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FINAL SITE CORRECTIVE ACTION PLAN AT BUILDING 1958 NWS YORKTOWN VA

9/1/1993

ROY F. WESTON

FINAL

CORRECTIVE ACTION PLAN AT BUILDING 1958

NAVAL WEAPONS STATION
YORKTOWN, VIRGINIA

CONTRACT TASK ORDER 0192
PC No. 92-2002

Prepared For:

NAVAL FACILITIES
ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA

Under:

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Prepared By:

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3 SEPTEMBER 1993

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EXECUTIVE SUMMARY

Roy F. Weston, Inc. (WESTON®), as partners with Baker Environmental, Inc. (Baker) on the Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, was contracted by the Atlantic Division (LANTDIV), Department of the Navy to prepare a Corrective Action Plan (CAP) related to leaking petroleum hydrocarbon fuel lines. The fuel lines are part of the underground storage tank (UST) system at Building 1958, Naval Weapons Station, Yorktown, Virginia. Building 1958 operates as a pumping station for sanitary sewage. The CAP was prepared in accordance with the Commonwealth of Virginia's and the Virginia Department of Environmental Quality's (DEQ) Underground Storage Tank (UST) Regulations, Code VR 680-13-02.

The Site Characterization Report (SCR) study was conducted by WESTON in two phases; during August and September 1992, and from 21 June through 28 June 1993. The initial phase of work included a background information review, completion of 11 soil borings, installation of seven groundwater monitoring wells, soil and groundwater sampling and analysis, and performance of two hydraulic conductivity tests. The supplemental field activities included completion of four soil borings, soil sampling, installation of four additional monitoring wells, and groundwater sampling. During this investigation subsurface petroleum hydrocarbon contamination (diesel fuel) was detected in the vicinity of the northern side of Building 1958. Liquid-phase hydrocarbons (LPH) were detected in two wells at thicknesses of up to 3.31 feet. The LPH is diesel and is likely due to a release from corroded fuel supply and return lines. In addition to the petroleum hydrocarbons, chlorinated hydrocarbons and lead were also detected in the groundwater. These contaminants are not normally constituents of diesel and may be from the sewage transfer station's pump sump area.

This CAP addresses the LPH in the vicinity of Building 1958. Proposed remedial endpoints are less than or equal to 0.01 feet LPH, 500 parts per million (ppm) total petroleum hydrocarbons (TPH) in soils, and 10 ppm TPH and VOCs in groundwater. The proposed remedial system design is comprised of an LPH skimming system outfitted in a segmented recovery trench system to be located immediately adjacent to the building. The LPH recovery system compound would be located on the north side of the building. Site monitoring will be conducted in accordance with the General CAP Permit requirements in order to monitor progress towards site remediation. It is anticipated that the LPH recovery system would operate for 2½ years; 2 years to achieve remedial endpoints and 6 months to maintain them. A 6-month post operational monitoring period would be conducted to ensure achievement and maintenance of remedial goals. The current estimated total project cost is approximately $203,000.

1.0 INTRODUCTION

Roy F. Weston, Inc. (WESTON®), as partners with Baker Environmental, Inc. (Baker) on the Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, was contracted by the Atlantic Division (LANTDIV), Department of the Navy to prepare a Corrective Action Plan (CAP). The cap addresses the diesel release associated with the fuel lines for the emergency generator at Building 1958, Naval Weapons Station, Yorktown, Virginia (see Figures 1-1 and 1-2). This CAP was prepared in accordance with the Commonwealth of Virginia's Underground Storage Tank (UST) Regulations Part VI of VR 680-13-02 following the Commonwealth of Virginia Department of Environmental Quality's (DEQ) guidelines. The DEQ CAP checklist is provided as Appendix A.

1.1 PURPOSE AND OBJECTIVES

The purpose of this report is to describe and provide supporting documentation for the corrective action approach selected for remediation of liquid-phase hydrocarbons (LPH) in the vicinity of Building 1958. The specific objectives of this report are to provide background characterization and assessment information; propose permanent corrective actions to mitigate the migration of LPH to the environment; propose remediation endpoints for the site; and outline a monitoring plan to evaluate the progress of the corrective action.

1.2 REPORT ORGANIZATION

This report is organized in three sections. Section 1 presents the purpose and objectives. Section 2 presents the site background information, including a description of the site, an investigative history, a summary of the nature and extent of contamination, and a summary of the risk and remediation assessments. Section 3 presents a description of the corrective action approach and includes the proposed remediation endpoints, the remediation system design, an outline of requirements for installation of the remediation system, a site monitoring plan, a CAP schedule, and an estimate of project cost.

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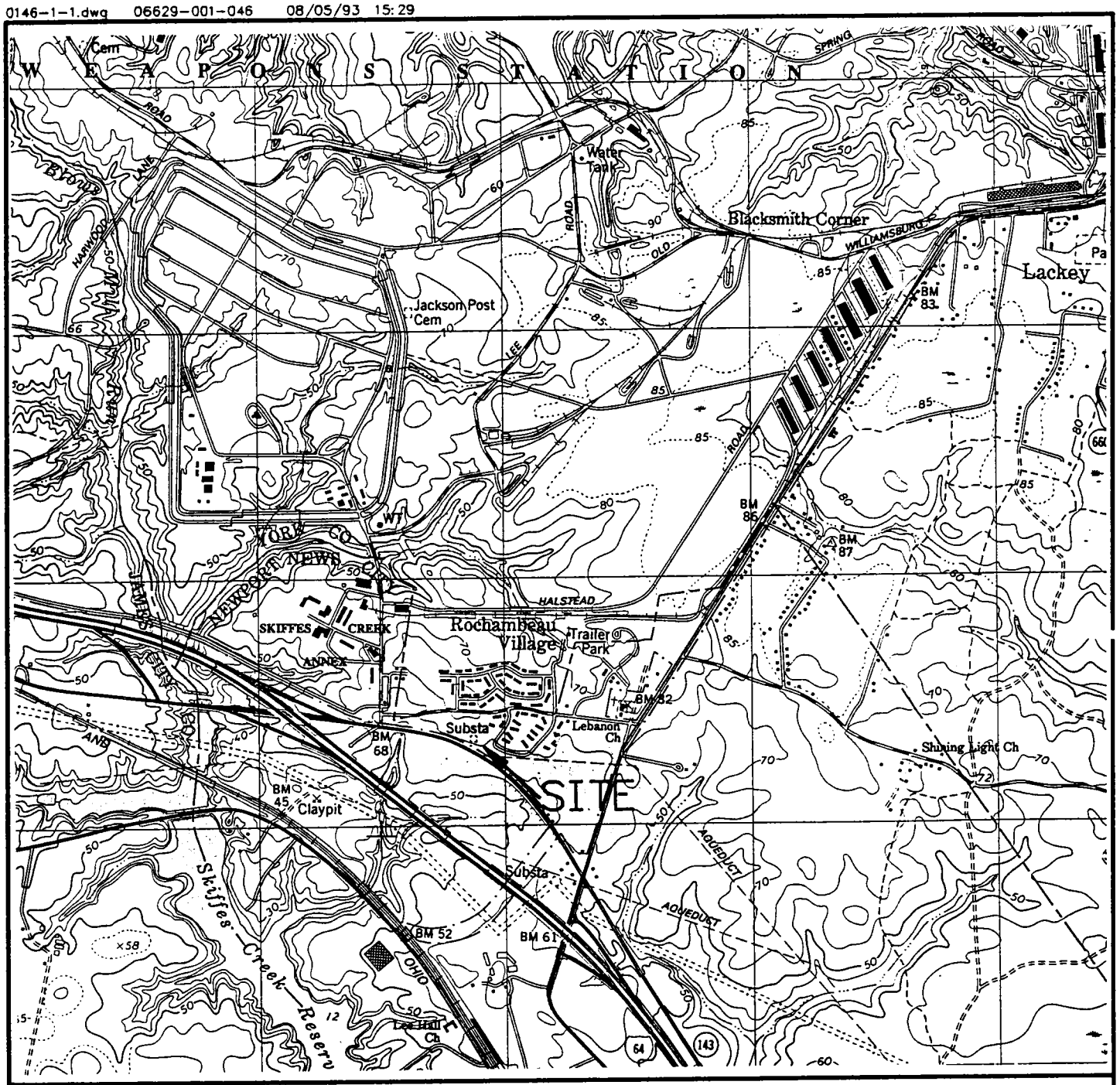
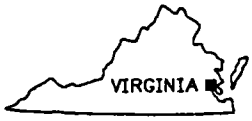


1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0.5 0 1 KILOMETER

-N-



QUADRANGLE LOCATION

SOURCE: YORKTOWN, VA
7.5' QUADRANGLE
37076-B5-TF-024
1984

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DWG. TITLE REGIONAL SITE LOCATION MAP	FIGURE NO. 1-1	

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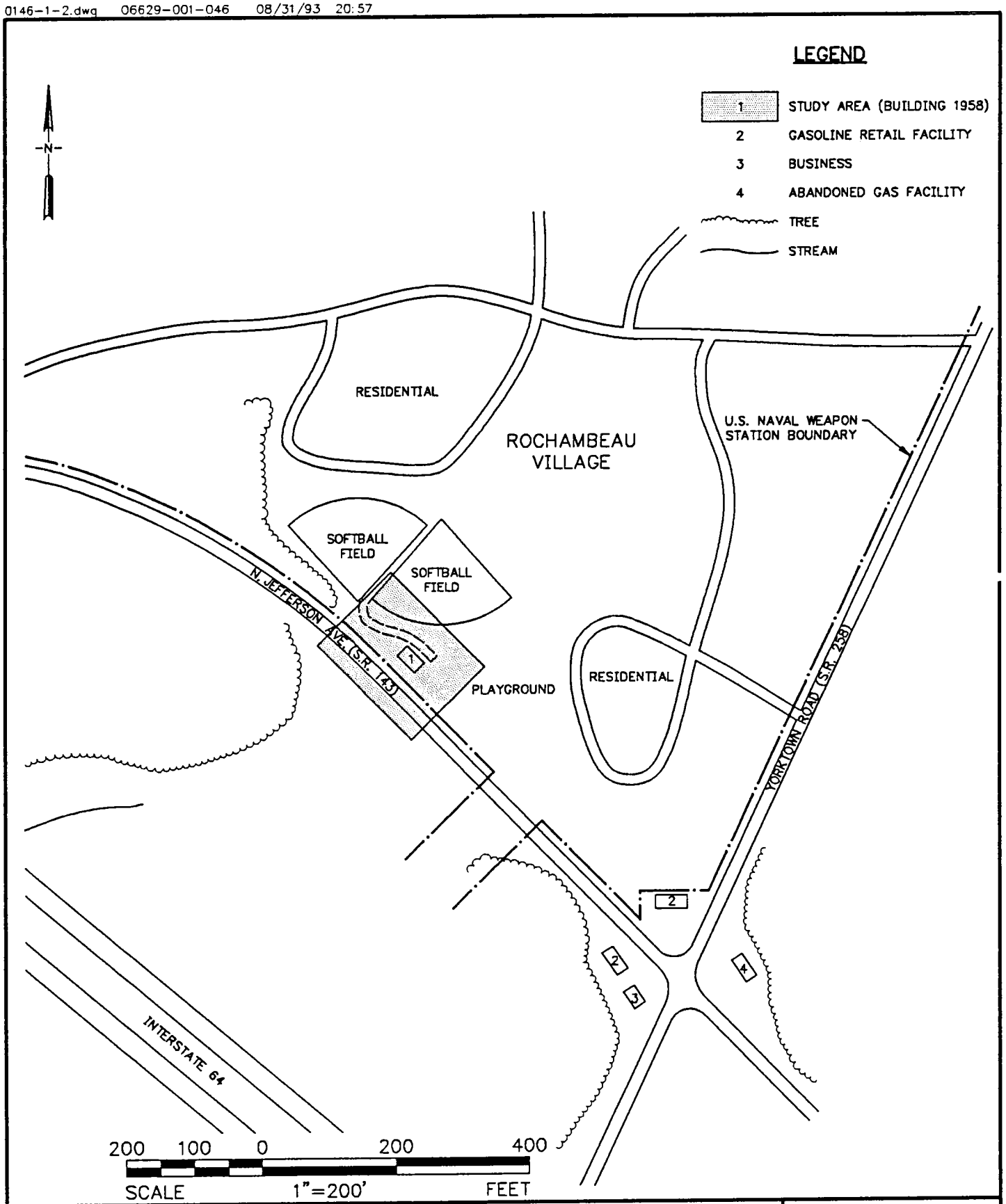

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DWG. TITLE AREA MAP	FIGURE NO. 1-2	

2.0 SITE BACKGROUND

This section provides site background information that includes a site description, a review of investigative history, a summary of the nature and extent of contamination, and a summary of the risk and remediation assessments. The reader is referred to the Site Characterization Report (SCR) (WESTON, 1992) for additional site background information.

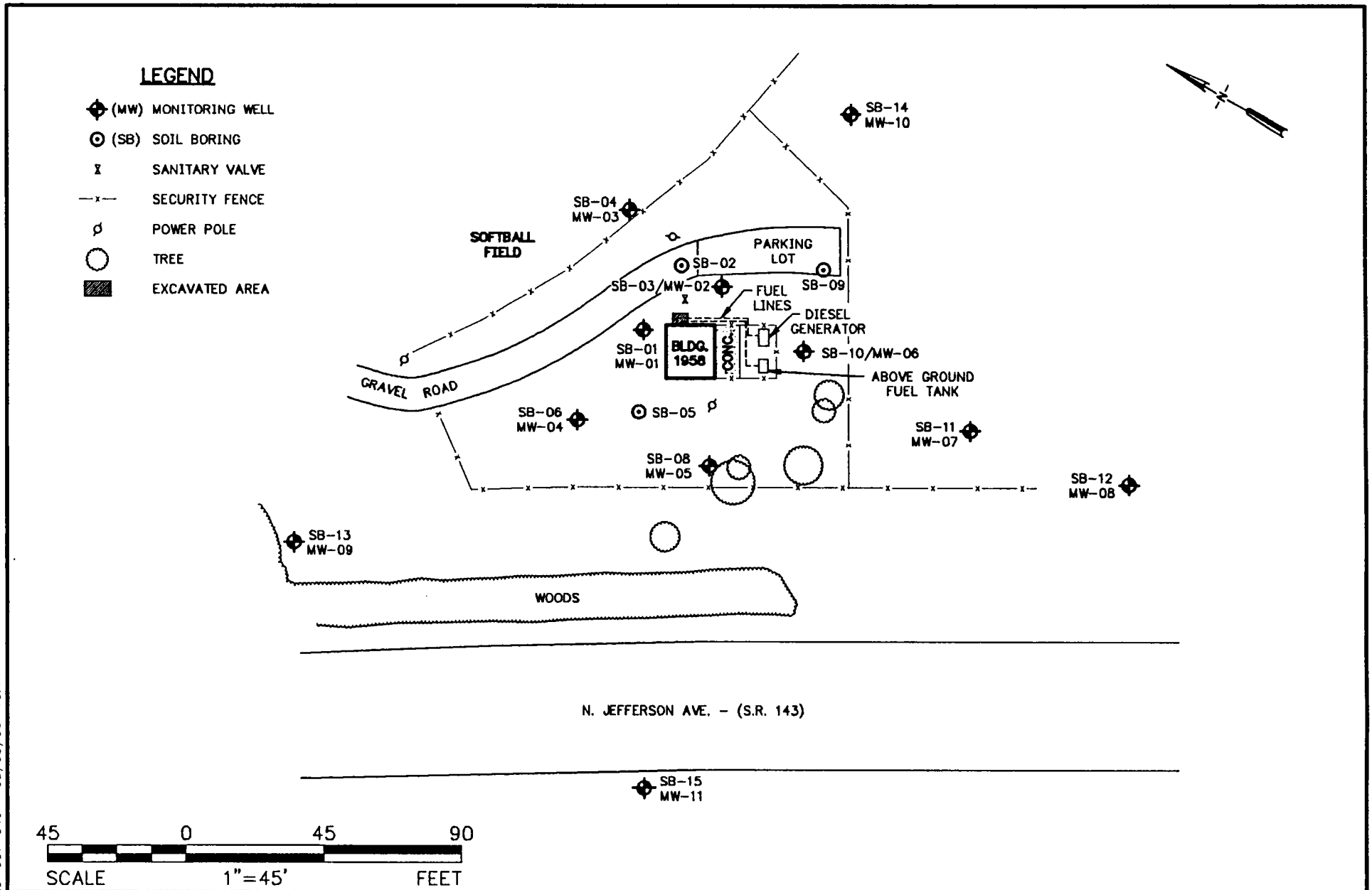
2.1 SITE LOCATION AND DESCRIPTION

The site is bounded on the north and east by an open grass recreation area (Figure 2-1). Further to the north and southeast is the southern extension of Rochambeau Village; base residential housing. Highway 143 N. Jefferson Avenue borders the site on the south and east. The surrounding low-lying grassy area serves as a drainage basin for the adjacent housing and recreational areas.

Building 1958 is a pumping station for sanitary sewage. The pumping station consists primarily of a pump house and a pump sump; a 10-foot by 10-foot wide estimated 30-foot deep by a concrete structure adjacent to the pump house. Sewage is temporarily stored in the pump sump until fluids levels are sufficient in the sump for transfer to the main sanitary sewer line. An emergency generator adjacent to the sump provides power as needed. A portion of the emergency generator system fuel lines are located on the northeast side of Building 1958 at NWS Yorktown.

2.2 INVESTIGATIVE HISTORY

An initial investigation was conducted by NWS Yorktown personnel at Building 1958 subsequent to LPH being observed around the bypass valve box just outside the building (see Figure 2-1). The initial investigation was performed in two phases. First, the source of the leak was identified as the fuel lines for the emergency generator system. Corrosion, pitting, and small holes were observed throughout the entire length of the 6 feet of lines excavated. The quantity of soil excavated was less than a cubic yard. The second phase was the hand-auguring of soil in an attempt to identify the vertical and horizontal extent of contamination. Lateral contamination was detected 12 feet away from the excavated area. Vertical contamination was as deep as 4 feet below ground surface (bgs). The petroleum hydrocarbon has been identified as diesel fuel. The leak was considered severe, primarily because the extent of contamination and the duration of leak were unknown. The fuel supply system was installed approximately 10 years ago. At the present, the fuel lines have been disconnected, drained of all fuel, and pose no immediate risk to the environment or personnel. An Initial Abatement Measures Report was prepared by NWS Yorktown personnel forwarded to the DEQ on 15 May 1992.



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CORRECTIVE ACTION PLAN EMERGENCY FUEL GENERATOR - BUILDING 1958 NAVAL WEAPONS STATION YORKTOWN, VIRGINIA	DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	WESTON
DWG. TITLE SITE MAP	FIGURE NO. 2-1	

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5

WESTON, as partners with Baker on the CLEAN Program, was contracted by LANTDIV to perform a site characterization study (SCS) at Building 1958. WESTON conducted the field portion of the SCS in two phases; from 10 August 1992 through 1 September 1992, and 21 June through 28 June 1993. The specific objectives of the assessment were to investigate the site geologic and hydrogeologic conditions and to define the extent of subsurface contamination in the vicinity of the previously identified areas with soil contamination. During the SCS, WESTON advanced 15 soil borings, screened and collected soil samples for analysis, completed 11 monitoring wells, collected two rounds of groundwater samples for analysis, and conducted two aquifer tests. Figure 2-1 illustrates the soil boring and monitoring well locations at the study area.

2.3 GEOLOGY

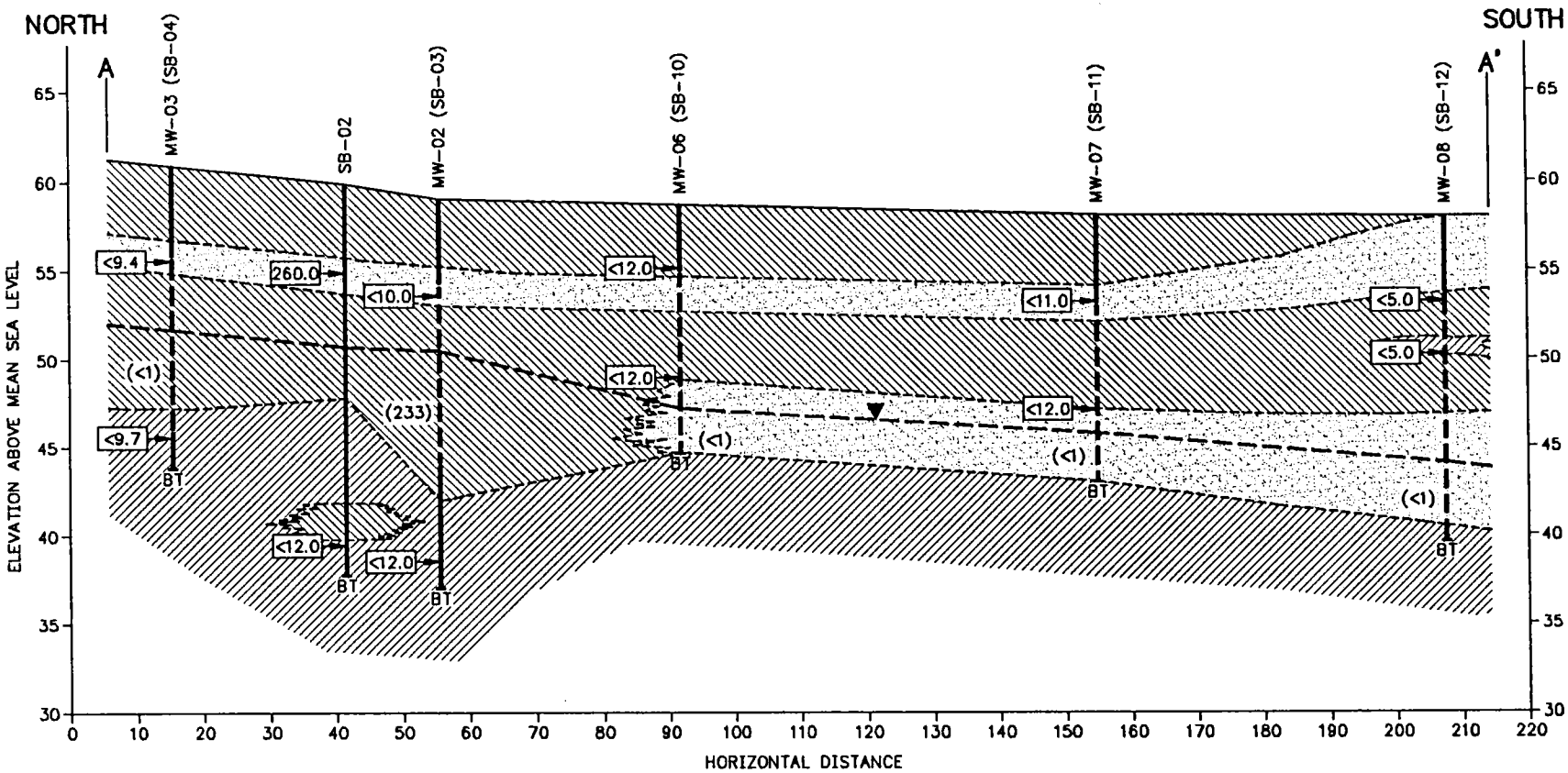
Soil samples were obtained from each of the 15 borings to characterize subsurface soil conditions. In general, Building 1958 is underlain by 6 to 10 feet of a yellow to gray fine-grained sandy clay, followed by discrete layers of silty sand. The remaining strata are primarily sandy/silty clays. A layer of broken shell fragments was encountered at 22 feet in SB-01. Copies of the boring logs describing the soils encountered are provided in Appendix B.

Two geologic cross-sections have been prepared using the soil boring logs and the well elevation survey. Cross-sections A-A' and B-B' are illustrated in Figures 2-2 and 2-3, respectively, and show an overview of the site geology. The sandy clay with a 2 foot thick silty sand layer was observed throughout the site's southern area. The sandy clay overlays the discontinuous silty sand and illustrates the heterogeneity of the subsurface stratigraphy. Apparently, the sand layer thickens to the east, while pinching out to the west (Figure 2-2). A clay layer was observed throughout the area at a depth ranging from 11 to greater than 20 feet bgs.

Based on a review of the borehole logs and regional geology maps (Mixon et al, 1989; Johnson, 1972), the uppermost geologic units in the study area are the Pleistocene age Windsor and Miocene age Yorktown Formations. The Windsor in this area is a fining upward sequence of silty and sandy clays that are interbedded with small fine-grained silty sand lenses. The thickness of the Windsor ranges from 15 to 26 feet. The sandy clays grade into a shelly silty sand characteristic of the uppermost sequence in the Yorktown Formation. Together, the Windsor and Yorktown Formations form the water table aquifer.

2.4. HYDROGEOLOGY

Groundwater levels in the wells installed at the site were measured periodically during field activities (see Appendix C). Groundwater levels varied from between 2 and 11 feet bgs during the initial field activities and is likely to be related to the unseasonably high quantities of rain during August 1992 (about 13 inches). Depth to groundwater at the site on 24 August 1992 ranged between approximately 4.3 and 6.7 feet bgs. Based on the 24 August 1992



LEGEND

- GROUNDWATER ELEVATION BGS (MEASURED ON 28 JUNE 1993)
- 260.0 TPH CONCENTRATIONS IN SOIL (ppm)
- (233) TPH CONCENTRATIONS (ppm) IN GROUNDWATER BASED ON 28 JUNE 1993 SAMPLING ROUND
- BT BORING TERMINATED
- BGS BELOW GROUND SURFACE
- MONITORING WELL WITH SCREEN INTERVAL
- BOREHOLE
- CLAY
- SANDY CLAY
- SILTY SAND

HORIZONTAL SCALE: 1 1/2 INCH = 40 FEET

VERTICAL SCALE: 1 INCH = 10 FEET

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DWG. TITLE GEOLOGIC CROSS SECTION A–A'	FIGURE NO. 2–2	

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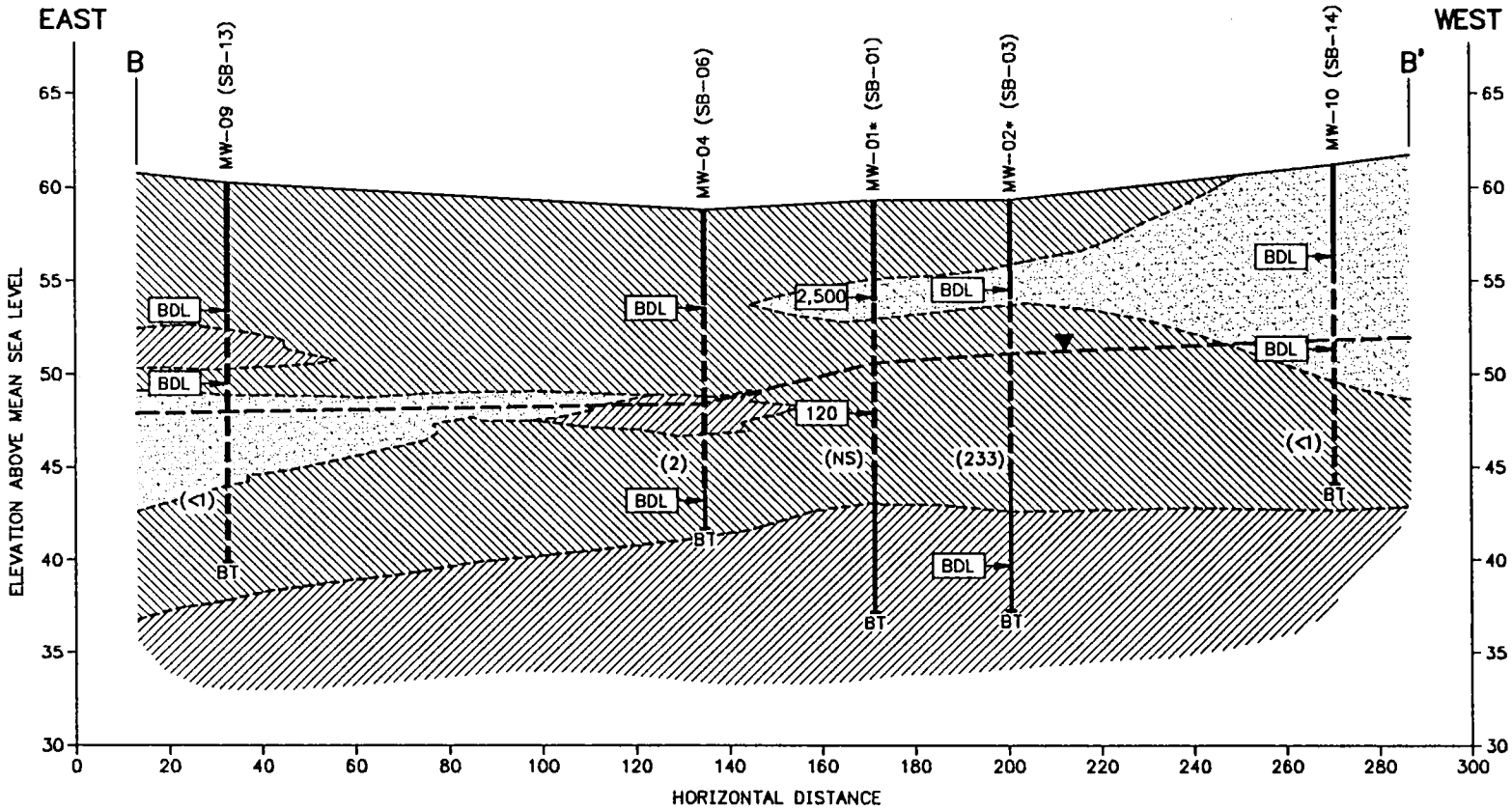

NOTES

1. (*) GROUNDWATER ELEVATION CORRECTED BY A FACTOR OF 0.80 (DIESEL).
2. (NS) NOT SAMPLED DUE TO FREE PRODUCT.

LEGEND

- GROUNDWATER ELEVATION BGS (MEASURED ON 28 JUNE 1993)
- 260.0 TPH CONCENTRATIONS IN SOIL (ppm)
- (233) TPH CONCENTRATIONS (ppm) IN GROUNDWATER BASED ON 28 JUNE 1993 SAMPLING ROUND
- BT BORING TERMINATED
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- MONITORING WELL WITH SCREEN INTERVAL
- BOREHOLE
- CLAY
- SANDY CLAY
- SILTY SAND

HORIZONTAL SCALE: 1 INCH = 40 FEET

VERTICAL SCALE: 1 INCH = 10 FEET

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DWG. TITLE GEOLOGIC CROSS-SECTION B-B'	FIGURE NO. 2-3	

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groundwater elevation data, groundwater appears to be flowing across the site in both westerly and southerly directions (see Figure 2-4). As illustrated in Figure 2-4, a potentiometric surface high is located beneath Building 1958 and is in effect acting as a groundwater divide. This water table mounding effect may be due to fluid leakage from the lift station sump area (see concrete pad, Figure 2-4).

An additional water table map was generated using well gauging data from 28 June 1993 (Figure 2-5). Groundwater levels varied from between 8 and 14 feet bgs during the 28 June 1993 well gauging event. The increased depth to water appears due to natural seasonal fluctuations. Summer months typical show an increase in depth to water due to less rainfall. Further review of Figure 2-5 shows that the predominant groundwater flow direction is to the south and that any mounding effect from Building 1958 is either subdued or not apparent from the 28 June 1993 data.

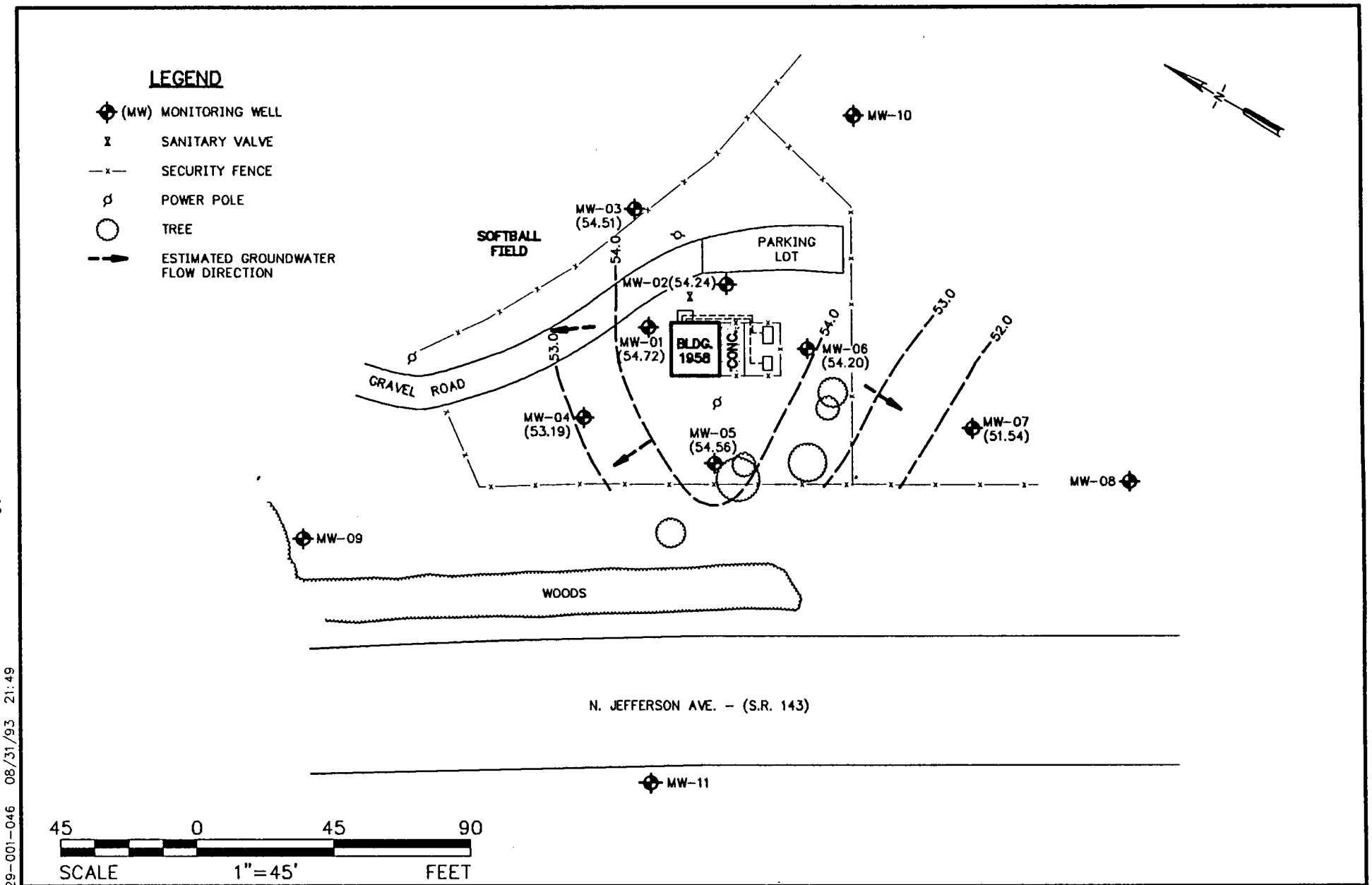
Site-specific aquifer characteristics were determined by evaluating the rising-head test data from the 1 September 1992 slug tests in monitoring wells MW-04 and MW-06. The field data were evaluated using the Bouwer and Rice (1976) equation for a partially penetrated unconfined aquifer. Hydraulic conductivity (K) was determined to be 2.4 x 10^{-3} and 5.6 x 10^{-4} ft/min for MW-04 and MW-06, respectively. Using this range of values for K, a groundwater gradient of 0.017 in the northwest portion of the site and 0.44 in the southern portion of the site and an estimated porosity of 35% (Fetter, 1980), the range of groundwater flow velocities is calculated as 0.2 to 0.3 ft/day, or 73 to 105 ft/year. Use of the 24 August 1992 field data provides a range of groundwater gradients that is appropriate when the sites seasonal water table fluctuation is taken into account. For example, evaluation of the water table map based on the 28 June 1993 data yields a gradient of 0.012.

2.5 NATURE AND EXTENT OF CONTAMINATION

SCS results confirm that subsurface soils in the vicinity of the emergency generator fuel supply lines on the north-eastern side of Building 1958 are contaminated with diesel fuel. Elevated levels of contamination in the form of liquid-, adsorbed-, and dissolved-phase hydrocarbons were identified. Based on field screening data, vapor-phase hydrocarbons do not appear to represent a contaminant concern at the site which is consistent with the low volatility of diesel. The nature and extent of the identified phases of subsurface hydrocarbons are provided in subsequent portions of this report.

2.5.1 Liquid-Phase Hydrocarbons

Free floating diesel has been detected in monitoring wells MW-01 and MW-02 (up to 3.31 and 0.75 feet, respectively). A review of the liquid level data (Appendix C) shows that well MW-01 did not contain product in August 1992. The estimated lateral extent of LPH is shown in Figure 2-6.



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DWG. TITLE WATER TABLE MAP (24 AUGUST 1992)	FIGURE NO. 2-4	

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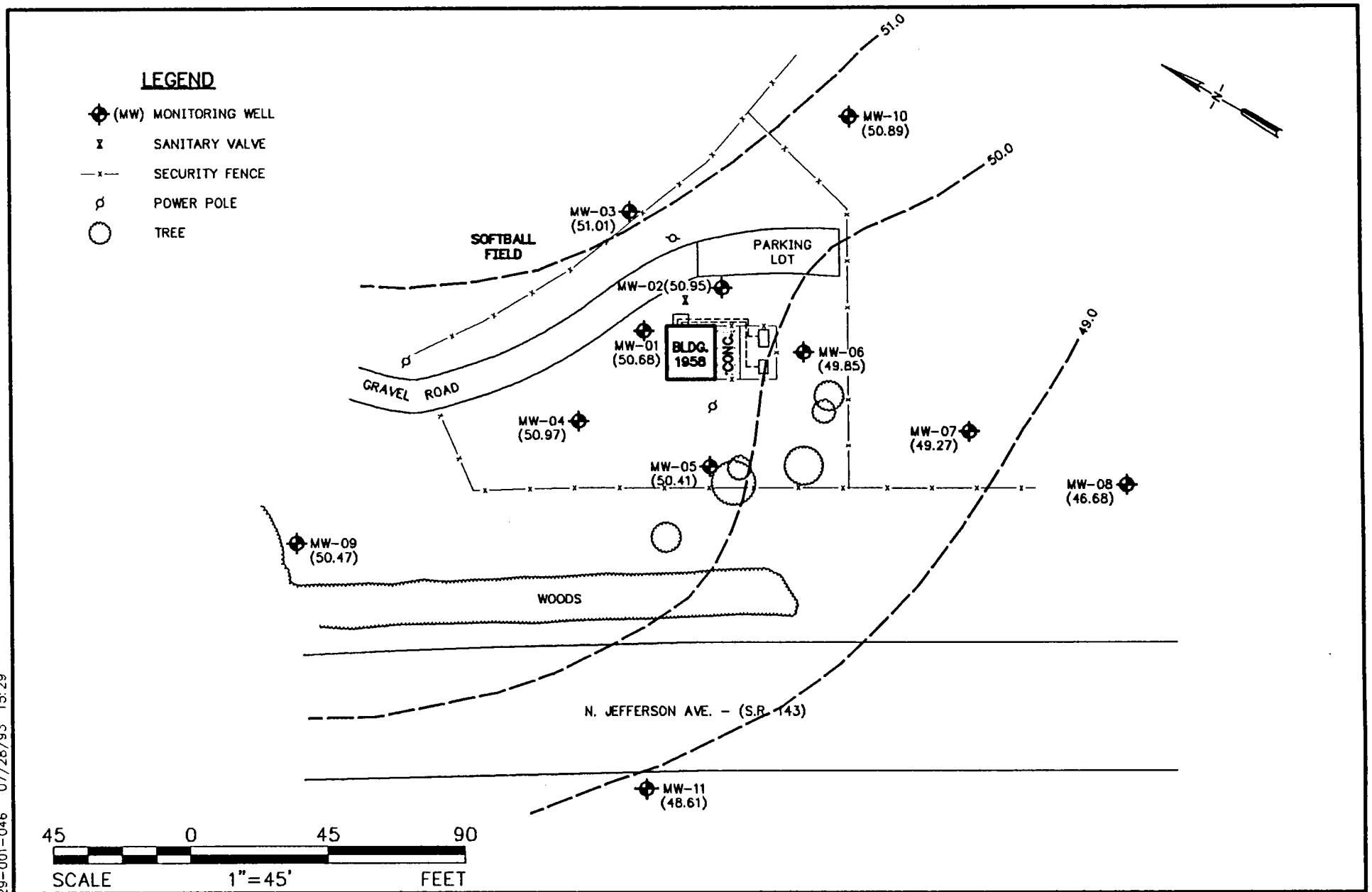

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DWG. TITLE WATER TABLE MAP (28 JUNE 1993)	FIGURE NO. 2-5	

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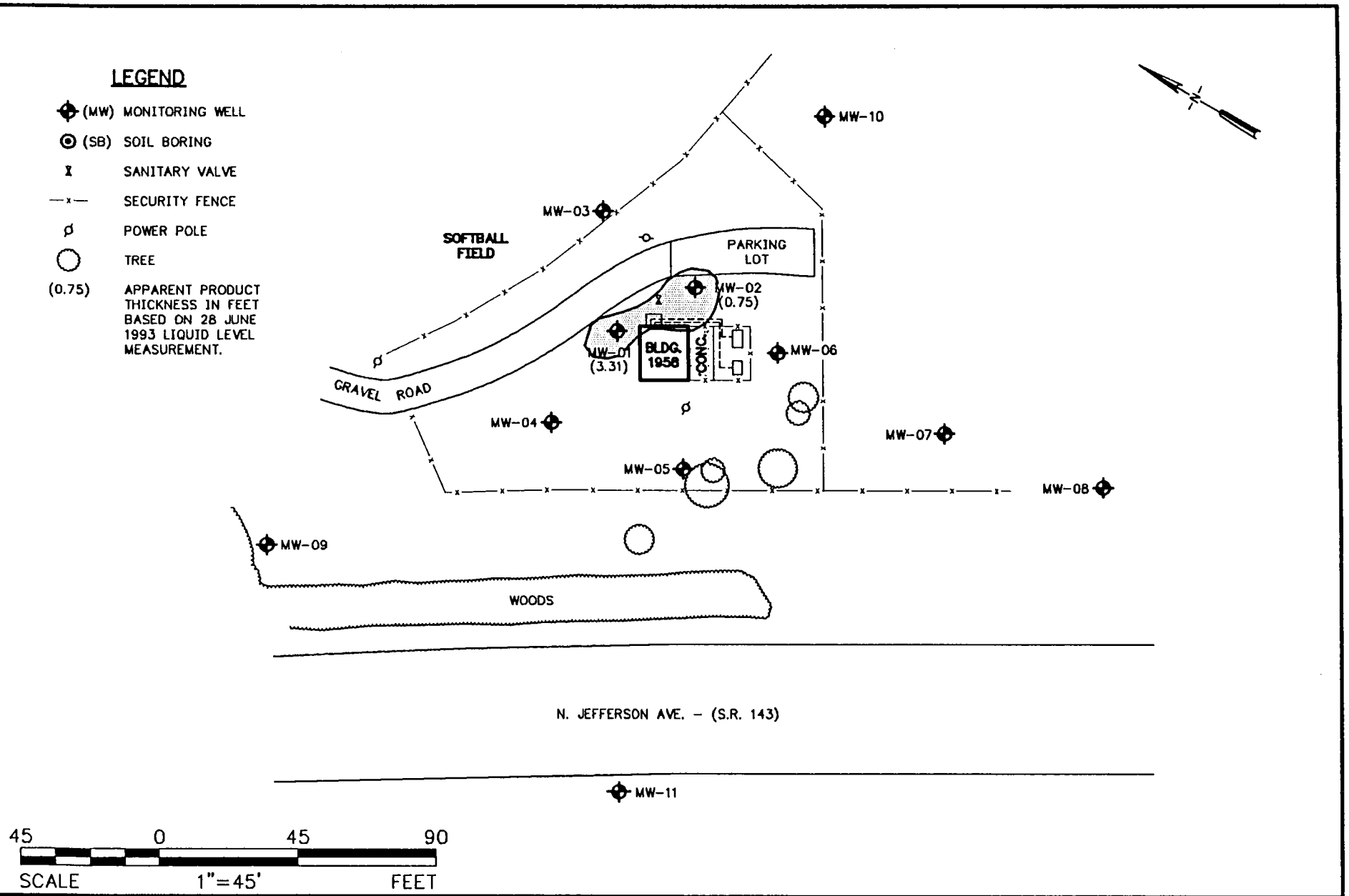

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DWG. TITLE ESTIMATED EXTENT OF LPH	FIGURE NO. 2-6	

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2.5.2 Adsorbed-Phase Hydrocarbons

A total of 33 subsurface soil samples were collected from the 15 boring locations. All samples were analyzed for total petroleum hydrocarbons (TPH). Two soil samples were also analyzed for metals by the toxicity characterisitc leachate procedure (TCLP), flash point, grain size, and benzene, toluene, ethylbenzene, and xylenes (total) (BTEX). The two samples collected for the additional analyses were taken from SB-01 and SB-06 during the initial field activities. In addition to TPH, soil samples collected during the supplemental field activities were analyzed for volatile organic compounds, and semi-volatile organic compounds. Laboratory results are summarized in Table 2-1. Laboratory analyses and chain-of-custody records for soil samples are provided in Appendix D.

Laboratory results indicate that detectable TPH concentrations in soil samples ranged from 15 ppm in soil boring SB-02 (4 to 6 feet bgs) to 2,500 ppm in soil boring SB-01 (4 to 6 feet bgs) (Figure 2-7; Table 2-1). Of the 33 soil samples analyzed for TPH (two from each boring and three duplicates), 5 samples contained TPH concentrations that exceed the DEQ "action level" of 100 parts per million (ppm). Soil borings that exhibited TPH concentrations greater than 100 ppm include SB-01 (4 to 6 and 14 to 16 bgs), SB-02 (4 to 6 bgs), and SB-09 (14 to 16 bgs). Of the soil samples analyzed for TPH by modified EPA method 8015 (SB-01 through SB-11), the analytical data indicate that the TPH detected appears to be representative of diesel.

Soil samples collected during the supplemental field activities were analyzed for TPH by EPA method 418.1. A concentration of 20 ppm TPH was detected in soil sample SB-15-001. Method 418.1 is not capable of differentiating between organic compounds. Therefore, the organic nature of the soils may be the contributing factor to the TPH concentration in soil sample SB-15-001. As noted in the borehole log for boring SB-15 (Appendix B), fill material used in the construction of N. Jefferson Avenue apparently extends to a depth of approximately 11 feet bgs, the sample was collected at the 9 to 11 feet bgs sampling interval.

Concentrations of TPH in soils in the vicinity of the Building 1958 are depicted in Figure 2-7. The distribution pattern of TPH concentrations in soil indicates that the highest area of TPH in soil is located in the vicinity of SB-01, SB-02, and SB-09. Contours plotted for TPH concentrations in soils indicate high concentrations of TPH present in the vicinity of the north corner of Building 1958. These concentrations of TPH are likely related to the confirmed release of petroleum hydrocarbons from the fuel lines. Soil boring SB-03 (MW-02) is included within the 1,000 ppm isocontour line because LPH has been detected in the well.

Laboratory analysis for BTEX in the 2 soil samples analyzed indicate that the compounds were not detected in soil sample 143-SB-06-02, and a concentration of 0.0062 ppm total xylenes detected in soil sample 143-SB-01-02 (see Table 2-1). Analytical results for the 8 TCLP metals in the 2 soil samples showed that none of the metals were present above practical quantitation limits for the analyses (see Appendix D). Further, neither of these samples

TABLE 2-1
SUMMARY ANALYSES FOR SOIL SAMPLES (ppm)

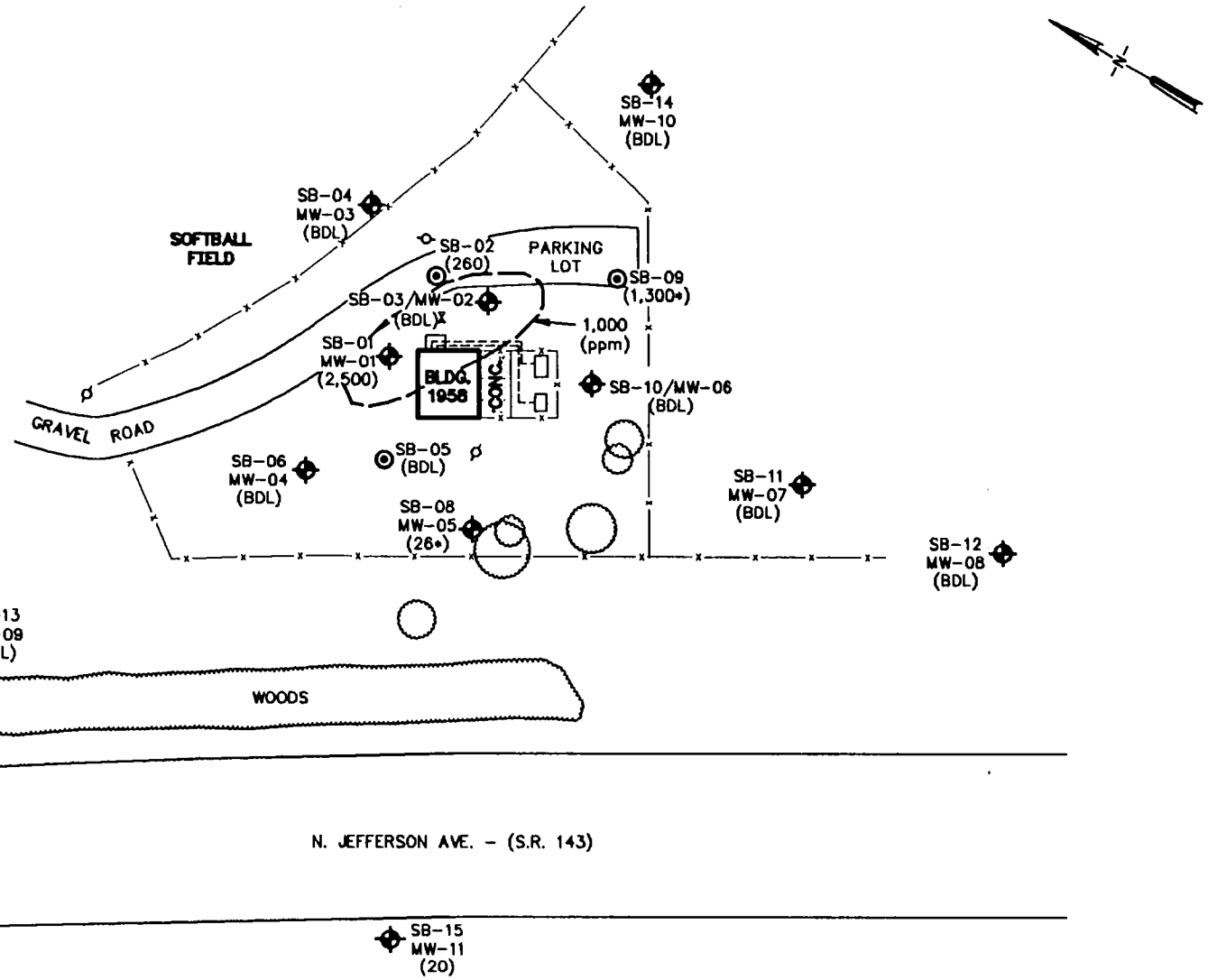
Soil Boring Number	Field Sample Number	Sample Interval[a]	TPH[b]	Benzene[c]	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	Bis(2-ethylhexyl) phthalate
SB-01	143-SB-01-01	4-6	2500						
SB-01	143-SB-01-01A	4-6	1400						
SB-01	143-SB-01-02	10-12	120	--	--	--	0.0062	0.0062	
SB-02	143-SB-02-01	4-6	260						
SB-02	143-SB-02-01A	4-6	15						
SB-02	143-SB-02-02	20-22	34						
SB-03	143-SB-03-01	4-6	--						
SB-03	143-SB-03-02	20-22	--						
SB-04	143-SB-04-01	4-6	--						
SB-04	143-SB-04-02	15-17	--						
SB-05	143-SB-05-01	4-6	--						
SB-05	143-SB-05-02	15-17	--						
SB-06	143-SB-06-01	4-6	--						
SB-06	143-SB-06-02	15-17	--	--	--	--	--	ND	
SB-07	143-SB-07-01	4-6	--						
SB-07	143-SB-07-02	12-14	--						
SB-08	143-SB-08-01	4-6	--						
SB-08	143-SB-08-02	10-12	26						
SB-09	143-SB-09-01	4-6	--						
SB-09	143-SB-09-02	14-16	1300						
SB-10	143-SB-10-01	4-6	--						
SB-10	143-SB-10-02	10-12	--						
SB-11	143-SB-11-01	4-6	--						
SB-11	143-SB-11-02	10-12	--						
SB-01	143-SB-01-03E			--	--	--	--	ND	
SB-12	SB12-001	4-6	--	--	--	--	--	ND	--
SB-12	SB12-002	6-8	--	--	--	--	--	ND	--
SB-13	SB13-001	6-8	--	--	--	--	--	ND	4.39
SB-13	SB13-002	9-11	--	--	--	--	--	ND	4.48
SB-14	SB14-001	4-6	--	--	--	--	--	ND	4.04
SB-14	SB14-002	9-11	--	--	--	--	--	ND	3.44
SB-15	SB15-001	9-11	20	--	--	--	--	ND	5.88
SB-15	SB15-002	14-16	--	--	--	--	--	ND	2.76
SB-15	SB15-201		--						
	SBTB-1			--	--	--	--	ND	

ppm - parts per million.
A - Duplicate sample.
E - Trip blank.
-- - below the method detection limit.
ND - None detected.

Blank Cell - sample not analyzed for target compound.
Notes: a - Feet below ground surface.
b - Samples from soil borings SB-01 through SB-11 analyzed by modified EPA method 8015 soil samples from soil borings SB-12 through SB-15 analyzed by EPA method 418.1.
c - Samples from soil borings SB-01 through SB-11 analyzed for BTEX by EPA method 602 samples from soil borings SB-12 through SB-15 analyzed for BTEX by EPA method 8240.

LEGEND

- (MW) MONITORING WELL
- (SB) SOIL BORING
- SANITARY VALVE
- SECURITY FENCE
- POWER POLE
- TREE
- TPH ISOCONCENTRATION LINE
- (BDL) BELOW DETECTION LIMITS
- (20) TPH CONCENTRATION IN (ppm)



NOTES

1. CONCENTRATIONS FOR EACH BORING ARE HIGHEST OBSERVED AT SAMPLING LOCATIONS.
2. FREE PRODUCT DISSOLVED IN MW-02.
3. (*) DENOTES SOIL SAMPLE COLLECTED BELOW WATER TABLE.

45 0 45 90

SCALE 1"=45' FEET

PROJECT TITLE: CORRECTIVE ACTION PLAN EMERGENCY FUEL GENERATOR - BUILDING 1958 NAVAL WEAPONS STATION YORKTOWN, VIRGINIA	CLIENT DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	WESTON
DWG. TITLE TPH IN SOIL ISOCONCENTRATIONS	FIGURE NO. 2-7	

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exhibited the characteristics of ignitability since both showed a flashpoint of greater than 140°F (60°C). Grain size analysis conducted for the 2 soil samples from SB-01 and SB-06 both showed a silty clay with sand composition for the soils encountered. Soil analyzed for grain size samples from boring SB-01 and SB-06 were collected at the 10 to 12 foot interval and 15 -17 foot interval, respectively.

In addition to TPH, soil samples from the supplemental field activities (SB-12 through SB-15) were also analyzed for volatile and semi-volatile organic compounds. With the exception of bis (2-ethylhexyl) phthalate, no volatile or semi-volatile organic compounds were detected above the respective method detection limit. Six of eight soil samples analyzed for semi-volatile organic compounds by EPA method 8270 showed concentrations of bis (2-ethylhexyl) phthalate ranging from 2.76 to 5.88 ppm. Based on a review of the data and the sampling methodology, this compound may be attributed to either laboratory or field contamination. A quality control/quality assurance review was conducted by the analyzing laboratory; however, it was inconclusive. According to the laboratory review (see Appendix E), bis (2-ethylhexyl) phthalate is a commonly observed field contaminant due to the use of plastics in the sampling process. A common compound in many products, including solvents, bis (2-ethylhexyl) phthalate is also used as a plasticizer.

2.5.3 Dissolved-Phase Hydrocarbons

Groundwater samples were collected on 24 August 1992 from 6 of the 7 newly installed monitoring wells. Monitoring well MW-02 was not sampled due to the presence of LPH. The samples were analyzed for purgeable aromatics, TPH, and total lead by EPA methods 602, 8015 (modified), and 239.2, respectively. An additional round of groundwater samples were collected on 28 June 1993 from 10 of the 11 monitoring wells, including the 4 monitoring wells installed during the supplemental field activities. Monitoring well MW-01 was not sampled due to the presence of LPH. The groundwater samples were analyzed for purgeable aromatics (EPA method 602), TPH (EPA method 418.1), purgeable halocarbons (EPA method 601), volatile organic aromatics (EPA method 624), and polyaromatic compounds (EPA method 625). Results of the laboratory analyses for the 24 August 1992 and 28 June 1993 sampling events are summarized in Tables 2-2 and 2-3, respectively. Groundwater analytical results are presented in Appendix E.

Purgeable aromatics were detected in all of the groundwater samples collected on 24 August 1992 and ranged from 0.0131 ppm in MW-06 to 0.597 ppm in MW-01. The purgeable aromatics that were detected included benzene, toluene, ethylbenzene, total xylenes, (BTEX), chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene. Chlorinated hydrocarbon compounds are not normally a constituent of diesel. Dissolved total BTEX compounds in groundwater ranged from 0.0056 ppm in well MW-06 to 0.506 ppm in MW-01. A total xylenes concentration of 0.0073 ppm was detected in the rinsate sample (143-12-01).

TABLE 2-2
SUMMARY OF ANALYSES FOR GROUNDWATER SAMPLES (ppm)
24 AUGUST 1992

Sample Location	Sample No.	TPH	Benzene	Toluene	Xylene (Total)	Ethyl-benzene	Total BTEX	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,2-Dichloro-benzene	Chloro-benzene	Total Purg. Arom.	Total Lead
MW-01	143-GW-01-01	1.52	0.037	0.039	0.340	0.090	0.506	--	0.091	--	--	0.597	--
MW-03	143-GW-04-01	0.46	--	--	0.033	--	0.033	0.017	0.014	0.016	--	0.080	0.0780
MW-04	143-GW-06-01	4.26	--	0.013	0.180	0.044	0.237	--	0.100	--	--	0.337	0.0260
MW-05	143-GW-08-01	3.13	--	--	0.060	0.016	0.076	0.010	0.041	0.019	0.014	0.160	0.0320
MW-06	143-GW-10-01	0.19	--	--	0.0056	--	0.0056	0.0083	0.010	0.009	--	0.0273	0.0110
MW-06	143-GW-10-01A	0.21	--	--	--	--	ND	--	0.007	0.0061	--	0.0131	0.0100
MW-07	143-GW-11-01	0.21	--	--	0.006	--	0.006	0.0087	0.0096	0.012	--	0.0363	0.068
	143-GW-12-01[a]	0.08	--	--	0.0073	--	0.0073	0.0076	0.0094	0.0099	--	0.0342	--
	143-GW-13-01[b]	NA	--	--	--	--	ND	--	--	--	--	ND	NA

ppm - parts per million.
-- - below the method detection limit.
NA - Not applicable. Trip blank was only analyzed for purgeable aromatics.
A - Duplicate sample.
ND - None detected.
Notes: a - Rinsate Sample.
b - Trip blank.

TABLE 2-3
SUMMARY OF ANALYSES FOR GROUNDWATER SAMPLES (ppm)
28 JUNE 1993

Sample Location	Sample No.	TPH	Benzene	Toluene	Xylene (Total)	Ethyl-benzene	Total BTEX	Fluorene	Naphthalene	Phenanthrene	Pyrene	N-Nitrosodi-n-propylamine	MTBE
MW-02	MW02-01	233	0.113	--	--	0.054	0.167	0.434	1.09	0.74	0.112	--	--
MW-03	MW03-01	--	--	--	--	0.064	0.064	0.014	0.031	0.019	--	--	--
MW-04	MW04-01	2	--	--	--	--	--	--	--	--	--	--	--
MW-05	MW05-01	27	--	--	--	--	--	0.014	--	--	--		--
MW-06	MW06-01	--	--	--	--	--	--	--	--	--	--	0.018	--
MW-07	MW07-01	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	MW08-01	--	--	--	0.005	--	0.005	--	--	--	--	--	0.223
MW-09	MW09-01	--	--	--	--	--	--	--	--	--	--	--	0.022
MW-09	MW09-101[a]	--	--	--	--	--	--	--	--	--	--	--	0.006
MW-09	MW09-201[b]	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	MW10-01	--	--	--	--	--	--	--	--	--	--	--	0.012
MW-11	MW11-01	--	--	--	--	--	--	--	--	--	--	--	--
	MWTB-1[c]	--	--	--	--	--	--	--	--	--	--	--	0.017

ppm - parts per million.
-- - below the method detection limit.
NA - Not applicable. Trip blank was only analyzed for purgable aromatics.
Notes: a - Duplicate sample.
b - Rinsate Sample.
c - Trip blank.

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Purgeable aromatics were also detected in the groundwater samples collected on 28 June 1993. Benzene, xylenes (total), and ethylbenzene compounds were detected in three of the 13 samples analyzed. Total BTEX concentrations ranged from 0.005 ppm in MW-08 to 0.167 ppm in MW-02. In addition, methel tert-butyl ether (MTBE) was detected in five of the groundwater samples, including the trip blank. MTBE concentrations ranged from 0.012 to 0.223 ppm. Based on a review of the data and the sampling methodology, this compound may be attributed to either laboratory or field contamination (see Appendix E). MTBE is an oxygenator used in gasoline as an octane enhancer. It is not considered to be a constituent of diesel fuel.

No chlorinated hydrocarbons were detected in the 28 June 1993 groundwater samples.

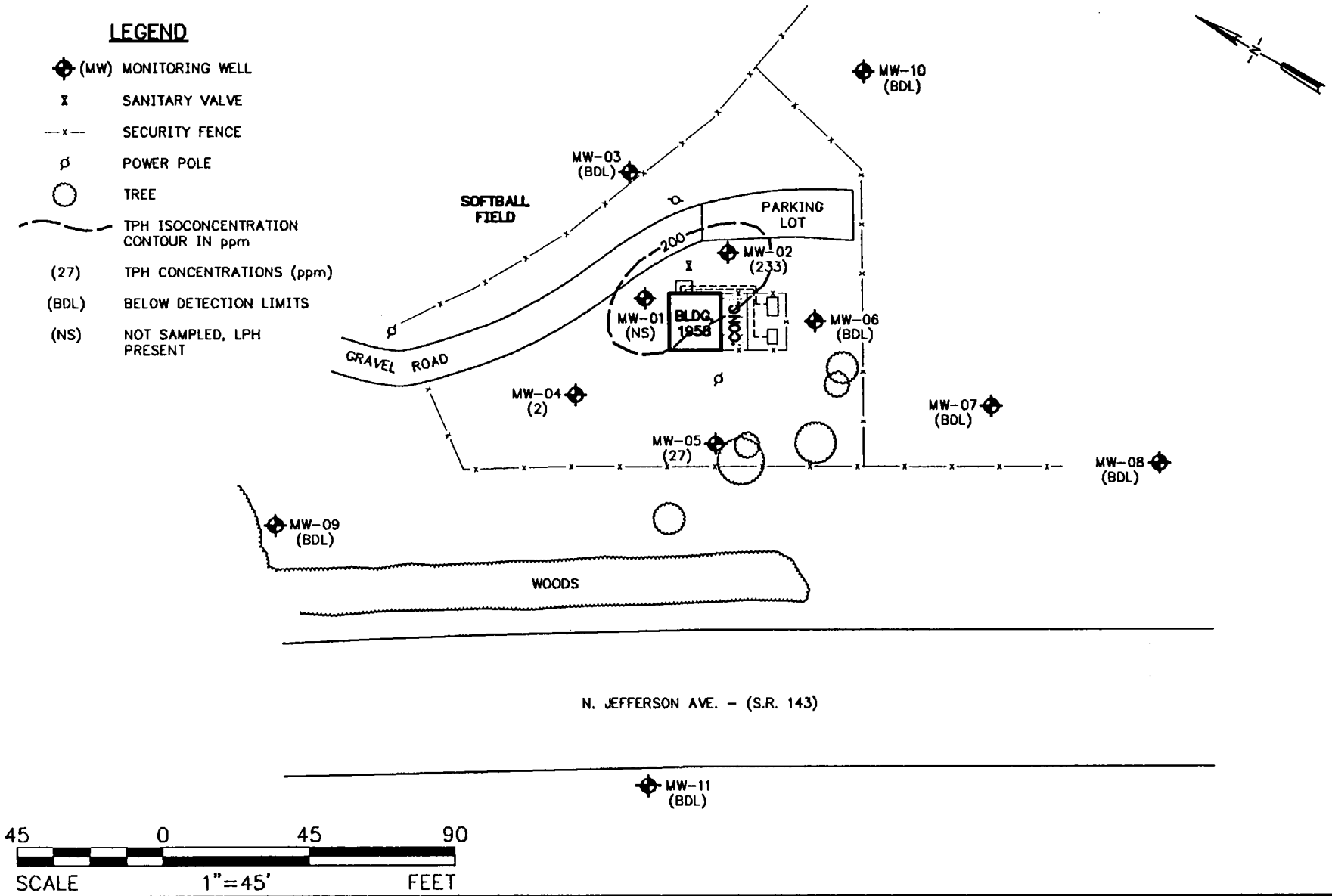
Total petroleum hydrocarbons dissolved in groundwater were detected in all samples collected on 24 August 1992 and analyzed by modified EPA method 8015. TPH concentrations ranged from 0.21 ppm in MW-06 and MW-07 to 4.26 ppm in MW-04. The groundwater sample (MW-06) showed 0.19 ppm TPH compared to the duplicate sample of 0.21 ppm; therefore, the duplicate sample was utilized for the range of TPH values. Concentrations of TPH above the method detection limit (1 ppm) was observed in three of the 13 groundwater samples collected on 28 June 1993 and analyzed by EPA method 418.1. Detectable TPH concentrations ranged from 2 ppm in MW-04 to 233 ppm in MW-02.

Dissolved TPH in groundwater in the vicinity of the Building 1958 is depicted in Figure 2-8. The distribution pattern for TPH appears to be occurring as a single contaminant plume located at the north and west corners of Building 1958. Based on the 28 June 1993 analytical data, the highest levels of TPH were detected in MW-02 (233 ppm) and MW-05 (27 ppm). The Dissolved TPH in groundwater appears to be migrating in a westerly direction.

Total lead in groundwater was detected in 6 of the 7 groundwater samples collected on 24 August 1992. Total lead in groundwater ranged from less than PQL in MW-01 to 0.078 ppm in MW-03. The duplicate groundwater sample (taken from MW-10) showed a close correlation of 0.010 ppm lead to 0.0110 in the original sample. The distribution of total lead in groundwater at the site is depicted in Figure 2-9. The source of the lead has not been determined.

The 24 August 1992 rinsate sample collected detected 0.08 ppm TPH, 0.0123 ppm total BTEX, a total of 0.0392 ppm purgeable aromatics (including BTEX), and <0.005 ppm total lead.

Several semi-volatile organic compounds were detected in the 28 June 1993 groundwater samples analyzed by EPA method 625. Semi-volatile organic compounds were detected in MW-03, MW-03, MW-05, and MW-06 (see Table 2-3). The semi-volatile organic compounds detected were fluorene, naphthalene, phenanthrene, pyrene, and n-nitroso di-n-propylamine. These polycyclic aromatic hydrocarbons are common constituents of diesel fuel.



PROJECT TITLE:	CLIENT	
CORRECTIVE ACTION PLAN EMERGENCY FUEL GENERATOR - BUILDING 1958 NAVAL WEAPONS STATION YORKTOWN, VIRGINIA	DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	WESTON
DWG. TITLE TPH IN GROUNDWATER ISOCONCENTRATIONS	FIGURE NO. 2-8	

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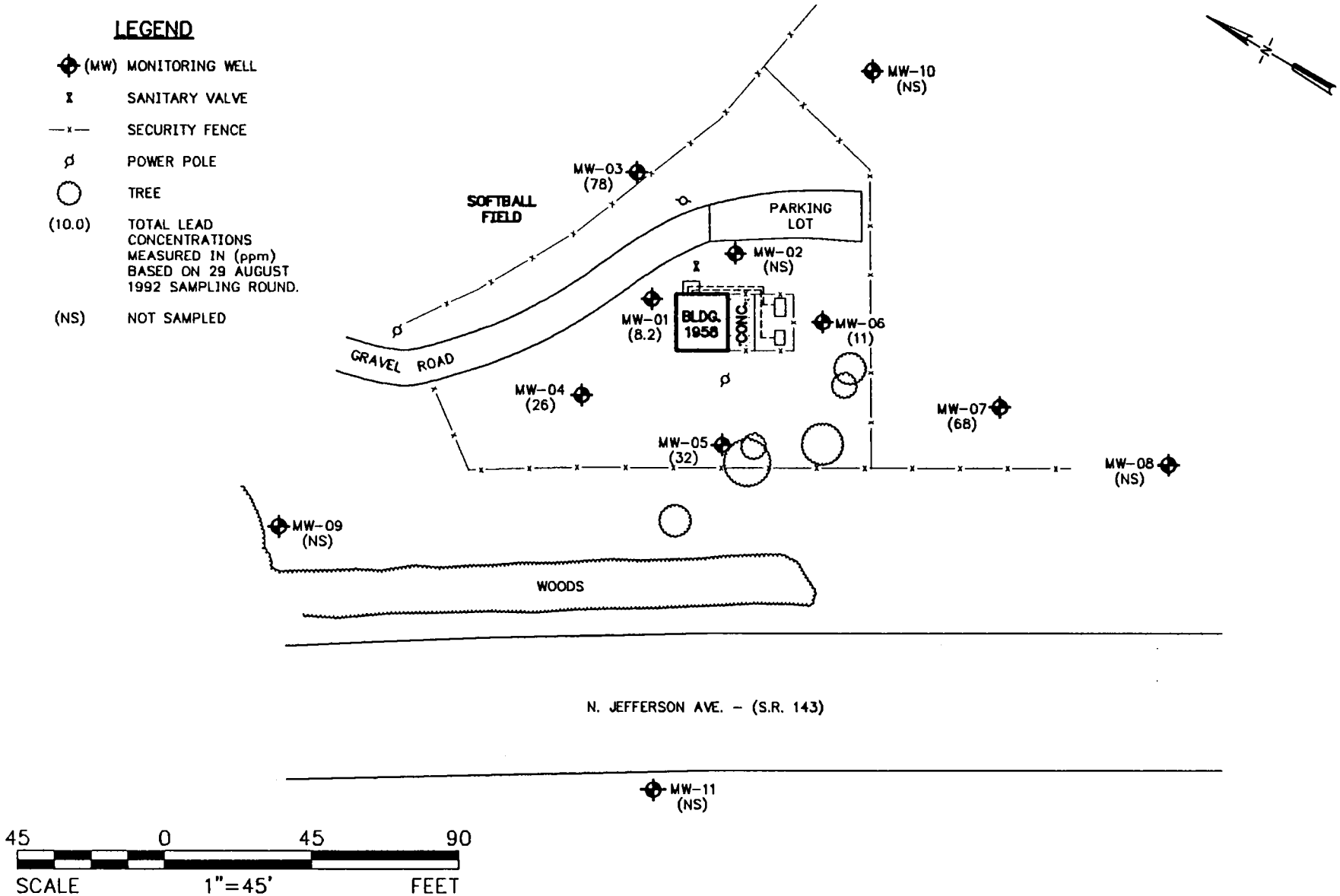

PROJECT TITLE:	CLIENT	
CORRECTIVE ACTION PLAN EMERGENCY FUEL GENERATOR - BUILDING 1958 NAVAL WEAPONS STATION YORKTOWN, VIRGINIA	DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	WESTON
DWG. TITLE TOTAL LEAD IN GROUNDWATER	FIGURE NO. 2-9	

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2.6 SITE ASSESSMENT SUMMARY

The following summary is based on the results of the SCS:

- LPH was encountered in MW-01 and MW-02. The maximum apparant free product thickness measured during this investigation was approximately 3.31 feet in MW-01.

- Soils with elevated levels of TPH (> 100 ppm) were detected in the vicinity of the northeast corner of Building 1958 (Figure 2-6). Detectable concentrations of TPH ranged from 15 to 2,500 ppm. The source of the soil contamination is likely due to a release resulting from the failure of the underground fuel lines for the emergency generator.

- Groundwater sampling revealed levels of TPH and total lead above DEQ standards.

- Groundwater in the study area flows predominantly in a westerly direction with a calculated groundwater flow of about 105 ft/yr. Groundwater contours (Figure 2-3) indicate significant local influence, and suggest that the area under Building 1958 may be a local groundwater recharge point. The local influence is possibly due to leakage from the sewage transfer station pump sump.

2.7 RISK ASSESSMENT SUMMARY

To date there have been no reported impacts to sensitive receptors from the subsurface hydrocarbons at the site. There are limited actual or potential human or nonhuman receptors in the study area. The possible exposure pathways of concern for human exposure may include: ingestion, inhalation (of volatile organics from groundwater, surface water, and particulates), and dermal contact of contaminated groundwater and surface waters. Contaminated surface waters and sediments would be the likely environmental exposure pathways to aquatic organisms.

For the most part, the soil contamination detected in the area occurs below the ground surface. The surrounding surface area is either paved or grassed. Therefore, there is little potential for dispersion due to fugitive dust except during intrusive activities such as construction or landscaping. Even though groundwater monitoring wells installed adjacent to the building indicate free product and levels of lead above the Commonwealth of Virginia and federal MCLs, present and future use of the groundwater is considered unlikely. Since drinking water is supplied to NWS Yorktown by municipal pipeline from off-site sources and no groundwater is used for any purposes in the vicinity of the site, human receptors of groundwater appears unlikely.

Groundwater transportation of leached TPH and/or BTEX constituents into a surface water receiver is an exposure pathway. The nearest surface water receiver is a stream approximately 600 feet downgradient west of the site, which is an unnamed tributary to Skiffes Creek Reservoir, a drinking water supply surface impoundment located 3,000 feet downgradient of the site. This exposure pathway is highly restricted by the 600 foot distance to the stream. Total lead was detected in all six groundwater samples collected on 24 August 1992. The concentrations ranged from 0.01 to 0.78 ppm. Concentrations of total lead in four of the six groundwater samples are greater than the federal MCL of 0.015 ppm (Table 2-4).

Potential concentrations of lead in groundwater at the nearest potential downgradient receptor was quantified using a three-dimensional computer model. The model used is entitled Analytical Transient One-, Two-, and Three-Dimensional Simulation of Waste Transport in the Aquifer System (AT123D) (Yeh, 1981). The model was used to evaluate the potential level to which the elevated levels of total lead could impact the nearest potential sensitive receptor (the creek). Based on computer modeling results, impact on sensitive receptors appears unlikely. Using current information, the model predicts that total lead will not migrate a distance of 600 feet from the site. The model predicts that a lead concentration of 1 ppb would not reach a distance of 200 feet after 25 years.

In summary, no human or nonhuman receptors are anticipated to be affected by contamination at this site. Therefore, a quantitative risk evaluation is not warranted. From a qualitative perspective, the contaminants identified do not represent or pose a public health risk as there are limited opportunities for exposure to contaminants.

2.8 REMEDIATION ASSESSMENT SUMMARY

Results of the risk assessment conducted for this site identified that the potential human or environmental receptors will not be impacted by the contamination at the site. Therefore, based on the results of the site and risk assessments and state guidelines, remediation is recommended only to recover the LPH. Remediation of soil and groundwater at the site is not anticipated. Subdivision 6.5 of Part IV of VR 680-13-02 requires owners and operators to remove LPH to the maximum practical extent while preparing for corrective action. LPH should be removed until a significant layer (>0.01 ft) is not identified in the monitoring wells at the site.

Because of the apparent no risk to both human and environmental receptors, active soil and groundwater remediation is not recommended. Once the LPH has been recovered, natural processes, such as degradation and dispersion, will reduce the concentrations of the contaminants. Therefore, the projected remedial endpoints for soil (adsorbed-phase) and groundwater (dissolved-phase) at the site are the existing site conditions. Because of the nature of the contaminant present, diesel fuel, remediation of vapors is not warranted or recommended. Diesel has a low percentage of volatile compounds; therefore, remediation of the vapor phase would not be appropriate or effective.

TABLE 2-4

FREQUENCY SUMMARY FOR VOLATILES IN GROUNDWATER (ppm)

Parameter	State Standard[1]	Federal MCLs[1]	Minimum Detected Concentration	Maximum Detected Concentration	Frequency of Detected Values (%)	Number of Detects Greater Than Standards	
						State	Federal
Benzene	0.710	0.005	0.037	0.037	16	0	1
Chlorobenzene	N/A	0.100	0.014	0.014	33	0	0
1,2-Dichlorobenzene	17.000	0.600	0.0061	0.019	66	0	0
1,3-Dichlorobenzene	2.600	0.600	0.0083	0.017	66	0	0
1,4-Dichlorobenzene	2.600	0.075	0.0094	0.100	100	0	2
Ethylbenzene	29.000	0.700	0.016	0.090	50	0	0
Toluene	200.000	1.000	0.013	0.039	29	0	0
Xylenes, total	N/A	10.000	0.0060	0.340	86	0	0
Lead[2]	0.05	0.015	0.010	0.078	100	2	4

NA - Not applicable, no standards have been set.

Note: 1) Federal MCLs are based on the federal Drinking Water Standard, and state MCLs are based on the water standards with general, statewide Application.

2) Groundwater standards by the state are used.

As previously stated, it is not anticipated that soils at the site will be remediated. However, soils that may require remediation at some time in the future include those excavated for construction during installation of an interceptor trench or subsurface utilities repair. Table 2-5 presents demonstrated technologies for soil remediation. The table also summarizes the evaluation of each technology based on applicability to the site, implementability, and costs. Remediation technologies applicable to soils at the site that may at some time in the future be excavated include excavation and disposal as a solid waste or excavation and low-temperature thermal treatment.

Product recovery technologies applicable to remediation of the LPH at the site are shown in Table 2-6. These technologies are evaluated (with respect to advantages and disadvantages) in the table. Those that are appropriate for LPH recovery at the site are briefly discussed in the following subsections. These are generic recovery methods and not specific variations on each type of technology.

Recovery wells are a conventional, demonstrated technology that is useful with permeable aquifers. The wells would be larger in diameter than a well point, and would be spaced further apart than a well point system. Because of soil conditions present at the site, one or more recovery wells may be required to adequately remediate the site if LPH recovery was enhanced by water table depression. However, groundwater would be generated by this process and would require treatment of contaminants prior to discharge.

Because of the soil conditions and type of contaminant present at the site, the concept of a recovery well system is not suitable. However, LPH recovery from a recovery trench could be performed to accelerate the overall free product recovery operations if water table depression is not utilized. Based on the estimated areal extent of LPH, the low risk to potential receptors, and costs, water table depression to enhance LPH recovery is not recommended.

In conclusion, soils at the site should be directly remediated only in areas where excavation is necessary. The recommended option for the remediation of soils that are excavated is low-temperature thermal reduction. LPH will be recovered until a significant layer (0.01 feet or greater) is not identified in the monitoring wells at the site. The applicable product recovery method is the installation of a product skimming system within an LPH recovery trench that can be installed to remove product and inhibit product migration. The recovery trench will be located in the northeast corner of Building 1958 between MW-01 and MW-02.

TABLE 2-5
SOIL REMEDIATION OPTIONS

OPTION	PROCESS	ESTIMATED COSTS[1]	PRACTICAL CONSTRAINTS	REMARKS	APPLICABLE TO SITE (Y/N)
Excavation and disposal as hazardous waste	Excavate and haul to Class I landfill; emplace and compact clean fill	$300/yd^3	Cradle-to-grave liability as waste generator	High cost	N
Excavation and disposal as solid waste (nonhazardous)	Excavate and haul to Class III landfill; backfill with clean fill	$60/yd^3	Location of a suitable landfill	Economical on small projects	Y
Excavation, aeration, and disposal off-site	Excavate and spread on-site; turn repeatedly to aerate; haul to clean fill disposal site; emplace and compact new clean fill	$40-120/yd^3	Emission considerations; space considerations	Technically feasible; permitting very difficult under current legislation; requires numerous analytical tests	N
Excavation, landfarming, and replacement	Excavate and spread on-site; aerate and add nutrients and water; re-emplace and compact	$50/yd^3	Emission considerations; space considerations; leaves excavation open during treatment	Technically feasible, permitting may be difficult; requires numerous analytical tests	N
Mechanically enhanced volatilization	Excavate; pass through crusher; aerator; and re-emplace	$250/yd^3	Requires dust control and vapor treatment	High cost, but suitable for specific locations	N
In situ venting (vacuum extraction)	Investigate extent of contamination and soil conditions; design and install venting system; permit system; operate system; reinvestigate to monitor effectiveness	$20-50/yd^3	Fine-grained soils and low volatility of hydrocarbon in soils limit the effectiveness of this method	Not a technically viable option for sites with clayey soils	N
Excavation and low-temperature thermal reduction (LTTR)	Contamination in soil reduced through volatilization by the application of heat	$50/ton + trans-portation	Emissions considerations for the treatment facility	Moderate cost, suitable for small projects	Y
In situ bioremediation or chemical degradation	Investigate extent of contamination and soil and groundwater conditions; conduct feasibility study; design and install pumping and injection system; permit system; operate system; reinvestigate to monitor effectiveness	$70-100/yd^3	Fine-grained soils limit ability to inject and pump fluids through soils. System could be engineered to be installed and operated around existing facilities; requires ongoing operations and maintenance (O&M) and monitoring. Requires periodic soil sampling and final investigation	Effectiveness has been demonstrated only for shallow contaminated soils; requires extensive preoperational bio-analytical studies	N

[1] Estimated costs reflect 1990 dollars.
Source: Testa, Stephen M. and Duane L. Winegardner. Restoration of Petroleum-Contaminated Aquifers. Lewis Publishers, inc., Chelsea, MI. 1991.

TABLE 2-5 (Cont.)
SOIL REMEDIATION OPTIONS

OPTION	PROCESS	ESTIMATED COSTS[1]	PRACTICAL CONSTRAINTS	REMARKS	APPLICABLE TO SITE (Y/N)
Stream injection and stripping	Investigate extent of contamination and soil and groundwater conditions; conduct feasibility study; design and install steam injection and recovery system; permit system; operate system; monitor effectiveness on an ongoing basis	$100-200/yd^3	Fine-grained soils limit ability to inject steam and recover fluids from soils	Overall effectiveness cannot be assured, pending pilot study results; O&M cost	N
Asphalt stabilization	Cover soils with impermeable asphalt layer to prevent soil leaching.	$125/ton	Graded site in low impact traffic area. Not practical at site due to large areal extent.	Moderate costs, good option for hydrocarbons affected soils not amenable to excavation.	Y
No action	No action		No risk to public health, safety, and welfare. No risk to surface water or groundwater considered of beneficial use.	Site-specific. Appropriate at site due to low risk.	Y
Soil washing/extraction	Excavate; crush; mix with wash fluid; separate; replace; treat wash water		Limited to granular soils; wash fluid treatment may be difficult	Technically feasible; high cost; limited applications	N
In situ leaching	Construct infiltration and recovery systems; irrigate washing fluid; retrieve fluid; treat fluid	$150 to $200/yd^3	Limited to permeable soil, and higher solubility hydrocarbons	Often used in conjunction with biotreatment practices, permit approval may be difficult	N
Aboveground leaching/replacement	Excavate; crush; place over collector bed; flush with wash fluid; replace; treat fluid		Total washing fluid collection, temperature, and odor control; requires fairly large open area	May be used in association with biotreatment, often effective; permitting not as difficult	N

[1] Estimated costs reflect 1990 dollars.
Source: Testa, Stephen M. and Duane L. Winegardner. Restoration of Petroleum-Contaminated Aquifers. Lewis Publishers, inc., Chelsea, MI. 1991.

TABLE 2-6
SCREENING OF POTENTIAL PRODUCT RECOVERY ALTERNATIVES

ALTERNATIVE	DESCRIPTION	CAPABILITY	LIMITATION	EVALUATION	APPLICABLE TO SITE (Y/N)
1. Passive Remediation	Take no action - continue groundwater monitoring to determine if product plume is migrating off-site.	Simplest, least costly option	Does not facilitate containment, control, or recovery of product.	The option does not actively improve site groundwater quality.	N
2. Subsurface Flow Controls (barriers)	Install slurry, membrane, or structural walls around plume to isolate it and preclude further migration.	A conventional, demonstrated technology	This option is usually very expensive. Many slurry wall mixtures or membranes may not provide long-term durability. Fill material on site (riprap) precludes advancing sheet piling (wall).	This option is expensive and does not actively improve site aquifer quality.	N
3. Well Points	Install closely spaced small-diameter wells around the plume.	A conventional, demonstrated technology	Requires a large number of well points to be effective. Large quantities of water would be generated. Requires frequent maintenance.	Not effective for sites with moderate to high permeability and shallow water table.	N
4. Recovery Wells	Install groundwater/free product recovery wells at selected locations.	A conventional, demonstrated technology	Several wells may be required to renovate the aquifer. Usually suited for use in sandy aquifers. Requires VPDES permit if groundwater is pumped.	Effective for sites with moderate to high permeability.	N
5. Large-Diameter Sumps	Install a few large-diameter sumps at selected locations.	A conventional, demonstrated technology	Only effective in shallow aquifers with low permeabilities.	May be effective in shallow conditions where low permeabilities exist.	Y
6. Interceptor Trenches	Construct trenches with sumps at right angles to existing groundwater flow patterns.	A conventional, demonstrated technology	Effective in shallow aquifers with low permeabilities. Construction may disrupt facility operations. Installation may not be possible for areas.	May be effective in shallow conditions where low permeabilities exist and where groundwater treatment and disposal costs are prohibitive.	Y
7. In Situ Biotreatment	Utilize recovery and injection wells or a reinfiltration gallery to assist in biodegradation of contaminants.	A demonstrated technology	Requires large capital costs. Maintenance is usually expensive. Biotreatment is slow as compared to other remediation methods.	Presence of free phase product makes this option less effective. Would also require soil oxygenation/ extraction.	N
8. Soil Vapor Extraction/Volatilization	Apply vacuum to soils at several vapor extraction points to enhance volatilization of LPH. Enhances biodegradation processes.	A conventional, demonstrated technology.	Not effective for non-volatile contaminants. Requires greater than 6 ft depth to water table and moderately permeable soils.	May not be effective because of the nature of contaminant in not volatile.	N

Note: Estimated costs for remediation alternatives are not possible due to variables such as volume of groundwater to be removed, number of pumps required, etc.

3.0 CORRECTIVE ACTION PLAN

The CAP presents a discussion of the corrective action approach selected for remediation of the LPH in the vicinity of Building 1958. The following subsections contain the proposed remediation endpoints, the LPH recovery system design, system installation and operation, permitting requirements, site monitoring and reporting, the CAP project schedule, and an estimate of the CAP project costs.

3.1 REMEDIATION ENDPOINTS

Inherent in the CAP are two primary objectives: 1) reduce or eliminate the risk to health and the environment from the on-site contamination; and 2) comply with the DEQ regulations governing USTs, groundwater quality, and site remediation. Selection of the proposed remedial approach has been based not only on the extent of the contamination, technologies available, time and cost considerations, and physical characteristics of the site, but also on the risk evaluation. The proposed remedial approach addresses the contamination source (LPH) to reduce other phases of contamination, thereby reducing the potential threat to the public and the environment in consideration of the current and potential future use of the site.

Because of the absence of risk to both human and environmental receptors, active soil and groundwater remediation is not proposed. Once the LPH has been recovered, natural processes including degradation and dispersion, will reduce the contaminant concentrations. EPA guidelines (1990) include in-place passive remediation as a corrective action option. Therefore, the projected remedial endpoints for soil (adsorbed-phase) and groundwater (dissolved-phase) at the site are the existing site conditions. However, in order to accurately assess achievement and maintenance of these remedial goals and remediation of the LPH and abatement of VOCs in groundwater, numerical remedial endpoints are proposed.

Because of the low percentage of volatile compounds present in diesel fuel, remediation or monitoring of the vapor phase would not be appropriate or effective. Proposed endpoints include the following:

- liquid-phase hydrocarbons to less than or equal to 0.01 feet, as measured with an interface probe and observed/confirmed with a bailer;

- adsorbed-phase hydrocarbons to less than or equal to 500 ppm TPH, as quantified with select soil samples analyzed by modified EPA method 8015, and;

- dissolved-phase hydrocarbons to less than or equal to 10 ppm TPH and VOCs, as quantified with select groundwater samples analyzed by modified EPA method 8015 and EPA method 602.

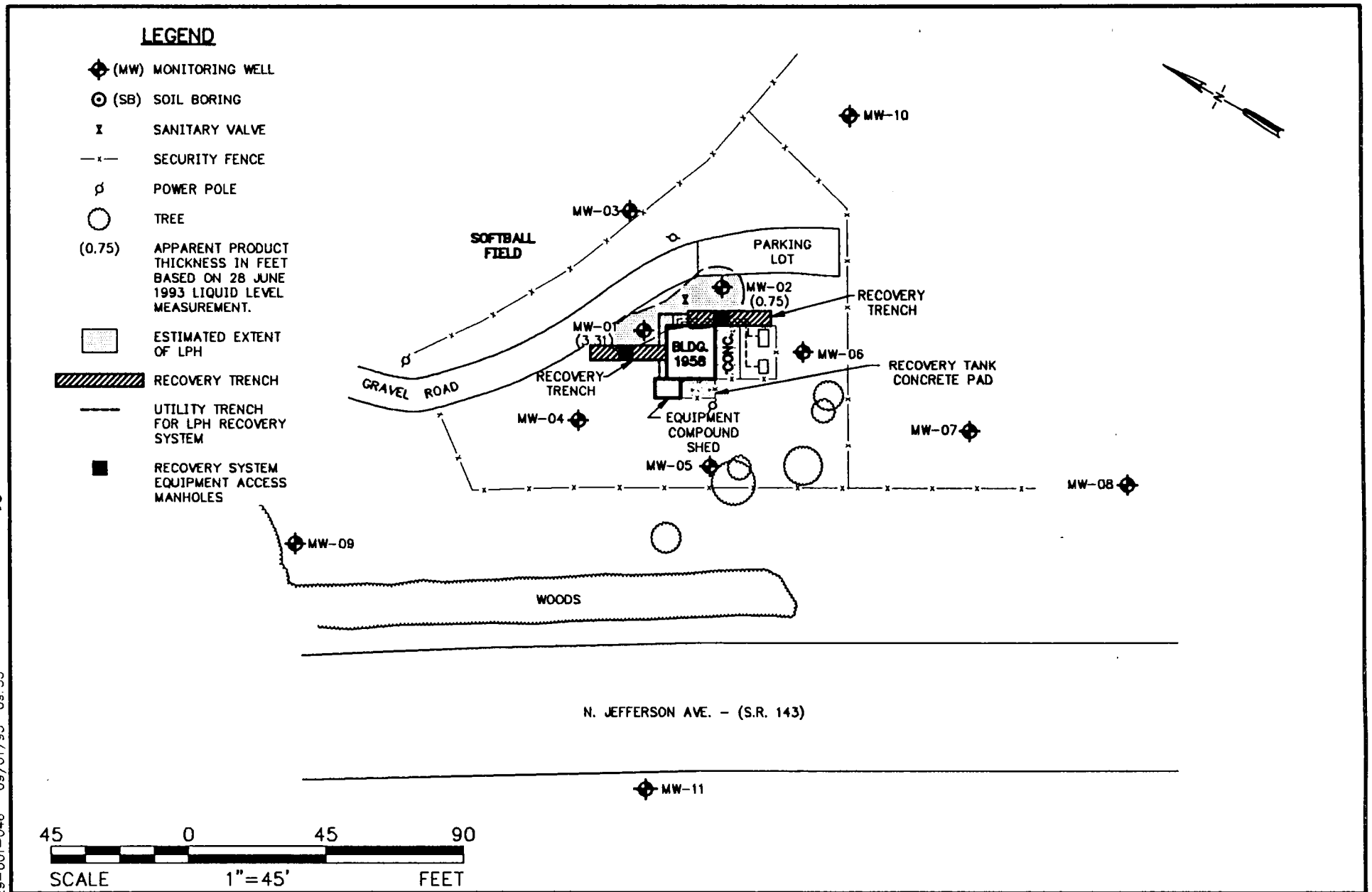
As previously discussed, once LPH at the site has been recovered, impacted soils will remain in-place to passively remediate over time. Those soils that are excavated for construction activities, including drilling or trench installation, would be properly disposed of.

3.2 REMEDIATION SYSTEM DESIGN

Recovery of fuel in the vicinity of Building 1958 will be implemented using a segmented LPH recovery trench system with each segment outfitted with a product skimming system. The recovery trenches would extend approximately 25 feet along the eastern and northern sides of Building 1958, respectively, and be approximately 6 feet wide. The proposed recovery trenches would extend to 8 feet bgs to take into account potential water level fluctuations. A product skimming pump is proposed to be installed in the center portion of each leg of the trench system. The pumps would be housed in 6 inch diameter wells screened from approximately 3- to 8-feet bgs with continuous slot, and enclosed in a 2-foot by 2-foot by 2-foot flush-to-grade concrete well head equipment and access vault. Recovery trench construction will include the use of a fine grained gravel backfill to 1 feet bgs, a geotextile cover, and a 1-foot layer compacted roadway gravel. The LPH recovery system layout is illustrated in Figure 3-1.

Each recovery trench will be outfitted with 2 pneumatic product only skimming pumps. The pneumatic product only pumps were selected for there intrinsicly safe characteristics, reduced operation and maintenance costs, and product skimming capabilities. QED® Seeker product pumps are recommended as the skimming pumps. These pumps, would meet the design requirements for the LPH recovery system. These systems include a self-adjusting product interface skimmer that does not include hydrophobic materials, a system control unit capable of regulating both recovery well skimmers, and a compressor capable of supplying oil free pressurized air at a minimum 100 pounds per square inch (psi). The compressor would require a single-phase, 115-volt electrical supply.

In order to reduce equipment and maintenance costs, the controller panel and compressor would be housed in a prefabricated 6-feet by 10-feet by 8-feet high equipment compound shed. The equipment shed would be located in the immediate area (see Figure 3-1). Recovered free product from both wells would be transferred directly from the skimming pumps to a product recovery tank. It is anticipated that a 500 gallon recovery tank would be of sufficient capacity. The product recovery tank would be staged within a concrete containment pad with a 6-foot high security fence. The tank will be fitted with a site tube and an explosion proof tank overfill shut-off controller switch. At the Navy's discretion, recovered product will either be transported and recycled at Naval Supply Center, Craney Island, or transported off-site by an approved waste disposal firm.



PROJECT TITLE:	CLIENT	
CORRECTIVE ACTION PLAN EMERGENCY FUEL GENERATOR - BUILDING 1958 NAVAL WEAPONS STATION YORKTOWN, VIRGINIA	DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	WESTON
DWG. TITLE LPH RECOVERY SYSTEM LAYOUT	FIGURE NO. 3-1	

0146-3-1.dwg 06629-001-046 09/01/93 09:55

System utility lines are to be installed in a subsurface utility trench. Permitting requirements are further discussed in subsequent portions of this report. An LPH recovery system equipment list, and individual equipment specification and efficiency sheets are provided in Appendix G.

3.3 CAP PERMITTING

3.3.1 General CAP Permit

Remediation systems with a wastestream that includes discharge of treated groundwater to a surface water body require issuance of both a CAP permit and a Virginia Pollution Elimination System (VPDES) permit. However, the DEQ has recently implemented a General CAP Permit program in order to streamline the remediation process for UST sites. The General CAP Permit not only accords both approval and authorization to proceed with the CAP, but also authorizes an effluent discharge under specific limitations. The permit is site-specific regarding effluent limitations and monitoring requirements according to the type of petroleum product release and the discharge location. Because the CAP does not include the generation of a point-source discharge, effluent monitoring would not be required. Site monitoring requirements for this CAP are similar to those outlined for a diesel release in the General CAP permit.

3.3.2 Building and Electrical Permits

Building and electrical permits may not be required for the LPH recovery system. As a federal facility, NWS Yorktown is exempt from certain municipal permits. However, contractors will be required to coordinate and obtain a final inspection of all construction activities including electrical work from the activity's utilities construction and inspection division. Any permits for these activities required from NWS Yorktown will be secured before work commences.

3.3.3 Public Notification and Local Government Ordinance Form

For each confirmed release that requires a CAP, the owner/operator is required to notify those members of the public directly affected by the release or the corrective actions. Public notification, often in the form of newspaper notification, is generally exercised by the DEQ when necessary and appropriate. Included within the public notification is the requirement by the DEQ for completion of the Local Government Ordinance Form. The CAP may be considered incomplete without this form. The form, to be signed by an official of responsibility within the local government, confirms that the municipality has been informed of the release and the intent of the operator to implement a CAP.

3.4 REMEDIATION SYSTEM INSTALLATION AND OPERATION

Installation of the LPH recovery system will commence subsequent to the DEQ approval of the CAP, obtaining all necessary permits, and confirmation of the final system design. Installation will be preceded by several site preparation activities and preparation of a Site Health and Safety Plan. These tasks are outlined in subsequent portions of this report.

3.4.1 Site Health And Safety Plan

A site-specific health and safety plan (HASP) will be prepared and followed to ensure the health and safety of excavation workers and other personnel in the area. The plan will include an outline of the tasks to be conducted at the site; the associated physical and health hazards of these tasks; the risks to employees's health and safety; the physical and chemical properties of the contaminants at the site; measures to detect their presence; and the standard operating procedures for protection against hazards. Contingency plans for accidents are also provided. The site HASP should be reviewed by all personnel who visit the site and be updated regularly, if needed. Only individuals with appropriate health and safety training and conforming to appropriate health and safety monitoring programs will be allowed in the work area.

3.4.2 Site Preparation

Site preparation activities for installation of the remedial system will include:

- Contractor procurement and final system design. It is anticipated that completion of the final system design and specifications, procurement of the prime contractor, and procurement of construction and electrical contractors will take approximately 1 year.

- Identifying the location of all potential underground utilities (i.e., water, gas, electric, steam, storm drain, and all subsurface fuel supply lines).

- Restricting access to the work area. Temporary fencing and emergency barriers will be placed around the excavation area to cordon off the utility trenches during construction to ensure worker safety.

- All necessary site access requirements will be arranged with the NWS Yorktown.

- All necessary permits will be obtained prior to system installation.

- NWS Yorktown personnel or an approved subcontractor will provide utilities clearance of the excavation areas prior to the initiation of construction activities.

3.4.3 LPH Recovery System Installation

Construction of the recovery trench system, the pump system housing (recovery wells), and trenching utility and line installation will commence subsequent to completion of site preparation activities. It is estimated that each segment of the recovery trench system will extend to 8 feet below grade and be approximately 25 feet in length. No part of the recovery or utility trenching would require saw-cutting and asphalt patching. The subsurface utility trench will house the electrical lines, the air supply, and product return lines for the LPH skimming pumps. Separate, 3-inch diameter PVC sleeves within the trench will house the lines. Trenching will be in accordance with U.S. Navy construction specifications.

Installation of the proposed skimming pumps recovery wells and the flush-to-grade equipment vaults should be conducted concurrently with utility trenching in order to reduce construction time.

Concrete work for the equipment compound will include a containment pad for the recovery tank. This area should have a security fence. A prefabricated equipment shed will be installed adjacent to Building 1958 to house system control panels and the air compressor. All control panels are designed to be all-weather; however, the air compressor is not. The alternative to installation of the equipment shed would be mounting the control systems and an all-weather air compressor outside, within the fenced-in equipment compound. It is anticipated that a single-phase, 115-volt electrical supply will be routed from Building 1958 to a breaker panel in the compound area.

3.4.4 LPH Recovery System Operation

The LPH recovery system will operate continuously 24 hours a day, seven days a week. A two week shake-down period will be conducted to identify any system discrepancies, to correct them, and to make appropriate system adjustments to optimize equipment operations. As part of the General CAP Permit requirements, a system operations and maintenance plan will be forwarded to the DEQ within 45 days from system start-up.

3.5 SITE MONITORING PLAN

The monitoring plan associated with the selected corrective action alternative for the site includes well gauging and groundwater sampling to monitor the progress towards site remediation. The site monitoring plan includes a schedule for monitoring both achievement and maintenance of endpoints. The monitoring schedule includes 2 years to achieve endpoints, 6 months of maintenance monitoring, and 6 months of post-operative monitoring. The site

monitoring plan includes sampling frequency, sample locations, parameters to be analyzed, and a field QA/QC plan. The tasks associated with the monitoring program are outlined below.

3.5.1 Well Gauging

All monitoring wells at the site will be gauged with an oil/water interface probe. Product thickness (if any) and water levels will be documented in the field log book. The presence/absence of LPH will be visually confirmed with a bailer. Well gauging will be conducted on a quarterly basis for both remediation and post-operative monitoring.

3.5.2 Groundwater Samples

Groundwater samples will be collected upon the LPH recovery system start-up and then performed on a quarterly basis for both remediation and post-operative monitoring phases of the project. Groundwater samples will be collected from the monitoring wells at the site not containing LPH and analyzed for TPH by modified EPA method 8015, and VOCs by EPA method 602.

3.5.3 Soil Sampling

The purpose of soil sampling is to assist in evaluating the progress towards site remediation. Therefore, it is anticipated that one soil sample will be collected during the 6 months maintenance monitoring program. Once any residual LPH has been removed from the site, the soil sample will be collected by the split-spoon method. The sample will be taken in native soil in the grass near MW-01, at or just above the water table, and analyzed for TPH by modified EPA method 8015.

3.5.4 Field QA/QC Plan

This field Quality Assurance/Quality Control (QA/QC) Plan has been developed for the groundwater activities to be conducted for the corrective action for the site. This plan addresses the QA/QC steps and procedures that will be administered for sample collection. The QA objectives associated with the selected corrective action are: 1) to gather data in accordance with procedures appropriate for the intended use of the data; and 2) to obtain data that will be of acceptable precision, accuracy, completeness, representativeness, and comparability.

Each sample must be documented in a manner that makes it legally defensible and which provides the necessary data for proper analysis. This documentation includes entries in a field sample logbook, sample labels, and sample chain-of-custody procedures.

Every sample will be affixed with a gummed label at the time of collection. The label will contain at least the following information: site name, sample number, date and time of collection, sample type (grab or composite), matrix, and sampler's initials.

Chain-of-custody (COC) documentation is necessary to track the possession of each sample from collection through analysis. Custody of all samples will be maintained by field personnel from the time of collection until the time the samples are forwarded to the analytical laboratory. Sample custody will be documented using COC record forms. A COC form will be completed by the field personnel in waterproof ink. The original copy of the COC form must be placed in a sealable plastic bag and placed in the appropriate sampling cooler being forwarded from the site to the laboratory. Pertinent information on the COC form includes: client, sampling location, sample identification, sample description, sample container numbers and volumes, analytical method, signatures of persons involved in COC, and date and time of possession.

If the sampling cooler is shipped by a commercial air carrier, the cooler must be secured with custody seals (broken seals will identify that the cooler has been opened). The laboratory sample custodian or his/her designee accepting the sample shipment will sign and date the COC record upon sample receipt. The original COC record form will be returned along with the final data report.

Data from site visits will be entered into a hard-cover, bound Field Sample Logbook. Information to be entered includes, but is not limited to, client name, sampling location, sampling methodology, sample container numbers and volumes, date and time of collection, field sample identification number, field observations and measurements, preservation, and names of sample collector(s).

3.6 PROJECT REPORTING

As previously stated, daily monitoring and system adjustments will be completed for the first two weeks of operation followed by monthly site visits until remediation goals have been met. A summary report will be prepared on a quarterly basis for submittal to the DEQ. The report will be forwarded to the DEQ within one month of receipt of analytical results. The following information will be included in the quarterly progress report:

- All monitoring data including well gauging, soil and groundwater analytical results.
- Product recovery rates with a graphical representation of cumulative recovery.

Progress towards site remediation will be evaluated monthly comparing site monitoring data with previous information. Modifications to system operation or additional remedial activities will be proposed, as necessary, to maintain a site closure goal of two years. Should modifications to the CAP be required, it is anticipated that

enhanced LPH recovery using water table depression would be the CAP alternative approach, utilizing the existing product recovery system outfitted with either water table depression pumps or total fluids pumps..

3.7 SITE CLOSURE AND RESTORATION PLAN

It is anticipated to take approximately 2 years to achieve the remedial endpoint for free floating product (less than or equal to 0.01 feet). Once this remediation goal has been achieved and maintained for 6 months, the Navy will petition the DEQ for closure. Once closure proceedings have been granted, a six-month post-operative monitoring program will commence to ensure achievement of the remedial goals. Subsequent to completion of the post operative monitoring program and receipt of case closure notification from the DEQ, site restoration will commence. Restoration will include decommissioning the LPH recovery system, abandoning all wells in accordance with DEQ guidelines, and general site cleanup.

3.8 REMEDIATION SCHEDULE

The project remediation schedule associated with this CAP is presented on Table 3-1. As shown on this table, it is estimated that approximately 3 months will be required to complete the activities associated with obtaining all necessary permits. In addition, a one-year period will be needed in order to finalize system design and specifications, and to procure a prime contractor. Subsequent to CAP permitting, site preparation, contractor selection and procurement, and LPH recovery system installation will commence. System installation and the initial shake-down process will be completed in approximately one month. As previously stated, it is anticipated that it will take approximately two years for removal of the LPH, 6 months for maintenance of endpoints, and an additional 6 months of post remediation monitoring in order to obtain site closure with the DEQ. It should be noted that this project life-time estimate is a first order approximation.

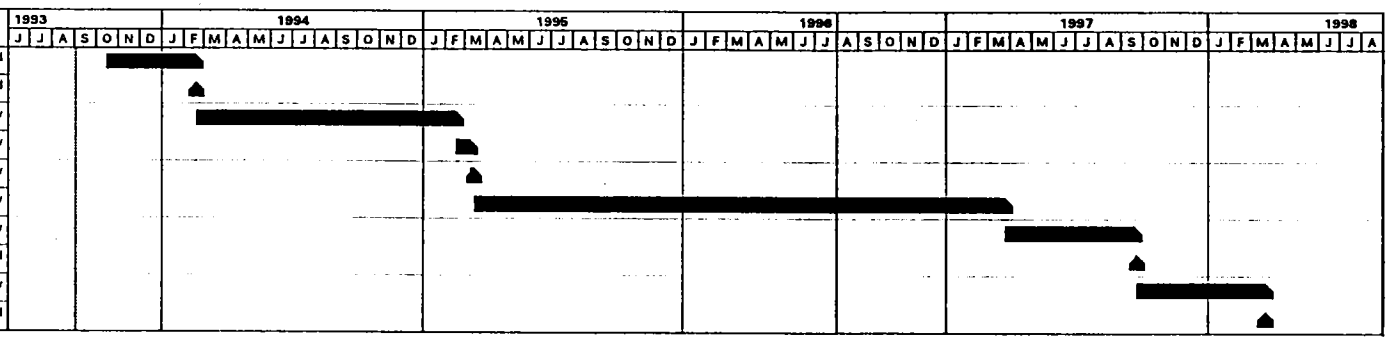
3.9 ESTIMATED PROJECT COSTS

Confirmation of final system design, preparation of bid specification drawings, implementation of system installation, subcontractor procurement, and project oversight is estimated to be approximately $35,000. Construction of the recovery trench, subsurface utility lines, the skimming system, concrete pad and fencing, and grading in the utility trench area, including electrical hook-up is estimated to be $25,000. The estimated cost for the LPH recovery system equipment is estimated to be $20,000, including the skimming pumps, control panel, air compressor, and the recovery tank, including materials and labor. Costs for disposal of excavated soils is approximately $6,000, including transportation, and is based on 85 tons. Total costs for installation of the LPH recovery system are estimated to be approximately $65,000.

TABLE 3-1

ANTICIPATED CAP SCHEDULE

ID	Name	Duration
1	CAP Approval	90d
2	CAP Authorization	1d
3	Final Design & Contractor Procu	52w
4	System Installation	3w
5	System Shakedown	1w
6	Operational Monitoring	106w
7	Maintenance Monitoring	26w
8	Request Closure	1d
9	Post-operative Monitoring	26w
10	Site Closure	1d



Note: Project startup date selected for illustrative purposes only and may not reflect actual project startup date.

Annual O&M of the system, site monitoring, and project reporting is estimated to be approximately $35,000. Site restoration is estimated to be $12,000. The total current estimated project costs are approximately $193,000, including two years of LPH recovery system operation and one year post operational monitoring. Costs for evaluation and resealing of the pump sump area are not included. It is estimated that total project costs may be increased by an additional $1,000 should the Navy require off-site transportation and disposal of the recovered diesel. The current estimated project costs are summarized as follows:

Design, Bid, and Construction Oversite	$35,000
LPH Recovery System Construction	25,000
Equipment Costs	20,000
Soil Disposal Costs	6,000
Total Recovery System Installation	$ 76,000
O&M (2 years operation + 1 year closure proceedings)	105,000
Site Restoration	12,000
Current Estimated Project Cost	$203,000

3.10 CAP SUMMARY

This CAP addresses the LPH in the vicinity of Building 1958. Proposed remedial endpoints are less than or equal to 0.01 feet LPH, 500 ppm TPH in soils, and 10 ppm TPH and VOCs in groundwater. The proposed remedial system design is comprised of LPH skimming systems outfitted in a segmented LPH recovery trench system. An equipment compound would be located in the grass area adjacent to Building 1958. Site monitoring will be conducted in accordance with the General CAP Permit requirements in order to monitor progress towards site remediation. It is anticipated that the LPH recovery system would operate for 30 months, includes 2 years to achieve remediation endpoints and 6 months to maintain them. A 6-month post-operational monitoring period would be conducted subsequent to system shut-down to ensure remedial goals have been achieved. The total current estimated project costs are approximately $203,000. The DEQ CAP summary worksheet is provided in Table 3-2.

TABLE 3-2 CAP SUMMARY WORKSHEET

PHASE OF CONTAMINATION	PROPOSED CLEANUP ENDPOINTS	PROPOSED MONITORING TO ACHIEVE ENDPOINTS					SYSTEM SHUTDOWN	PROPOSED POST OPER. MONITORING		CLOSE SITE OR REACTIVATE SYSTEM
		SAMPLING LOCATION	SAMPLING FREQUENCY & TYPE	METHOD OF ANALYSIS	SCHEDULE TO ACHIEVE ENDPOINTS	SCHEDULE TO MAINTAIN ENDPOINTS		SAMPLING FREQUENCY & TYPE	POST OPER. MONITORING SCHEDULE	
FREE PRODUCT Diesel	≤0.01 feet thickness	MW-01 through MW-11	Quarterly (once every 3 months) measure	Interface probe and bailer	2yrs	6 months		Quarterly I. Probe/ bailer	6 months	
DISSOLVED PRODUCT IN GW TPH VOCs	10 ppm	MW-01 through MW-11	Quarterly, grab	TPH by EPA method 8015 VOCs by EPA method 602	2yrs	6 months		Quarterly, grab	6 months	
RESIDUAL PRODUCT IN SOILS TPH	500 ppm	Grass near MW-01	N/A	TPH by EPA method 8015	Once, hand auger	6 months		N/A	N/A	
VAPOR PRODUCT EXTRACTED FROM SOILS	Not Applicable (N/A)	N/A								

For SWCB Use: Comments: _____

Reviewed by: _____ Date: _____

APPENDIX A

CORRECTIVE ACTION PLAN CHECKLIST

CORRECTIVE ACTION PLAN CHECKLIST

Site: Building 1958 PC# 92-2002 Region TRO

The following checklist must be filled out by the Responsible Party and/or his Consultant and included in the Corrective Action Plan. **Indicated on the checklist the page and section number where each item is addressed in the attached plan.** Also indicate on the checklist the section and page number where justification is given for items omitted from the attached plan. The contents of the report should reflect and be commensurate with the nature of the release, degree of contamination and complexity of the site investigation.

A copy of the Initial Abatement Measures Report and Site Characterization Report must be attached to or included in the Corrective Action Plan.

Items marked with an * are required as part of the CAP Permit Application.

1. CORRECTIVE ACTION PLAN

PAGE / SECTION

4 /2.2 Cleanup measures conducted under Interim Authorization

31 /3.2 * Block diagram, conceptual design, and narrative description of all proposed remediation systems (sketches, locations, design calculations, etc.)

- 34 /3.4 * Maximum hours / day of operation
- 34 /3.4 * Average hours / day of operation
- 34 /3.4 * Days / week of operation

29 /3.1 Numerical remediation endpoints for all applicable phases (eg. TPH, BTEX, lead and other appropriate pollutants)

- 29 /3.1 Free product
- 29 /3.1 Dissolved
- 29 /3.1 Residual
- NA / Vapor
- NA / System effluent

34 /3.5 Operational monitoring schedule (Also see Table 3-2, CAP Summary Worksheet, pg 40)

- 34 /3.5 Parameters
- 34 /3.5 Frequency
- 34 /3.5 Locations
- 34 /3.5 Methods (media, detection limits, units of measure)

34 /3.5 Achievement of endpoints as evidenced by maintenance of values (numerical endpoints) over time

- 34 /3.5 Parameters
- 34 /3.5 Duration (period of time)
- 34 /3.5 Locations
- 34 /3.5 Methods (media, detection limits, units of measure)

37 /3.8 Proposed system shutdown schedule

Site: Building 1958

37 /3.7 Post-operational monitoring schedule
- 37 /3.7 Parameters
- 37 /3.7 Frequency
- 37 /3.7 Locations
- 37 /3.7 Methods (media, detection limits, units of measure)

36 /3.6 Resumption of cleanup/site closure (CAP modification if necessary)

36 /3.6 Reporting schedule (compliance monitoring and annual reports)

30 /3.2 * Disposal/treatment of contaminated material (soils, free product, filter media, etc.)

36 /3.6 Submittal schedule for free product removal reports

33 /3.3.4 * Proposed actions to notify persons affected by CAP

32 /3.3 * Proposed actions to obtain all applicable Federal, State, and local permits or approvals (DWM, VAPCB, VDH, EPA, UIC etc.)

FOR OFFICE USE ONLY

COMMENTS: _____

DEFICIENCIES: _____

REVIEWED BY: _____ DATE: _____

APPENDIX B

WESTON BOREHOLE LOGS

06649-001-024.

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

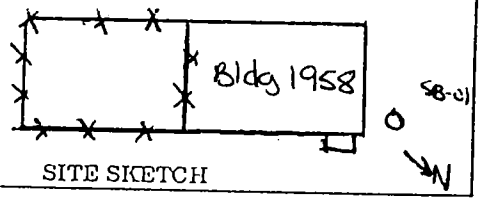
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-01 (MW-01)

DATE ESTABLISHED 8-11-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 22

WATER ENCOUNTERED (FT) 12

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ ppm HNU	GEOL MAT TYPE	RECOV (FT) %	BLOW COUNT	DESCRIPTION
1300		0	2	0	SC	75	2-1-2-2	18" yellow gray sandy clay, organics, No odor, plastic, med. density, damp.
1302		2	4	0	SC	50	2-2-1-2	12" yellow gray sandy clay, no odor, plastic, med. density, dry
1305	143-SB-01-01 & 01A	4	6	50	SS	50	1-2-2-2	12" yellow silty sand, fine grained, dense, med. plasticity, strong odor, damp
1310		6	8	12	SC	100	3-4-7-8	24" light gray, fine grained sandy clay, dense, NP, strong odor, dry
1315		8	10	15	SC	100	4-5-10-9	SAME
1320	143-SB-01-02	10	12	40	SC	100	6-7-9-7	12" SAME 12" ORANGE MED. grained sandy clay, dense, NP, strong odor, saturated
1325		12	14	75	SC/SS	50	2-4-7-9	6" fine grained, white sandy clay, dense, plastic, strong odor, saturated 6" orange, coarse grained silty sand, slight odor, NP, saturated
1330		14	16	75	SC/SC	100	2-4-2-2	12" TAN, fine grained, sandy clay, strong odor, dense, plastic, damp 12" yellow orange med. grained sandy clay, dense, plastic, strong odor, damp
1335		16	18	120	C	100	4-2-2-2	24" orange clay, stiff, plastic, strong odor, damp
1340		18	20	80	C	100	2-1-2-2	SAME
1345		20	22	45	C/F	100	2-1-2-2	12" SAME 12" Fossiliferous sediments, loose, NP, strong odor, saturated.

Figure 3. Borehole Log

Revised 01-MAY-91

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

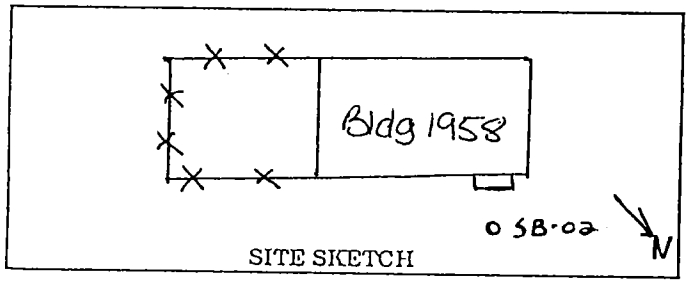
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-02

DATE ESTABLISHED 8-12-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 22

WATER ENCOUNTERED (FT) 21

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ ppm HNU	GEOL MAT TYPE	RECOV (FT) %	BLOW COUNT	DESCRIPTION
0745		0	2	0	SC	50	8-10-7-9	12" Yellow-gray sandy clay, damp, no odor, dense, plastic
0750		2	4	2	SC	100	4-6-11-10	24" Same
0755	143-SB-02-01 ~~01A~~	4	6	25	SS/SS	100	2-1-3-2	12" gray, fine grained silty sand, dense, NP, slight odor, damp 12" Yellow, fine grained silty sand, dense, NP, slight odor, damp
0800		10	12	0	SC/SC	100	6-8-11-13	12" Light gray, fine grained, sandy clay, dense, no odor, damp, NP 12" orange, med. grained, sandy clay, dense, no odor, damp, NP
0805		12	14	0	C	100	5-8-10-12	24" gray mottled clay, dense, plastic, no odor, damp
0810		15	17	0	C/C	100	3-6-8-8	12" Same 12" orange-gray mottled clay, dense, plastic, no odor, damp
0830	143-SB-02-02	20	22	5	SC/C	100	1-2-3-2	6" Tan-yellow sandy clay, dense, plastic, slight odor, saturated 18" orange clay, plastic, dense, slight odor, damp

Figure 3. Borehole Log

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

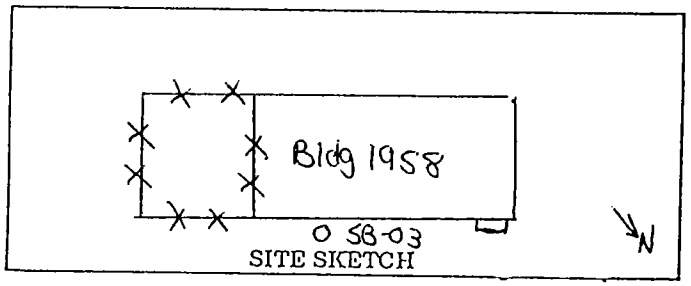
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-03 (MW-02)

DATE ESTABLISHED 8-12-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 22

WATER ENCOUNTERED (FT) 21

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
0900		2	4	0	SC	100	3-4-7-7	Yellow gray sandy clay, dense, plastic, slight odor, Damp.
0905	143-SB 03-01	4	6	10	SS	100	4-4-8-2	GRAY silty SAND, fine grained, dense, NP, damp, no odor.
0915		10	12	10	SC	50	6-2-9-3	ORANGE sandy clay, NP, dense, no odor, DAMP
0925		15	17	5	SC	50	3-2-5-1	ORANGE, med-grained sandy clay, dense, NP, damp, strong odor.
0935	143-SB 03-02	20	22	10	C	100	3-3-3-2	ORANGE clay, plastic, dense, damp, slight odor, SATURATED @ 21'

Revised 01-MAY-91

Figure 3. Borehole Log

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

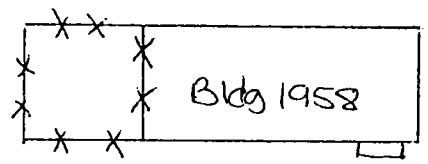
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-04 (nw-03)

DATE ESTABLISHED 8-12-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 17

WATER ENCOUNTERED (FT) 15

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ ppm HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
1515		0	2	75	SC	100	1-1-1-2	Yellow gray sandy clay, fine grained, Dense, NP, damp, No odor
1520		2	4	150	SC	100	2-3-5-7	SAME
1530	143-SB-04-01	4	6	225	SC	100	5-6-9-9	Light gray, fine grained, silty sand, dense, damp, NP, No odor.
1535		10	12	120	SC	100	3-10-9-11	Orange med-grained, sandy clay, dense, NP, damp, No odor.
1545	143-SB-04-02	15	17	180	SC	75	1-7-3-4	6" gray silty sand, dense, plastic, saturated, No odor. 12" orange clay, dense, plastic, saturated, No odor

Figure 3. Borehole Log

Revised 01-MAY-91

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

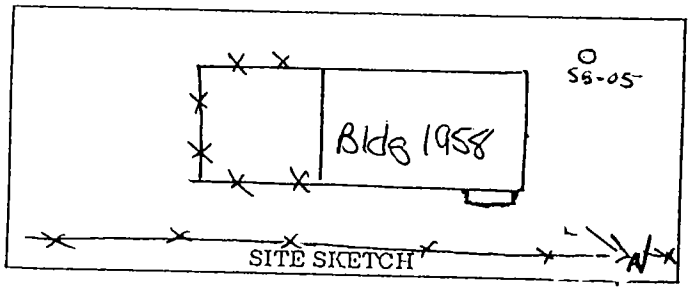
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-05

DATE ESTABLISHED 8-12-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 17'

WATER ENCOUNTERED (FT) 16'

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
1650		0	2	7	SC	100	2-2-5-7	Yellow-gray sandy clay, organics, fine grained; dense, No odor, damp, Plastic
1655		2	4	8	SC	100	5-6-7-9	Same
1700	143 SB-05-01	4	6	5	SC	100	4-7-9-12	SAME
1710		10	12	65	C	100	7-9-9-16	gray-orange CLAY, ~~stiff~~, dense, plastic, No odor, dry
1715	143 SB-05-02	15	17	110	C/SS	100	4-6-8-8	18" SAME 6" ORANGE, coarse grained, silty sand, med. density, slight odor, NP, Saturated

Revised 01-MAY-91

Figure 3. Borehole Log

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

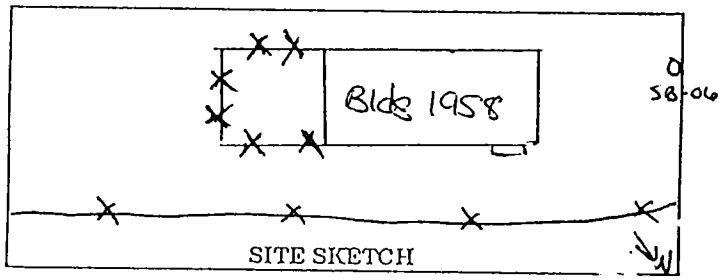
FACILITY ID Yorktown (NWS _)

LOCATION ID 143SB-06 (MW-04)

DATE ESTABLISHED 8-13-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 17

WATER ENCOUNTERED (FT) 16

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
0745		0	2	0	SC	100	2-2-4-5	Yellow-gray Sandy clay, organics, plastic, dense, no odor, dry
0750		2	4	50	SC	100	4-4-8-10	SAME
0755	143-SB-06-01	4	6	19	SC	100	6-7-8-11	SAME
0800		10	12	10	C	100	6-2-3-2	gray orange clay, dense, plastic, no odor, dry.
0815	143-SB-06-02	15	17	5	C/SC	100	6-3-4-2	12" Same 12" orange, med grained, sandy clay, dense, plastic saturated, no odor

Figure 3. Borehole Log

Revised 01-MAY-91

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

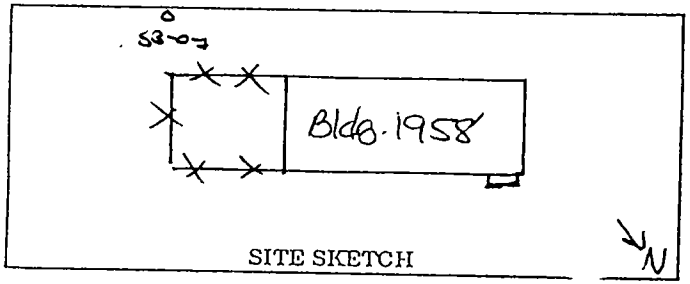
FACILITY ID Yorktown (NWS _)

LOCATION ID 143SB-07

DATE ESTABLISHED 8-17-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHE

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 14

WATER ENCOUNTERED (FT) 14

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHE

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	ppm SOIL ROCK TYPE HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
1030		0	2	0	SC	100	1-2-2-2	Yellow-gray sandy clay, plastic, dense, damp, no odor, organics fine grained
1033		2	4	0	SC	100	3-3-5-7	Same
1035	143-SB-07-01	4	6	7	SC	100	2-6-8-11	Same
1040		10	12	0	SC	100	3-7-9-10	Same
1045	143-SB-07-02	12	14	30	SC	100	5-7-9-12	Same - Saturated - Lt gray fine gr. sandy clay - saturated, strong odor, dense plastic

Figure 3. Borehole Log

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

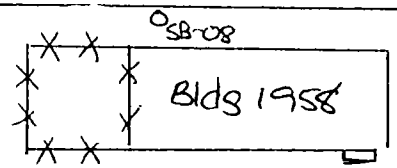
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-08 (mw-05)

DATE ESTABLISHED 8-17-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 15

WATER ENCOUNTERED (FT) 12

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
1150		0	2	0	SC	100	1-2-2-3	Yellow gray, fine grained, Sandy Clay, damp, plastic, dense, No odor
1152		2	4	0	SC	100	2-5-6-8	SAME
1155	143-SB 08-01	4	6	2	SS	100	5-6-8-9	fine grained Silty SAND, dense, NP, damp, No odor
1330	143-SB 08-02	10	12	20	SC/SS	100	6-10-15-9	SAME - SATURATED

Figure 3. Borehole Log

Revised 01-MAY-91

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

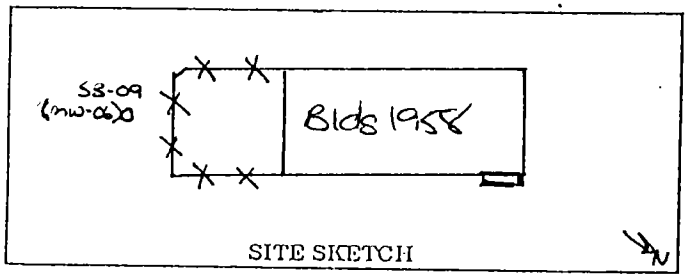
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-09 (mw-06)

DATE ESTABLISHED 8-18-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 16

WATER ENCOUNTERED (FT) 16

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HW	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
0825		0	2	1	SC	50	3-3-6-8	Yellow-gray Sandy Clay, organics, NP, dense, damp, No odor
0830		2	4	1	SC	50	2-1-3-3	Same - No organics
0835	143-SB-09-01	4	6	2	SC	100	5-8-10-13	SAME
0840		10	12	1	SC	100	8-10-14-9	gray Sandy Clay, fine grained, dense, Plastic, damp, No odor
0845		12	14	1	SC/SC	100	3-7-14-11	12": Same 12": Yellow gray, fine grained Sandy Clay, dense, NP, damp, Slight odor
0850	143-SB-09-02	14	16	5	SC	100	6-5-8-16	Yellow-Orange Sandy clay, fine grained, dense, NP, Saturated, Slight odor

Figure 3. Borehole Log

Revised 01-MAY-91

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

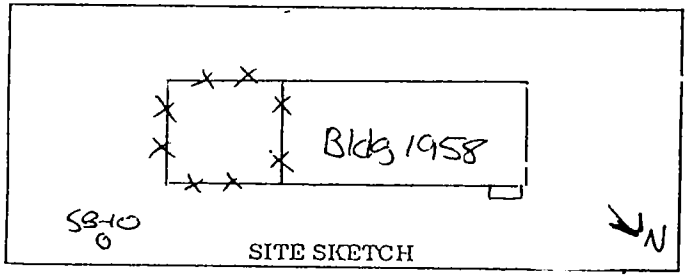
FACILITY ID Yorktown (NWS _)

LOCATION ID 143-SB-10 (MW-06)

DATE ESTABLISHED 8-18-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



SITE SKETCH

BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 15

WATER ENCOUNTERED (FT) 12

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
0950		2	4	1	SC	100	6-10-11-9	Yellow fine grained Sandy clay, NP, dense, damp, NO odor
0955		4	6	1	SC	100	14-9-9-11	SAME
1000	143-SB 10-01	8	10	3	SS	100	5-6-10-13	GRAY Silty sand, fine grained, dense, NP, damp, NO odor.
1015	143-SB 10-02	10	12	3	SC/SS	100	4-9-11-16	12" orange Sandy Clay, NP, dense, damp, NO odor. 12" White Silty SAND, fine gr., dense, NP, SATURATED, NO odor.

Figure 3. Borehole Log

WESTON

BOREHOLE LOG

PROJECT ID - PHASE: CTO-143

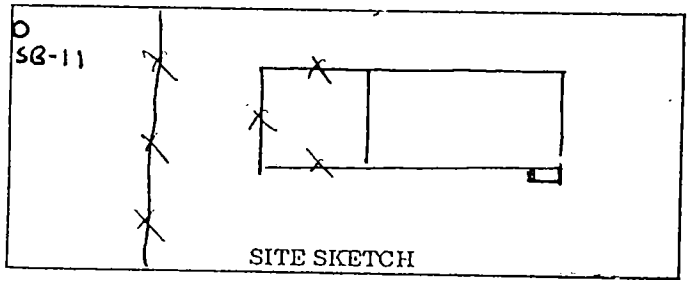
FACILITY ID Yorktown (NWS _)

LOCATION ID 143SB-11 (MW-07)

DATE ESTABLISHED 8-18-92 (DD-MMM-YY)

ESTABLISHING COMPANY HHI

LOCATION DESCRIPTION Bldg. 1958



BOREHOLE DIAMETER (IN) 8

TOTAL DEPTH (FT) 15

WATER ENCOUNTERED (FT) 12

TOP OF BEDROCK (FT) N/A

DRILLING/EXCAVATING METHOD B-61 Mobile

DRILLING/EXCAVATING COMPANY HHI

TIME (HHMM)	SAMPLE ID	BEGIN DEPTH (FT)	END DEPTH (FT)	~~SOIL ROCK TYPE~~ PPM HNU	GEOL MAT TYPE	RECOV (FT)	BLOW COUNT	DESCRIPTION
1200		0	2	0	SC	100	2-2-2-3	Yellow-gray, fine grained, sandy clay, dense, NP, damp, no odor
1205		2	4	0	SC	100	5-8-12-15	same
1210	143-SB-11-01	4	6	2	SS	100	10-8-9-9	gray silty sand, fine grained, dense, NP, damp, no odor
1220	143-SB 11-02	10	12	0	SC	100	3-11-10-13	Orange, fine grained sandy clay, dense, NP, dry, no odor, 2" white silty sand, fine grained, dense, NP, no odor saturated
1230		12	14	0	SS	100	5-9-6-15	same.

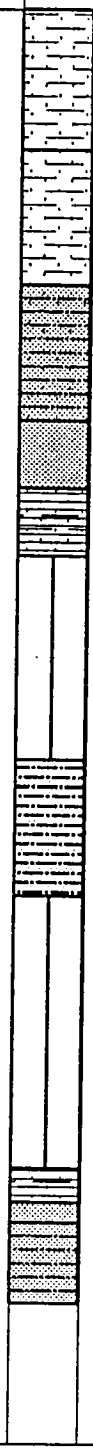
Revised 01-MAY-91

Figure 3. Borehole Log

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 19.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-8	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/21/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/21/93



ELEVATION	DEPTH	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
		100	SAND, sm SILT, lt CLAY	GRAY		DMP	5 12 9 7		Collect spoon 0-2' outside. Auger and loom to 1', mottled silty fine sand to 2'.OVM inoperable
-1	1								
-2	2	75	SAND and SILT, lt CLAY, tr GRAVEL			DMP	4 4 4 4		Moister towards bottom.
-3	3								
-4	4	75	SAND and SILT, sm CLAY		SFT	WET	2 3 3 3	OVM 0.0	
-5	5								
-6	6		CLAY, lt SILT, tr SAND			WET	3 4 5 7		
-7	7		SAND, sm CLAY, sm SILT	LT GRAY	LSE	SAT			Fine sand in yellow mottles.
-8	8		Interval Not Sampled						
-9	9								
-10	10								
-11	11	75	CLAY, sm SILT	PALE GRAY	STF	DMP		OVM 0.0	
-12	12								
-13	13		Interval Not Sampled						
-14	14								
-15	15								
-16	16								
-17	17		CLAY, sm SAND, sm SILT	LT GRAY		DMP	3 5	OVM 0.0	
			CLAY	GRAY	STF	DMP	4		
-18	18		SILT and CLAY, lt SAND	RED BROWN	SFT	WET	4		
-19	19								
-20	20								

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 20.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-9	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/22/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/22/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			50	SILT, sm CLAY, sm ORGANIC	DK GRAY	NA	DMP	2 3 3 2	OVM 2.0	Grass and roots throughout.
-1	1			No Sample Recovered						
-2	2		75	CLAY and SILT		SFT	MST	1 2 1 1	OVM 0.0	
-3	3									
-4	4			No Sample Recovered						
				CLAY and SILT, sm SAND	YELLOW BROWN	NA	MST	2 2 4 5	OVM 0.4	
-5	5									
-6	6			Interval Not Sampled						
-7	7									
-8	8									
-9	9			CLAY, lt SILT	PALE GRAY	NA	MST	5 7 11 14		Mottled red and yellow. Very thight clay to 10.9'. At tip little, <5% fine sand present.
-10	10									
-11	11			Interval Not Sampled						
-12	12									
-13	13									
-14	14		100	SAND, sm SILT	BROWN YELLOW	LSE	SAT	5 6 8 8	OVM 0.0	Fines downward slightly. Occasional laminae of mafic minerals highly oxidized (iron stained).
-15	15									
-16	16			Interval Not Sampled						
-17	17									
-18	18									
-19	19		100	SAND, tr GRAVEL, tr SILT	LT GREY	LSE	SAT			
-20	20			CLAY and SILT, lt SAND, tr GRAVEL	DK YELLOW RED	SFT	WET		OVM 0.0	Manganese and orange iron deposits comprise gravel. Dark red band at 20.5'.

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 20.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-9	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/22/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/22/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-21	21			CLAY and SILT, lt SAND, tr GRAVEL	DK YELLOW RED	SFT	WET		OVM 0.0	Manganese and orange iron deposits comprise gravel. Dark red band at 20.5'.
-22	22									
-23	23									
-24	24									
-25	25									
-26	26									
-27	27									
-28	28									
-29	29									
-30	30									
-31	31									
-32	32									
-33	33									
-34	34									
-35	35									
-36	36									
-37	37									
-38	38									
-39	39									
-40	40									

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 19.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-10	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	: CME-45
EASTING	: 0.0000 estimated	DATE STARTED	: 06/22/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/25/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			100	SILT and SAND	DK YELLOW BROWN	LSE	DMP	4 8 8 7	OVM 0.0	~~Begin auger to 4'.~~
-1	1									
-2	2		50	SAND and SILT	LT YELLOW BROWN	LSE	DMP	5 6 5 5	OVM 0.0	Slightly coarser than previoiuis sample.
-3	3			No Sample Recovered						
-4	4			SILT and SAND, tr CLAY	DK YELLOW RED	LSE	MST	4 9 13 14		
-5	5									
-6	6			Interval Not Sampled						
-7	7									
-8	8									
-9	9			SILT, sm SAND, sm CLAY, tr GRAVEL		SFT	WET	6 8 7 6	OVM 0.0	Deep reddish grey pocket at 10.5' in silty sand below. Grades to more clayey material.
-10	10									
-11	11			Interval Not Sampled						
-12	12									
-13	13									
-14	14		75	SAND, sm CLAY, sm SILT		SFT	SAT	2 2 3 5	OVM 0.0	Silty sand with pockets of clay. More silty towards bottom.
-15	15									
-16	16			Interval Not Sampled						
-17	17									
-18	18			CLAY, sm SAND, sm SILT		SFT	SAT	1 2 4 5	OVM 0.0	
-19	19			CLAY, sm SILT		FRM	WET			Boring terminated 20'.
-20	20									

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 25.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-11	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/24/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/25/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-21	21			CLAY, sm SILT, tr GRAVEL, tr SAND	RED	FRM	MST		OVM 0.0	Gravel is iron precipitate in soft sediment fractures.
-22	22									
-23	23									
-24	24									
-25	25									
-26	26									
-27	27									
-28	28									
-29	29									
-30	30									
-31	31									
-32	32									
-33	33									
-34	34									
-35	35									
-36	36									
-37	37									
-38	38									
-39	39									
-40	40									

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 25.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-11	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/24/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/25/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
			25	SAND, sm GRAVEL, sm SILT, lt CLAY, lt ORGANIC		NA	DMP	7 16 17 16	OVM 0.0	Grass roots and loamy fill.
-1	1			No Sample Recovered						
-2	2		100	SAND, sm SILT, sm CLAY, lt GRAVEL	GRAY & PALE BRN	NA	DMP	8 11 10 8	OVM 0.0	More pebbly and sandy in upper portion. Grades down to finer sand and silt more well sorted.
-3	3									
-4	4			SILT, sm CLAY, lt SAND	BROWN & GRAY	NA	DMP		OVM 2.9	
-5	5									
-6	6			Interval Not Sampled						
-7	7									
-8	8									
-9	9		100	CLAY, sm SILT		NA	DMP	4 4 5 4	OVM 3.8	
-10	10									
-11	11			Interval Not Sampled						
-12	12									
-13	13									
-14	14			CLAY, lt SILT, tr SAND		NA	MST	5 7 7 9		
-15	15									
-16	16			Interval Not Sampled						
-17	17									
-18	18									
-19	19		100	SAND, lt SILT, tr GRAVEL	LT YELLOW GRAY	LSE	SAT	5 7	OVM 0.0	Large pebbles at base of sand at contact with gravel.
-20	20			CLAY, sm SILT, tr GRAVEL, tr SAND	RED	FRM	MST	8 6	OVM 0.0	Below iron precipitate in soft sediment fractures.

Borehole Log

ROY F. WESTON, Inc.

CLIENT	: NWS - BAKER	TOTAL DEPTH	: 25.00
SITE NAME	: YORKTOWN, NWS -BLDG 1958	LOGGER	: J. GHENT
WELL ID	: MW-11	DRILLING COMPANY	: FISHBURNE
NORTHING	: 0.0000 estimated	DRILLING RIG	:
EASTING	: 0.0000 estimated	DATE STARTED	: 06/24/93
ELEVATION	: 0.000 estimated	DATE COMPLETED	: 06/25/93

ELEVATION	DEPTH	MATERIAL	% RECOVERY	CLASSIFICATION	COLOR	STRENGTH	MOISTURE	BLOW COUNT	FIELD INSTRUMENT READING	COMMENTS
-21	21			CLAY, sm SILT, tr GRAVEL, tr SAND	RED	FRM	MST		OVM 0.0	Gravel is iron precipitate in soft sediment fractures.
-22	22									
-23	23									
-24	24									
-25	25									
-26	26									
-27	27									
-28	28									
-29	29									
-30	30									
-31	31									
-32	32									
-33	33									
-34	34									
-35	35									
-36	36									
-37	37									
-38	38									
-39	39									
-40	40									

APPENDIX C

LIQUID LEVEL MEASUREMENTS

Fluid Level Measurements
Building 1958, NWS Yorktown
Yorktown, VA
20 August 1992

Date Recorded By: J. Davis

Monitoring Wells

No.	DTW	DTP	PT	ELEV[1]	ELEV W	CORRECTED ELEV W	COMMENTS
1	2.65	--	--	62.14	59.49	--	
2	3.36	3.26	0.10	59.29	55.93	56.01	
3	4.55	--	--	60.84	56.29	--	
4	2.00	--	--	61.71	59.71	--	
5	2.05	--	--	62.39	60.34	--	
6	1.10	--	--	62.64	61.52	--	
7	5.50	--	--	61.15	55.65	--	

[1] - Elevation from temporary benchmark set with spike in power pole relative to mean sea level.
PTW - Depth to water, as measured relative to mark at top of PVC casing.
DTP - Depth to product.
PT - Product Thickness.
Elev - Elevation of marked top of PVC casing.
Elev - Elevation of Groundwater.
Corrected Elev W - Where product detected, groundwater elevation has been corrected by a factor of 0.81 (diesel).
-- Not detected.

Fluid Level Measurements
Building 1958, NWS Yorktown
Yorktown, VA
24 August 1992

Date Recorded By: J. Davis

Monitoring Wells

No.	DTW	DTP	PT	ELEV[1]	ELEV W	CORRECTED ELEV W	COMMENTS
1	7.42	--	--	62.14	54.72	--	
2	5.30	4.99	0.31	59.29	53.99	54.24	
3	6.33	--	--	60.84	54.51	--	
4	8.52	--	--	61.71	53.19	--	
5	7.83	--	--	62.39	54.56	--	
6	8.44	--	--	62.64	54.20	--	
7	9.61	--	--	61.15	51.54	--	

[1] - Elevation from temporary benchmark set with spike in power pole relative to mean sea level.
PTW - Depth to water, as measured relative to mark at top of PVC casing.
DTP - Depth to product.
PT - Product Thickness.
Elev - Elevation of marked top of PVC casing.
Elev - Elevation of Groundwater.
Corrected Elev W - Where product detected, groundwater elevation has been corrected by a factor of 0.81 (diesel).
-- Not detected.

Fluid Level Measurements
Building 1958, NWS Yorktown
Yorktown, VA
1 September 1992

Date Recorded By: Ed Dullaghan

Monitoring Wells

No.	DTW	DTP	PT	ELEV[1]	ELEV W	CORRECTED ELEV W	COMMENTS
1	10.18	--	--	62.14	51.96	--	
2	7.72	7.59	0.13	59.29	51.57	51.67	
3	8.87	--	--	60.84	51.97	--	
4	9.76	--	--	61.71	51.95	--	
5	10.79	--	--	62.39	51.60	--	
6	10.81	--	--	62.64	51.83	--	
7	11.17	--	--	61.15	49.98	--	

[1] - Elevation from temporary benchmark set with spike in power pole relative to mean sea level.
PTW - Depth to water, as measured relative to mark at top of PVC casing.
DTP - Depth to product.
PT - Product Thickness.
Elev - Elevation of marked top of PVC casing.
Elev - Elevation of Groundwater.
Corrected Elev W - Where product detected, groundwater elevation has been corrected by a factor of 0.81 (diesel).
-- Not detected.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

Fluid Level Measurements
Building 1958, Naval Weapons Station Yorktown
Yorktown, Va

24 June 1993

Recorded By:
Robert Harvey

Monitoring Wells

WELL NO.	DTW	DTP	PT	ELEV.	WATER ELEV.	CORRECTED WATER ELEV.	COMMENTS
MW1	13.86	10.78	3.08	62.14	48.28	50.74	Yellow Tint, Fresh
MW2	8.69	7.99	0.70	59.29	50.60	51.16	
MW3	9.39	–	–	60.84	51.01	–	
MW4	10.43	–	–	61.71	50.97	–	
MW5	11.45	–	–	62.39	50.41	–	
MW6	11.53	–	–	62.64	49.85	–	
MW7	11.68	–	–	61.15	49.27	–	
MW8	13.35	–	–	60.06	46.68	–	
MW9	12.07	–	–	62.81	50.47	–	
MW10	9.69	–	–	60.68	50.89	–	
MW11	NM	–	–	62.60	NM	–	

PTW - Depth to water, as measured relative to mark at top of PVC casing.
DTP - Depth to product.
PT - Product thickness.
ELEV. - Elevation of marked top of PVC casing relative to mean sea level.
WATER ELEV - Elevation of Groundwater
CORRECTED WATER ELEV - Where product detected, groundwater elevation corrected by a factor of 0.80 (diesel).
— - Not applicable.
NM - Not measured, well not yet completed.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

Fluid Level Measurements
Building 1958, Naval Weapons Station Yorktown
Yorktown, Va

28 June 1993

Recorded By:
Jefferson Ghent

Monitoring Wells

WELL NO.	DTW	DTP	PT	ELEV.	WATER ELEV.	CORRECTED WATER ELEV.	COMMENTS
MW1	14.11	10.80	3.31	62.14	48.03	50.68	
MW2	8.94	8.19	0.75	59.29	50.35	50.95	
MW3	9.83	–	–	60.84	51.01	–	
MW4	10.74	–	–	61.71	50.97	–	
MW5	11.98	–	–	62.39	50.41	–	
MW6	12.79	–	–	62.64	49.85	–	
MW7	11.88	–	–	61.15	49.27	–	
MW8	13.38	–	–	60.06	46.68	–	
MW9	12.34	–	–	62.81	50.47	–	
MW10	9.79	–	–	60.68	50.89	–	
MW11	13.99	–	–	62.60	48.61	–	

PTW - Depth to water, as measured relative to mark at top of PVC casing.
DTP - Depth to product.
PT - Product thickness.
ELEV. - Elevation of marked top of PVC casing relative to mean sea level.
WATER ELEV - Elevation of Groundwater
CORRECTED WATER ELEV - Where product detected, groundwater elevation corrected by a factor of 0.80 (diesel).
— - Not applicable.

APPENDIX D

SOIL LABORATORY ANALYSES

TC ANALYTICS, INC.

1200 Boissevain Avenue
Tel. (804) 627-0400

Norfolk, Virginia 23507
FAX (804) 627-1118

RECEIVED SEP 0 8 1992

Sampling Site: CTO-143 BLDG 1958

Sampling Date: 08/11/92-08/24/92

Date Received: 08/14/92-08/24/92

Date Reported: 09/01/92

Released By: S. Long

Account Info: W.O. #6629-01-024

Roy F. Weston, Inc.
Pembroke Two, Suite 113
287 Independence Blvd.
Virginia Beach, VA 23462
Attn: Marving Farmer

Data:

Table of Contents

A.) Request for Analysis/Chain of Custody
Listing of Lab numbers and corresponding Field numbers.

B.) Sample results with collection, preparation, and analysis dates.

C.) QA/QC data for above parameters analyzed with cross references to field sample numbers.

D.) Instrument/Method Detection Limits, Practical Quantification Limits.

E.) Glossary

Reviewed By: _____
Steven J.E. Long
Laboratory Supervisor

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

W.O. # 6629-01-024
SITE: CTO-143
BLDG 1958

1. LAB NUMBER/FIELD NUMBER

CROSS REFERENCE

2. CHAIN OF CUSTODY:

COPIES OF ORIGINALS

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

CROSS REFERENCE OF LAB NUMBERS TO FIELD NUMBERS
W.O. #6629-01-024
SITE: CTO-143, BLDG 1958

Sample Date: 08/11/92

LAB #	FIELD #
92-3859	143-SB-01-01
92-3860	143-SB-01-01A
92-3861	143-SB-01-02
92-3862	143-SB-01-03

Sample Date: 08/12/92

LAB #	FIELD #
92-3863	143-SB-02-01
92-3864	143-SB-02-01A
92-3865	143-SB-02-02
92-3866	143-SB-03-01
92-3867	143-SB-03-02
92-3868	143-SB-04-01
92-3869	143-SB-04-02
92-3870	143-SB-05-01
92-3871	143-SB-05-02

Sample Date: 08/13/92

LAB #	FIELD #
92-3872	143-SB-06-01

Sample Date: 08/14/92

LAB #	FIELD #
92-3873	143-SB-06-02

Sample Date: 08/17/92

LAB #	FIELD #
92-3931	143-SB-07-01
92-3932	143-SB-07-02
92-3933	143-SB-08-01
92-3934	143-SB-08-02

Sample Date: 08/18/92

LAB #	FIELD #
92-3935	143-SB-09-01
92-3936	143-SB-09-02
92-3937	143-SB-10-01
92-3938	143-SB-10-02
92-3939	143-SB-11-01
92-3940	143-SB-11-02

Sample Date: 08/24/92

LAB #	FIELD #
92-3969	143-GW-01-01
92-3970	143-GW-04-01
92-3971	143-GW-06-01
92-3972	143-GW-08-01
92-3973	143-GW-10-01
92-3974	143-GW-10-01A
92-3975	143-GW-11-01
92-3976	143-GW-12-01
92-3977	143-GW-13-01

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

SAMPLE RESULTS

W.O.# 6629-01-024
SITE: CTO-143
BLDG 1958

Sample results include:

Site
Sampling Dates
Field Numbers
Lab Received Dates
Lab Numbers
Extraction Dates
Analyses Dates

PARAMETERS TESTED:

TPH (modified 8015)
BTEX (8020)
PURGEABLE AROMATICS (602)
TCLP METALS
FLASH POINT
GRAIN SIZE
TOTAL LEAD (EPA 239.2)
TRPH (418.1)

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

W.O. #6629-01-024

TPH (modified 8015)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/11/92	08/11/92	08/11/92	08/12/92	08/12/92	08/12/92
FIELD #:	143-SB-01-01	143-SB-01-01A	143-SB-01-02	143-SB-02-01	143-SB-02-01A	143-SB-02-02
LAB RCVD DATE:	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92
LAB #:	92-3859	92-3860	92-3861	92-3863	92-3864	92-3865
EXTRACT DATE:	08/20/92	08/20/92	08/24/92	08/20/92	08/20/92	08/20/92
ANALYSIS DTE:	08/22/92	08/24/92	08/24/92	08/24/92	08/20/92	08/20/92
ANALYSIS: (ppm) TPH(mod 8015) Stnd: #2 Heating Fuel	2500.	1400.	120.	260.	15.	34.

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/12/92	08/12/92	08/12/92	08/12/92	08/12/92	08/12/92
FIELD #:	143-SB-03-01	143-SB-03-02	143-SB-04-01	143-SB-04-02	143-SB-05-01	143-SB-05-02
LAB RCVD DATE:	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92
LAB #:	92-3866	92-3867	92-3868	92-3869	92-3870	92-3871
EXTRACT DATE:	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92
ANALYSIS DTE:	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92
ANALYSIS: (ppm) TPH(mod 8015) Stnd: #2 Heating Fuel	<10.	<12.	<9.4	<9.7	<9.5	<10.

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/13/92	08/14/92	08/17/92	08/17/92	08/17/92	08/17/92
FIELD #:	143-SB-06-01	143-SB-06-02	143-SB-07-01	143-SB-07-02	143-SB-08-01	143-SB-08-02
LAB RCVD DATE:	08/14/92	08/14/92	08/19/92	08/19/92	08/19/92	08/19/92
LAB #:	92-3872	92-3873	92-3931	92-3932	92-3933	92-3934
EXTRACT DATE:	08/20/92	08/20/92	08/21/92	08/20/92	08/20/92	08/20/92
ANALYSIS DTE:	08/20/92	08/20/92	08/21/92	08/20/92	08/20/92	08/20/92
ANALYSIS: (ppm) TPH(mod 8015) Stnd: #2 Heating Fuel	<9.6	<11.	<12.	<13.	<10.	26.

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/18/92	08/18/92	08/18/92	08/18/92	08/18/92	08/18/92
FIELD #:	143-SB-09-01	143-SB-09-02	143-SB-10-01	143-SB-10-02	143-SB-11-01	143-SB-11-02
LAB RCVD DATE:	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
LAB #:	92-3935	92-3936	92-3937	92-3938	92-3939	92-3940
EXTRACT DATE:	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92	08/20/92
ANALYSIS DTE:	08/20/92	08/21/92	08/20/92	08/20/92	08/20/92	08/20/92
ANALYSIS: (ppm) TPH(mod 8015) Stnd: #2 Heating Fuel	<11.	1300.	<12.	<12.	<11.	<12.

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

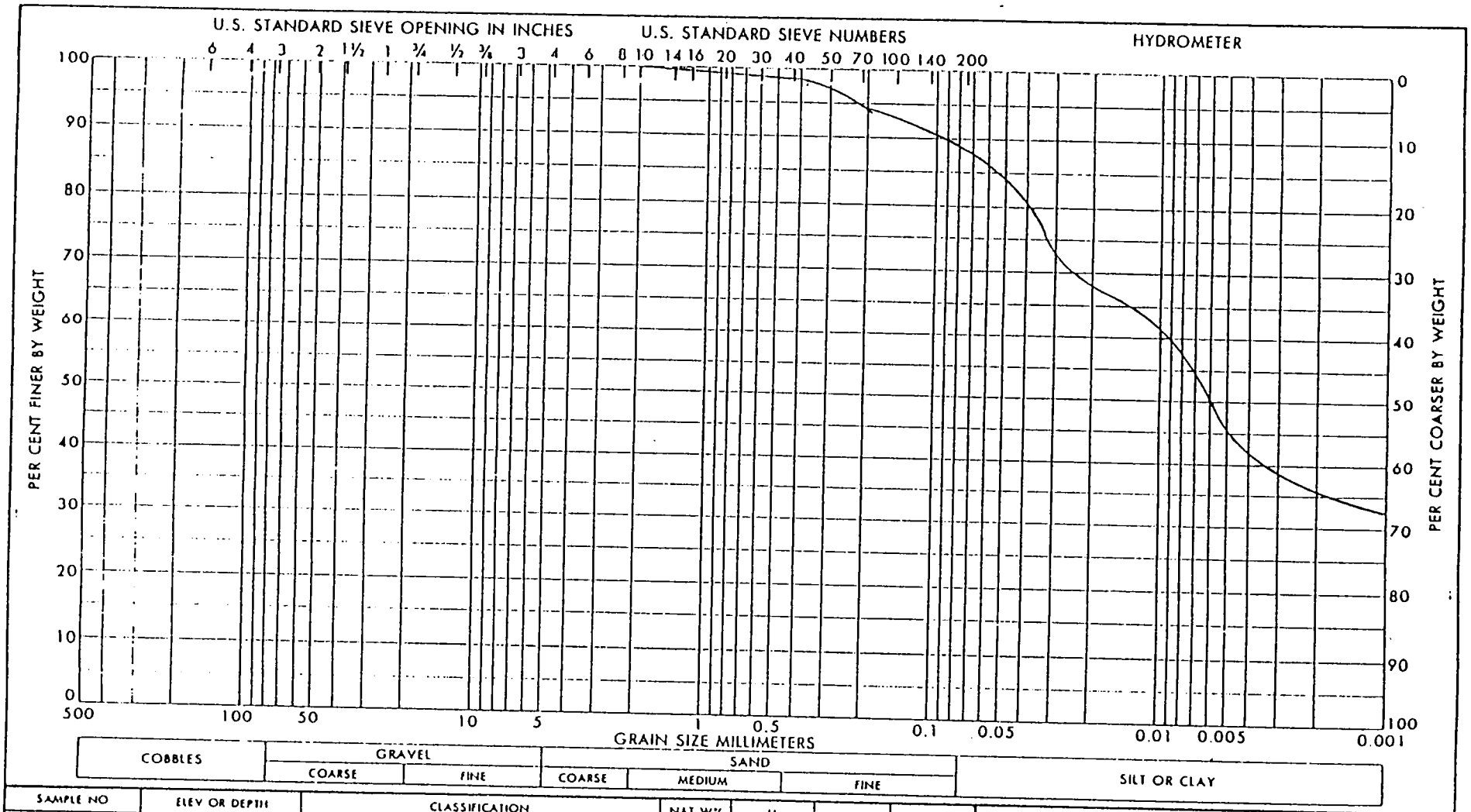
Data:

BTEX 8020

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/11/92	08/11/92	08/14/92
FIELD #:	143-SB-01-02	143-SB-01-03	143-SB-06-02
LAB RCVD DATE:	08/14/92	08/14/92	08/14/92
LAB #:	92-3861	92-3862	92-3873
EXTRACT DATE:	08/21/92	08/21/92	08/21/92
ANALYSIS DTE:	08/21/92	08/21/92	08/21/92
ANALYSIS: (ppb)			
Benzene	<5.4	<2.3	<2.8
Toluene	<5.4	<2.3	<2.8
Ethylbenzene	<5.4	<2.3	<2.8
Xylenes	6.2	<4.6	<5.6
BTEX (8020)			

TCLP METALS

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/11/92	08/14/92
FIELD #:	143-SB-01-02	143-SB-06-02
LAB RCVD DATE:	08/14/92	08/14/92
LAB #:	92-3861	92-3873
EXTRACT DATE:	08/17/92	08/17/92
ANALYSIS DTE:	08/20/92	08/20/92
ANALYSIS: (ppm)		
Ag	<0.25	<0.25
As	<0.25	<0.25
Ba	<0.25	<0.25
Cd	<0.25	<0.25
Cr	<0.25	<0.25
Hg	<0.02	<0.02
Pb	<0.25	<0.25
Se	<0.25	<0.25
TCLP (1311, 6010, 7470)		



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	NA	Gray, Clayey SILT, little fine Sand 43.5% Silt - 33% Colloids 12.% Clay - 11.5% Sand Figure 1	NA	NA	NA	NA

GRADATION CURVES

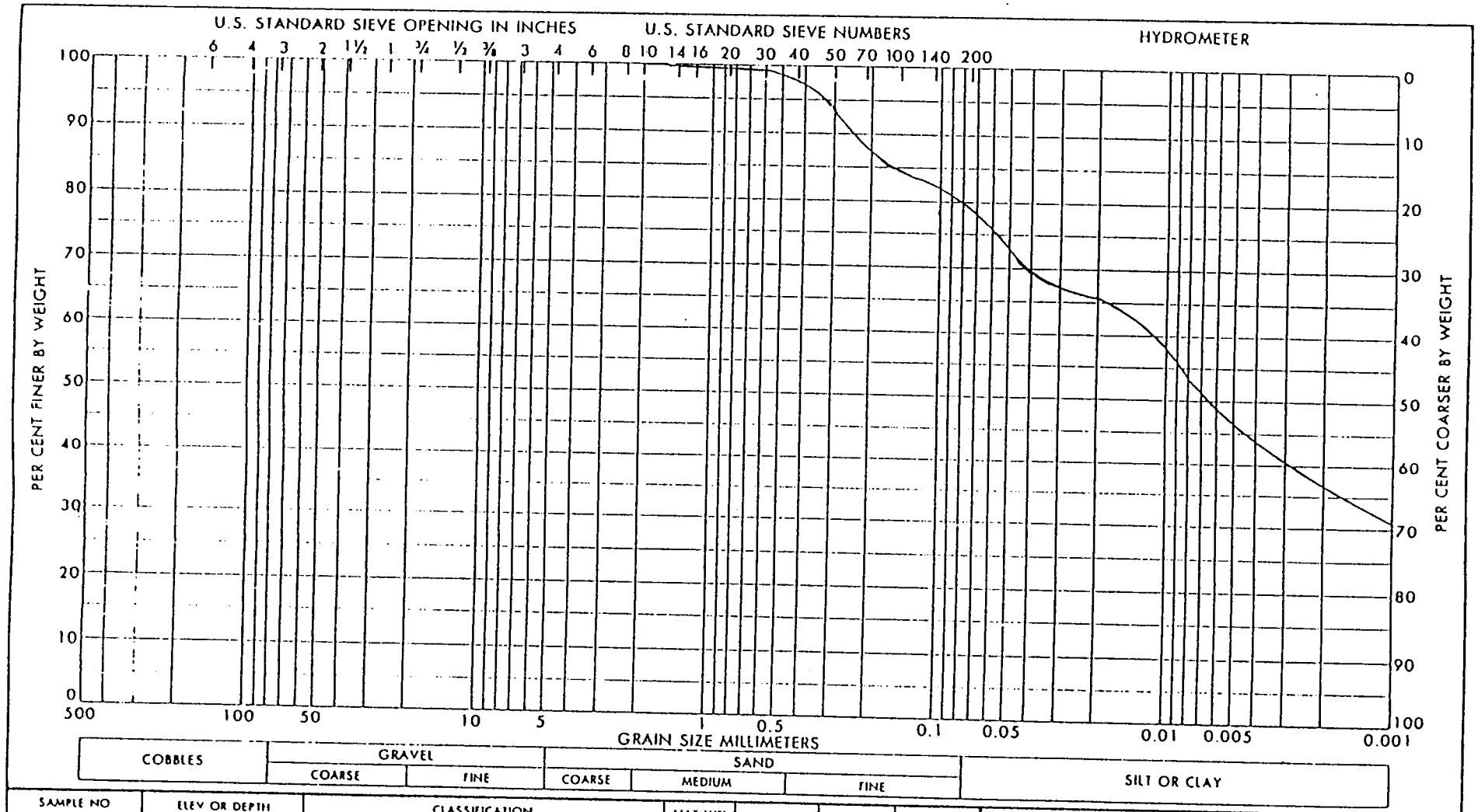
PROJECT TCA #1

26-02-Ω-00225

AREA

BORING NO. 923861

DATE 8/21/92



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	NA	Gray CLAY, some Silt, little fine Sand				
		33% Silt - 31% Colloids				
		20% Sand - 16% Clay				
		Figure 2				

GRADATION CURVES

PROJECT	TCA #1
	26-02-92-00225
AREA	
BORING NO.	923873
DATE	8/21/92

FORM 105

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

Grain Size ASTM D422

SITE:	CTO-143	CTO-143
	BLDG 1958	BLDG 1958
SAMPLE DATE:	08/11/92	08/14/92
FIELD #:	143-SB-01-02	143-SB-06-02
LAB RCVD DATE:	08/14/92	08/14/92
LAB #:	92-3861	92-3873
ANALYSIS DTE:	08/21/92	08/21/92
ANALYSIS:		
GRAIN SIZE (%)		

SEIVE NUMBER			MATERIAL%	#92-3861	#92-3973
NO. 10	100.	100.	Sand Content	11.5	20.
NO. 16	99.9	99.9	Silt Content	43.5	33.
NO. 30	99.6	99.7	Clay Content	12.0	16.
NO. 40	99.3	99.0	Colloids Content	33.0	31.
NO. 50	98.2	94.7			
NO. 80	94.1	85.0			
NO. 100	92.6	82.6			
NO. 200	88.5	80.0			

See following pages for graphical representation of the above results.

Flash Point

SITE:	CTO-143	CTO-143
	BLDG 1958	BLDG 1958
SAMPLE DATE:	08/11/92	08/14/92
FIELD #:	143-SB-01-02	143-SB-06-02
LAB RCVD DATE:	08/14/92	08/14/92
LAB #:	92-3861	92-3873
ANALYSIS DTE:	08/28/92	08/28/92
ANALYSIS:		
FLASH POINT	>60 Degree C	>60 Degree C

Samples do not exhibit the characteristics of ignitability.

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

PURGEABLE AROMATICS (602)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
FIELD #:	143-GW-01-01	143-GW-04-01	143-GW-06-01	143-GW-08-01	143-GW-10-01	143-GW-10-01A
LAB RCVD DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
LAB #:	92-3969	92-3970	92-3971	92-3972	92-3973	92-3974
EXTRACT DATE:	08/27/92	08/27/92	08/26/92	08/26/92	08/26/92	08/26/92
ANALYSIS DTE:	08/27/92	08/27/92	08/26/92	08/26/92	08/26/92	08/26/92
ANALYSIS: (ppb)						
Benzene	37.	<5.0	<13.	<5.0	<5.0	<5.0
Toluene	39.	<5.0	13.	<5.0	<5.0	<5.0
Chlorobenzene	<25.	<5.0	<13.	14.	<5.0	<5.0
Ethylbenzene	90.	<5.0	44.	16.	<5.0	<5.0
Xylenes	340.	33.	180.	60.	5.6	<10.
1, 3-Dichlorobenzene	<25.	17.	<13.	10.	8.3	<5.0
1, 4-Dichlorobenzene	91.	14.	100.	41.	10.	7.0
1, 2-Dichlorobenzene	<25.	16.	<13.	19.	9.0	6.1

PURGEABLE AROMATICS (602)

PURGEABLE AROMATICS (602)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92	08/24/92
FIELD #:	143-GW-11-01	143-GW-12-01	143-GW-13-01
LAB RCVD DATE:	08/24/92	08/24/92	08/24/92
LAB #:	92-3975	92-3976	92-3977
EXTRACT DATE:	08/26/92	08/26/92	08/26/92
ANALYSIS DTE:	08/26/92	08/26/92	08/26/92
ANALYSIS: (ppb)			
Benzene	<5.0	<5.0	<2.5
Toluene	<5.0	<5.0	<2.5
Ethylbenzene	<5.0	<5.0	<2.5
Chlorobenzene	<5.0	<5.0	<2.5
Xylenes	6.0	7.3	<5.0
1, 3-Dichlorobenzene	8.7	7.6	<2.5
1, 4-Dichlorobenzene	9.6	9.4	<2.5
1, 2-Dichlorobenzene	12.	9.9	<2.5

PURGEABLE AROMATICS (602)

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Data:

Total Pb (239.2)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
FIELD #:	143-GW-01-01	143-GW-04-01	143-GW-06-01	143-GW-08-01	143-GW-10-01	143-GW-10-01A
LAB RCVD DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
LAB #:	92-3969	92-3970	92-3971	92-3972	92-3973	92-3974
EXTRACT DATE:	08/27/92	08/27/92	08/27/92	08/27/92	08/27/92	08/27/92
ANALYSIS DTE:	08/28/92	08/28/92	08/28/92	08/28/92	08/28/92	08/28/92
ANALYSIS: (ppb) Total Pb (239.2)	8.2	78.	26.	32.	11.	10.

Total Pb (239.2)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92
FIELD #:	143-GW-11-01	143-GW-12-01
LAB RCVD DATE:	08/24/92	08/24/92
LAB #:	92-3975	92-3976
EXTRACT DATE:	08/27/92	08/27/92
ANALYSIS DTE:	08/28/92	08/28/92
ANALYSIS: (ppb) Total Pb (239.2)	68.	<5.0

TRPH (418.1)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
FIELD #:	143-GW-01-01	143-GW-04-01	143-GW-06-01	143-GW-08-01	143-GW-10-01	143-GW-10-01A
LAB RCVD DATE:	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92	08/24/92
LAB #:	92-3969	92-3970	92-3971	92-3972	92-3973	92-3974
EXTRACT DATE:	08/31/92	08/31/92	08/31/92	08/31/92	08/31/92	08/31/92
ANALYSIS DTE:	08/31/92	08/31/92	08/31/92	08/31/92	08/31/92	08/31/92
ANALYSIS: (ppm) TRPH (418.1)	1.52	0.46	4.26	3.13	0.19	0.21

TRPH (418.1)

SITE:	CTO-143 BLDG 1958	CTO-143 BLDG 1958
SAMPLE DATE:	08/24/92	08/24/92
FIELD #:	143-GW-11-01	143-GW-12-01
LAB RCVD DATE:	08/24/92	08/24/92
LAB #:	92-3975	92-3976
EXTRACT DATE:	08/31/92	08/31/92
ANALYSIS DTE:	08/31/92	08/31/92
ANALYSIS: (ppm) TRPH (418.1)	0.21	0.08

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Data:

W.O. # 6629-01-024
SITE: CTO-143
BLDG 1958

QA/QC DATA

The following pages contain the QA/QC Data to support the parameters tested. The data has been divided into the following sections:

ACCURACY FOR KNOWN SPIKE RECOVERIES

ACCURACY FOR MATRIX SPIKES/STANDARD ADDITION RECOVERIES

PRECISION BY REPLICATE MEASUREMENTS AND PERCENT RELATIVE DEVIATION

QA/QC RANGES

DATA PRESENTED FOR:

TPH (modified 8015)
BTEX (8020)
PURGEABLE AROMATICS (602)
TCLP METALS
TOTAL LEAD (EPA 239.2)
TRPH (418.1)

TC ANALYTICS, INCORPORATED

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Data:

TPH (modified 8015)

Date Analyzed: 8/20/92, 21, 22, 8/24/92

Lab #	Field #
92-3859	143-SB-01-01
92-3860	143-SB-01-01A
92-3861	143-SB-01-02
92-3863	143-SB-02-01
92-3864	143-SB-02-01A
92-3865	143-SB-02-02
92-3866	143-SB-03-01
92-3867	143-SB-03-02
92-3868	143-SB-04-01
92-3869	143-SB-04-02
92-3870	143-SB-05-01
92-3871	143-SB-05-02
92-3872	143-SB-06-01
92-3873	143-SB-06-02
92-3931	143-SB-07-01
92-3932	143-SB-07-02
92-3933	143-SB-08-01
92-3934	143-SB-08-02
92-3935	143-SB-09-01
92-3936	143-SB-09-02
92-3937	143-SB-10-01
92-3938	143-SB-10-02
92-3939	143-SB-11-01
92-3940	143-SB-11-02

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)
107 93 112 100

MATRIX SPIKE/STANDARD ADDITIONS
(in percent)
Matrix Spikes were performed on:

92-3863/143-SB-02-01	103
92-3969/143-SB-04-02	109
92-3932/143-SB-07-02	112

PRECISION
Replicates were performed on:

92-3861/143-SB-01-02	12% RD
92-3868/143-SB-04-01	<PQL
92-3931/143-SB-07-01	<PQL

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Data:

BTEX (8020)

Date Analyzed: 08/21/92

Lab #	Field #
92-3861	143-SB-01-02
92-3862	143-SB-01-03
92-3873	143-SB-06-02

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)

Benzene	98	89
Toluene	83	79
Ethylbenzene	96	94
Xylenes	91	86

MATRIX SPIKE/STANDARD ADDITIONS
(in percent)

Matrix Spike was performed on:
92-3873/143-SB-06-02

Benzene	93
Toluene	89
Ethylbenzene	96
Xylenes	93

PRECISION
Replicate performed on:
92-3873/143-SB-06-02
All values less than PQL, with the exception of Xylenes which had Percent Relative Difference of 13.

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Data:

TCLP METALS

Mercury Analysis (Method 7471)

Date Analyzed: 08/24/92

Lab #	Field #
92-3861	143-SB-01-02
92-3873	143-SB-06-02

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)
93 88

MATRIX SPIKE/STANDARD ADDITIONS
Matrix Spike performed on:
92-3861/143-SB-01-02
90%

PRECISION
Replicate performed on:
92-3861/143-SB-01-02
Both values less than PQL.

Ag, As, Ba, Cd, Cr, Pb, Se, (Method 6010)

Date Analyzed: 08/20/92

Lab #	Field #
92-3861	143-SB-01-02
92-3873	143-SB-06-02

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)

Ag	As	Ba	Cd	Cr	Pb	Se
100	101	100	102	101	102	101
98	96	99	99	100	103	101
100	102	96	99	101	102	100
94	101	90	101	96	94	100
104	93	100	102	104	105	101

MATRIX SPIKES/STANDARD ADDITIONS
(in percent)

Matrix spikes were performed on:
92-3873/143-SB-06-02

Ag	As	Ba	Cd	Cr	Pb	Se
98	102	92	103	97	98	103

PRECISION
Replicate performed on:
92-3861/143-SB-01-02
All values less than PQL.

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1 SB12-001	BLDG 1958 (4-6) 06/21/93 @ 1525							
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	SB12-001 BLDG 1958 (4-6) 06/21/93 @ 1525							
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1 SB12-001	BLDG 1958 (4-6) 06/21/93 @ 1525							
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1 SB12-001	BLDG 1958 (4-6) 06/21/93 @ 1525							
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
SB12-002	BLDG 1958 (6-8) 06/21/93 @ 1535							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
	VOLATILES	8240						
	Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB12-002	BLDG 1958 (6-8) 06/21/93 @ 1535							
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.050	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.050	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.005	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.005	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB12-002	BLDG 1958 (6-8) 06/21/93 @ 1535							
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2 SB12-002	BLDG 1958 (6-8) 06/21/93 @ 1535							
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Cust # 702400
Cust P.O.#

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB12-002	BLDG 1958 (6-8) 06/21/93 @ 1535							
	2,4-Dimethylphenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	ug/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	ug/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	ug/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<0.330	ug/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	ug/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	ug/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	ug/kg	7/01/93	9:34	MSM
SB13-001	BLDG 1958 (6-8) 06/22/93 @ 1055							
	TPH	418.1M	5	<5	ug/kg	6/28/93	14:00	CEA
	VOLATILES	8240						
	Acetone		0.100	<0.100	ug/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	ug/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	ug/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	ug/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	ug/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	ug/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	ug/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	ug/kg	7/01/93	9:34	MSM

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB13-001	BLDG 1958 (6-8) 06/22/93 @ 1055							
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM

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Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB13-001	BLDG 1958 (6-8) 06/22/93 @ 1055							
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	4.390	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Sl.	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB13-001	BLDG 1958 (6-8) 06/22/93 @ 1055							
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM

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Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3	SB13-001 BLDG 1958 (5-8) 06/22/93 @ 1055							
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
4	SB13-002 BLDG 1958 (9-11) 06/22/93 @ 1105							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
	VOLATILES	8240						

THIS CERTIFICATE OF ANALYSIS IS CONTINUED ON THE NEXT PAGE

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4 SB13-002	BLDG 1958 (9-11) 06/22/93 @ 1105							
	Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM

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Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1 SB13-002	BLDG 1958 (9-11) 06/22/93 @ 1105							
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	4.480	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
→ SB13-002	BLDG 1958 (9-11) 06/22/93 @ 1105							
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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SmP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4 SB13-002	BLDG 1958 (9-11) 06/22/93 @ 1105							
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

Nr	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB13-002	BLDG 1958 (9-11) 06/22/93 @ 1105							
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
SB14-001	BLDG 1958 (4-6) 06/22/93 @ 1710							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
	VOLATILES	8240						
	Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM

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Smr	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB14-001	BLDG 1958 (4-6) 06/22/93 @ 1710							
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
ɔ SB14-001	BLDG 1958 (4-6) 06/22/93 @ 1710							
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	4.040	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB14-001	BLDG 1958 (4-6) 06/22/93 @ 1710							
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM

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Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB14-001	BLDG 1958 (4-6) 06/22/93 @ 1710							
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
6 SB14-002	BLDG 1958 (9-11) 06/22/93 @ 1730							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
	VOLATILES	8240						
	Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM

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Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB14-002	BLDG 1958 (9-11) 06/22/93 @ 1730							
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							

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Cust P.O.#

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P	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	314-002 BLDG 1958 (9-11) 06/22/93 @ 1730							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.003	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	3.440	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Date Reported 7/16/93
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Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	5B14-002 BLDG 1958 (9-11) 06/22/93 @ 1730							
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
			0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Subject : Project #: 6629-001-043

ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB14-002 BLDG 1958 (9-11) 06/22/93 @ 1730							
2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
----------					7/01/93	9:34	MSM
----------					7/01/93	9:34	MSM
4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
SB15-001 BLDG 1958 (9-11) 06/24/93 @ 1200							
TPH	418.1M	5	20	mg/kg	6/28/93	14:00	CEA
VOLATILES	8240						
Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM

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MF	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
7	B15-001 BLDG 1958 (9-11) 06/24/93 @ 1200							
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

S...	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB15-001	BLDG 1958 (9-11) 06/24/93 @ 1200							
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chlolroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	5.880	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Cust P.O.#

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EMr	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5815-001	BLDG 1958 (9-11) 06/24/93 @ 1200							
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM

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Cust P.O.#

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB15-001	BLDG 1958 (9-11) 06/24/93 @ 1200							
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Subject : Project #: 6629-001-043

S...	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB15-002	BLDG 1958 (14-16) 06/24/93 @ 1225							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
	VOLATILES	8240						
	Acetone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/kg	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Chloromethane		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	Dibromochloromethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM

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MF	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
E	B15-002 BLDG 1958 (14-16) 06/24/93 @ 1225							
	4-Methyl-2-pentanone		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Methylene chloride		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/kg	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/kg	7/01/93	9:34	MSM
	Vinyl chloride		0.010	<0.010	mg/kg	7/01/93	9:34	MSM
	SEMIVOLATILES							
	Acenaphthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Acenaphthylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (b) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (k) fluoranthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (a) pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzo (ghi) perylene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzyl butyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethyl)ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Bis(2-ethylhexyl)phthalate		0.330	2.760	mg/kg	7/01/93	9:34	MSM
	Bis(2-chloroethoxy)methane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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SM.	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5B15-002	BLDG 1958 (14-16) 06/24/93 @ 1225							
	4-Bromophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Choloronaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chlorophenyl phenyl ether		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Chrysene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dibenxo (a,h) anthracene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-butyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,3-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,4-Dichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	3,3-Dichlorobenzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Diethyl phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Dimethyl Phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,6-Dinitrotoluene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Di-(n-octyl) phthalate		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluoroanthene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Fluorene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	hexacholorobutadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Hexachloroethane		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Indeno(1,2,3-cd)pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Isophorone		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Naphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Nitrobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-di-n-propylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	N-Nitroso-dimethylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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Roy F. Weston, Inc.
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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

?M	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
SB15-002	BLDG 1958 (14-16) 06/24/93 @ 1225							
	N-Nitroso-diphenylamine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Phenanthrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyrene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2,4-Trichlorobenzene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Benzidine		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Hexachlorocyclopentadiene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	1,2-Diphenylhydrazine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	Pyridine		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Chloroaniline		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	3-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	4-Nitroaniline		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Dibenzofuran		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylnaphthalene		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	---					7/01/93	9:34	MSM
	4-Chloro-3-methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Chlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dimethylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4-Dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Methyl-4,6-dinitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	2-Nitrophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Nitrophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Pentachlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Phenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
8	315-002 BLDG 1958 (14-16) 06/24/93 @ 1225							
	2,4,6-Trichlorophenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	4-Methylphenol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
	2,4,5-Trichlorophenol		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzoic Acid		1.600	<1.600	mg/kg	7/01/93	9:34	MSM
	Benzyl Alcohol		0.330	<0.330	mg/kg	7/01/93	9:34	MSM
9	315-201 BLDG 1958 06/21/93 @ N/A							
	TPH	418.1M	5	<5	mg/kg	6/28/93	14:00	CEA
0	TB-1 BLDG 1958 06/21/93 @ 1500							
	VOLATILES	8240						
	Acetone		0.100	<0.100	mg/L	7/01/93	9:34	MSM
	Benzene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Bromomethane		0.010	<0.010	mg/L	7/01/93	9:34	MSM
	Bromoform		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	2-Butanone		0.100	<0.100	mg/L	7/01/93	9:34	MSM
	Carbon disulfide		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Carbon tetrachloride		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Chloroethane		0.010	<0.010	mg/L	7/01/93	9:34	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/01/93	9:34	MSM
	Chloroform		0.005	<0.005	mg/L	7/01/93	9:34	MSM

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Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

SMI	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1(	SBTB-1 BLDG 1958 06/21/93 @ 1500							
	Chloromethane		0.010	<0.010	mg/L	7/01/93	9:34	MSM
	Dibromochlormethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	2-Hexanone		0.050	<0.050	mg/L	7/01/93	9:34	MSM
	4-Methyl-2-pentanone		0.050	<0.050	mg/L	7/01/93	9:34	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Styrene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Toluene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Total Xylenes		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/01/93	9:34	MSM
	Vinyl acetate		0.050	<0.050	mg/L	7/01/93	9:34	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/01/93	9:34	MSM

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Roy F. Weston, Inc.
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Date Reported 7/16/93
Date Received 6/24/93
Order No 9306-00077
Invoice No 251

Cust # 702400
Cust P.O.#

Subject : Project #: 6629-001-043

Trip Blank not analyzed for Method 8270 #10 due to breakage.

Respectfully Submitted: Andrea M. Caroe

Andrea M. Caroe

APPENDIX E

GROUNDWATER ANALYTICAL RESULTS

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

PURGEABLE AROMATICS (602)

Date Analyzed: 08/25/92-08/28/92

Lab #	Field #
92-3969	143-GW-01-01
92-3970	143-GW-04-01
92-3971	143-GW-06-01
92-3972	143-GW-08-01
92-3973	143-GW-10-01
92-3974	143-GW-10-01A
92-3975	143-GW-11-01
92-3976	143-GW-12-01
92-3977	143-GW-13-01

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)

BENZENE	108	107	108	88	80
TOLUENE	109	104	100	89	87
CHLOROBENZENE	105	111	99	96	89
ETHYLBENZENE	107	108	103	86	86
XYLENES	105	101	103	91	92
1,3-DCB	105	138	117	83	102
1,4-DCB	109	139	131	83	122
1,2-DCB	109	124	131	84	88

MATRIX SPIKE/STANDARD ADDITIONS
(in percent)

Matrix Spike was performed on: 92-3970

BENZENE	92
TOLUENE	94
CHLOROBENZENE	95
ETHYLBENZENE	89
XYLENES	97
1,3-DCB	56
1,4-DCB	100
1,2-DCB	62

PRECISION

Replicate performed on: 92-3969

Percent Relative Deviation

BENZENE	2.1
TOLUENE	9.7
CHLOROBENZENE	<PQL
ETHYLBENZENE	5.2
XYLENES	6.8
1,3-DCB	<PQL
1,4-DCB	17
1,2-DCB	<PQL

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

TOTAL Pb (239.2)

Date Analyzed: 8/28/92

Lab #	Field #
92-3969	143-GW-01-01
92-3970	143-GW-04-01
92-3971	143-GW-06-01
92-3972	143-GW-08-01
92-3973	143-GW-10-01
92-3974	143-GW-10-01A
92-3975	143-GW-11-01
92-3976	143-GW-12-01

ACCURACY

KNOWN SPIKE RECOVERIES
(in percent)
97 90 88

MATRIX SPIKE/STANDARD ADDITIONS
(in percent)

Matrix Spike was performed on:
92-3974/143-GW-10-01A
99

PRECISION
Replicate was performed on:
92-3976/143-GW-12-01
Both values less than PQL.

TRPH (418.1)

Date Analyzed: 8/31/92

Lab #	Field #
92-3969	143-GW-01-01
92-3970	143-GW-04-01
92-3971	143-GW-06-01
92-3972	143-GW-08-01
92-3973	143-GW-10-01
92-3974	143-GW-10-01A
92-3975	143-GW-11-01
92-3976	143-GW-12-01

ACCURACY
(in percent)
104

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

QA/QC RANGES

TPH (Modified 8015)

STANDARD: #2 Heating Fuel
ACCURACY: Soil 73 - 126%

PRECISION

< or = 20% Relative Difference

BTEX (8020)

ACCURACY	%		
Benzene	39	-	150
Toluene	46	-	148
Ethylbenzene	32	-	160
Xylenes	60	-	140

PRECISION

< or = 20% Relative Difference

PURGEABLE AROMATICS (602)

ACCURACY	%		
Benzene	39	-	150
Chlorobenzene	55	-	135
1,2-DCB	37	-	154
1,3-DCB	50	-	141
1,4-DCB	42	-	143
Ethybenze	32	-	160
Toluene	46	-	148
Xylenes	60	-	140

PRECISION

< or = 20% Relative Difference

TCLP METALS

	ACCURACY Known Spikes	ACCURACY Matrix Spikes	PRECISION Percent Rel. Difference
Ag	87 - 111	70 - 111	8.15
As	87 - 111	75 - 118	17.64
Ba	81 - 110	76 - 108	14.18
Cd	86 - 109	63 - 132	12.19
Cr	90 - 109	68 - 118	18.59
Hg	81 - 105	85 - 108	8.48
Pb	69 - 126	69 - 113	15.97
Se	82 - 111	69 - 125	15.66

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
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Data:

TRPH (418.1)

ACCURACY
75% - 125%

TOTAL LEAD (239.2)

ACCURACY
85 - 115%

PRECISION
< or = 20% Relative Difference

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

W.O. # 6629-01-024
SITE: CTO-143
BLDG 1958

DETECTION AND QUANTIFICATION LIMITS

PARAMETERS REPORTED FOR:

TPH (modified 8015)
BTEX (8020)
PURGEABLE AROMATICS (602)
TCLP METALS
TOTAL LEAD (EPA 239.2)
TRPH (418.1)

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

TPH (Modified 8015)

STANDARD:	#2 Heating Fuel	TPH (ppm)	
MATRIX:	Soil	IDL	3.50
AMOUNT EXTRACTED:	5 g (nominal)	MDL	0.7 mg/Kg
EXTRACTION VOLUME:	1 ml	PQL	9.47

BTEX (8020)

		BETX	
MATRIX:	Soil	IDL	9.0 ng
AMOUNT PURGED:	5 g (nominal)	MDL	1.8 ug/kg
FOR ALL PARAMETERS		PQL	5.0 ug/kg

PURGEABLE AROMATICS (602)

MATRIX:	Water	602 (ppb)	
ALL LISTED PARAMETERS		IDL	2.0
		MDL	2.0
		PLQ	5.0

TCLP METALS

(All Values in PPM)

		IDL	MDL	PQL
SILVER	(Ag)	0.002	0.002	0.25
ARSENIC	(As)	0.015	0.015	0.25
BARIUM	(Ba)	0.001	0.001	0.25
CADMIUM	(Cd)	0.002	0.002	0.25
CHROMIUM	(Cr)	0.001	0.001	0.25
MERCURY	(Hg)	0.05 ppb	0.05 ppb	0.02 ppm
LEAD	(Pb)	0.025	0.025	0.25
SELENIUM	(Se)	0.015	0.015	0.25

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

TRPH (418.1)

MATRIX: Water
AMOUNT EXTRACTED: 1L (Nominal)
FINAL EXTRACTION VOLUME: 100 ml

	TPH (ppm)
IDL	0.10
MDL	0.10
PQL	0.10

TOTAL LEAD (239.2)

MATRIX: Water

	Pb (ppb)
IDL	0.61
MDL	0.61
PQL	5.0

TC ANALYTICS, INCORPORATED

1200 Boissevain Avenue Norfolk, Virginia 23507
Tel. (804) 627-0400 FAX (804) 627-1118

Data:

GLOSSARY OF TERMS

IDL
Instrument Detection Limit
Minimum concentration of analyte that can be measured with 99% confidence that the analyte concentration is greater than zero.

MDL
Method Detection Limit
Minimum concentration of analyte that can be measured with 99% confidence that the analyte concentration is greater than zero. Sample amounts extraction volumes and final volumes are considered in determining MDL.

PQL
Practical Quantification Limit
Concentration of analyte that can be determined precisely and accurately. Sample amounts extraction volumes and final volumes are considered in determining MDL.

TPH
Total Petroleum Hydrocarbons

ppm
Parts Per Million
Equivalent units mg/L, ug/ml and mg/Kg.

ppb
Parts Per Billion
Equivalent units ug/L ng/ml and ug/Kg.

TCLP METALS

SILVER	(Ag)
ARSENIC	(As)
BARIUM	(Ba)
CADMIUM	(Cd)
CHROMIUM	(Cr)
MERCURY	(Hg)
LEAD	(Pb)
SELENIUM	(Se)

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Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MW02-01 BLDG 1958 SAMPLED: 1515							
	TPH	418.1	1	233	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MW02-01 BLDG 1958 SAMPLED: 1515							
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	0.113	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Bromoform		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.050	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.050	mg/L	7/02/93	21:53	MSM
	2-Chloroethylvinyl ether		0.010	<0.050	mg/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.050	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,2-Dichlorobenzene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,2-Dichloroethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.025	mg/L	7/02/93	21:53	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MW02-01 BLDG 1958 SAMPLED: 1515							
	trans-1,3-Dichloropropene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	0.054	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Tetrachloroethene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Trichloroethene		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.025	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.050	mg/L	7/02/93	21:53	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Acenaphthylene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Anthracene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benzo(a)anthracene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benzo(b)fluoranthene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benzo(k)fluoranthene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benzo(a)pyrene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benzo(ghi)perylene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Benyl butyl phthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethyl) ether		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	4-Bromophenylphenyl ether		0.010	<0.100	mg/L	7/08/93	15:01	MSM

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Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1 MW02-01 BLDG 1958 SAMPLED: 1515								
	2-Chloronaphthalene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	4-Chlorophenylphenyl ether		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Chrysene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Dibenzo(a,h) anthracene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Di-n-butylphthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	1,2-Dichlorobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	1,3-Dichlorobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	1,4-Dichlorobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	3,3'-Dichlorobenzidine		0.050	<0.500	mg/L	7/08/93	15:01	MSM
	Diethyl phthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Dimethyl phthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2,4-Dinitrotoluene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2,6-Dinitrotoluene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Di-n-octylphthalate		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Fluoranthene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Fluorene		0.010	0.434	mg/L	7/08/93	15:01	MSM
	Hexachlorobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Hexachlorobutadiene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Hexachloroethane		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Isophorone		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Naphthalene		0.010	1.090	mg/L	7/08/93	15:01	MSM
	Nitrobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	Phenanthrene		0.010	0.740	mg/L	7/08/93	15:01	MSM
	Pyrene		0.010	0.112	mg/L	7/08/93	15:01	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MW02-01 BLDG 1958 SAMPLED: 1515							
	1,2,3-Trichlorobenzene		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	4-Chloro-3-methylphenol		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2-Chlorophenol		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2,4-Dichlorophenol		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2,4-Dimethylphenol		0.010	<0.100	mg/l	7/08/93	15:01	MSM
	2,4-Dinitrophenol		0.050	<0.500	mg/L	7/08/93	15:01	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.500	mg/L	7/08/93	15:01	MSM
	2-Nitrophenol		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	4-Nitrophenol		0.050	<0.500	mg/L	7/08/93	15:01	MSM
	Pentachlorophenol		0.050	<0.500	mg/L	7/08/93	15:01	MSM
	Phenol		0.010	<0.100	mg/L	7/08/93	15:01	MSM
	2,4,6-Trichlorophenol		0.050	<0.100	mg/L	7/08/93	15:01	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
2	103-01 BLDG 1958 SAMPLED: 1605							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW03-01 BLDG 1958 SAMPLED: 1605							
	Bromomethane		0.001	<0.001	MG/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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Date Reported 7/19/93
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Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW03-01 BLDG 1958 SAMPLED: 1605							
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromoform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM

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Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
. MW03-01 BLDG 1958 SAMPLED: 1605								
	Tetrachloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Chrysene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW03-01 BLDG 1958 SAMPLED: 1605							
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Diethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dimethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluorene		0.010	0.014	mg/L	7/08/93	15:01	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Isophorone		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Naphthalene		0.010	0.031	mg/L	7/08/93	15:01	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Phenanthrene		0.010	0.019	mg/L	7/08/93	15:01	MSM
	Pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW03-01 BLDG 1958 SAMPLED: 1605							
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/08/93	15:01	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Phenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/08/93	15:01	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	0.064	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
3	MW04-01 BLDG 1958 SAMPLED: 1415							
	TPH	418.1	1	2	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

Smp	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
MW04-01	BLDG 1958 SAMPLED: 1415							
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

Smp	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
MW04-01 BLDG 1958 SAMPLED: 1415								
	Bromoform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.010	MG/L	7/02/93	21:53	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SY	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3	MW04-01 BLDG 1958 SAMPLED: 1415							
	Trichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
4	MW05-01 BLDG 1958 SAMPLED: 1330							
	TPH	418.1	1	27	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
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287 Independence Blvd.
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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMD	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW05-01 BLDG 1958 SAMPLED: 1330							
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromoform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM

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Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW05-01 BLDG 1958 SAMPLED: 1330							
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

4 MW05-01 BLDG 1958 SAMPLED: 1330

ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
Acenaphthylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benzo(a)anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benzo(a)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benzo(ghi)perylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Benyl butyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
2-Chloronaphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Chrysene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Di-n-butylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/08/93	15:01	MSM
Diethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
Dimethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
2,4-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW05-01 BLDG 1958 SAMPLED: 1330							
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluorene		0.010	0.014	mg/L	7/08/93	15:01	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Indeno(1,2,3-cd)pyrene		0.010	0.016	mg/L	7/08/93	15:01	MSM
	Isophorone		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Naphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	N-Nitrosodi-n-propylamine		0.010	0.018	mg/L	7/08/93	15:01	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/08/93	15:01	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Phenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/08/93	15:01	MSM
	Purgeable Aromatics	8020			mg/L			

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4 MW05-01 BLDG 1958 SAMPLED: 1330								
	Benzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
MW06-01 BLDG 1958 SAMPLED: 1220								
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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Roy F. Weston, Inc.
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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW06-01 BLDG 1958 SAMPLED: 1220							
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromoform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW06-01 BLDG 1958 SAMPLED: 1220							
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

HP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW06-01 BLDG 1958 SAMPLED: 1220							
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Chrysene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Diethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dimethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluorene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW06-01 BLDG 1958 SAMPLED: 1220							
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Isophorone		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Naphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/08/93	15:01	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Phenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/08/93	15:01	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.040	mg/L	7/03/93	14:15	MSV

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Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	nW06-01 BLDG 1958 SAMPLED: 1220							
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
6	"W07-01 BLDG 1958 SAMPLED: 1120							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/03/93	14:15	MSV

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6 MW07-01 BLDG 1958 SAMPLED: 1120								
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/03/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromoform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Bromomethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloroethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	2-Chloroethylvinyl ether		0.010	<0.005	MG/L	7/02/93	21:53	MSM
	Chloroform		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Chloromethane		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
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287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
. MW07-01 BLDG 1958 SAMPLED: 1120								
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Toluene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/02/93	21:53	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/02/93	21:53	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	MW07-01 BLDG 1958 SAMPLED: 1120							
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Chrysene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Diethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Dimethyl phthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Fluorene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Isophorone		0.010	<0.010	mg/L	7/08/93	15:01	MSM

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Roy F. Weston, Inc.
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Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O.# 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
MW07-01	BLDG 1958 SAMPLED: 1120							
	Naphthalene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	Pyrene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/08/93	15:01	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/08/93	15:01	MSM
	Phenol		0.010	<0.010	mg/L	7/08/93	15:01	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/08/93	15:01	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Toluene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Ethylbenzene	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	Xylenes	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	MTBE	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV
	EDB	8020	0.001	<0.001	mg/L	7/03/93	14:15	MSV

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CERTIFICATE OF ANALYSIS

Roy F Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/25/93
Order No 9306-00080
Invoice No 253

Cust # 702400
Cust P.O. # 02-6309

Subject : WO#: 06629-001-043 Yorktown NWS Marving Farmer

A 1:40 DILUTION WAS NEEDED ON SAMPLES MW02-01, MW04-01, AND MW05-01 DUE TO HIGH LEVELS OF OTHER AROMATIC COMPOUNDS PRESENT 0.040 mg/L FOR SOME METHOD 602 COMPOUNDS.

Respectfully Submitted: Andrea M. Caroe

Andrea M. Caroe

RECEIVED JUL 2 0 1993

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MWTB-1 BLDG 1958 SAMPLED: 06/24/93 @ 1600							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MWTB-1 BLDG 1958 SAMPLED: 06/24/93 @ 1600							
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.005	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MWTB-1 BLDG 1958 SAMPLED: 06/24/93 @ 1600							
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MWTB-1 BLDG 1958 SAMPLED: 06/24/93 @ 1600							
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Chrysene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Diethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluorene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Isophorone		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Naphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
1	MWTB-1 BLDG 1958 SAMPLED: 06/24/93 @ 1600							
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/13/93	12:24	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Phenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/13/93	12:24	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	0.017	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV
	MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

S	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
? MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A								
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2 MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A								
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A							
Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
SEMIVOLATILE ORGANICS	625						
Acenaphthene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Acenaphthylene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Anthracene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benzo(a)anthracene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benzo(b)fluoranthene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benzo(k)fluoranthene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benzo(a)pyrene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benzo(ghi)perylene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Benyl butyl phthalate		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Bis(2-chloroethyl) ether		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Bis(2-chloroethoxy) methane		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Bis(2-ethylhexyl) phthalate		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Bis(2-chloroisopropyl)ether		0.010	<0.015	mg/L	7/13/93	12:24	MSM
4-Bromophenylphenyl ether		0.010	<0.015	mg/L	7/13/93	12:24	MSM
2-Chloronaphthalene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
4-Chlorophenylphenyl ether		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Chrysene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
Dibenzo(a,h) anthracene		0.010	<0.015	mg/L	7/13/93	12:24	MSM

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Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A							
	Di-n-butylphthalate		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	1,2-Dichlorobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	1,3-Dichlorobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	1,4-Dichlorobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	3,3'-Dichlorobenzidine		0.050	<0.075	mg/L	7/13/93	12:24	MSM
	Diethyl phthalate		0.010	<0.075	mg/L	7/13/93	12:24	MSM
	Dimethyl phthalate		0.010	<0.075	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrotoluene		0.010	<0.075	mg/L	7/13/93	12:24	MSM
	2,6-Dinitrotoluene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Di-n-octylphthalate		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Fluoranthene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Fluorene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Hexachlorobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Hexachlorobutadiene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Hexachloroethane		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Isophorone		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Naphthalene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Nitrobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Phenanthrene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	Pyrene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	1,2,3-Trichlorobenzene		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	4-Chloro-3-methylphenol		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	2-Chlorophenol		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	2,4-Dichlorophenol		0.010	<0.015	mg/L	7/13/93	12:24	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
2	MW9-201 BLDG 1958 SAMPLED: 06/28/93 @ N/A							
	2,4-Dimethylphenol		0.010	<0.015	mg/l	7/13/93	12:24	MSM
	2,4-Dinitrophenol		0.050	<0.075	mg/L	7/13/93	12:24	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.075	mg/L	7/13/93	12:24	MSM
	2-Nitrophenol		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	4-Nitrophenol		0.050	<0.075	mg/L	7/13/93	12:24	MSM
	Pentachlorophenol		0.050	<0.075	mg/L	7/13/93	12:24	MSM
	Phenol		0.010	<0.015	mg/L	7/13/93	12:24	MSM
	2,4,6-Trichlorophenol		0.050	<0.015	mg/L	7/13/93	12:24	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	<0.004	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV
	MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3	MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A							
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3 MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A								
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3	MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A							
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Chrysene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM

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Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

CMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3	MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A							
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Diethyl phthalate		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Fluorene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Hexachlorobutadiene		0.010	<0.010	MG/L	7/16/93	13:30	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Isophorone		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Naphthalene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/16/93	13:30	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM

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Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
3 MW9-101 BLDG 1958 SAMPLED: 06/24/93 @ N/A								
	4-Nitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Phenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/16/93	13:30	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	0.006	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV
4 MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810								
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810							
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4 MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810								
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						

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Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810							
	Acenaphthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Chrysene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Diethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/13/93	12:24	MSM

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810							
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluorene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Isophorone		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Naphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/13/93	12:24	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Phenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/13/93	12:24	MSM

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Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
4	MW9-01 BLDG 1958 SAMPLED: 06/28/93 @ 0810							
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	0.022	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV
5	MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5 MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115								
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM

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Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115							
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115							
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Chrysene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Diethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluorene		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115							
	Hexachlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Isophorone		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Naphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/13/93	12:24	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Phenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/13/93	12:24	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
5	MW10-01 BLDG 1958 SAMPLED: 06/28/93 @ 1115							
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	0.012	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV
	MW8-01 BLDG 1958 SAMPLED: 06/28/93 @ 1230							
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	MW8-01 BLDG 1958 SAMPLED: 06/28/93 @ 1230							
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM

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Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	MW8-01 BLDG 1958 SAMPLED: 06/28/93 @ 1230							
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6 MW8-01 BLDG 1958 SAMPLED: 06/28/93 @ 1230								
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	,	7/13/93	12:24	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Chrysene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	3,3'-Dichlorobenzidine		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Diethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/13/93	12:24	MSM
	2,6-Dinitrotoluene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Fluorene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM

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Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
6	MW8-01 BLDG 1958 SAMPLED: 06/28/93 @ 1230							
	Isophorone		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Naphthalene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Pyrene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	2,4-Dinitrophenol		0.010	<0.010	mg/l	7/13/93	12:24	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2-Nitrophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	4-Nitrophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	Phenol		0.050	<0.050	mg/L	7/13/93	12:24	MSM
	2,4,6-Trichlorophenol		0.010	<0.010	mg/L	7/13/93	12:24	MSM
	Purgeable Aromatics	8020	0.050	<0.010	mg/L	7/13/93	12:24	MSM
					mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	0.005	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	0.223	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV

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Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
7 MW11-01 BLDG 1958 SAMPLED: 06/28/93 @ 1410								
	TPH	418.1	1	<1	mg/L	6/29/93	11:00	CEA
	Purgeable Halocarbons	601						
	Bromodichloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromoform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Bromomethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Carbon Tetrachloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	2-Chlorovinyl ether		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloroform		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Chloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dibromochloromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,3-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,4-Dichlorobenzene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Dichlorodifluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,2-Dichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,2-Dichloropropane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	cis-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	trans-1,3-Dichloropropene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Methylene Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2,2,-Tetrachloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV

THIS CERTIFICATE OF ANALYSIS IS CONTINUED ON THE NEXT PAGE

Microbac

Microbac Laboratories, Inc.
Microbac Mid-Atlantic Division
604 Morris Drive
Newport News VA 23605
(804)825-1000

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
287 Independence Blvd.
Virginia Beach VA 23462

Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
7	MW11-01 BLDG 1958 SAMPLED: 06/28/93 @ 1410							
	Tetrachloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichloroethene		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,1-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	1,1,2-Trichloroethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Trichlorofluoromethane		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	Vinyl Chloride		0.001	<0.001	mg/L	7/13/93	14:15	MSV
	VOLATILE ORGANICS	624						
	Benzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromodichloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromoform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Bromomethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Carbon Tetrachloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloroethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	2-Chloroethylvinyl ether		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Chloroform		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Chloromethane		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	Dibromochloromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,3-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,4-Dichlorobenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,2-Dichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,2-Dichloropropane		0.005	<0.005	mg/L	7/08/93	17:10	MSM

THIS CERTIFICATE OF ANALYSIS IS CONTINUED ON THE NEXT PAGE

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CERTIFICATE OF ANALYSIS

Roy F. Weston, Inc.
Marving Farmer
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Virginia Beach VA 23462

Date Reported 7/19/93
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Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
7	MW11-01 BLDG 1958 SAMPLED: 06/28/93 @ 1410							
	cis-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	trans-1,3-Dichloropropene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Ethylbenzene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Methylene Chloride		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2,2-Tetrachloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Tetrachloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Toluene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,1-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	1,1,2-Trichloroethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichloroethene		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Trichlorofluoromethane		0.005	<0.005	mg/L	7/08/93	17:10	MSM
	Vinyl Chloride		0.010	<0.010	mg/L	7/08/93	17:10	MSM
	SEMIVOLATILE ORGANICS	625						
	Acenaphthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Acenaphthylene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Anthracene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(a)anthracene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(b)fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(k)fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(a)pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benzo(ghi)perylene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Benyl butyl phthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroethyl) ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroethoxy) methane		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-ethylhexyl) phthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Bis(2-chloroisopropyl)ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM

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Date Reported 7/19/93
Date Received 6/28/93
Order No 9306-00081
Invoice No 256

Cust # 702400
Cust P.O.# 02-6309

Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

7 MW11-01 BLDG 1958 SAMPLED: 06/28/93 @ 1410

MP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
	4-Bromophenylphenyl ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2-Chloronaphthalene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Chlorophenylphenyl ether		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Chrysene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Dibenzo(a,h) anthracene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Di-n-butylphthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,2-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,3-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,4-Dichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	3,3'-Dichlorobenzidine		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Diethyl phthalate		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Dimethyl phthalate		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	2,4-Dinitrotoluene		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	2,6-Dinitrotoluene		0.010	<0.050	mg/L	7/16/93	13:30	MSM
	Di-n-octylphthalate		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Fluoranthene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Fluorene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Hexachlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Hexachlorobutadiene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Hexachloroethane		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Indeno(1,2,3-cd)pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Isophorone		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Naphthalene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Nitrobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	N-Nitrosodi-n-propylamine		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	Phenanthrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM

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Subject : WO #: 06629-001-043 Yorktown NWS Marving Farmer

SMP	ANALYSIS	METHOD	MDL	RESULTS	UNITS	DATE	TIME	INI
7	MW11-01 BLDG 1958 SAMPLED: 06/28/93 @ 1410							
	Pyrene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	1,2,3-Trichlorobenzene		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Chloro-3-methylphenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2-Chlorophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4-Dichlorophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4-Dimethylphenol		0.010	<0.010	mg/l	7/16/93	13:30	MSM
	2,4-Dinitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	2-Methyl-4,6-dinitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	2-Nitrophenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	4-Nitrophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Pentachlorophenol		0.050	<0.050	mg/L	7/16/93	13:30	MSM
	Phenol		0.010	<0.010	mg/L	7/16/93	13:30	MSM
	2,4,6-Trichlorophenol		0.050	<0.010	mg/L	7/16/93	13:30	MSM
	Purgeable Aromatics	8020			mg/L			
	Benzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Toluene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Ethylbenzene		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	Xylenes		0.002	<0.002	mg/L	7/10/93	13:06	MSV
	MTBE		0.004	<0.004	mg/L	7/10/93	13:06	MSV
	EDB		0.008	<0.008	mg/L	7/10/93	13:06	MSV

Respectfully Submitted: Andrea M. Caroe

Andrea M. Caroe

DIFFERENT DETECTION LIMITS DUE TO SAMPLE VOLUME.

Microbac Laboratories, Inc.
Microbac Mid-Atlantic Division
604 Morris Drive Newport News, VA 23605 804/825-1000 Fax: 804/825-1200

Microbac

MEMORANDUM

TO: Ed Dullaghan

FROM: Andrea M. Caroe, QA/QC Director

SUBJECT: Requested Clarification

DATE: 27 July 1993

Addressed below are the results of the investigations into the two compounds you questioned.

MTBE - This analysis was performed in the Newport News Virginia facility. The analytical run was reviewed for any possible carryover contamination at the instrument. For this analysis, there is no preparation that could introduce contamination. The following is a list of the MTBE results obtained in the order of analysis for that day:

Analysis #	MTBE concentration in mg/L
29	0.017
30	<0.004
31	0.006
32	0.012
33	0.022
34	0.012
35	0.223
36	<0.004 (Laboratory Blank)

In review of the data, there is no typical laboratory contamination problem indicated. All quality control for that analytical run complies with the standard established by the method reference and the divisions protocols. If you wish further investigation, please advise and we will gladly comply.

Bis(2-ethylhexyl)phthalate -

The analysis of the compounds by method 8270 were completed at Microbac's Pittsburgh facility. The GCMS spectrums were reviewed for laboratory contamination. The blank analysis for the day showed 1/10th of the reportable concentration for this parameter. This may be attributed to artifact affect from the uses of rubber gloves during the extraction. The concentrations of Bis(2-ethylhexyl)phthalate found in the samples was much greater than the detection level. Since there is no indication of any laboratory contamination of this degree, we suggest that the uses of plastics in the field be closely examined. This particular compound is often used as a plasticizer. We will furnish all GCMS spectrum to you if you choose to review them for yourself. Please call if I can be of any further help in your investigation.

TC ANALYTICS INC
Tel. (804) 627-0400 FAX (804) 627-1118

CHAIN OF CUSTODY RECORD

Project Name CTO 143 (Bldg 1958) Sampler JAMES E. DAVIS

Project Number 6629-01-024 Lab Destination T.C. ANALYTICS

Sample No.	Sample Location	Description	Date & Time Collected	Sample Type	Container Type	Condition on Receipt (Name & Date)
3-SB-01	@ WEST Corner of Bldg. 4'-6'	TPH	8-12-92 / 1700	GRAB/Soil	4 oz. GLASS	
3-SB-02	SAME - 15'-17'	TPH	8-12-92 / 1715	GRAB/Soil	4 oz. GLASS	
3-SB-01	IN grassy Area @ Rear of Bldg - 4'-6'	TPH	8-13-92 / 0755	GRAB/Soil	4 oz. GLASS	[redacted]
[redacted]	SAME - 15'-17'	8 TCLP METALS TPH EPA	8-14-92 / 0815	GRAB/Soil	16 oz. glass	
[redacted]	SAME - 15'-17'	GRAIN SIZE	8-14-92 / 0815	GRAB/Soil	16 oz. glass	[redacted]
3-SB-02	SAME - 15'-17'	VOA (BETX)	8-14-92 / 0815	GRAB/Soil	4 oz. glass	

Special Instructions: [redacted] SW846 METHOD 8015 Modified; (8 TCLP METALS) EPA [redacted] (Grain Size) EPA SW846 [redacted] SW846 METHOD 1010; (Volatile Aromatic Organics) [redacted] SW846 METHOD 8020

Possible Lab Hazards:

Signatures: (Name, Company, Date & Time)

1. Relinquished By [signature] 8-14-92 / 1340
   Received By [signature] 8-14-92 1340
2. Relinquished By
   Received By
   Authorization for Disposal
3. Relinquished By
   Received By
4. Relinquished By
   Received By
   Disposed By

TC ANALYTICS, INC. Tel. (804) 627-0400 FAX (804) 627-1118

CHAIN OF CUSTODY RECORD

Project Name CTO 143 (Bldg 1958) Sampler JAMES E. DAVIS

Project Number 6629-01-024 Lab Destination TC ANALYTICS

Sample No.	Sample Location	Description	Date & Time Collected	Sample Type	Container Type	Condition on Receipt (Name & Date)
3-SB-01	NE Corner Bldg. 1958 (MW-01) - 4'-6'	TPH	8-11-92 / 1305	GRAB/Soil	4 oz. GLASS	
[illegible]	SAME - 4'-6'	TPH	8-11-92 / 1305	GRAB/Soil	4 oz. GLASS	
[illegible]	SAME - 10'-12'	8 TCLP METALS, TPH, FP, GRAIN SIZE	8-11-92 / 1320	GRAB/Soil	2x16 oz GLASS	
[illegible]	SAME - 10'-12'	VOA (BETX)	8-11-92 / 1330	GRAB/Soil	4 oz. GLASS	
[illegible]	SAME - 10'-12'	VOA (BETX)	8-11-92 / 1320	GRAB/Soil	4 oz. GLASS	
[illegible]-SB-01	[illegible]	TPH	8-12-92 / 0755	GRAB/Soil	4 oz. GLASS	
[illegible]-SB-01A	SAME - 4'-6'	TPH	8-12-92 / 0755	GRAB/Soil	4 oz. GLASS	
3-SB-02A	SAME 20'-22'	TPH	8-12-92 / 0830	GRAB/Soil	4 oz GLASS	
[illegible]-SB-01	Bldg. ENTRANCE (MW-02) - 4'-6'	TPH	8-12-92 / 0905	GRAB/Soil	4 oz. GLASS	
3-SB-02	SAME - 20'-22'	TPH	8-12-92 / 0935	GRAB/Soil	4 oz. GLASS	
3-SB-01	[illegible]	TPH	8-12-92 / 1520	GRAB/Soil	4 oz. GLASS	
3-SB-02	SAME - 15'-17'	TPH	8-12-92 / 1545	GRAB/Soil	4 oz. GLASS	

Special Instructions: [illegible] METHOD SW846; METHOD 8015 Modified (TPH); EPA SW 846 METHOD 1010 (FLASHPOINT) [illegible] (GRAIN SIZE); (VOLATILE AROMATIC ORGANICS) EPA SW 8[illegible] METHOD 8020

Possible Lab Hazards: [illegible] High Concentrations in Samples of TPH & CONSTITUENTS of Fuel oil.

Signatures: (Name, Company, Date & Time)

1. Relinquished By [illegible] 8-14-92 / 1340
   Received By [illegible] 8/14/92 1340
2. Relinquished By
   Received By
3. Relinquished By
   Received By
4. Relinquished By
   Received By

Authorization for Disposal

Disposed By

TC ANALYTICAL INC

Tel. (804) 527-0400 FAX

CHAIN OF CUSTODY RECORD

Project Name CTO-143 (Bldg 1958) Sampler JAMES E. DAVIS

Project Number 6629-01-024 Lab Destination T.C. ANALYTICS

Sample No.	Sample Location	Description	Date & Time Collected	Sample Type	Container Type	Condition on Receipt (Name & Date)
3-SB-01	4'-6' @ SOUTH Corner of Bldg.	TPH	8-17-92 / 1035	GRAB/Soil	4oz. GLASS	
3-SB-02	Same, 12'-14'	TPH	8-17-92 / 1046	GRAB/Soil	4oz. GLASS	
3-SB-01	WEST side of Bldg @ oak tree 4'-6'	TPH	8-17-92 / 1155	GRAB/Soil	4oz. GLASS	
3-SB-02	Same. 10'-12'	TPH	8-17-92 / 1330	GRAB/Soil	4oz. GLASS	
3-SB-01	South side @ above ground tank	TPH	8-18-92 / 0835	GRAB/Soil	4oz. GLASS	
3-SB-02	Same 14'-16'	TPH	8-18-92 / 0850	GRAB/Soil	4oz. GLASS	
3-SB-01	@ EAST corner in parking lot.	TPH	8-18-92 / 1000	GRAB/Soil	4oz. GLASS	
3-SB-02	Same. 10'-12'	TPH	8-18-92 / 1015	GRAB/Soil	4oz. GLASS	
3-SB-01	South of playground @ 4'-6'	TPH	8-18-92 / 1210	GRAB/Soil	4oz. GLASS	
3-SB-02	Same. 10'-12'	TPH	8-18-92 / 1220	GRAB/Soil	4oz. GLASS	

Special Instructions: (TPH) EPA SW 846 METHOD 8015 Modified, (8 RCRA METALS) EPA SW 846; (Flashpoint) EPA SW 846 METHOD 1010 (GRAIN Size) EPA SW 846; (Volatile Aromatic Organics) EPA SW 846 METHOD 8020

Possible Lab Hazards:

Signatures: (Name, Company, Date & Time)

1. Relinquished By James E. Davis 8-19-92 1330
   Received By [illegible] 8/19/92 1330
2. Relinquished By
   Received By
   Authorization for Disposal
3. Relinquished By
   Received By
4. Relinquished By
   Received By
   Disposed By

TC ANALYTICS, INC.

[illegible]0 B[illegible]evair[illegible]enue [illegible]orfo[illegible], [illegible]irgi[illegible] [illegible]350[illegible]
Tel. (804) 627-0400 FAX (804) 627-1118

CHAIN OF CUSTODY RECORD

Project Name CTO 143; Bldg 1958 Sampler JAMES E. DAVIS

Project Number 6629-01-024 Lab Destination T.C. ANALYTICS

Sample No.	Sample Location	Description	Date & Time Collected	Sample Type	Container Type	Condition on Receipt (Name & Date)
3-GW-01	MW-01	Purgeable Aromatics	8-24-92/1015	WATER GRAB	2x40ml. VOA	
3-GW-01	MW-01	TPH	8-24-92/1015	WATER GRAB	1L. AMBER	
3-GW-01	MW-01	Pb	8-24-92/1015	WATER GRAB	500 ML. PLASTIC	
3-GW-01	MW-03	Purgeable Aromatics	8-24-92/1130	WATER GRAB	2x40ml. VOA	
3-GW-01	MW-03	TPH	8-24-92/1130	WATER GRAB	1L. AMBER	
3-GW-01	MW-03	Pb	8-24-92/1130	WATER GRAB	500ML. PLASTIC	
3-GW-01	MW-04	Purgeable Aromatics	8-24-92/1250	WATER GRAB	2x40 ML. VOA	
3-GW-01	MW-04	TPH	8-24-92/1250	WATER GRAB	1L. Amber	
3-GW-01	MW-04	Pb	8-24-92/1250	WATER GRAB	500ML. PLASTIC	
3-GW-01	MW-05	Purgeable Aromatics	8-24-92/1330	WATER GRAB	2x40 ML. VOA	
3-GW-01	MW-05	TPH	8-24-92/1330	WATER GRAB	1L Amber	
3-GW-01	MW-05	Pb	8-24-92/1330	WATER GRAB	500ML. PLASTIC	

TOTAL PETROLEUM Hydrocarbons (TPH) EPA 600 METHOD 418.1

Special Instructions: Purgeable Aromatics EPA 600 METHOD 602; LEAD (Pb) EPA 600 METHOD 239.2

Possible Lab Hazards: Preservatives: Purgeable Aromatics - ICE; TPH - H_2SO_4 TO pH of 2; Pb - HNO_3 TO pH of 2

Signatures: (Name, Company, Date & Time)

1. Relinquished By [illegible], RFW, 8-24-92, 1800 3. Relinquished By
Received By [illegible] TCA 8/24/92/1800 Received By

2. Relinquished By 4. Relinquished By
Received By Received By

Authorization for Disposal Disposed By

TC ANALYTICS, INC.

1200 P[illegible]eva[illegible] Avenue
Tel. (804) 627-0400

Nor[illegible] Virg[illegible] 235[illegible]
FAX (804) 627-1118

CHAIN OF CUSTODY RECORD

Project Name CTO 143; Bldg 1958 Sampler JAMES E. DAVIS

Project Number 06629-01-024 Lab Destination T.C. ANALYTICS

Sample No.	Sample Location	Description	Date & Time Collected	Sample Type	Container Type	Condition on Receipt (Name & Date)
3-GW-0-01&01A	MW-06	Purgeable Aromatics	8-24-92 / 1405	WATER GRAB	2x40ml. VOA	
3-GW-0-01&01A	MW-06	TPH	8-24-92 / 1405	WATER GRAB	1L. Amber	
3-GW-0-01&01A	MW-06	Pb	8-24-92 / 1405	WATER GRAB	500ml. PLASTIC	
3-GW-1-01	MW-07	Purgeable Aromatics	8-24-92 / 1435	WATER GRAB	2x40ml VOA	
3-GW-1-01	MW-07	TPH	8-24-92 / 1435	WATER GRAB	1L Amber	
3-GW-1-01	MW-07	Pb	8-24-92 / 1435	WATER GRAB	500ml. PLASTIC	
3-GW-2-01	Rinse	Purgeable Aromatics	8-24-92 / 1100	WATER GRAB	2x40mL VOA	
3-GW-2-01	RINSE	TPH	8-24-92 / 1100	WATER GRAB	1L Amber	
3-GW-2-01	RINSE	Pb	8-24-92 / 1100	WATER GRAB	500ml. PLASTIC	
3-GW-3-01	—	Purgeable AROMATICS	8-24-92 / 1500	WATER GRAB	2x40ml. VOA	

Special Instructions: TOTAL PETROLEUM HYDROCARBONS (TPH) EPA 600 METHOD 418.1 Purgeable AROMATICS EPA 600 METHOD 602; LEAD (Pb) EPA 600 METHOD 239.2

Possible Lab Hazards: Preservatives: Purgeable Aromatics - ICE; TPH - H_2SO_4 To pH of 2; Pb - HNO_3 To pH of 2

Signatures: (Name, Company, Date & Time)

1. Relinquished By [illegible] RFW 8-24-92 1800
   Received By [illegible] T.E. Jones TCA 8/24/92 1800
2. Relinquished By
   Received By
3. Relinquished By
   Received By
4. Relinquished By
   Received By

Authorization for Disposal

Disposed By

APPENDIX F

LPH RECOVERY SYSTEM EQUIPMENT SPECIFICATIONS

LPH RECOVERY SYSTEM
EQUIPMENT LIST
NWS-YORKTOWN BUILDING 1958

Product Pumps P-1a,b:

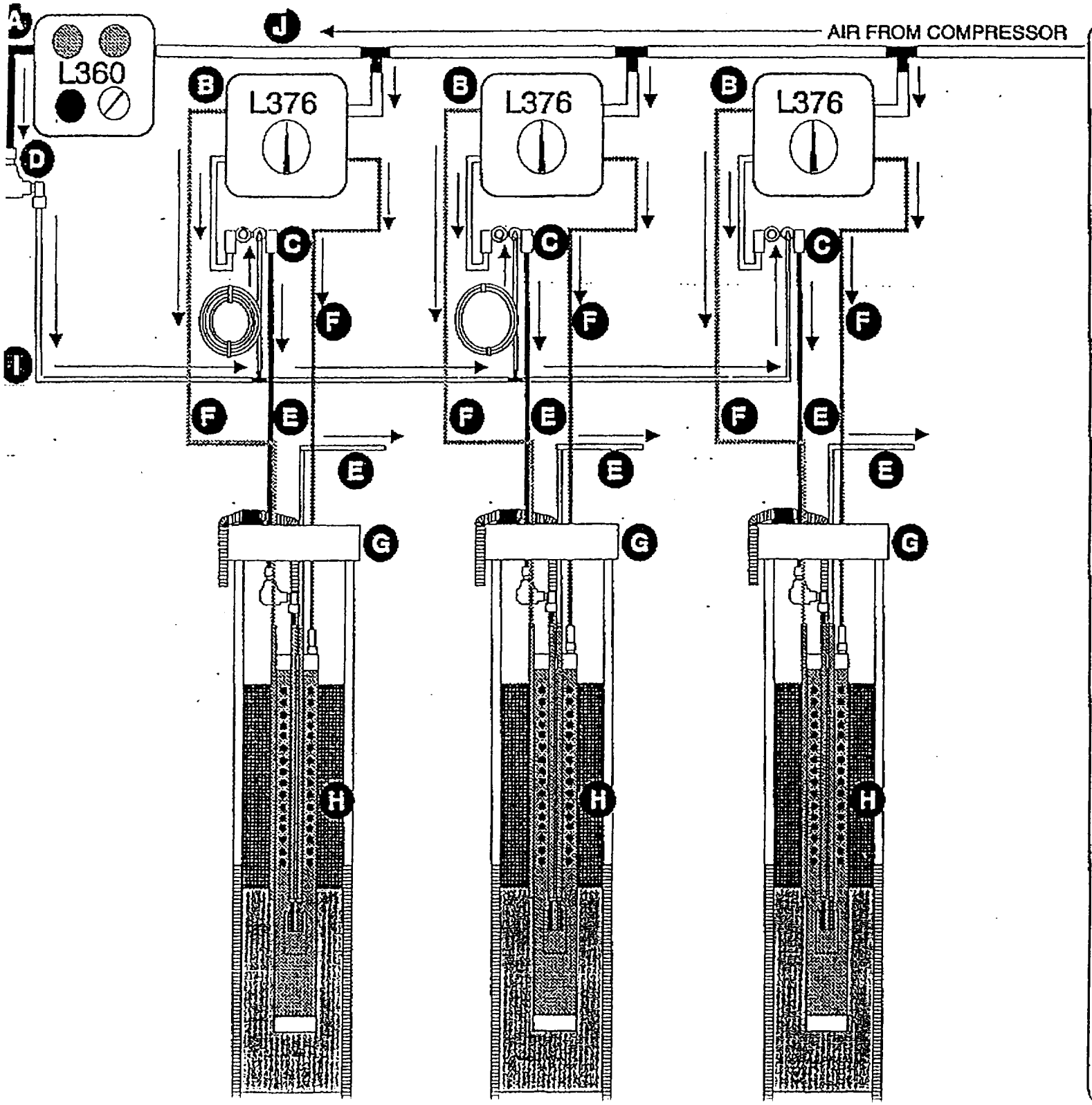
- Two (2) QED Seeker Pneumatic Pump for 0.25 gpm of free floating product, complete with one (1) Model L376 Seekermate multiwell controller, Quotation No. 5096.

- One (1) 1.0 hp, 115 volt, lamp, 100 psi air compressor.

Product Storage Tank T-1:

- One (1) 500-gallon steel storage tank complete with secondary containment pan and site tube.

  - One (1) QED explosion proof electro-pneumatic high tank level shutoff switch.



PULSE PUMP SYSTEM "K"

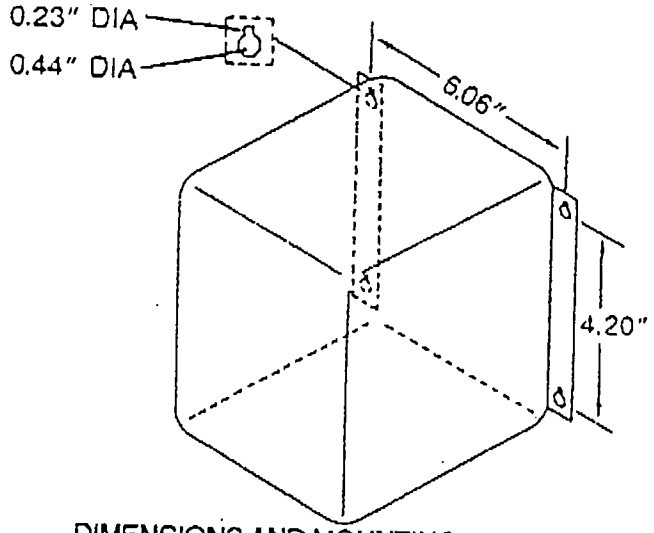
ONE CONTROLLER CONTROLLING MORE THAN ONE SEEKER PUMP

- **A** L360 CONTROLLER
- **B** L376 SEEKERMATE OR L377 (VACUUM REFFER-ENCED)
- **C** L600 REMOTE WELL OPERATOR
- **D** L358 CONTROLLER EXHAUST VALVE
- **E** SEEKER CONTROL HOSES
- **F** SEEKER GAUGE HOSES
- **G** SEEKER WELL CAP
- **H** LP1501 SEEKER PUMP
- **I** 1/4" LOGIC LINE
- **J** 1/2" AIR SUPPLY TUBING

OPTIONS:

MODULE ENCLOSURE
FILTER PACKAGE
PNEUMATIC CYCLE COUNTER

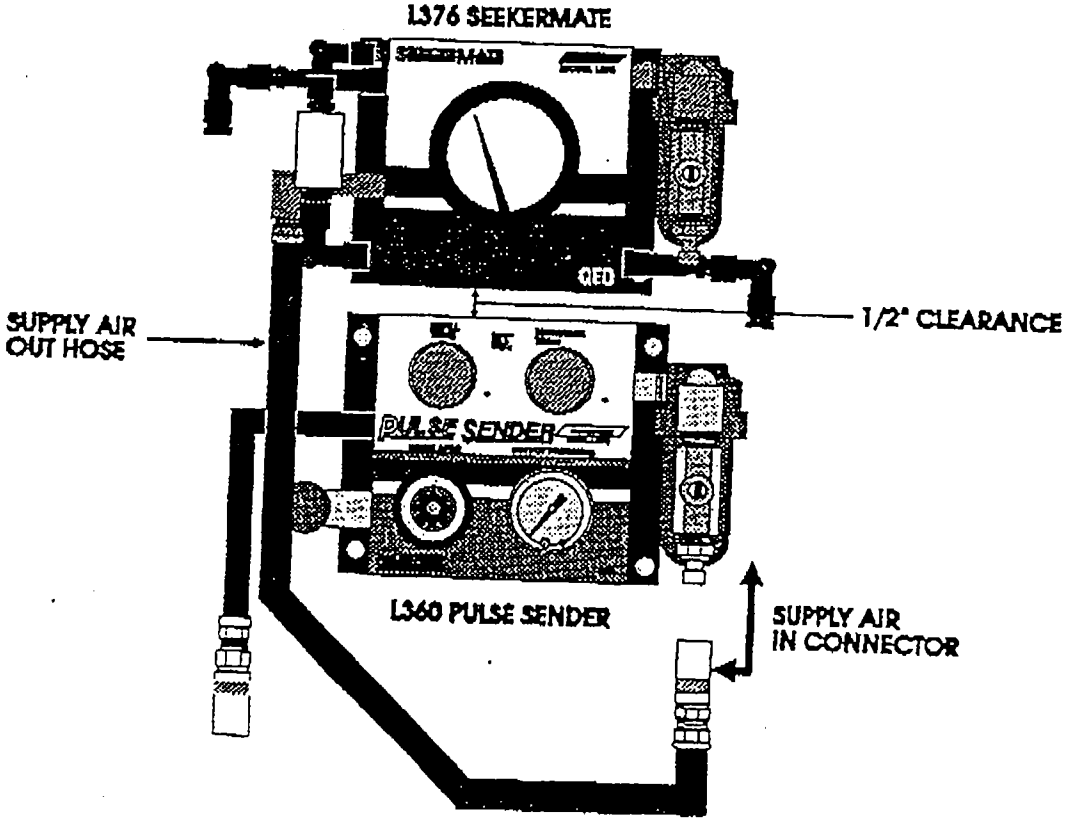
FIND A PROPER LOCATION TO MOUNT YOUR CONTROLLER MODULES, WHERE THEY WILL BE CLOSE TO YOUR WELL AND WILL BE WELL PROTECTED FROM HARSH WEATHER. THE L376 SEEKERMATE SHOULD BE MOUNTED DIRECTLY ABOVE YOUR L360 PULSE SENDER CONTROLLER WITH APPROXIMATELY 1/2" SPACE BETWEEN THE TOP OF YOUR L360 AND THE BOTTOM OF YOUR L376, SO THE HOSE CONNECTION BETWEEN YOUR MODULES WILL REACH AND FIT PROPERLY. (IF YOU HAVE PURCHASED AN OPTIONAL 35890 WEATHER TIGHT MODULE ENCLOSURE THIS HAS ALREADY BEEN DONE FOR YOU,SIMPLY MOUNT YOUR ENCLOSURE IN CLOSE PROXIMITY TO YOUR WELL)



DIMENSIONS AND MOUNTING L376 & L360

2. CONNECTING YOUR L376 TO YOUR L360

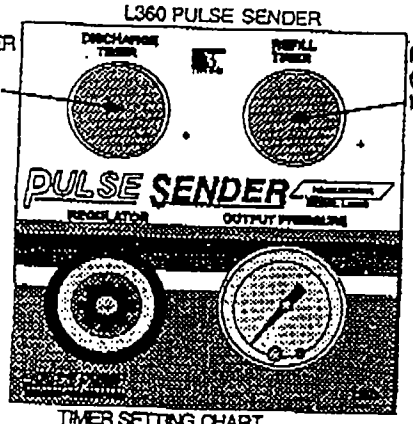
ONCE YOU HAVE MOUNTED YOUR CONTROLLER MODULES YOU CAN CONNECT THE TWO UNITS TOGETHER BY ATTACHING THE BLACK HOSE COMING OUT OF THE LEFT HAND SIDE OF THE L376 MARKED,"SUPPLY AIR OUT", TO THE CONNECTOR ON THE RIGHT HAND SIDE OF THE L360 MARKED,"SUPPLY AIR IN",.



ADJUSTMENTS & OPERATION

1. SET THE REFILL AND DISCHARGE TIMERS OF THE L360 ON A LONG REFILL/DISCHARGE TIME (ABOUT 15 SECONDS OR THE "D" SETTING).THIS SETTING ENSURES THAT YOUR PUMP HAS AN AMPLE AMOUNT OF TIME TO FILL COMPLETELY AND GIVE YOU AN ACCURATE MEASUREMENT OF YOUR PUMP'S INTERNAL CAPACITY. THIS MEASUREMENT IS USED AS YOU OPTIMIZE YOUR PUMP TO MAKE SURE IT IS PUMPING AT FULL CAPACITY.

L360 PULSE SENDER

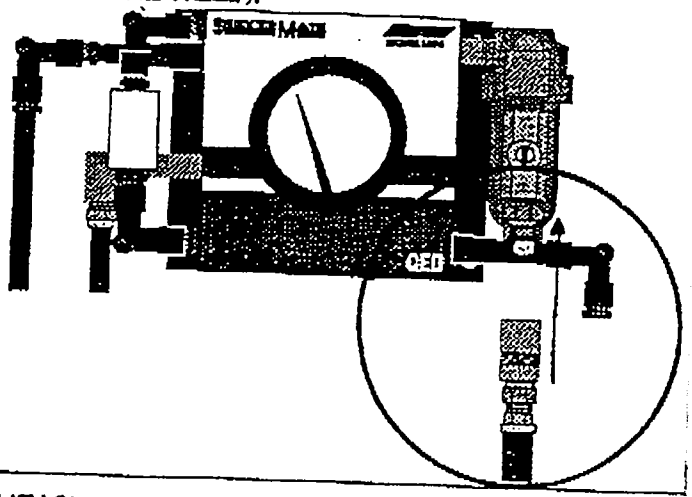


TIMER SETTING CHART

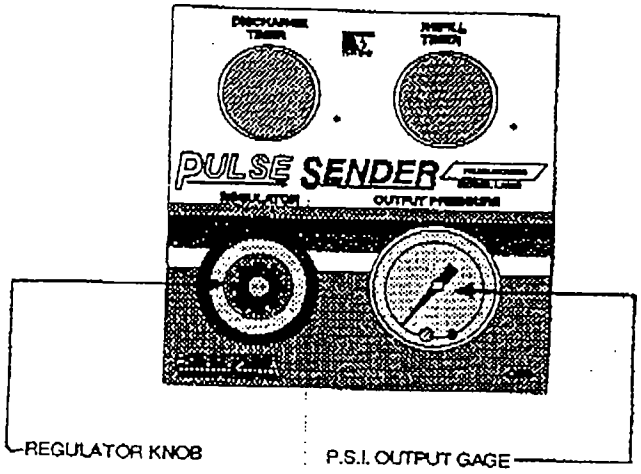
A	B	C	D	E	F
1 SEC.	3 SEC.	9 SEC.	15 SEC.	30 SEC.	42 SEC.

(TIMES ARE APPROXIMATE)

2. RE-ATTACH YOUR AIR SOURCE TO THE RIGHT HAND SIDE OF THE L376 SEEKERMATE MARKED,"AIR IN FROM COMPRESSOR". LIQUID SHOULD BEGIN TO FLOW THROUGH THE PUMP'S GREEN DISCHARGE HOSE AFTER 5-15 CYCLES OF PUMPING,(DEPENDING ON THE DEPTH OF THE WELL).



3. SHOULD AN ADJUSTMENT IN THE AMOUNT OF AIR PRESSURE DELIVERED TO THE PUMP BECOME NECESSARY YOU CAN DO SO WITH THE AIR REGULATOR LOCATED ON THE L360. TO UNLOCK REGULATOR PULL UP ON THE YELLOW KNOB. TO INCREASE PRESSURE TURN YELLOW KNOB CLOCKWISE TO DECREASE PRESSURE TURN KNOB COUNTER CLOCKWISE. APPROXIMATELY 40 P.S.I. IS ADEQUATE FOR SEEKER PUMP OPERATION. THE P.S.I. OUTPUT THE L360'S REGULATOR HAS BEEN PRE-SET TO 60 . P.S.I. THIS ADJUSTMENT SHOULD ONLY BE NECCESSARY IN DEEPER WELL SITUATIONS (BEYOND 130').



4. MEASURE THE LIQUID DISCHARGED DURING ONE CYCLE. (THE VOLUME OF THE LIQUID MAY BE SLIGHTLY LESS THAN THE INTERNAL VOLUME CAPACITY OF THE PUMP).

THE SEEKER PUMP'S INTERNAL CAPACITY

MILLILITERS	LITERS	GALLONS
45	.045	.01

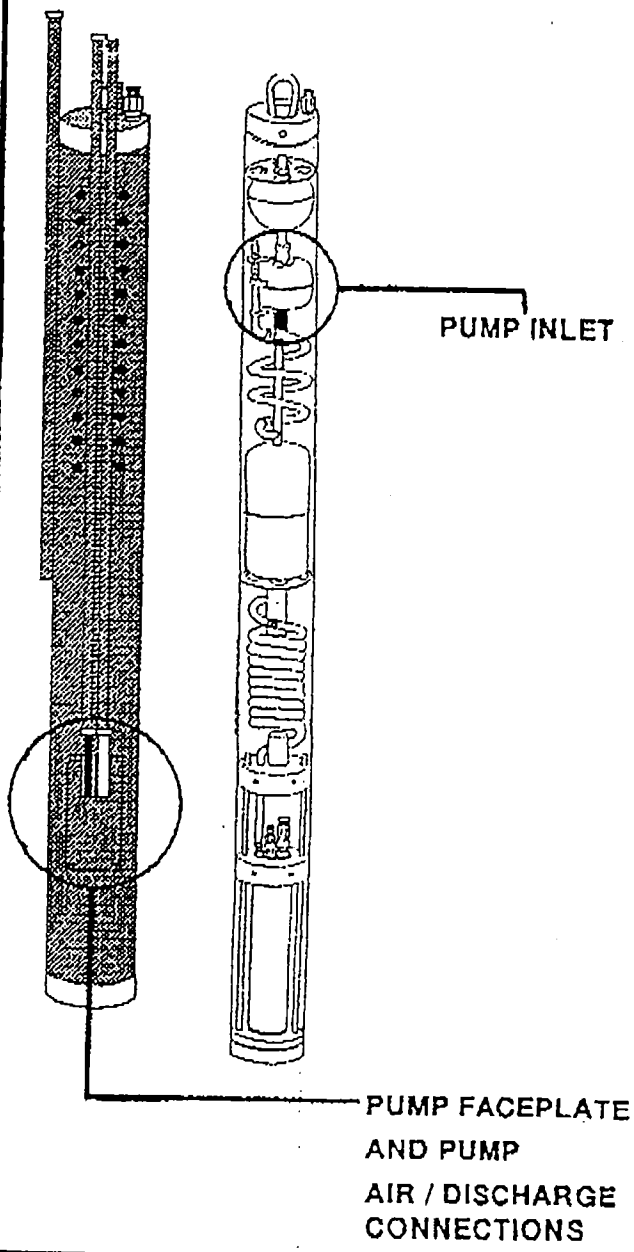
5. DECREASE THE DISCHARGE TIMER'S TIME GRADUALLY, (ALLOW THE PUMP TO GO THROUGH IT'S CYCLE 3-5 TIMES BETWEEN EACH ADJUSTMENT), UNTILYOU BEGIN TO SEE A DROP IN THE VOLUME OF THE LIQUID COMING OUT OF YOUR DISCHARGE HOSE. INCREASE THE DISCHARGE TIME SLIGHTLY UNTIL YOU YOU ARE ONCE AGAIN GETTING THE AMOUNT DISCHARGED PER CYCLE THAT YOU MEASURED IN STEP 4. THE DISCHARGE CYCLE OPTIMIZATION IS NOW COMPLETE.

INTERNAL PUMP INLET ADJUSTMENT

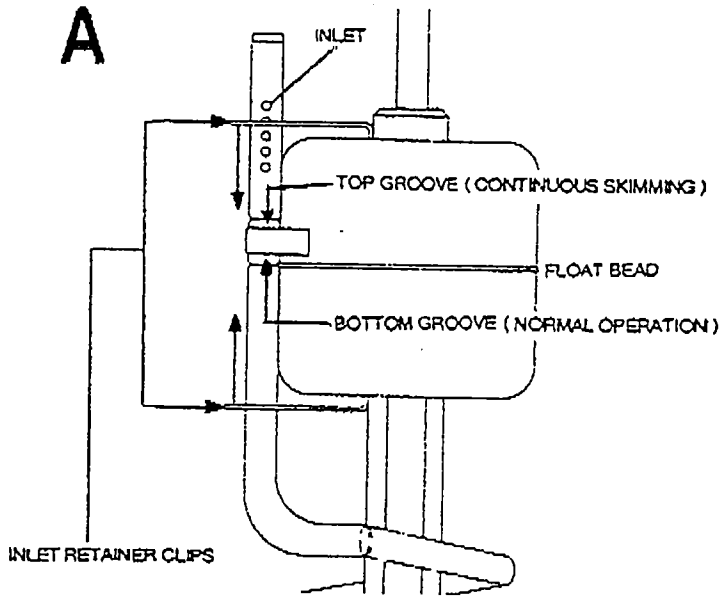
The LP1501 "SEEKER PUMP" is equipped, (internally), with an adjustable hydrocarbon inlet. The pump's inlet can be lowered to allow a thinner final product layer to be achieved if the inlet is lowered far enough, the upper portion of the water can also be removed.

To adjust inlet, pinch the retainer clip together and gently work the inlet downward until the desired position is reached. In some cases the inlet may prove difficult to dislodge from the factory set, "KEEPER GROOVE". If this is the case, gently tap the top of the inlet with a tool until the inlet tube is dislodged, then work the inlet tube downward as previously described.

Remove pump face plate by removing the 4 screws holding it in place. Disconnect the pump air and discharge lines. The pump's internal components should be free to slide out the bottom of the pump. Once internal components are removed locate the pump inlet.

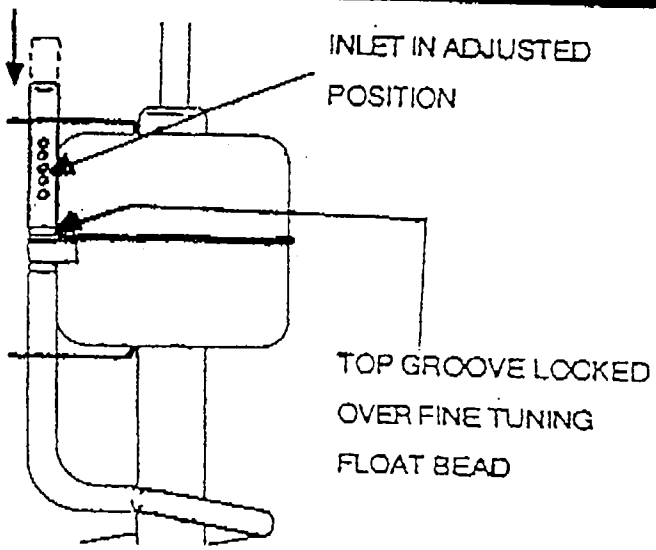


A



The pump's inlet can be lowered to allow for continuous skimming of the surface of the water after the product layer has been removed. To lower the inlet into this position pinch the inlet retainer clip together and lower the inlet until the top groove is locked over the float bead.

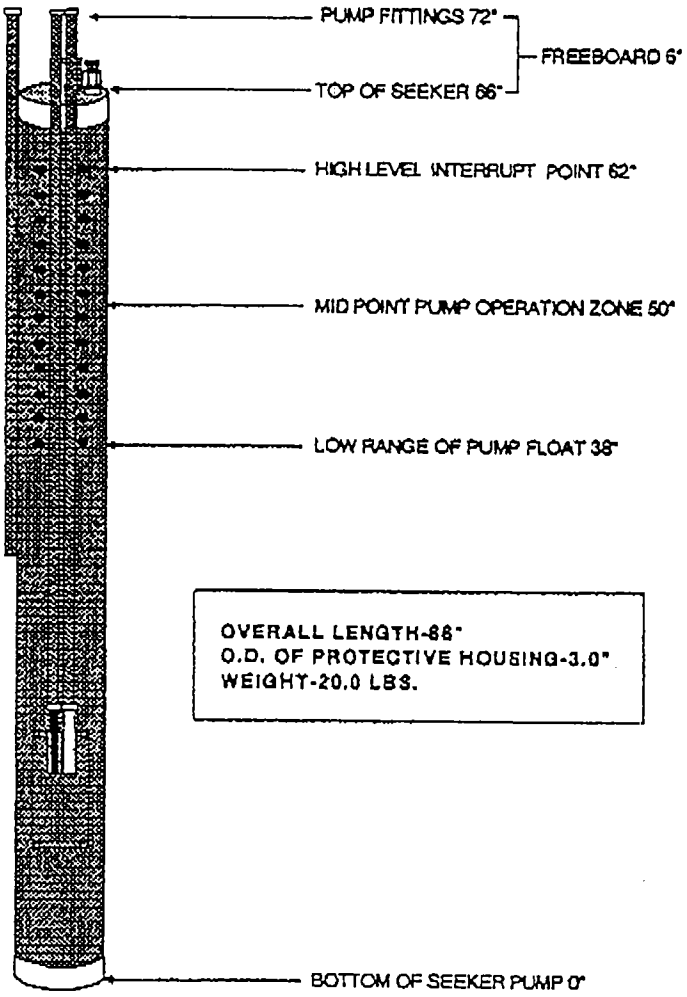
B



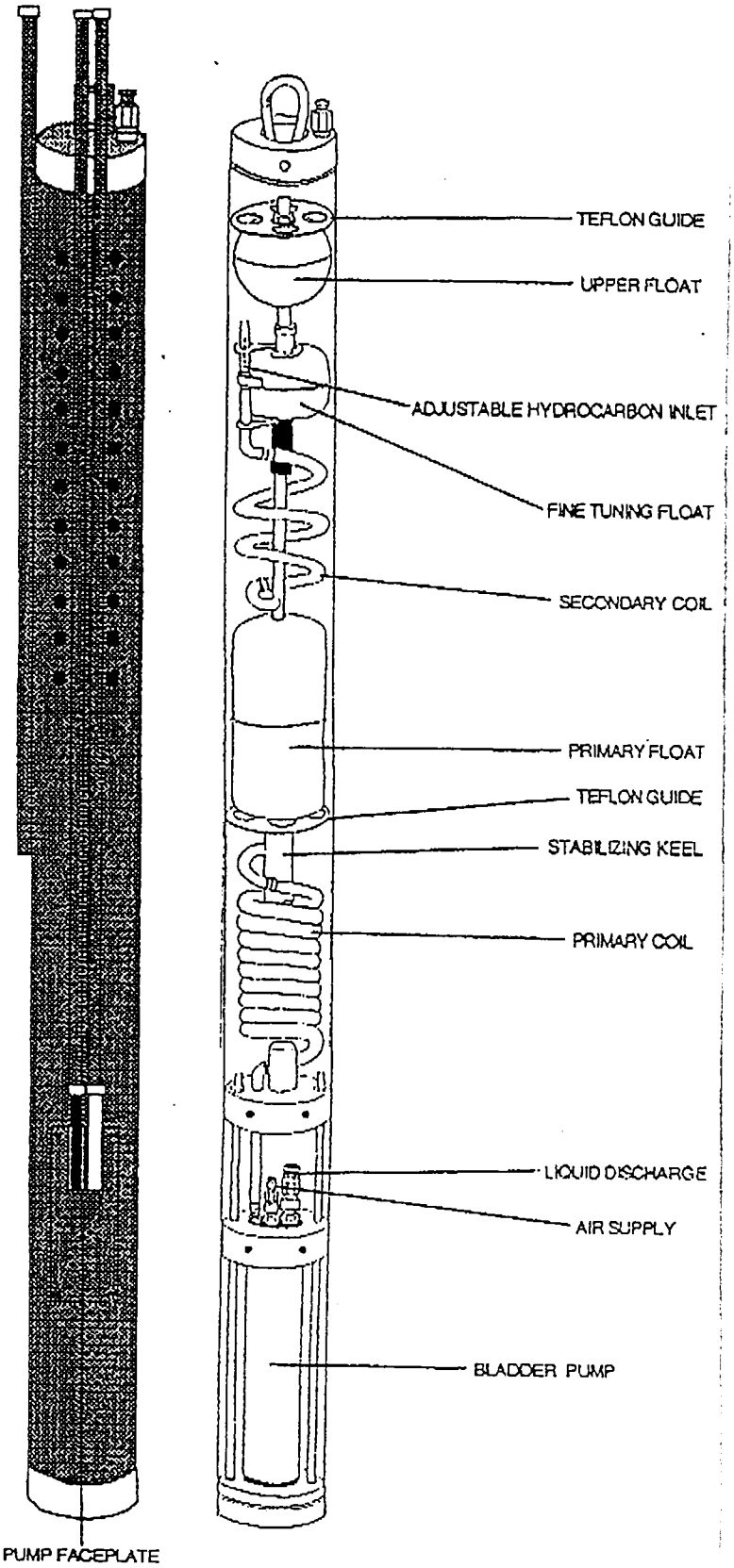
QED GROUNDWATER SPECIALISTS
TECHNICAL DATA / SPECIFICATIONS

SEEKER PUMP
MODEL LP1501

PUMP DIMENSIONS



INSIDE VIEW OF PUMP



DESCRIPTION:

THE SEEKER IS AN ALL-PNEUMATIC PUMP AND FLOAT SYSTEM DESIGNED TO REMOVE FLOATING HYDROCARBONS, WITHOUT PUMPING WATER, FROM 4" DIAMETER AND LARGER WELLS. THE UNIQUE LAYERED FLOAT DESIGN DELIVERS MODERATE FLOW RATE PRODUCT PUMPING (0 TO .25 G.P.M.). HYDROCARBON LAYERS AS SMALL AS 1/4" OR LESS* CAN BE RECOVERED AND THE FLOAT HAS THE ABILITY TO FOLLOW STATIC WATER LEVEL CHANGES OF UP TO 24". A STATIC WATER LEVEL SENSING TUBE EASES POSITIONING OF THE SEEKER IN THE WELL.

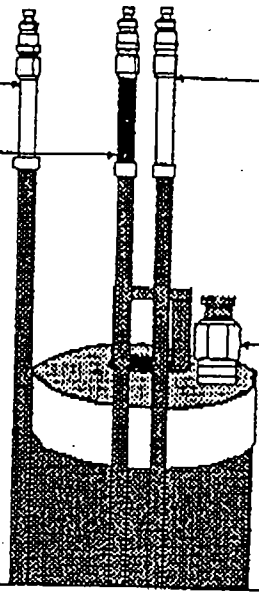
THE WHOLE ASSEMBLY IS HOUSED INSIDE A SMOOTH STAINLESS STEEL CYLINDER FOR EASE OF INSTALLATION AND OPERATION - NO FLOATS TO HANG UP INSIDE YOUR WELL. THE SEEKER HAS BEEN DESIGNED TO WORK WITH STANDARD PULSE-LINK SERIES PNEUMATIC CONTROL MODULES.

MATERIALS:

PUMP-316 STAINLESS STEEL AND NYLON
FLOAT-316 STAINLESS STEEL
HOUSING-316 STAINLESS STEEL
END CAPS- NYLON
FLOAT DRAIN TUBE-GASOLINE RESISTANT TYGON

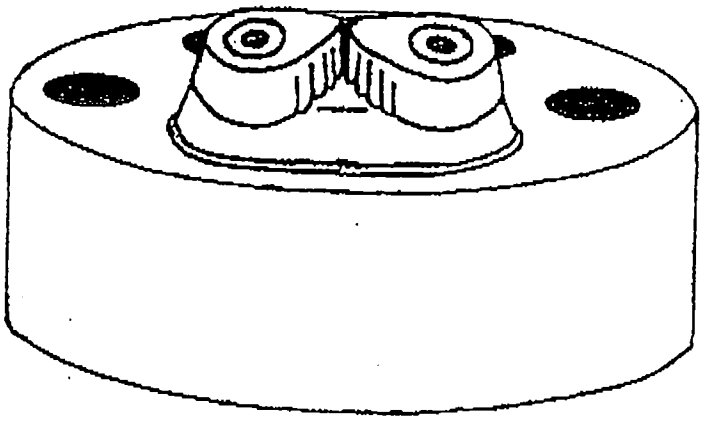
* PRODUCT-ONLY PUMPING OF LAYER THICKNESS OF LESS THAN 1/4" IS POSSIBLE DEPENDING ON FLOAT LOCATION WITHIN ITS OPERATING RANGE AND DENSITY OF THE HYDROCARBON.

TOP OF PUMP CONNECTIONS



SEEKER CAPS

4" CAP L230C
6" CAP L230E
8" CAP L230G



SEEKER HOSES

H25C 25' HOSE CONTROLLER
H25G 25' HOSE ON/OFF

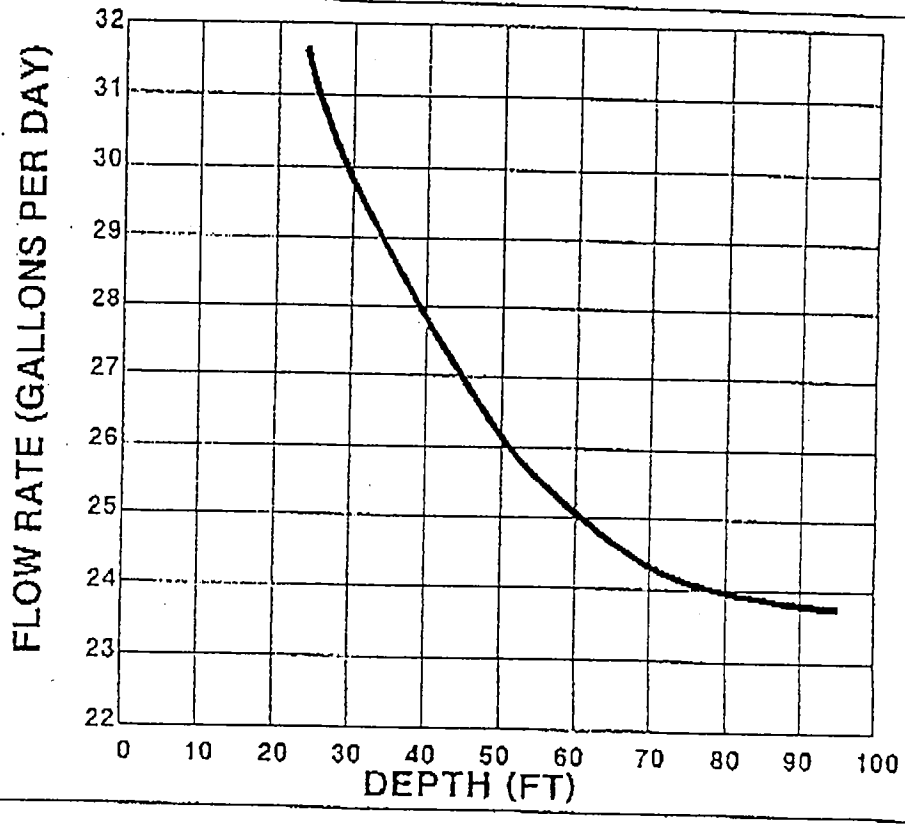
H50C 50' HOSE CONTROLLER
H50G 50' HOSE ON/OFF

H100C 100' HOSE CONTROLLER
H100G 100' HOSE ON/OFF

SEEKER FLOW RATES

Conditions:

1.5 SCFM air-flow, 0-100 PSI.



APPENDIX G

REFERENCES

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