N00129.AR.001245
NSB NEW LONDON
5090.3a

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: January 1999

Prepared by:

IT Corporation
Prepared by:

Barry A. Kline, P.E.
Project Engineer

Foster Wheeler Environmental Corp.
Reviewed by:

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

grsubbas\wp\gr3.38

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 January 12, 1999, eight (8) horizontal vapor extraction trenches (VET-1, VET-2, VET-3, VET-4, VET-5, VET-6, VET-7 and VET-8) and five (5) air sparge points (ASP-A, ASP-B, ASP-C, ASP-D and ASP-E) were operating. VET-9 through VET-17 and air sparge points ASP-F through ASP-Q are currently not operating due to high groundwater conditions and low dissolved volatile organic compound (VOC) concentrations in their vicinity. The soil vapor extraction (SVE) system is currently operating at a flow rate of approximately 255 standard cubic feet per minute (scfm). The air sparge system was temporarily deactivated in December of 1998 and reactivated using compressor C-2 on January 11, 1999. On January 30, 1999, the compressor was again deactivated, as the air sparge system heat exchanger was relocated to the NEX site.

A site map has been included as **Figure 1**. The site monitoring forms for operation and maintenance (O&M) conducted during the month of January 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 January 12, 1999, was 0.039 lbs/hour. Based on the average mass removal rate from December 29, 1998 to January 12, 1999, approximately 6.8 lbs of hydrocarbons were extracted by the remediation system. The total hydrocarbon mass extracted by the remediation system, as of January 12, 1999, was approximately 2,137 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 January, 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 discharge sampling for the system was conducted on January 12, 1999. No water discharge occurred at the site during January 1999.

Monitoring Well Gauging - A round of site monitoring well gauging was conducted on November 18, 1998 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 1.91 feet in OBG-9A to 8.88 feet in WE-3. Historical well gauging data has been included in **Attachment 4**.

Monitoring Well Sampling - A round of site monitoring well sampling was conducted on November 18, 1998. The November Quarterly Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities – On January 30, 1999, the air sparge system heat exchanger was relocated to the NEX site.

NEX AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site has been operating since July 31, 1997. As of January 12, 1999, 21 vapor extraction points (VEA-6 through VEA-20 and VEB-10 through VEB-15) and 27 air sparge points (SPA-11 through SPA-37 and SPB-19 through SPB-27) were operating. The soil vapor extraction (SVE) system is currently operating at a flow rate of approximately 307 standard cubic feet per minute (scfm). During the month of January 1999, the air sparge system injected air at a flow rate of approximately 82 scfm. Approximately 216,430 gallons of water had been extracted, treated, and discharged by the NEX system as of January 12, 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 January 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 January 12, 1999, was 6.0 lbs/hour. Based on the average mass removal rate from December 29, 1998 to January 12, 1999, approximately 459 lbs of hydrocarbons were extracted by the remediation system. The total hydrocarbon mass extracted by the remediation system, as of January 12, 1999, was approximately 3,720 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 - No carbon change-out occurred during the month of January 1999. The last liquid-phase carbon change-out occurred on July 8, 1998. The last vapor-phase carbon change-out occurred September 8, 1997.

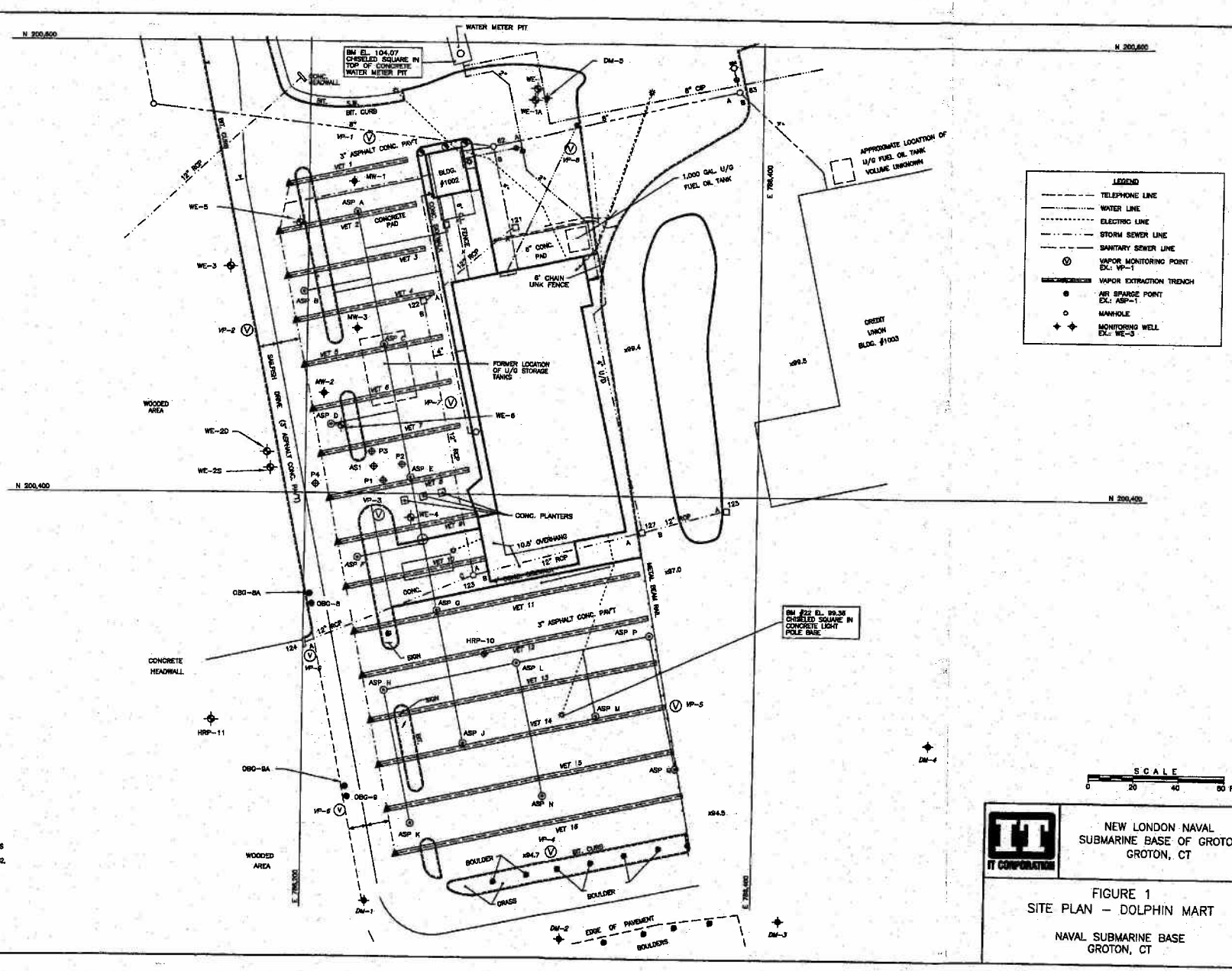
Discharge Monitoring Sampling – Water and air discharge sampling for the system was conducted on January 11, 1999 and January 12, 1999, respectively.

Monitoring Well Gauging - A partial round of site monitoring well gauging (wells ERM-12, ERM-14, ERM-16, and OBG-9) was conducted on January 12, 1999. Depth to groundwater at the site ranged from 7.60 feet in OBG-9 to 10.12 feet in ERM-12. A sheen was detected in ERM-14.

Monitoring Well Sampling - A round of site monitoring well sampling was conducted on November 19, 1998. The November Quarterly Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities – On January 30, 1999, the Dolphin Mart air sparge system heat exchanger was installed at the NEX site. The Dolphin Mart heat exchanger was installed to replace the damaged western NEX air sparge system heat exchanger.

FIGURES



THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:

1. NAUTILUS PARK, GROTON, CONN. EXISTING UTILITIES MAPS PREPARED BY CULLINAN ENGINEERING CO., INC. SCALE 1"=40' DATE 3/25/93 MAPAC DRAWING NO'S. 2,064,332, 2,064,353 AND 2,064,374.
2. MONITOR WELL LOCATION AND GROUND WATER CONTOUR MAP OF JANUARY 21, 1992 DOLPHIN MART SITE US SUBASE, GROTON, CT. PREPARED BY ERM-NORTHEAST SCALE 1"=20' APRIL, 1992.
3. UTILITY DATA FROM AS-BUILT DRAWINGS AND UTILITY MAPS; EXACT LOCATIONS MUST BE VERIFIED IN FIELD.
4. ALL TOPOGRAPHIC FEATURES AND INVERTS SHOWN HEREON SHALL BE FIELD VERIFIED.

DATE: 3/30/99
TEMPLATE NAME
FORMAT REVISION: 2/26/99

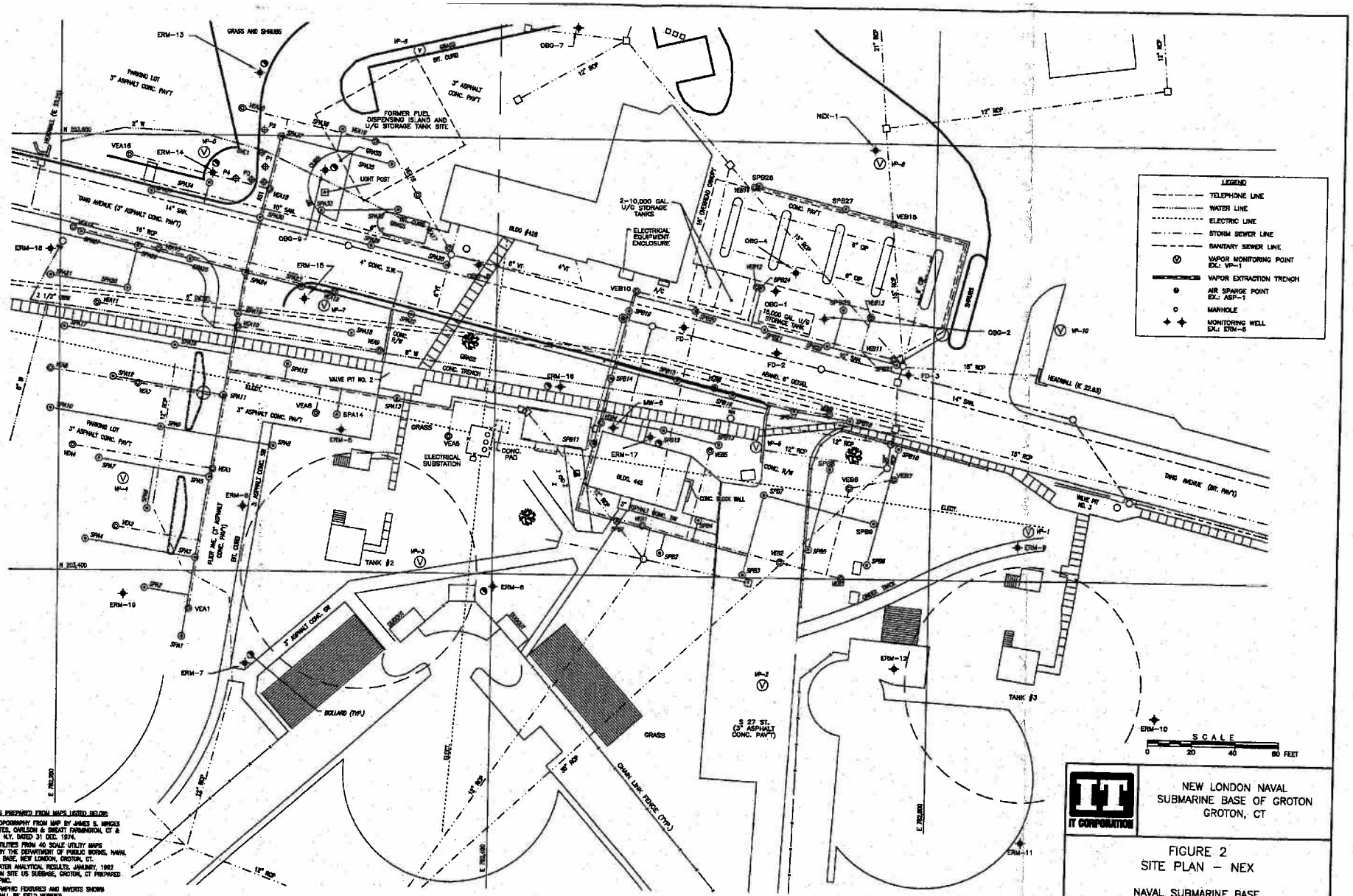
IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	WIN	L. Avery	---	---	1405-17

IT CORPORATION

NEW LONDON NAVAL SUBMARINE BASE OF GROTON
GROTON, CT

FIGURE 1
SITE PLAN – DOLPHIN MART

NAVAL SUBMARINE BASE
GROTON, CT



THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:

1. EXISTING TOPOGRAPHY FROM MAP BY JAMES S. MINCES & ASSOCIATES, CARLSON & SWEAT FARMINGTON, CT & NEW YORK, N.Y. DATED 31 DEC. 1974.
2. EXISTING UTILITIES FROM 40 SCALE UTILITY MAPS SUPPLIED BY THE DEPARTMENT OF PUBLIC WORKS, NAVAL SUBMARINE BASE, NEW LONDON, GROTON, CT.
3. GROUND WATER ANALYTICAL RESULTS, JANUARY, 1992 NEX STATION SITE US SUBBASE, GROTON, CT PREPARED FOR ERM-PMC.
4. ALL TOPOGRAPHIC FEATURES AND INVERTS SHOWN HEREON SHALL BE FIELD VERIFIED.

IT CORPORATION

NEW LONDON NAVAL SUBMARINE BASE OF GROTON GROTON, CT

FIGURE 2
SITE PLAN – NEX

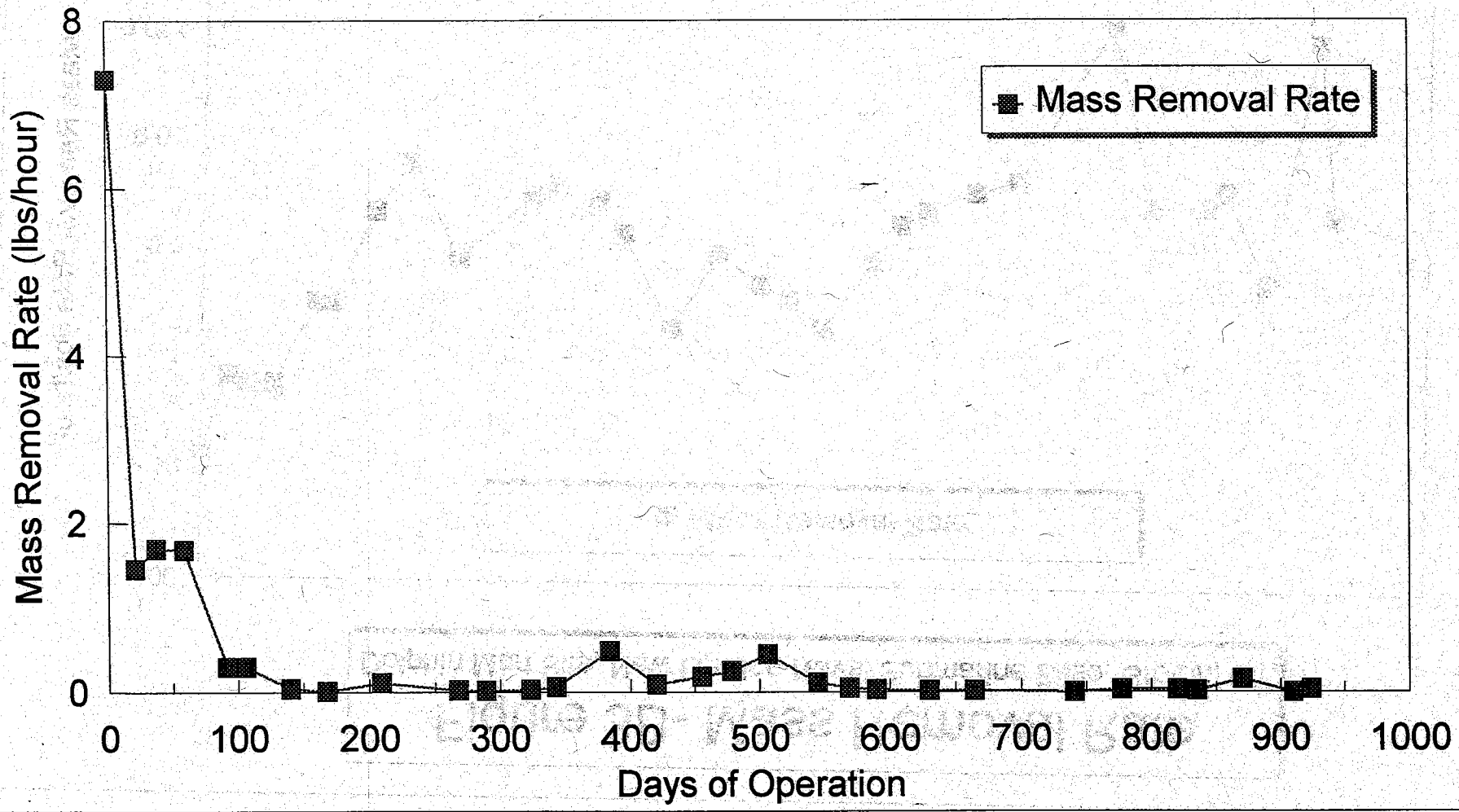
NAVAL SUBMARINE BASE
GROTON, CT

IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	WIN	L. Avery 3/30/99	---	---	1405-16

DATE: 3/30/99
TIME: 2:07 PM
PENNIE VERSION: 2/26/99

Figure 3A- Mass Removal Rate

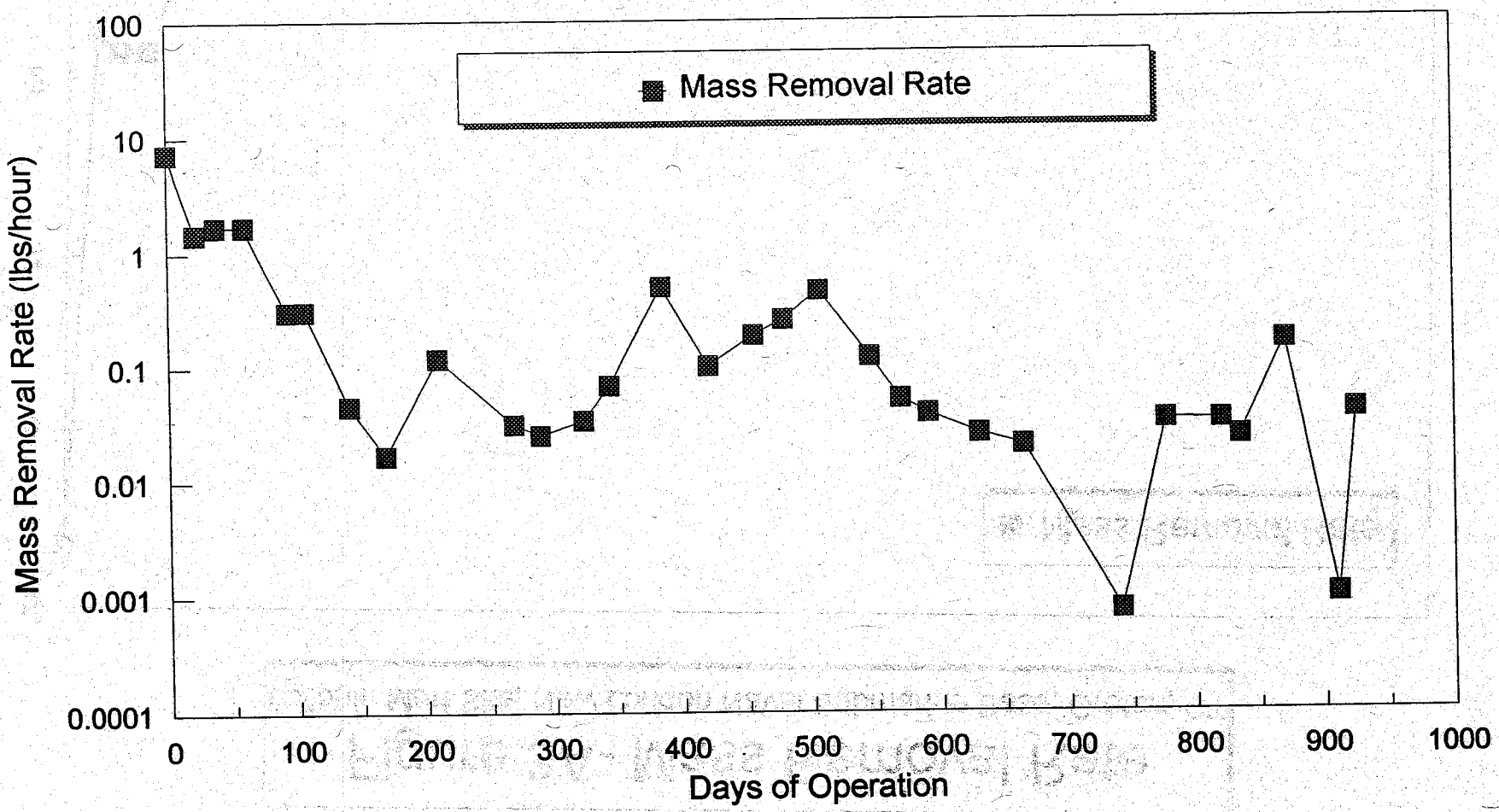
Dolphin Mart Site, New London Naval Submarine Base, Groton, CT



MASSREM2.WK4

Figure 3B- Mass Removal Rate

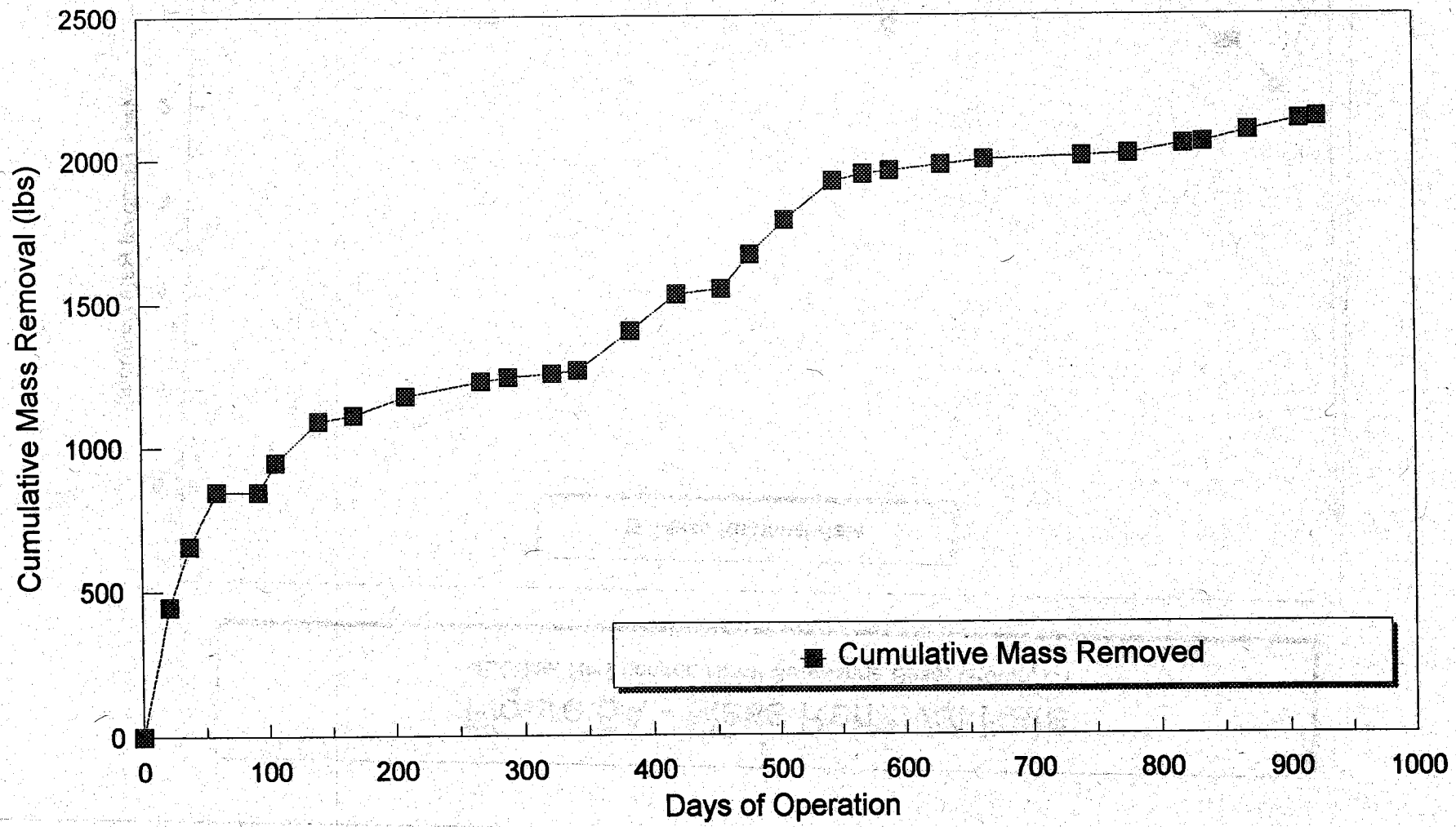
Dolphin Mart Site, New London Naval Submarine Base, Groton, CT



MASSREM2.WK4

Figure 4 - Cumulative Mass Removed versus Time

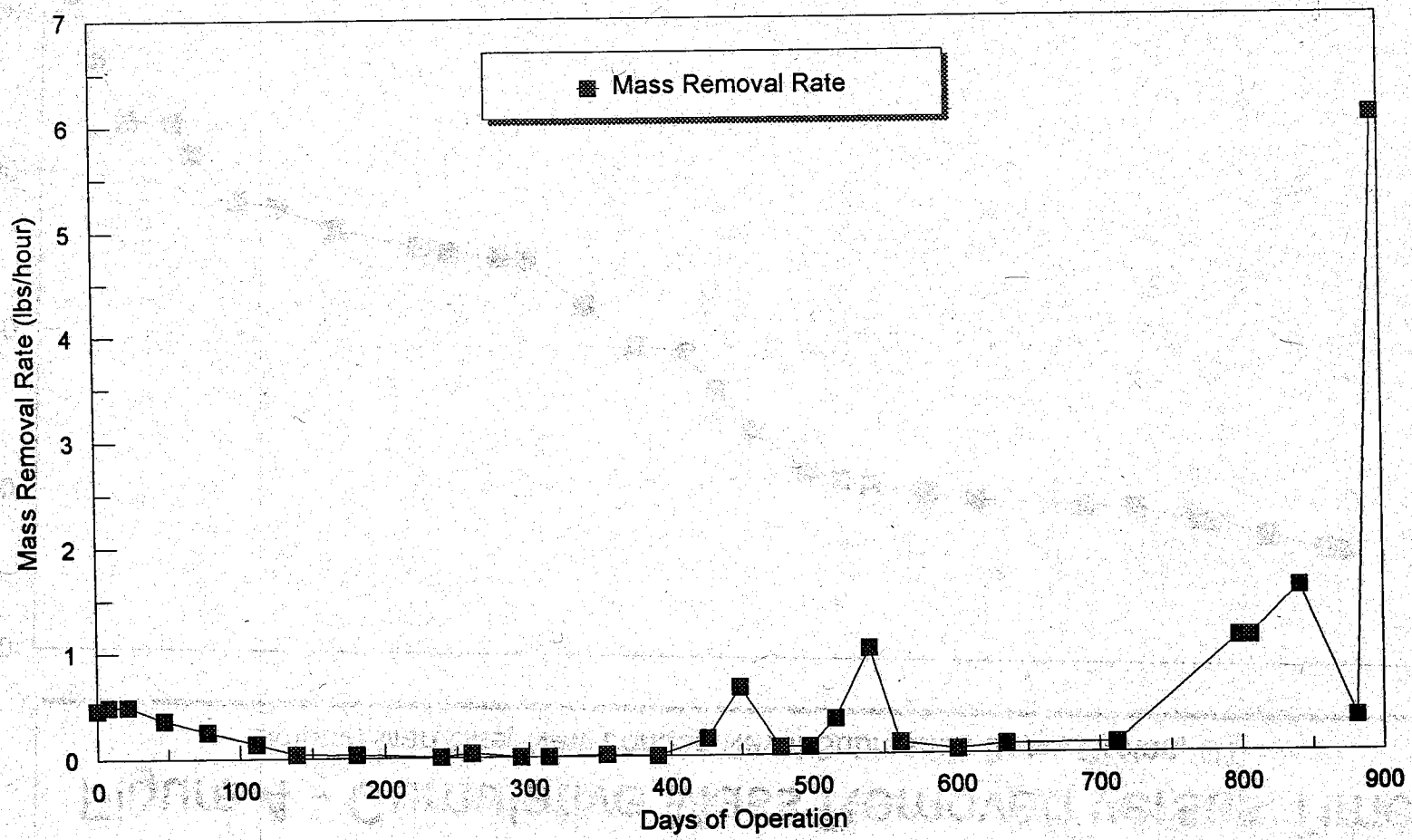
Dolphin Mart Site, New London Naval Submarine Base, Groton, CT



MASSREM2.WK4

Figure 5A - Mass Removal Rate

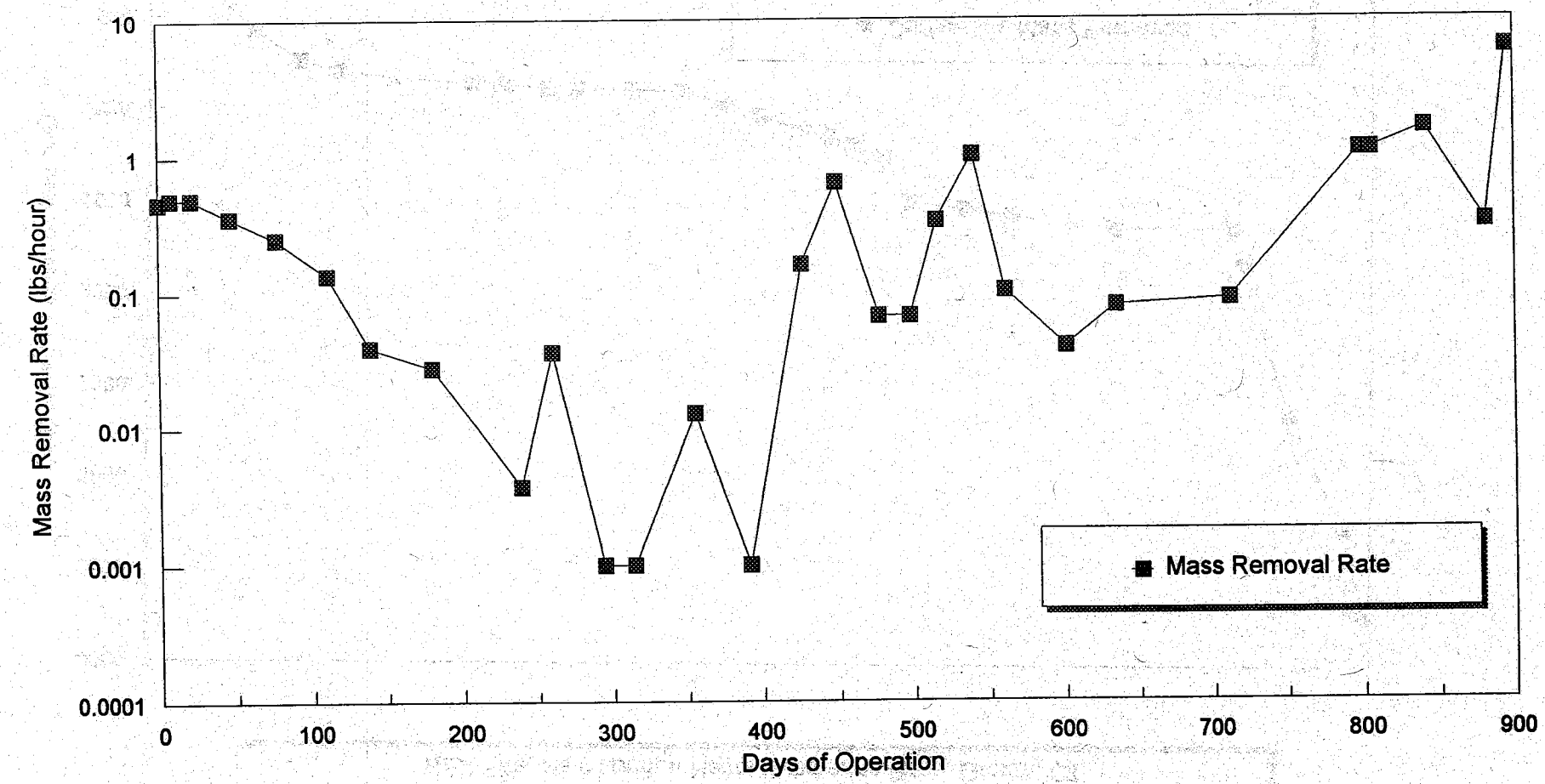
NEX Site, New London Naval Submarine Base, Groton, CT



MASSREM2.WK4

Figure 5B - Mass Removal Rate

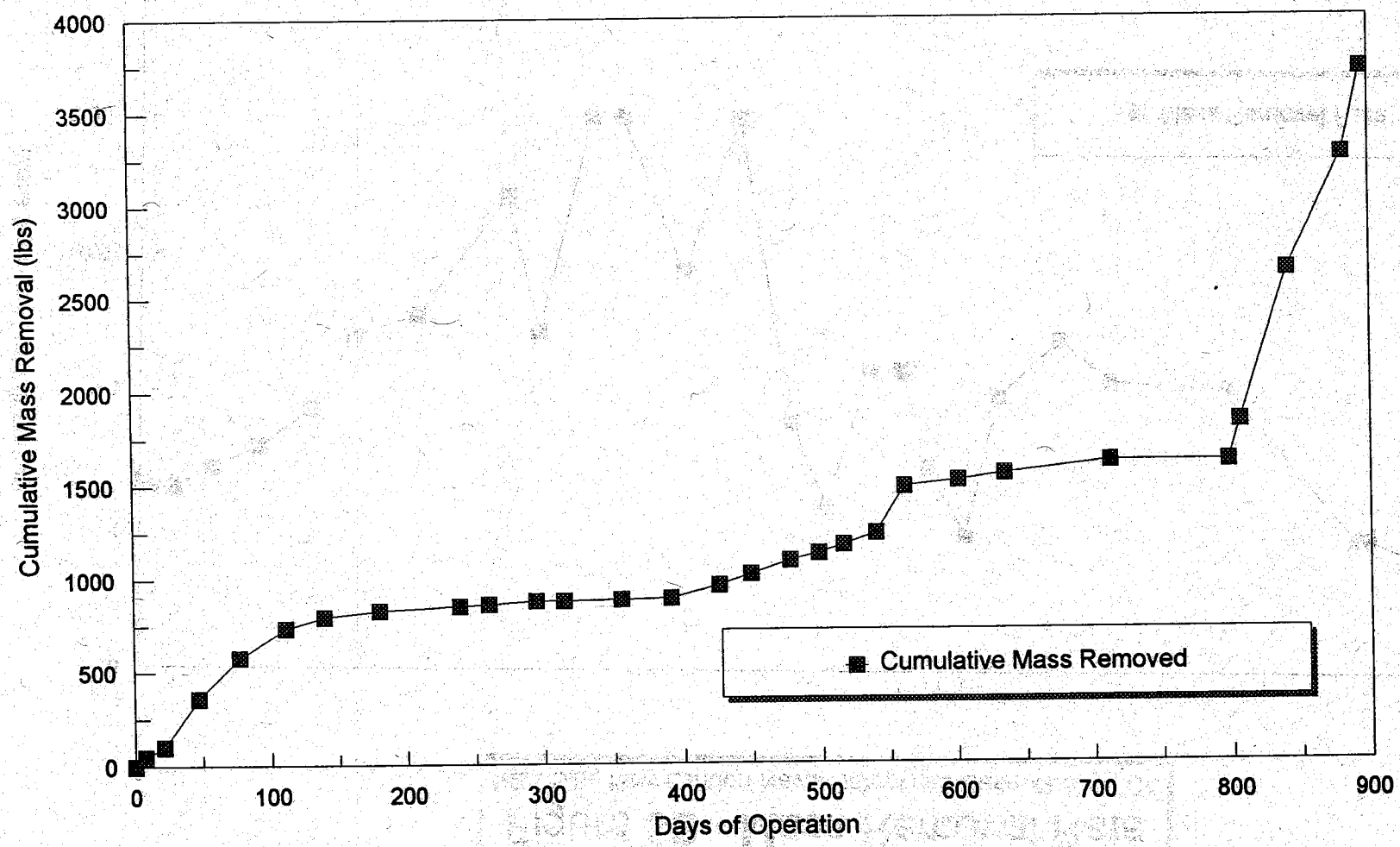
NEX Site, New London Naval Submarine Base, Groton, CT



MASSREM2.WK4

Figure 6 - Cumulative Mass Removed versus Time

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



MASSREM2.WK4

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: 01-11-99
Time:
Technician: J.K. JR.

AIR COMPRESSOR SYSTEM

Flow Rate 22 SCFM | Total Flow 6385/25 SCFM

Air Compressor C-1		Air Compressor C-2	
Pressure	NA psi	Pressure	13.5 psi
Temperature	°F	Temperature	180 °F
Flow Control Valve Setting		Flow Control Valve Setting	100 %
Bleed Valve	X	Bleed Valve	50%
Radiator	ON/OFF	Radiator	ON/OFF

SOIL VAPOR EXTRACTION SYSTEM

Flow Rate 1300 SCFM (use anemometer in hole in pipe near Hersey flowmeter)

Vacuum Pump V-1		Vacuum Pump V-2	
Vacuum	NA "Hg	Vacuum	4 "Hg
Temperature	°F	Temperature	96 °F
Particulate Filter		Particulate Filter	OK
Flow Control Valve Setting		Flow Control Valve Setting	100 %
Bleed Air Valve Setting		Bleed Air Valve Setting	25%
Liquid Level	X	Liquid Level	OK

Vacuum Pump V-3		Vacuum Pump V-4	
Vacuum	NA "Hg	Vacuum	NA "Hg
Temperature	°F	Temperature	°F
Particulate Filter		Particulate Filter	
Flow Control Valve Setting		Flow Control Valve Setting	
Bleed Air Valve Setting		Bleed Air Valve Setting	
Liquid Level	X	Liquid Level	X

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B		Carbon Adsorber C/D	
Pressure	NA psi	Pressure	30 psi
Inf. VOC Level	ppm	Inf. VOC Level	10 ppm
Mid. VOC Level	ppm	Mid. VOC Level	3 ppm
Eff. VOC Level	X ppm	Eff. VOC Level	0 ppm
Change out Date		Change out Date	8/22/96

WATER TREATMENT

Flowmeter Reading 4330.2 Gallons (arrival reading) Flowmeter Reading 4330.2 Gallons (departure reading)

COMMENTS

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

Date: 1-12-99
Time:
Technician: J.K. Jr.

AIR COMPRESSOR SYSTEM

Flow Rate	82 ? SCFM	Total Flow	6488947 SCFM

Air Compressor C-1		Air Compressor C-2	
Pressure	NA psi	Pressure	NA psi
Temperature	°F	Temperature	°F
Flow Control Valve Setting		Flow Control Valve Setting	
Bleed Valve		Bleed Valve	
Radiator	ON / OFF	Radiator	ON / OFF

SOIL VAPOR EXTRACTION SYSTEM

Eastern Flow Rate	50 to 200 SCFM	Total Flow	110280690 SCFM
Western Flow Rate	083 to 28 SCFM	Total Flow	24841880 SCFM

Vacuum Pump V-1		Vacuum Pump V-2	
Vacuum	6.5 "Hg	Vacuum	4 "Hg
Temperature	144 °F	Temperature	126 °F
Particulate Filter	OK	Particulate Filter	OK
Flow Control Valve Setting	100 %	Flow Control Valve Setting	100 %
Bleed Air Valve Setting		Bleed Air Valve Setting	125 %
Liquid Level	OK	Liquid Level	OK

Vacuum Pump V-3		Vacuum Pump V-4	
Vacuum	4 "Hg	Vacuum	NA "Hg
Temperature	166 °F	Temperature	°F
Particulate Filter	OK	Particulate Filter	
Flow Control Valve Setting	100 %	Flow Control Valve Setting	
Bleed Air Valve Setting	15 %	Bleed Air Valve Setting	
Liquid Level	OK	Liquid Level	

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B		Carbon Adsorber C/D	
Pressure	23 psi	Pressure	psi
Inf. VOC Level	78.6 ppm	Inf. VOC Level	20 ppm
Mid. VOC Level	70.5 ppm	Mid. VOC Level	— ppm
Eff. VOC Level	76 ppm	Eff. VOC Level	20 ppm
Change out Date	N/A	Change out Date	8-22-96

WATER TREATMENT

Flowmeter Reading ~~216198.6~~ Gallons (arrival reading) Flowmeter Reading _____ Gallons (departure reading)

COMMENTS

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

V-1 and V-2 were down upon arrival. control panel lights read lo air flow and high lev.

Flow meter Arrival
216339.7

Departure
~~216391.1~~
216430.0

ATTACHMENT 2

MONTHLY FIELD ACTIVITY SUMMARY

Field Activity Summary
January 1999

New London Naval Submarine Base
Groton, Connecticut

Week Ending	Site	Period	Field Activities	Comments
1/15/99	Dolphin Mart	Monthly Monitoring	Conducted system monitoring and maintenance and collected air discharge monitoring samples.	Air sparge system reactivated using compressor C-2. SVE System operating normally.
	NEX		Conducted system monitoring and maintenance and collected air and water discharge monitoring samples.	Blowers V-1 and V-2 down on arrival due to high water. System repairs made.
2/5/99	Dolphin Mart		Air sparge system heat exchanger removed and relocated to NEX site.	
	NEX		Air sparge system heat exchanger from Dolphin Mart site installed at NEX (west side) to replace damaged heat exchanger.	

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	0.00	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	126.91	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	

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 Mitkem Laboratory. Prior to 10/16/96 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) 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 (mg/m3)	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	NA	—	0.000	130.00	0.455	0.00	0.000	—	0.000	0.463	0.00	0.00	
08/08/96	NA*	270	1.80	0.008	NA	—	0.000	130.00	0.486	0.00	0.000	—	0.000	0.494	46.93	46.93	system operated approx. 92 hrs between 7/31 and 8/8
08/22/96	NA*	270	1.80	0.008	NA	—	0.000	130.00	0.486	0.00	0.000	—	0.000	0.494	52.85	99.78	24-hour per day system operation began 8/8
09/16/96	NA*	320	2.70	0.015	NA	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	NA	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	0.00	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	0.24	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	0.00	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	NA	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	0.00	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	0.00	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	0.00	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	0.00	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	0.00	0.000	—	0.000	—	0.000	0.00	0.000	0.00	6.04	889.57	One blower down due to high water level in moisture trap.
09/30/97	27***	221	2.37	0.009	22.00	6.00	0.021	—	0.000	—	0.000	33.68	0.132	0.161	68.15	957.72	One blower down due to high water level in moisture trap.
10/23/97	47***	322	2.47	0.013	62.50	17.05	0.086	—	0.000	—	0.000	95.02	0.542	0.641	60.12	1017.84	Two blowers down due to high water level in moisture trap
11/20/97	47***	213	0.50	0.002	4.10	1.12	0.004	—	0.000	—	0.000	16.36	0.062	0.067	69.68	1087.51	One blower down due to high water level in moisture trap.
12/11/97	47	213	0.50	0.002	4.10	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	8.00	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	16.50	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	3.85	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	3.00	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	30.50	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	0.00	0.000	39.42	0.084	0.00	0.000	0.00	0.000	0.089	63.76	1615.16	
10/07/98	0	278	8.40	0.042	0.00	0.00	0.000	0.00	0.000	0.00	0.000	214.19	1.054	1.096	0.00	1615.16	System modification/repair completed, system reactivated.
10/15/98	0	278	8.40	0.042	0.00	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	1.67	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	0.00	0.000	0.00	0.000	0.00	0.000	122.18	0.321	0.323	621.50	3260.40	One blower and air compressor down due to high water.
01/12/99	82	307	3.22	0.018	1.26	0.34	0.002	0.00	0.000	0.00	0.000	1108.41	6.032	6.052	459.46	3719.87	

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 modificatons 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 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.

ATTACHMENT 4

HISTORICAL WELL GAUGING DATA

Well Gauging Data

Dolphin Mart Site

New London Naval Submarine Base, Groton, CT

Date	DM-1	DM-2	DM-3	DM-4	DM-5	HRP-10	HRP-11	MW-1	MW-2	MW-3	OBG8A
	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater
07/02/96	6.37	NG	NG	NG	NG	4.65	NG	4.65	3.55	3.12	NG
07/03/96	NG	NG	NG	NG	NG	5.19	NG	4.63	2.86	0.00	NG
07/12/96	NG	NG	NG	NG	NG	5.81	NG	5.01	3.82	1.95	NG
07/16/96	NG	NG	NG	NG	NG	4.33	NG	4.55	2.89	0.74	NG
07/17/96	NG	NG	NG	NG	NG	2.73	NG	4.94	1.63	2.79	NG
07/19/96	NG	NG	NG	NG	NG	4.38	NG	5.21	0.61	0.00	NG
07/22/96	NG	NG	NG	NG	NG	4.54	NG	4.82	1.95	1.17	NG
07/23/96	NG	NG	NG	NG	NG	4.55	NG	4.75	3.33	0.00	NG
07/24/96	NG	NG	NG	NG	NG	4.33	NG	5.22	1.18	0.00	NG
07/25/96	NG	NG	NG	NG	NG	4.46	NG	5.31	NG	NG	NG
07/26/96	NG	NG	NG	NG	NG	4.43	NG	4.79	NG	NG	NG
08/01/96	NG	NG	NG	NG	NG	3.93	NG	4.96	2.20	1.28	NG
08/02/96	NG	NG	NG	NG	NG	4.08	NG	5.24	1.82	1.31	NG
08/05/96	NG	NG	NG	NG	NG	4.35	NG	5.08	NG	1.08	NG
09/04/96	NG	NG	NG	NG	NG	5.43	NG	6.07	4.59	DRY	NG
10/02/96	NG	NG	NG	NG	NG	3.53	NG	5.43	NG	3.86	NG
10/21/96	NG	NG	NG	NG	NG	3.98	NG	NG	NG	NG	NG
11/19/96	1.90	NG	2.06	2.68	5.37	4.15	NG	3.85	3.00	DRY	NG
12/17/96	2.53	NG	1.60	NG	3.67	NG	NG	3.85	2.17	NG	NG
01/27/97	1.91	NG	1.89	NG	4.26	3.29	NG	2.53	2.13	NG	NG
02/18/97	1.93	NG	1.90	2.04	NG	4.04	NG	2.98	2.56	2.28	NG
03/27/97	1.89	2.27	1.86	2.41	4.60	4.04	3.21	2.91	1.86	1.27	NG
04/17/97	NG	NG	NG	NG	NG	5.25	NG	3.48	1.94	1.39	NG
05/21/97	2.04	2.39	2.08	3.08	5.19	4.11	3.43	3.14	2.93	2.44	NG
08/27/97	NG	NG	NG	NG	NG	5.01	4.10	3.60	4.28	DRY	NG
11/21/97	2.26	3.20	2.56	3.33	6.83	4.43	3.77	5.33	3.84	3.06	2.26
02/11/98	1.79	2.63	1.61	1.84	3.87	3.64	3.08	3.23	1.34	1.88	1.47
05/11/98	1.80	1.85	1.50	2.34	2.41	3.65	3.16	1.81	1.99	4.08	0.31
08/17/98	2.70	3.75	3.30	1.25	7.69	5.11	3.99	6.32	4.95	4.96	2.35
11/18/98	2.32	2.88	2.60	3.35	7.46	5.13	3.85	5.74	5.27	3.27	2.30

Date	OBG9A	WE-1	WE-1A	WE-2D	WE-2S	WE-3	WE-4	WE-5	WE-6
	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater	Depth to Groundwater
07/02/96	0.82	DRY	DRY	6.56	6.78	8.67	4.24	4.80	3.40
07/03/96	0.89	NG	NG	6.35	6.58	8.69	6.38	4.33	2.30
07/12/96	1.85	NG	NG	6.83	6.96	8.93	6.38	4.98	3.60
07/16/96	0.69	NG	NG	6.24	6.47	8.50	6.27	4.08	2.76
07/17/96	0.00	NG	NG	5.88	6.30	8.62	6.47	3.62	1.72
07/19/96	0.00	NG	NG	5.53	6.18	8.45	NG	3.19	1.08
07/22/96	0.00	NG	NG	6.42	6.45	8.64	3.68	3.73	1.96
07/23/96	0.20	NG	NG	6.33	6.70	8.72	8.72	4.49	2.40
07/24/96	0.00	NG	NG	5.67	6.31	8.45	3.38	3.33	1.49
07/25/96	0.16	NG	NG	NG	NG	NG	NG	NG	2.12
07/26/96	0.00	NG	NG	NG	NG	NG	NG	NG	2.95
08/01/96	NG	NG	NG	6.09	6.39	8.55	3.22	4.06	1.15
08/02/96	0.00	NG	NG	5.73	6.30	8.56	2.96	3.76	0.86
08/05/96	0.00	NG	NG	NG	NG	NG	NG	NG	1.28
09/04/96	NG	NG	NG	7.51	7.39	9.73	5.11	6.23	4.59
10/02/96	NG	NG	NG	5.82	6.41	8.41	3.11	3.96	1.60
10/21/96	NG	NG	NG	NG	NG	NG	NG	NG	2.43
11/19/96	NG	NG	NG	5.89	6.46	8.32	3.53	3.87	2.90
12/17/96	NG	NG	NG	NG	6.10	7.92	2.17	2.96	2.10
01/27/97	NG	NG	NG	5.73	6.24	7.94	3.08	3.26	1.53
02/18/97	NG	NG	NG	5.84	6.32	7.95	3.49	3.21	2.55
03/27/97	NG	5.03	DRY	5.45	6.21	8.08	1.66	3.51	1.15
04/17/97	NG	NG	NG	NG	NG	NG	3.00	3.18	1.30
05/21/97	NG	DRY	DRY	6.11	NG	8.20	3.73	4.07	2.84
08/27/97	2.46	NG	NG	7.03	NG	9.54	4.69	5.77	4.07
11/21/97	0.95	DRY	DRY	6.66	6.97	8.86	7.53	5.29	3.56
02/11/98	1.31	NG	NG	5.49	6.29	8.33	2.14	2.87	1.35
05/11/98	0.98	NG	NG	5.16	6.18	7.91	7.51	2.50	2.02
08/17/98	2.58	NG	NG	7.50	7.53	9.78	7.45	5.81	4.61
11/18/98	1.91	DRY	DRY	7.23	7.62	8.88	8.65	6.15	5.42

Well Gauging Data NEX Site New London Naval Submarine Base, Groton, CT

Date	ERM-5	ERM-6	ERM-7	ERM-8	ERM-9	ERM-10	ERM-11	ERM-12	ERM-13
	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product	Depth to Groundwater/ Product
09/16/96	3.82	5.14	5.27	NG	NG	NG	NG	8.38	7.01
10/16/96	NG	4.82	4.75	NG	NG	NG	6.4	8.13	7.15
11/18/96	3.72	4.64	4.93	NG	NG	NG	6.36	8.09	7.13
12/16/96	3.10	4.08	4.21	NG	NG	NG	5.02	7.83	6.55
02/17/97	3.00	4.34	4.29	NG	NG	NG	4.89	7.65	6.03
03/27/97	2.89	4.28	4.19	NG	NG	NG	5.19	7.63	5.98
04/15/97	NG	NG	NG	NG	NG	NG	NG	NG	5.86
04/17/97	2.73	NG	NG	NG	NG	NG	NG	NG	NG
04/24/97	NG	NG	NG	NG	NG	NG	NG	NG	NG
05/21/97	NG	4.72	4.61	NG	NG	NG	6.27	7.81/7.80	6.15
08/28/97	NG	5.29	6.49	NG	NG	NG	7.65	NG	7.24
11/20/97	4.35	5.24	5.35	NG	NG	NG	6.89	8.23	7.84
02/12/98	3.59	4.68	4.71	NG	NG	NG	5.04	7.99	6.71
05/12/98	2.09	2.69	3.32	NG	NG	NG	4.39	7.90	5.23
08/19/98	3.43	5.26	5.19	NG	NG	NG	7.56	8.34/sheen	6.51
11/19/98	4.58	5.80	5.80	NG	NG	NG	7.65	8.22	8.06

grsubbas\123\gr3 2.wk4

Date	ERM-14 Depth to Groundwater/ Product	ERM-15 Depth to Groundwater/ Product	ERM-16 Depth to Groundwater/ Product	ERM-17 Depth to Groundwater/ Product	ERM-18 Depth to Groundwater/ Product	ERM-19 Depth to Groundwater/ Product	NEX-1 Depth to Groundwater/ Product	OBG-1 Depth to Groundwater/ Product	OBG-2 Depth to Groundwater/ Product	OBG-4 Depth to Groundwater/ Product
09/16/96	6.89	4.30	8.51	5.62	3.65	5.28	NG	NG	NG	NG
10/16/96	6.92	3.94	8.49	5.56	3.96	5.17	NG	NG	NG	NG
11/18/96	7.10/6.91	4.03	8.43	5.53	NG	5.19	NG	NG	NG	NG
12/16/96	6.35	NG	7.8	3.73	NG	4.23	NG	NG	NG	NG
02/17/97	5.89	NG	7.85	4.53	NG	4.18	NG	NG	NG	NG
03/27/97	5.82	NG	7.79	4.87	NG	4.06	5.81	8.12	7.95	7.75
04/15/97	5.7	3.39	7.84	4.84	NG	NG	5.74	NG	7.92	7.75
04/17/97	5.66	3.31	NG	4.67	NG	3.91	NG	NG	7.91	7.78
04/24/97	NG	NG	NG	NG	NG	NG	NG	NG	NG	7.74
05/21/97	6.04/5.99	NG	8.16	5.26	NG	4.46	5.80	7.98	7.81	7.64
08/28/97	7.24/7.01	NG	8.63/sheen	5.77	NG	5.41	6.15	8.22	8.03	7.9
11/20/97	7.63	4.46	8.77	5.77	NG	5.79	6.45	8.43	8.23	8.07
02/12/98	6.59	3.54	8.18	5.14	NG	4.44	5.28	8.19	8.01	7.84
05/12/98	5.09	2.63	7.32	2.98	NG	3.43	5.20	7.88/7.87	7.71	7.51
08/19/98	6.37/sheen	4.02	8.79/8.75	5.83	NG	5.11	5.99	8.13	7.94	7.76
11/19/98	7.80	4.59	9.03/9.00	6.05	NG	6.29	6.31	8.21	8.03	7.91

grsubbas\123\gr3

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

grsubbas\123\gr3

ATTACHMENT 5

HISTORICAL GROUNDWATER SAMPLING RESULTS

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

gnsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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

grsubbas\wp\gr3.25

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	630	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

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

gnsubbas\wp\gr3.25

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

Compound		BTEX				MTBE	TPH (By EPA Method 416.1)[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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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-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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	3	900	16	NS	NS
	11/98	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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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		216	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
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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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
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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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		216	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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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		216	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

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 GPA Method 8100M

grsubbas\wp\gr3.26

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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		216	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	<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	900	<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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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

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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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	LP
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	**490**	4,800	2,100	16,000	<200	24,000	23,390	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/98	56	280	250	2,300	23	NS	2,909	NS	NS
	11/98	31	97	120	1,200	<5.0	5,800	1,448	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 GPA Method 8100M

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1998
Naval Submarine Base, Groton, CT

(analytical results in µg/l)

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)
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)
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

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 GPA Method 8100M