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NSB NEW LONDON

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

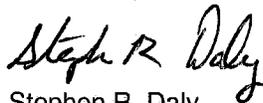
**NEW LONDON NAVAL SUBMARINE BASE
GROTON, CONNECTICUT**

Month: October 1999

Prepared by:

IT Corporation

Prepared by:



Stephen R. Daly

Associate Environmental Scientist

Reviewed By:

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. The remediation system is composed of eight (8) horizontal vapor extraction trenches (VET-1, VET-2, VET-3, VET-4, VET-5, VET-6, VET-7 and VET-8), fifteen air sparge points (ASP-A through ASP-H, ASP-J through ASP-N, ASP-P, and ASP-Q) along with associated equipment. At the conclusion of the site visit on May 21, 1999, and as directed by the United States Navy, the SVE system was deactivated. The air sparge system was previously deactivated on January 30, 1999. The site is visited bi-weekly in order to maintain site security and to check conditions of all road boxes.

A site map has been included as **Figure 1**. The site was visited on October 12 and 28, 1999. The monitoring forms for site visits conducted during the month of October 1999 are included in **Attachment 1**. A weekly breakdown of the month's field activities has been included as **Attachment 2**.

Mass Removal - Because the SVE system is deactivated, no SVE sample was collected for analysis during the October 1999 site visits. Therefore, no hydrocarbon mass removal rate was calculated. The total hydrocarbon mass extracted by the remediation system, as of April 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 the Connecticut Department of Environmental Protection (CTDEP) air quality guidelines were reported.

Carbon Usage - No carbon change-out occurred during the month of October 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 - As stated above, no air or water discharge sampling was conducted during the October 1999 site visits at the Dolphin Mart.

Monitoring Well Gauging - The most recent round of site monitoring well gauging was conducted on August 26-27, 1999 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 4.48 feet in OBG-8A to 12.04 feet in WE-3. Historical well gauging data has been included in **Attachment 4**.

Monitoring Well Sampling - The most recent round of site monitoring well sampling was conducted on August 26-27, 1999. The August Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities - The last operational submersible pump was removed from the site and installed at the NEX site on October 28, 1999.

NEX AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site had been operating since July 31, 1997. A total of 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) are in operation at the site. Approximately 236,157 gallons of water had been extracted, treated, and discharged by the NEX system as of October 12, 1999.

A site map has been included as **Figure 2**. The site was visited on October 12 and 28, 1999. The monitoring forms for operation and maintenance (O&M) conducted during the month of October 1999 are included in **Attachment 1**. A weekly breakdown of the month's field activities has been included as **Attachment 2**.

Mass Removal - Since the system was not operating, there were no SVE influent samples collected for analysis during the October 12, 1999 site visit. The total hydrocarbon mass extracted by the SVE system, as of September 1999, was approximately 3,764.51 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 - Since there was no water being treated during the month of October 1999, there were no discharge samples collected. The most recent round of water discharge sampling was conducted on September 29, 1999. Results were previously submitted to the CTDEP under separate cover.

Monitoring Well Gauging - The most recent round of site monitoring well gauging was conducted on September 29, 1999, on selected monitoring wells. Depth to groundwater at the site ranged from 6.48 feet in OBG-1 to 8.86 feet in ERM-16. Suspected petroleum-based sheens were detected in monitoring wells ERM-12 and ERM-16.

Monitoring Well Sampling - The most recent round of site monitoring well sampling was conducted on August 31, 1999. The August Quarterly Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities - Upon arrival on October 12, 1999 the treatment system was found to be deactivated due to high water levels in the SVE moisture traps. The V-3 submersible pump located within one of the moisture traps was not working. Following further assessment, it was determined that the submersible pump motor seized. The system was reactivated on the same day and allowed to operate on the V-1 submersible pump only. The V-3 pump was replaced and activated on October 28, 1999 with a submersible pump borrowed from the Dolphin Mart site.

FIGURES

DRAWING NUMBER 1405-17

APPROVED BY

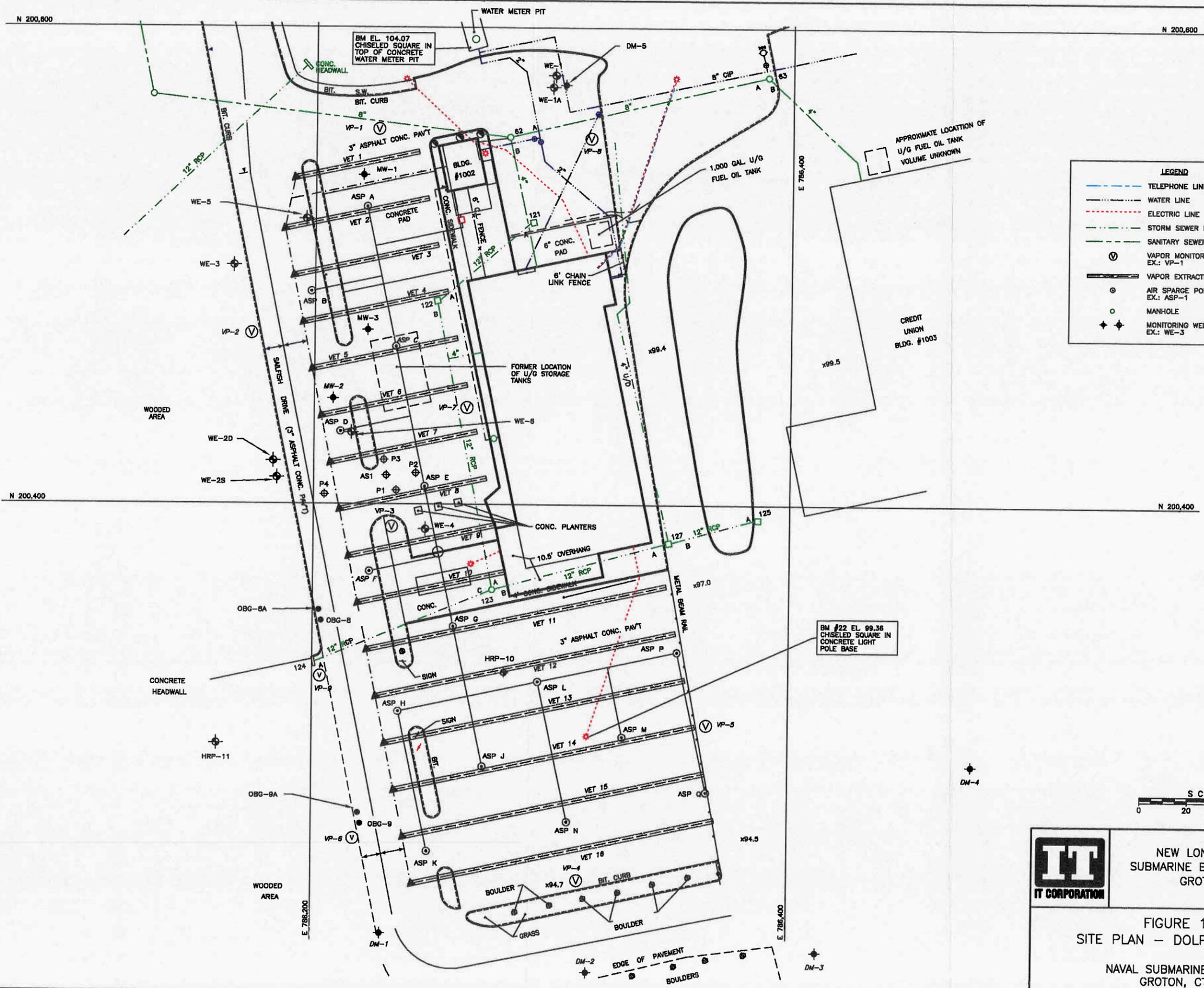
CHECKED BY

DRAWN BY L. Avery 3/30/99

OFFICE WIN

X-REF

DATE: 3/30/99 TIME: 2:02 PM FORMAT REVISION 2/26/99



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



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 3/25/83 NAVFAC 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 SUBBASE, 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.

NEW LONDON NAVAL
SUBMARINE BASE OF GROTON
GROTON, CT

FIGURE 1
SITE PLAN - DOLPHIN MART

NAVAL SUBMARINE BASE
GROTON, CT

DRAWING NUMBER 1405-16

APPROVED BY

CHECKED BY

DRAWN BY L. Avery 3/30/99

OFFICE WIN

X-REF

DATE: 3/30/99
TIME: 2:07 PM
FORMAT REVISION 2/28/99



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.: ERM-6

THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:

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



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

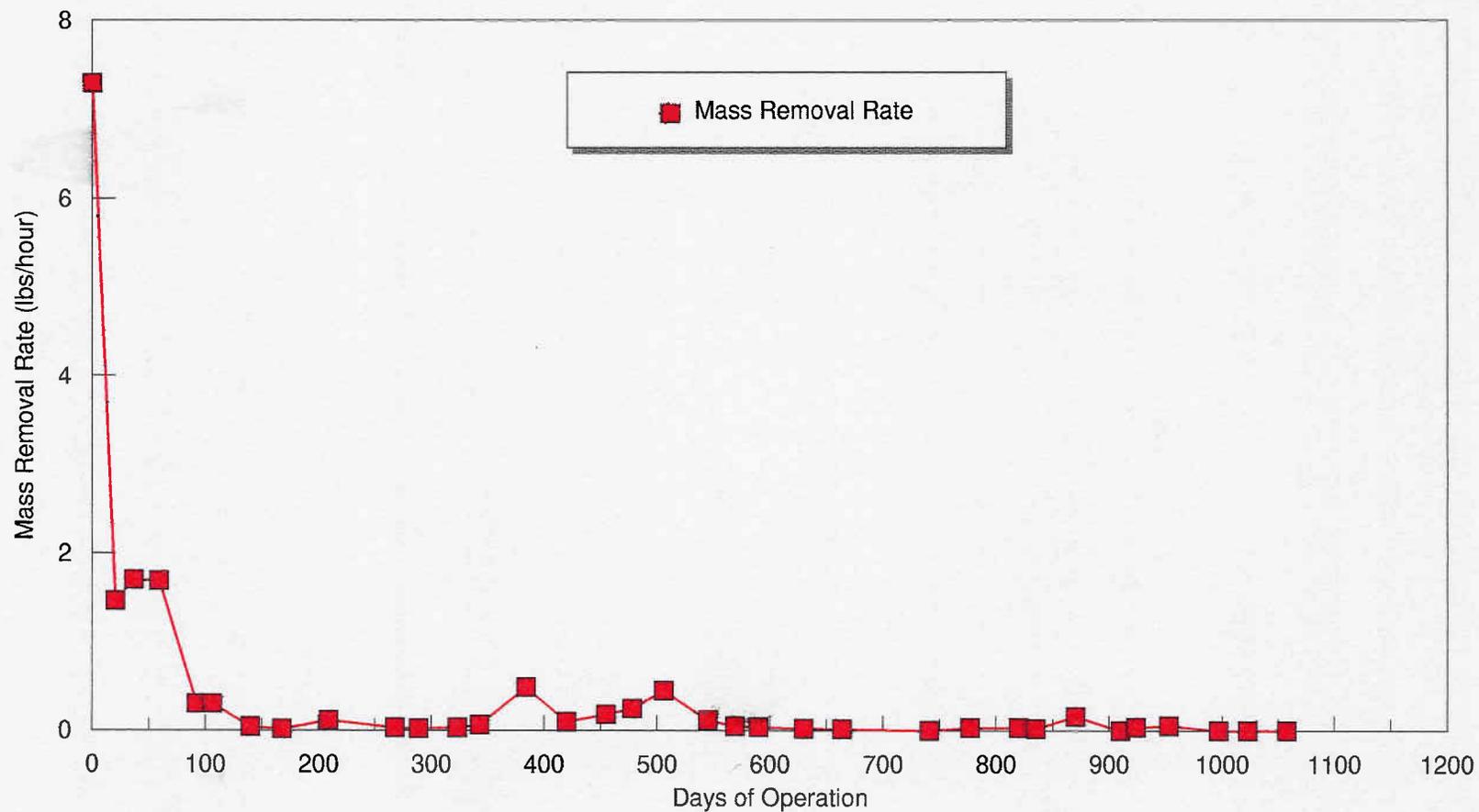


Figure 3B- Mass Removal Rate

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

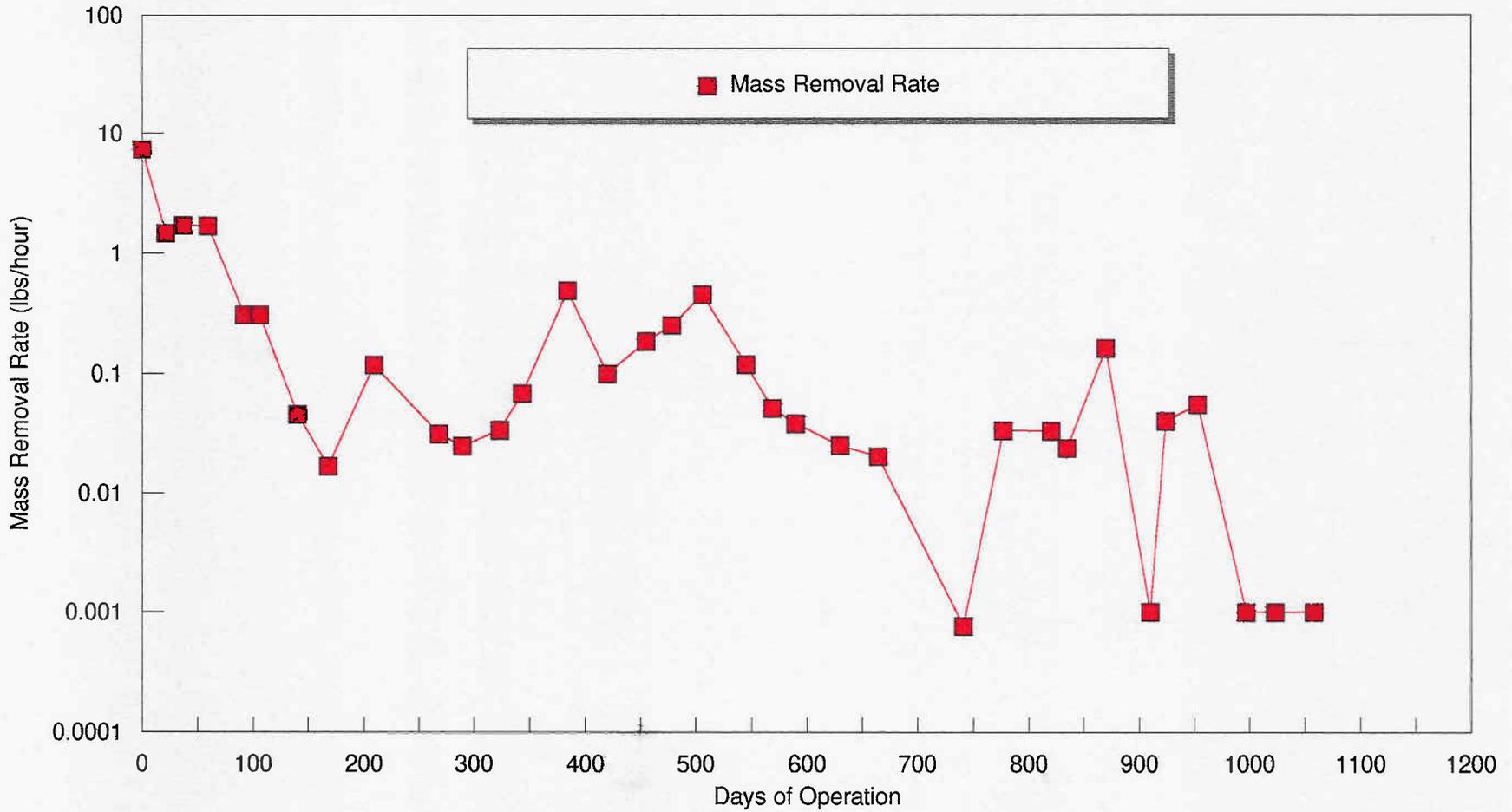


Figure 4 - Cumulative Mass Removed versus Time

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

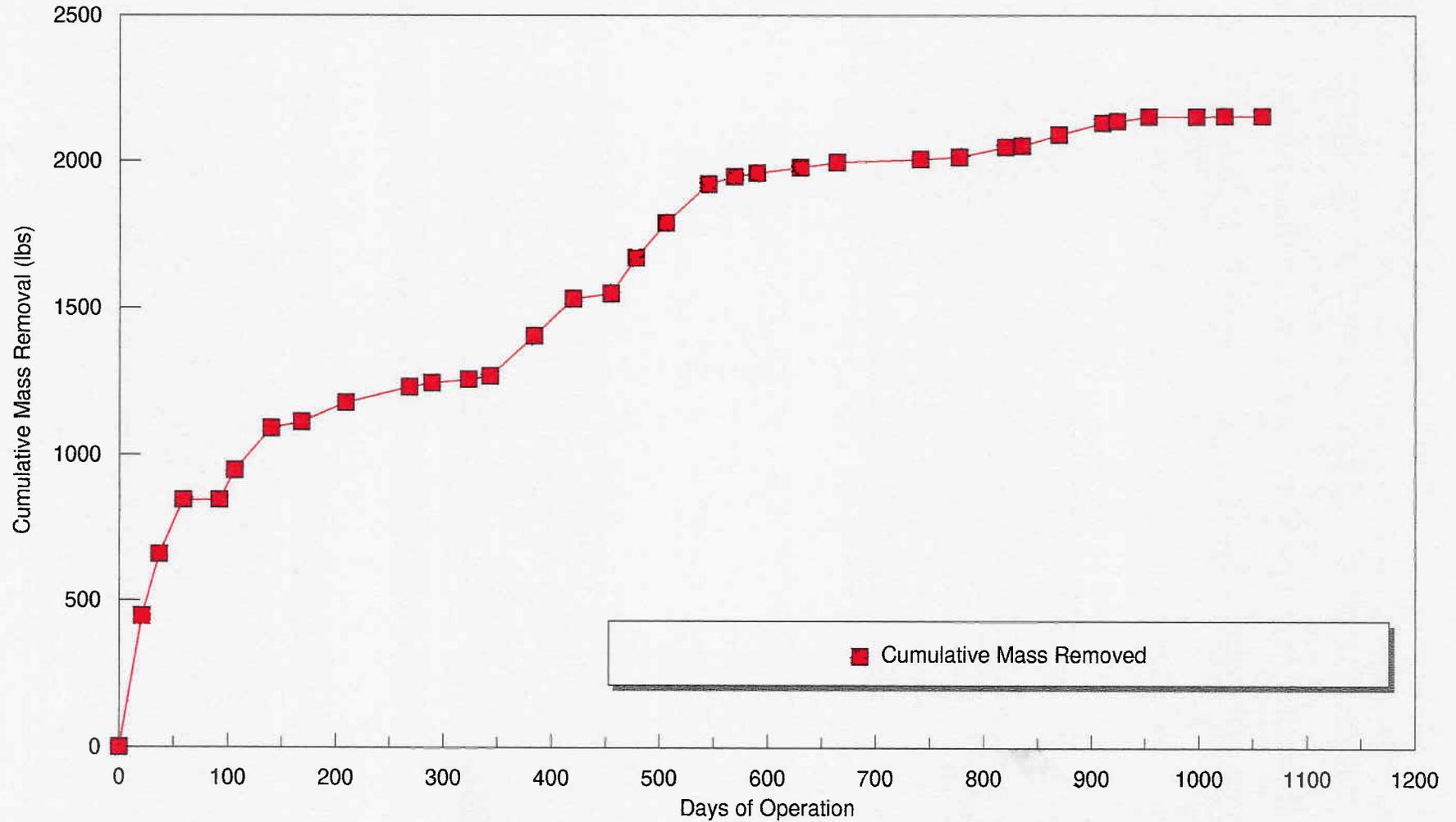


Figure 5A - Mass Removal Rate

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

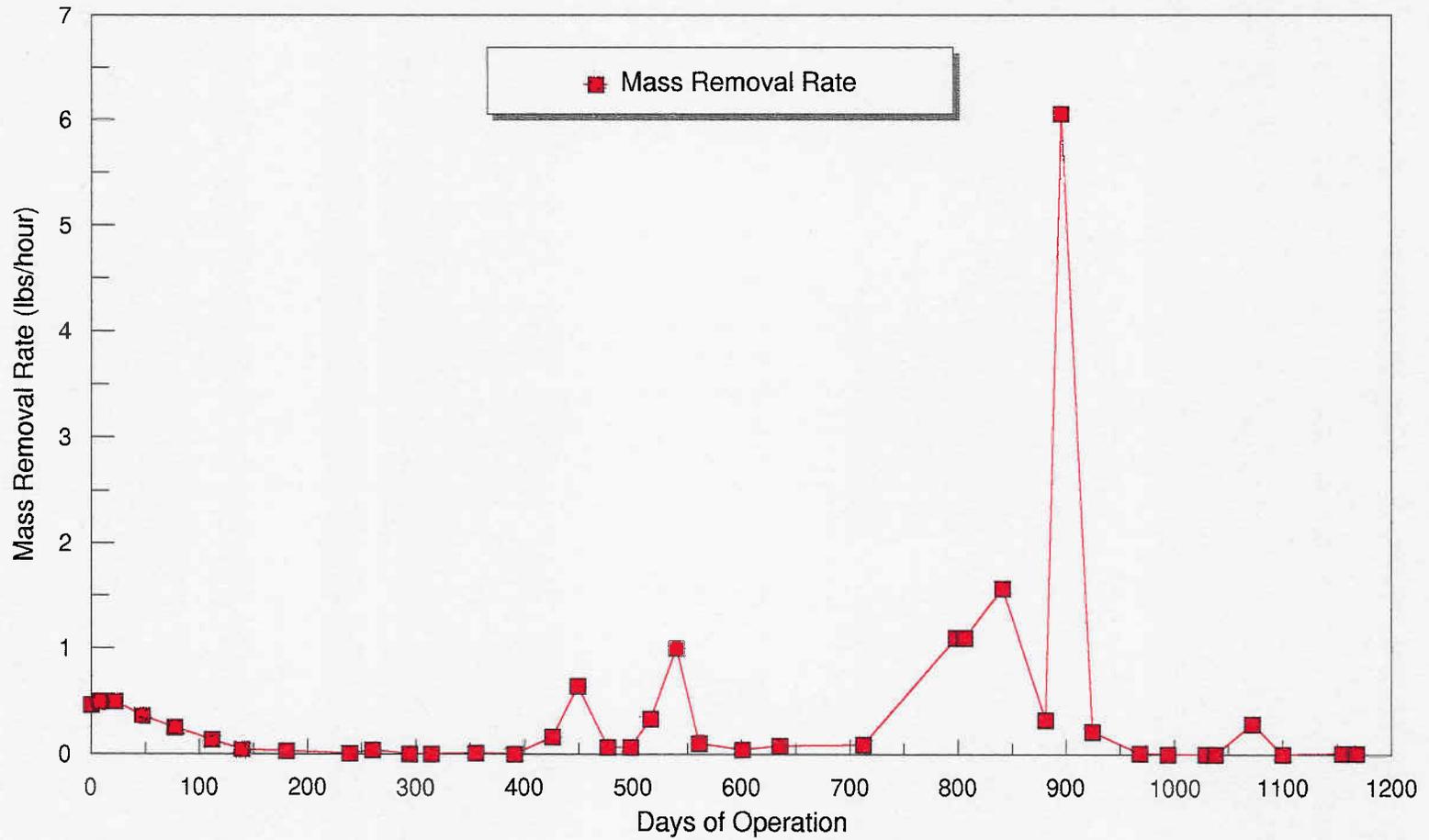


Figure 5B - Mass Removal Rate

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

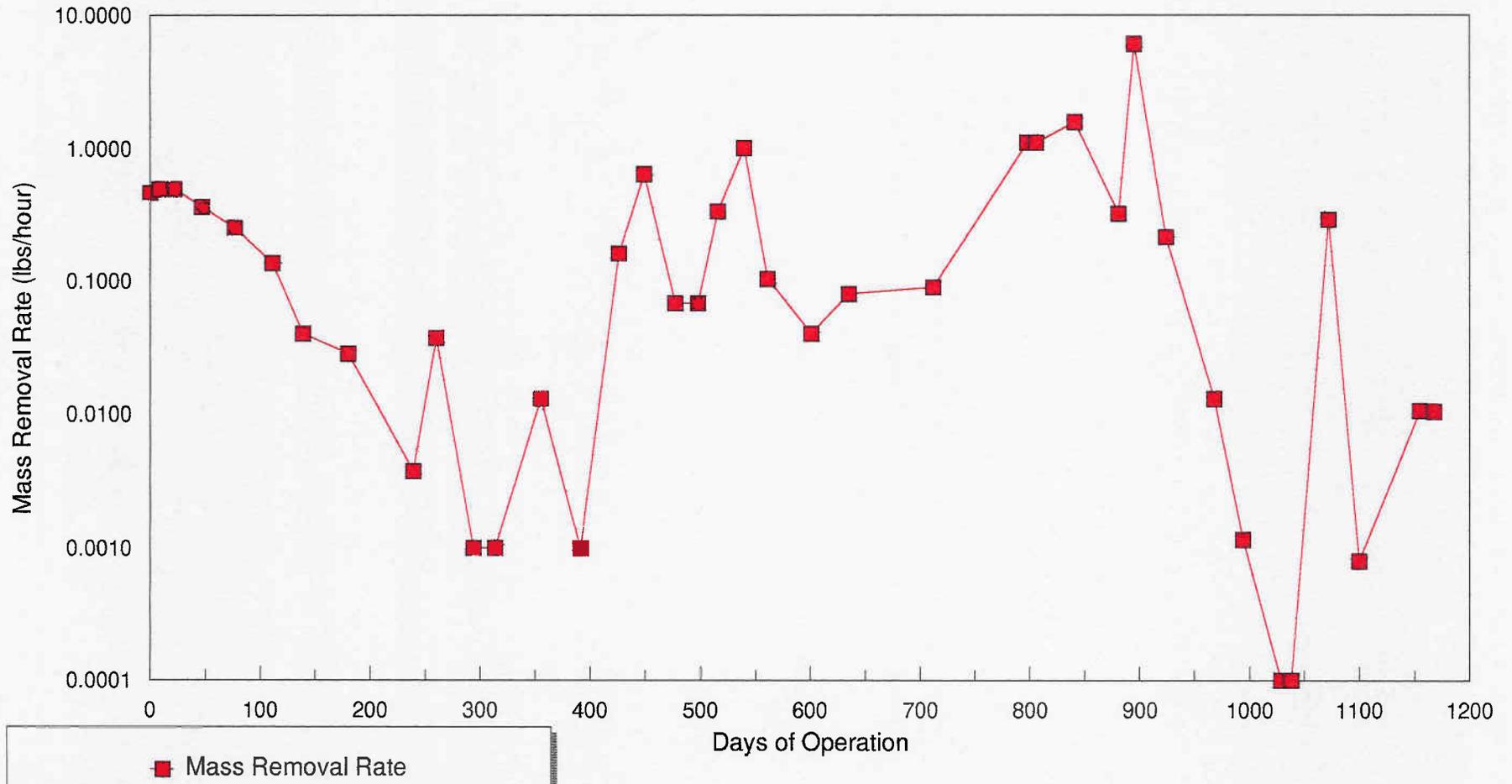
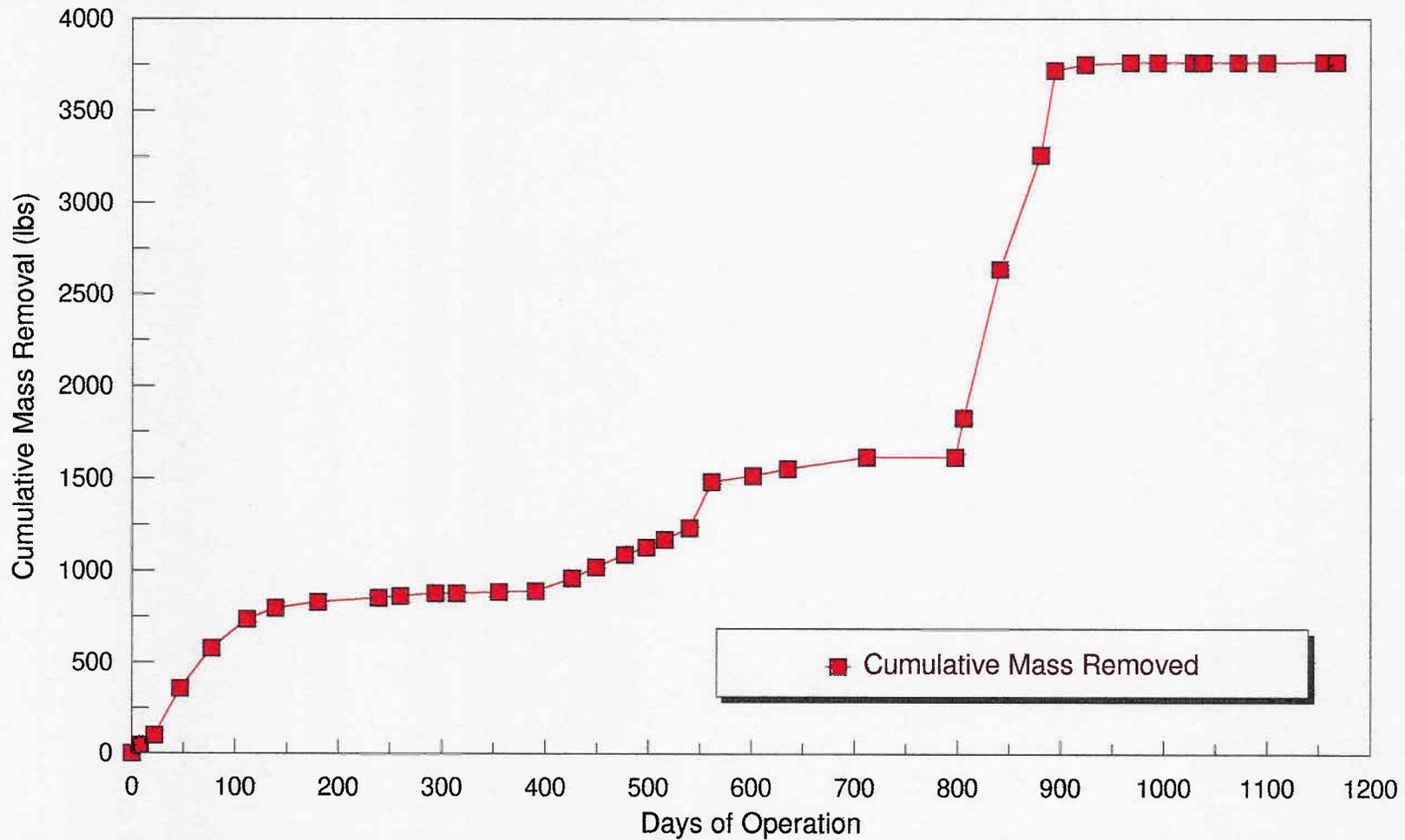


Figure 6 - Cumulative Mass Removed versus Time

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



ATTACHMENT 1
SITE VISIT FORMS

NAVAL SUBMARINE BASE
GROTON, CT.
87260014

Date: 10.12.99

Staff: WCD

Project Number: 87260014

Task Number: _____

DB/SCA Box Check: Yes / No

Bill Code Override: _____

Site Arrival Time: 9:45

Site Departure Time: 2:10

Total Hours on Site: 4.75

Total Hours Billed: 4.5

Please complete the following requested work scope and check off each task as it's completed:

R = Requested C = Completed

DOLPHIN MART:

- COMPLETE OPERATIONAL DATA FORM
- GAUGE MONITORING WELLS
- MEASURE FID AND VACUUM AT VAPOR MONITORING WELLS
- COMPLETE SVE EXTRACTION POINT FORMS
- COMPLETE SPARGE POINT FORMS
- COLLECT AIR AND WATER DMR SAMPLES
- COMPLETE PH FORM
- COMPLETE QUARTERLY GROUNDWATER SAMPLING
- Conduct drive-by, check steel security and
- road box conditions

NEX:

- COMPLETE OPERATIONAL DATA FORM
- GAUGE MONITORING WELLS
- MEASURE FID AND VACUUM AT VAPOR MONITORING WELLS
- COMPLETE SVE EXTRACTION POINT FORMS
- COMPLETE SPARGE POINT FORMS
- COLLECT AIR AND WATER DMR SAMPLES
- COMPLETE PH FORM
- COMPLETE QUARTERLY GROUNDWATER SAMPLING
-

EQUIPMENT NEEDED: HASP, PPE, FID, PH METER, TEDLAR BAGS, VELOCITY METER,
MAGNEHELICS, IP, SORBENT PADS, DMR SAMPLE COOLERS AND CONTAINERS

TASK NUMBERS: Monthly O&M = 04010000 Unscheduled Maintenance = 07010000
Quarterly Sampling = 05010000 Sys. Modification/Roadbox Repair = 08010000
Carbon Change-out = 06010000

Groton

407

10/12/99

- 9:45 - Arr. on site to perform Flyby and run through construction repair with Bob U.
- Went to Reich but Bob U. was not in presently.
 - Proceeded to ssed to each system.
 - Upon inspection I found the system down due to high traps.
 - Upon further inspection I found the pump in V3 shot. The fuse was blown (15A) and upon changing to an 8amp it too blew. The pumps are rated for 8.9amps max.
 - Periodically I went back to the Reich to check for Bob U. and left a message for him.
 - Eventually we met up and reviewed excavation permit and area to be worked in. He said he would review and return to us.
 - I proceeded to the trench area and marked with white paint.
 - I disassembled V3 pump to see if field repair was possible.
 - The pump has a sealed motor and cannot be fixed.
 - I checked out relays + controls, OK.
 - Reset system and allowed to run on only V6 pump.
 - Completed quick system check.

2:10 - Dep. site

* will discuss with PM as to using last pump @ dolphin

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

Date: 10.12.99

Time: 1:20

Technician: WCD

AIR COMPRESSOR SYSTEM

Flow Rate <u>59</u> SCFM	Total Flow <u>26302187</u> SCFM
Air Compressor C-1	Air Compressor C-2
Pressure <u>8.5</u> psi	Pressure <u>0.0</u> psi
Temperature <u>200</u> °F	Temperature _____ °F
Flow Control Valve Setting <u>100</u>	Flow Control Valve Setting _____
Bleed Valve <u>75</u>	Bleed Valve _____
Radiator <u>ON/OFF</u>	Radiator <u>ON/OFF</u>

SOIL VAPOR EXTRACTION SYSTEM

Eastern Flow Rate <u>239</u> SCFM	Total Flow <u>147329445</u> SCFM
Western Flow Rate <u>107</u> SCFM	Total Flow <u>36414534</u> SCFM
Vacuum Pump V-1	Vacuum Pump V-2
Vacuum <u>3.5</u> °Hg	Vacuum <u>off</u> <u>NA</u> °Hg
Temperature <u>85</u> °F	Temperature _____ °F
Particulate Filter <u>04</u>	Particulate Filter _____
Flow Control Valve Setting <u>100</u>	Flow Control Valve Setting _____
Bleed Air Valve Setting <u>1590</u>	Bleed Air Valve Setting _____
Liquid Level <u>0</u>	Liquid Level _____
Vacuum Pump V-3	Vacuum Pump V-4
Vacuum <u>3.5</u> °Hg	Vacuum <u>off</u> <u>NA</u> °Hg
Temperature <u>80</u> °F	Temperature _____ °F
Particulate Filter <u>04</u>	Particulate Filter _____
Flow Control Valve Setting <u>100</u>	Flow Control Valve Setting _____
Bleed Air Valve Setting <u>1090</u>	Bleed Air Valve Setting _____
Liquid Level <u>0</u>	Liquid Level _____

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B	Carbon Adsorber C/D
Pressure <u>1.0</u> psi	Pressure <u>0.0</u> psi
Inf. VOC Level <u>4.9</u> ppm	Inf. VOC Level <u>NA</u> ppm
Mid. VOC Level <u>3.0</u> ppm	Mid. VOC Level <u>NA</u> ppm
Eff. VOC Level <u>1.9</u> ppm	Eff. VOC Level <u>13.9</u> ppm
Change out Date <u>NA</u>	Change out Date <u>NA</u>

WATER TREATMENT

Flowmeter Reading 0236157.5 Gallons (arrival reading) Flowmeter Reading 0236157.5 Gallons (departure reading)

COMMENTS

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

NAVAL SUBMARINE BASE
GROTON, CT.
87260014

Date: 10/28/99 / 11.5.99

Project Number: 87260014

DB/SCA Box Check: Yes / No

Site Arrival Time: _____

Total Hours on Site: _____

Staff: Bill DePascale

Task Number: 04010000

Bill Code Override: _____

Site Departure Time: _____

Total Hours Billed: 10.28-7.75 | 11.5/6.75

Please complete the following requested work scope and check off each task as it's completed:

R = Requested C = Completed

DOLPHIN MART:

- COMPLETE OPERATIONAL DATA FORM
- GAUGE MONITORING WELLS
- MEASURE FID AND VACUUM AT VAPOR MONITORING WELLS
- COMPLETE SVE EXTRACTION POINT FORMS
- COMPLETE SPARGE POINT FORMS
- COLLECT AIR AND WATER DMR SAMPLES
- COMPLETE PH FORM
- COMPLETE QUARTERLY GROUNDWATER SAMPLING
- Conduct drive-by, check shed security. Check
- condition of road boxes

NEX:

- COMPLETE OPERATIONAL DATA FORM
- GAUGE MONITORING WELLS
- MEASURE FID AND VACUUM AT VAPOR MONITORING WELLS
- COMPLETE SVE EXTRACTION POINT FORMS
- COMPLETE SPARGE POINT FORMS
- COLLECT AIR AND WATER DMR SAMPLES
- COMPLETE PH FORM
- COMPLETE QUARTERLY GROUNDWATER SAMPLING
- See attached tasks

EQUIPMENT NEEDED: HASP, PPE, FID, PH METER, TEDLAR BAGS, VELOCITY METER,
MAGNEHELICS, IP, SORBENT PADS, DMR SAMPLE COOLERS AND CONTAINERS

TASK NUMBERS: Monthly O&M = 04010000 Unscheduled Maintenance = 07010000
Quarterly Sampling = 05010000 Sys. Modification/Roadbox Repair = 08010000
Carbon Change-out = 06010000

ATTACHMENT 2
MONTHLY FIELD ACTIVITY SUMMARY

**Field Activity Summary
October 1999**

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

Week Ending	Site	Period	Field Activities	Comments
10/12/99	Dolphin Mart	Monthly Monitoring	Conducted drive-by and checked security.	Security and road boxes OK
	NEX		SVE system was down, found V-3 pump no longer useable. Restarted system using only the V-1 pump.	Would look into using last useable pump from the Dolphin Mart site to replace the V-3.

Week Ending	Site	Period	Field Activities	Comments
10/28/99	Dolphin Mart	Monthly Monitoring	Conducted drive-by and checked security.	Security and road boxes OK; borrowed the last submersible pump from the site and installed it at the NEX site.
	NEX		Installed submersible pump from Dolphin Mart.	System in full operational status.

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	Days of Operation	Air Sparge Flowrate (scfm)	Extraction Flowrate (scfm)	Extraction Flowrate (cfm)	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 (lb/hr)	Period Mass Removed (lbs)	Cumulative Mass Removed (lbs)	Comments
07/02/96	0	25	450	512.26	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	21	20	449	511.12	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	37	32	454	516.81	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	59	0	450	512.26	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	92	30	448	509.98	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	106	30	450	512.26	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	140	30	450	512.26	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	168	30	450	512.26	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	209	30	450	512.26	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	268	30	450	512.26	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	289	30	450	512.26	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	323	15	329	374.52	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	343	15	329	374.52	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	384	15	329	374.52	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	420	15	482	548.69	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	455	15	482	548.69	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	478	14	589	670.49	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	506	32	590	671.63	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	545	28	590	671.63	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	569	27	471	536.16	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	590	23	295	335.81	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	630	30	245	278.90	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	664	30	215	244.75	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	741	13	294	334.68	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	777	10	294	334.68	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	820	14	294	334.68	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	835	0	231	262.96	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	870	14	223	253.69	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	910	0	442	502.91	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	924	0	255	290.57	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	953	0	346	393.83	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	997	0	160	182.14	0.00	0.0000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.001	0.38	2153.47	
04/21/99	1023	0	160	182.14	0.00	0.0000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.001	0.38	2153.85	
05/26/99	1058	0	0	0.00	0.00	0.0000	0.00	0.000	---	0.000	---	0.000	0.00	0.000	0.001	0.00	2153.85	system deactivated May 1999

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	Day of Operation	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 (mg/m3)	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	0	NA*	253	1.80	0.007	---	0.000	130.00	0.455	0.00	0.000	---	---	0.000	0.463	0.00	0.00	
08/09/96	8	NA*	270	1.80	0.008	---	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	22	NA*	270	1.80	0.008	---	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	47	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	77	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	111	NA*	324	0.95	0.006	0.00	0.000	---	0.000	---	0.000	94.00	22.61	0.130	0.135	158.31	735.63	
12/17/96	139	NA*	310	0.18	0.001	0.07	0.000	---	0.000	---	0.000	29.00	6.98	0.038	0.040	58.83	794.47	
01/27/97	180	NA*	321	0.14	0.001	0.00	0.000	---	0.000	---	0.000	20.00	4.81	0.027	0.028	33.39	827.85	
03/27/97	239	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	260	NA**	721	0.00	0.000	0.00	0.000	---	0.000	---	0.000	12.00	2.89	0.037	0.037	10.24	860.71	
05/21/97	294	6***	360	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.00	0.000	0.00	15.46	876.17	
06/10/97	314	2****	300	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.00	0.000	0.00	0.48	876.65	
07/21/97	355	36****	358	0.00	0.000	0.00	0.000	---	0.000	---	0.000	8.50	2.04	0.013	0.013	6.88	883.53	
08/26/97	391	28****	223	0.00	0.000	0.00	0.000	---	0.000	---	0.000	0.00	0.00	0.000	0.00	6.04	889.57	One blower down due to high water level in moisture trap.
09/30/97	426	27****	221	2.37	0.009	6.00	0.021	---	0.000	---	0.000	140.00	33.68	0.132	0.161	68.15	957.72	One blower down due to high water level in moisture trap.
10/23/97	449	47****	322	2.47	0.013	17.05	0.086	---	0.000	---	0.000	395.00	95.02	0.542	0.641	60.12	1017.84	Two blowers down due to high water level in moisture trap.
11/20/97	477	47****	213	0.50	0.002	1.12	0.004	---	0.000	---	0.000	68.00	16.36	0.062	0.067	69.68	1087.51	One blower down due to high water level in moisture trap.
12/11/97	498	47	213	0.50	0.002	1.12	0.004	---	0.000	---	0.000	68.00	16.36	0.062	0.067	40.27	1127.78	
12/29/97	516	47	520	0.78	0.007	2.18	0.018	---	0.000	---	0.000	140.00	33.68	0.310	0.335	42.29	1170.07	
01/22/98	540	53	479	2.46	0.020	4.50	0.034	---	0.000	---	0.000	465.00	111.86	0.949	1.003	63.09	1233.15	
02/12/98	561	NA****	324	0.77	0.004	1.05	0.005	---	0.000	---	0.000	67.50	16.24	0.093	0.103	248.54	1481.70	
03/24/98	601	53	249	0.44	0.002	0.82	0.003	---	0.000	---	0.000	33.00	7.94	0.035	0.040	32.99	1514.68	
04/27/98	635	53	170	0.57	0.002	8.32	0.022	---	0.000	---	0.000	76.50	18.40	0.055	0.079	36.71	1551.39	
07/13/98	712	53	154	1.96	0.005	0.00	0.000	39.42	0.084	0.00	0.000	---	0.00	0.000	0.089	63.76	1615.16	
10/07/98	798	0	278	8.40	0.042	0.00	0.000	0.00	0.000	0.00	0.000	890.43	214.19	1.054	1.096	0.00	1615.16	System modification/repair completed, system reactivated.
10/15/98	806	0	278	8.40	0.042	0.00	0.000	0.00	0.000	0.00	0.000	890.43	214.19	1.056	1.098	210.77	1825.92	
11/19/98	841	41	216	4.67	0.018	0.46	0.002	0.00	0.000	0.00	0.000	1679.20	403.93	1.543	1.563	812.98	2638.91	
12/29/98	881	41	148	0.90	0.002	0.00	0.000	0.00	0.000	0.00	0.000	507.90	122.18	0.321	0.323	621.50	3260.40	One blower and air compressor down due to high water.
01/12/99	895	82	307	3.22	0.018	0.34	0.002	0.00	0.000	0.00	0.000	4607.80	1108.41	6.032	6.052	459.46	3719.87	
02/10/99	924	70	294	0.81	0.004	0.54	0.002	0.00	0.000	0.00	0.000	165.78	39.88	0.207	0.214	31.67	3751.54	
03/26/99	968	79	255	0.08	0.000	0.27	0.001	0.00	0.000	0.00	0.000	10.50	2.53	0.011	0.013	8.31	3759.85	One blower and air compressor down due to tripped breaker
04/21/99	994	38	244	0.26	0.001	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.001	0.54	3760.40	
05/26/99	1029	---	0	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.000	0.00	3760.40	
06/04/99	1038	---	0	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.000	0.00	3760.40	System is non-operational
07/08/99	1072	32	290	1.82	0.010	4.36	0.020	0.00	0.000	0.00	0.000	210.00	50.52	0.260	0.289	0.00	3760.40	System reactivated 7/8/99
08/05/99	1100	37	271	0.80	0.001	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.001	0.20	3760.59	
09/29/99	1155	36	352	1.68	0.011	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.011	3.66	3764.26	
10/12/99	1168	59	346	1.68	0.010	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.010	0.26	3764.51	Vacuum Pump V-3 is offline.

- 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.
 - 15) Air flow data from 4/2/99 used for April's flow rate.

ATTACHMENT 4
HISTORICAL WELL GAUGING DATA

Date	DM-1			DM-2			DM-3			DM-4		
	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation
07/02/96	94.23	6.37	87.86	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/03/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/12/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/16/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/17/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/19/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/22/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/23/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/24/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/25/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/26/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/01/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/02/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/05/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
09/04/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
10/02/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
10/21/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
11/19/96	94.23	1.90	92.33	94.30	NG	NA	94.02	2.06	91.96	94.81	2.68	92.13
12/17/96	94.23	2.53	91.70	94.30	NG	NA	94.02	1.60	92.42	94.81	NG	NA
01/27/97	94.23	1.91	92.32	94.30	NG	NA	94.02	1.89	92.13	94.81	NG	NA
02/18/97	94.23	1.93	92.30	94.30	NG	NA	94.02	1.90	92.12	94.81	2.04	92.77
03/27/97	94.23	1.89	92.34	94.30	2.27	92.03	94.02	1.86	92.16	94.81	2.41	92.40
04/17/97	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
05/21/97	94.23	2.04	92.19	94.30	2.39	91.91	94.02	2.08	91.94	94.81	3.08	91.73
08/27/97	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
11/21/97	94.23	2.26	91.97	94.30	3.20	91.10	94.02	2.56	91.46	94.81	3.33	91.48
02/11/98	94.23	1.79	92.44	94.30	2.63	91.67	94.02	1.61	92.41	94.81	1.84	92.97
05/11/98	94.23	1.80	92.43	94.30	1.85	92.45	94.02	1.50	92.52	94.81	2.34	92.47
08/17/98	94.23	2.70	91.53	94.30	3.75	90.55	94.02	3.30	90.72	94.81	1.25	93.56
11/18/98	94.23	2.32	91.91	94.30	2.88	91.42	94.02	2.60	91.42	94.81	3.35	91.46
02/19/99	94.23	2.06	92.17	94.30	2.61	91.69	94.02	1.88	92.14	94.81	2.03	92.78
05/21/99	94.23	2.04	92.19	94.30	2.57	91.73	94.02	2.26	91.76	94.81	3.83	90.98
08/26/99	94.23	4.51	89.72	94.30	5.32	88.98	94.02	5.16	88.86	94.81	5.86	88.95

Notes: WE-2D, WE-2S, and WE-3 are covered by stand pipes.
 NG = Not Gauged
 * Possible interference due to AS/SVE system
 NA = Not Available
 NG = Not Gauged

Date	DM-5			HRP-10			HRP-11			MW-1		
	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation
07/02/96	101.06	NG	NA	97.05	4.65	92.40	96.79	NG	NA		4.65	
07/03/96	101.06	NG	NA	97.05	5.19	91.86	96.79	NG	NA		4.63	
07/12/96	101.06	NG	NA	97.05	5.81	91.24	96.79	NG	NA		5.01	
07/16/96	101.06	NG	NA	97.05	4.33	92.72	96.79	NG	NA		4.55	
07/17/96	101.06	NG	NA	97.05	2.73	94.32	96.79	NG	NA		4.94	
07/19/96	101.06	NG	NA	97.05	4.38	92.67	96.79	NG	NA		5.21	
07/22/96	101.06	NG	NA	97.05	4.54	92.51	96.79	NG	NA		4.82	
07/23/96	101.06	NG	NA	97.05	4.55	92.50	96.79	NG	NA		4.75	
07/24/96	101.06	NG	NA	97.05	4.33	92.72	96.79	NG	NA		5.22	
07/25/96	101.06	NG	NA	97.05	4.46	92.59	96.79	NG	NA		5.31	
07/26/96	101.06	NG	NA	97.05	4.43	92.62	96.79	NG	NA		4.79	
08/01/96	101.06	NG	NA	97.05	3.93	93.12	96.79	NG	NA		4.96	
08/02/96	101.06	NG	NA	97.05	4.08	92.97	96.79	NG	NA		5.24	
08/05/96	101.06	NG	NA	97.05	4.35	92.70	96.79	NG	NA		5.08	
09/04/96	101.06	NG	NA	97.05	5.43	91.62	96.79	NG	NA		6.07	
10/02/96	101.06	NG	NA	97.05	3.53	93.52	96.79	NG	NA		5.43	
10/21/96	101.06	NG	NA	97.05	3.98	93.07	96.79	NG	NA		NG	
11/19/96	101.06	5.37	95.69	97.05	4.15	92.90	96.79	NG	NA		3.85	
12/17/96	101.06	3.67	97.39	97.05	NG	NA	96.79	NG	NA		3.85	
01/27/97	101.06	4.26	96.80	97.05	3.29	93.76	96.79	NG	NA		2.53	
02/18/97	101.06	NG	NA	97.05	4.04	93.01	96.79	NG	NA		2.98	
03/27/97	101.06	4.60	96.46	97.05	4.04	93.01	96.79	3.21	93.58		2.91	
04/17/97	101.06	NG	NA	97.05	5.25	91.80	96.79	NG	NA		3.48	
05/21/97	101.06	5.19	95.87	97.05	4.11	92.94	96.79	3.43	93.36		3.14	
08/27/97	101.06	NG	NA	97.05	5.01	92.04	96.79	4.10	92.69		3.60	
11/21/97	101.06	6.83	94.23	97.05	4.43	92.62	96.79	3.77	93.02		5.33	
02/11/98	101.06	3.87	97.19	97.05	3.64	93.41	96.79	3.08	93.71		3.23	
05/11/98	101.06	2.41	98.65	97.05	3.65	93.40	96.79	3.16	93.63		1.81	
08/17/98	101.06	7.69	93.37	97.05	5.11	91.94	96.79	3.99	92.80		6.32	
11/18/98	101.06	7.46	93.60	97.05	5.13	91.92	96.79	3.85	92.94		5.74	
02/19/99	101.06	4.38	96.68	97.05	4.15	92.90	96.79	3.33	93.46		2.95	
05/21/99	101.06	5.63	95.43	97.05	4.36	92.69	96.79	3.55	93.24		3.96	
08/26/99	101.06	10.59	90.47	97.05	7.34	89.71	96.79	6.62	90.17		8.99	

Notes: WE-2D, WE-2S, and WE-3 are covered by stand pipes.

NG = Not Gauged

* Possible interference due to AS/SVE system

Date	MW-2			MW-3			OBG8A			OBG9A		
	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation
07/02/96		3.55			3.12		95.20	NG	NA	94.67	0.82	93.85
07/03/96		2.86			0.00		95.20	NG	NA	94.67	0.89	93.78
07/12/96		3.82			1.95		95.20	NG	NA	94.67	1.85	92.82
07/16/96		2.89			0.74		95.20	NG	NA	94.67	0.69	93.98
07/17/96		1.63			2.79		95.20	NG	NA	94.67	0.00	94.67
07/19/96		0.61			0.00		95.20	NG	NA	94.67	0.00	94.67
07/22/96		1.95			1.17		95.20	NG	NA	94.67	0.00	94.67
07/23/96		3.33			0.00		95.20	NG	NA	94.67	0.20	94.47
07/24/96		1.18			0.00		95.20	NG	NA	94.67	0.00	94.67
07/25/96		NG			NG		95.20	NG	NA	94.67	0.16	94.51
07/26/96		NG			NG		95.20	NG	NA	94.67	0.00	94.67
08/01/96		2.20			1.28		95.20	NG	NA	94.67	NG	NA
08/02/96		1.82			1.31		95.20	NG	NA	94.67	0.00	94.67
08/05/96		NG			1.08		95.20	NG	NA	94.67	0.00	94.67
09/04/96		4.59			DRY		95.20	NG	NA	94.67	NG	NA
10/02/96		NG			3.86		95.20	NG	NA	94.67	NG	NA
10/21/96		NG			NG		95.20	NG	NA	94.67	NG	NA
11/19/96		3.00			DRY		95.20	NG	NA	94.67	NG	NA
12/17/96		2.17			NG		95.20	NG	NA	94.67	NG	NA
01/27/97		2.13			NG		95.20	NG	NA	94.67	NG	NA
02/18/97		2.56			2.28		95.20	NG	NA	94.67	NG	NA
03/27/97		1.86			1.27		95.20	NG	NA	94.67	NG	NA
04/17/97		1.94			1.39		95.20	NG	NA	94.67	NG	NA
05/21/97		2.93			2.44		95.20	NG	NA	94.67	NG	NA
08/27/97		4.28			DRY		95.20	NG	NA	94.67	2.46	92.21
11/21/97		3.84			3.06		95.20	2.26	92.94	94.67	0.95	93.72
02/11/98		1.34			1.88		95.20	1.47	93.73	94.67	1.31	93.36
05/11/98		1.99			4.08		95.20	0.31	94.89	94.67	0.98	93.69
08/17/98		4.95			4.96		95.20	2.35	92.85	94.67	2.58	92.09
11/18/98		5.27			3.27		95.20	2.30	92.90	94.67	1.91	92.76
02/19/99		2.59			1.92		95.20	0.50	94.70	94.67	1.77	92.90
05/21/99		3.23			2.20		95.20	1.71	93.49	94.67	2.42	92.25
08/26/99		7.20			6.93		95.20	4.48	90.72	94.67	4.85	89.82

Notes: WE-2D, WE-2S, and WE-3 are covered by stand pipes.

NG = Not Gauged

* Possible interference due to AS/SVE system

Date	WE-1			WE-1A			WE-2D			WE-2S		
	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation
07/02/96		DRY			DRY		100.84	6.56	94.28	100.86	6.78	94.08
07/03/96		NG			NG		100.84	6.35	94.49	100.86	6.58	94.28
07/12/96		NG			NG		100.84	6.83	94.01	100.86	6.96	93.90
07/16/96		NG			NG		100.84	6.24	94.60	100.86	6.47	94.39
07/17/96		NG			NG		100.84	5.88	94.96	100.86	6.30	94.56
07/19/96		NG			NG		100.84	5.53	95.31	100.86	6.18	94.68
07/22/96		NG			NG		100.84	6.42	94.42	100.86	6.45	94.41
07/23/96		NG			NG		100.84	6.33	94.51	100.86	6.70	94.16
07/24/96		NG			NG		100.84	5.67	95.17	100.86	6.31	94.55
07/25/96		NG			NG		100.84	NG	NA	100.86	NG	NA
07/26/96		NG			NG		100.84	NG	NA	100.86	NG	NA
08/01/96		NG			NG		100.84	6.09	94.75	100.86	6.39	94.47
08/02/96		NG			NG		100.84	5.73	95.11	100.86	6.30	94.56
08/05/96		NG			NG		100.84	NG	NA	100.86	NG	NA
09/04/96		NG			NG		100.84	7.51	93.33	100.86	7.39	93.47
10/02/96		NG			NG		100.84	5.82	95.02	100.86	6.41	94.45
10/21/96		NG			NG		100.84	NG	NA	100.86	NG	NA
11/19/96		NG			NG		100.84	5.89	94.95	100.86	6.46	94.40
12/17/96		NG			NG		100.84	NG	NA	100.86	6.10	94.76
01/27/97		NG			NG		100.84	5.73	95.11	100.86	6.24	94.62
02/18/97		NG			NG		100.84	5.84	95.00	100.86	6.32	94.54
03/27/97		5.03			DRY		100.84	5.45	95.39	100.86	6.21	94.65
04/17/97		NG			NG		100.84	NG	NA	100.86	NG	NA
05/21/97		DRY			DRY		100.84	6.11	94.73	100.86	NG	NA
08/27/97		NG			NG		100.84	7.03	93.81	100.86	NG	NA
11/21/97		DRY			DRY		100.84	6.66	94.18	100.86	6.97	93.89
02/11/98		NG			NG		100.84	5.49	95.35	100.86	6.29	94.57
05/11/98		NG			NG		100.84	5.16	95.68	100.86	6.18	94.68
08/17/98		NG			NG		100.84	7.50	93.34	100.86	7.53	93.33
11/18/98		DRY			DRY		100.84	7.23	93.61	100.86	7.62	93.24
02/19/99		NG			NG		100.84	5.72	95.12	100.86	6.44	94.42
05/21/99		NG			NG		100.84	6.26	94.58	100.86	6.69	94.17
08/26/99		NG			NG		100.84	9.84	91.00	100.86	10.12	90.74

Notes: WE-2D, WE-2S, and WE-3 are covered by stand pipes.

NG = Not Gauged

* Possible interference due to AS/SVE system

Well Gauging Data

Dolphin Mart Site

New London Naval Submarine Base, Groton, CT

Date	WE-3			WE-4			WE-5			WE-6		
	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater	Groundwater Elevation
07/02/96	103.14	8.67	103.14	97.52	4.24	93.28	99.72	4.80	94.92	97.32	3.40	93.92
07/03/96	103.14	8.69	94.47	97.52	6.38	91.14	99.72	4.33	95.39	97.32	2.30	95.02
07/12/96	103.14	8.93	94.45	97.52	6.38	91.14	99.72	4.98	94.74	97.32	3.60	93.72
07/16/96	103.14	8.50	94.21	97.52	6.27	91.25	99.72	4.08	95.64	97.32	2.76	94.56
07/17/96	103.14	8.62	94.64	97.52	6.47	91.05	99.72	3.62	96.10	97.32	1.72	95.60
07/19/96	103.14	8.45	94.52	97.52	NG	NA	99.72	3.19	96.53	97.32	1.08	96.24
07/22/96	103.14	8.64	94.69	97.52	3.68	93.84	99.72	3.73	95.99	97.32	1.96	95.36
07/23/96	103.14	8.72	94.50	97.52	8.72	88.80	99.72	4.49	95.23	97.32	2.40	94.92
07/24/96	103.14	8.45	94.42	97.52	3.38	94.14	99.72	3.33	96.39	97.32	1.49	95.83
07/25/96	103.14	NG	NA	97.52	NG	NA	99.72	NG	NA	97.32	2.12	95.20
07/26/96	103.14	NG	NA	97.52	NG	NA	99.72	NG	NA	97.32	2.95	94.37
08/01/96	103.14	8.55	103.14	97.52	3.22	94.30	99.72	4.06	95.66	97.32	1.15	96.17
08/02/96	103.14	8.56	94.59	97.52	2.96	94.56	99.72	3.76	95.96	97.32	0.86	96.46
08/05/96	103.14	NG	NA	97.52	NG	NA	99.72	NG	NA	97.32	1.28	96.04
09/04/96	103.14	9.73	103.14	97.52	5.11	92.41	99.72	6.23	93.49	97.32	4.59	92.73
10/02/96	103.14	8.41	93.41	97.52	3.11	94.41	99.72	3.96	95.76	97.32	1.60	95.72
10/21/96	103.14	NG	NA	97.52	NG	NA	99.72	NG	NA	97.32	2.43	94.89
11/19/96	103.14	8.32	103.14	97.52	3.53	93.99	99.72	3.87	95.85	97.32	2.90	94.42
12/17/96	103.14	7.92	94.82	97.52	2.17	95.35	99.72	2.96	96.76	97.32	2.10	95.22
01/27/97	103.14	7.94	95.22	97.52	3.08	94.44	99.72	3.26	96.46	97.32	1.53	95.79
02/18/97	103.14	7.95	95.20	97.52	3.49	94.03	99.72	3.21	96.51	97.32	2.55	94.77
03/27/97	103.14	8.08	95.19	97.52	1.66	95.86	99.72	3.51	96.21	97.32	1.15	96.17
04/17/97	103.14	NG	NA	97.52	3.00	94.52	99.72	3.18	96.54	97.32	1.30	96.02
05/21/97	103.14	8.20	103.14	97.52	3.73	93.79	99.72	4.07	95.65	97.32	2.84	94.48
08/27/97	103.14	9.54	94.94	97.52	4.69	92.83	99.72	5.77	93.95	97.32	4.07	93.25
11/21/97	103.14	8.86	93.60	97.52	7.53	89.99	99.72	5.29	94.43	97.32	3.56	93.76
02/11/98	103.14	8.33	94.28	97.52	2.14	95.38	99.72	2.87	96.85	97.32	1.35	95.97
05/11/98	103.14	7.91	94.81	97.52	7.51	*	99.72	2.50	97.22	97.32	2.02	95.30
08/17/98	103.14	9.78	95.23	97.52	7.45	*	99.72	5.81	93.91	97.32	4.61	92.71
11/18/98	103.14	8.88	93.36	97.52	8.65	*	99.72	6.15	93.57	97.32	5.42	91.90
02/19/99	103.14	8.49	94.65	97.52	3.49	94.03	99.72	3.51	96.21	97.32	2.50	94.82
05/21/99	103.14	8.57	94.57	97.52	4.95	92.57	99.72	4.66	95.06	97.32	3.06	94.26
08/26/99	103.14	12.04	91.10	97.52	7.53	89.99	99.72	9.10	90.62	97.32	6.94	90.38

Notes: WE-2D, WE-2S, and WE-3 are covered by stand pipes.

NG = Not Gauged

* Possible interference due to AS/SVE system

ATTACHMENT 5

HISTORICAL GROUNDWATER SAMPLING RESULTS

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	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	<1.0	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	3.0	<1.0	3.0	<1.0	<500	6.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	3.0	<500	3.0	NS	NS
	11/98	<1.0	<1.0	<1.0	2.0	3.0	<400	5.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	1.0	<400	1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	1.0	<400	1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

Notes: NA = Not Analyzed

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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
page 2 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	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	8.0	<500	8.0	NS	NS
	2/98	<1.0	<1.0	<1.0	<1.0	5.0	<500	5.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	2.0	1,500	2.0	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	9.0	<400	9.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	4.0	<400	4.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	3.0	<400	3.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	6.0	<400	6.0	NS	NS	

Notes: NA = Not Analyzed

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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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
page 3 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	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	7.9	<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	7.0	<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	1.0	<500	1.0	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	NS	NS	

Notes: NA = Not Analyzed

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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
page 4 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	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	5.0	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	2.0	<1.0	<1.0	<1.0	3.0	<500	5.0	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	4.0	1.0	5.0	<1.0	600	10	NS	NS
	2/99	<1.0	3.0	<1.0	<1.0	1.0	<400	4.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	500	<1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	400	<1.0	NS	NS

Notes: NA = Not Analyzed

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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 5 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-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	6.0	<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	1.0	<1.0	<1.0	2.0	<400	3.0	NS	NS
	2/99	<1.0	3.0	<1.0	<1.0	<1.0	<400	3.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

Notes: NA = Not Analyzed

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 - August 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	9.0	<1.0	65	<1.0	7.0	<1,000	81	600	<500
	2/97	<1.0	<1.0	<1.0	<1.0	3.0	<500	3.0	<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	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	1.0	<500	1.0	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	NS	NS
	2/99	<1.0	3.0	<1.0	<1.0	2.0	<400	5.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

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

(analytical results in $\mu\text{g/l}$)
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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	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	3.0	<1.0	<1.0	<1.0	<400	3.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	1.0	<400	1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

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

(analytical results in $\mu\text{g/l}$)
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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	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
MW-1	11/96	3.0	<1.0	5.0	<1.0	<1.0	<1,000	11	1,000	<500
	2/97	<1.0	<1.0	4.0	<1.0	<1.0	<500	4.0	<500	600
	5/97	<1.0	<1.0	4.0	<1.0	<1.0	<500	6.0	700	760
	8/97	<1.0	<1.0	16	2B	<1.0	1,000	18	800	600
	11/97	2.0	<1.0	9.0	<1.0	<1.0	<500	11	NS	NS
	2/98	<1.0	1.0	4.0	<1.0	<1.0	800	5.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	3.0	<1.0	1.0	<1.0	<1.0	<500	4.0	NS	NS
	11/98	4.0	1.0	1.0	1.0	<1.0	600	7.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	800	<1.0	NS	NS

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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - August 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	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
MW-2	11/96	4.0	<1.0	14	<1.0	4.0	<1,000	28	1,200	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	1.0 B	1,200	1,200
	5/97	<1.0	<1.0	3.0	<1.0	<1.0	<500	3.0	500	580
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	2.0	<1.0	3.0	1.0	3.0	<500	9.0	NS	NS
	2/98	2.0	1.0	6.0	<1.0	<1.0	700	9.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	3.0	500	3.0	NS	NS
	8/98	<1.0	<1.0	<1.0	2.0	1.0	<500	3.0	NS	NS
	11/98	2.0	2.0	<1.0	2.0	4.0	<400	10	NS	NS
	2/99	<1.0	<1.0	2.0	1.0	4.0	700	7.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	500	<1.0	NS	NS
8/99	<1.0	<1.0	3.0	7.0	<1.0	500	10	NS	NS	

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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - August 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	5.0	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	2.0	3.0	56	<1.0	<500	6 ¹	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	4.0	5.0	39	75	2.0	800	125	NS	NS
	5/99	6.0	15	<1.0	2.0	16	900	39	NS	NS
8/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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

(analytical results in $\mu\text{g/l}$)
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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	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	3.0	25	5.0	5.0	<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	2.0	<1.0	2.0	<1.0	3,800	4.0	NS	NS
	8/98	2.0	<1.0	3.0	<1.0	1.0	2,400	6.0	NS	NS
	11/98	1.0	<1.0	<1.0	1.0	2.0	2,300	4.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	2.0	4,400	2.0	NS	NS
	5/99	6.0	<1.0	8.0	<1.0	5.0	800	19	NS	NS
8/99	7.0	<1.0	9.0	8.0	<1.0	3,300	24	NS	NS	

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

(analytical results in $\mu\text{g/l}$)
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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	3.0	1,000	3.0	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	3.0	800	3.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,300	<1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	1.0	800	1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	700	<1.0	NS	NS

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

(analytical results in $\mu\text{g/l}$)
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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	1.0	1,000	700	530	100	500	NA	NA	NA	
Well	Date									
WE-2D(B)	11/96	1.0	<1.0	<1.0	<1.0	<1.0	<1,000	3.0	<500	<500
	2/97	2.0	<1.0	<1.0	<1.0	3.0	<500	5.0	<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	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	3.0	1500.0	3.0	NS	NS
	8/98	2.0	<1.0	<1.0	<1.0	5.0	<500	7.0	NS	NS
	11/98	2.0	<1.0	<1.0	1.0	3.0	400.0	6.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

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

(analytical results in $\mu\text{g/l}$)
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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	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	7.0	<1.0	9.0	4.0	14	<1,000	34	<500	<500
	2/97	5.0	<1.0	14	3.0	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	4.0	<1.0	<1.0	15	7.0	<500	26	NS	NS
	5/98	2.0	<1.0	10	<1.0	7.0	1,200	19	NS	NS
	8/98	2.0	<1.0	3.0	<1.0	6.0	<500	11	NS	NS
	11/98	<1.0	1.0	<1.0	<1.0	4.0	<400	5.0	NS	NS
	2/99	2.0	<1.0	11	5.0	8.0	<400	26	NS	NS
	5/99	2.0	2.0	13	1.0	<1.0	<400	18	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

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Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - August 1999
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(analytical results in $\mu\text{g/l}$)
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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	<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	6.0	<500	6.0	<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	220	3,000	220	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	38	<500	38	NS	NS
	2/98	2.0	<1.0	<1.0	<1.0	160D	<500	162	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	2.0	<500	2.0	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	9.0	<400	9.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	69	<400	69	NS	NS

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Dolphin Mart - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	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	2.0	19	<1,000	166	1,100	500
	2/97	21	<1.0	27	1.0	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	1.0	<500	1.0	NS	NS
	11/98	5.0	<1.0	7.0	<1.0	4.0	400	16	NS	NS
	2/99	<1.0	<1.0	<1.0	1.0	<1.0	<400	1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	8.0	<400	8.0	NS	NS	

Notes: NA = Not Analyzed

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 - August 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	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	6.0	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	2.0	6.0	27	1,100	46	NS	NS
	2/98	11	<1.0	10	14	3.0	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	1.0	30	28	31	2,400	184	NS	NS
	11/98	4.0	<1.0	<1.0	1.0	37	1,500	42	NS	NS
	2/99	12	1.0	6.0	78	5.0	1,000	102	NS	NS
	5/99	99	2.0	8.0	49	<1.0	1,700	158	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	44	1,200	44	NS	NS

Notes: NA = Not Analyzed
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
page 18 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	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	5.0	210 D	71 D	630 D	<1.0	<1,000	916	2,000	1,400
	2/97	3.0	4.0	8.0	12	2.0	<500	29	800	700
	5/97	3.0	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	2.0	<1.0	3.0	2.0	4.0	<500	11	NS	NS
	2/98	2.0	<1.0	5.0	3.0	4.0	500	14	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS
	8/98	3.0	4.0	9.0	44	<1.0	<500	60	NS	NS
	11/98	2.0	<1.0	<1.0	2.0	5.0	<400	9.0	NS	NS
	2/99	<1.0	1.0	3.0	12	2.0	400	18	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,200	<1.0	NS	NS	

Notes: NA = Not Analyzed

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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
page 1 of 26

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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
ERM-5	3/95	967	431	390	1,340	<100	NS	3,295.1	430	8,250
	5/96	112	6.0	34	28	<10	NS	196	159	554
	11/96	370D	14	33	61 D	<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	8.0	32	75	<1.0	4,200	255	NS	NS
	2/99	56	2.0	2.0	3.0	2.0	1,900	65	NS	NS
	5/99	590	74	560	2,000	<20	1,900	3,224	NS	NS
	8/99	120 D	7.0	<1.0	900 D	<1.0	1,600	1,027	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
ERM-6	5/96	15	<1.0	<1.0	<1.0	<2.0	NS	35	63	<473
	11/96	610	230	770	2,400 E	<40	5,000	4,054	500	7,800
	2/97	430 D	21	300	1,000 D	<10	2,000	1,763 B	2,200	4,800
	5/97	430 D	21	640 D	2,300 D	<1.0	1,000	3,391 D	1,500	6,700
	8/97	470	90	650	2,000	<1.0	2,000	3,210	3,500	6,200
	11/97	250 D	23	260 D	530 D	<1.0	<500	1,063	NS	NS
	2/98	97 D	13	110 D	240 D	<1.0	<500	460	NS	NS
	5/98	21	4.0	28	78	<1.0	<500	131	NS	NS
	8/98	63	8.0	170D	<190 D	<1.0	800	431	NS	NS
	11/98	1.0	<1.0	3.0	<1.0	<1.0	<400	4.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	5.0	<400	5.0	NA	NS
8/99	<1.0	<1.0	<1.0	2.0	<1.0	<400	2.0	NA	NA	

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
ERM-7	5/96	5.0	<1.0	<1.0	<1.0	<2.0	NS	8.0	38	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	4.0	<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	<1.0	<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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
ERM-9 (destroyed)	5/96	<1.0	<1.0	<1.0	<1.0	2.0	NS	4.0	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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
ERM-11	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	3.0	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	2.0	<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	<1.0	<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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	800	<1.0	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
ERM-12	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	1.0	27	<473
	5/96	1.0	2.0	7.0	14	<2.0	NS	61	4,300	1,390
	11/96	<1.0	2.0	<1.0	9.0	<1.0	3,000	16	7,300	6,700
	2/97	<1.0	1.0	2.0	9.0	<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	4.0	<1.0	7,100	4.0	NS	NS
	2/98	<1.0	<1.0	<1.0	1.0	<1.0	23,000	1.0	NS	NS
	5/98	<1.0	<1.0	2.0	2.0	<1.0	5,400	4.0	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	2.0	<1.0	5,100	2.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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	9.0	<100	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	2.0	<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	1.0	<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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	<1.0	<1.0	<1.0	3.0	37.0	<400	40.0	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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
	5/99	<50	590	500	4,200	<50	15,000	5,290	NS	NS
8/99	5.0	230D	<1.0	9,600D	<1.0	12,000	9,830D	NS	NS	

Notes: NA = Not Analyzed
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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
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
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	8.0	9.0	4.0	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	150 D	270 D	280 D	1,300 D	<1.0	3,100	2,000	NS	NS
	2/99	38	64	48	170	1.0	600	321	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
	8/99	79.0	16.0	150D	<1.0	130D	1,000	375D	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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		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	5.0	<1.0	7.0	30	<1.0	15,000	42	NS	NS
	2/98	8.0	<1.0	3.0	15	6.0	25,000	32	NS	NS
	5/98	25	<1.0	9.0	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	7.0	29	9.0	57,000	57	NS	NS
	5/99	8.0	<1.0	2.0	3.0	14	1,900	27	NS	NS
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
ERM-17	11/96	10	<1.0	<1.0	<1.0	9.0	<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	2.0	<1.0	<1.0	<1.0	<1.0	<500	2.0	NS	NS
	2/98	3.0	<1.0	<1.0	<1.0	<1.0	<500	3.0	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	3.0	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
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	<1.0	<1.0	12.0	12.0	<1.0	1,000	24.0	NS	NS

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DRO=Diesel Range Organics, GRO=Gasoline Range Organics
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
ERM-19	11/96	<1.0	<1.0	<1.0	<1.0	<1,000	1.0	<500	<500	
	2/97	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500	
	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	<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	
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
FD-1	5/98	210	3.0	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	5.0	<5.0	220	9,000	267	NS	NS
	2/99	<50	<50	<50	<50	780	38,000	780	NS	NS
	5/99	160	6.0	55	11	410	11,000	642	NS	NS
	8/99	100D	<1.0	5.0	<1.0	220D	3,400	325D	NS	NS

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

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
FD-2	5/98	63	<1.0	<1.0	3.0	31	14,000	97	NS	NS
	8/98	62	1.0	3.0	<1.0	36	3,300	102	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	4.0	4,000	4.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	25	5,000	25	NS	NS
	5/99	58	<1.0	1.0	<1.0	30	2,500	89	NS	NS
	8/99	52.0	<1.0	<1.0	<1.0	46.0	2,400	52	NS	NS
FD-3	5/98	<1.0	<1.0	<1.0	<1.0	9.0	<500	9.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	4.0	<600	4.0	NS	NS
	11/98	<1.0	<1.0	<1.0	<1.0	3.0	<1,300	4.0	NS	NS
	2/99	<1.0	<1.0	<1.0	<1.0	10	<400	10	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	4.0	<400	4.0	NS	NS
	8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS

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NARS = No Applicable Remediation Standard
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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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
MW-4	2/97	29	1.0	<1.0	3.0	<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	2.0	<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
	5/99	230	1,000	410	3,700	<20	NA	5,340	NS	NS
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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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
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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date								
MW-6	2/97	<1.0	9.0	<1.0	<1.0	NS	9.0	NS	NS
	5/97	18	<1.0	2.0	8.0	<1.0	28	<500	<500
	8/97	35D	1.0	<1.0	8.0	<1.0	46	<500	<500
	11/97	6.0	<1.0	<1.0	3.0	<1.0	9.0	NS	NS
	2/98	8.0	<1.0	<1.0	3.0	<1.0	11	NS	NS
	5/98	1.0	<1.0	<1.0	<1.0	<1.0	1.0	NS	NS
	8/98	170	8.0	13	62	<2.0	253	NS	NS
	11/98	5.0	<1.0	<1.0	2.0	<1.0	7.0	NS	NS
	2/99	71	<1.0	<1.0	3.0	3.0	77	NS	NS
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS	NS
	8/99	<1.0	<1.0	<1.0	3.0	<1.0	<400	3.0	NS

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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - August 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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
NEX-1	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	7.0	35	<143
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	NS	8.0	<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	2.0	11	4.0	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
	5/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS
8/99	<1.0	<1.0	<1.0	<1.0	<1.0	<400	<1.0	NS	NS	

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
Well	Date									
OBG-1	5/97	480	3,300 D	1,100D	10,000 D	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	7,100 D	2,200	15,000 D	24,000 D	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
	5/99	130	840	270	7,000	720	27,000	8,960	NS	NS
	8/99	100	400	<1.0	5,400	3,000	25,000	8,900	NS	NS

Notes: NA = Not Analyzed
NARS = No Applicable Remediation Standard
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
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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
OBG-2	5/97	77	280	530	9,800 D	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	26,000 D	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	27,000 D	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
	5/99	<50	58	290	3,700	2,000	29,000	6,048	NS	NS
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)

Notes: NA = Not Analyzed
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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 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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	2.0	<1.0	6,000	2.0	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	3.0	<1.0	7.0	8.0	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	5.0	4,100	5.0	NS	NS
	8/98	<1.0	<1.0	<1.0	<1.0	5.0	6,100	5.0	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
	5/99	<100	<100	<100	1,400	<100	NA	1,400	NS	NS
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)

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

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	<1.0	<1.0	<1.0	2.0	<1.0	<400	2.0	NS	NS

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NEX - March 1995 - August 1999
Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date								
OBG-8 (destroyed)	5/97	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS
	2/98	NS	NS	NS	NS	NS	NS	NS	NS
	5/98	NS	NS	NS	NS	NS	NS	NS	NS
	8/98	NS	NS	NS	NS	NS	NS	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS
	5/99	NS	NS	NS	NS	NS	NS	NS	NS
	8/99	NS	NS	NS	NS	NS	NS	NS	NS

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(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
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	1.0	2,900	640	NS
	5/99	140	4,700	2,500	12,000	<100	1,800	19,340	NS
	8/99	38	660D	2,500D	12,000D	<1.0	16,000	15,198	NS

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Naval Submarine Base, Groton, CT

(analytical results in $\mu\text{g/l}$)
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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS	
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
	5/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	6/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS	NS
	8/99	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)
	2/99	<1.0	<1.0	<1.0	<1.0	1.0	<400	1.0	NS	NS
	5/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	6/99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	NS	NS
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)

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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	50,000	21,300	50,000	NARS	NARS	NARS	NARS
Well	Date									
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
	5/99	<1.0	<1.0	48	<1.0	1.0	3,800	49	NS	NS
	8/99	<1.0	<1.0	<1.0	2.0	<1.0	15,000	2.0	NS	NS

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