	0.464	6.3	0.107
95-47-6	o-Xylene	8.8	0.464	2.0	0.107
100-42-5	Styrene	ND<	0.464	ND<	0.109
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.464	ND<	0.068
108-67-8	1,3,5-Trimethyl Benzene	6.0	0.464	1.2	0.094
95-63-6	1,2,4-Trimethyl Benzene	13	0.464	2.6	0.094
541-73-1	1,3-Dichlorobenzene	ND<	0.464	ND<	0.077
106-46-7	1,4-Dichlorobenzene	ND<	0.464	ND<	0.077
100-44-7	Chlorotoluene	ND<	0.464	ND<	0.090
95-50-1	1,2-Dichlorobenzene	ND<	0.464	ND<	0.077
67-64-1	Acetone	ND<	0.464	ND<	0.196
78-93-3	2-Butanone	ND<	0.464	ND<	0.158
108-10-1	4-methyl-2-pentanone	ND<	0.464	ND<	0.114
591-78-6	2-Hexanone	ND<	0.464	ND<	0.113

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	93	70-130
Toluene-d8 (SS2)	90	70-130
4- Bromofluorobenzene (SS3)	85	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9813901

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/15/98
Date(s) Analyzed: 5/19/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16VD-07 9813901 -001	Method Blank
EPA 8015mod			
TPH as gasoline	(ppm(v))	680	ND<10

	Units	16VD-07 9813901 -001	Method Blank
EPA 8015mod			
TPH as gasoline	(mg/m3)	2,400	ND<1.0

QUALITY CONTROL

AAI RFS #: 9813901

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/15/98
Date(s) Analyzed: 5/19/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9813901-001 (ppm(v))	Duplicate Result 9813901-001 (ppm(v))	RPD (%)	Quality C ntrol Limits (%)
EPA 8015mod				
TPH as gasoline	680	660	3	30

	Sample Result 9813901-001 (mg/m3)	Duplicate Result 9813901-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	2,400	2,338	3	30

Apollo Analytics, Inc.
2960 Airway Ave., Suite B-101 • Costa Mesa, CA 92626
Phone (714) 751-3210 • FAX (714) 751-6414

Chain of Custody

DATE 5/15/98 PAGE 1 OF 1

PROJECT MANAGER: Mike Heffron
COMPANY: Foster Wheeler Environmental
ADDRESS: One Oxford Valley Suite 200
Langhorne, PA 19047
PHONE # (215) 702-4015 **FAX #** (215) 702-4045
BILL TO: Same as Above
COMPANY:
ADDRESS:
Fax (215) 702-4045
(215) 702-4015
SAMPLERS: (Signature) PHONE NUMBER

Recommended Quantity and Preservative (Provide triple volume on QC Samples)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Air Toxics	Volatile Cmpds (EPA TO14) 4L	Hydrocarbon Speciations 1L	Fixed Gases (CH_4, O_2, CO_2, CO) 1L	TPH/BTXE 1L	TNMOC (SCAQMD 25.2) 1L	Metals (CARB 436)	Soil & Water Toxics	Petroleum Hyrdocarbons (418.1)	Oil and Grease (413.2) 1L (H_2SO_4)/100g	Gasoline (MOD 8015/DOHS) 4 oz (HCL)/50g	Diesel (MOD 8015/DOHS) 4 oz (HCL)/50g	Gasoline /BTXE (MOD 8015/8020) 4 oz (HCL)/50g	(MOD 8015) 4 oz (HCL)/50g	BTXE (8020) 2X40ml (HCL)/50g	Chlorinated Hydrocarbons (8010) 2X40ml (HCL)/50g	Aromatic Hydrocarbons (8020) 2X40ml (HCL)/50g	Organic Lead (Pb) 500ml/50g	Volatile Cmpds GC/MS (8240/8260) 2X40ml (HCL)/100g	Semi-Volatile Cmpds GC/MS (8270) 1L/100g	Pesticides/PCB (8080) 1L/50g	Polynuclear Aromatic (8310) 1L/100g	CCR Metals 500ml/100g	Priority Pollutant Metals 500ml/100g	Number of Containers
16VD-07	5/15/98	11:50	Air	-001		X			X																					

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NUMBER:	TOTAL NUMBER OF CONTAINERS	1
PROJECT NAME:	CHAIN OF CUSTODY SEALS Y/N/NA	Y
PURCHASE ORDER NUMBER:	INTACT? Y/N/NA	
SHIPPED VIA:	RECEIVED GOOD COND./COLD	
TAT: ☐ 24HR ☒ 48HR ☐ 1WK ☐ 2WKS	AAI RFS #: 9813901	

Comments:

SAMPLE DISPOSAL INSTRUCTIONS
☐ AAI Disposal (By Quote) ☐ Return ☐ Pickup (will call)

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Michael Heffron Date: 5/15/98	Printed Name: Date:	Printed Name: Date:
Company: Foster Wheeler	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time:	Signature: Time:	Signature: Time: 10:00AM
Printed Name: Date:	Printed Name: Date:	Printed Name: LA Wilcox Date: 5/19/98
Company:	Company:	Apollo Analytics, Inc.

DISTRIBUTION: White, Canary – APOLLO ANALYTICS, INC. • PINK – ORIGINATOR

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	1284-B017-0209	AAI RFS#	9813901
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/15/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	5/19/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	5/21/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.250	ND<	0.036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	116	70-130
Toluene-d8 (SS2)	81	70-130
4- Bromofluorobenzene (SS3)	112	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (B) VD 07
PROJECT #:	1284-B017-0209	AAI RFS#	9814201
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9814201-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	5/21/98
INITIAL PRESSURE:	13.40 psia	DATE RECEIVED:	5/22/98
FINAL PRESSURE:	26.60 psia	DATE ANALYZED:	5/22/98
PRES. DILUTION :	1.99		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.496	ND<	0.240
74-83-9	Bromomethane	ND<	0.496	ND<	0.128
75-01-04	Vinyl Chloride	ND<	0.496	ND<	0.194
75-00-3	Chloroethane	ND<	0.496	ND<	0.188
75-69-4	Freon 11	ND<	0.496	ND<	0.088
75-35-4	1,1-Dichloroethene	ND<	0.496	ND<	0.125
76-13-1	Freon 113	ND<	0.496	ND<	0.065
75-09-2	Methylene Chloride	ND<	0.496	ND<	0.143
75-35-3	1,1-Dichloroethane	ND<	0.496	ND<	0.123
156-60-5	trans-1,2-Dichloroethene	ND<	0.496	ND<	0.125
156-59-2	cis-1,2-Dichloroethene	ND<	0.496	ND<	0.125
67-66-3	Chloroform	ND<	0.496	ND<	0.102
71-55-6	1,1,1-Trichloroethane	ND<	0.496	ND<	0.091
56-23-5	Carbon Tetrachloride	ND<	0.496	ND<	0.079
71-43-2	Benzene	3.0	0.496	0.9	0.155
107-06-2	1,2-Dichloroethane	ND<	0.496	ND<	0.123
79-01-6	Trichloroethene	ND<	0.496	ND<	0.092
78-87-5	1,2-Dichloropropane	ND<	0.496	ND<	0.107
10061-02-6	trans-1,3-Dichloropropene	ND<	0.496	ND<	0.109
108-88-3	Toluene	ND<	0.496	ND<	0.132
10061-01-5	cis-1,3-Dichloropropene	ND<	0.496	ND<	0.109
79-00-5	1,1-2-Trichloroethane	ND<	0.496	ND<	0.091
127-18-4	Tetrachloroethene	ND<	0.496	ND<	0.073
106-93-4	Ethylene Dibromide	ND<	0.496	ND<	0.065
108-90-7	Chlorobenzene	ND<	0.496	ND<	0.108
100-41-4	Ethylbenzene	6.2	0.496	1.4	0.114
1330-20-7	m,p-Xylene	16	0.496	3.8	0.114
95-47-6	o-Xylene	6.5	0.496	1.5	0.114
100-42-5	Styrene	ND<	0.496	ND<	0.117
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.496	ND<	0.072
108-67-8	1,3,5-Trimethyl Benzene	7.4	0.496	1.5	0.101
95-63-6	1,2,4-Trimethyl Benzene	16	0.496	3.2	0.101
541-73-1	1,3-Dichlorobenzene	ND<	0.496	ND<	0.083
106-46-7	1,4-Dichlorobenzene	ND<	0.496	ND<	0.083
100-44-7	Chlorotoluene	ND<	0.496	ND<	0.096
95-50-1	1,2-Dichlorobenzene	ND<	0.496	ND<	0.083
67-64-1	Acetone	ND<	0.496	ND<	0.209
78-93-3	2-Butanone	ND<	0.496	ND<	0.169
108-10-1	4-methyl-2-pentanone	ND<	0.496	ND<	0.121
591-78-6	2-Hexanone	ND<	0.496	ND<	0.121

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	119	70-130
Toluene-d8 (SS2)	83	70-130
4- Bromofluorobenzene (SS3)	92	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9814201

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/21/98
Date(s) Analyzed: 5/22/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (B) VD 07 9814201 -001	Method Blank
EPA 8015mod			
TPH as gasoline	(ppm(v))	370	ND<10

	Units	16 (B) VD 07 9814201 -001	Method Blank
EPA 8015mod			
TPH as gasoline	(mg/m3)	1,300	ND<1.0

QUALITY CONTROL

AAI RFS #: 9814201

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 5/21/98
Date(s) Analyzed: 5/22/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9814201-001 (ppm(v))	Duplicate Result 9814201-001 (ppm(v))	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	370	360	3	30

	Sample Result 9814201-001 (mg/m3)	Duplicate Result 9814201-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	1,300	1,260	3	30

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	**CLIENT SAMPLE ID:**	Method Blank
PROJECT #:	1284-B017-0209	**AAI RFS#**	9814201
PROJECT NAME:	Navy Weapons Station - Earle	**AAI ID#:**	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	**DATE SAMPLED:**	5/21/98
INITIAL PRESSURE:	1.00 psia	**DATE RECEIVED:**	5/22/98
FINAL PRESSURE:	1.00 psia	**DATE ANALYZED:**	5/22/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	**ANALYTICAL METHOD:**	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.250	ND<	0.036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	115	70-130
Toluene-d8 (SS2)	86	70-130
4- Bromofluorobenzene (SS3)	124	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (A) VD 08
PROJECT #:	1284-B017-0209	AAI RFS#	9815401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9815401-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	6/1/98
INITIAL PRESSURE:	13.60 psia	DATE RECEIVED:	6/2/98
FINAL PRESSURE:	25.90 psia	DATE ANALYZED:	6/3/98
PRES. DILUTION :	1.90		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.476	ND<	0.231
74-83-9	Bromomethane	ND<	0.476	ND<	0.123
75-01-04	Vinyl Chloride	ND<	0.476	ND<	0.186
75-00-3	Chloroethane	ND<	0.476	ND<	0.180
75-69-4	Freon 11	ND<	0.476	ND<	0.085
75-35-4	1,1-Dichloroethene	ND<	0.476	ND<	0.120
76-13-1	Freon 113	ND<	0.476	ND<	0.062
75-09-2	Methylene Chloride	ND<	0.476	ND<	0.137
75-35-3	1,1-Dichloroethane	ND<	0.476	ND<	0.118
156-60-5	trans-1,2-Dichloroethene	ND<	0.476	ND<	0.120
156-59-2	cis-1,2-Dichloroethene	ND<	0.476	ND<	0.120
67-66-3	Chloroform	ND<	0.476	ND<	0.098
71-55-6	1,1,1-Trichloroethane	ND<	0.476	ND<	0.087
56-23-5	Carbon Tetrachloride	ND<	0.476	ND<	0.076
71-43-2	Benzene	10	0.476	3.0	0.149
107-06-2	1,2-Dichloroethane	ND<	0.476	ND<	0.118
79-01-6	Trichloroethene	ND<	0.476	ND<	0.089
78-87-5	1,2-Dichloropropane	ND<	0.476	ND<	0.103
10061-02-6	trans-1,3-Dichloropropene	ND<	0.476	ND<	0.105
108-88-3	Toluene	5.7	0.476	1.5	0.126
10061-01-5	cis-1,3-Dichloropropene	ND<	0.476	ND<	0.105
79-00-5	1,1-2-Trichloroethane	ND<	0.476	ND<	0.087
127-18-4	Tetrachloroethene	ND<	0.476	ND<	0.070
106-93-4	Ethylene Dibromide	ND<	0.476	ND<	0.062
108-90-7	Chlorobenzene	ND<	0.476	ND<	0.103
100-41-4	Ethylbenzene	10	0.476	2.3	0.110
1330-20-7	m,p-Xylene	32	0.476	7.3	0.110
95-47-6	o-Xylene	11	0.476	2.6	0.110
100-42-5	Styrene	ND<	0.476	ND<	0.112
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.476	ND<	0.069
108-67-8	1,3,5-Trimethyl Benzene	6.7	0.476	1.4	0.097
95-63-6	1,2,4-Trimethyl Benzene	21	0.476	4.3	0.097
541-73-1	1,3-Dichlorobenzene	ND<	0.476	ND<	0.079
106-46-7	1,4-Dichlorobenzene	ND<	0.476	ND<	0.079
100-44-7	Chlorotoluene	ND<	0.476	ND<	0.092
95-50-1	1,2-Dichlorobenzene	ND<	0.476	ND<	0.079
67-64-1	Acetone	ND<	0.476	ND<	0.201
78-93-3	2-Butanone	ND<	0.476	ND<	0.162
108-10-1	4-methyl-2-pentanone	ND<	0.476	ND<	0.116
591-78-6	2-Hexanone	ND<	0.476	ND<	0.116

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	82	70-130
Toluene-d8 (SS2)	93	70-130
4- Bromofluorobenzene (SS3)	98	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (B) VD 08
PROJECT #:	1284-B017-0209	AAI RFS#	9815401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	9815401-002
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	6/1/98
INITIAL PRESSURE:	13.23 psia	DATE RECEIVED:	6/2/98
FINAL PRESSURE:	26.70 psia	DATE ANALYZED:	6/3/98
PRES. DILUTION :	2.02		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.505	ND<	0.244
74-83-9	Bromomethane	ND<	0.505	ND<	0.130
75-01-04	Vinyl Chloride	ND<	0.505	ND<	0.197
75-00-3	Chloroethane	ND<	0.505	ND<	0.191
75-69-4	Freon 11	ND<	0.505	ND<	0.090
75-35-4	1,1-Dichloroethene	ND<	0.505	ND<	0.127
76-13-1	Freon 113	ND<	0.505	ND<	0.066
75-09-2	Methylene Chloride	ND<	0.505	ND<	0.145
75-35-3	1,1-Dichloroethane	ND<	0.505	ND<	0.125
156-60-5	trans-1,2-Dichloroethene	ND<	0.505	ND<	0.127
156-59-2	cis-1,2-Dichloroethene	ND<	0.505	ND<	0.127
67-66-3	Chloroform	ND<	0.505	ND<	0.103
71-55-6	1,1,1-Trichloroethane	ND<	0.505	ND<	0.093
56-23-5	Carbon Tetrachloride	ND<	0.505	ND<	0.080
71-43-2	Benzene	2.4	0.505	0.8	0.158
107-06-2	1,2-Dichloroethane	ND<	0.505	ND<	0.125
79-01-6	Trichloroethene	ND<	0.505	ND<	0.094
78-87-5	1,2-Dichloropropane	ND<	0.505	ND<	0.109
10061-02-6	trans-1,3-Dichloropropene	ND<	0.505	ND<	0.111
108-88-3	Toluene	2.3	0.505	0.6	0.134
10061-01-5	cis-1,3-Dichloropropene	ND<	0.505	ND<	0.111
79-00-5	1,1-2-Trichloroethane	ND<	0.505	ND<	0.093
127-18-4	Tetrachloroethene	ND<	0.505	ND<	0.074
106-93-4	Ethylene Dibromide	ND<	0.505	ND<	0.066
108-90-7	Chlorobenzene	ND<	0.505	ND<	0.110
100-41-4	Ethylbenzene	7.1	0.505	1.6	0.116
1330-20-7	m,p-Xylene	21	0.505	4.9	0.116
95-47-6	o-Xylene	7.1	0.505	1.6	0.116
100-42-5	Styrene	ND<	0.505	ND<	0.118
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.505	ND<	0.074
108-67-8	1,3,5-Trimethyl Benzene	7.1	0.505	1.4	0.103
95-63-6	1,2,4-Trimethyl Benzene	18	0.505	3.7	0.103
541-73-1	1,3-Dichlorobenzene	ND<	0.505	ND<	0.084
106-46-7	1,4-Dichlorobenzene	ND<	0.505	ND<	0.084
100-44-7	Chlorotoluene	ND<	0.505	ND<	0.097
95-50-1	1,2-Dichlorobenzene	ND<	0.505	ND<	0.084
67-64-1	Acetone	ND<	0.505	ND<	0.213
78-93-3	2-Butanone	ND<	0.505	ND<	0.171
108-10-1	4-methyl-2-pentanone	ND<	0.505	ND<	0.123
591-78-6	2-Hexanone	ND<	0.505	ND<	0.123

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	97	70-130
Toluene-d8 (SS2)	90	70-130
4- Bromofluorobenzene (SS3)	106	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9815401

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 6/1/98
Date(s) Analyzed: 6/3/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (A) VD 08 9815401 -001	16 (B) VD 08 9815401 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(ppm(v))	750	430	ND<10

	Units	16 (A) VD 08 9815401 -001	16 (B) VD 08 9815401 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	2,600	1,500	ND<1.0

QUALITY CONTROL

AAI RFS #: 9815401

Client Name: Foster Wheeler Environmental
Project Name: Navy Weapons Station - Earle
Project #: 1284-B017-0209
Matrix: Air/Canister

Date(s) Sampled: 6/1/98
Date(s) Analyzed: 6/3/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9815401-001 (ppm(v))	Duplicate Result 9815401-001 (ppm(v))	RPD (%)	Quality C ntr l Limits (%)
EPA 8015mod				
TPH as gasoline	750	750	0	30

	Sample Result 9815401-001 (mg/m3)	Duplicate Result 9815401-001 (mg/m3)	RPD (%)	Quality Contr l Limits (%)
EPA 8015mod				
TPH as gasoline	2,600	2,600	0	30

Apollo Analytics, Inc.
2960 Airway Ave., Suite B-101 • Costa Mesa, CA 92626
Phone (714) 751-3210 • FAX (714) 751-6414

Chain of Custody

DATE 6/1/98 PAGE 1 OF 1

PROJECT MANAGER: Mike Heffron
COMPANY: Foster Wheeler
ADDRESS: One Oxford Valley Suite 200 Langhorne, PA 19047
PHONE # (215) 702-4015 FAX # (215) 702-4045
BILL TO: Langhorne, PA
COMPANY:
ADDRESS:

SAMPLERS: (Signature) ( ) PHONE NUMBER

Recommended Quantity and Preservative (Provide triple volume on QC Samples)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Air Toxics	Volatile Cmpds (EPA TO14)	Hydrocarbon Speciations	Fixed Gases (CH_4, O_2, CO_2, CO)	TPH/BTXE	TNMOC (SCAQMD 25.2)	Metals (CARB 436)	Soil & Water Toxics	Petroleum Hyrdocarbons (418.1)	Oil and Grease (413.2)	Gasoline (MOD 8015/DOHS)	Diesel (MOD 8015/DOHS)	Gasoline /BTXE (MOD 8015/8020)	(MOD 8015)	BTXE (8020)	Chlorinated Hydrocarbons (8010)	Aromatic Hydrocarbons (8020)	Organic Lead (Pb)	Volatile Cmpds GC/MS (8240/8260)	Semi-Volatile Cmpds GC/MS (8270)	Pesticides/PCB (8080)	Polynuclear Aromatic (8310)	CCR Metals	Priority Pollutant Metals					Number of Containers
						4L	1L	1L	1L	1L				1L (H_2SO_4)/100g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	500ml/50g	2X40ml (HCL)/100g	1L/100g	1L/50g	1L/100g	500ml/100g	500ml/100g					
16(A)VD08	6/1/98	5:20	Air	-001		X			X																								
16(B)VD08	6/1/98	5:30	Air	-002		X			X																								

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NUMBER:	TOTAL NUMBER OF CONTAINERS	2
PROJECT NAME: Navy Weapons Earle	CHAIN OF CUSTODY SEALS Y/N/NA	NA
PURCHASE ORDER NUMBER:	INTACT? Y/N/NA	Y
SHIPPED VIA: Fed Ex	RECEIVED GOOD COND./COLD	Y
TAT: ☐ 24HR ☒ 48HR ☐ 1WK ☐ 2WKS	AAI RFS #: 9815401	

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Mike Heffron Date: 6/1/98	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time:	Signature: Time:	Signature: Time: 1000
Printed Name: Date:	Printed Name: Date:	Printed Name: LETICIA ZELAYA Date: 6/2/98
Company:	Company:	Company: Apollo Analytics, Inc.

SAMPLE DISPOSAL INSTRUCTIONS

☐ AAI Disposal (By Quote) ☐ Return ☐ Pickup (will call)

DISTRIBUTION: White, Canary – APOLLO ANALYTICS, INC. • PINK – ORIGINATOR

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	1284-B017-0209	AAI RFS#	9815401
PROJECT NAME:	Navy Weapons Station - Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.02 Liter	DATE SAMPLED:	6/1/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	6/2/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	6/3/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.250	ND<	0.121
74-83-9	Bromomethane	ND<	0.250	ND<	0.064
75-01-04	Vinyl Chloride	ND<	0.250	ND<	0.098
75-00-3	Chloroethane	ND<	0.250	ND<	0.095
75-69-4	Freon 11	ND<	0.250	ND<	0.045
75-35-4	1,1-Dichloroethene	ND<	0.250	ND<	0.063
76-13-1	Freon 113	ND<	0.250	ND<	0.033
75-09-2	Methylene Chloride	ND<	0.250	ND<	0.072
75-35-3	1,1-Dichloroethane	ND<	0.250	ND<	0.062
156-60-5	trans-1,2-Dichloroethene	ND<	0.250	ND<	0.063
156-59-2	cis-1,2-Dichloroethene	ND<	0.250	ND<	0.063
67-66-3	Chloroform	ND<	0.250	ND<	0.051
71-55-6	1,1,1-Trichloroethane	ND<	0.250	ND<	0.046
56-23-5	Carbon Tetrachloride	ND<	0.250	ND<	0.040
71-43-2	Benzene	ND<	0.250	ND<	0.078
107-06-2	1,2-Dichloroethane	ND<	0.250	ND<	0.062
79-01-6	Trichloroethene	ND<	0.250	ND<	0.047
78-87-5	1,2-Dichloropropane	ND<	0.250	ND<	0.054
10061-02-6	trans-1,3-Dichloropropene	ND<	0.250	ND<	0.055
108-88-3	Toluene	ND<	0.250	ND<	0.066
10061-01-5	cis-1,3-Dichloropropene	ND<	0.250	ND<	0.055
79-00-5	1,1-2-Trichloroethane	ND<	0.250	ND<	0.046
127-18-4	Tetrachloroethene	ND<	0.250	ND<	0.037
106-93-4	Ethylene Dibromide	ND<	0.250	ND<	0.033
108-90-7	Chlorobenzene	ND<	0.250	ND<	0.054
100-41-4	Ethylbenzene	ND<	0.250	ND<	0.058
1330-20-7	m,p-Xylene	ND<	0.250	ND<	0.058
95-47-6	o-Xylene	ND<	0.250	ND<	0.058
100-42-5	Styrene	ND<	0.250	ND<	0.059
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.250	ND<	0.036
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.250	ND<	0.051
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.250	ND<	0.051
541-73-1	1,3-Dichlorobenzene	ND<	0.250	ND<	0.042
106-46-7	1,4-Dichlorobenzene	ND<	0.250	ND<	0.042
100-44-7	Chlorotoluene	ND<	0.250	ND<	0.048
95-50-1	1,2-Dichlorobenzene	ND<	0.250	ND<	0.042
67-64-1	Acetone	ND<	0.250	ND<	0.105
78-93-3	2-Butanone	ND<	0.250	ND<	0.085
108-10-1	4-methyl-2-pentanone	ND<	0.250	ND<	0.061
591-78-6	2-Hexanone	ND<	0.250	ND<	0.061

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	99	70-130
Toluene-d8 (SS2)	87	70-130
4- Bromofluorobenzene (SS3)	122	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16 (A) VD-09
PROJECT #:	—	AAI RFS#	9822202
PROJECT NAME:	NWS-Earle	AAI ID#:	9822202-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.05 Liter	DATE SAMPLED:	8/7/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	8/10/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	8/27/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.100	ND<	0 048
74-83-9	Bromomethane	ND<	0.100	ND<	0.026
75-01-04	Vinyl Chloride	ND<	0.100	ND<	0.039
75-00-3	Chloroethane	ND<	0 100	ND<	0.038
75-69-4	Freon 11	ND<	0 100	ND<	0.018
75-35-4	1,1-Dichloroethene	ND<	0.100	ND<	0.025
76-13-1	Freon 113	ND<	0 100	ND<	0 013
75-09-2	Methylene Chloride	ND<	0.100	ND<	0.029
75-35-3	1,1-Dichloroethane	ND<	0.100	ND<	0 025
156-60-5	trans-1,2-Dichloroethene	ND<	0.100	ND<	0.025
156-59-2	cis-1,2-Dichloroethene	ND<	0 100	ND<	0.025
67-66-3	Chloroform	ND<	0 100	ND<	0.020
71-55-6	1,1,1-Trichloroethane	ND<	0 100	ND<	0.018
56-23-5	Carbon Tetrachloride	ND<	0.100	ND<	0.016
71-43-2	Benzene	0.18	0.100	0 056	0 031
107-06-2	1,2-Dichloroethane	ND<	0 100	ND<	0.025
79-01-6	Trichloroethene	ND<	0 100	ND<	0.019
78-87-5	1,2-Dichloropropane	ND<	0.100	ND<	0.022
10061-02-6	trans-1,3-Dichloropropene	ND<	0.100	ND<	0.022
108-88-3	Toluene	0 106	0 100	0 028	0.027
10061-01-5	cis-1,3-Dichloropropene	ND<	0.100	ND<	0.022
79-00-5	1,1-2-Trichloroethane	ND<	0.100	ND<	0.018
127-18-4	Tetrachloroethene	ND<	0.100	ND<	0.015
106-93-4	Ethylene Dibromide	ND<	0.100	ND<	0.013
108-90-7	Chlorobenzene	ND<	0.100	ND<	0.022
100-41-4	Ethylbenzene	ND<	0.100	ND<	0.023
1330-20-7	m,p-Xylene	ND<	0.100	ND<	0.023
95-47-6	o-Xylene	ND<	0.100	ND<	0.023
100-42-5	Styrene	ND<	0.100	ND<	0 023
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.100	ND<	0 015
108-67-8	1,3,5-Trimethyl Benzene	ND<	0 100	ND<	0 020
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.100	ND<	0.020
541-73-1	1,3-Dichlorobenzene	ND<	0.100	ND<	0.017
106-46-7	1,4-Dichlorobenzene	ND<	0.100	ND<	0.017
100-44-7	Chlorotoluene	ND<	0.100	ND<	0.019
95-50-1	1,2-Dichlorobenzene	ND<	0 100	ND<	0 017
67-64-1	Acetone	ND<	0 100	ND<	0 042
78-93-3	2-Butanone	ND<	0.100	ND<	0.034
108-10-1	4-methyl-2-pentanone	ND<	0.100	ND<	0.024
591-78-6	2-Hexanone	ND<	0.100	ND<	0.024

ND- Not detected

*Value outside QC limits due to matrix interfence

TR - Trace

VOLATILE ORGANIC ANALYSIS

CLIENT NAME: Foster Wheeler Environmental
PROJECT #: —
PROJECT NAME: NWS-Earle
MATRIX: Air/Canister
SAMPLE VOLUME: 0.05 Liter
INITIAL PRESSURE: 1.00 psia
FINAL PRESSURE: 1.00 psia
PRES. DILUTION : 1.00
DILUTION FACTOR: 1

CLIENT SAMPLE ID: 16 (B) VD-09
AAI RFS# 9822202
AAI ID#: 9822202-002

DATE SAMPLED: 8/7/98
DATE RECEIVED: 8/10/98
DATE ANALYZED: 8/27/98

ANALYTICAL METHOD: EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.100	ND<	0.048
74-83-9	Bromomethane	ND<	0.100	ND<	0.026
75-01-04	Vinyl Chloride	ND<	0.100	ND<	0.039
75-00-3	Chloroethane	ND<	0.100	ND<	0.038
75-69-4	Freon 11	ND<	0.100	ND<	0.018
75-35-4	1,1-Dichloroethene	ND<	0.100	ND<	0.025
76-13-1	Freon 113	ND<	0.100	ND<	0.013
75-09-2	Methylene Chloride	ND<	0.100	ND<	0.029
75-35-3	1,1-Dichloroethane	ND<	0.100	ND<	0.025
156-60-5	trans-1,2-Dichloroethene	ND<	0.100	ND<	0.025
156-59-2	cis-1,2-Dichloroethene	ND<	0.100	ND<	0.025
67-66-3	Chloroform	ND<	0.100	ND<	0.020
71-55-6	1,1,1-Trichloroethane	ND<	0 100	ND<	0.018
56-23-5	Carbon Tetrachloride	ND<	0.100	ND<	0.016
71-43-2	Benzene	1.96	0 100	0.61	0.031
107-06-2	1,2-Dichloroethane	ND<	0.100	ND<	0.025
79-01-6	Trichloroethene	ND<	0 100	ND<	0.019
78-87-5	1,2-Dichloropropane	ND<	0.100	ND<	0.022
10061-02-6	trans-1,3-Dichloropropene	ND<	0.100	ND<	0.022
108-88-3	Toluene	0 6	0.100	0 16	0.027
10061-01-5	cis-1,3-Dichloropropene	ND<	0.100	ND<	0.022
79-00-5	1,1-2-Trichloroethane	ND<	0.100	ND<	0.018
127-18-4	Tetrachloroethene	ND<	0 100	ND<	0.015
106-93-4	Ethylene Dibromide	ND<	0 100	ND<	0.013
108-90-7	Chlorobenzene	ND<	0 100	ND<	0.022
100-41-4	Ethylbenzene	9.08	0.100	2.1	0.023
1330-20-7	m,p-Xylene	21.7	0.100	5 0	0.023
95-47-6	o-Xylene	8.62	0.100	2 0	0.023
100-42-5	Styrene	ND<	0.100	ND<	0.023
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0 100	ND<	0.015
108-67-8	1,3,5-Trimethyl Benzene	8.4	0.100	1.7	0.020
95-63-6	1,2,4-Trimethyl Benzene	19.62	0.100	4.0	0.020
541-73-1	1,3-Dichlorobenzene	ND<	0.100	ND<	0.017
106-46-7	1,4-Dichlorobenzene	ND<	0.100	ND<	0.017
100-44-7	Chlorotoluene	ND<	0.100	ND<	0.019
95-50-1	1,2-Dichlorobenzene	ND<	0.100	ND<	0.017
67-64-1	Acetone	ND<	0.100	ND<	0.042
78-93-3	2-Butanone	ND<	0.100	ND<	0.034
108-10-1	4-methyl-2-pentanone	ND<	0.100	ND<	0.024
591-78-6	2-Hexanone	ND<	0 100	ND<	0.024

ND- Not detected
TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9822202

Client Name: Foster Wheeler Environmental
Project Name: NWS-Earle
Project #: —
Matrix: Air/Canister

Date(s) Sampled: 8/7/98
Date(s) Analyzed. 8/11/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16 (A) VD-09 9822202 -001	16 (B) VD-09 9822202 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(ppm(v))	520	610	ND<10

	Units	16 (A) VD-09 9822202 -001	16 (B) VD-09 9822202 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	1,800	2,170	ND<1.0

QUALITY CONTROL

AAI RFS #: 9822202

Client Name: Foster Wheeler Environmental
Project Name: NWS-Earle
Project #. —
Matrix: Air/Canister

Date(s) Sampled: 8/7/98
Date(s) Analyzed: 8/11/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9822202-001 (ppm(v))	Duplicate Result 9822202-001 (ppm(v))	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	520	520	0	30

	Sample Result 9822202-001 (mg/m3)	Duplicate Result 9822202-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	1,800	1,800	0	30

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	---	AAI RFS#	9822202
PROJECT NAME:	NWS-Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.05 Liter	DATE SAMPLED:	8/7/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	8/10/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.100	ND<	0.048
74-83-9	Bromomethane	ND<	0 100	ND<	0.026
75-01-04	Vinyl Chloride	ND<	0.100	ND<	0.039
75-00-3	Chloroethane	ND<	0 100	ND<	0.038
75-69-4	Freon 11	ND<	0 100	ND<	0.018
75-35-4	1,1-Dichloroethene	ND<	0.100	ND<	0.025
76-13-1	Freon 113	ND<	0.100	ND<	0.013
75-09-2	Methylene Chloride	ND<	0.100	ND<	0.029
75-35-3	1,1-Dichloroethane	ND<	0.100	ND<	0.025
156-60-5	trans-1,2-Dichloroethene	ND<	0 100	ND<	0 025
156-59-2	cis-1,2-Dichloroethene	ND<	0.100	ND<	0.025
67-66-3	Chloroform	ND<	0.100	ND<	0.020
71-55-6	1,1,1-Trichloroethane	ND<	0.100	ND<	0.018
56-23-5	Carbon Tetrachloride	ND<	0.100	ND<	0.016
71-43-2	Benzene	ND<	0.100	ND<	0.031
107-06-2	1,2-Dichloroethane	ND<	0.100	ND<	0.025
79-01-6	Trichloroethene	ND<	0.100	ND<	0.019
78-87-5	1,2-Dichloropropane	ND<	0.100	ND<	0.022
10061-02-6	trans-1,3-Dichloropropene	ND<	0 100	ND<	0 022
108-88-3	Toluene	ND<	0 100	ND<	0.027
10061-01-5	cis-1,3-Dichloropropene	ND<	0.100	ND<	0.022
79-00-5	1,1-2-Trichloroethane	ND<	0.100	ND<	0 018
127-18-4	Tetrachloroethene	ND<	0.100	ND<	0.015
106-93-4	Ethylene Dibromide	ND<	0.100	ND<	0.013
108-90-7	Chlorobenzene	ND<	0.100	ND<	0.022
100-41-4	Ethylbenzene	ND<	0.100	ND<	0 023
1330-20-7	m,p-Xylene	ND<	0.100	ND<	0.023
95-47-6	o-Xylene	ND<	0.100	ND<	0.023
100-42-5	Styrene	ND<	0 100	ND<	0.023
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0 100	ND<	0.015
108-67-8	1,3,5-Trimethyl Benzene	ND<	0 100	ND<	0.020
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.100	ND<	0.020
541-73-1	1,3-Dichlorobenzene	ND<	0 100	ND<	0.017
106-46-7	1,4-Dichlorobenzene	ND<	0 100	ND<	0.017
100-44-7	Chlorotoluene	ND<	0.100	ND<	0.019
95-50-1	1,2-Dichlorobenzene	ND<	0 100	ND<	0.017
67-64-1	Acetone	ND<	0.100	ND<	0.042
78-93-3	2-Butanone	ND<	0.100	ND<	0.034
108-10-1	4-methyl-2-pentanone	ND<	0.100	ND<	0.024
591-78-6	2-Hexanone	ND<	0.100	ND<	0.024

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	113	70-130
Toluene-d8 (SS2)	99	70-130
4- Bromofluorobenzene (SS3)	97	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

[redacted]
2960 Airway Ave., Suite B-101 • Costa Mesa, CA 92626
Phone (714) 751-3210 • FAX (714) 751-6414

Chain of Custody

DATE 8/7/98 PAGE 1 OF 1

PROJECT MANAGER: Mike Heffron
COMPANY: Foster Wheeler Environ.
ADDRESS: One Oxford Valley Suite 300 Langhorne, PA
PHONE # FAX # (215) 702-4045
BILL TO:
COMPANY: Same as Above
ADDRESS:

SAMPLERS: (Signature) PHONE NUMBER (215) 702-4015

Recommended Quantity and Preservative (Provide triple volume on QC Samples)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Air Toxics	Volatile Cmpds (EPA TO14) 4L	Hydrocarbon Speciations 1L	Fixed Gases (CH_4, O_2, CO_2, CO) 1L	TPH/BTXE 1L	TNMOC (SCAQMD 25.2) 1L	Metals (CARB 436)	Soil & Water Toxics	Petroleum Hyrdocarbons (418.1)	Oil and Grease (413.2) 1L (H_2SO_4)/100g	Gasoline (MOD 8015/DOHS) 4 oz (HCL)/50g	Diesel (MOD 8015/DOHS) 4 oz (HCL)/50g	Gasoline /BTXE (MOD 8015/8020) 4 oz (HCL)/50g	(MOD 8015) 4 oz (HCL)/50g	BTXE (8020) 2X40ml (HCL)/50g	Chlorinated Hydrocarbons (8010) 2X40ml (HCL)/50g	Aromatic Hydrocarbons (8020) 2X40ml (HCL)/50g	Organic Lead (Pb) 500ml/50g	Volatile Cmpds GC/MS (8240/8260) 2X40ml (HCL)/100g	Semi-Volatile Cmpds GC/MS (8270) 1L/100g	Pesticides/PCB (8080) 1L/50g	Polynuclear Aromatic (8310) 1L/100g	CCR Metals 500ml/100g	Priority Pollutant Metals 500ml/100g	Number of Containers
16(A)VD-09	8/7/98	10:30	Air	-001		X			X																				
16(B)VD-09	8/7/98	11:40	Air	-002		X			X																				

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NUMBER:	TOTAL NUMBER OF CONTAINERS	2
PROJECT NAME: NWS-Earle	CHAIN OF CUSTODY SEALS Y/N/NA	NA
PURCHASE ORDER NUMBER:	INTACT? Y/N/NA	Y
SHIPPED VIA: Fed Ex	RECEIVED GOOD COND./COLD	Y
TAT: ☐ 24HR ☒ 48HR ☐ 1WK ☐ 2WKS	AAI RFS #: 9822202	

Comments:

SAMPLE DISPOSAL INSTRUCTIONS
☐ AAI Disposal (By Quote) ☐ Return ☐ Pickup (will call)

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature Time:
Printed Name: Michael Heffron Date: 8/7/98	Printed Name. Date:	Printed Name: Date:
Company:	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time:	Signature: Time:	Signature: Time: 1100
Printed Name: Date:	Printed Name: Date:	Printed Name: LETICIA ZELAYA Date: 8/10/98
Company:	Company:	Apollo Analytics, Inc

DISTRIBUTION: White, Canary - APOLLO ANALYTICS, INC. • PINK - ORIGINATOR

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16A VD-10
PROJECT #:	---	AAI RFS#	9822610
PROJECT NAME:	NWS-Earle	AAI ID#:	9822610-001
MATRIX:	Air/Canister		
SAMPLE VOLUME:	1 Liter	DATE SAMPLED:	8/13/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	8/14/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	8/27/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.005	ND<	0.002
74-83-9	Bromomethane	ND<	0 005	ND<	0.001
75-01-04	Vinyl Chloride	ND<	0.005	ND<	0.002
75-00-3	Chloroethane	ND<	0.005	ND<	0.002
75-69-4	Freon 11	ND<	0 005	ND<	0.001
75-35-4	1,1-Dichloroethene	ND<	0.005	ND<	0.001
76-13-1	Freon 113	ND<	0.005	ND<	0 001
75-09-2	Methylene Chloride	ND<	0.005	ND<	0.001
75-35-3	1,1-Dichloroethane	ND<	0.005	ND<	0.001
156-60-5	trans-1,2-Dichloroethene	ND<	0.005	ND<	0 001
156-59-2	cis-1,2-Dichloroethene	ND<	0.005	ND<	0.001
67-66-3	Chloroform	ND<	0.005	ND<	0 001
71-55-6	1,1,1-Trichloroethane	ND<	0.005	ND<	0.001
56-23-5	Carbon Tetrachloride	ND<	0.005	ND<	0.001
71-43-2	Benzene	0.0053	0.005	0.002	0.002
107-06-2	1,2-Dichloroethane	ND<	0.005	ND<	0.001
79-01-6	Trichloroethene	ND<	0.005	ND<	0.001
78-87-5	1,2-Dichloropropane	ND<	0.005	ND<	0.001
10061-02-6	trans-1,3-Dichloropropene	ND<	0.005	ND<	0.001
108-88-3	Toluene	0.23	0.005	0 1	0 001
10061-01-5	cis-1,3-Dichloropropene	ND<	0.005	ND<	0.001
79-00-5	1,1-2-Trichloroethane	ND<	0.005	ND<	0.001
127-18-4	Tetrachloroethene	ND<	0.005	ND<	0.001
106-93-4	Ethylene Dibromide	ND<	0.005	ND<	0.001
108-90-7	Chlorobenzene	ND<	0.005	ND<	0.001
100-41-4	Ethylbenzene	ND<	0.005	ND<	0.001
1330-20-7	m,p-Xylene	0.0063	0 005	0.001	0 001
95-47-6	o-Xylene	ND<	0.005	ND<	0.001
100-42-5	Styrene	ND<	0.005	ND<	0.001
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0 005	ND<	0 001
108-67-8	1,3,5-Trimethyl Benzene	0.005	0.005	0 001	0.001
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.005	ND<	0.001
541-73-1	1,3-Dichlorobenzene	ND<	0.005	ND<	0.001
106-46-7	1,4-Dichlorobenzene	ND<	0 005	ND<	0 001
100-44-7	Chlorotoluene	ND<	0 005	ND<	0.001
95-50-1	1,2-Dichlorobenzene	ND<	0 005	ND<	0.001
67-64-1	Acetone	ND<	0.005	ND<	0.002
78-93-3	2-Butanone	ND<	0.005	ND<	0.002
108-10-1	4-methyl-2-pentanone	ND<	0.005	ND<	0.001
591-78-6	2-Hexanone	ND<	0.005	ND<	0.001

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	16B VD-10
PROJECT #:	---	AAI RFS#	9822610
PROJECT NAME:	NWS-Earle	AAI ID#:	9822610-002
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.05 Liter	DATE SAMPLED:	8/13/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	8/14/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	8/27/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.100	ND<	0.048
74-83-9	Bromomethane	ND<	0.100	ND<	0.026
75-01-04	Vinyl Chloride	ND<	0.100	ND<	0.039
75-00-3	Chloroethane	ND<	0.100	ND<	0.038
75-69-4	Freon 11	ND<	0.100	ND<	0.018
75-35-4	1,1-Dichloroethene	ND<	0.100	ND<	0.025
76-13-1	Freon 113	ND<	0.100	ND<	0.013
75-09-2	Methylene Chloride	ND<	0.100	ND<	0.029
75-35-3	1;1-Dichloroethane	ND<	0.100	ND<	0.025
156-60-5	trans-1,2-Dichloroethene	ND<	0.100	ND<	0.025
156-59-2	cis-1,2-Dichloroethene	ND<	0.100	ND<	0.025
67-66-3	Chloroform	ND<	0.100	ND<	0.020
71-55-6	1,1,1-Trichloroethane	ND<	0.100	ND<	0.018
56-23-5	Carbon Tetrachloride	ND<	0 100	ND<	0.016
71-43-2	Benzene	1.5	0.100	0.5	0.031
107-06-2	1,2-Dichloroethane	ND<	0 100	ND<	0.025
79-01-6	Trichloroethene	ND<	0 100	ND<	0.019
78-87-5	1,2-Dichloropropane	ND<	0.100	ND<	0.022
10061-02-6	trans-1,3-Dichloropropene	ND<	0 100	ND<	0.022
108-88-3	Toluene	4.1	0.100	1 1	0.027
10061-01-5	cis-1,3-Dichloropropene	ND<	0.100	ND<	0.022
79-00-5	1,1-2-Trichloroethane	ND<	0.100	ND<	0.018
127-18-4	Tetrachloroethene	ND<	0 100	ND<	0.015
106-93-4	Ethylene Dibromide	ND<	0.100	ND<	0.013
108-90-7	Chlorobenzene	ND<	0.100	ND<	0.022
100-41-4	Ethylbenzene	7.3	0.100	1.7	0.023
1330-20-7	m,p-Xylene	18	0.100	4.1	0.023
95-47-6	o-Xylene	6.9	0 100	1.6	0.023
100-42-5	Styrene	ND<	0.100	ND<	0.023
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.100	ND<	0 015
108-67-8	1,3,5-Trimethyl Benzene	8.0	0.100	1.6	0.020
95-63-6	1,2,4-Trimethyl Benzene	18	0.100	3.6	0.020
541-73-1	1,3-Dichlorobenzene	ND<	0.100	ND<	0.017
106-46-7	1,4-Dichlorobenzene	ND<	0.100	ND<	0.017
100-44-7	Chlorotoluene	ND<	0 100	ND<	0.019
95-50-1	1,2-Dichlorobenzene	ND<	0.100	ND<	0.017
67-64-1	Acetone	ND<	0.100	ND<	0.042
78-93-3	2-Butanone	ND<	0.100	ND<	0.034
108-10-1	4-methyl-2-pentanone	ND<	0.100	ND<	0.024
591-78-6	2-Hexanone	ND<	0 100	ND<	0.024

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

ANALYTICAL RESULTS

AAI RFS #: 9822610

Client Name: Foster Wheeler Environmental
Project Name: NWS-Earle
Project #: —
Matrix: Air/Canister

Date(s) Sampled: 8/13/98
Date(s) Analyzed: 8/14/98
Analytical Method: CARB/EPA
Chemist: HA

	Units	16A VD-10 9822610 -001	16B VD-10 9822610 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(ppm(v))	730	610	ND<10

	Units	16A VD-10 9822202 -001	16B VD-10 9822202 -002	Method Blank
EPA 8015mod				
TPH as gasoline	(mg/m3)	2,582	2,144	ND<1.0

QUALITY CONTROL

AAI RFS #: 9822610

Client Name: Foster Wheeler Environmental
Project Name: NWS-Earle
Project #: ---
Matrix: Air/Canister

Date(s) Sampled: 8/13/98
Date(s) Analyzed: 8/14/98
Analytical Method: CARB/EPA
Chemist: HA

	Sample Result 9822610-001 (ppm(v))	Duplicate Result 9822610-001 (ppm(v))	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	730	750	3	30

	Sample Result 9822610-001 (mg/m3)	Duplicate Result 9822610-001 (mg/m3)	RPD (%)	Quality Control Limits (%)
EPA 8015mod				
TPH as gasoline	2,580	2,650	3	30

VOLATILE ORGANIC ANALYSIS

CLIENT NAME:	Foster Wheeler Environmental	CLIENT SAMPLE ID:	Method Blank
PROJECT #:	---	AAI RFS#	9822610
PROJECT NAME:	NWS-Earle	AAI ID#:	Method Blank
MATRIX:	Air/Canister		
SAMPLE VOLUME:	0.05 Liter	DATE SAMPLED:	8/13/98
INITIAL PRESSURE:	1.00 psia	DATE RECEIVED:	8/14/98
FINAL PRESSURE:	1.00 psia	DATE ANALYZED:	8/27/98
PRES. DILUTION :	1.00		
DILUTION FACTOR:	1	ANALYTICAL METHOD:	EPA TO14 (GC/MS)

CAS NUMBER	COMPOUND	CONCENTRATION mg/m3	PQL	ppm(v)	PQL
74-87-3	Chloromethane	ND<	0.100	ND<	0.048
74-83-9	Bromomethane	ND<	0.100	ND<	0.026
75-01-04	Vinyl Chloride	ND<	0.100	ND<	0.039
75-00-3	Chloroethane	ND<	0.100	ND<	0.038
75-69-4	Freon 11	ND<	0.100	ND<	0.018
75-35-4	1,1-Dichloroethene	ND<	0 100	ND<	0.025
76-13-1	Freon 113	ND<	0.100	ND<	0.013
75-09-2	Methylene Chloride	ND<	0.100	ND<	0.029
75-35-3	1,1-Dichloroethane	ND<	0.100	ND<	0.025
156-60-5	trans-1,2-Dichloroethene	ND<	0 100	ND<	0.025
156-59-2	cis-1,2-Dichloroethene	ND<	0.100	ND<	0.025
67-66-3	Chloroform	ND<	0.100	ND<	0.020
71-55-6	1,1,1-Trichloroethane	ND<	0 100	ND<	0.018
56-23-5	Carbon Tetrachloride	ND<	0.100	ND<	0.016
71-43-2	Benzene	ND<	0 100	ND<	0.031
107-06-2	1,2-Dichloroethane	ND<	0.100	ND<	0.025
79-01-6	Trichloroethene	ND<	0.100	ND<	0 019
78-87-5	1,2-Dichloropropane	ND<	0 100	ND<	0.022
10061-02-6	trans-1,3-Dichloropropene	ND<	0.100	ND<	0.022
108-88-3	Toluene	ND<	0 100	ND<	0.027
10061-01-5	cis-1,3-Dichloropropene	ND<	0.100	ND<	0.022
79-00-5	1,1-2-Trichloroethane	ND<	0 100	ND<	0.018
127-18-4	Tetrachloroethene	ND<	0 100	ND<	0.015
106-93-4	Ethylene Dibromide	ND<	0.100	ND<	0.013
108-90-7	Chlorobenzene	ND<	0.100	ND<	0.022
100-41-4	Ethylbenzene	ND<	0.100	ND<	0.023
1330-20-7	m,p-Xylene	ND<	0.100	ND<	0.023
95-47-6	o-Xylene	ND<	0 100	ND<	0.023
100-42-5	Styrene	ND<	0.100	ND<	0.023
79-34-5	1,1,2,2-Tetrachlorethane	ND<	0.100	ND<	0.015
108-67-8	1,3,5-Trimethyl Benzene	ND<	0.100	ND<	0.020
95-63-6	1,2,4-Trimethyl Benzene	ND<	0.100	ND<	0.020
541-73-1	1,3-Dichlorobenzene	ND<	0 100	ND<	0.017
106-46-7	1,4-Dichlorobenzene	ND<	0.100	ND<	0 017
100-44-7	Chlorotoluene	ND<	0.100	ND<	0.019
95-50-1	1,2-Dichlorobenzene	ND<	0 100	ND<	0.017
67-64-1	Acetone	ND<	0.100	ND<	0.042
78-93-3	2-Butanone	ND<	0.100	ND<	0.034
108-10-1	4-methyl-2-pentanone	ND<	0.100	ND<	0.024
591-78-6	2-Hexanone	ND<	0.100	ND<	0.024

Surrogate Recovery	% Recovery	
1,2-Dichloroethane-D4 (SS1)	113	70-130
Toluene-d8 (SS2)	99	70-130
4- Bromofluorobenzene (SS3)	97	70-130

ND- Not detected

TR - Trace

*Value outside QC limits due to matrix interfence.

[redacted]
2960 Airway Ave., Suite B-101 • Costa Mesa, CA 92626
Phone (714) 751-3210 • FAX (714) 751-6414

Chain of Custody

DATE 8-13-98 PAGE 1 OF 1

PROJECT MANAGER: Mike Heffron
COMPANY: Foster Wheeler Env. Corporation
ADDRESS: One Oxford Valley Suite 200 Langhorne PA 19047
PHONE # 215 702 4000 FAX #
BILL TO: FWENC
COMPANY: FWENC
ADDRESS: One Oxford Valley Suite 200 Langhorne PA 19047

SAMPLERS: (Signature) PHONE NUMBER (215) 702 4000

Recommended Quantity and Preservative (Provide triple volume on QC Samples)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Air Toxics	Volatile Cmpds (EPA TO14)	Hydrocarbon Speciations	Fixed Gases (CH_4, O_2, CO_2, CO)	TPH/BTXE	TNMOC (SCAQMD 25.2)	Metals (CARB 436)	Soil & Water Toxics	Petroleum Hyrdocarbons (418.1)	Oil and Grease (413.2)	Gasoline (MOD 8015/DOHS)	Diesel (MOD 8015/DOHS)	Gasoline /BTXE (MOD 8015/8020)	(MOD 8015)	BTXE (8020)	Chlorinated Hydrocarbons (8010)	Aromatic Hydrocarbons (8020)	Organic Lead (Pb)	Volatile Cmpds GC/MS (8240/8260)	Semi-Volatile Cmpds GC/MS (8270)	Pesticides/PCB (8080)	Polynuclear Aromatic (8310)	CCR Metals	Priority Pollutant Metals	Number of Containers
						4L	1L	1L	1L	1L				1L (H_2SO_4)/100g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	500ml/50g	2X40ml (HCL)/100g	1L/100g	1L/50g	1L/100g	500ml/100g	500ml/100g	
16A VD-10	8-13-98	PM	Air	-001		X			X																				
16B VD-10		PM	Air	-002		X			X																				

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NUMBER:	TOTAL NUMBER OF CONTAINERS	2
PROJECT NAME: Naval Weapons Station Earl	CHAIN OF CUSTODY SEALS Y/N/NA	NA
PURCHASE ORDER NUMBER:	INTACT? Y/N/NA	Y
SHIPPED VIA:	RECEIVED GOOD COND./COLD	Y
TAT: ☑ 24HR ☐ 48HR ☐ 1WK ☐ 2WKS	AAI RFS #: 9822610	

Comments: Call Mike Heffron 215 702 4000 for Project # +/or billing

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 1430	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time	Signature: Time:	Signature: [signature] Time: 1100
Printed Name: Date:	Printed Name: Date:	Printed Name: LETICIA ZELAYA Date: 8/14/98
Company:	Company:	Apollo Analytics, Inc.

SAMPLE DISPOSAL INSTRUCTIONS

☐ AAI Disposal (By Quote) ☐ Return ☐ Pickup (will call)

DISTRIBUTION: White, Canary – APOLLO ANALYTICS, INC. • PINK – ORIGINATOR

 TOXIKON CORP. REPORT Work Order # 98-06-090

Received: 06/04/98 06/10/98 15:47:38

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 4
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS, DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NAVY WEAPONS STATION EARLE
TAKEN 6/3/98
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

VERIFIED BY: Blonda Faella

SAMPLE IDENTIFICATION

01 CSO-SOIL-1
02 CSO-SOIL 2
03 CSO-TRIP BLANK
04 CSO-AG-1

TEST CODES and NAMES used on this workorder

8260 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

Received: 06/04/98 Results by Sample

SAMPLE ID CSO-SOIL-1 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 06/03/98 04:30:00 Category SOIL

TPH_IR 145
mg/Kg DL=40.0

 TOXIKON CORP. REPORT Work Order # 98-06-090

Received: 06/04/98 Results by Sample

SAMPLE ID CSO-SOIL-1 FRACTION 01A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 06/03/98 04:30:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	500	o-Xylene	ND	250
Bromomethane	ND	250	m+p-Xylene	ND	250
Vinyl Chloride	ND	100	1,2-Dichlorobenzene	ND	250
Chloroethane	ND	500	1,3-Dichlorobenzene	ND	250
Methylene Chloride	ND	500	1,4-Dichlorobenzene	ND	250
1,1-Dichloroethene	ND	250	Naphthalene	ND	500
Trichlorofluoromethane	ND	500	n-Propylbenzene	ND	500
1,1-Dichloroethane	ND	250	Bromobenzene	ND	250
Trans-1,2-Dichloroethene	ND	250	Bromchloromethane	ND	250
Chloroform	ND	250	n-Butylbenzene	ND	500
1,2-Dichloroethane	ND	250	sec-Butylbenzene	ND	500
1,1,1-Trichloroethane	ND	250	tert-Butylbenzene	ND	500
Carbon Tetrachloride	ND	250	2-Chlorotoluene	ND	250
Bromodichloromethane	ND	250	4-Chlorotoluene	ND	250
1,2-Dichloropropane	ND	250	1,2-Dibromo-3-chloropropane	ND	250
Trichloroethene	ND	250	1,2-Dibromomethane	ND	250
Dibromochloromethane	ND	250	Dibromomethane	ND	250
1,1,2-Trichloroethane	ND	250	Dichlorodifluoromethane	ND	500
Benzene	ND	250	cis-1,2-Dichloroethene	ND	250
1,1-Dichloropropene	ND	250	1,3-Dichloropropane	ND	250
2-2-Dichlorpropane	ND	250	1,1,1,2-Tetrachloroethane	ND	250
Bromoform	ND	250	1,2,3-Trichlorobenzene	ND	250
Hexachlorobutadiene	ND	500	1,1,2,2-Tetrachloroethane	ND	250
Isopropylbenzene	ND	500	1,2,4-Trichlorobenzene	ND	250
Tetrachloroethene	ND	250	1,2,3-Trichloropropane	ND	250
Methyl tertiary butyl ether	ND	250	1,2,4-Trimethylbenzene	ND	500
Toluene	ND	250	1,3,5-Trimethylbenzene	ND	500
Chlorobenzene	ND	250	cis-1,3-Dichloropropene	ND	250
Ethyl Benzene	ND	250	trans-1,3-Dichloropropene	ND	250
p-Isopropyltoluene	ND	500	Styrene	ND	250

Notes and definitions for this report:

DATE RUN 06/09/98

ANALYST XL

INSTRUMENT G

DIL. FACTOR 50

UNITS ug/Kg

COMMENTS

ND = Not detected at detection limit

Received: 06/04/98 Results by Sample

SAMPLE ID CSO-SOIL 2 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 06/03/98 04:35:00 Category SOIL

TPH_IR 78.6

mg/Kg DL=40.0

Received: 06/04/98 Results by Sample

SAMPLE ID CSO-TRIP BLANK FRACTION 03A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 06/03/98 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	500	o-Xylene	ND	250
Bromomethane	ND	250	m+p-Xylene	ND	250
Vinyl Chloride	ND	100	1,2-Dichlorobenzene	ND	250
Chloroethane	ND	500	1,3-Dichlorobenzene	ND	250
Methylene Chloride	ND	500	1,4-Dichlorobenzene	ND	250
1,1-Dichloroethene	ND	250	Naphthalene	ND	500
Trichlorofluoromethane	ND	500	n-Propylbenzene	ND	500
1,1-Dichloroethane	ND	250	Bromobenzene	ND	250
Trans-1,2-Dichloroethene	ND	250	Bromchloromethane	ND	250
Chloroform	ND	250	n-Butylbenzene	ND	500
1,2-Dichloroethane	ND	250	sec-Butylbenzene	ND	500
1,1,1-Trichloroethane	ND	250	tert-Butylbenzene	ND	500
Carbon Tetrachloride	ND	250	2-Chlorotoluene	ND	250
Bromodichloromethane	ND	250	4-Chlorotoluene	ND	250
1,2-Dichloropropane	ND	250	1,2-Dibromo-3-chloropropane	ND	250
Trichloroethene	ND	250	1,2-Dibromomethane	ND	250
Dibromochloromethane	ND	250	Dibromomethane	ND	250
1,1,2-Trichloroethane	ND	250	Dichlorodifluoromethane	ND	500
Benzene	ND	250	cis-1,2-Dichloroethene	ND	250
1,1-Dichloropropene	ND	250	1,3-Dichloropropane	ND	250
2-2-Dichlorpropane	ND	250	1,1,1,2-Tetrachloroethane	ND	250
Bromoform	ND	250	1,2,3-Trichlorobenzene	ND	250
Hexachlorobutadiene	ND	500	1,1,2,2-Tetrachloroethane	ND	250
Isopropylbenzene	ND	500	1,2,4-Trichlorobenzene	ND	250
Tetrachloroethene	ND	250	1,2,3-Trichloropropane	ND	250
Methyl tertiary butyl ether	ND	250	1,2,4-Trimethylbenzene	ND	500
Toluene	ND	250	1,3,5-Trimethylbenzene	ND	500
Chlorobenzene	ND	250	cis-1,3-Dichloropropene	ND	250
Ethyl Benzene	ND	250	trans-1,3-Dichloropropene	ND	250
p-Isopropyltoluene	ND	500	Styrene	ND	250

Notes and definitions for this report:

DATE RUN 06/09/98

ANALYST XL

INSTRUMENT G

DIL. FACTOR 50

UNITS ug/Kg

COMMENTS

ND = Not detected at detection limit

Received: 06/04/98

Results by Sample

SAMPLE ID CSO-AG-1 SAMPLE # 04 FRACTIONS: A

Date & Time Collected 06/03/98 04:40:00 Category SOIL

TPH_IR 190

mg/L DL=1.0

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-06-090

DUE DATE : 6-11-98

COMPANY: Foster Wheeler
ADDRESS: One Oxford Valley Suite 330
Langhorne PA 19047
PHONE #: (215) 702-4000 FAX #: (215) 702-4001
P.O. #:
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: Navy Warminster Station - Earle

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

ANALYSES

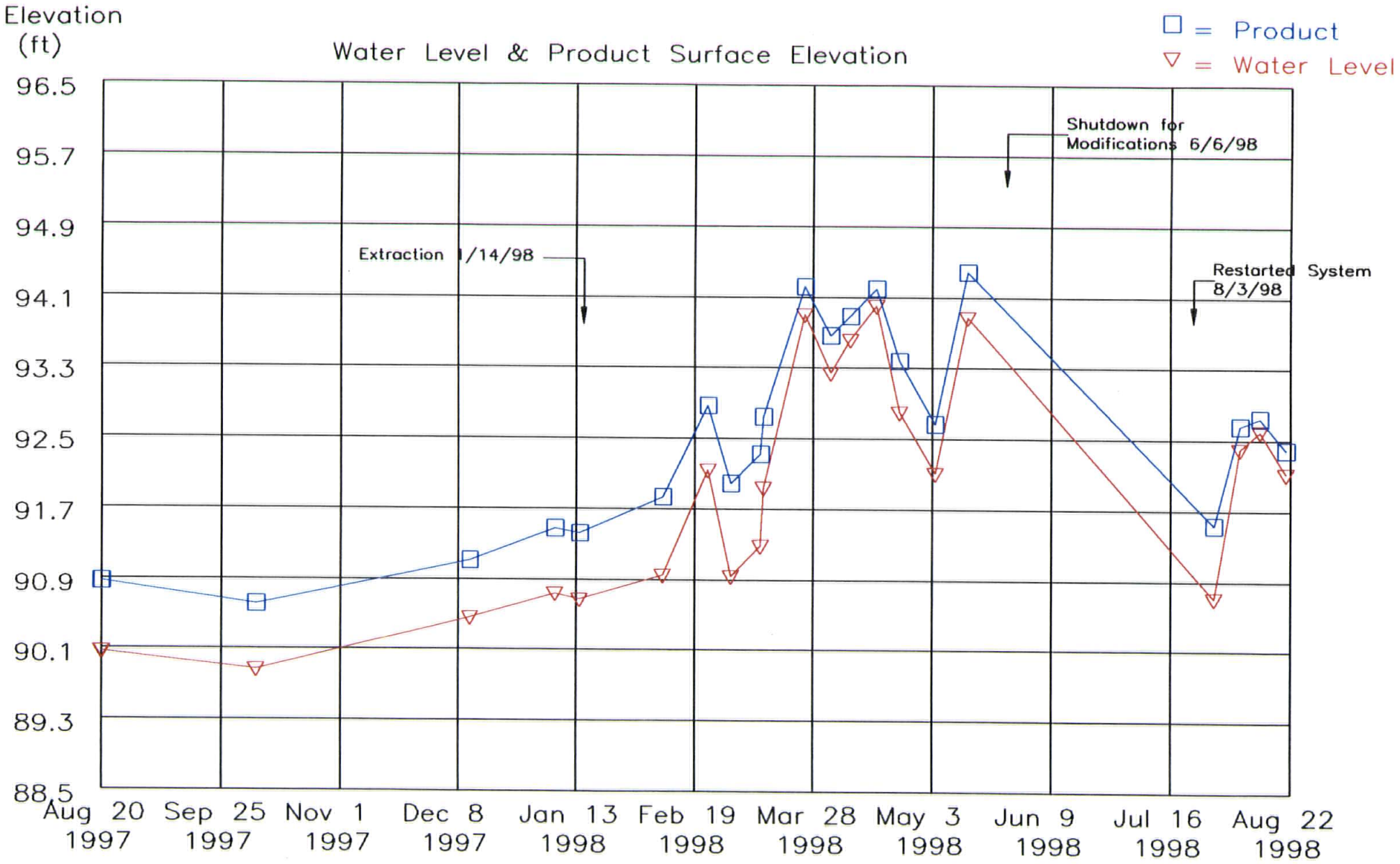
TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH	Volatile Organics	SPECIAL INSTRUCTIONS/ COMMENTS
1	CSO-Soil 1	Soil			2	6/1/98	4:30	N/methanol	X	X	
2	CSO-Soil 2	Soil			1	6/1/98	4:35	N/A	X		
3	CSO Trip Blank	Liq.			1	6/3/98		Methanol		X	
4	CSO Aq-1				11	6/3/98	2:40	H2SO4	X		

SAMPLED BY: [signature] DATE: 6-3-98 TIME: - -
QUOTATION #:
RELINQUISHED BY: [signature] DATE: 6-3-98 TIME: - -
RECEIVED BY: T. O'Connor DATE: 6-4-98 TIME: 10-30-
RELINQUISHED BY: DATE: - - TIME: - -
RECEIVED FOR LAB BY: DATE: - - TIME: - -
METHOD OF SHIPMENT
COOLER TEMPERATURE

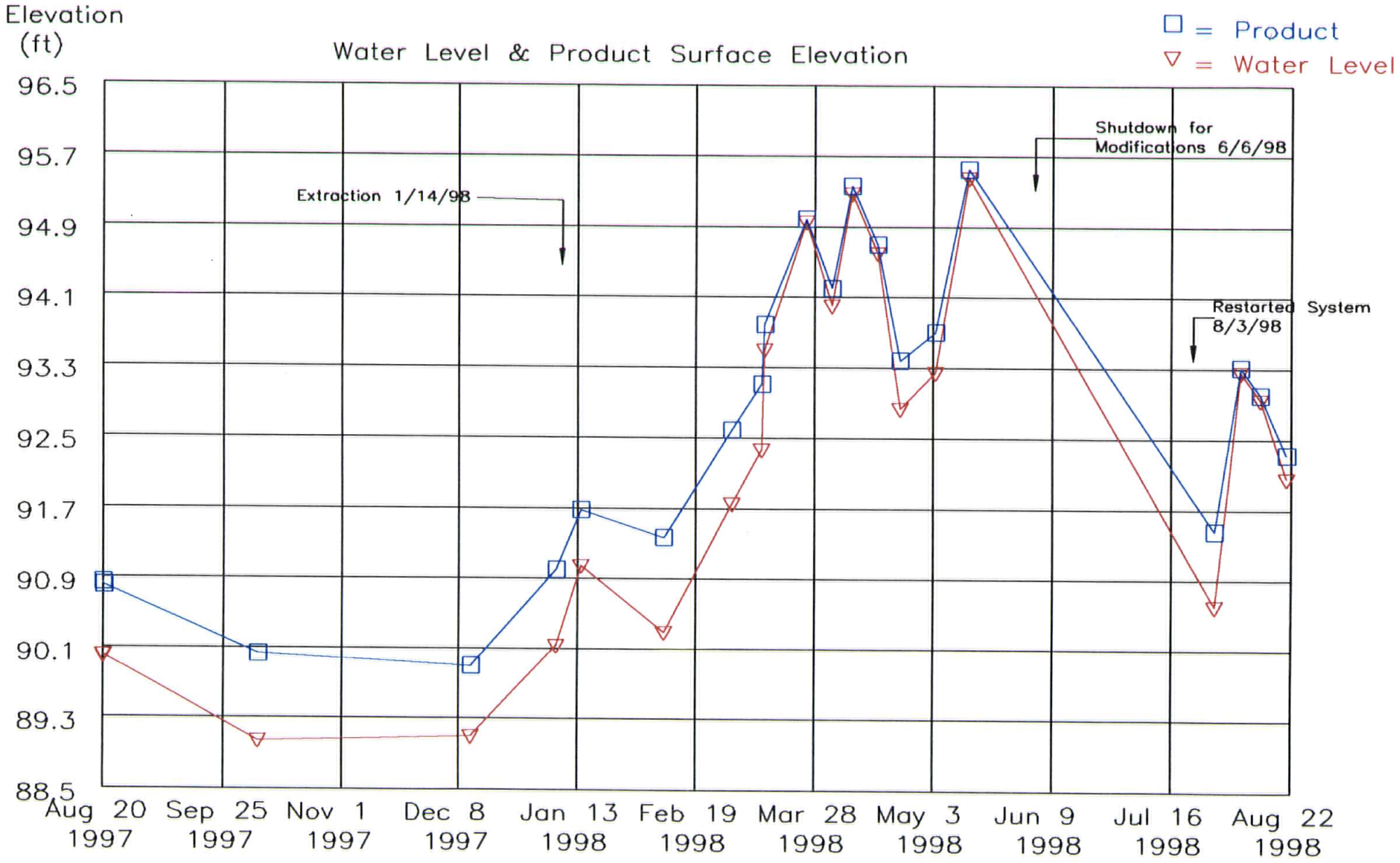
72 hr. turn-around
☒ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?

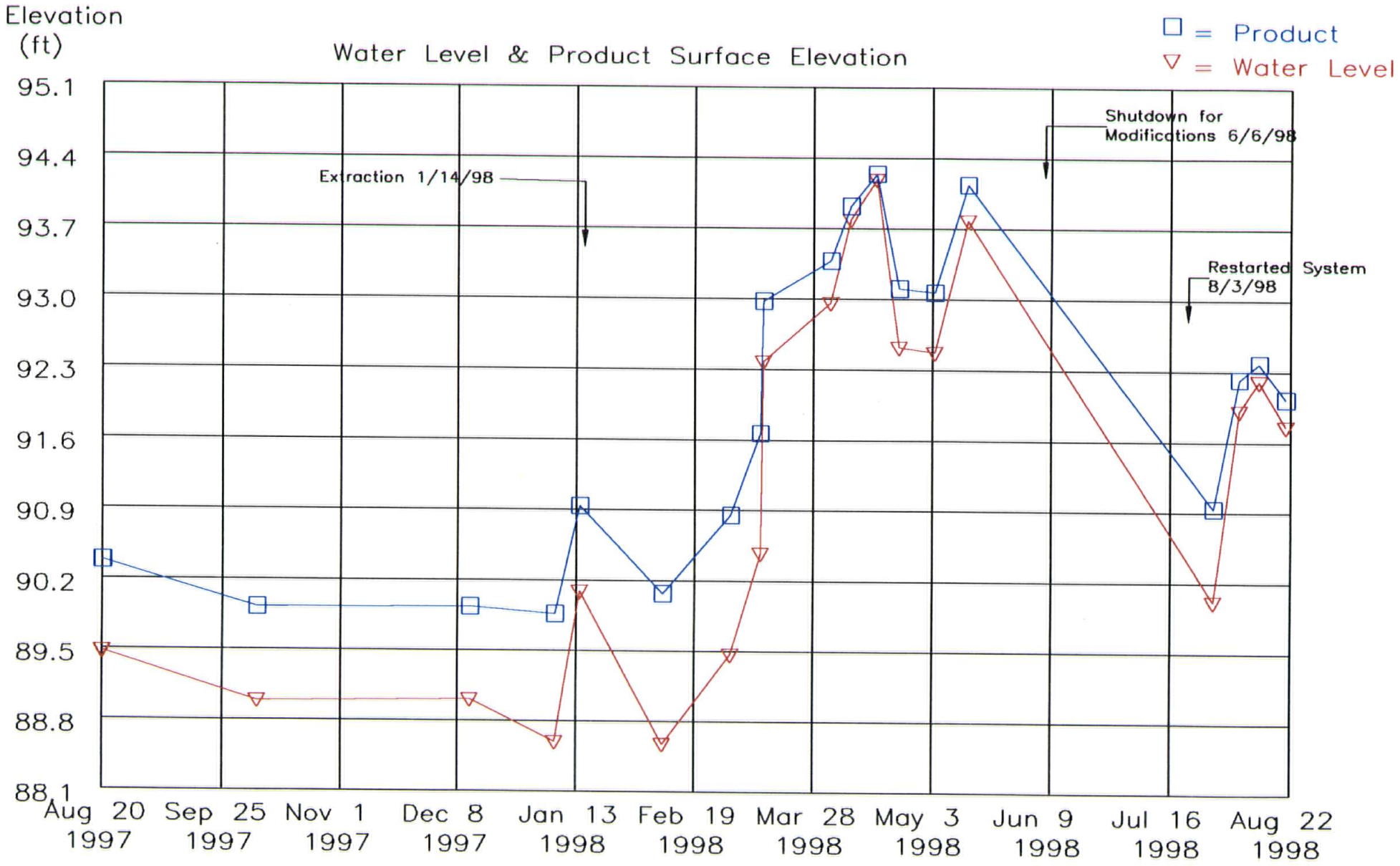
Well: 16MW-13


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.5
95.7
94.9
94.1
93.3
92.5
91.7
90.9
90.1
89.3
88.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

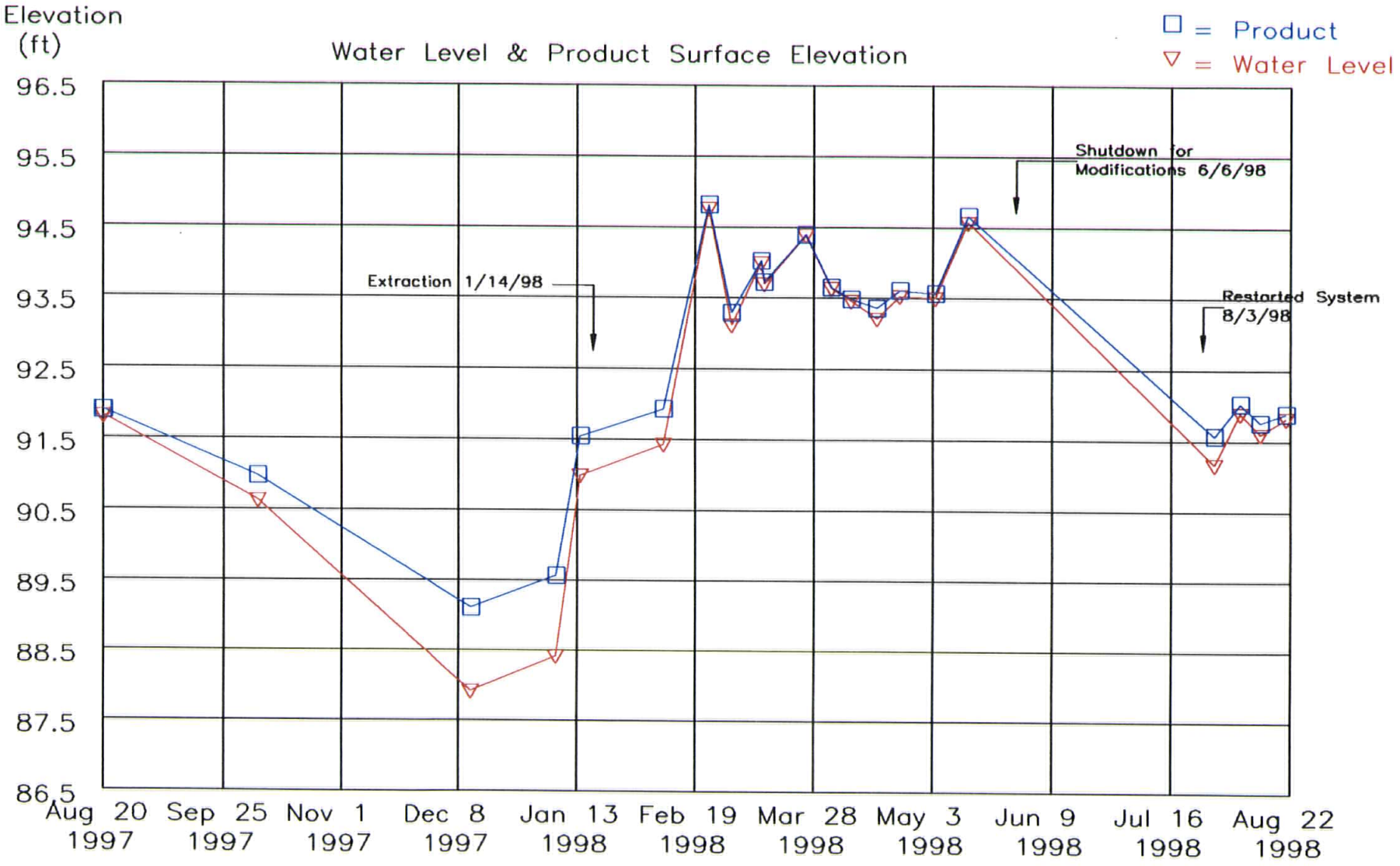
Well: 16MW-14


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.5
95.7
94.9
94.1
93.3
92.5
91.7
90.9
90.1
89.3
88.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

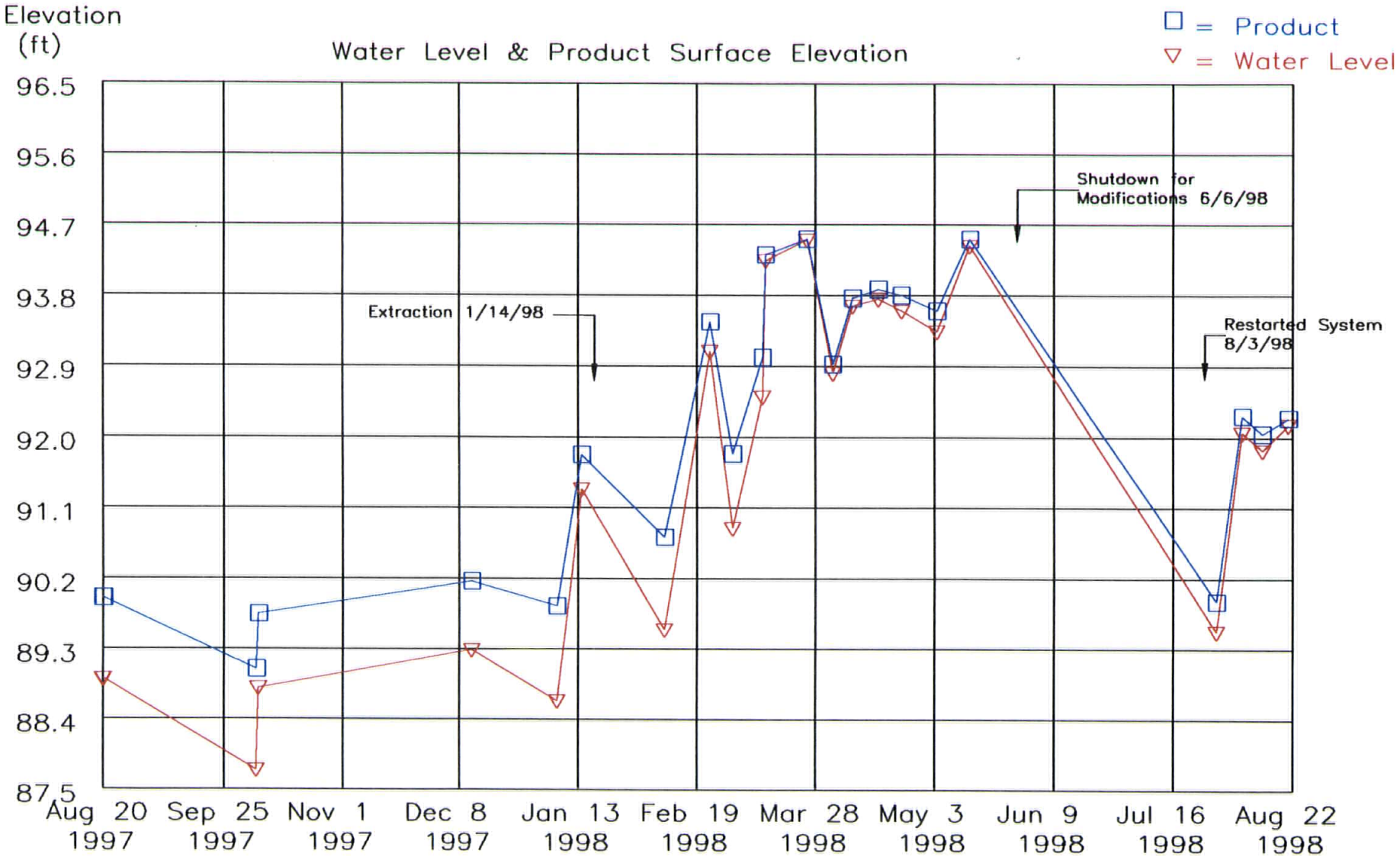
Well: 16MW-15


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
95.1
94.4
93.7
93.0
92.3
91.6
90.9
90.2
89.5
88.8
88.1
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

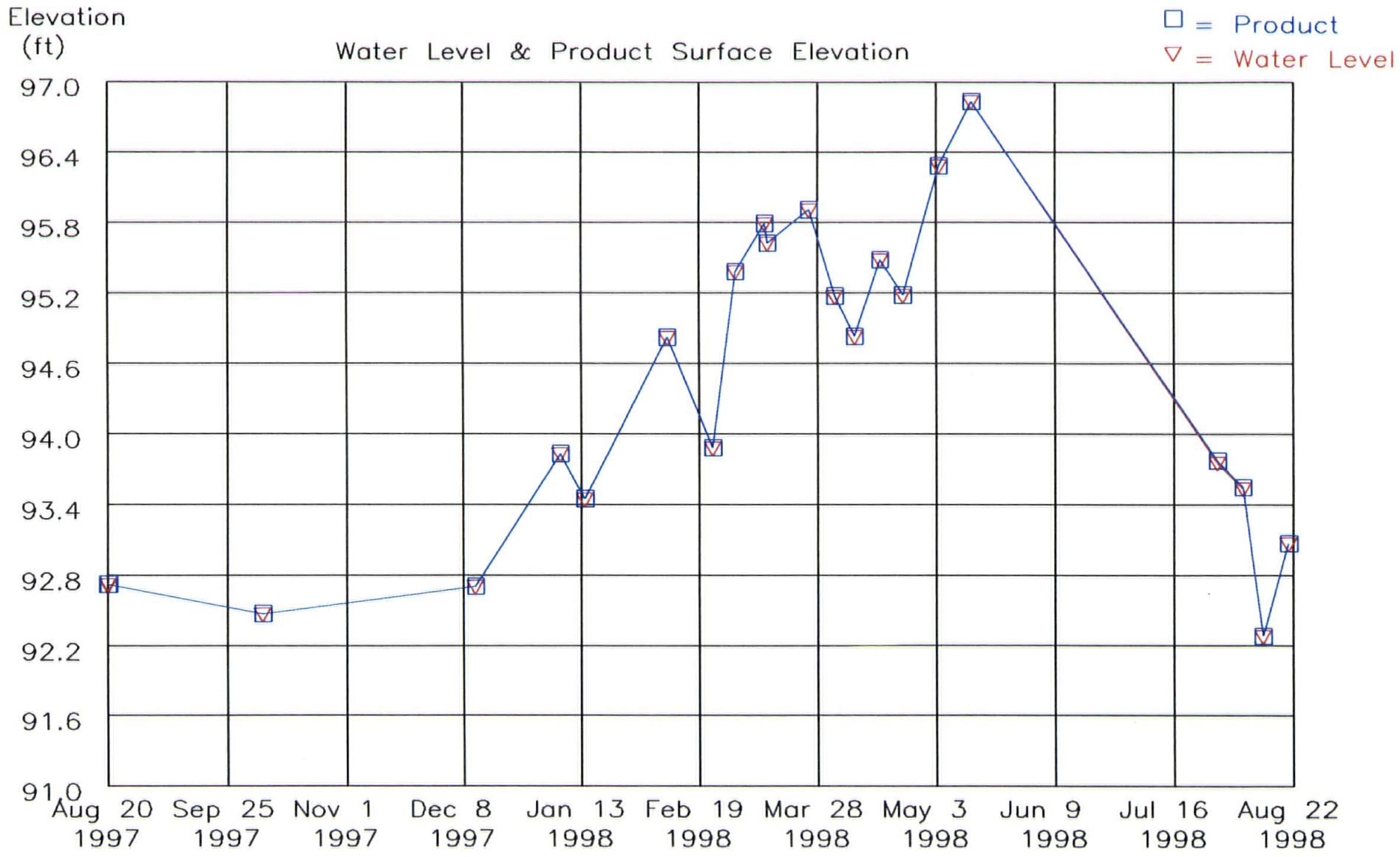
Well: 16MW-16


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.5
95.5
94.5
93.5
92.5
91.5
90.5
89.5
88.5
87.5
86.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

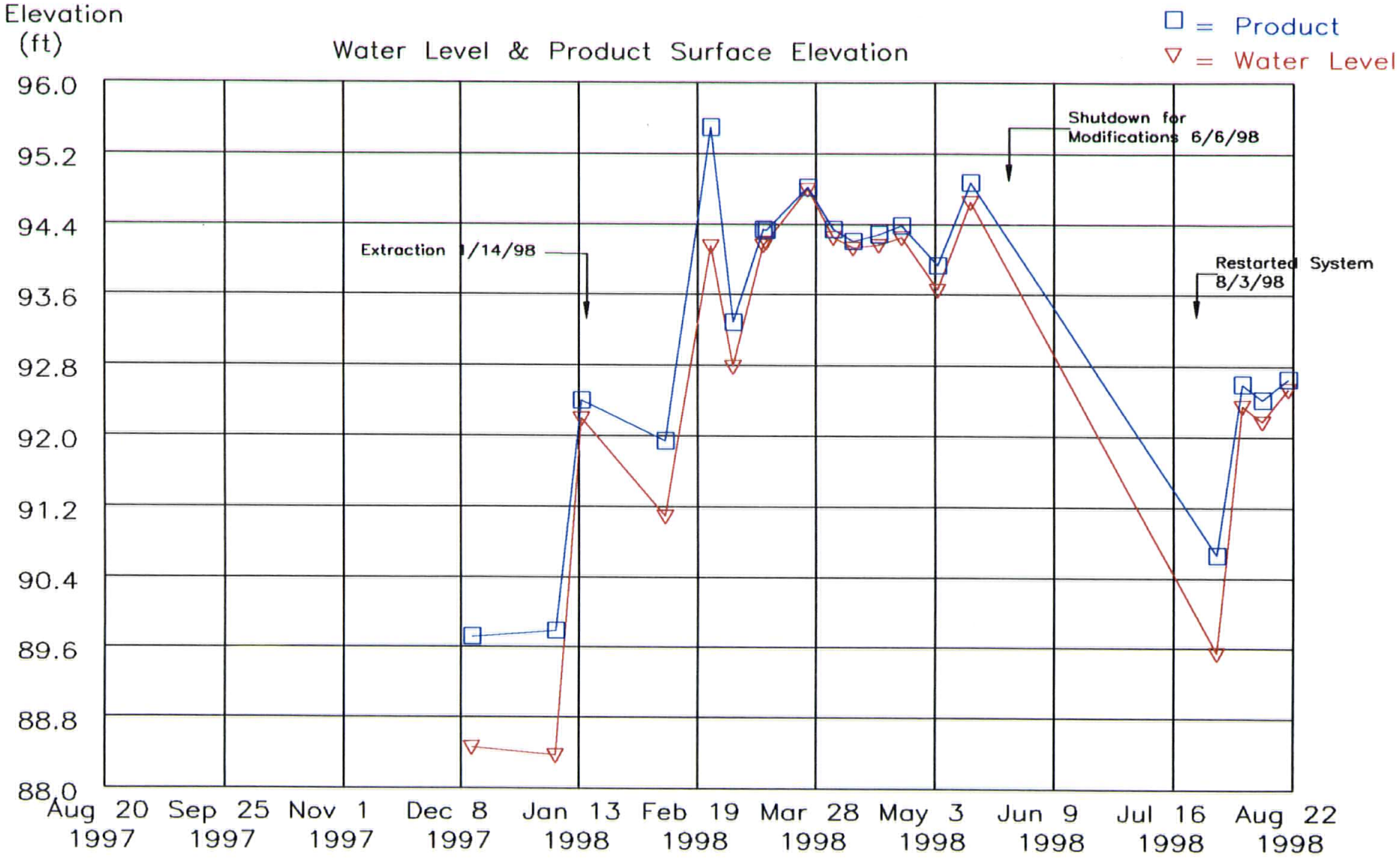
Well: 16MW-17


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.5
95.6
94.7
93.8
92.9
92.0
91.1
90.2
89.3
88.4
87.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

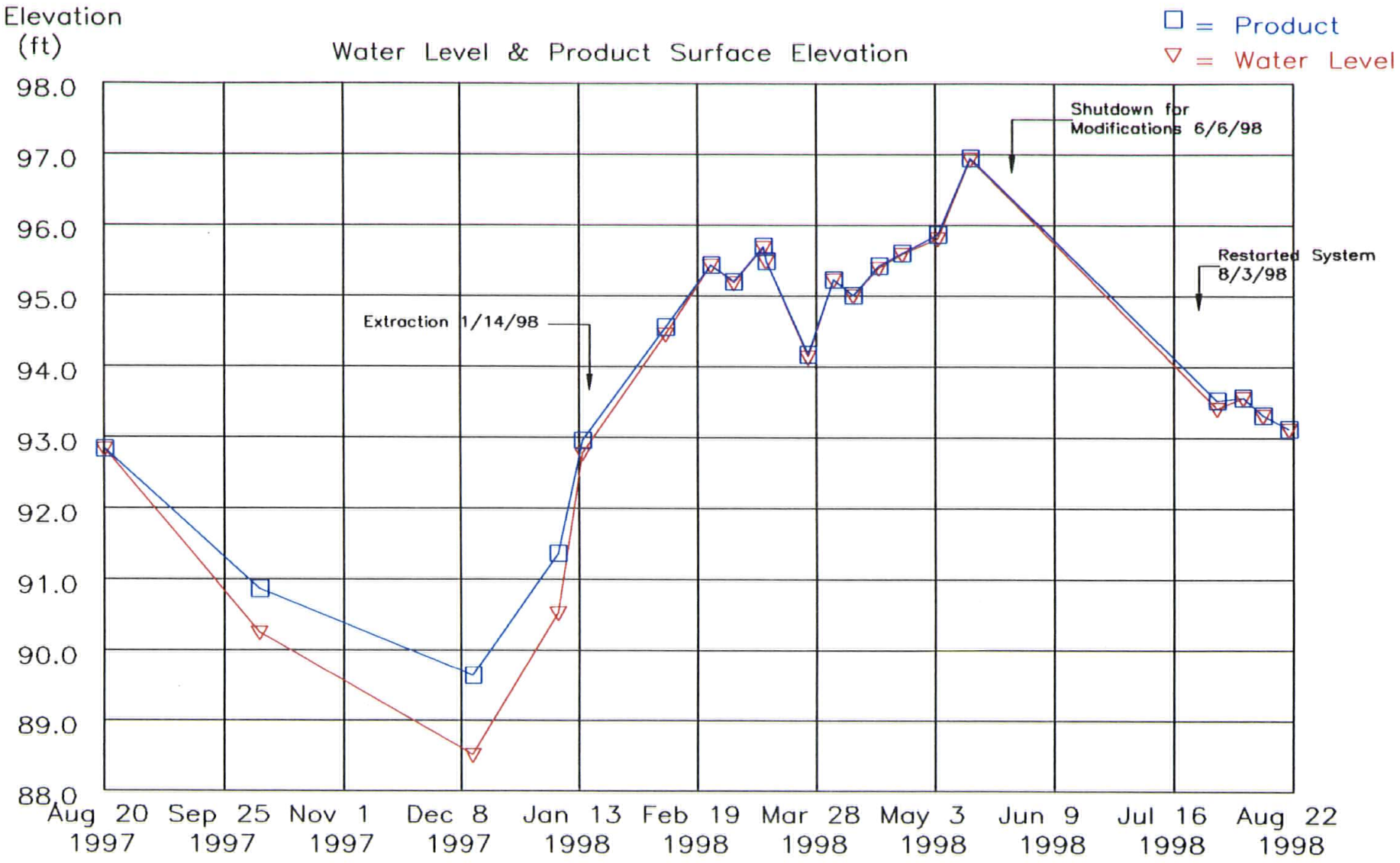
Well: 16MW-18


Elevation
(ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
97.0
96.4
95.8
95.2
94.6
94.0
93.4
92.8
92.2
91.6
91.0
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

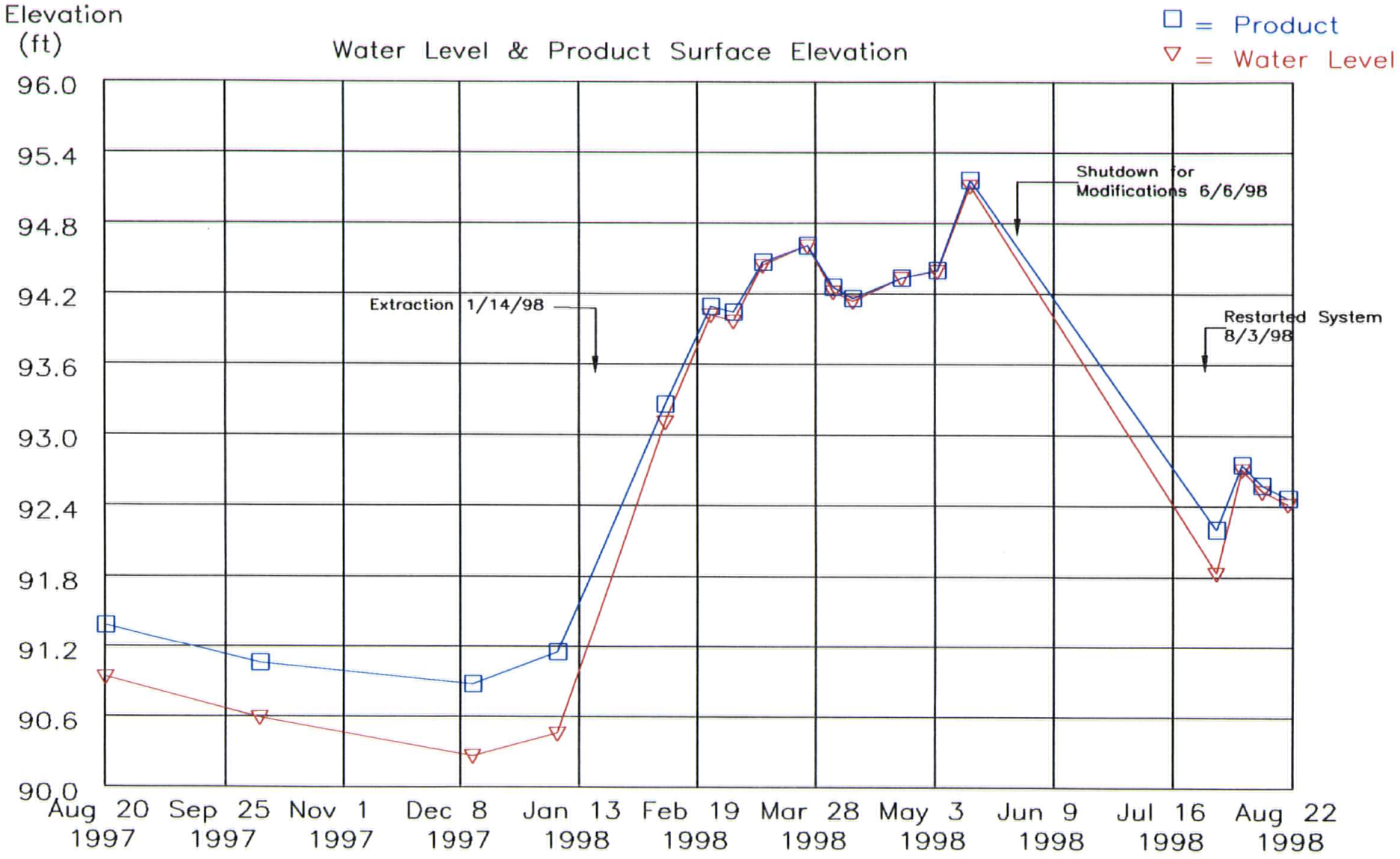
Site: C17MW-07



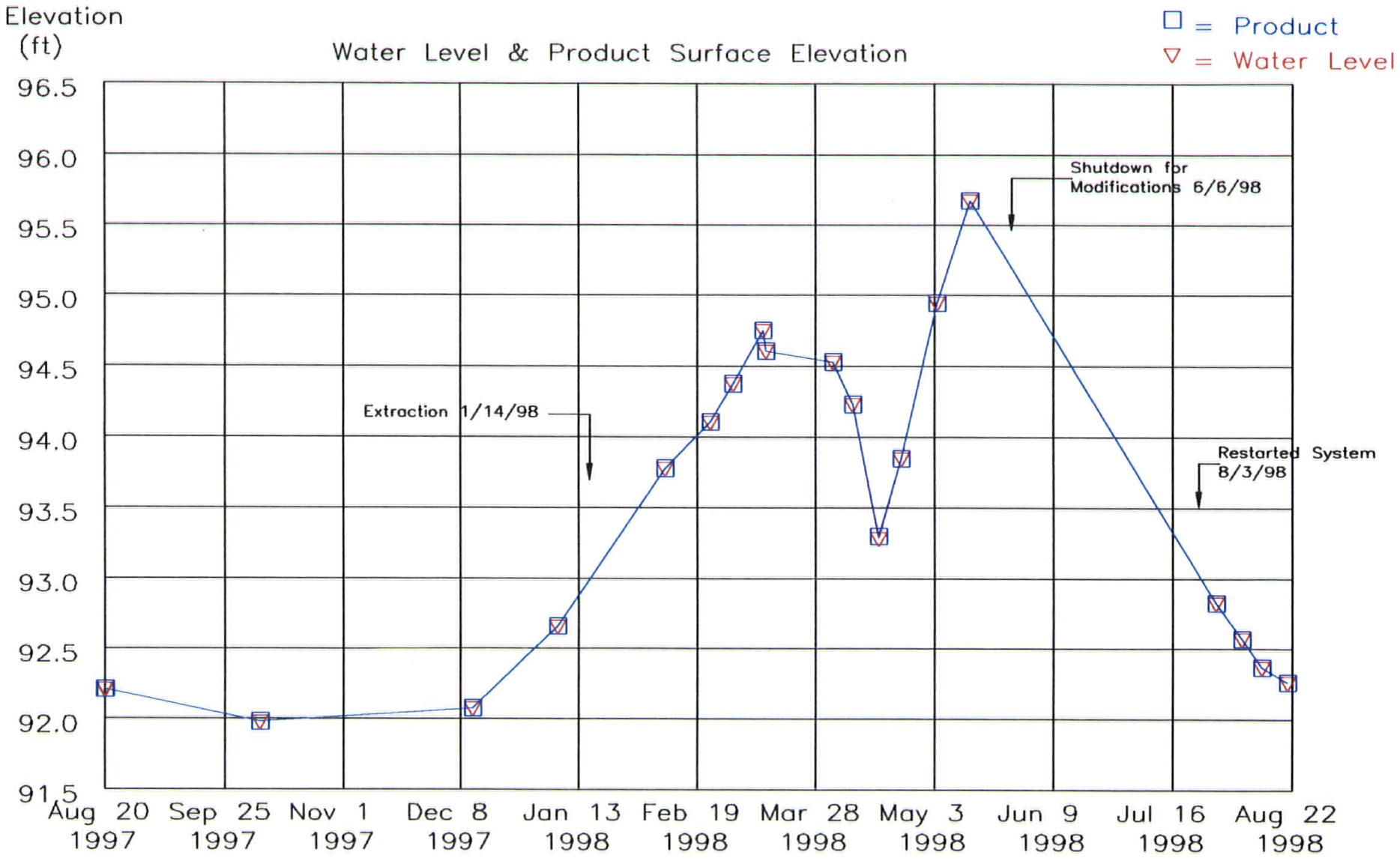
Well: 16MW-19


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
98.0
97.0
96.0
95.0
94.0
93.0
92.0
91.0
90.0
89.0
88.0
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Extraction 1/14/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

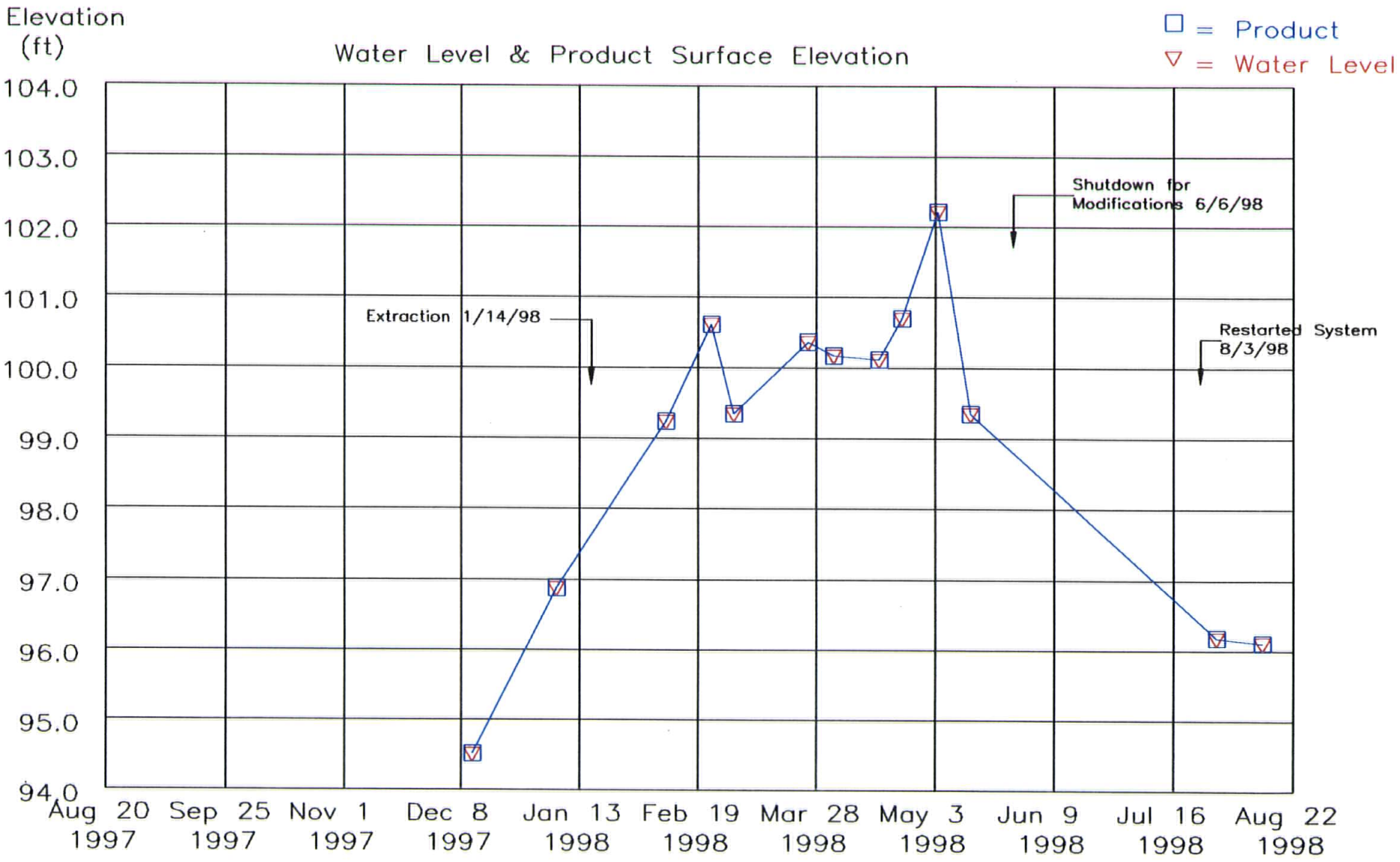
Well: 16MW-20


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.0
95.4
94.8
94.2
93.6
93.0
92.4
91.8
91.2
90.6
90.0
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

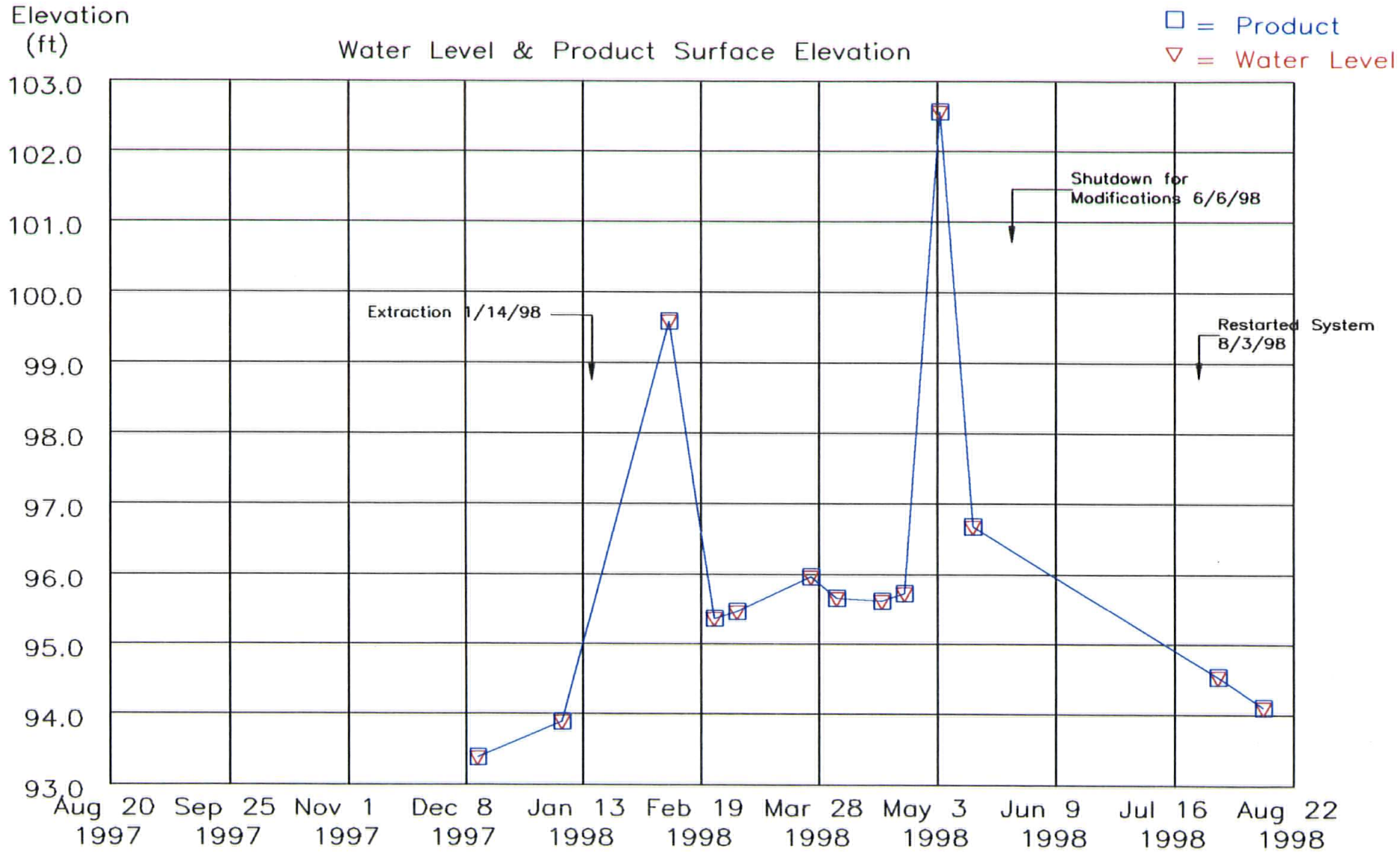
Well: 16MW-21


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
96.5
96.0
95.5
95.0
94.5
94.0
93.5
93.0
92.5
92.0
91.5
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

Well: 16MW-22


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
104.0
103.0
102.0
101.0
100.0
99.0
98.0
97.0
96.0
95.0
94.0
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

Well: 16MW-23


Elevation (ft)
Water Level & Product Surface Elevation
□ = Product
▽ = Water Level
103.0
102.0
101.0
100.0
99.0
98.0
97.0
96.0
95.0
94.0
93.0
Extraction 1/14/98
Shutdown for Modifications 6/6/98
Restarted System 8/3/98
Aug 20 1997
Sep 25 1997
Nov 1 1997
Dec 8 1997
Jan 13 1998
Feb 19 1998
Mar 28 1998
May 3 1998
Jun 9 1998
Jul 16 1998
Aug 22 1998

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-04	08/20/97	101.23000	11:34	13.65	0.57	87.58	NA	88.06
16MW-04	12/12/97	101.23000	00:00	11.55	0.78	89.68	2.10	90.35
16MW-04	01/07/98	101.23000	11:02	11.85	1.03	89.38	-0.30	90.26
16MW-04	02/10/98	101.23000	00:00	10.78	0.93	90.45	1.07	91.24
16MW-04	02/24/98	101.23000	00:00	8.78	0.56	92.45	2.00	92.93
16MW-04	03/03/98	101.23000	00:00	10.45	1.00	90.78	-1.67	91.63
16MW-04	03/12/98	101.23000	00:00	9.60	0.88	91.63	0.85	92.38
16MW-04	03/13/98	101.23000	00:00	9.15	0.71	92.08	0.45	92.69
16MW-04	03/26/98	101.23000	00:00	6.76	0.05	94.47	2.39	94.51
16MW-04	04/03/98	101.23000	00:00	8.40	0.44	92.83	-1.64	93.20
16MW-04	04/09/98	101.23000	00:00	6.90	0.01	94.33	1.50	94.34
16MW-04	04/17/98	101.23000	00:00	7.06	0.04	94.17	-0.16	94.20
16MW-04	04/24/98	101.23000	00:00	6.76	0.57	94.47	0.30	94.96
16MW-04	05/05/98	101.23000	00:00	8.40	0.48	92.83	-1.64	93.31
16MW-04	05/15/98	101.23000	00:00	8.20	0.65	93.03	0.20	93.58
16MW-04	07/30/98	101.23000	00:00	10.15	0.81	91.08	-1.95	91.77
16MW-04	08/07/98	101.23000	00:00	9.17	0.27	92.06	0.98	92.29
16MW-04	08/13/98	101.23000	00:00	8.50	0.02	92.73	0.67	92.74
16MW-04	08/21/98	101.23000	00:00	9.20	0.19	92.03	-0.70	92.19
16MW-13	08/20/97	100.97000	00:00	10.90	0.80	90.07	NA	90.75
16MW-13	08/20/97	100.97000	08:45	10.90	0.80	90.07	0.00	90.75
16MW-13	10/06/97	100.97000	10:45	11.10	0.74	89.87	-0.20	90.50
16MW-13	12/12/97	100.97000	08:30	10.50	0.64	90.47	0.60	91.01
16MW-13	01/07/98	100.97000	09:35	10.22	0.73	90.75	0.28	91.37
16MW-13	01/15/98	100.97000	07:30	10.29	0.74	90.68	-0.07	91.31
16MW-13	02/10/98	100.97000	00:00	10.01	0.87	90.96	0.28	91.70
16MW-13	02/24/98	100.97000	00:00	8.82	0.71	92.15	1.19	92.76
16MW-13	03/03/98	100.97000	00:00	10.02	1.04	90.95	-1.20	91.83
16MW-13	03/12/98	100.97000	00:00	9.67	1.02	91.30	0.35	92.17
16MW-13	03/13/98	100.97000	00:00	9.02	0.80	91.95	0.65	92.63
16MW-13	03/26/98	100.97000	00:00	7.05	0.30	93.92	1.97	94.17
16MW-13	04/03/98	100.97000	00:00	7.72	0.41	93.25	-0.67	93.60
16MW-13	04/09/98	100.97000	00:00	7.34	0.26	93.63	0.38	93.85
16MW-13	04/17/98	100.97000	00:00	6.95	0.18	94.02	0.39	94.17
16MW-13	04/24/98	100.97000	00:00	8.16	0.57	92.81	-1.21	93.29

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-13	05/05/98	100.97000	00:00	8.85	0.55	92.12	-0.69	92.67
16MW-13	05/15/98	100.97000	00:00	7.09	0.51	93.88	1.76	94.39
16MW-13	07/30/98	100.97000	00:00	10.25	0.81	90.72	-3.16	91.41
16MW-13	08/07/98	100.97000	00:00	8.57	0.26	92.40	1.68	92.62
16MW-13	08/13/98	100.97000	00:00	8.36	0.14	92.61	0.21	92.72
16MW-13	08/21/98	100.97000	00:00	8.84	0.27	92.13	-0.48	92.36
16MW-14	08/20/97	100.66000	00:00	10.64	0.82	90.02	NA	90.72
16MW-14	08/20/97	100.66000	08:48	10.64	0.80	90.02	0.00	90.70
16MW-14	10/06/97	100.66000	10:45	11.61	0.99	89.05	-0.97	89.89
16MW-14	12/12/97	100.66000	08:30	11.55	0.79	89.11	0.06	89.78
16MW-14	01/07/98	100.66000	09:49	10.52	0.86	90.14	1.03	90.87
16MW-14	01/07/98	100.66000	09:56	10.52	0.86	90.14	0.00	90.87
16MW-14	01/15/98	100.66000	07:30	9.61	0.63	91.05	0.91	91.59
16MW-14	02/10/98	100.66000	00:00	10.36	1.07	90.30	-0.75	91.21
16MW-14	03/03/98	100.66000	00:00	8.90	0.83	91.76	1.46	92.47
16MW-14	03/12/98	100.66000	00:00	8.29	0.74	92.37	0.61	93.00
16MW-14	03/13/98	100.66000	00:00	7.15	0.28	93.51	1.14	93.75
16MW-14	03/26/98	100.66000	00:00	5.70	0.03	94.96	1.45	94.98
16MW-14	04/03/98	100.66000	00:00	6.66	0.20	94.00	-0.96	94.17
16MW-14	04/09/98	100.66000	00:00	5.38	0.09	95.28	1.28	95.35
16MW-14	04/17/98	100.66000	00:00	6.05	0.09	94.61	-0.67	94.69
16MW-14	04/24/98	100.66000	00:00	7.82	0.54	92.84	-1.77	93.30
16MW-14	05/05/98	100.66000	00:00	7.41	0.46	93.25	0.41	93.64
16MW-14	05/15/98	100.66000	00:00	5.20	0.10	95.46	2.21	95.54
16MW-14	07/30/98	100.66000	00:00	10.05	0.85	90.61	-4.85	91.33
16MW-14	08/07/98	100.66000	00:00	7.40	0.05	93.26	2.65	93.30
16MW-14	08/13/98	100.66000	00:00	7.71	0.05	92.95	-0.31	92.99
16MW-14	08/21/98	100.66000	00:00	8.60	0.27	92.06	-0.89	92.29
16MW-15	08/20/97	100.98000	00:00	11.49	0.89	89.49	NA	90.25
16MW-15	08/20/97	100.98000	08:55	11.49	0.89	89.49	0.00	90.25
16MW-15	08/20/97	100.98000	09:12	11.49	0.89	89.49	0.00	90.25
16MW-15	10/06/97	100.98000	10:45	11.98	0.93	89.00	-0.49	89.79
16MW-15	12/12/97	100.98000	08:30	11.96	0.92	89.02	0.02	89.80
16MW-15	01/07/98	100.98000	10:05	12.38	1.27	88.60	-0.42	89.68

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-15	01/15/98	100.98000	07:30	10.88	0.84	90.10	1.50	90.81
16MW-15	02/10/98	100.98000	00:00	12.40	1.49	88.58	-1.52	89.85
16MW-15	03/03/98	100.98000	00:00	11.50	1.37	89.48	0.90	90.65
16MW-15	03/12/98	100.98000	00:00	10.50	1.19	90.48	1.00	91.49
16MW-15	03/13/98	100.98000	00:00	8.60	0.60	92.38	1.90	92.89
16MW-15	04/03/98	100.98000	00:00	8.01	0.41	92.97	0.59	93.32
16MW-15	04/09/98	100.98000	00:00	7.19	0.13	93.79	0.82	93.90
16MW-15	04/17/98	100.98000	00:00	6.79	0.05	94.19	0.40	94.23
16MW-15	04/24/98	100.98000	00:00	8.45	0.57	92.53	-1.66	93.02
16MW-15	05/05/98	100.98000	00:00	8.50	0.59	92.48	-0.05	93.07
16MW-15	05/15/98	100.98000	00:00	7.20	0.36	93.78	1.30	94.08
16MW-15	07/30/98	100.98000	00:00	10.96	0.92	90.02	-3.76	90.80
16MW-15	08/07/98	100.98000	00:00	9.06	0.30	91.92	1.90	92.18
16MW-15	08/13/98	100.98000	00:00	8.77	0.17	92.21	0.29	92.35
16MW-15	08/21/98	100.98000	00:00	9.22	0.27	91.76	-0.45	91.99
16MW-16	08/20/97	98.82000	00:00	7.01	0.08	91.81	NA	91.87
16MW-16	08/20/97	98.82000	09:12	7.01	0.08	91.81	0.00	91.87
16MW-16	10/06/97	98.82000	10:45	8.19	0.35	90.63	-1.18	90.93
16MW-16	12/12/97	98.82000	08:30	10.90	1.20	87.92	-2.71	88.94
16MW-16	01/07/98	98.82000	10:10	10.40	1.15	88.42	0.50	89.40
16MW-16	01/15/98	98.82000	07:30	7.83	0.56	90.99	2.57	91.46
16MW-16	02/10/98	98.82000	00:00	7.38	0.49	91.44	0.45	91.85
16MW-16	02/24/98	98.82000	00:00	4.05	0.05	94.77	3.33	94.81
16MW-16	03/03/98	98.82000	00:00	5.70	0.17	93.12	-1.65	93.26
16MW-16	03/12/98	98.82000	00:00	4.81	0.02	94.01	0.89	94.03
16MW-16	03/13/98	98.82000	00:00	5.12	0.02	93.70	-0.31	93.71
16MW-16	03/26/98	98.82000	00:00	4.42	0.01	94.40	0.70	94.40
16MW-16	04/03/98	98.82000	00:00	5.17	0.01	93.65	-0.75	93.66
16MW-16	04/09/98	98.82000	00:00	5.35	0.02	93.47	-0.18	93.48
16MW-16	04/17/98	98.82000	00:00	5.60	0.14	93.22	-0.25	93.34
16MW-16	04/24/98	98.82000	00:00	5.28	0.07	93.54	0.32	93.60
16MW-16	05/05/98	98.82000	00:00	5.32	0.07	93.50	-0.04	93.57
16MW-16	05/15/98	98.82000	00:00	4.25	0.10	94.57	1.07	94.66
16MW-16	07/30/98	98.82000	00:00	7.64	0.39	91.18	-3.39	91.51
16MW-16	08/07/98	98.82000	00:00	6.92	0.14	91.90	0.72	92.01

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-16	08/13/98	98.82000	00:00	7.22	0.17	91.60	-0.30	91.74
16MW-16	08/21/98	98.82000	00:00	6.99	0.07	91.83	0.23	91.89
16MW-17	08/20/97	99.79000	00:00	10.87	1.03	88.92	NA	89.80
16MW-17	08/20/97	99.79000	09:07	10.87	1.03	88.92	0.00	89.80
16MW-17	10/06/97	99.79000	00:00	12.03	1.28	87.76	-1.16	88.85
16MW-17	10/06/97	99.79000	10:45	10.98	0.94	88.81	1.05	89.61
16MW-17	12/12/97	99.79000	08:30	10.50	0.87	89.29	0.48	90.03
16MW-17	01/07/98	99.79000	10:23	11.15	1.21	88.64	-0.65	89.67
16MW-17	01/15/98	99.79000	07:30	8.45	0.43	91.34	2.70	91.71
16MW-17	02/10/98	99.79000	00:00	10.24	1.17	89.55	-1.79	90.55
16MW-17	02/24/98	99.79000	00:00	6.70	0.37	93.09	3.54	93.40
16MW-17	03/03/98	99.79000	00:00	8.95	0.95	90.84	-2.25	91.65
16MW-17	03/12/98	99.79000	00:00	7.27	0.49	92.52	1.68	92.94
16MW-17	03/13/98	99.79000	00:00	5.55	0.07	94.24	1.72	94.30
16MW-17	03/26/98	99.79000	00:00	5.29	0.01	94.50	0.26	94.51
16MW-17	04/03/98	99.79000	00:00	6.97	0.10	92.82	-1.68	92.91
16MW-17	04/09/98	99.79000	00:00	6.12	0.09	93.67	0.85	93.75
16MW-17	04/17/98	99.79000	00:00	6.04	0.13	93.75	0.08	93.86
16MW-17	04/24/98	99.79000	00:00	6.19	0.20	93.60	-0.15	93.77
16MW-17	05/05/98	99.79000	00:00	6.45	0.27	93.34	-0.26	93.61
16MW-17	05/15/98	99.79000	00:00	5.36	0.09	94.43	1.09	94.50
16MW-17	07/30/98	99.79000	00:00	10.26	0.39	89.53	-4.90	89.86
16MW-17	08/07/98	99.79000	00:00	7.72	0.21	92.07	2.54	92.24
16MW-17	08/13/98	99.79000	00:00	7.95	0.22	91.84	-0.23	92.02
16MW-17	08/21/98	99.79000	00:00	7.62	0.09	92.17	0.33	92.24
16MW-18	08/20/97	100.69000	00:00	7.96	0.00	92.73	NA	92.73
16MW-18	08/20/97	100.69000	09:03	7.96	0.00	92.73	0.00	92.73
16MW-18	10/06/97	100.69000	10:45	8.21	0.00	92.48	-0.25	92.48
16MW-18	12/12/97	100.69000	08:30	7.98	0.00	92.71	0.23	92.71
16MW-18	01/07/98	100.69000	10:30	6.85	0.00	93.84	1.13	93.84
16MW-18	01/15/98	100.69000	07:30	7.24	0.00	93.45	-0.39	93.45
16MW-18	02/10/98	100.69000	00:00	5.86	0.00	94.83	1.38	94.83
16MW-18	02/24/98	100.69000	00:00	6.80	0.00	93.89	-0.94	93.89
16MW-18	03/03/98	100.69000	00:00	5.30	0.00	95.39	1.50	95.39

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-18	03/12/98	100.69000	00:00	4.89	0.00	95.80	0.41	95.80
16MW-18	03/13/98	100.69000	00:00	5.06	0.00	95.63	-0.17	95.63
16MW-18	03/26/98	100.69000	00:00	4.78	0.00	95.91	0.28	95.91
16MW-18	04/03/98	100.69000	00:00	5.51	0.00	95.18	-0.73	95.18
16MW-18	04/09/98	100.69000	00:00	5.85	0.00	94.84	-0.34	94.84
16MW-18	04/17/98	100.69000	00:00	5.20	0.00	95.49	0.65	95.49
16MW-18	04/24/98	100.69000	00:00	5.50	0.00	95.19	-0.30	95.19
16MW-18	05/05/98	100.69000	00:00	4.40	0.00	96.29	1.10	96.29
16MW-18	05/15/98	100.69000	00:00	3.85	0.00	96.84	0.55	96.84
16MW-18	07/30/98	100.69000	00:00	6.93	0.01	93.76	-3.08	93.77
16MW-18	08/07/98	100.69000	00:00	7.14	0.00	93.55	-0.21	93.55
16MW-18	08/13/98	100.69000	00:00	8.40	0.00	92.29	-1.26	92.29
16MW-18	08/21/98	100.69000	00:00	7.61	0.00	93.08	0.79	93.08
16MW-19	08/20/97	100.54000	08:57	7.70	0.00	92.84	NA	92.84
16MW-19	10/06/97	100.54000	10:45	10.29	0.62	90.25	-2.59	90.77
16MW-19	12/12/97	100.54000	08:30	12.02	1.12	88.52	-1.73	89.47
16MW-19	01/07/98	100.54000	10:37	10.00	0.82	90.54	2.02	91.24
16MW-19	01/15/98	100.54000	07:30	7.76	0.18	92.78	2.24	92.93
16MW-19	02/10/98	100.54000	00:00	6.07	0.09	94.47	1.69	94.55
16MW-19	02/24/98	100.54000	00:00	5.10	0.00	95.44	0.97	95.44
16MW-19	03/03/98	100.54000	00:00	5.35	0.01	95.19	-0.25	95.20
16MW-19	03/12/98	100.54000	00:00	4.85	0.01	95.69	0.50	95.70
16MW-19	03/13/98	100.54000	00:00	5.05	0.00	95.49	-0.20	95.49
16MW-19	03/26/98	100.54000	00:00	6.40	0.03	94.14	-1.35	94.16
16MW-19	04/03/98	100.54000	00:00	5.31	0.00	95.23	1.09	95.23
16MW-19	04/09/98	100.54000	00:00	5.54	0.00	95.00	-0.23	95.00
16MW-19	04/17/98	100.54000	00:00	5.15	0.03	95.39	0.39	95.42
16MW-19	04/24/98	100.54000	00:00	4.95	0.01	95.59	0.20	95.59
16MW-19	05/05/98	100.54000	00:00	4.73	0.05	95.81	0.22	95.86
16MW-19	05/15/98	100.54000	00:00	3.60	0.01	96.94	1.13	96.95
16MW-19	07/30/98	100.54000	00:00	7.12	0.11	93.42	-3.52	93.51
16MW-19	08/07/98	100.54000	00:00	6.97	0.00	93.57	0.15	93.57
16MW-19	08/13/98	100.54000	00:00	7.22	0.00	93.32	-0.25	93.32
16MW-19	08/21/98	100.54000	00:00	7.41	0.00	93.13	-0.19	93.13

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-20	08/20/97	100.82000	09:26	9.88	0.44	90.94	NA	91.31
16MW-20	10/06/97	100.82000	10:45	10.22	0.46	90.60	-0.34	90.99
16MW-20	12/12/97	100.82000	08:30	10.55	0.61	90.27	-0.33	90.79
16MW-20	01/07/98	100.82000	10:49	10.36	0.69	90.46	0.19	91.05
16MW-20	02/10/98	100.82000	00:00	7.71	0.15	93.11	2.65	93.23
16MW-20	02/24/98	100.82000	00:00	6.80	0.08	94.02	0.91	94.08
16MW-20	03/03/98	100.82000	00:00	6.85	0.07	93.97	-0.05	94.03
16MW-20	03/12/98	100.82000	00:00	6.37	0.02	94.45	0.48	94.46
16MW-20	03/26/98	100.82000	00:00	6.21	0.00	94.61	0.16	94.61
16MW-20	04/03/98	100.82000	00:00	6.60	0.04	94.22	-0.39	94.25
16MW-20	04/09/98	100.82000	00:00	6.68	0.02	94.14	-0.08	94.15
16MW-20	04/24/98	100.82000	00:00	6.48	0.00	94.34	0.20	94.34
16MW-20	05/05/98	100.82000	00:00	6.42	0.00	94.40	0.06	94.40
16MW-20	05/15/98	100.82000	00:00	5.70	0.05	95.12	0.72	95.16
16MW-20	07/30/98	100.82000	00:00	8.98	0.36	91.84	-3.28	92.15
16MW-20	08/07/98	100.82000	00:00	8.11	0.04	92.71	0.87	92.75
16MW-20	08/13/98	100.82000	00:00	8.29	0.05	92.53	-0.18	92.57
16MW-20	08/21/98	100.82000	00:00	8.40	0.05	92.42	-0.11	92.46
16MW-21	08/20/97	99.78000	00:00	7.57	0.00	92.21	NA	92.21
16MW-21	08/20/97	99.78000	09:35	7.57	0.00	92.21	0.00	92.21
16MW-21	10/06/97	99.78000	10:45	7.80	0.00	91.98	-0.23	91.98
16MW-21	12/12/97	99.78000	08:30	7.70	0.00	92.08	0.10	92.08
16MW-21	01/07/98	99.78000	10:58	7.12	0.00	92.66	0.58	92.66
16MW-21	02/10/98	99.78000	00:00	6.00	0.00	93.78	1.12	93.78
16MW-21	02/24/98	99.78000	00:00	5.67	0.00	94.11	0.33	94.11
16MW-21	03/03/98	99.78000	00:00	5.40	0.00	94.38	0.27	94.38
16MW-21	03/12/98	99.78000	00:00	5.03	0.00	94.75	0.37	94.75
16MW-21	03/13/98	99.78000	00:00	5.17	0.00	94.61	-0.14	94.61
16MW-21	04/03/98	99.78000	00:00	5.25	0.00	94.53	-0.08	94.53
16MW-21	04/09/98	99.78000	00:00	5.55	0.00	94.23	-0.30	94.23
16MW-21	04/17/98	99.78000	00:00	6.49	0.01	93.29	-0.94	93.30
16MW-21	04/24/98	99.78000	00:00	5.93	0.00	93.85	0.56	93.85
16MW-21	05/05/98	99.78000	00:00	4.83	0.00	94.95	1.10	94.95
16MW-21	05/15/98	99.78000	00:00	4.10	0.00	95.68	0.73	95.68
16MW-21	07/30/98	99.78000	00:00	6.95	0.00	92.83	-2.85	92.83

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
16MW-21	08/07/98	99.78000	00:00	7.21	0.00	92.57	-0.26	92.57
16MW-21	08/13/98	99.78000	00:00	7.41	0.00	92.37	-0.20	92.37
16MW-21	08/21/98	99.78000	00:00	7.51	0.00	92.27	-0.10	92.27
16MW-22	12/12/97	102.22000	00:00	7.70	0.00	94.52	NA	94.52
16MW-22	01/07/98	102.22000	00:00	5.34	0.00	96.88	2.36	96.88
16MW-22	02/10/98	102.22000	00:00	2.98	0.00	99.24	2.36	99.24
16MW-22	02/24/98	102.22000	00:00	1.60	0.00	100.62	1.38	100.62
16MW-22	03/03/98	102.22000	00:00	2.87	0.00	99.35	-1.27	99.35
16MW-22	03/26/98	102.22000	00:00	1.85	0.00	100.37	1.02	100.37
16MW-22	04/03/98	102.22000	00:00	2.05	0.00	100.17	-0.20	100.17
16MW-22	04/17/98	102.22000	00:00	2.10	0.00	100.12	-0.05	100.12
16MW-22	04/24/98	102.22000	00:00	1.52	0.00	100.70	0.58	100.70
16MW-22	05/05/98	102.22000	00:00	0.00	0.00	102.22	1.52	102.22
16MW-22	05/15/98	102.22000	00:00	2.86	0.00	99.36	-2.86	99.36
16MW-22	07/30/98	102.22000	00:00	6.03	0.00	96.19	-3.17	96.19
16MW-22	08/13/98	102.22000	00:00	6.10	0.00	96.12	-0.07	96.12
16MW-23	12/12/97	102.58000	08:30	9.19	0.00	93.39	NA	93.39
16MW-23	01/07/98	102.58000	09:35	8.67	0.00	93.91	0.52	93.91
16MW-23	01/07/98	102.58000	09:49	8.67	0.00	93.91	0.00	93.91
16MW-23	02/10/98	102.58000	00:00	2.98	0.00	99.60	5.69	99.60
16MW-23	02/24/98	102.58000	00:00	7.20	0.00	95.38	-4.22	95.38
16MW-23	03/03/98	102.58000	00:00	7.10	0.00	95.48	0.10	95.48
16MW-23	03/26/98	102.58000	00:00	6.60	0.00	95.98	0.50	95.98
16MW-23	04/03/98	102.58000	00:00	6.90	0.00	95.68	-0.30	95.68
16MW-23	04/17/98	102.58000	00:00	6.95	0.00	95.63	-0.05	95.63
16MW-23	04/24/98	102.58000	00:00	6.84	0.00	95.74	0.11	95.74
16MW-23	05/05/98	102.58000	00:00	0.00	0.00	102.58	6.84	102.58
16MW-23	05/15/98	102.58000	00:00	5.89	0.00	96.69	-5.89	96.69
16MW-23	07/30/98	102.58000	00:00	8.03	0.00	94.55	-2.14	94.55
16MW-23	08/13/98	102.58000	00:00	8.46	0.00	94.12	-0.43	94.12
C17MW-07	12/12/97	100.16000	00:00	11.69	1.26	88.47	NA	89.54
C17MW-07	01/07/98	100.16000	00:00	11.78	1.42	88.38	-0.09	89.58
C17MW-07	01/15/98	100.16000	00:00	7.95	0.19	92.21	3.83	92.37

(1) Change in Water Elevation since last reported measurement

D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

Water Level Product Thickness Data

Date: 08/28/98

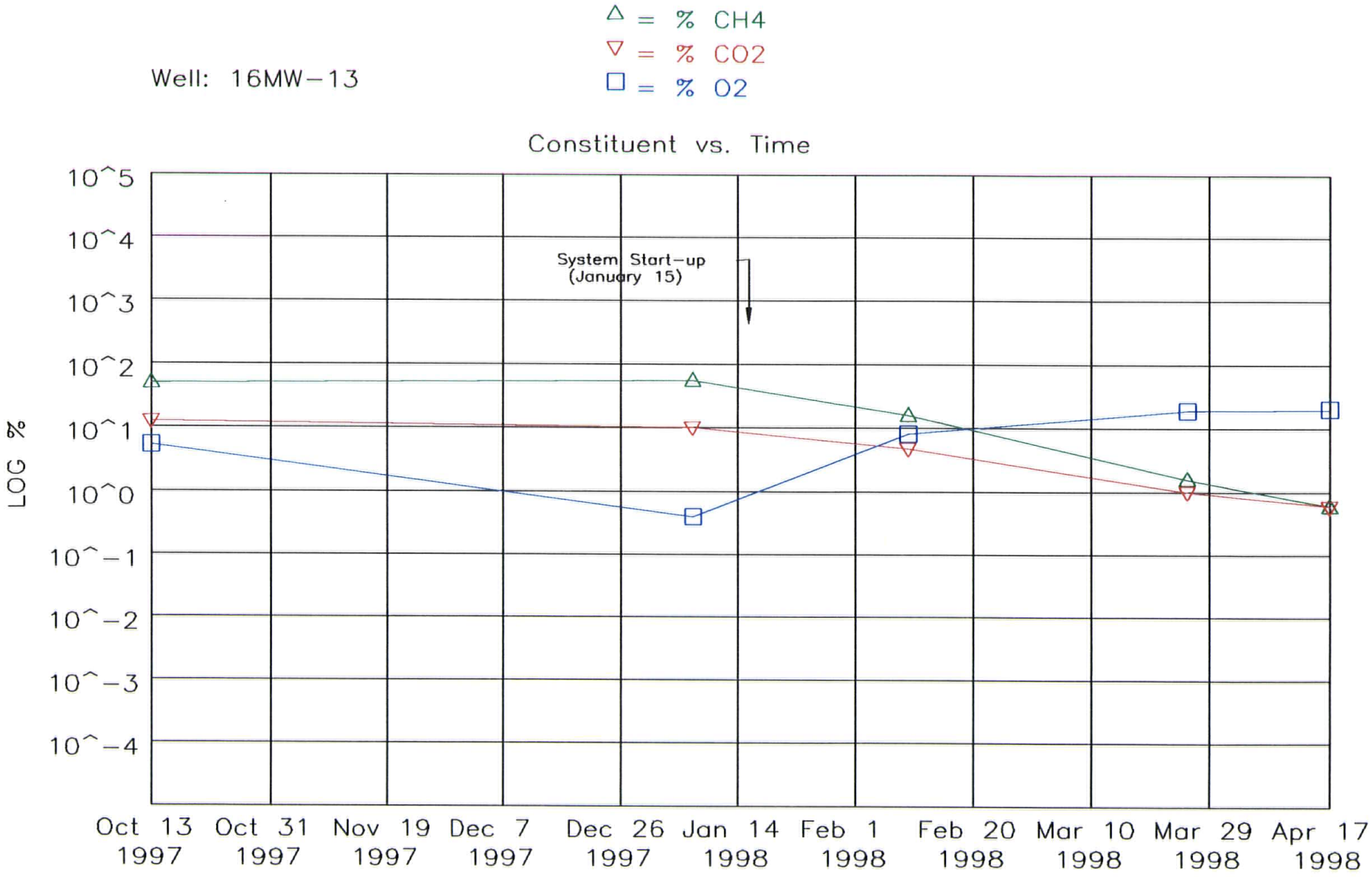
SITE	DATE	MP ELEVATION(2) (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV.(2) (feet)	△ WATER ELEV.(1) (feet)	EQUIV. FRESH WATER HEAD(2) (feet)
C17MW-07	02/10/98	100.16000	00:00	9.05	0.83	91.11	-1.10	91.82
C17MW-07	02/24/98	100.16000	00:00	6.00	1.35	94.16	3.05	95.31
C17MW-07	03/03/98	100.16000	00:00	7.36	0.49	92.80	-1.36	93.21
C17MW-07	03/12/98	100.16000	00:00	5.99	0.18	94.17	1.37	94.32
C17MW-07	03/13/98	100.16000	00:00	5.96	0.13	94.20	0.03	94.31
C17MW-07	03/26/98	100.16000	00:00	5.35	0.01	94.81	0.61	94.82
C17MW-07	04/03/98	100.16000	00:00	5.90	0.09	94.26	-0.55	94.33
C17MW-07	04/09/98	100.16000	00:00	6.02	0.08	94.14	-0.12	94.20
C17MW-07	04/17/98	100.16000	00:00	5.99	0.12	94.17	0.03	94.27
C17MW-07	04/24/98	100.16000	00:00	5.90	0.13	94.26	0.09	94.37
C17MW-07	05/05/98	100.16000	00:00	6.50	0.27	93.66	-0.60	93.93
C17MW-07	05/15/98	100.16000	00:00	5.50	0.22	94.66	1.00	94.84
C17MW-07	07/30/98	100.16000	00:00	10.61	1.12	89.55	-5.11	90.50
C17MW-07	08/07/98	100.16000	00:00	7.80	0.24	92.36	2.81	92.56
C17MW-07	08/13/98	100.16000	00:00	7.98	0.25	92.18	-0.18	92.39
C17MW-07	08/21/98	100.16000	00:00	7.61	0.11	92.55	0.37	92.64

(1) Change in Water Elevation since last reported measurement

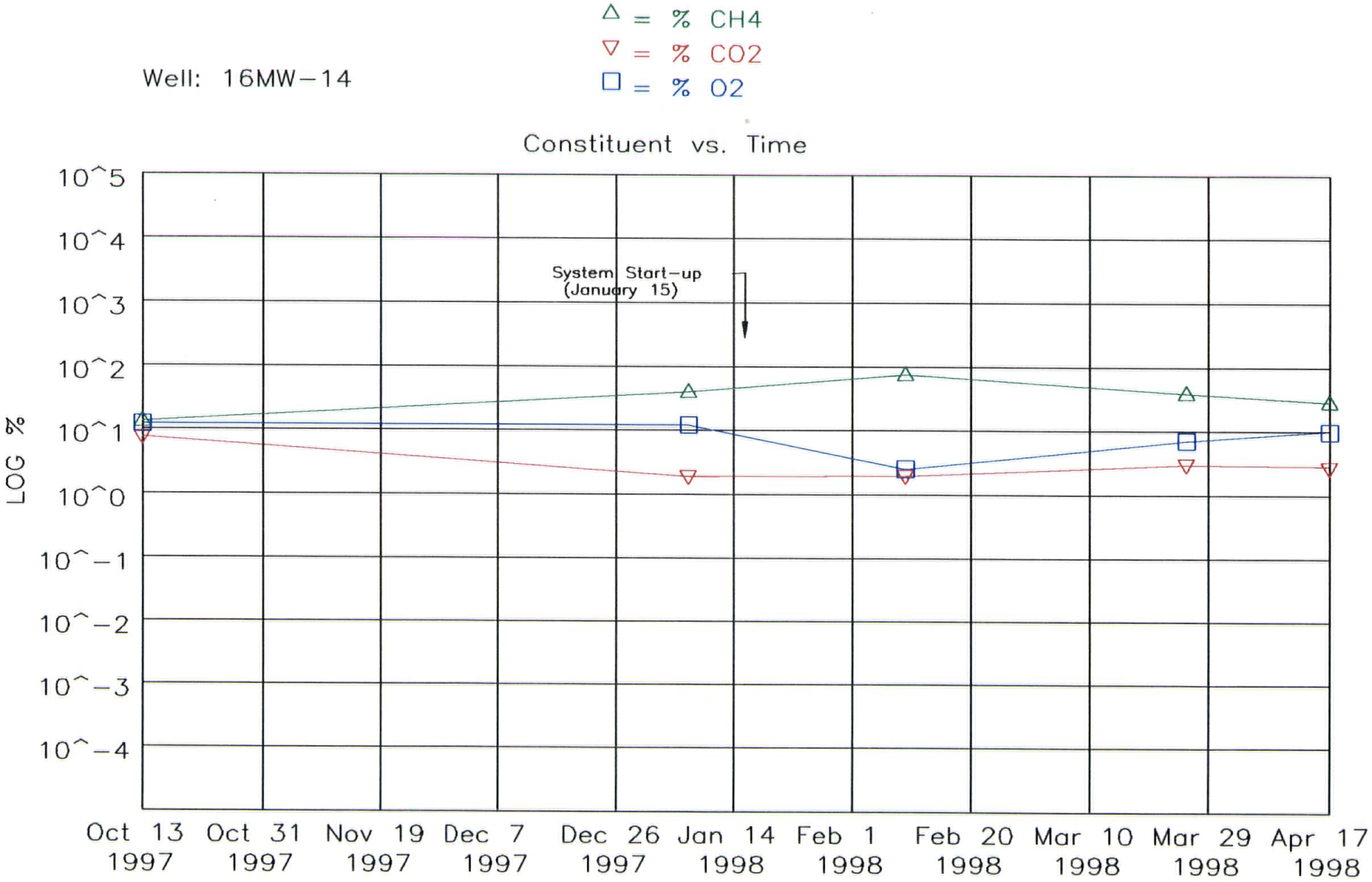
D = Dry NA = Not Available

(2) Measurements Based on Mean Sea Level

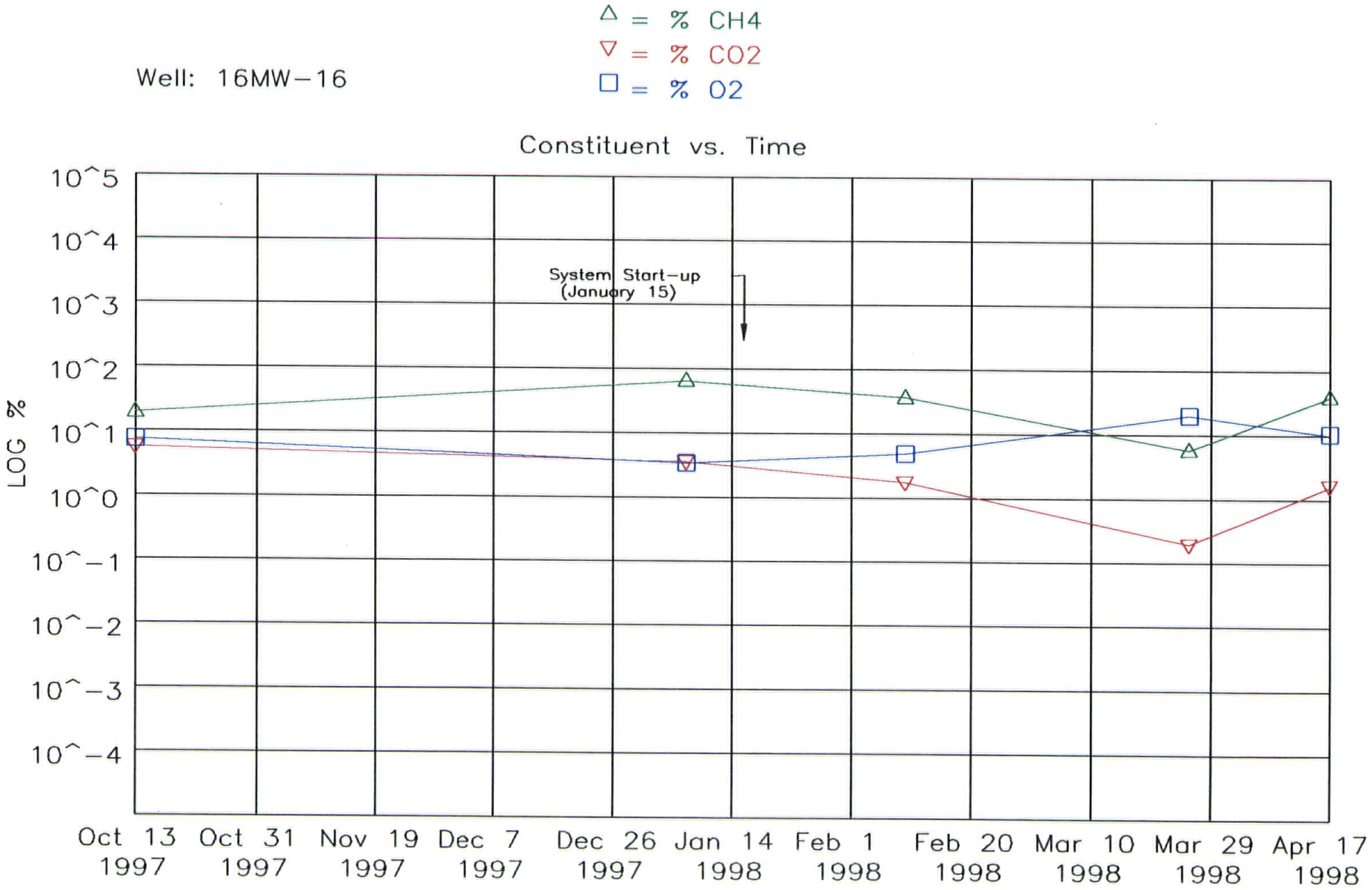
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



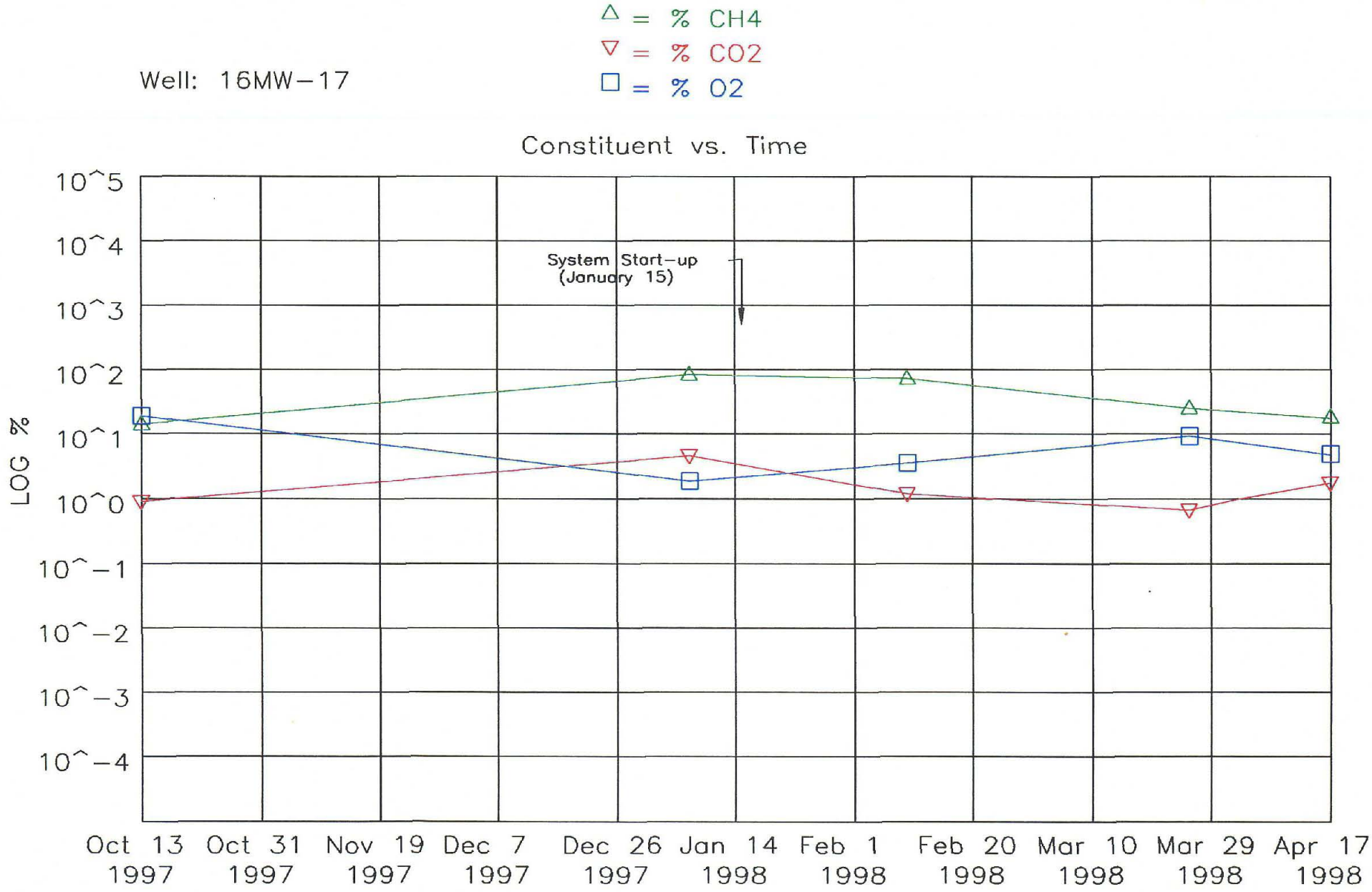
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



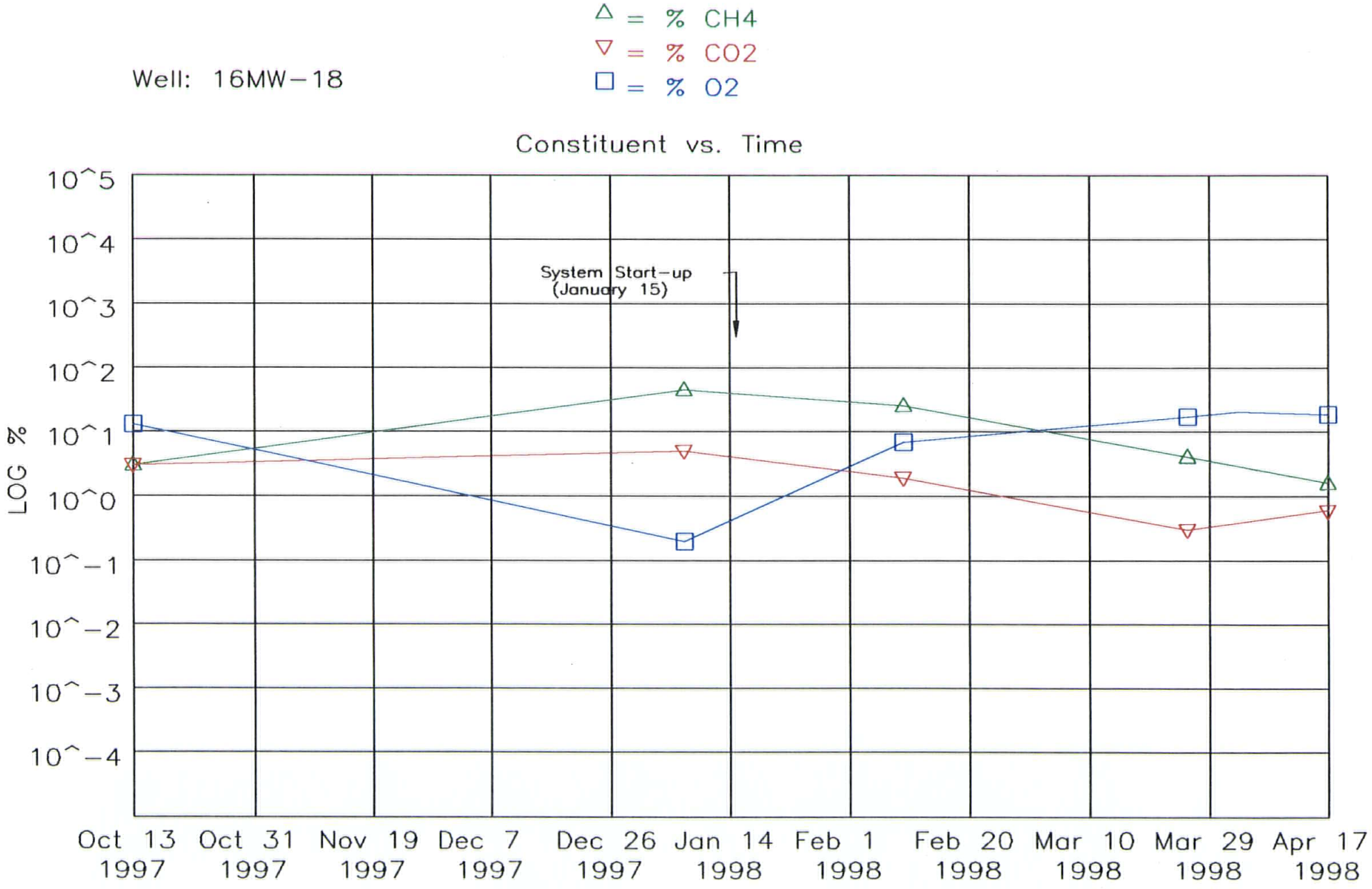
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



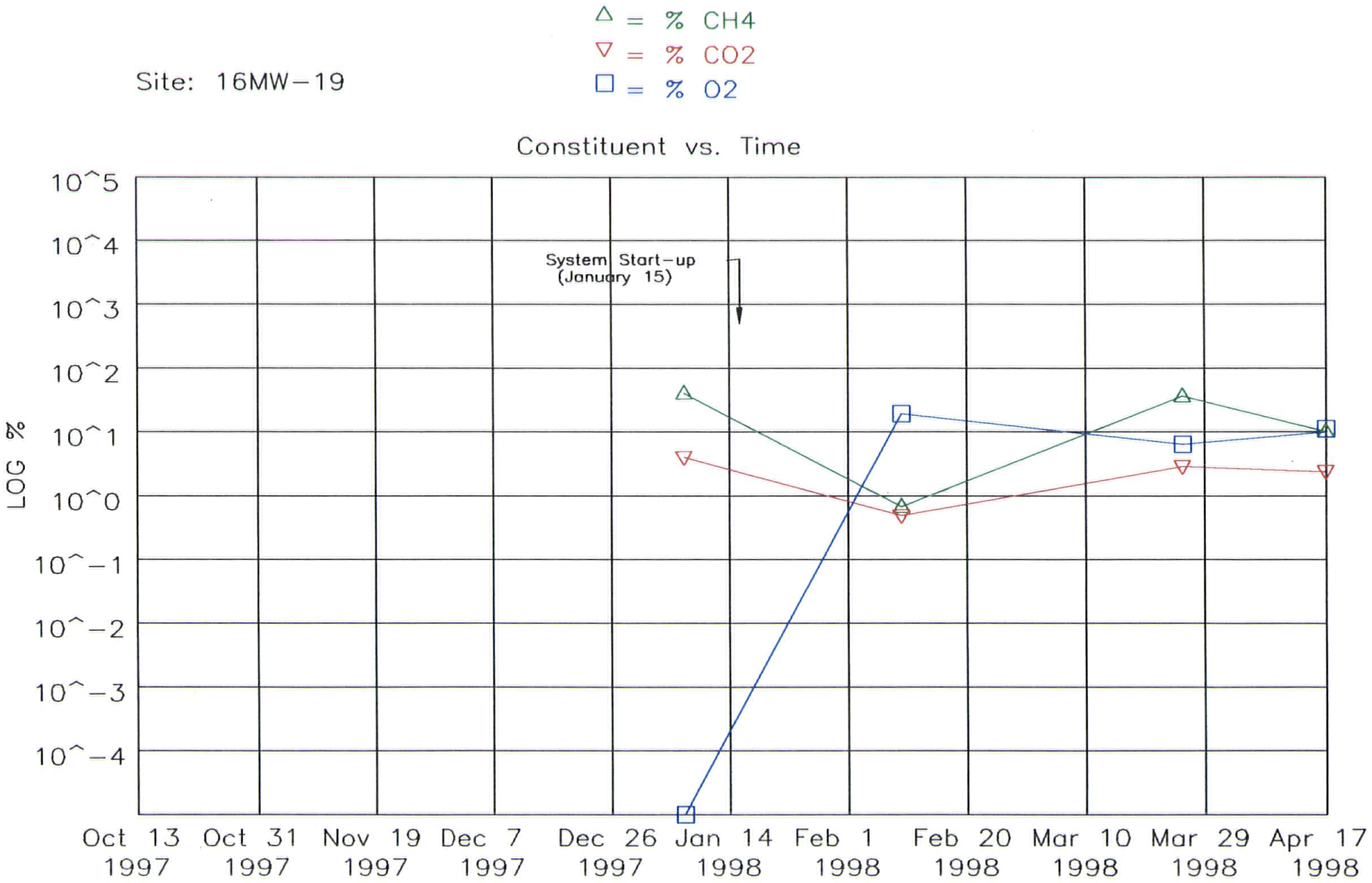
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



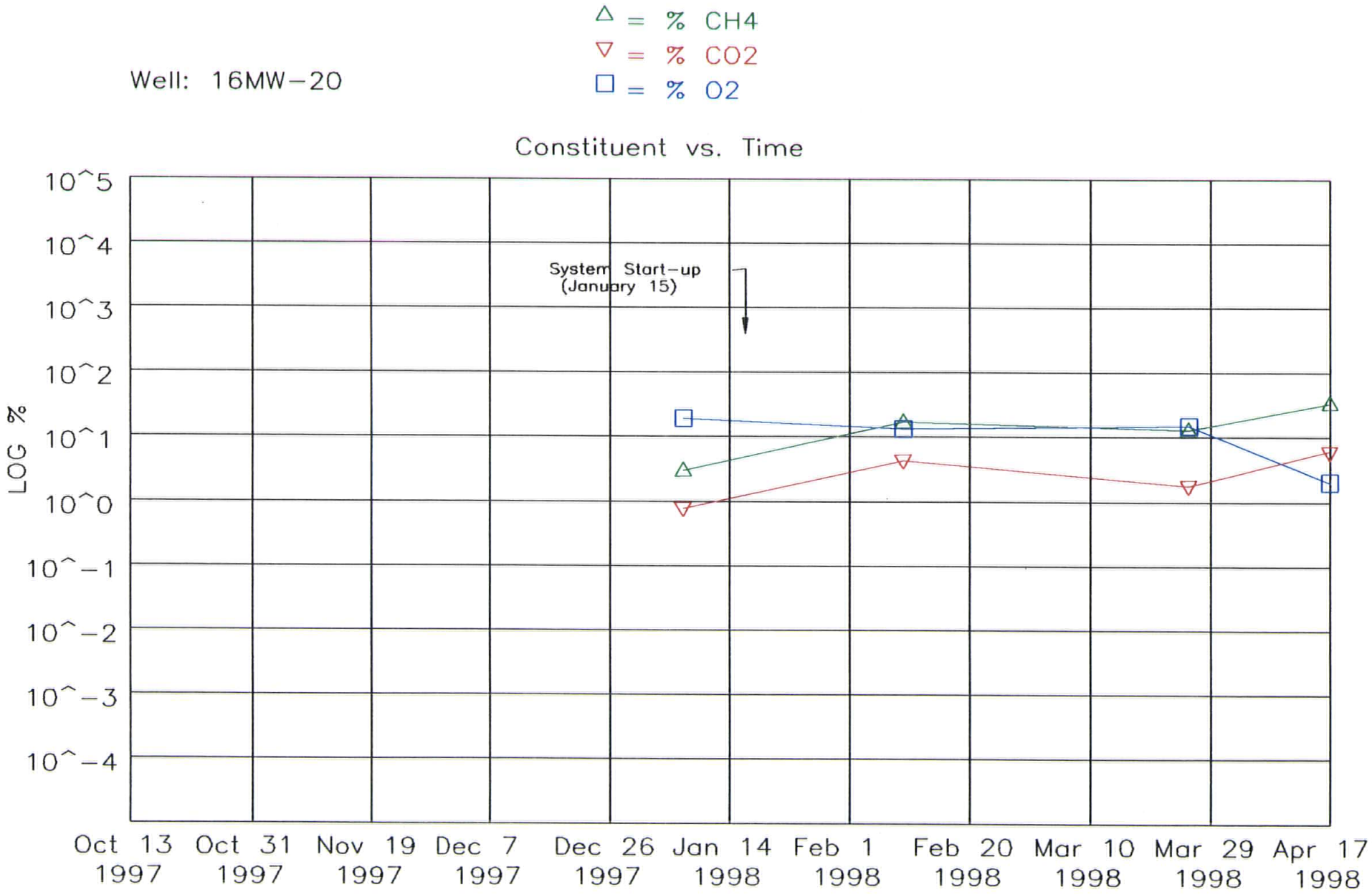
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



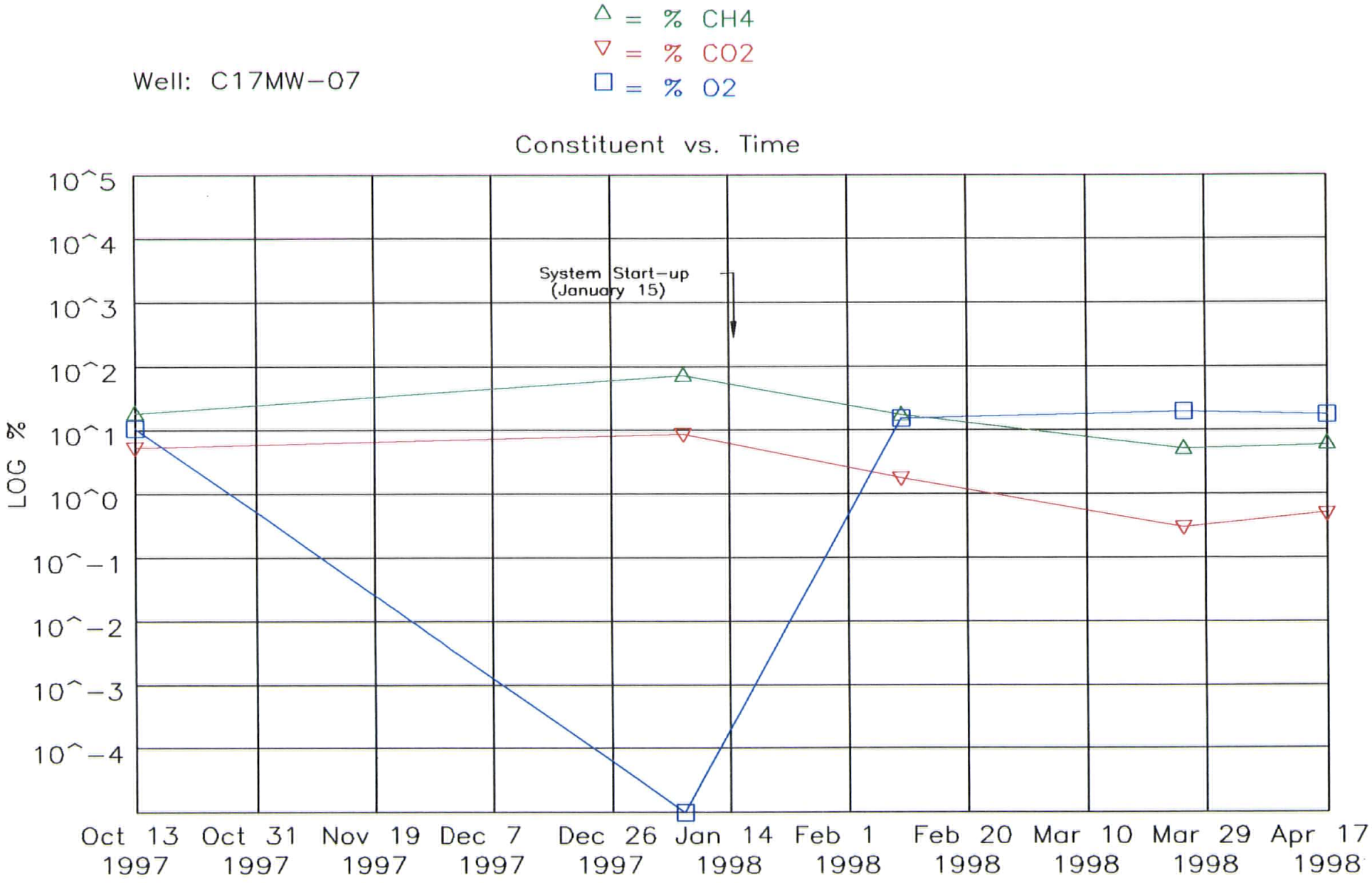
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



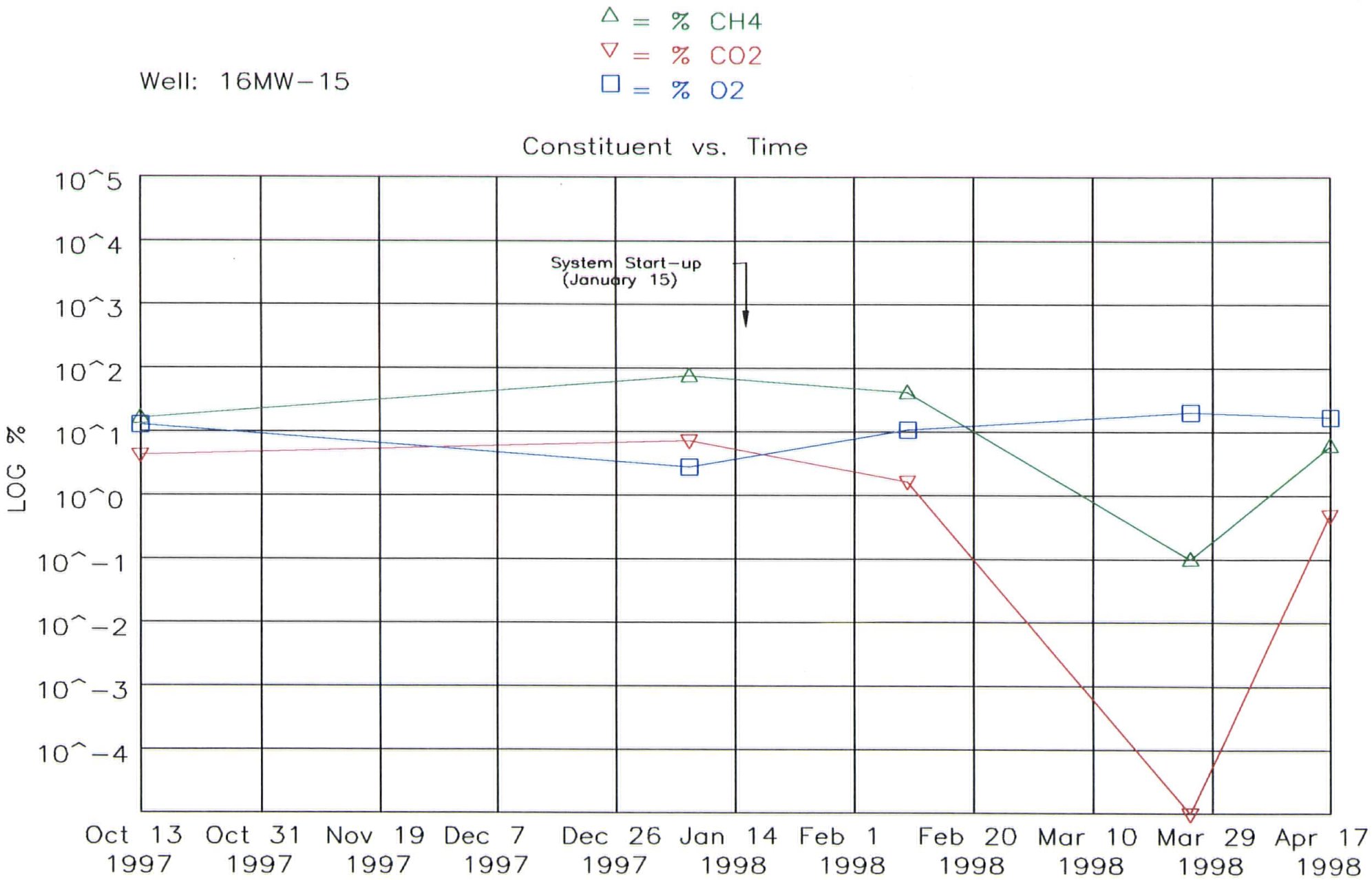
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



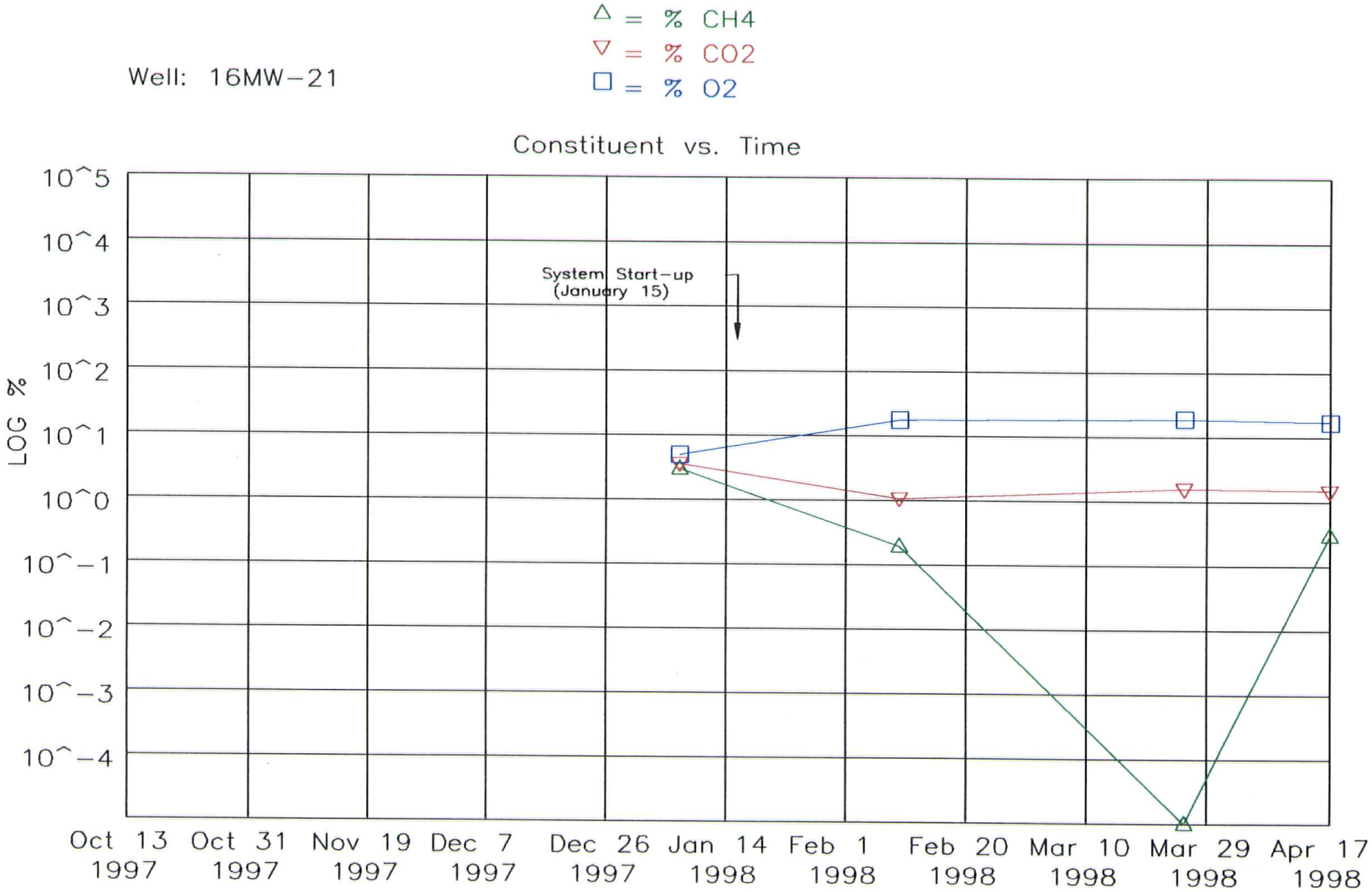
Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



Naval Weapons Station - Earle
Air Data from Bioslurper Extraction Wells



 TOXIKON CORP. REPORT Work Order # 98-04-100

Received: 04/06/98 04/16/98 15:14:25

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4047
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 11
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS EARLE
TAKEN 4/3/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01	16(A)EW-98-W15
02	16(A)EW98-W16
03	16(A)EW98W17
04	16(A)EW98W18
05	16(A)EW98W19
06	16(A)EW98W20
07	16(A)EW98W20
08	16(A)EW98W20
09	16(A)EW98W20
10	16(A)EW98W20
11	16(A)EW98W20

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
8270	A/BN EXTRACTABLES
MEX HG	METALS, EXT. FOR MERCURY
MEX TW	METALS, TOTAL EXT., WATER
PH W	PH - AQUEOUS
PPCBW	PESTICIDES/PCB (WATER)
TALW	TAL METALS
TPH IR	TPH BY IR

Received: 04/06/98

Results by Sample

SAMPLE ID 16(A)EW-98-W15 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 04/03/98 11:50:00 Category WATER

TPH_IR 969
mg/L DL=1.0

SAMPLE ID 16(A)EW98-W16 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 04/03/98 11:48:00 Category WATER

TPH_IR 771
mg/L DL=1.0

SAMPLE ID 16(A)EW98W17 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 04/03/98 11:46:00 Category WATER

TPH_IR 557
mg/L DL=1.0

SAMPLE ID 16(A)EW98W18 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 04/03/98 11:45:00 Category WATER

TPH_IR 28.1
mg/L DL=1.0

SAMPLE ID 16(A)EW98W19 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 04/03/98 11:40:00 Category WATER

TPH_IR 5.15
mg/L DL=1.0

SAMPLE ID 16(A)EW98W20 SAMPLE # 06 FRACTIONS: A
Date & Time Collected 04/03/98 11:30:00 Category WATER

TPH_IR 1.35
mg/L DL=1.0

 TOXIKON CORP. REPORT Work Order # 98-04-100

Received: 04/06/98 Results by Sample

SAMPLE ID 16(A)EW98W20 FRACTION 07A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 04/03/98 11:30:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 04/15/98

ANALYST CMD

INSTRUMENT G

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

 TOXIKON CORP. REPORT Work Order # 98-04-100

Received: 04/06/98 Results by Sample

SAMPLE ID 16(A)EW98W20 FRACTION 08A TEST CODE 8270 NAME A/BN EXTRACTABLES

Date & Time Collected 04/03/98 11:30:00 Category WATER

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	11	Chrysene	ND	11
1,3-Dichlorobenzene	ND	11	Di-n-octyl phthalate	ND	11
1,4-Dichlorobenzene	ND	11	Benzo(b)fluoranthene	ND	11
1,2-Dichlorobenzene	ND	11	Benzo(k)fluoranthene	ND	11
bis(2-Chloroisopropyl) ether	ND	11	Benzo(a)pyrene	ND	11
N-Nitroso-Di-N-Propylamine	ND	11	Indeno(1,2,3-cd)pyrene	ND	11
Hexachloroethane	ND	11	Dibenz(a,h)anthracene	ND	11
Nitrobenzene	ND	11	Benzo(g,h,i)perylene	ND	11
Isophorone	ND	11	2-Methylnaphthalene	ND	11
bis(2-Chloroethoxy) methane	ND	11	Benzidine	ND	11
1,2,4-Trichlorobenzene	ND	11	Dibenzofuran	ND	11
Naphthalene	ND	11			
Hexachlorobutadiene	ND	11	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	11	Phenol	ND	11
2-Chloronaphthalene	ND	11	2-Chlorophenol	ND	11
Dimethyl phthalate	ND	11	Benzyl Alcohol	ND	22
Acenaphthylene	ND	11	2-Methylphenol	ND	11
Acenaphthene	ND	11	4-Methylphenol	ND	11
2,4-Dinitrotoluene	ND	11	2-Nitrophenol	ND	11
2,6-Dinitrotoluene	ND	11	2,4-Dimethylphenol	ND	11
Diethylphthalate	ND	11	Benzoic Acid	ND	55
4-Chlorophenyl phenyl ether	ND	11	2,4-Dichlorophenol	ND	11
Fluorene	ND	11	4-Chloroaniline	ND	11
N-Nitrosodiphenylamine	ND	11	4-Chloro-3-methylphenol	ND	11
4-Bromophenyl phenyl ether	ND	11	2,4,6-Trichlorophenol	ND	11
Hexachlorobenzene	ND	11	2,4,5-Trichlorophenol	ND	11
Phenanthrene	ND	11	2-Nitroaniline	ND	27
Anthracene	ND	11	3-Nitroaniline	ND	27
Di-n-butylphthalate	ND	11	2,4-Dinitrophenol	ND	27
Fluoranthene	ND	11	4-Nitrophenol	ND	27
Pyrene	ND	11	4-Nitroaniline	ND	27
Butyl benzyl phthalate	ND	11	4,6-Dinitro-2-methylphenol	ND	27
3,3'-Dichlorobenzidine	ND	22	Pentachlorophenol	ND	27
Benzo (a) anthracene	ND	11	3-Methylphenol	ND	27
bis (2-ethylhexyl)phthalate	ND	11	2,6- Dichlorophenol	ND	27

Notes and Definitions for this Report:

UNITS: ug/L
EXTRACTED: 04/10/98
DATE RUN: 04/14/98
ANALYST: PAC
INSTRUMENT: F
DIL. FACTOR: 1
ND = not detected at detection limit

 TOXIKON CORP. REPORT Work Order # 98-04-100

Received: 04/06/98 Results by Sample

SAMPLE ID 16(A)EW98W20 FRACTION 09A TEST CODE PPCBW NAME PESTICIDES/PCB (WATER)

Date & Time Collected 04/03/98 11:30:00 Category WATER

PESTICIDES

	RESULT	LIMIT
Alpha-BHC	ND	0.010
Gamma-BHC (Lindane)	ND	0.010
Beta-BHC	ND	0.010
Heptachlor	ND	0.010
Delta-BHC	ND	0.010
Aldrin	ND	0.010
Heptachlor Epoxide	ND	0.010
Endosulfan I	ND	0.010
4,4'-DDE	ND	0.010
Dieldrin	ND	0.010
Endrin	ND	0.010
4,4'-DDD	ND	0.010
Endosulfan II	ND	0.010
4,4'-DDT	ND	0.010
Endrin Aldehyde	ND	0.010
Endosulfan Sulfate	ND	0.010
Chlordane	ND	0.010
Toxaphene	ND	0.010
Methoxychlor	ND	0.010

PCB

	RESULT	LIMIT
Aroclor 1016	ND	0.10
Aroclor 1221	ND	0.10
Aroclor 1232	ND	0.10
Aroclor 1242	ND	0.10
Aroclor 1248	ND	0.10
Aroclor 1254	ND	0.10
Aroclor 1260	ND	0.10

Notes and Definitions for this Report:

EXTRACTED: 04/10/98
UNITS: ug/L
DATE RUN: 04/14/98
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = not detected at detection limit

Received: 04/06/98 Results by Sample

SAMPLE ID 16(A)EW98W20 FRACTION 10A TEST CODE TALW NAME TAL METALS
Date & Time Collected 04/03/98 11:30:00 Category WATER

TAL METALS

	RESULT	LIMIT
Silver	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.005
Copper	ND	0.005
Nickel	0.009	0.005
Lead	ND	0.005
Zinc	0.065	0.005
Arsenic	ND	0.005
Selenium	ND	0.005
Beryllium	ND	0.004
Antimony	ND	0.005
Thallium	ND	0.005
Barium	0.063	0.005
Iron	7.05	0.010
Manganese	0.689	0.005
Cobalt	ND	0.005
Vanadium	ND	0.005
Aluminum	0.182	0.050
Calcium	33.3	0.050
Potassium	2.19	0.500
Sodium	130	0.500
Magnesium	6.06	0.005
Mercury	ND	0.0005

Notes and Definitions for this Report:

EXTRACTED..... 04/08/98
DATE RUN..... 04/10/98
ANALYST..... BKO
INSTRUMENT.... ICP
CONC FACTOR... 1
UNITS..... mg/L

ND = not detected at detection limit

Received: 04/06/98

Results by Sample

SAMPLE ID 16(A)EW98W20 SAMPLE # 11 FRACTIONS: A

Date & Time Collected 04/03/98 Category WATER

PH_W	6.3
	PH UNITS

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE 8270 NAME A/BN EXTRACTABLES

EPA METHOD: 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics; Capillary Column Technique.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:
EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.
or
EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TW NAME METALS, TOTAL EXT., WATER

REFERENCE:
EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating Physical/Chemical Methods. SW 846, 3rd Edition.

Wastewater digestion
40CFR Part 136 Appendix C-Preparation for Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes Method 200.7. Protection of Environment, 1991.

TEST CODE PH W NAME PH - AQUEOUS

EPA METHOD: 150.1

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL.

TEST CODE PPCBW NAME PESTICIDES/PCB (WATER)

EPA METHOD: 608 for water sample

TEST CODE PPCBW NAME PESTICIDES/PCB (WATER)

Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A. 40 CFR Part 136. Federal Register Vol. 49, No. 209, 1984.

TEST CODE TALW NAME TAL METALS

REFERENCE METHODS: 6010A (ICAP), 7000A (GFAA), 7470 (Hg)
Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846 Third Edition, Final Update I, 1992

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone. (781) 275-3330
Fax (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: [illegible]

DUE DATE : [illegible]

COMPANY: [illegible]
ADDRESS: [illegible]
PHONE #: ( ) [illegible] FAX #: ( ) [illegible]
P.O. #:
PROJECT MANAGER: [illegible]
PROJECT ID/LOCATION: [illegible]

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2 SOIL	G - GLASS
3 SLUDGE	V - VOA
4 OIL	
5 DRINKING WATER	
6 WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SPECIAL INSTRUCTIONS/ COMMENTS
1	(GA)EL-98-W15	[illegible]	1 L	G	1	[illegible]	11:50	[illegible]	X												[illegible]
2	(GA)EL-98-W16						11:45	[illegible]	X												[illegible]
3	(GA)EL-98-W17						11:40	[illegible]	X												[illegible]
4	(GA)EL-98-W18						11:45	[illegible]	X												[illegible]
5	(GA)EL-98-W19						11:40	[illegible]	X												[illegible]
6	(GA)EL-98-W20						11:30	[illegible]	X												[illegible]
7	(GA)EL-98-W21		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		X											
8	(GA)EL-98-W22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A			X										
9	(GA)EL-98-W23	[illegible]	1 L	[illegible]	1	[illegible]	[illegible]	[illegible]				X									
10	(GA)EL-98-W24	[illegible]	1 L	G	1	[illegible]	[illegible]	[illegible]					X								
11	(GA)EL-98-W25			G	1																

SAMPLED BY: [illegible] DATE: [illegible] TIME: [illegible]
RELINQUISHED BY [illegible] DATE: [illegible] TIME: [illegible]
RELINQUISHED BY: DATE: [illegible] TIME: [illegible]
METHOD OF SHIPMENT [illegible]

QUOTATION #:
RECEIVED BY [illegible] DATE: [illegible] TIME: [illegible]
RECEIVED FOR LAB BY DATE: [illegible] TIME: [illegible]
COOLER TEMPERATURE [illegible]

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these sampl s other than those listed abov ?
[illegible] 1st [illegible]

 TOXIKON CORP. REPORT Work Order # 98-04-224

Received: 04/11/98 04/16/98 09:29:55

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4047
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 4
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS-EARLE
TAKEN 4/9/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01 16(B)EW-98W21
02 16(B)EW-98W22
03 16(A)EW-98W21
04 16(A)EW-98W22

TEST CODES and NAMES used on this workorder

TPH IR TPH BY IR

Received: 04/11/98

Results by Sample

SAMPLE ID 16(B)EW-98W21 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 04/09/98 13:50:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(B)EW-98W22 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 04/09/98 13:55:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(A)EW-98W21 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 04/09/98 14:10:00 Category WATER

TPH_IR 231
mg/L DL=1.0

SAMPLE ID 16(A)EW-98W22 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 04/09/98 14:20:00 Category WATER

TPH_IR 3.77
mg/L DL=1.0

Received: 04/11/98

Test Methodology

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone. (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: [illegible]

DUE DATE : [illegible]

COMPANY: [illegible]
ADDRESS: [illegible]
PHONE #: ( ) [illegible] FAX #: ( ) [illegible]
P.O. #:
PROJECT MANAGER: [illegible]
PROJECT ID/LOCATION: [illegible]

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4 OIL	
5. DRINKING WATER	
6 WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SPECIAL INSTRUCTIONS/ COMMENTS
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]												[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]												[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]												[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]												[illegible]

SAMPLED BY: [illegible] DATE: [illegible] TIME: [illegible]

QUOTATION #:

RELINQUISHED BY: [illegible] DATE: [illegible] TIME: [illegible]

RECEIVED BY: [illegible] DATE: [illegible] TIME: [illegible]

RELINQUISHED BY: DATE: [illegible] TIME: [illegible]

RECEIVED FOR LAB BY: DATE: [illegible] TIME: [illegible]

METHOD OF SHIPMENT [illegible]

COOLER TEMPERATURE [illegible]

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information

Are there any other known r suspected contaminants in these samples other than those listed abov ?

[illegible], 1st [illegible]n [illegible]

CASE NARRATIVE

Work Order: 9804224

All samples were analyzed within the method holding times.

No target compounds were detected in the method blanks.

TOXIKON

QA/QC REPORT

WORK ORDER: 9804224
MATRIX: WATER

PARAMETER	DUPLICATE PERCENT RPD	CONTROL LIMITS	CONTROL SPIKE PERCENT RECOVERY	MATRIX SPIKE PERCENT RECOVERY	CONTROL LIMITS
TPH_IR	NA	0-25	108	NA	80-120

 TOXIKON CORP. REPORT Work Order # 98-04-382

Received: 04/20/98 04/22/98 16:56:13

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4047
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 12
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NAVY WEAPONS EARLE
TAKEN 4/17/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY: Rhonda Faiella

SAMPLE IDENTIFICATION

01 16(A)EW98W23
02 16(A)EW98W24
03 16(A)EW98W25
04 16(A)EW98W26
05 16(A)EW98W27
06 16(A)EW98W28
07 16(B)EW98W23
08 16(B)EW98W24
09 16(B)EW98W25
10 16(B)EW98W26
11 16(B)EW98W27
12 16(B)EW98W28

TEST CODES and NAMES used on this workorder

TPH IR TPH BY IR

Received: 04/20/98

Results by Sample

SAMPLE ID 16(A)EW98W23 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 04/17/98 11:42:00 Category WATER

TPH_IR 610
mg/L DL=1.0

SAMPLE ID 16(A)EW98W24 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 04/17/98 11:40:00 Category WATER

TPH_IR 852
mg/L DL=1.0

SAMPLE ID 16(A)EW98W25 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 04/17/98 11:38:00 Category WATER

TPH_IR 428
mg/L DL=1.0

SAMPLE ID 16(A)EW98W26 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 04/17/98 11:34:00 Category WATER

TPH_IR 112
mg/L DL=1.0

SAMPLE ID 16(A)EW98W27 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 04/17/98 11:32:00 Category WATER

TPH_IR 4.16
mg/L DL=1.0

SAMPLE ID 16(A)EW98W28 SAMPLE # 06 FRACTIONS: A
Date & Time Collected 04/17/98 11:30:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(B)EW98W23 SAMPLE # 07 FRACTIONS: A
Date & Time Collected 04/17/98 11:15:00 Category WATER

TPH_IR 213
mg/L DL=1.0

SAMPLE ID 16(B)EW98W24 SAMPLE # 08 FRACTIONS: A
Date & Time Collected 04/17/98 11:10:00 Category WATER

TPH_IR 54.3
mg/L DL=1.0

Received: 04/20/98

Results by Sample

SAMPLE ID 16(B)EW98W25 SAMPLE # 09 FRACTIONS: A
Date & Time Collected 04/17/98 11:08:00 Category WATER

TPH_IR 4.20
mg/L DL=1.0

SAMPLE ID 16(B)EW98W26 SAMPLE # 10 FRACTIONS: A
Date & Time Collected 04/17/98 11:06:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(B)EW98W27 SAMPLE # 11 FRACTIONS: A
Date & Time Collected 04/17/98 11:02:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(B)EW98W28 SAMPLE # 12 FRACTIONS: A
Date & Time Collected 04/17/98 11:00:00 Category WATER

TPH_IR ND
mg/L DL=1.0

Received: 04/20/98

Test Methodology

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

CASE NARRATIVE

Work Order: 9804382

All samples were analyzed within the method holding times.

No target compounds were detected in the method blanks.

TOXIKON

QA/QC REPORT

WORK ORDER: 9804382
MATRIX: WATER

PARAMETER	DUPLICATE PERCENT RPD	CONTROL LIMITS	CONTROL SPIKE PERCENT RECOVERY	MATRIX SPIKE PERCENT RECOVERY	CONTROL LIMITS
TPH_IR	NA	0-25	111	NA	80-120

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-04-30

(12HR) DUE DATE: 04-23-98

COMPANY: Fusby Wheeler Engineering
ADDRESS: One Orchard Valley Suite 200, Longmeadow, MA 01077
PHONE #: (413) 203-4005 FAX #: ( ) 203-4002
P.O. #:
PROJECT MANAGER: Mike Wheeler
PROJECT ID/LOCATION: Alan Lane Estate

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3 SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	RCH	SPECIAL INSTRUCTIONS/ COMMENTS
1	16(A)EW98W23	G	1L	G	1	4/20/98	11:42	None	+	PH = 3
2	16(A)EW98W24	↓	↓	↓	↓	↓	11:40	↓	+	PH = 2
3	16(A)EW98W25						11:38		+	PH = 2
4	16(A)EW98W26						11:34		+	PH = 2
5	16(A)EW98W27						11:32		+	PH = 2
6	16(A)EW98W28						11:30		+	PH = 2
7	16(B)EW98W23						11:15		+	PH = 2
8	16(B)EW98W24						11:10		+	PH = 2
9	16(B)EW98W25						11:08		+	PH = 2
10	16(B)EW98W26						11:06		+	PH = 2
11	16(B)EW98W27						11:02		+	PH = 2
12	16(B)EW98W28	↓	↓	↓	↓	↓	11:00	↓	+	PH = 2

SAMPLED BY:	DATE: 4 - 20 - 98	QUOTATION #:	
	TIME: - -		
RELINQUISHED BY:	DATE: 4 - 20 - 98	RECEIVED BY:	DATE: - -
	TIME: - -		TIME: - -
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: 04 - 20 - 98
	TIME: - -		TIME: 20 - 20 -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

12 hr.

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?

Yes ____ No ____ If Yes, 1st Known ____

Received: 06/02/98 06/09/98 16:21:13

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY
CONTACT CHUCKC

CLIENT FOSTER SAMPLES 10
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS EARLE
TAKEN 6/1/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01	16(A)EW98-W52
02	16(A)EW98-W53
03	16(A)EW98-W54
04	16(A)EW98-W55
05	16(A)EW98-W55
06	16(A)EW98-W55
07	16(A)EW98-W55
08	16(A)EW98-W55
09	16(A)EW98-W50
10	16(A)EW98-W51

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
8270	A/BN EXTRACTABLES
MEX HG	METALS, EXT. FOR MERCURY
MEX TW	METALS, TOTAL EXT., WATER
PCB W	PCB (WATER)
TALW	TAL METALS
TPH IR	TPH BY IR

Received: 06/02/98

Results by Sample

SAMPLE ID 16(A)EW98-W52 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 06/01/98 16:00:00 Category WATER

TPH_IR 2730
mg/L DL=1.0

SAMPLE ID 16(A)EW98-W53 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 06/01/98 16:02:00 Category WATER

TPH_IR 929
mg/L DL=1.0

SAMPLE ID 16(A)EW98-W54 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 06/01/98 16:04:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(A)EW98-W55 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 06/01/98 16:10:00 Category WATER

TPH_IR ND
mg/L DL=1.0

Received: 06/02/98 Results by Sample

SAMPLE ID 16(A)EW98-W55 FRACTION 05A TEST CODE 8270 NAME A/BN EXTRACTABLES

Date & Time Collected 06/01/98 16:10:00 Category WATER

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	11	Chrysene	ND	11
1,3-Dichlorobenzene	ND	11	Di-n-octyl phthalate	ND	11
1,4-Dichlorobenzene	ND	11	Benzo(b)fluoranthene	ND	11
1,2-Dichlorobenzene	ND	11	Benzo(k)fluoranthene	ND	11
bis(2-Chloroisopropyl) ether	ND	11	Benzo(a)pyrene	ND	11
N-Nitroso-Di-N-Propylamine	ND	11	Indeno(1,2,3-cd)pyrene	ND	11
Hexachloroethane	ND	11	Dibenz(a,h)anthracene	ND	11
Nitrobenzene	ND	11	Benzo(g,h,i)perylene	ND	11
Isophorone	ND	11	2-Methylnaphthalene	ND	11
bis(2-Chloroethoxy) methane	ND	11	Benzidine	ND	11
1,2,4-Trichlorobenzene	ND	11	Dibenzofuran	ND	11
Naphthalene	ND	11			
Hexachlorobutadiene	ND	11	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	11	Phenol	ND	11
2-Chloronaphthalene	ND	11	2-Chlorophenol	ND	11
Dimethyl phthalate	ND	11	Benzyl Alcohol	ND	23
Acenaphthylene	ND	11	2-Methylphenol	ND	11
Acenaphthene	ND	11	4-Methylphenol	ND	11
2,4-Dinitrotoluene	ND	11	2-Nitrophenol	ND	11
2,6-Dinitrotoluene	ND	11	2,4-Dimethylphenol	ND	11
Diethylphthalate	ND	11	Benzoic Acid	ND	57
4-Chlorophenyl phenyl ether	ND	11	2,4-Dichlorophenol	ND	11
Fluorene	ND	11	4-Chloroaniline	ND	11
N-Nitrosodiphenylamine	ND	11	4-Chloro-3-methylphenol	ND	11
4-Bromophenyl phenyl ether	ND	11	2,4,6-Trichlorophenol	ND	11
Hexachlorobenzene	ND	11	2,4,5-Trichlorophenol	ND	11
Phenanthrene	ND	11	2-Nitroaniline	ND	29
Anthracene	ND	11	3-Nitroaniline	ND	29
Di-n-butylphthalate	ND	11	2,4-Dinitrophenol	ND	29
Fluoranthene	ND	11	4-Nitrophenol	ND	29
Pyrene	ND	11	4-Nitroaniline	ND	29
Butyl benzyl phthalate	ND	11	4,6-Dinitro-2-methylphenol	ND	29
3,3'-Dichlorobenzidine	ND	23	Pentachlorophenol	ND	29
Benzo (a) anthracene	ND	11	3-Methylphenol	ND	29
bis (2-ethylhexyl)phthalate	ND	11	2,6- Dichlorophenol	ND	29

Notes and Definitions for this Report:

UNITS: ug/L
EXTRACTED: 06/02/98
DATE RUN: 06/03/98
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(A)EW98-W55 FRACTION 06A TEST CODE PCB W NAME PCB (WATER)

Date & Time Collected 06/01/98 16:10:00 Category WATER

PCB in WATER

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.1	ug/L	Aroclor 1016
11104-28-2	ND	0.1	ug/L	Aroclor 1221
11141-16-5	ND	0.1	ug/L	Aroclor 1232
53469-21-9	ND	0.1	ug/L	Aroclor 1242
12672-29-6	ND	0.1	ug/L	Aroclor 1248
11097-69-1	ND	0.1	ug/L	Aroclor 1254
11096-82-5	ND	0.1	ug/L	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 06/02/98
DATE RUN: 06/03/98
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(A)EW98-W55 FRACTION 07A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 06/01/98 16:10:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	5.2	5.0
Bromomethane	ND	5.0	m+p-Xylene	14.6	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	17.4	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 06/05/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(A)EW98-W55 FRACTION 08A TEST CODE TALW NAME TAL METALS

Date & Time Collected 06/01/98 16:10:00 Category WATER

TAL METALS

	RESULT	LIMIT
Silver	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.005
Copper	0.006	0.005
Nickel	0.018	0.005
Lead	ND	0.005
Zinc	0.042	0.005
Arsenic	ND	0.005
Selenium	ND	0.005
Beryllium	ND	0.005
Antimony	ND	0.005
Thallium	ND	0.005
Barium	0.141	0.005
Iron	10.5	0.010
Manganese	0.435	0.005
Cobalt	ND	0.005
Vanadium	ND	0.005
Aluminum	0.056	0.005
Calcium	29.8	0.010
Potassium	2.64	0.500
Sodium	149	0.500
Magnesium	6.18	0.010
Mercury	ND	0.0005

Notes and Definitions for this Report:

EXTRACTED..... 06/03/98
DATE RUN..... 06/04/98
ANALYST..... BKO
INSTRUMENT.... ICP
CONC FACTOR... 1
UNITS..... mg/L

ND = not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(A)EW98-W50 SAMPLE # 09 FRACTIONS: A

Date & Time Collected 06/01/98 15:52:00 Category WATER

TPH_IR 1160

mg/L DL=1.0

SAMPLE ID 16(A)EW98-W51 SAMPLE # 10 FRACTIONS: A

Date & Time Collected 06/01/98 15:54:00 Category WATER

TPH_IR 1230

mg/L DL=1.0

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE 8270 NAME A/BN EXTRACTABLES

EPA METHOD: 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics; Capillary Column Technique.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:

EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.
or
EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TW NAME METALS, TOTAL EXT., WATER

REFERENCE:

EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating Physical/Chemical Methods. SW 846, 3rd Edition.

Wastewater digestion
40CFR Part 136 Appendix C-Preparation for Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes Method 200.7. Protection of Environment, 1991.

TEST CODE PCB W NAME PCB (WATER)

EPA METHOD: 8080

Reference: Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Addition)1986.
Office of Solid Waste, USEPA.

Received: 06/02/98 Test Methodology

TEST CODE TALW NAME TAL METALS

REFERENCE METHODS: 6010A (ICAP), 7000A (GFAA), 7470 (Hg)
Test Methods for Evaluating Solid Waste: Physical/Chemical Methods,
SW-846 Third Edition, Final Update I, 1992

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax (781) 275-7478

COPY - Kim.

Revised Chain per. M. Hetfron 6/2/98.

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-06-020

DUE DATE : 6-5-98

COMPANY: Foster Wheeler
ADDRESS: one Oxford Valley Suite 200
Langhorne, PA 19047
PHONE #: (215) 702-4015 FAX #: (215) 702-4045
P.O. #:
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: NWS - Earle

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH	Semi-Volatile	PCBs (Pest.)	Volatile Organics	TAL metals	SPECIAL INSTRUCTIONS/ COMMENTS
1	16(A)EW98-WS2	6	1l		1	6/1/98	4:00	H_2SO_4	X					72 hr
2	16(A)EW98-WS3	6	1l		1	6/1/98	4:02	↓	X					Turnaround
3	16(A)EW98-WS4	6	1l		1	6/1/98	4:04	↓	X					↓
4	16(A)EW98-WS5	6	1l		1	6/1/98	4:10	↓	X					↓
5	16(A)EW98-WS5	6	1l		1	6/1/98	4:10	N/A		X				↓
6	16(A)EW98-WS5	6	1l		1	6/1/98	4:10	N/A			X			↓
7	16(A)EW98-WS5	6	1l		1	6/1/98	4:10	HCl				X		↓
8	16(A)EW98-WS5	6	40ml		3	6/1/98	4:10	HNO_3					X	↓
9	16(A)EW98-WS0	6	1L		1	6/1/98	3:52	H_2SO_4	X					↓
10	16(A)EW98-WS1	6	1L		1	6/1/98	3:54	H_2SO_4	X					↓

SAMPLED BY:	DATE: 6-1-98	QUOTATION #:	
	TIME: - -		
RELINQUISHED BY:	DATE: 6-1-98	RECEIVED BY:	DATE: 6-2-98
	TIME: - -		TIME: 11-25-—
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY	DATE: - -
	TIME: - -		TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples [illegible] than those listed above?

Received: 06/02/98 06/09/98 16:17:20

REPORT TO
FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY
TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 10
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS EARLE
TAKEN 6/1/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY

SAMPLE IDENTIFICATION

01	16(B)EW98-W44
02	16(B)EW98-W45
03	16(B)EW98-W46
04	16(B)EW98-W47
05	16(B)EW98-W48
06	16(B)EW98-W49
07	16(B)EW98-W49
08	16(B)EW98-W49
09	16(B)EW98-W49
10	16(B)EW98-W49

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
8270	A/BN EXTRACTABLES
MEX HG	METALS, EXT. FOR MERCURY
MEX TW	METALS, TOTAL EXT., WATER
PPCBW	PESTICIDES/PCB (WATER)
TALW	TAL METALS
TPH IR	TPH BY IR

Received: 06/02/98

Results by Sample

SAMPLE ID 16(B)EW98-W44 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 06/01/98 16:50:00 Category WATER

TPH_IR 175
mg/L DL=1.0

SAMPLE ID 16(B)EW98-W45 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 06/01/98 16:52:00 Category WATER

TPH_IR 80.2
mg/L DL=1.0

SAMPLE ID 16(B)EW98-W46 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 06/01/98 16:54:00 Category WATER

TPH_IR 109
mg/L DL=1.0

SAMPLE ID 16(B)EW98-W47 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 06/01/98 16:58:00 Category WATER

TPH_IR 1.44
mg/L DL=1.0

SAMPLE ID 16(B)EW98-W48 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 06/01/98 17:00:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16(B)EW98-W49 SAMPLE # 06 FRACTIONS: A
Date & Time Collected 06/01/98 17:10:00 Category WATER

TPH_IR ND
mg/L DL=1.0

Received: 06/02/98 Results by Sample

SAMPLE ID 16(B)EW98-W49 FRACTION 07A TEST CODE 8270 NAME A/BN EXTRACTABLES

Date & Time Collected 06/01/98 17:10:00 Category WATER

	RESULT	LIMIT		RESULT	LIMIT
BASE NEUTRAL EXTRACTABLES					
bis(-2-Chloroethyl) ether	ND	12	Chrysene	ND	12
1,3-Dichlorobenzene	ND	12	Di-n-octyl phthalate	ND	12
1,4-Dichlorobenzene	ND	12	Benzo(b)fluoranthene	ND	12
1,2-Dichlorobenzene	ND	12	Benzo(k)fluoranthene	ND	12
bis(2-Chloroisopropyl) ether	ND	12	Benzo(a)pyrene	ND	12
N-Nitroso-Di-N-Propylamine	ND	12	Indeno(1,2,3-cd)pyrene	ND	12
Hexachloroethane	ND	12	Dibenz(a,h)anthracene	ND	12
Nitrobenzene	ND	12	Benzo(g,h,i)perylene	ND	12
Isophorone	ND	12	2-Methylnaphthalene	ND	12
bis(2-Chloroethoxy) methane	ND	12	Benzidine	ND	12
1,2,4-Trichlorobenzene	ND	12	Dibenzofuran	ND	12
Naphthalene	ND	12			
Hexachlorobutadiene	ND	12	ACID EXTRACTABLES		
Hexachlorocyclopentadiene	ND	12	Phenol	ND	12
2-Chloronaphthalene	ND	12	2-Chlorophenol	ND	12
Dimethyl phthalate	ND	12	Benzyl Alcohol	ND	24
Acenaphthylene	ND	12	2-Methylphenol	ND	12
Acenaphthene	ND	12	4-Methylphenol	ND	12
2,4-Dinitrotoluene	ND	12	2-Nitrophenol	ND	12
2,6-Dinitrotoluene	ND	12	2,4-Dimethylphenol	ND	12
Diethylphthalate	ND	12	Benzoic Acid	ND	61
4-Chlorophenyl phenyl ether	ND	12	2,4-Dichlorophenol	ND	12
Fluorene	ND	12	4-Chloroaniline	ND	12
N-Nitrosodiphenylamine	ND	12	4-Chloro-3-methylphenol	ND	12
4-Bromophenyl phenyl ether	ND	12	2,4,6-Trichlorophenol	ND	12
Hexachlorobenzene	ND	12	2,4,5-Trichlorophenol	ND	12
Phenanthrene	ND	12	2-Nitroaniline	ND	30
Anthracene	ND	12	3-Nitroaniline	ND	30
Di-n-butylphthalate	ND	12	2,4-Dinitrophenol	ND	30
Fluoranthene	ND	12	4-Nitrophenol	ND	30
Pyrene	ND	12	4-Nitroaniline	ND	30
Butyl benzyl phthalate	ND	12	4,6-Dinitro-2-methylphenol	ND	30
3,3'-Dichlorobenzidine	ND	24	Pentachlorophenol	ND	30
Benzo (a) anthracene	ND	12	3-Methylphenol	ND	30
bis (2-ethylhexyl)phthalate	ND	12	2,6- Dichlorophenol	ND	30

Notes and Definitions for this Report:

UNITS: ug/L
EXTRACTED: 06/02/98
DATE RUN: 06/03/98
ANALYST: PAC
INSTRUMENT: C
DIL. FACTOR: 1
ND = not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(B)EW98-W49 FRACTION 08A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 06/01/98 17:10:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 06/05/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(B)EW98-W49 FRACTION 09A TEST CODE TALW NAME TAL METALS
Date & Time Collected 06/01/98 17:10:00 Category WATER

TAL METALS

	RESULT	LIMIT
Silver	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.005
Copper	ND	0.005
Nickel	0.010	0.005
Lead	ND	0.005
Zinc	0.059	0.005
Arsenic	ND	0.005
Selenium	ND	0.005
Beryllium	ND	0.005
Antimony	ND	0.005
Thallium	ND	0.005
Barium	0.025	0.005
Iron	8.73	0.010
Manganese	0.064	0.005
Cobalt	ND	0.005
Vanadium	ND	0.005
Aluminum	0.058	0.005
Calcium	7.96	0.010
Potassium	1.45	0.500
Sodium	77.3	0.500
Magnesium	3.02	0.010
Mercury	ND	0.0005

Notes and Definitions for this Report:

EXTRACTED..... 06/03/98
DATE RUN..... 06/04/98
ANALYST..... BKO
INSTRUMENT.... ICP
CONC FACTOR... 1
UNITS..... mg/L

ND = not detected at detection limit

Received: 06/02/98 Results by Sample

SAMPLE ID 16(B)EW98-W49 FRACTION 10A TEST CODE PPCBW NAME PESTICIDES/PCB (WATER)

Date & Time Collected 06/01/98 17:10:00 Category WATER

PESTICIDES

	RESULT	LIMIT
Alpha-BHC	ND	0.010
Gamma-BHC (Lindane)	ND	0.010
Beta-BHC	ND	0.010
Heptachlor	ND	0.010
Delta-BHC	ND	0.010
Aldrin	ND	0.010
Heptachlor Epoxide	ND	0.010
Endosulfan I	ND	0.010
4,4'-DDE	ND	0.010
Dieldrin	ND	0.010
Endrin	ND	0.010
4,4'-DDD	ND	0.010
Endosulfan II	ND	0.010
4,4'-DDT	ND	0.010
Endrin Aldehyde	ND	0.010
Endosulfan Sulfate	ND	0.010
Chlordane	ND	0.010
Toxaphene	ND	0.010
Methoxychlor	ND	0.010

PCB

	RESULT	LIMIT
Aroclor 1016	ND	0.10
Aroclor 1221	ND	0.10
Aroclor 1232	ND	0.10
Aroclor 1242	ND	0.10
Aroclor 1248	ND	0.10
Aroclor 1254	ND	0.10
Aroclor 1260	ND	0.10

Notes and Definitions for this Report:

EXTRACTED: 06/02/98
UNITS: ug/L
DATE RUN: 06/03/98
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = not detected at detection limit

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE 8270 NAME A/BN EXTRACTABLES

EPA METHOD: 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics; Capillary Column Technique.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:

EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.
or
EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TW NAME METALS, TOTAL EXT., WATER

REFERENCE:

EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating Physical/Chemical Methods. SW 846, 3rd Edition.

Wastewater digestion
40CFR Part 136 Appendix C-Preparation for Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes Method 200.7. Protection of Environment, 1991.

TEST CODE PPCBW NAME PESTICIDES/PCB (WATER)

EPA METHOD: 608 for water sample

Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A. 40 CFR Part 136. Federal Register Vol. 49, No. 209, 1984.

Received: 06/02/98

Test Methodology

TEST CODE TALW NAME TAL METALS

REFERENCE METHODS: 6010A (ICAP), 7000A (GFAA), 7470 (Hg)
Test Methods for Evaluating Solid Waste: Physical/Chemical Methods,
SW-846 Third Edition, Final Update I, 1992

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone (781) 275-3330
Fax (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 10 - 00 -

DUE DATE : 6 - 5 - 10

COMPANY: Foster Wheeler
ADDRESS: One Oxford Valley Suite 350
Langhorne PA 19047
PHONE #: (215) 702-4015 FAX #: (215) 702-4047
P.O. #:
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: Alus Fuels

SAMPLE TYPE: 1. WASTEWATER 2. SOIL 3. SLUDGE 4. OIL 5. DRINKING WATER 6. WATER (GW/MW/SW) 7. OTHER (SPECIFY

CONTAINER TYPE: P - PLASTIC G - GLASS V - VOA

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH	Semi-Volatile	Volatile organics	TAL metals	PCBs (Pest)	SPECIAL INSTRUCTIONS/ COMMENTS
1	16(B)EW98-W44	6	1l		1	6/1/98	4:50	H_2SO_4	X					72 hr
2	16(B)EW98-W45	6	1l		1		4:52		X					Turn
3	16(B)EW98-W46	6	1l		1		4:54		X					Around
4	16(B)EW98-W47	6	1l		1		4:58		X					
5	16(B)EW98-W48	6	1l		1		5:00		X					
6	16(B)EW98-W49	6	1l		1		5:10		X					
7	16(B)EW98-W49	6	1l		1		5:10	N/A	X	X				
8	16(B)EW98-W49	6	40ml		3		5:10	HCl	X	X	X			
9	16(B)EW98-W49	6	40ml		1		5:10	HNO_3		X	X			
10	16(B)EW98-W49	6	1l		1		5:10					X		

SAMPLED BY: DATE: 6 - 1 - 98 TIME: - -

RELINQUISHED BY: DATE: 6 - 1 - 98 TIME: - -

RELINQUISHED BY: DATE: - - TIME: - -

METHOD OF SHIPMENT

QUOTATION #:

RECEIVED BY: DATE: 6 - 1 - 98 TIME: 1600 -

RECEIVED FOR LAB BY: DATE: - - TIME: - -

COOLER TEMPERATURE 17°C

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in thes samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known ____

Page 1 TOXIKON CORP. REPORT Work Order # 98-08-176

Received: 08/10/98 08/17/98 14:02:44

REPORT TO
FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY
TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 8
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Cb, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS, DEMAND, O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS EARLE
TAKEN 8/2/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01 16(A) EW98W56
02 16(A)EW98W57
03 16(A)EW98W58
04 16(A)EW98W59
05 16(A)EW98W60
06 16(A)EW98W60
07 16(A)EW98W61
08 16(A)EW9W61

TEST CODES and NAMES used on this workorder

8260 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

 TOXIKON CORP. REPORT Work Order # 98-08-176

Received: 08/10/98

Results by Sample

SAMPLE ID 16(A) EW98W56 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/02/98 10:10:00 Category WATER

TPH_IR 581
mg/L DL=1.0

SAMPLE ID 16(A)EW98W57 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 08/02/98 10:12:00 Category WATER

TPH_IR 442
mg/L DL=1.0

SAMPLE ID 16(A)EW98W58 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 08/02/98 10:15:00 Category WATER

TPH_IR 2.14
mg/L DL=1.0

SAMPLE ID 16(A)EW98W59 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 08/02/98 10:18:00 Category WATER

TPH_IR 1.10
mg/L DL=1.0

SAMPLE ID 16(A)EW98W60 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 08/02/98 10:20:00 Category WATER

TPH_IR 1.02
mg/L DL=1.0

Page 3 TOXIKON CORP. REPORT Work Order # 98-08-176
Received: 08/10/98 Results by Sample

SAMPLE ID 16(A)EW98W60 FRACTION 06A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 08/02/98 10:20:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropene	ND	5.0
2-2-Dichlorpropene	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutediene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/17/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 08/10/98

Results by Sample

SAMPLE ID 16(A)EW98W61 SAMPLE # 07 FRACTIONS: A

Date & Time Collected 08/02/98 10:22:00 Category WATER

TPH_IR	ND
mg/L	DL=1.0

Received: 08/10/98

TOXIKON CORP. REPORT
Results by Sample

Work Order # 98-08-176

SAMPLE ID 36(A)EW0U61 FRACTION 08A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 08/02/98 10:22:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/12/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 08/10/98

Test Methodology

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE TPH_IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

Page 1 TOXIKON CORP. REPORT Work Order # 98-08-177

Received: 08/10/98 08/17/98 14:03:22

REPORT TO
FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA, 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY
TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 6
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA, 19047

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS. DEMAND, O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NWS EARLE
TAKEN 8/7/98
TRANS
TYPE WATER
P.O. #
INVOICE under seperate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01 16(B)EW98W50
02 16(B)EW98W51
03 16(B)EW98W52
04 16(B)EW98W52
05 16(B)EW98W53
06 16(B)EW98W53

TEST CODES and NAMES used on this workorder

8260 PURGEABLE ORGANICS VOA
TPH_IR TPH BY IR

 TOXIKON CORP. REPORT Work Order # 98-08-177

Received: 08/10/98

Results by Sample

SAMPLE ID 16(B)EW98W50 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 08/07/98 11:32:00 Category WATER

TPH_IR ND

mg/L DL=1.0

SAMPLE ID 16(B)EW98W51 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 08/07/98 11:32:00 Category WATER

TPH_IR ND

mg/L DL=1.0

SAMPLE ID 16(B)EW98W52 SAMPLE # 03 FRACTIONS: A

Date & Time Collected 08/07/98 11:34:00 Category WATER

TPH_IR ND

mg/L DL=1.0

Page 3
Received: 08/10/98

TOXIKON CORP. REPORT
Results by Sample

Work Order # 98-08-177

SAMPLE ID 16(B)EW98W52 FRACTION 04A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 08/07/98 11:34:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/12/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS UG/L
COMMENTS

ND = Not detected at detection limit

TOXIKON CORP. REPORT Work Order # 98-08-177

Received: 08/10/98

Results by Sample

SAMPLE ID 16(B)EW080653

SAMPLE # 05 FRACTIONS: A

Date & Time Collected 08/07/98 11:36:00 Category WATER

TPH_IR ND

mg/L DL=1.0

Page 5 TOXIKON CORP. REPORT Work Order # 98-08-177
Received: 08/10/98 Results by Sample

SAMPLE ID 16(B)EW98W53 FRACTION 06A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 08/07/98 11:36:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromochloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/12/98
ANALYST JPM
INSTRUMENT D
DIL. FACTOR 1
UNITS UG/L
COMMENTS

ND = Not detected at detection limit

Received: 08/10/98 Test Methodology

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-08-177

DUE DATE : 08-13-98

COMPANY: Earle Wheeler Environ.
ADDRESS: One Oxford Valley Suite 200
Langhorne PA 19047
PHONE #: (215) 702 4002 FAX #: (215) 702-4045
P.O. #: NWS - Earle
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: NWS Earle

SAMPLE TYPE: 1. WASTEWATER 2. SOIL 3. SLUDGE 4. OIL 5. DRINKING WATER 6. WATER (GW/MW/SW) 7. OTHER (SPECIFY)

CONTAINER TYPE: P - PLASTIC G - GLASS V - VOA

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH	VOCs	SPECIAL INSTRUCTIONS/ COMMENTS
1	16(B)EW98WS0	GW	1l		1	8/6/98	11:30	H_2SO_4	X		
2	16(B)EW98WS1		1l		1		11:32	H_2SO_4	X		
3	16(B)EW98WS2		1l		1		11:34	H_2SO_4	X		
4	16(B)EW98WS2		40ml		3		11:34	HCl		X	
5	16(B)EW98WS3		1l		1		11:36	H_2SO_4	X		
6	16(B)EW98WS3		40ml		3		11:36	HCl		X	

SAMPLED BY: DATE: 8-7-98 TIME: - -
RELINQUISHED BY: DATE: 8-7-98 TIME: - -
RELINQUISHED BY: DATE: - - TIME: - -
METHOD OF SHIPMENT

QUOTATION #:
RECEIVED BY: DATE: - - TIME: - -
RECEIVED FOR LAB BY: DATE: 08-10-98 TIME: 21-32
COOLER TEMPERATURE

72 hr. Fax

☒ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?

Page 1 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98 08/27/98 07:50:28

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045
ATTEN MICHAEL HEFFRON

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 10
COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064; TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS, DEMAND, O&G, PHENOLICS, PCBs , CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C,

WORK ID NAVAL WEAPONS STATION EARLE
TAKEN 8/13/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01	16AEW98W62
02	16AEW98W63
03	16AEW98W64
04	16AEW98W65
05	16AEW98W66
06	16AEW98W67
07	16BEW98W54
08	16BEW98W55
09	16BEW98W56
10	16BEW98W57

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
TPH IR	TPH BY IR

Received: 08/14/98

Results by Sample

SAMPLE ID 16AEW98W62 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/13/98 13:20:00 Category WATER

TPH_IR 106
mg/L DL=1.0

SAMPLE ID 16AEW98W63 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 08/13/98 13:25:00 Category WATER

TPH_IR 67.0
mg/L DL=1.0

SAMPLE ID 16AEW98W64 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 08/13/98 13:30:00 Category WATER

TPH_IR 1.65
mg/L DL=1.0

SAMPLE ID 16AEW98W65 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 08/13/98 13:35:00 Category WATER

TPH_IR ND
mg/L DL=1.0

SAMPLE ID 16AEW98W66 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 08/13/98 13:40:00 Category WATER

TPH_IR ND
mg/L DL=1.0

 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98 Results by Sample

SAMPLE ID 16AEW98W66 FRACTION 05A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 08/13/98 13:40:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromoethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/17/98

ANALYST JPM

INSTRUMENT D

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

Received: 08/14/98

Results by Sample

SAMPLE ID 16AEW98W67

SAMPLE # 06 FRACTIONS: A

Date & Time Collected 08/13/98 13:45:00 Category WATER

TPH_IR ND

mg/L DL=1.0

 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98 Results by Sample

SAMPLE ID 16AEW98W67 FRACTION 06A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 08/13/98 13:45:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromoethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2+2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropene	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/17/98

ANALYST JPN

INSTRUMENT D

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

please call Mike Heffron @ 215 702 4000

WORK ORDER #: 98-08-275

DUE DATE: 8-27-98

COMPANY: Foster Wheeler Environmental Corp.
ADDRESS: One Oxford Valley, Suite 200
Langhorne PA 19047
PHONE #: (215) 702 4042 FAX #: ( )
P.O. #:
PROJECT MANAGER: Mike Heffron
PROJECT ID/LOCATION: Naval Weapons Station Earle

SAMPLE TYPE: 1. WASTEWATER, 2. SOIL, 3. SLUDGE, 4. OIL, 5. DRINKING WATER, 6. WATER (GW/MW/SW), 7. OTHER (SPECIFY)

CONTAINER TYPE: P - PLASTIC, G - GLASS, V - VOA

ANALYSES

XIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH IP	TCL VOA											SPECIAL INSTRUCTIONS/ COMMENTS
1	16AEW98W62	6		6		8/13/98	1320		X												
2	16A EW98W63	6		6			1325		X												
3	16A EW98 W64	6		6			1330		X												
4	16A EW98 W65	6		6			1335		X												
5	16A EW98 W66	6		6/VOA			1340		X	X											
6	16A EW98 W67	6		6/VOA			1345		X	X											
7	16B EW98 W54	6		6			1445		X												
8	16B EW98 W55	6		6			1450		X												
9	16B EW98 W56	6		6/VOA			1455		X	X											
10	16B EW98 W57	6		6/VOA			1500		X	X											

SAMPLED BY: Ryan R Skelky	DATE: 8-13-98	QUOTATION #:	
	TIME: see above		
RELINQUISHED BY: Ryan R Skelky	DATE: 8-13-98	RECEIVED BY: T. Augustine	DATE: 8-14-98
	TIME: 4-30 PM		TIME: 19-00
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -
	TIME: - -		TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE (as usual)

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?

Received: 08/14/98

Results by Sample

SAMPLE ID 168EW98W54

SAMPLE # 07 FRACTIONS: A

Date & Time Collected 08/13/98 14:45:00 Category WATER

TPH_IR ND

mg/L DL=1.0

SAMPLE ID 168EW98W55

SAMPLE # 08 FRACTIONS: A

Date & Time Collected 08/13/98 14:50:00 Category WATER

TPH_IR ND

mg/L DL=1.0

SAMPLE ID 168EW98W56

SAMPLE # 09 FRACTIONS: A

Date & Time Collected 08/13/98 14:55:00 Category WATER

TPH_IR ND

mg/L DL=1.0

 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98 Results by Sample

SAMPLE ID 168EW98X56 FRACTION 09A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 08/13/98 14:55:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromoethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2,2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/17/98

ANALYST JPM

INSTRUMENT D

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98

Results by Sample

SAMPLE ID 16BEW98W57

SAMPLE # 10 FRACTIONS: A

Date & Time Collected 08/13/98 15:00:00 Category WATER

TPH_IR ND

mg/L DL=1.0

 TOXIKON CORP. REPORT Work Order # 98-08-275

Received: 08/14/98 Results by Sample

SAMPLE ID 168EV98W57 FRACTION 10A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 08/13/98 15:00:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromoethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 08/17/98

ANALYST JPM

INSTRUMENT D

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

Received: 08/14/98 Test Methodology

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.