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NSB NEW LONDON

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**MONTHLY OPERATIONS SUMMARY
FOR THE NAVAL EXCHANGE (NEX) AND DOLPHIN MART
AIR SPARGING/SOIL VAPOR EXTRACTION SYSTEMS**

**NEW LONDON NAVAL SUBMARINE BASE
GROTON, CONNECTICUT**

Month: March 1999

Prepared by:

**IT Corporation
Prepared by:**



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Project Engineer**

**Foster Wheeler Environmental Corp.
Reviewed by:**



**Susan R. Leach, P.E.
Environmental Site Technical Manager**

OPERATIONAL SUMMARY

DOLPHIN MART AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site has been operating since June 29, 1996. As of March 26, 1999, eight (8) horizontal vapor extraction trenches (VET-1, VET-2, VET-3, VET-4, VET-5, VET-6, VET-7 and VET-8) were operating. The soil vapor extraction (SVE) system is currently operating at a flow rate of approximately 160 standard cubic feet per minute (scfm). The air sparge system has been deactivated since January 30, 1999.

A site map has been included as **Figure 1**. The site monitoring forms for operation and maintenance (O&M) conducted during the month of March 1999 are included in **Attachment 1**. A weekly break-down of the month's field activities has been included as **Attachment 2**.

Mass Removal - The total hydrocarbon mass removal rate, based on the SVE system influent sample collected on March 26, 1999, was 0.0 lbs/hour. Based on the average mass removal rate from February 10, 1999 to March 26, 1999, approximately 0.38 lbs of hydrocarbons were extracted by the remediation system. The total hydrocarbon mass extracted by the remediation system, as of March 26, 1999, was approximately 2,153 lbs. The system database has been included in **Attachment 3**. Mass removal graphs have been included as **Figures 3A, 3B and 4**. Based on the hydrocarbon mass removal rate, no exceedance of Connecticut Department of Environmental Protection (CTDEP) air quality guidelines was observed.

Carbon Usage - No carbon change-out occurred during the month of March, 1999. The last vapor phase carbon change-out at the site occurred August 27, 1997. No liquid phase carbon change-out has occurred to date.

Discharge Monitoring Sampling - Air and water discharge sampling for the system was conducted on March 26, 1999.

Monitoring Well Gauging - The last round of site monitoring well gauging was conducted on February 19, 1999 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 0.50 feet in OBG-9A to 8.49 feet in WE-3. Historical well gauging data has been included in **Attachment 4**.

Monitoring Well Sampling - The last round of site monitoring well sampling was conducted on February 19, 1999. The February Quarterly Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities - None.

NEX AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site has been operating since July 31, 1997. As of March 26, 1999, 17 vapor extraction points (VEA-12 through VEA-16, VEA-18 through VEA-20, VEB-4, and VEB-8 through VEB-15) and 19 air sparge points (SPA-30 through SPA-37, SPB-14, SPB-16, and SPB-19 through SPB-27) were operating. As of March 26, 1999, the soil vapor extraction (SVE) system was operating at a flow rate of approximately 255 standard cubic feet per minute (scfm). During the month of March 1999, the air sparge system injected air at a flow rate of approximately 79 scfm. Approximately 224,268 gallons of water had been extracted, treated, and discharged by the NEX system as of March 26, 1999.

A site map has been included as **Figure 2**. The site monitoring forms for operation and maintenance (O&M) conducted during the month of March 1999 are included in **Attachment 1**. A weekly break-down of the month's field activities has been included as **Attachment 2**.

Mass Removal - The total hydrocarbon mass removal rate, based on the SVE system influent sample collected on March 26, 1999, was 0.013 lbs/hour. Based on the mass removal rate from February 10, 1999 to March 26 1999, approximately 8 lbs of hydrocarbons were extracted by the remediation system. The total hydrocarbon mass extracted by the remediation system, as of March 26, 1999, was approximately 3,760 lbs. The system database has been included in **Attachment 3**. Mass removal graphs have been included as **Figures 5A, 5B and 6**. Based on the hydrocarbon mass removal rate, no exceedance of CTDEP air quality guidelines was observed.

Carbon Usage - The liquid phase granular activated carbon was last changed-out on February 25, 1999. The last vapor-phase carbon change-out occurred September 8, 1997.

Discharge Monitoring Sampling - Air and water discharge sampling for the system was conducted on March 26, 1999 respectively.

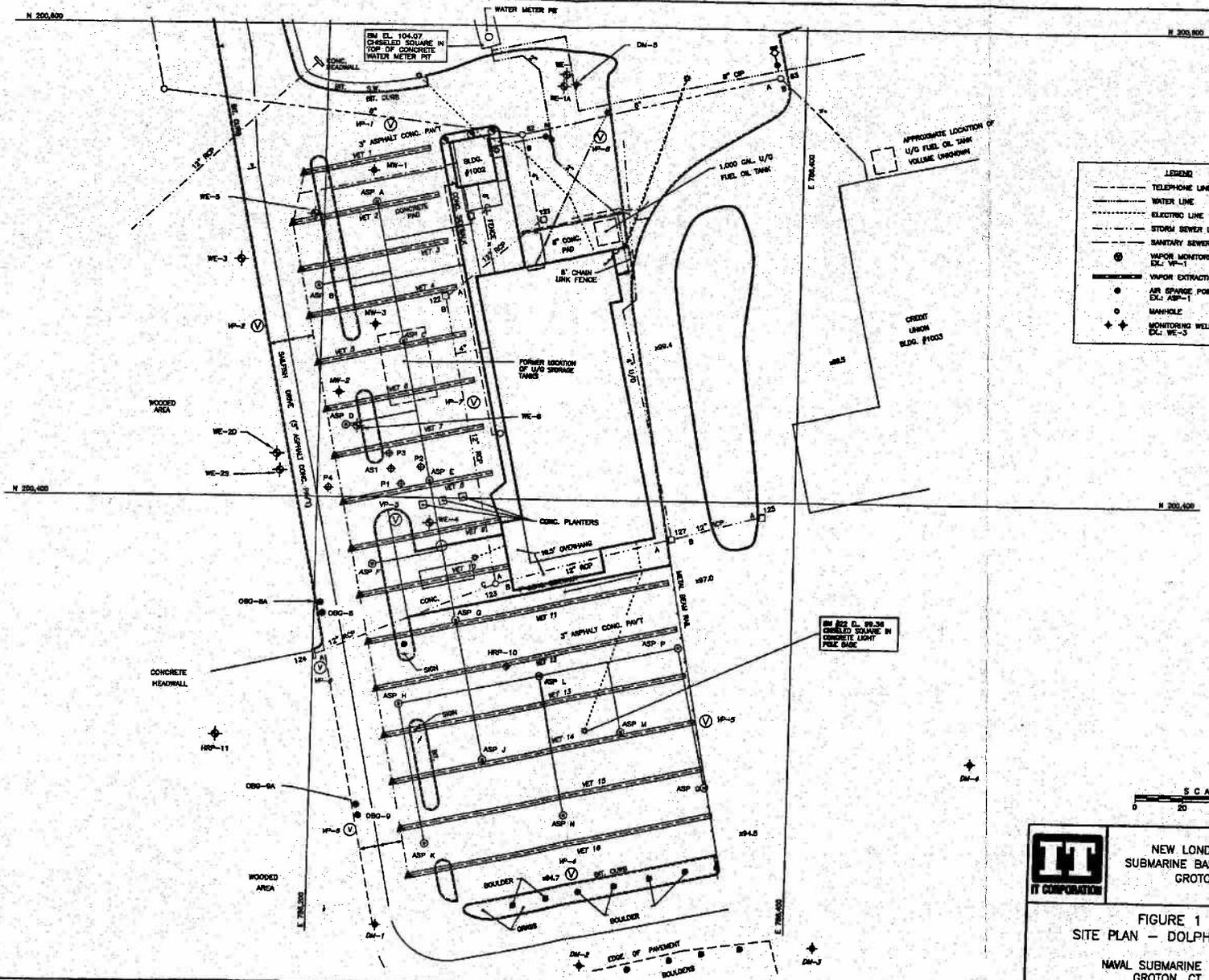
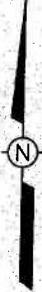
Monitoring Well Gauging - Gauging of wells that have historically contained LNAPL was conducted on March 26, 1999. A sheen was detected in monitoring well ERM-12 and 0.01 feet of LNAPL was detected in OBG-1. The full last round of site monitoring well gauging was conducted on February 18, 1999 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 3.80 feet in ERM-9 to 8.37 feet in ERM-12. A sheen was detected in monitoring wells ERM-12 and ERM-16.

Monitoring Well Sampling - The last round of site monitoring well sampling was conducted on February 18, 1999. The February Quarterly Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

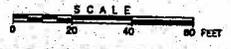
Additional Activities - None

FIGURES

DATE: 3/20/99
 DRAWN BY: L. Amy
 CHECKED BY: J. D. W. W
 APPROVED BY: 1405-17



LEGEND	
---	TELEPHONE LINE
---	WATER LINE
---	ELECTRIC LINE
---	STORM SEWER LINE
---	SANITARY SEWER LINE
⊙	VAPOR MONITORING POINT EX: VP-1
---	VAPOR EXTRACTION TRENCH
●	AIR SPARGE POINT EX: ASP-1
○	MANHOLE
◆	MONITORING WELL EX: WE-3



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NEW LONDON NAVAL
 SUBMARINE BASE OF GROTON,
 GROTON, CT

FIGURE 1
 SITE PLAN - DOLPHIN MART

NAVAL SUBMARINE BASE
 GROTON, CT

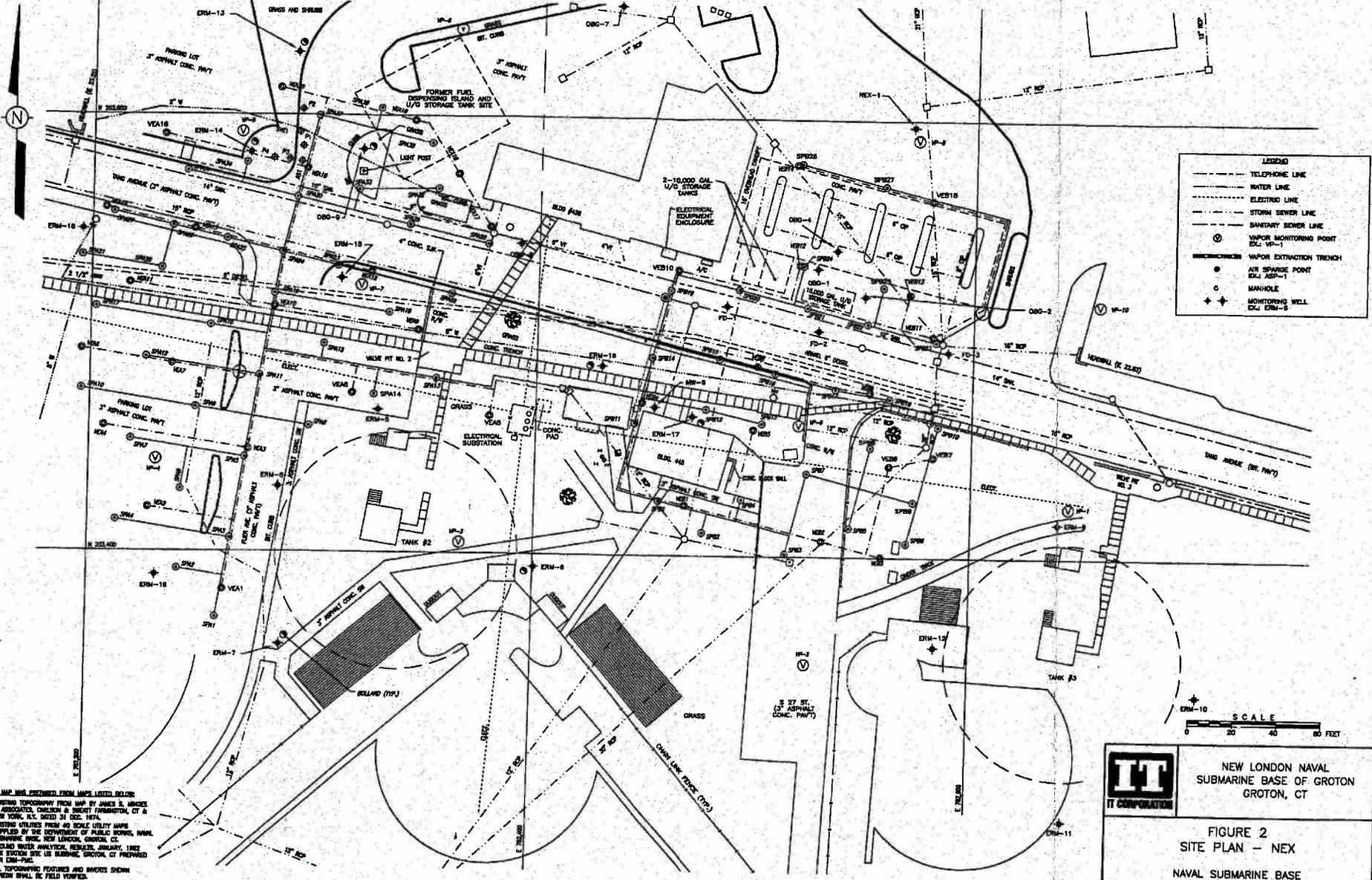
THE INFO WAS PROVIDED FROM THE FOLLOWING SOURCES:
 1. UTILITIES MAPS, GROTON, CONN. GROUND UTILITIES MAPS
 PROVIDED BY COLUMBIAN ENGINEERING CO., INC. SCALE
 1"=40' DATE 3/25/93 (SPRING BURNING NOTE 2,000,000,
 2,000,000 AND 2,000,000)
 2. MONITOR WELL LOCATION AND GROUND WATER CONTOUR
 MAP OF AUGUST 23, 1988 (DOLPHIN MART SITE USE
 RANGE, GROTON, CT) PROVIDED BY CEN-HORNBURY
 SCALE 1"=200' APRIL, 1988.
 3. UTILITY DATA FROM AS-BUILT DRAWINGS AND
 UTILITY MAPS. EXACT LOCATIONS MUST BE VIEWED
 IN FIELD.
 4. ALL TOPOGRAPHIC FEATURES AND MARKETS SHOWN
 HEREON SHALL BE FIELD VERIFIED.

IMAGE X-REF OFFICE DRAWN BY CHECKED BY APPROVED BY
WIN L. Avey 3/20/99

DRAWING NUMBER 1405-16

DATE: 3/20/99
FORMAT: METRIC 2/28/98

THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:
1. EXISTING TOPOGRAPHY FROM MAP BY JAMES S. WINCHES & ASSOCIATES, CHELSEA & BRIGHT FURNISHING, CT & NEW YORK, N.Y., DATED 31 DEC. 1974.
2. EXISTING UTILITIES FROM AN SOLE UTILITY MAP SUPPLIED BY THE DEPARTMENT OF PUBLIC WORKS, NAVAL SUBMARINE BASE, NEW LONDON, GROTON, CT.
3. GROUND WATER ANALYSIS, RESULTS, JANUARY, 1982, NEX STATION SITE US SUBMARE, GROTON, CT PREPARED FOR US-PA&C.
4. ALL TOPOGRAPHIC FEATURES AND DIMENSIONS SHOWN HEREON SHALL BE FIELD VERIFIED.



LEGEND	
--- (dashed line)	TELEPHONE LINE
--- (dashed line)	WATER LINE
--- (dashed line)	ELECTRIC LINE
--- (dashed line)	STORM SEWER LINE
--- (dashed line)	SANITARY SEWER LINE
⊙ (circle with dot)	VAPOR MONITORING POINT EX: VP-1
⊙ (circle with dot)	AIR SPARGE POINT EX: ASP-1
○ (circle)	MANHOLE
⊕ (circle with cross)	MONITORING WELL EX: ERM-8

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NEW LONDON NAVAL
SUBMARINE BASE OF GROTON
GROTON, CT

FIGURE 2
SITE PLAN - NEX
NAVAL SUBMARINE BASE
GROTON, CT

Figure 3A- Mass Removal Rate
Dolphin Mart Site, New London Naval Submarine Base, Groton, CT

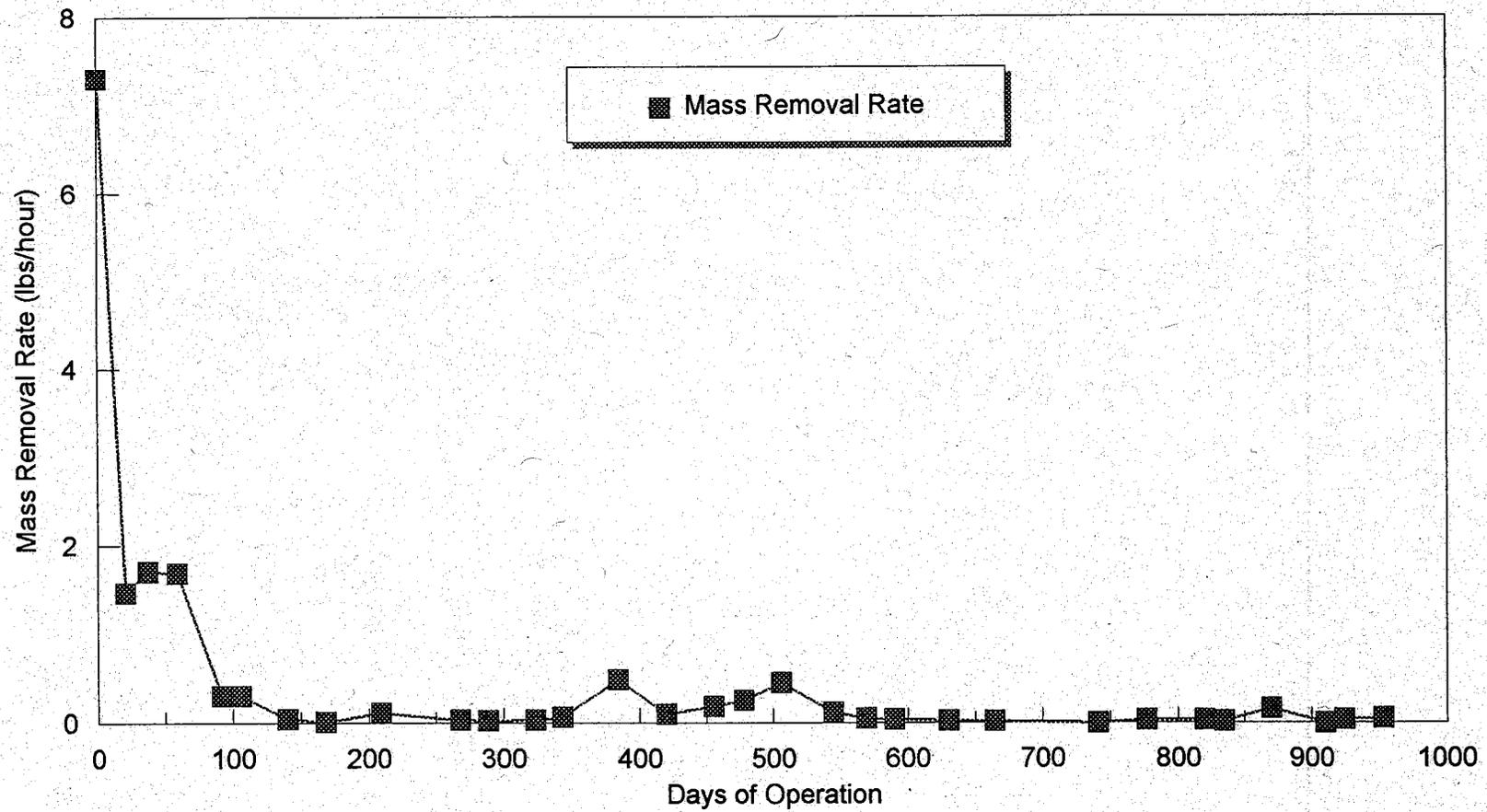


Figure 3B- Mass Removal Rate

Dolphin Mart Site, New London Naval Submarine Base, Groton, CT

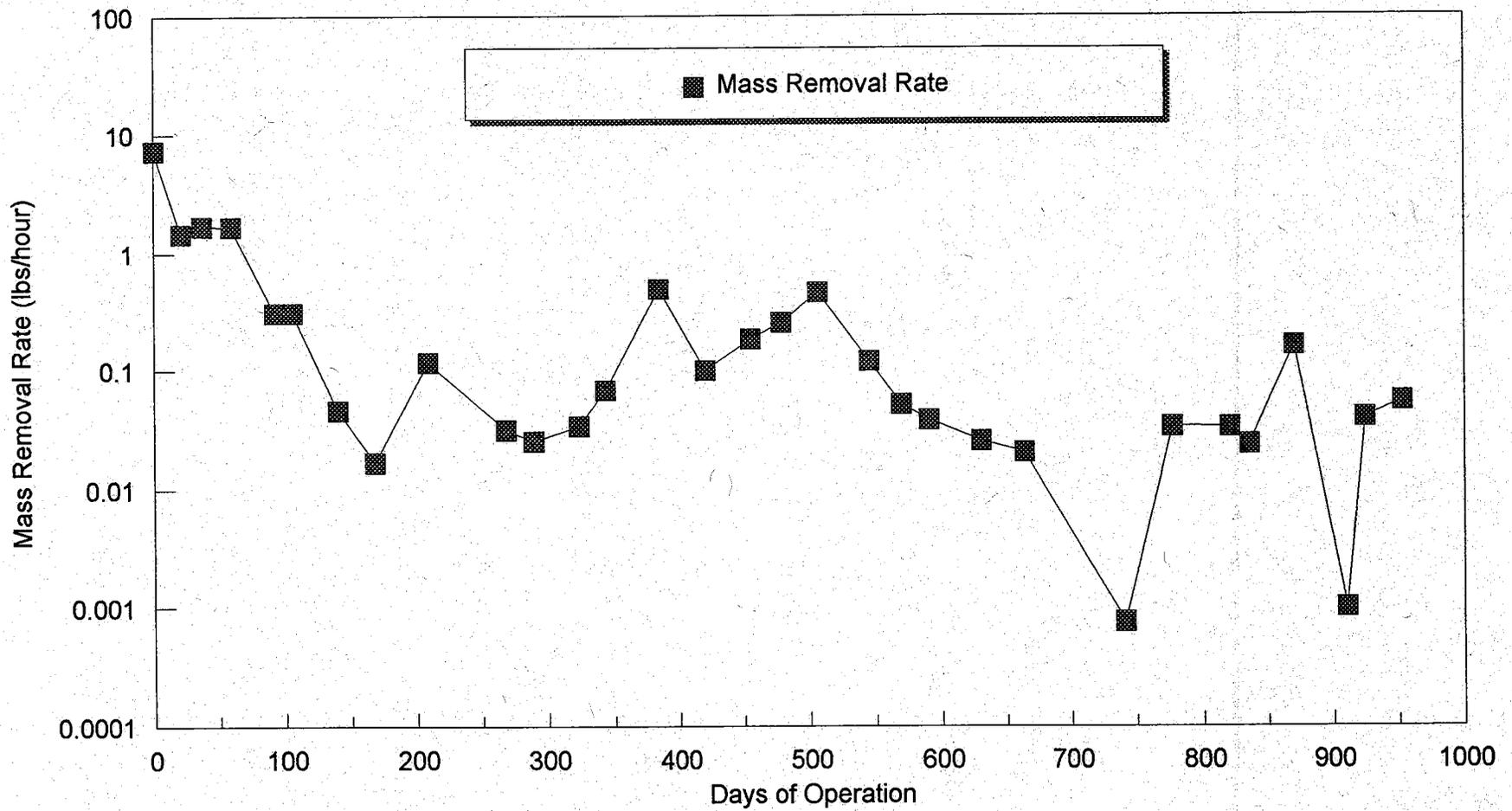


Figure 4 - Cumulative Mass Removed versus Time

Dolphin Mart Site, New London Naval Submarine Base, Groton, CT

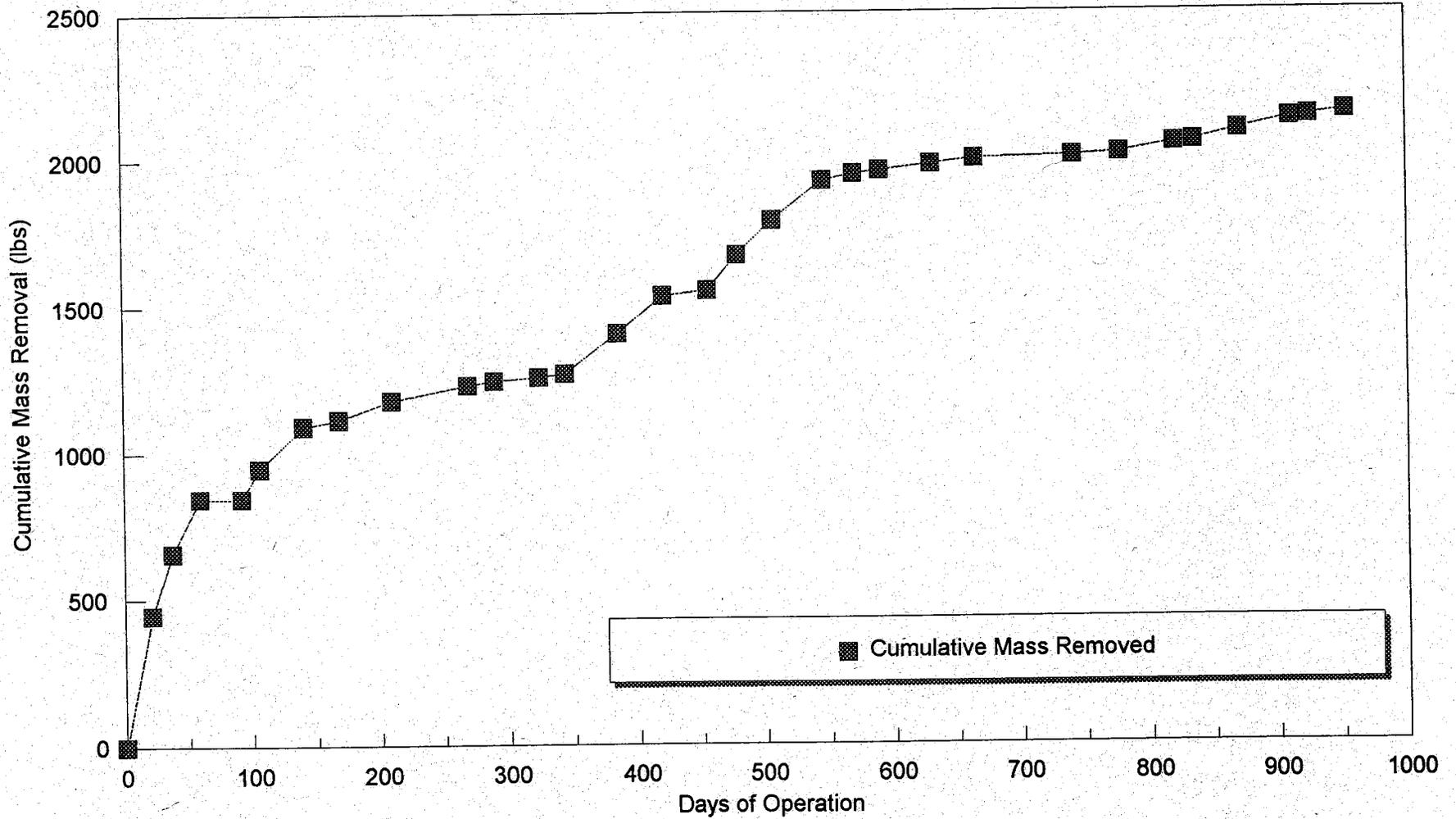


Figure 5A - Mass Removal Rate

NEX Site, New London Naval Submarine Base, Groton, CT

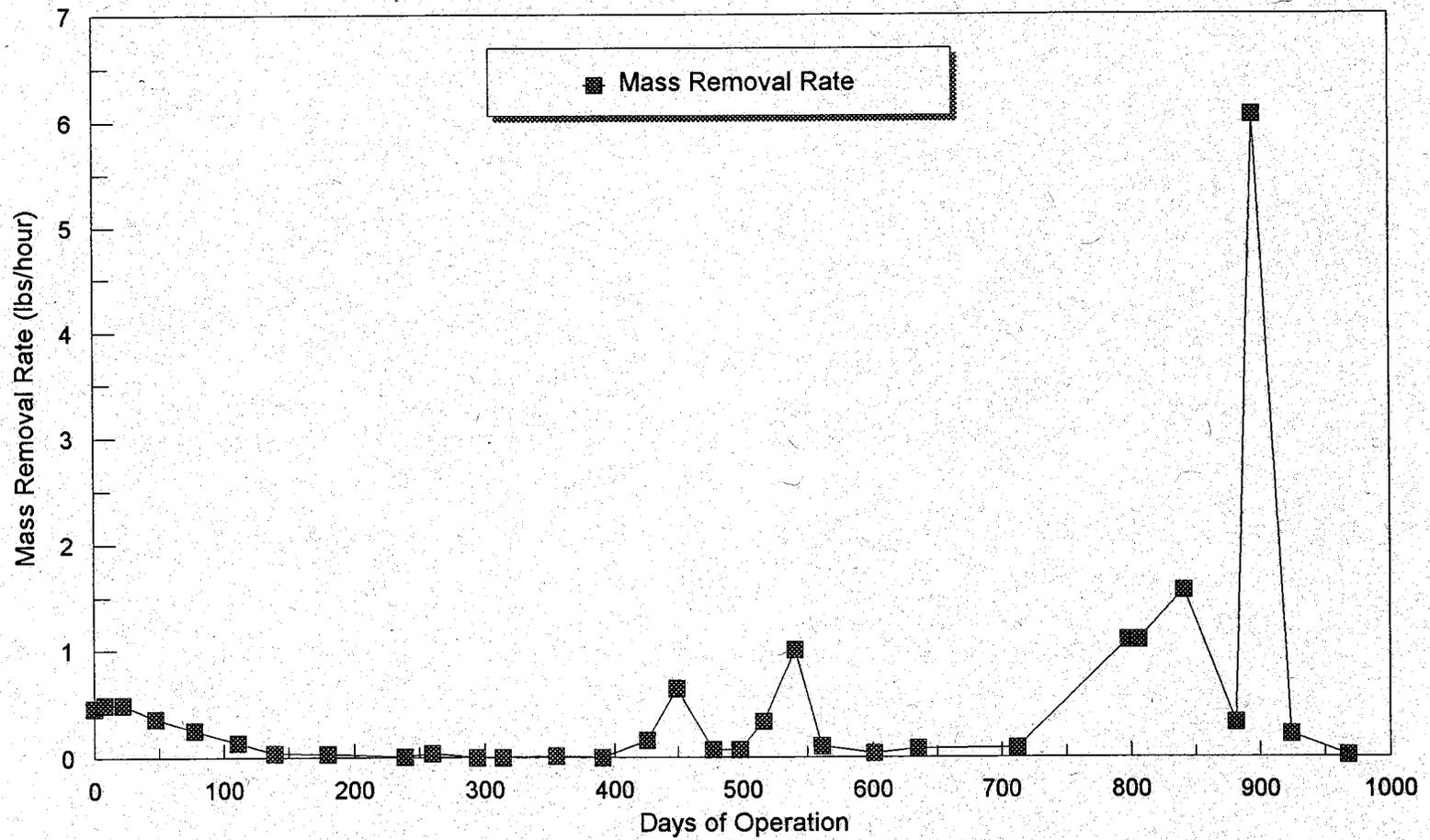


Figure 5B - Mass Removal Rate

NEX Site, New London Naval Submarine Base, Groton, CT

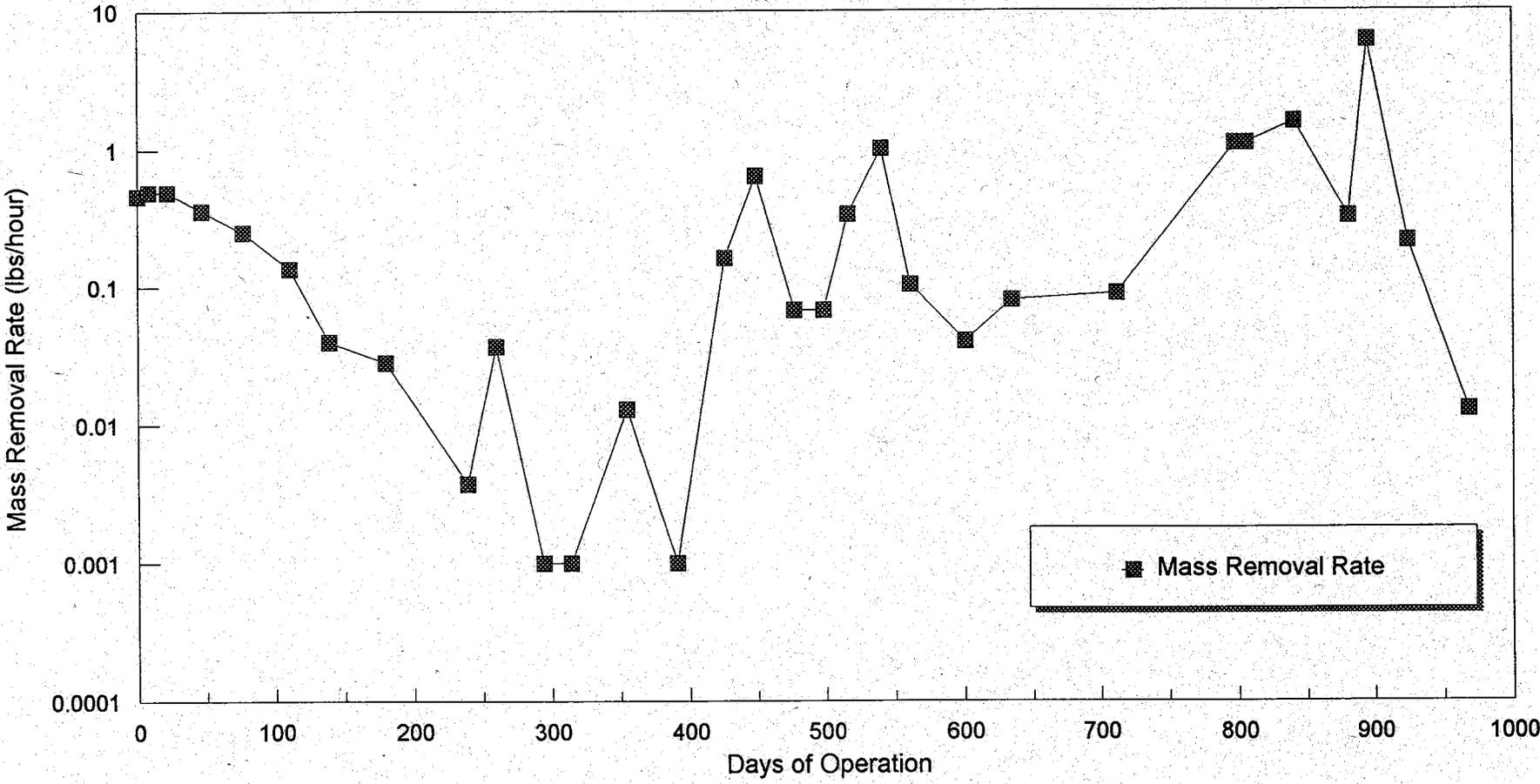
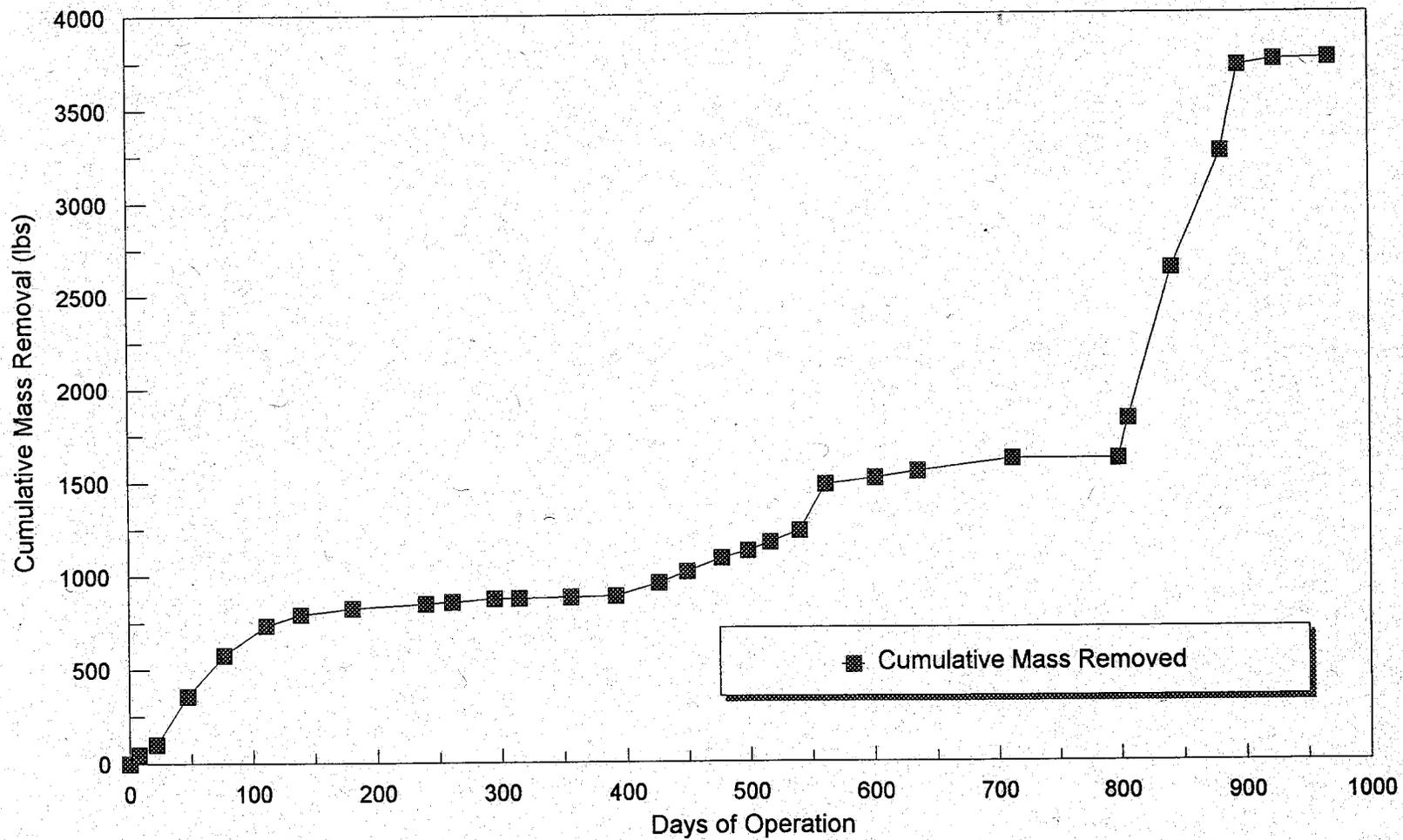


Figure 6 - Cumulative Mass Removed versus Time

NEX Site, New London Naval Submarine Base, Groton, CT



ATTACHMENT 1
SITE VISIT FORMS

OPERATIONAL DATA FORM
Air Sparging/Soil Vapor Extraction System
Dolphin Mart
Naval Submarine Base - Groton, CT
Project #83001-9999

Date: 3/26/99
 Time: _____
 Technician: S.K. Jr.

AIR COMPRESSOR SYSTEM

Flow Rate <u>NA</u> SCFM	Total Flow <u>NA</u> SCFM
Air Compressor C-1 Pressure <u>NA</u> psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <u>ON (OFF)</u>	Air Compressor C-2 Pressure <u>NA</u> psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <u>ON (OFF)</u>

SOIL VAPOR EXTRACTION SYSTEM

Flow Rate TOTAL 5115625 SCFM 160 (Use anemometer in hole in pipe near Hersey flowmeter)

Vacuum Pump V-1 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____	Vacuum Pump V-2 Vacuum <u>5.5</u> "Hg Temperature <u>106</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100</u> / <u>10</u> Bleed Air Valve Setting <u>25</u> / <u>30</u> Liquid Level <u>OK</u>
Vacuum Pump V-3 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____	Vacuum Pump V-4 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B Pressure <u>NA</u> psi Inf. VOC Level _____ ppm Mid. VOC Level _____ ppm Eff. VOC Level _____ ppm Change out Date <u>NA</u>	Carbon Adsorber C/D Pressure <u>28</u> psi Inf. VOC Level <u>1.2</u> ppm Mid. VOC Level <u>0.8</u> ppm Eff. VOC Level <u>0.6</u> ppm Change out Date _____
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WATER TREATMENT

Flowmeter Reading 4578.6 Gallons (arrival reading) Flowmeter Reading 4667.5 Gallons (departure reading)

COMMENTS

OPERATIONAL DATA FORM Air Sparging/Soil Vapor Extraction System Naval Exchange Naval Submarine Base -Groton, CT Project #83001-9999	Date: <u>3/26/99</u> Time: _____ Technician: <u>J.K. Jr.</u>
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AIR COMPRESSOR SYSTEM			
Flow Rate	<u>0</u>	SCFM	Total Flow
			<u>13197493</u>
Air Compressor C-1 Pressure _____ psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <input checked="" type="checkbox"/> ON / OFF	<u>NA</u> _____ _____ _____ _____		Air Compressor C-2 Pressure _____ psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <input checked="" type="checkbox"/> ON / OFF

SOIL VAPOR EXTRACTION SYSTEM			
Eastern Flow Rate	<u>154 to 243</u>	SCFM	Total Flow
			<u>121867510</u>
Western Flow Rate	<u>23 to 90</u>	SCFM	Total Flow
			<u>27476730</u>
Vacuum Pump V-1 Vacuum _____ *Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____	<u>NA</u> _____ _____ _____ _____ _____		Vacuum Pump V-2 Vacuum <u>3.0</u> *Hg Temperature <u>124</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100%</u> Bleed Air Valve Setting <u>25%</u> Liquid Level <u>OK</u>
Vacuum Pump V-3 Vacuum <u>1.5</u> *Hg Temperature <u>134</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100%</u> Bleed Air Valve Setting <u>25%</u> Liquid Level <u>OK</u>	<u>1.5</u> <u>134</u> <u>OK</u> <u>100%</u> <u>25%</u> <u>OK</u>		Vacuum Pump V-4 Vacuum _____ *Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____

ACTIVATED CARBON ADSORPTION SYSTEM			
Carbon Adsorber A/B Pressure <u>25</u> psi Inf. VOC Level <u>11.8</u> ppm Mid. VOC Level <u>1.3</u> ppm Eff. VOC Level <u>0</u> ppm Change out Date <u>NA</u>	<u>25</u> <u>11.8</u> <u>1.3</u> <u>0</u> <u>NA</u>		Carbon Adsorber C/D Pressure <u>25</u> psi Inf. VOC Level <u>NA</u> ppm Mid. VOC Level <u>NA</u> ppm Eff. VOC Level <u>1.0</u> ppm Change out Date <u>8-22-96</u>

WATER TREATMENT	
Flowmeter Reading <u>224239.7</u> Gallons (arrival reading)	Flowmeter Reading <u>224268.2</u> Gallons (departure reading)

COMMENTS
* FILL IN ALL SPACES WITH THE APPROPRIATE READING OR "NA".

OPERATIONAL DATA FORM
 Air Sparging/Soil Vapor Extraction System
 Dolphin Mart
 Naval Submarine Base - Groton, CT
 Project #83001-9999

Date: 3/8/99
 Time: _____
 Technician: J. K. Je

AIR COMPRESSOR SYSTEM

Flow Rate <u>NA</u> SCFM	Total Flow <u>NA</u> SCFM
Air Compressor C-1 Pressure <u>NA</u> psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve <u>ON/OFF</u> Radiator _____	Air Compressor C-2 Pressure <u>NA</u> psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve <u>ON/OFF</u> Radiator _____

SOIL VAPOR EXTRACTION SYSTEM

Flow Rate <u>178 to 184</u> SCFM ^{TOTAL} <u>178-340</u> (use anemometer in hole in pipe near Hershey flowmeter)	
Vacuum Pump V-1 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____	Vacuum Pump V-2 Vacuum <u>4</u> "Hg Temperature <u>90</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100%</u> Bleed Air Valve Setting <u>25%</u> Liquid Level <u>OK</u>
Vacuum Pump V-3 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____	Vacuum Pump V-4 Vacuum <u>NA</u> "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B Pressure <u>NA</u> psi Inf. VOC Level _____ ppm Mid. VOC Level _____ ppm Eff. VOC Level _____ ppm Change out Date <u>NA</u>	Carbon Adsorber C/D Pressure <u>28</u> psi Inf. VOC Level <u>1.0</u> ppm Mid. VOC Level <u>0.8</u> ppm Eff. VOC Level <u>0.4</u> ppm Change out Date <u>8-2 ?</u>
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WATER TREATMENT

Flowmeter Reading _____ Gallons (arrival reading) Flowmeter Reading 4578.6 Gallons (departure reading)

COMMENTS

No water Discharge This month

OPERATIONAL DATA FORM
Air Sparging/Soil Vapor Extraction System
Naval Exchange
Naval Submarine Base -Groton, CT
Project #83001-9999

Date: 3-8-99

Time: _____

Technician: G.K. JR.

AIR COMPRESSOR SYSTEM

Flow Rate <u>73 to 84</u>	SCFM	Total Flow <u>12518705</u>	SCFM
Air Compressor C-1		Air Compressor C-2	
Pressure <u>10</u> psi		Pressure <u>NA</u> psi	
Temperature <u>258</u> °F		Temperature _____ °F	
Flow Control Valve Setting <u>100 %</u>		Flow Control Valve Setting _____	
Bleed Valve <u>50 %</u>		Bleed Valve _____	
Radiator <input checked="" type="radio"/> ON / OFF		Radiator <input checked="" type="radio"/> ON / OFF	

SOIL VAPOR EXTRACTION SYSTEM

Eastern Flow Rate <u>132 to 311</u>	SCFM	Total Flow <u>117907590</u>	SCFM
Western Flow Rate <u>19 to 78</u>	SCFM	Total Flow <u>26195728</u>	SCFM
Vacuum Pump V-1		Vacuum Pump V-2	
Vacuum <u>4.5</u> °Hg		Vacuum <u>NA</u> °Hg	
Temperature <u>142</u> °F		Temperature _____ °F	
Particulate Filter <u>OK</u>		Particulate Filter _____	
Flow Control Valve Setting <u>100 %</u>		Flow Control Valve Setting _____	
Bleed Air Valve Setting <u>25 %</u>		Bleed Air Valve Setting _____	
Liquid Level <u>OK</u>		Liquid Level <u>X</u>	
Vacuum Pump V-3		Vacuum Pump V-4	
Vacuum <u>5</u> °Hg		Vacuum <u>NA</u> °Hg	
Temperature <u>176</u> °F		Temperature _____ °F	
Particulate Filter <u>OK</u>		Particulate Filter _____	
Flow Control Valve Setting <u>100 %</u>		Flow Control Valve Setting _____	
Bleed Air Valve Setting <u>25 %</u>		Bleed Air Valve Setting _____	
Liquid Level <u>OK</u>		Liquid Level <u>X</u>	

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B		Carbon Adsorber C/D	
Pressure <u>20</u> psi		Pressure <u>28 to 40</u> psi	
Inf. VOC Level <u>3.4</u> ppm		Inf. VOC Level <u>7.0</u> ppm	
Mid. VOC Level <u>1.7</u> ppm		Mid. VOC Level <u>NA</u> ppm	
Eff. VOC Level <u>0</u> ppm		Eff. VOC Level <u>7.0</u> ppm	
Change out Date <u>NA</u>		Change out Date <u>?</u>	

WATER TREATMENT

Flowmeter Reading 2221 Gallons (arrival reading) Flowmeter Reading _____ Gallons (departure reading)

COMMENTS

* FILL IN ALL SPACES WITH THE APPROPRIATE READING OR "NA".

Arrival - 222194.7

Departure - 222216.6

ATTACHMENT 2
MONTHLY FIELD ACTIVITY SUMMARY

**Field Activity Summary
March 1999**

**New London Naval Submarine Base
Groton, Connecticut**

Week Ending	Site	Period	Field Activities	Comments
3/8/99	Dolphin Mart	Monthly Monitoring	Conducted system monitoring and maintenance.	SVE system down on arrival due to high water level in moisture trap.
	NEX		Conducted system monitoring and maintenance.	
3/26/99	Dolphin Mart		Conducted system monitoring and maintenance and collected water and air discharge samples.	SVE system down on arrival due to high water level in moisture trap.
	NEX		Conducted system monitoring and maintenance and collected water and air discharge samples.	Blower V-1 and compressor C-1 down on arrival.

ATTACHMENT 3
AIR SPARGE/SVE SYSTEM DATABASES

**SYSTEM MONITORING DATA
SOIL VAPOR EXTRACTION/AIR SPARGE SYSTEM**

New London Naval Submarine Base
Dolphin Mart Site
Groton, CT

Date	Air Sparge Flowrate (scfm)	Extraction Flowrate (scfm)	Influent Concentration BTEX (ppmv)	Removal Rate BTEX (lb/hr)	Influent Concentration MTBE (ppmv)	Removal Rate MTBE (lb/hr)	Influent Concentration Aliphatics (ppmv)	Removal Rate Aliphatics (lb/hr)	Influent Concentration Aromatics (ppmv)	Removal Rate Aromatics (lb/hr)	Influent Concentration TVPH (ppmv)	Removal Rate TVPH (lb/hr)	Total Mass Removal Rate (lbs/hr)	Period Mass Removed (lbs)	Cumulative Mass Removed (lbs)	Comments
07/02/96	25	450	24.00	0.187	33.00	0.232	1000.00	6.876	0.00	0.000	—	0.000	7.295	0.00	0.00	
07/23/96	20	449	11.40	0.091	0.00	0.000	200.00	1.372	12.00	0.000	—	0.000	1.463	446.70	446.70	system operated approx. 102 hrs between 7/2 and 7/23
08/08/96	32	454	18.00	0.143	—	0.000	210.00	1.457	12.00	0.103	—	0.000	1.702	210.53	657.23	system operated approx. 133 hrs between 7/23 and 8/8
08/30/96	0	450	18.00	0.142	—	0.000	210.00	1.444	12.00	0.102	—	0.000	1.687	188.14	845.37	system operated approx. 111 hrs between 8/8 and 8/30
10/02/96	30	448	2.30	0.019	0.00	0.000	—	0.000	—	0.000	36.00	0.286	0.305	0.00	845.37	system not in operation from 8/30 to 10/2 due to flow meter problem
10/16/96	30	450	2.30	0.019	0.00	0.000	—	0.000	—	0.000	36.00	0.287	0.306	102.58	947.95	system reactivated 10/2/96
11/19/96	30	450	0.38	0.003	0.00	0.000	—	0.000	—	0.000	5.29	0.042	0.045	143.33	1091.28	
12/17/96	30	450	0.12	0.001	0.00	0.000	—	0.000	—	0.000	1.97	0.016	0.017	20.84	1112.12	
01/27/97	30	450	1.35	0.011	0.00	0.000	—	0.000	—	0.000	13.23	0.106	0.117	65.56	1177.68	
03/27/97	30	450	0.00	0.000	0.00	0.000	—	0.000	—	0.000	3.90	0.031	0.031	104.53	1229.95	assume 50% up-time, blowers shutting down due to influent water
04/17/97	30	450	0.00	0.000	0.00	0.000	—	0.000	—	0.000	3.13	0.025	0.025	14.13	1244.08	
05/21/97	15	329	0.00	0.000	0.00	0.000	—	0.000	—	0.000	5.77	0.034	0.034	11.96	1256.03	assume 50% up-time, blowers shutting down due to influent water
06/10/97	15	329	0.25	0.002	0.00	0.000	—	0.000	—	0.000	11.31	0.066	0.067	12.14	1268.17	assume 50% up-time, blowers shutting down due to influent water
07/21/97	15	329	1.89	0.011	0.00	0.000	—	0.000	—	0.000	81.79	0.477	0.488	136.76	1404.93	assume 50% up-time, blowers shutting down due to influent water
08/26/97	15	482	0.73	0.007	0.00	0.000	—	0.000	—	0.000	10.82	0.092	0.099	125.91	1531.85	assume 50% up-time, blowers shutting down due to influent water
09/30/97	15	482	0.34	0.003	0.00	0.000	—	0.000	—	0.000	21.17	0.181	0.184	17.84	1549.68	assume ~15% up-time, blowers shutting down due to influent water
10/23/97	14	589	0.00	0.000	0.00	0.000	—	0.000	—	0.000	24.06	0.251	0.251	120.10	1669.78	
11/20/97	32	590	0.00	0.000	5.45	0.050	—	0.000	—	0.000	38.49	0.403	0.453	118.28	1788.06	assume 50% up-time, blowers shutting down due to influent water
12/29/97	28	590	0.45	0.005	0.00	0.000	—	0.000	—	0.000	10.82	0.113	0.118	133.65	1921.71	assume 50% up-time, blowers shutting down due to influent water
01/22/98	27	471	0.32	0.003	0.00	0.000	—	0.000	—	0.000	5.77	0.048	0.051	24.38	1946.09	assume 50% up-time, blowers shutting down due to influent water
02/12/98	23	295	0.23	0.001	0.00	0.000	—	0.000	—	0.000	6.98	0.036	0.038	11.19	1957.28	assume 50% up-time, blowers shutting down due to influent water
03/24/98	30	245	0.45	0.002	0.00	0.000	—	0.000	—	0.000	5.29	0.023	0.025	19.91	1977.19	system down for approximately one week due to influent water
04/27/98	30	215	0.00	0.000	0.00	0.000	—	0.000	—	0.000	5.29	0.020	0.020	18.47	1995.65	
07/13/98	13	294	0.14	0.001	0.00	0.000	—	0.000	—	0.000	0.00	0.000	0.001	9.67	2005.32	assume 50% up-time, blowers shutting down due to influent water
08/18/98	10	294	0.14	0.001	0.00	0.000	—	0.000	—	0.000	6.25	0.033	0.033	7.37	2012.69	assume 50% up-time, AS blower shut down due to high pressure
09/30/98	14	294	0.07	0.0004	0.00	0.000	—	0.000	—	0.000	6.25	0.033	0.033	34.22	2046.92	
10/15/98	0	231	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	5.77	0.024	0.024	5.10	2052.01	assume 50% up-time, AS blower shut down due to high pressure
11/19/98	14	223	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	40.89	0.162	0.162	38.89	2090.90	assume 50% up-time, AS blower shut down due to high pressure
12/29/98	0	442	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	0.00	0.000	0.001	39.01	2129.91	assume 50% up-time, AS blower shut down due to high pressure
01/12/99	0	255	0.07	0.0003	0.00	0.000	—	0.000	—	0.000	8.66	0.039	0.040	6.81	2136.72	
02/10/99	0	346	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	8.90	0.055	0.055	16.37	2153.09	assume 50% up-time, blowers shutting down due to influent water
03/26/99	0	160	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	0.00	0.000	0.000	0.38	2153.47	

- Notes:
- 1) Aliphatics are weighted using a response factor of hexane. (MW = 86.2)
 - 2) Aromatics are weighted using a response factor of o-xylene. (MW=106.16)
 - 3) Analytical data for 8/30/96 is assumed based on results of sampling conducted 8/8/96. System was deactivated 8/30/96 due to flow meter failure.
 - 4) Flow rate of 10/16/96 through 4/17/97, 6/10/97 and 7/21/97 is assumed. Air flow meter not in operation.
 - 5) Analytical data for 10/2 is assumed based on data from 10/16/96.
 - 6) Beginning 10/16/96 lab analysis was performed by Mitekem Laboratory. Prior to 10/16/96 air analysis performed by NEUGTEL.
 - 7) Mitekem results report total volatile petroleum hydrocarbons, not misc. aromatics and aliphatics.
Total Volatile Petroleum Hydrocarbons are weighted to molecular weight of 100.
 - 8) Laboratory results from 11/19/96 to present are reported in mg/m3.

**SYSTEM MONITORING DATA
SOIL VAPOR EXTRACTION/AIR SPARGE SYSTEM**

New London Naval Submarine Base
NEX Site
Groton, CT

Date	Air Sparge Flowrate (scfm)	Extraction Flowrate (total) (scfm)	Influent Concentration BTEX (ppmv)	Removal Rate BTEX (lb/hr)	Influent Concentration MTBE (ppmv)	Removal Rate MTBE (lb/hr)	Influent Concentration Aliphatics (ppmv)	Removal Rate Aliphatics (lb/hr)	Influent Concentration Aromatics (ppmv)	Removal Rate Aromatics (lb/hr)	Influent Concentration TVPH (ppmv)	Removal Rate TVPH (lb/hr)	Total Mass Removal Rate (lbs/hr)	Period Mass Removed (lbs)	Cumulative Mass Removed (lbs)	Comments
07/31/96	NA*	253	1.80	0.007	---	0.000	130.00	0.455	0.00	0.000	---	0.000	0.463	0.00	0.00	system operated approx. 92 hrs between 7/31 and 8/8 24-hour per day system operation began 8/8
08/08/96	NA*	270	1.80	0.008	---	0.000	130.00	0.486	0.00	0.000	---	0.000	0.494	46.93	46.93	
08/22/96	NA*	270	1.80	0.008	---	0.000	130.00	0.486	0.00	0.000	---	0.000	0.494	52.85	99.78	
09/16/96	NA*	320	2.70	0.015	0.00	0.000	---	0.000	---	0.000	61.00	0.346	0.361	256.56	356.34	
10/16/96	NA*	320	2.50	0.014	0.00	0.000	---	0.000	---	0.000	42.00	0.238	0.253	220.98	577.32	
11/19/96	NA*	324	0.95	0.006	0.00	0.000	---	0.000	---	0.000	22.61	0.130	0.135	158.31	735.63	
12/17/96	NA*	310	0.18	0.001	0.07	0.000	---	0.000	---	0.000	6.98	0.038	0.040	58.83	794.47	
01/27/97	NA**	321	0.14	0.001	0.00	0.000	---	0.000	---	0.000	4.81	0.027	0.028	33.39	827.85	
03/27/97	NA**	384	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.55	0.004	0.004	22.62	850.47	
04/17/97	NA**	721	0.00	0.000	0.00	0.000	---	0.000	---	0.000	2.89	0.037	0.037	10.24	860.71	
05/21/97	6***	360	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.00	15.46	876.17	
06/10/97	2***	300	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.00	0.48	876.65	
07/21/97	36***	358	0.00	0.000	0.00	0.000	---	0.000	---	0.000	2.04	0.013	0.013	6.88	883.53	
08/26/97	28***	223	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.00	6.04	889.57	
09/30/97	27***	221	2.37	0.009	6.00	0.021	---	0.000	---	0.000	33.68	0.132	0.161	68.15	957.72	
10/23/97	47***	322	2.47	0.013	17.05	0.086	---	0.000	---	0.000	95.02	0.542	0.641	60.12	1017.84	
11/20/97	47***	213	0.50	0.002	1.12	0.004	---	0.000	---	0.000	16.36	0.062	0.067	69.68	1087.51	
12/11/97	47	213	0.50	0.002	1.12	0.004	---	0.000	---	0.000	16.36	0.062	0.067	40.27	1127.78	
12/29/97	47	520	0.78	0.007	2.18	0.018	---	0.000	---	0.000	33.68	0.310	0.335	42.29	1170.07	
01/22/98	53	479	2.46	0.020	4.50	0.034	---	0.000	---	0.000	111.86	0.949	1.003	63.09	1233.15	
02/12/98	NA****	324	0.77	0.004	1.05	0.005	---	0.000	---	0.000	16.24	0.093	0.103	248.54	1481.70	
03/24/98	53	249	0.44	0.002	0.82	0.003	---	0.000	---	0.000	7.94	0.035	0.040	32.99	1514.68	
04/27/98	53	170	0.57	0.002	8.32	0.022	---	0.000	---	0.000	18.40	0.055	0.079	36.71	1551.39	
07/13/98	53	154	1.96	0.005	0.00	0.000	39.42	0.084	0.00	0.000	0.00	0.000	0.089	63.78	1615.16	
10/07/98	0	278	8.40	0.042	0.00	0.000	0.00	0.000	0.00	0.000	214.19	1.054	1.096	0.00	1615.16	
10/15/98	0	278	8.40	0.042	0.00	0.000	0.00	0.000	0.00	0.000	214.19	1.056	1.098	210.77	1825.92	
11/19/98	41	216	4.67	0.018	0.46	0.002	0.00	0.000	0.00	0.000	403.93	1.543	1.563	812.98	2638.91	
12/29/98	41	148	0.90	0.002	0.00	0.000	0.00	0.000	0.00	0.000	122.18	0.321	0.323	621.50	3260.40	
01/12/99	82	307	3.22	0.018	0.34	0.002	0.00	0.000	0.00	0.000	1108.41	6.032	6.052	459.46	3719.87	
02/10/99	70	294	0.81	0.004	0.54	0.002	0.00	0.000	0.00	0.000	39.88	0.207	0.214	31.67	3751.54	
03/26/99	79	255	0.08	0.000	0.27	0.001	0.00	0.000	0.00	0.000	2.53	0.011	0.013	8.31	3759.85	

- Notes:
- * Air sparge compressor not activated due to elevated SVE influent concentrations.
 - ** Air sparge compressor not activated due to improperly sized pressure switch.
 - *** Air sparge compressor activated, but high water levels in the moisture separators cause frequent compressor shut-down.
 - **** Air sparge compressor deactivated on 1/28/98 due to lack of vapor recovery from western portion of site.

- 1) Aliphatics are weighted using a response factor of hexane. (MW = 86.2)
- 2) Aromatics are weighted using a response factor of o-xylene. (MW=106.16)
- 3) Analytical data for 7/31/96 is assumed based on results of sampling conducted 8/8/96.
- 4) Analytical data for 8/22/96 is assumed based on results of sampling conducted 8/8/96.
- 5) Air flow rate from 10/16/96 assumed for 9/16/96, due to a broken flow meter
- 6) Beginning 9/16/96 lab analysis was performed by Mitkem Laboratory. Prior to 9/16/96 air analysis performed by NEI/GTEL
- 7) Mitkem results report total volatile petroleum hydrocarbons, not misc. aromatics and aliphatics.
Total Volatile Petroleum Hydrocarbons are weighted to molecular weight of 100.
- 8) System modifications to allow continuous dewatering were conducted on December 11, 1997.
The data for this date was assumed to be the same as November that for November 20, 1997.
Flow rates for this date have been interpolated from 11/20/97 and 12/29/97 data.
- 9) 4/27/98 TVPH results reported as C5-C12 Aliphatics and C9-C10 Aromatics. Ppmv equivalents have been estimated.
- 10) The system was found to be inactive on 8/19/98 due to water in the moisture traps and was not restarted. No samples were taken.
- 11) System modifications and repairs completed on 10/7/98. System reactivated. Influent concentrations assumed to be the same as sampled on 10/15/98.
- 12) On 10/7/98 the east side flowmeter was found to be inoperable. West and East flowrates were subsequently assumed to be equal for mass removal calculation purposes.
- 13) A flow rate weighted average was used to calculate the SVE system influent beginning 10/15/98.
- 14) On 3/26/99 the air sparge compressor was not operating. The air sparge flow rate is based on the March 8 data.

ATTACHMENT 4
HISTORICAL WELL GAUGING DATA

Date	Date	ERM-5	ERM-6	ERM-7	ERM-8	ERM-9	ERM-10	ERM-11	ERM-12
		Depth to Groundwater/ Product							
09/16/96	09/16/96	3.82	5.14	5.27	NG	NG	NG	NG	8.38
10/16/96	10/16/96	NG	4.82	4.75	NG	NG	NG	6.4	8.13
11/18/96	11/18/96	3.72	4.64	4.93	NG	NG	NG	6.36	8.09
12/16/96	12/16/96	3.10	4.08	4.21	NG	NG	NG	5.02	7.83
02/17/97	02/17/97	3.00	4.34	4.29	NG	NG	NG	4.89	7.65
03/27/97	03/27/97	2.89	4.28	4.19	NG	NG	NG	5.19	7.63
04/15/97	04/15/97	NG							
04/17/97	04/17/97	2.73	NG						
04/24/97	04/24/97	NG							
05/21/97	05/21/97	NG	4.72	4.61	NG	NG	NG	6.27	7.81/7.80
08/28/97	08/28/97	NG	5.29	6.49	NG	NG	NG	7.65	NG
11/20/97	11/20/97	4.35	5.24	5.35	NG	NG	NG	6.89	8.23
02/12/98	02/12/98	3.59	4.68	4.71	NG	NG	NG	5.04	7.99
05/12/98	05/12/98	2.09	2.69	3.32	NG	NG	NG	4.39	7.90
08/19/98	08/19/98	3.43	5.26	5.19	NG	NG	NG	7.56	8.34/sheen
11/19/98	11/19/98	4.58	5.80	5.80	NG	NG	NG	7.65	8.22
02/18/99	02/18/99	3.80	4.74	NG	NG	NG	NG	NG	8.37

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Date	ERM-13	ERM-14	ERM-15	ERM-16	ERM-17	ERM-18	ERM-19	NEX-1	OBG-1	OBG-2
	Depth to Groundwater/ Product									
09/16/96	7.01	6.89	4.30	8.51	5.62	3.65	5.28	NG	NG	NG
10/16/96	7.15	6.92	3.94	8.49	5.56	3.96	5.17	NG	NG	NG
11/18/96	7.13	7.10/6.91	4.03	8.43	5.53	NG	5.19	NG	NG	NG
12/16/96	6.55	6.35	NG	7.8	3.73	NG	4.23	NG	NG	NG
02/17/97	6.03	5.89	NG	7.85	4.53	NG	4.18	NG	NG	NG
03/27/97	5.98	5.82	NG	7.79	4.87	NG	4.06	5.81	8.12	7.95
04/15/97	5.86	5.7	3.39	7.84	4.84	NG	NG	5.74	NG	7.92
04/17/97	NG	5.66	3.31	NG	4.67	NG	3.91	NG	NG	7.91
04/24/97	NG									
05/21/97	6.15	6.04/5.99	NG	8.16	5.26	NG	4.46	5.80	7.98	7.81
08/28/97	7.24	7.24/7.01	NG	8.63/sheen	5.77	NG	5.41	6.15	8.22	8.03
11/20/97	7.84	7.63	4.46	8.77	5.77	NG	5.79	6.45	8.43	8.23
02/12/98	6.71	6.59	3.54	8.18	5.14	NG	4.44	5.28	8.19	8.01
05/12/98	5.23	5.09	2.63	7.32	2.98	NG	3.43	5.20	7.88/7.87	7.71
08/19/98	6.51	6.37/sheen	4.02	8.79/8.75	5.83	NG	5.11	5.99	8.13	7.94
11/19/98	8.06	7.80	4.59	9.03/9.00	6.05	NG	6.29	6.31	8.21	8.03
02/18/99	NG	7.47	4.29	8.00	NG	NG	NG	NG	7.97	7.78

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Date	OBG-4	OBG-6	OBG-7	OBG-8	OBG-9	MW-4	MW-6
	Depth to Groundwater/ Product						
09/16/96	NG						
10/16/96	NG						
11/18/96	NG						
12/16/96	NG						
02/17/97	NG						
03/27/97	7.75	7.95	5.61	NG	5.54	4.91	4.49
04/15/97	7.75	NG	NG	NG	5.54	NG	NG
04/17/97	7.78	NG	NG	NG	5.58	NG	NG
04/24/97	7.74	NG	NG	NG	NG	NG	NG
05/21/97	7.64	NG	5.79	5.60	5.84/5.31	NG	4.85
08/28/97	7.9	NG	6.49	NG	6.56/6.45	NG	5.34
11/20/97	8.07	NG	7.09	NG	7.06	NG	5.33
02/12/98	7.84	NG	5.84	NG	NG	NG	4.92
05/12/98	7.51	NG	4.56	NG	4.60/4.58	4.16	3.74
08/19/98	7.76	NG	5.83	NG	5.81	NG	5.41
11/19/98	7.91	NG	7.22	NG	7.34	6.99	5.64
02/18/99	7.26	NG	NG	NG	6.36	6.12	4.72

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ATTACHMENT 5
HISTORICAL GROUNDWATER SAMPLING RESULTS

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 1 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-1	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	4.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	5	1,000	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	3	<1.0	3	<1.0	<500	6	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	3	<500	3	NS	NS
	11/98	<1.0	<1.0	<1.0	2	3	<400	5	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	1.0	<400	1	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 2 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-2	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	4.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	8	<500	8	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	5	<500	5	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	2	1,500	2	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	19	<500	19	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	9	<400	9	NS	NS
2/99	<1.0	<1.0	<1.0	<1.0	4	<400	4	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 3 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-3	3/95	<1.0	<1.0	<1.0	<1.0	7.90	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	7	<500	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	1	<500	1	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	2	<400	2	NS	NS
2/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-4	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	5	600	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	2	<1.0	<1.0	<1.0	3	<500	5	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	800	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	700	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	<1.0	4	1	5	<1.0	600	10	NS	NS
	2/99	<1.0	3.0	<1.0	<1.0	1.0	<400	4	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-5	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	6	<500	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	700	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,200	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	<1.0	1	<1.0	<1.0	2	<400	3	NS	NS
2/99	<1.0	3	<1.0	<1.0	<1.0	<400	3	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
HRP-10	3/95	304	35.2	257	1140	<50	6,080	NS	NS	NS
	5/96	125	21	54	329	<20	1,740	NS	NS	NS
	11/96	9	<1.0	65	<1.0	7	<1,000	81	600	<500
	2/97	<1.0	<1.0	<1.0	<1.0	3	<500	3	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	3.0	800	3.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	700	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	1	<500	1	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	2	<400	2	NS	NS
	2/99	<1.0	3	<1.0	<1.0	2	<400	5	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
HRP-11	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	1.0	<1.0	<1.0	3.0	<2.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
2/99	<1.0	3	<1.0	<1.0	<1.0	<400	3	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
MW-1	11/96	3	<1.0	5	<1.0	<1.0	<1,000	11	1,000	<500
	2/97	<1.0	<1.0	4	<1.0	<1.0	<500	4	<500	600
	5/97	<1.0	<1.0	4	<1.0	<1.0	<500	6	700	760
	8/97	<1.0	<1.0	16	2B	<1.0	1,000	18	800	600
	11/97	2	<1.0	9	<1.0	<1.0	<500	11	NS	NS
	2/98	<1.0	1	4	<1.0	<1.0	800	5	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	3	<1.0	1	<1.0	<1.0	<500	4	NS	NS
	11/98	4	1	1	1	<1.0	600	7	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

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Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
Remediation Standard		Benzene	Toluene	Ethylbenzene	Xylenes	100	500	NA	NA	NA
Well	Date									
MW-2	11/96	4	<1.0	14	<1.0	4	<1,000	28	1,200	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	1 B	1,200	1,200
	5/97	<1.0	<1.0	3	<1.0	<1.0	<500	3	500	580
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	2	<1.0	3	1	3	<500	9	NS	NS
	2/98	2	1	6	<1.0	<1.0	700	9	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	3	500	3	NS	NS
	8/98	<1.0	<1.0	<1.0	2	1	<500	3	NS	NS
	11/98	2	2	<1.0	2	4	<400	10	NS	NS
	2/99	<1.0	<1.0	2	1	4	700	7	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995¹ - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
MW-3	2/97	36	23	72	500	5	2,000	645 B	3,300	1,600
	5/97	60	38	69	730D	<1.0	5,000	897D	7,900	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	2	3	56	<1.0	<500	61	NS	NS
	2/98	<1.0	<1.0	<1.0	1.0	<1.0	21,000	1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	11/98	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	NS	NS
	2/99	4	5	39	75	2	800	125	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
OBG-8A	3/95	72	24.6	25.9	62.4	9.29	<473	NS	NS	NS
	5/96	12.0	<1.0	9.0	4.0	<2.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	3	25	5	5	<1.0	<500	38	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	9,300	<1.0	NS	NS
	5/98	<1.0	2	<1.0	2	<1.0	3,800	4	NS	NS
	8/98	2	<1.0	3	<1.0	1	2,400	6	NS	NS
	11/98	1	<1.0	<1.0	1	2	2,300	4	NS	NS
2/99	<1.0	<1.0	<1.0	<1.0	2	4,400	2	NS	NS	

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**Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT**

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
OBG-9A	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	3,000	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	3.0	11,000	3.0	2,200	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	3,100	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	2,100	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	3	1,000	3	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	3	800	3	NS	NS
2/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,300	<1.0	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
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DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-2D(B)	11/96	1	<1.0	<1.0	<1.0	<1.0	<1,000	3	<500	<500
	2/97	2	<1.0	<1.0	<1.0	3	<500	5	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	4.0	11,000	4.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	3	1,500	3	NS	NS
	8/98	2	<1.0	<1.0	<1.0	5	<500	7	NS	NS
	11/98	2	<1.0	<1.0	1	3	400	6	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	2	<400	2	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-2S	3/95	37.9	24.2	60.3	126.4	21.3	725	NS	NS	NS
	5/96	50	22	101	144	<10	1,570	NS	NS	NS
	11/96	7	<1.0	9	4	14	<1,000	34	<500	<500
	2/97	5	<1.0	14	3	10	<500	32	500	600
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	4	<1.0	<1.0	15	7	<500	26	NS	NS
	5/98	2	<1.0	10	<1.0	7	1,200	19	NS	NS
	8/98	2	<1.0	3	<1.0	6	<500	11	NS	NS
	11/98	<1.0	1	<1.0	<1.0	4	<400	5	NS	NS
2/99	2	<1.0	11	5	8	<400	26	NS	NS	

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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
WE-3	3/95	<1.0	<1.0	<1.0	<1.0	8.70	<473	NS	NS	NS
	5/96	2.0	<1.0	<1.0	<1.0	14.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	<1.0	<1.0	<1.0	<1.0	6	<500	6	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	220	3,000	220	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	38	<500	38	NS	NS
	2/98	2	<1.0	<1.0	<1.0	160D	<500	162	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	2	<500	2	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	94D	<500	94	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	36	500	36	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	9	<400	9	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
WE-4	3/95	267	29.8	392	712	<40	5,180	NS	NS	NS
	5/96	160	16	301	617	<40	3,680	NS	NS	NS
	11/96	41	1.0	100	2	19	<1,000	166	1,100	500
	2/97	21	<1	27	1	17	<500	66	500	700
	5/97	13	<1.0	13	<1.0	19	<500	45	700	540
	8/97	7.0	<1.0	19	3B	3B	700	44	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,300	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	600	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	1	<500	1	NS	NS
	11/98	5	<1.0	7	<1.0	4	400	16	NS	NS
2/99	<1.0	<1.0	<1.0	1	<1.0	<400	1	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)

Bold numbers indicate an exceedance of State of CT Clean-up Standards

B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range

DRO=Diesel Range Organics, GRO=Gasoline Range Organics

¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 17 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-5	11/96	240D	410D	720D	4,300E	27	9,000	5,697	12,000	8,900
	2/97	42D	10	89D	490D	6	2,000	637	2,000	1,200
	5/97	370	190	840	3,900D	<1.0	4,000	5,300	11,000	16,000
	8/97	210D	<1.0	210D	470DB	63D	5,000	953	3,900	2,500
	11/97	11	<1.0	2	6	27	1,100	46	NS	NS
	2/98	11	<1.0	10	14	3	1,800	38	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,400	<1.0	NS	NS
	8/98	94	1	30	28	31	2,400	184	NS	NS
	11/98	4	<1.0	<1.0	1	37	1,500	42	NS	NS
	2/99	12	1	6	78	5	1,000	102	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-6	11/96	5	210D	71D	630D	<1.0	<1,000	916	2,000	1,400
	2/97	3	4	8	12	2	<500	29	800	700
	5/97	3	1.0	12	<1.0	<1.0	<500	15	1,200	1,200
	8/97	<1.0	1.0	<1.0	28	<1.0	1,000	29	<500	<500
	11/97	2	<1.0	3	2	4	<500	11	NS	NS
	2/98	2	<1.0	5	3	4	500	14	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS
	8/98	3	4	9	44	<1.0	<500	60	NS	NS
	11/98	2	<1.0	<1.0	2	5	<400	9	NS	NS
	2/99	<1.0	1	3	12	2	400	18	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 1 of 25

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-5	3/95	967	431	390	1,340	<100	NS	3,295.1	430	8,250
	5/96	112	6	34	28	<10	NS	196	159	554
	11/96	370D	14	33	61D	<1.0	3,000	480	1,100	1,600
	2/97	1,100	1,100	580	1,600	<50	3,000	4,440 B	3,900	9,100
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	730	250	870	620	<10	2,300	2,470	NS	NS
	2/98	310	460	300	710	<10	5,400	1,780	NS	NS
	5/98	790	280	1,200	4,900	<100	9,200	7,170	NS	NS
	8/98	130	16	330	1,100	<10	2,200	1,576	NS	NS
	11/98	140	8	32	75	<1.0	4,200	255	NS	NS
	2/99	56	2	2	3	2	1,900	65	NS	NS

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Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-6	5/96	15	<1.0	<1.0	<1.0	<2.0	NS	35	63	<473
	11/96	610	230	770	2,400E	<40	5,000	4,054	500	7,800
	2/97	430D	21	300	1,000D	<10	2,000	1,763 B	2,200	4,800
	5/97	430D	21	640D	2,300D	<1.0	1,000	3,391D	1,500	6,700
	8/97	470	90	650	2,000	<1.0	2,000	3,210	3,500	6,200
	11/97	250D	23	260D	530D	<1.0	<500	1,063	NS	NS
	2/98	97D	13	110D	240D	<1.0	<500	460	NS	NS
	5/98	21	4	28	78	<1.0	<500	131	NS	NS
	8/98	63	8	170D	<190D	<1.0	800	431	NS	NS
	11/98	1	<1.0	3	<1.0	<1.0	<400	4	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	2	<400	2	NS	NS

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Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 413.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-7	5/96	5	<1.0	<1.0	<1.0	<2.0	NS	8	38	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	4	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	1	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) [†]	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-8 (destroyed)	3/95	109	11.5	272	157	<50	NS	665.4	464	2,350
	5/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
[†] = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-9 (destroyed)	5/96	<1.0	<1.0	<1.0	<1.0	2	NS	4	3,310	<473
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

**Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT**

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date									
ERM-11	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	3	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	2	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

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 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 7 of 25

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date									
ERM-12	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	1	27	<473
	5/96	1	2	7	14	<2.0	NS	61	4,300	1,390
	11/96	<1.0	2	<1.0	9	<1.0	3,000	16	7,300	6,700
	2/97	<1.0	1	2	9	<1.0	15,000	13	4,800	1,300
	5/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	4	<1.0	7,100	4	NS	NS
	2/98	<1.0	<1.0	<1.0	1	<1.0	23,000	1	NS	NS
	5/98	<1.0	<1.0	2	2	<1.0	5,400	4	NS	NS
	8/98	<5.0	<5.0	<5.0	<5.0	<5.0	5,200	<5.0	NS	NS
	11/98	<1.0	<1.0	<1.0	2	<1.0	5,100	2	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS

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Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
LP = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

**Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT**

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-13	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	534	50	<473
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	NS	9	<100	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	2	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	1	<1.0	<500	1	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

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 Bold numbers indicate an exceedance of State of CT Clean-up Standards
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-14	3/95	292	4,880	8,190	6,020	<2.0	NS	19,995	4,840	3,670
	5/96	305	5,670	1,250	8,350	<2.0	NS	22,543	7,290	3,890
	11/96	270	8,300D	1,700D	11,000D	<25	7,000	21,270	12,000	30,000
	2/97	140	4,500D	980	7,100	<100	60,000	12,840	20,000	20,000
	5/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	40	2,300D	700D	2,500D	<1.0	4,600	5,540	NS	NS
	2/98	<1.0	930	210	2,800	<1.0	28,000	3,940	NS	NS
	5/98	80	2,200	690	5,400	<1.0	11,000	8,370	NS	NS
	8/98	270	5,900	1,600	16,000	<100	24,000	23,770	NS	NS
	11/98	<50	1,000	730	7,300	<50	16,000	9,030	NS	NS
2/99	<100	420	160	5,300	<100	20,000	5,880	NS	NS	

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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 413.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date									
ERM-15	11/96	280	760	330	1,100	<40	1,000	2,517	2,300	4,500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	210	630	240	120	<10	<500	1,200	NS	NS
	2/98	8	9	4	25	<1.0	600	46	NS	NS
	5/98	1,100	2,700	810	3,200	<50	11,000	7,810	NS	NS
	8/98	1,000	2,200	1,100	3,600	<100	5,900	7,900	NS	NS
	11/98	150D	270D	280D	1,300D	<1.0	3,100	2,000	NS	NS
	2/99	38	64	48	170	1	600	321	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date									
ERM-16	11/96	37	<2.0	13	16	30	<1,000	68	4,400	2,000
	2/97	56D	<1.0	16	34	27	6,000	136	11,000	1,400
	5/97	34	<1.0	20	42	11	26,000	107	60,000	2,000
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	5	<1.0	7	30	<1.0	15,000	42	NS	NS
	2/98	8	<1.0	3	15	6	25,000	32	NS	NS
	5/98	25	<1.0	9	18	13	4,800	65	NS	NS
	8/98	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/98	LP	LP	LP	LP	LP	LP	LP	LP	LP
	2/99	12	<1.0	7	29	9	57,000	57	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
LP = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

**Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT**

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO	
		Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date										
ERM-17	11/96	10	<1.0	<1.0	<1.0	9	<1,000	11	600	600	
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	500	<500	
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	1,500	<500	
	8/97	12	<1.0	<1.0	<1.0	<1.0	1,000	12	1,000	500	
	11/97	2	<1.0	<1.0	<1.0	<1.0	<500	2	NS	NS	
	2/98	3	<1.0	<1.0	<1.0	<1.0	<500	3	NS	NS	
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS	
	8/98	13	<1.0	<1.0	<1.0	<1.0	3	900	16	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes: NS = Not sampled (NS results have been shaded)
 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-19	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	1	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<10	<10	<10	13	<10	<500	13	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
FD-1	5/98	210	3	140	29	66	48,000	448	NS	NS
	8/98	160	<10	55	<10	140	3,300	355	NS	NS
	11/98	42	<5.0	5	<5.0	220	9,000	267	NS	NS
	2/99	<50	<50	<50	<50	780	38,000	780	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
FD-2	5/98	63	<1.0	<1.0	3	31	14,000	97	NS	NS
	8/98	62	1	3	<1.0	36	3,300	102	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	4	4,000	4	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	25	5,000	25	NS	NS
FD-3	5/98	<1.0	<1.0	<1.0	<1.0	9	<500	9	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	4	<600	4	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	3	<1,300	4	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	10	<400	10	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA	
Well	Date									
MW-4	2/97	29	1	<1.0	3	<1.0	NS	33	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	15	2	<1.0	<1.0	<1.0	1,000	17	NS	NS
	8/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/98	490	3,000	280	3,100	<50	NS	6,870	NS	NS
	2/99	<250	6,500	470	6,500	<250	8,800	13,470	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
MW-6	2/97	<1.0	9	<1.0	<1.0	<1.0	NS	9	NS	NS
	5/97	18	<1.0	2	8.0	<1.0	<500	28	<500	<500
	8/97	35D	1.0	<1.0	8.0	<1.0	<500	46	<500	<500
	11/97	6	<1.0	<1.0	3	<1.0	<500	9	NS	NS
	2/98	8	<1.0	<1.0	3	<1.0	<500	11	NS	NS
	5/98	1	<1.0	<1.0	<1.0	<1.0	<500	1	NS	NS
	8/98	170	8	13	62	<2.0	<500	253	NS	NS
	11/98	5	<1.0	<1.0	2	<1.0	<400	7	NS	NS
	2/99	71	<1.0	<1.0	3	3	<400	77	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
LP = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
NEX-1	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	7	35	<143
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	NS	8	<122	<143
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	2	11	4	34	<1.0	<500	57	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	3.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
OBG-1	5/97	480	3,300D	1,100D	10,000D	540	110,000	15,420	260,000	49,000
	8/97	1,600	6,200	1,700	12,000	810	220,000	22,310	580,000	56,000
	11/97	1,600	8,800	2,300	16,000	38,000	21,000	66,700	NS	NS
	2/98	1,400	7,100D	2,200	15,000D	24,000D	160,000	49,700	NS	NS
	5/98	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/98	340	1,400	790	5,000	1,600	25,000	9,130	NS	NS
	11/98	13,000	51,000	15,000	110,000	1,000	86,000	190,000	NS	NS
	2/99	2,500	16,000	1,600	15,000	4,600	40,000	39,700	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
LP = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
OBG-2	5/97	77	280	530	9,800D	290	87,000	10,977	120,000	44,000
	8/97	470	410	1,100	11,000	830	180,000	13,990	99,000	75,000
	11/97	370	380	960	9,200	40,000	23,000	50,910	NS	NS
	2/98	410	340	680	7,900	26,000D	120,000	35,330	NS	NS
	5/98	570	<1.0	650	6,300	15,000	33,000	22,520	NS	NS
	8/98	330	620	760	5,300	27,000D	25,000	34,010	NS	NS
	11/98	<250	300	480	5,600	2,000	25,000	8,380	NS	NS
	2/99	<100	500	220	4,100	1,600	39,000	6,420	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
OBG-4	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	NS	NS
	5/97	<1.0	<1.0	<1.0	2	<1.0	6,000	2	3,100	<500
	8/97	<1.0	<1.0	<1.0	<1.0	4.0	1,000	4.0	3,500	<500
	11/97	<1.0	3	<1.0	7	8	NS	18	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	5	4,100	5	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	5	6,100	5	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	<250	3,100	1,200	11,000	<250	160,000	15,300	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
 Bold numbers indicate an exceedance of State of CT Clean-up Standards
 D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
 DRO=Diesel Range Organics, GRO=Gasoline Range Organics
 L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
	Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date								
OBG-7	5/97	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	900	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
OBG-8 (destroyed)	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
	Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard	215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date								
OBG-9	5/97	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	490	4,800	2,100	16,000	<200	24,000	23,390	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	LP	LP	LP	LP	LP	LP	LP	LP
	8/98	56	280	250	2,300	23	NS	2,909	NS
	11/98	31	97	120	1,200	<5.0	5,800	1,448	NS
	2/99	77	190 D	32	340 D	1	2,900	640	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
LP = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - February 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1) ¹	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
VEA-4	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<600	<1.0	NS	NS
	11/98	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
VEA-7	8/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	11/98	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	2/99	<1.0	<1.0	<1.0	<1.0	1	<400	1	NS	NS
VEA-14	8/98	<10	<10	410	1,000	<10	<500	1,410	NS	NS
	11/98	<1.0	<1.0	16	44	<1.0	1,800	60	NS	NS
	2/99	<1.0	<1.0	21	23	<1.0	5,000	44	NS	NS

Notes: NS = Not sampled (NS results have been shaded)
Bold numbers indicate an exceedance of State of CT Clean-up Standards
D = Analyte concentration was obtained from a diluted analysis, B = Analyte detected in method blank, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics
L P = Liquid-phase petroleum present; well could not be sampled
¹ = Beginning 5/98, TPH was analyzed using EPA Method 8100M