

N00129.AR.001244  
NSB NEW LONDON  
5090.3a

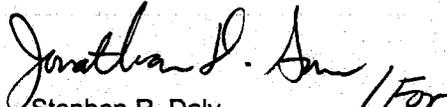
**MONTHLY OPERATIONS SUMMARY  
FOR THE NAVAL EXCHANGE AND DOLPHIN MART  
AIR SPARGING/SOIL VAPOR EXTRACTION SYSTEMS**

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

**Month: February 2000**

**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 February 3 and 29, 2000. The monitoring forms for site visit conducted during the month of February 2000 is 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 February 2000 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 (CTDER) air quality guidelines were reported.

**Carbon Usage** - No carbon change-out occurred during the month of February 2000. 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 February 2000 site visits at the Dolphin Mart.

**Monitoring Well Gauging** - The most recent round of site monitoring, which included monitoring well gauging was conducted on November 29-30, 1999 during the quarterly groundwater monitoring event. On November 29-30, 1999, depth to groundwater at the site ranged from 0.81 feet in OBG-8A to 8.60 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 November 29-30, 1999. The November Groundwater Sampling Report was issued under separate cover. The historical groundwater sampling results have been summarized in **Table 1** in **Attachment 5**.

**Additional Activities** - Drive-by site visits were conducted on February 3 and 29, 2000 to check the site security and the condition of the road boxes. The remediation shed and road boxes were found to be in satisfactory condition during these site visits.

## NEX AIR SPARGE/SVE SYSTEM

**System Status** - The remediation system at the site had been operating since July 31, 1997. As of May 26, 1999, 17 vapor extraction points (VEA-12 through VEA-16, VEA-18 through VEA-20, VEB-4, and VEB-8 through VEB-15) and 19 air sparge points (SPA-30 through SPA-37, SPB-14, SPB-16, and SPB-19 through SPB-27) were operating. Approximately 258,804 gallons of water had been extracted, treated, and discharged by the NEX system as of February 29, 2000.

A site map has been included as **Figure 2**. The site was visited on February 3 and 29, 2000. The monitoring forms for operation and maintenance (O&M) conducted during the month of February 2000 are included in **Attachment 1**. A weekly breakdown of the month's field activities has been included as **Attachment 2**.

**Mass Removal** - The total hydrocarbon mass extracted by the SVE system, as of February 3, 2000, was approximately 3,975.88 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** - The most recent round of water discharge sampling was conducted on February 3, 2000. All parameters of the discharge permit were adhered to. Results were submitted to the CTDEP under separate cover.

**Monitoring Well Gauging** - The most recent round of site monitoring, including monitoring well gauging was conducted on November 29-30, 1999. Depth to groundwater at the site ranged from 3.20 feet in VEA-4 to 8.89 feet in ERM-16. A suspected petroleum-based sheen was reported in monitoring well ERM-16.

**Monitoring Well Sampling** - The most recent round of site monitoring well sampling was conducted on November 29-30, 1999. The November Quarterly Groundwater Sampling Report was previously issued under separate cover. The historical groundwater sampling results have been summarized as **Table 2** in **Attachment 5**.

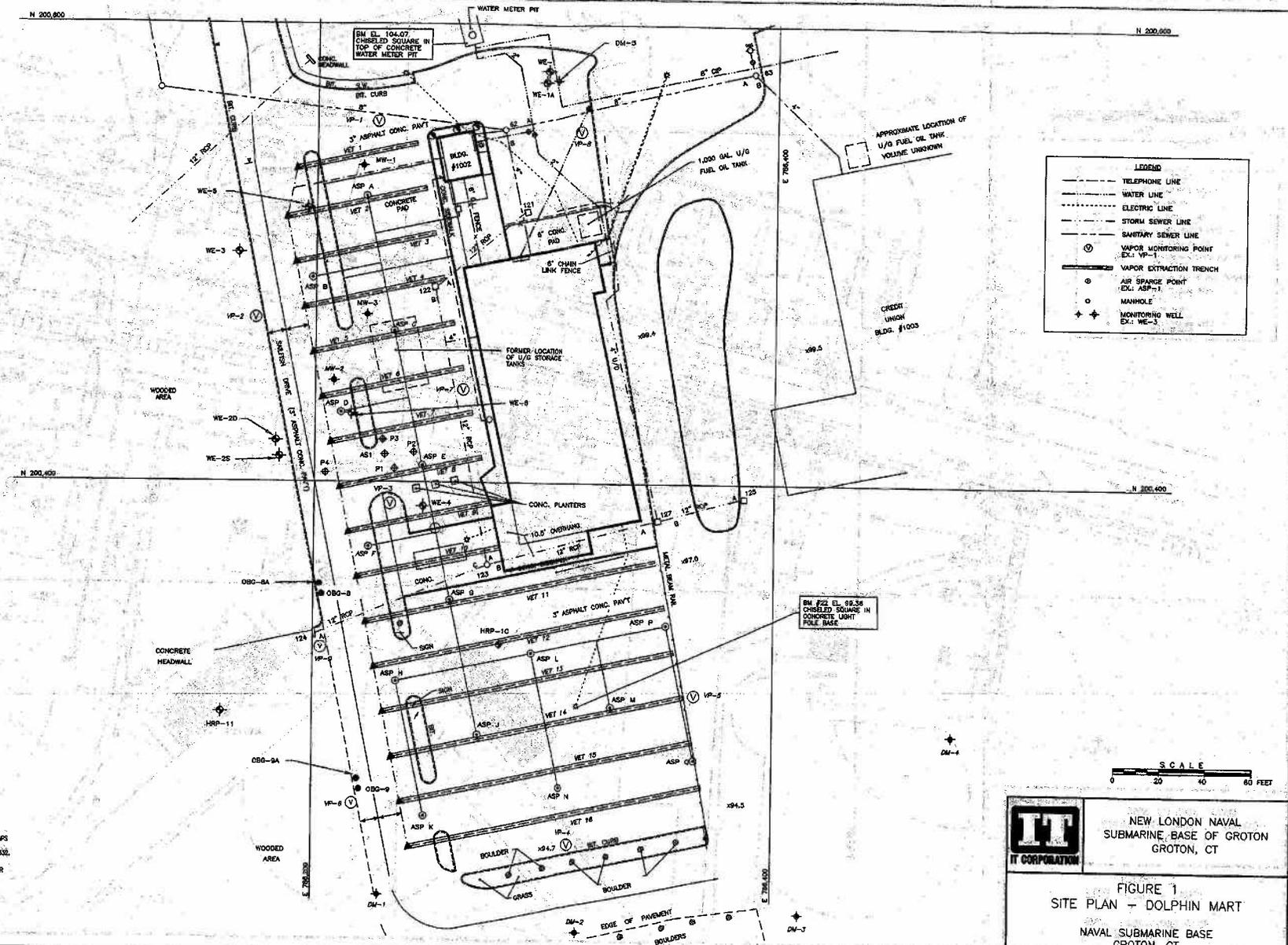
**Additional Activities** - The air sparge system was found to be non-operational during both site visits in February 2000. During the February 3 visit, the system was down due to low air flow. On the February 29 visit, the system was down due to a blown fuse. Appropriate repairs were made during each visit and the system was operating upon each departure.

***FIGURES***

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

THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:  
 1. UNLITLED PARK, GROTON, CONN. EXISTING UTILITIES MAPS  
 PREPARED BY CALLAHAN ENGINEERING CO., INC. SCALE  
 1"=40' DATE 3/28/83 NAHAC DRAWING NO'S 2,044,332,  
 2,044,333 AND 2,044,374.  
 2. MONITOR WELL LOCATION AND GROUND WATER CONTOUR  
 MAP OF JANUARY 21, 1992 DOLPHIN MART SITE, US  
 SURVEY SYSTEM, CT, PREPARED BY CON-ANALYST  
 SCALE 1"=20' APRIL, 1992.  
 3. UTILITY DATA FROM AS-BUILT DRAWINGS AND  
 UTILITY MAPS. EXACT LOCATIONS MUST BE VERIFIED  
 IN FIELD.  
 4. ALL REFERENCING FEATURES AND HEIGHTS SHOWN  
 HEREON SHALL BE FIELD VERIFIED.

DATE 3/20/99  
 PROJECT NUMBER 2726/08



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

IT CORPORATION

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

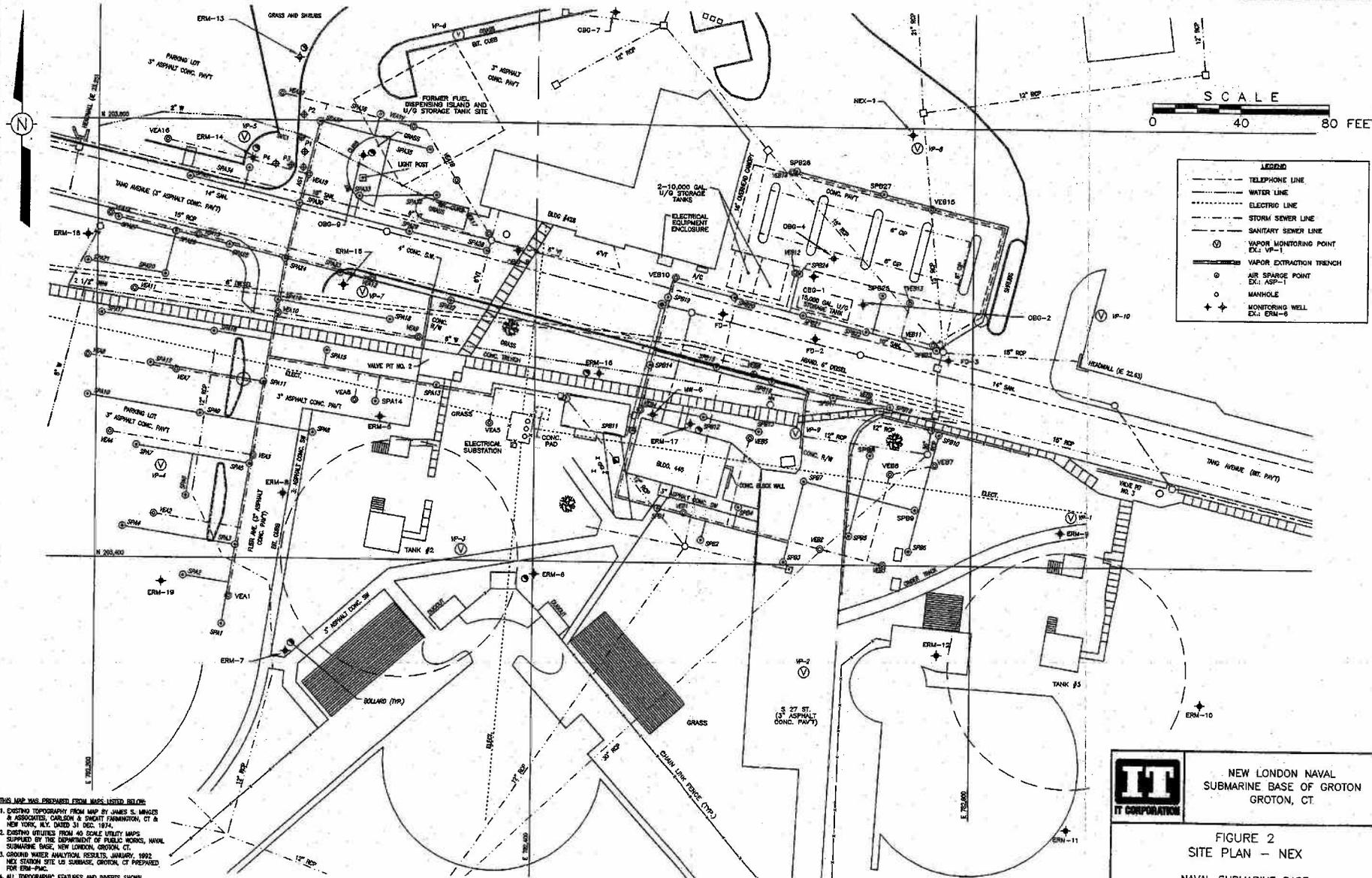
DRAWN BY

OFFICE

X-REF

WIN

DATE 2/27/94 TIME 2:07 PM



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

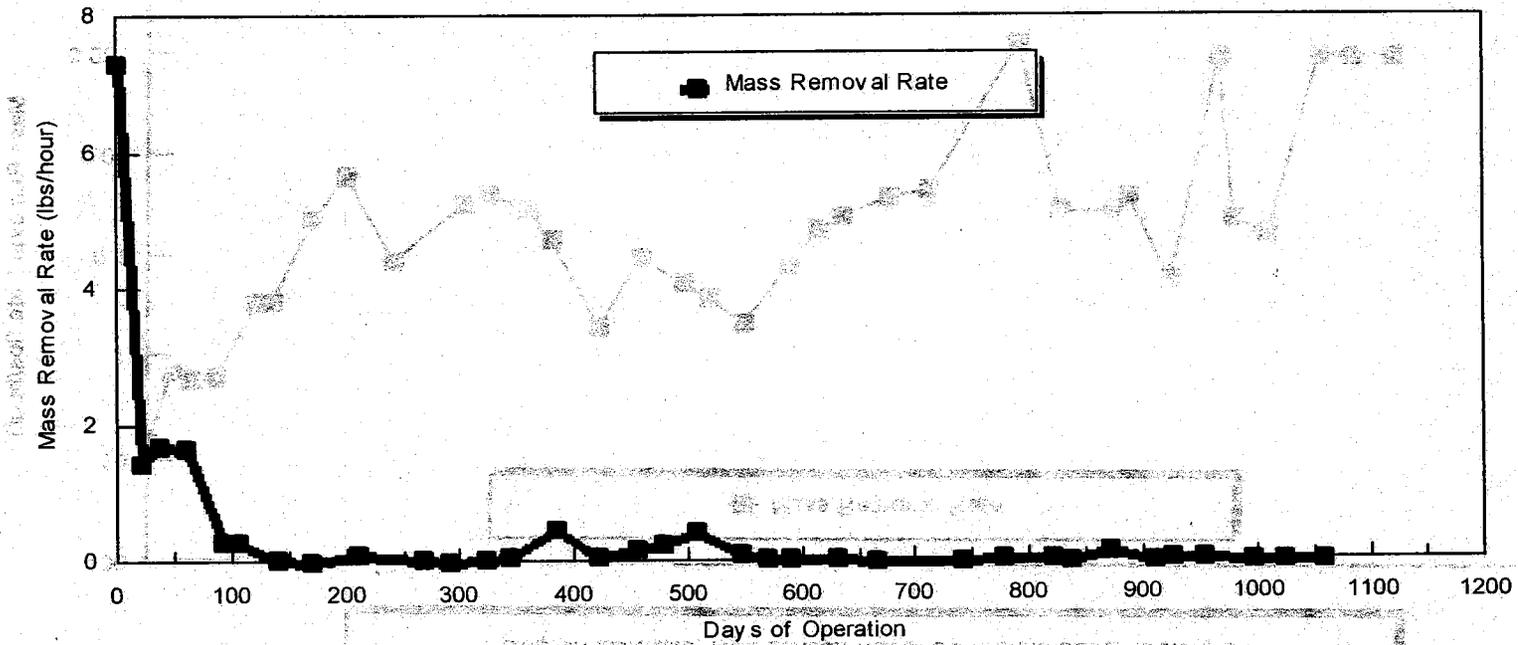


NEW LONDON NAVAL  
SUBMARINE BASE OF GROTON  
GROTON, CT

FIGURE 2  
SITE PLAN - NEX

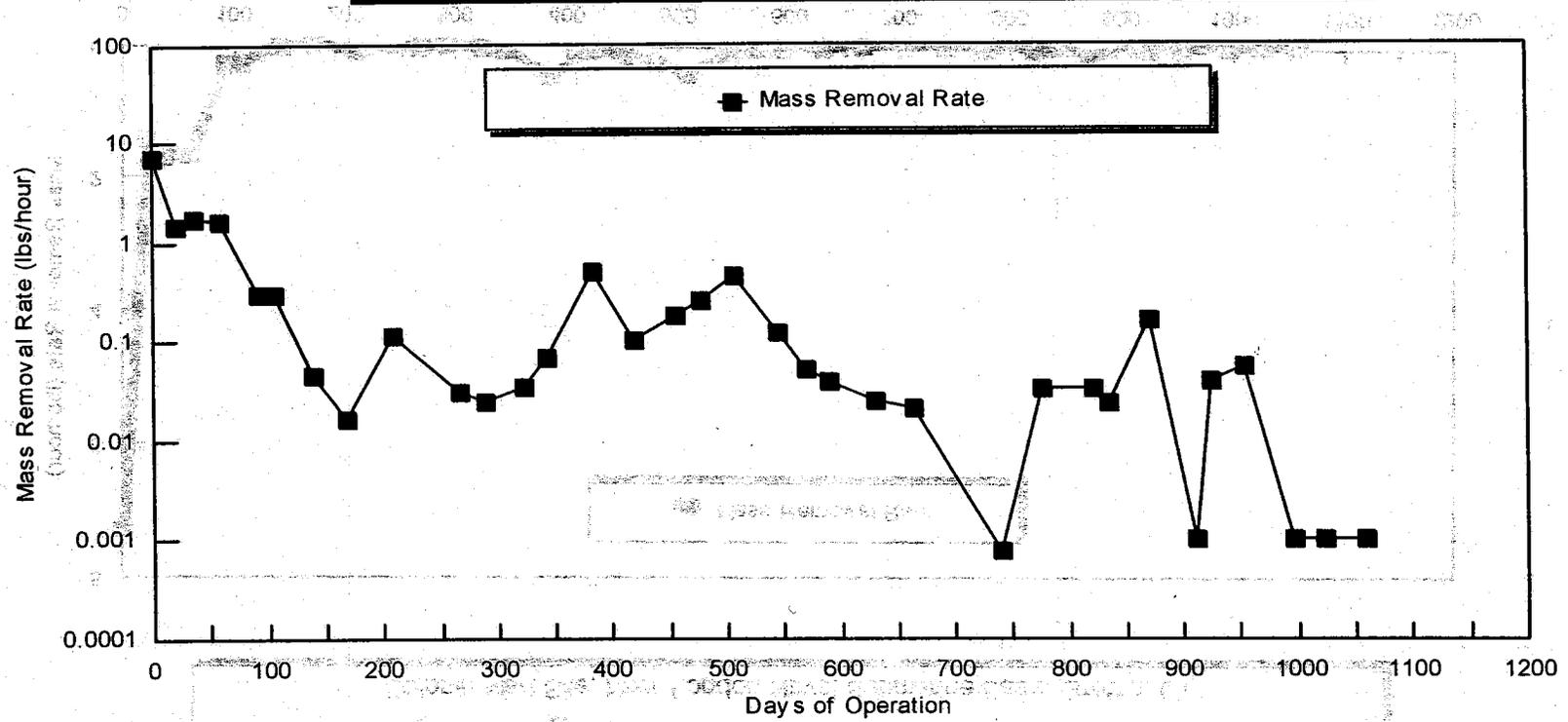
NAVAL SUBMARINE BASE  
GROTON, CT

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



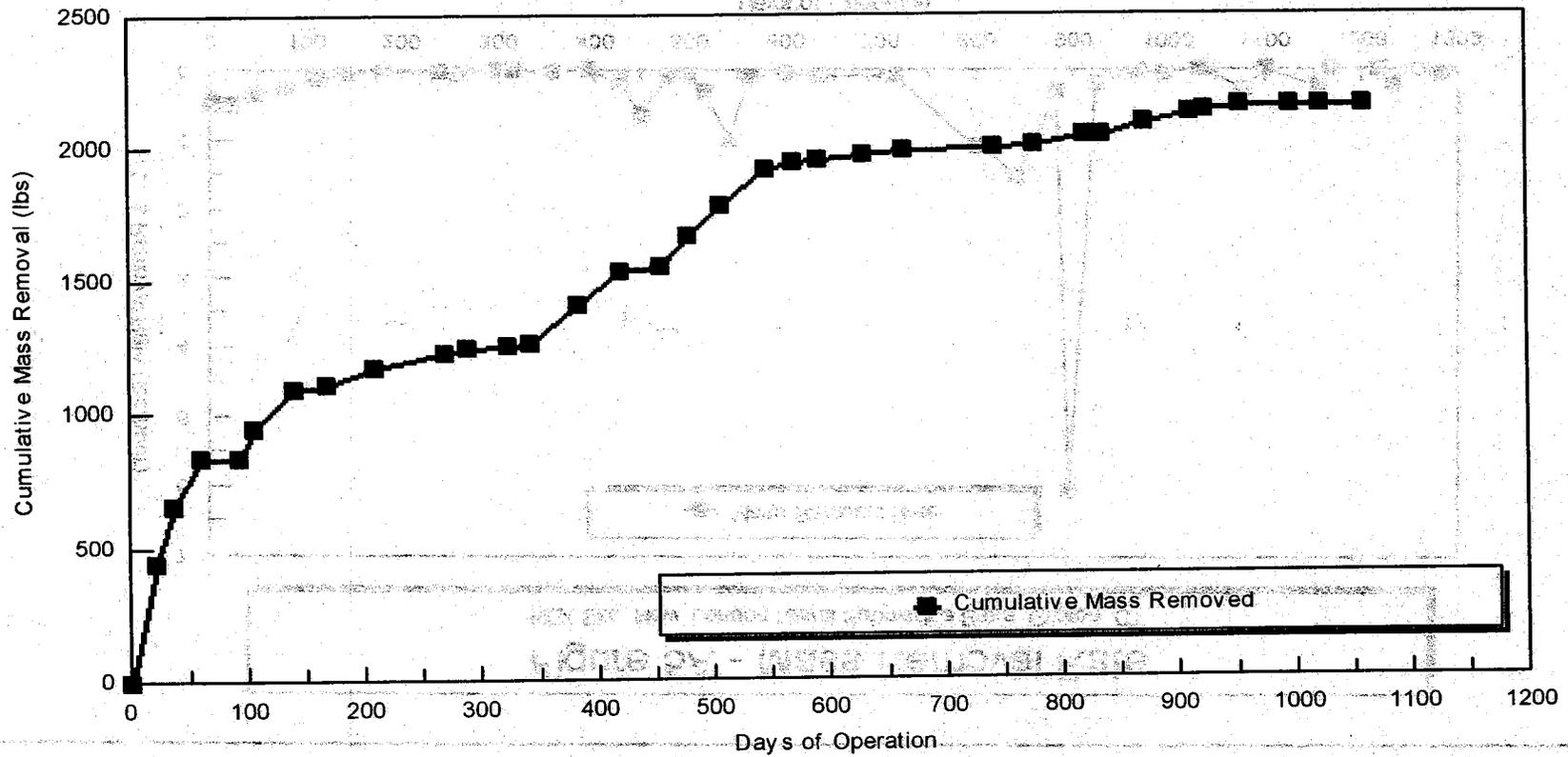
# Figure 3B- Mass Removal Rate

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



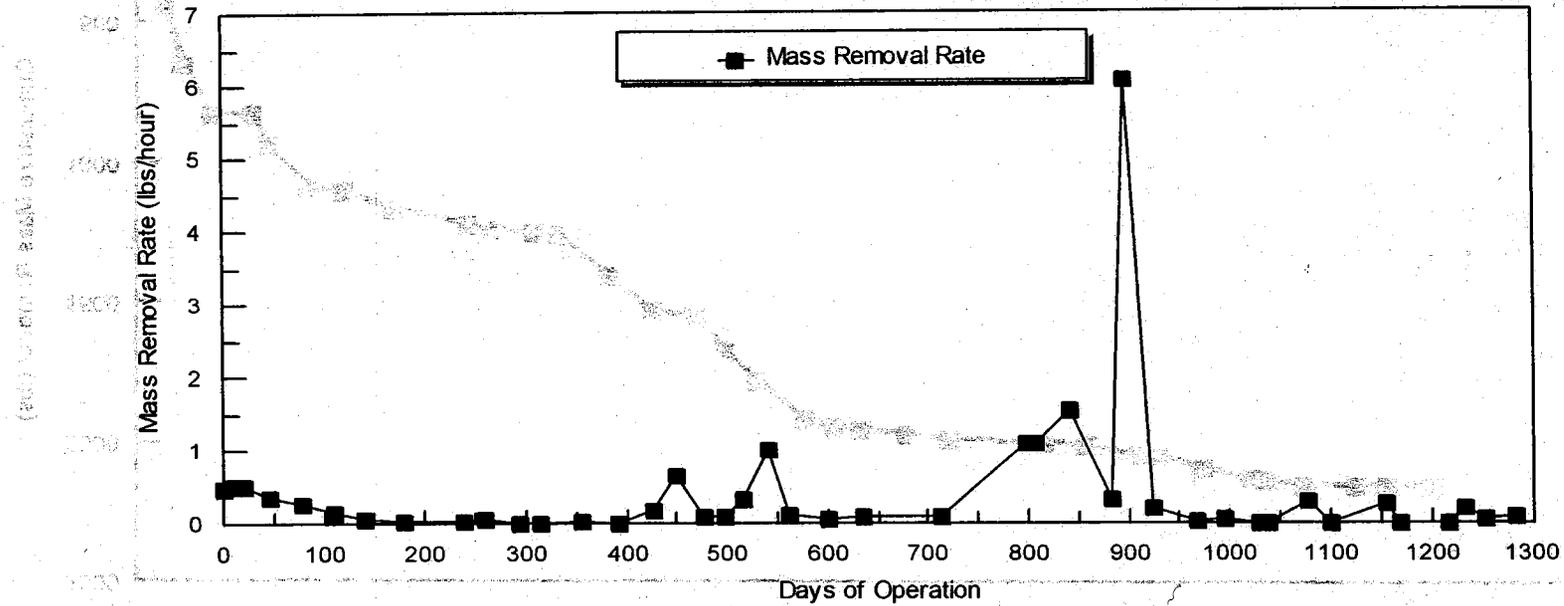
### Figure 4 - Cumulative Mass Removed versus Time

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



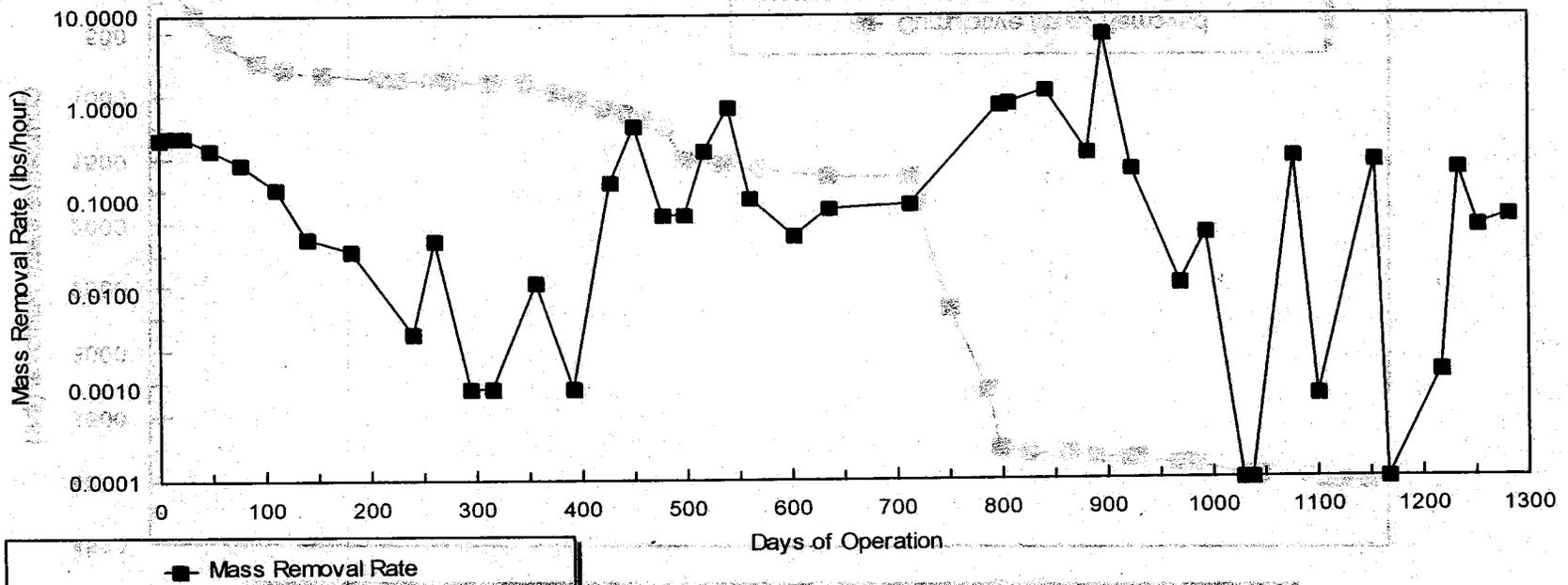
# Figure 5A - Mass Removal Rate

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



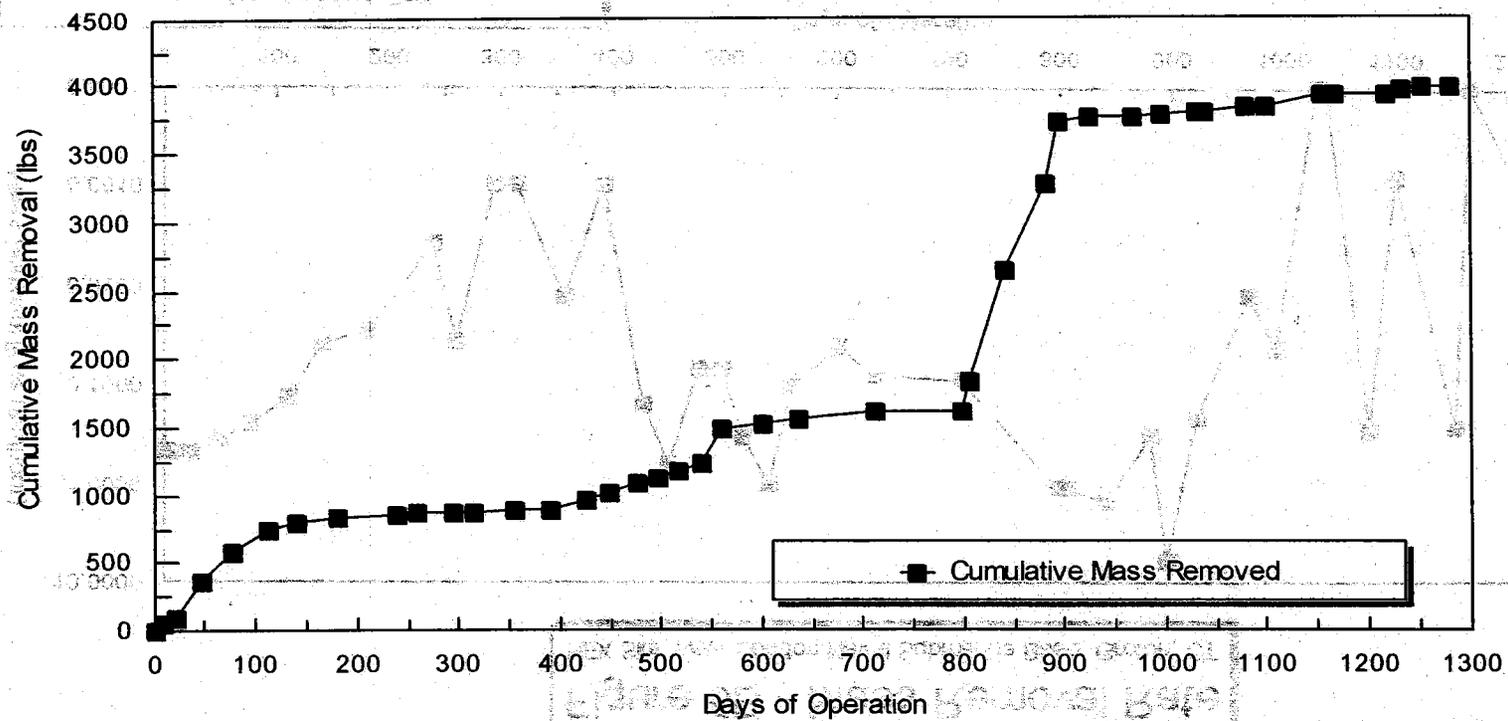
### Figure 5B - Mass Removal Rate

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: 2/3/2000

Staff: JK, Jr.

Project Number: 87260014

Task Number: 0401

DB/SCA Box Check: Yes / No

Bill Code Override: \_\_\_\_\_

Site Arrival Time: 12:00

Site Departure Time: 16:00

Total Hours on Site: 4.00

Total Hours Billed: 8.00

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 and check shed security.
- Check condition of all 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

**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

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

Date: 2-3-200  
 Time: 14:10 PM  
 Technician: J.K.JR

**AIR COMPRESSOR SYSTEM**

Flow Rate <u>71</u> SCFM	Total Flow <u>327160.75</u> SCFM
<b>Air Compressor C-1</b>	<b>Air Compressor C-2</b>
Pressure <u>7.5</u> psi	Pressure <u>NA</u> psi
Temperature <u>198</u> °F	Temperature _____ °F
Flow Control Valve Setting <u>100</u>	Flow Control Valve Setting _____
Bleed Valve <u>7.5</u>	Bleed Valve <u>0</u>
Radiator <input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF	Radiator <input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF

**SOIL VAPOR EXTRACTION SYSTEM**

Eastern Flow Rate <u>141 to 350</u> SCFM	Total Flow <u>174049463</u> SCFM
Western Flow Rate <u>94 to 221</u> SCFM	Total Flow <u>47746476</u> SCFM
<b>Vacuum Pump V-1</b>	<b>Vacuum Pump V-2</b>
Vacuum <u>1</u> "Hg	Vacuum <u>NA</u> "Hg
Temperature <u>110</u> °F	Temperature _____ °F
Particulate Filter <u>OK</u>	Particulate Filter _____
Flow Control Valve Setting <u>100 %</u>	Flow Control Valve Setting _____
Bleed Air Valve Setting <u>2.5</u>	Bleed Air Valve Setting _____
Liquid Level <u>OK</u>	Liquid Level <u>0</u>

<b>Vacuum Pump V-3</b>	<b>Vacuum Pump V-4</b>
Vacuum <u>1</u> "Hg	Vacuum <u>NA</u> "Hg
Temperature <u>150</u> °F	Temperature _____ °F
Particulate Filter <u>OK</u>	Particulate Filter _____
Flow Control Valve Setting <u>100 %</u>	Flow Control Valve Setting _____
Bleed Air Valve Setting <u>2.5 %</u>	Bleed Air Valve Setting _____
Liquid Level <u>OK</u>	Liquid Level <u>0</u>

**ACTIVATED CARBON ADSORPTION SYSTEM**

<b>Carbon Adsorber A/B</b>	<b>Carbon Adsorber C/D</b>
Pressure <u>20</u> psi	Pressure <u>10</u> psi
Inf. VOC Level <u>2.4</u> ppm	Inf. VOC Level <u>1.9</u> ppm
Mid. VOC Level <u>0.4</u> ppm	Mid. VOC Level _____ ppm
Eff. VOC Level <u>0</u> ppm	Eff. VOC Level <u>1.4</u> ppm
Change out Date <u>NA</u>	Change out Date <u>8-22-99</u>

**WATER TREATMENT**

Flowmeter Reading 252394.1 Gallons (arrival reading)      Flowmeter Reading \_\_\_\_\_ Gallons (departure reading)

**COMMENTS**

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

Arrival <u>252394.1</u>	Departure <u>252429.8</u>
-------------------------	---------------------------



PROJECT: Naval Subbase

LOCATION: Groton, CT

PROJECT #: 87260014

OPERATOR: S.K. JR

DATE: 2/3/2000

EQUIPMENT #: 12186

PROBE CORRECTION: NO

COMMENTS: \_\_\_\_\_

### WELL MONITORING FORM

WELL ID	WELL DEPTH	DEPTH TO WATER	DEPTH TO PETROLEUM	PETROLEUM THICKNESS	VACUUM OR PRESSURE	VOC CONCENTRATION (PPM)
ERM-12						
ERM-14	14.32	7.58	-	-		
ERM-16	16.14	8.33	.			
OBG-1	11.56	9.02	-	odor		
OBG-9	12.79	7.08	-	-		
Dolphin Mart						
VP-1						
VP-2						
VP-3						
VP-4						
VP-5						
VP-6						
VP-7						
VP-8						
VP-9						
NEX						
VP-1					0	0
VP-2					0	0
VP-3					0	0
VP-4					0	0
VP-5					0	0
VP-6					0	0
VP-7					0	0
VP-8					0	0
VP-9					0	0





## Groton Subbase

8726 0014 / 0401000

2/3/2000

PM. Jonathan Sorrow

Tech. J.R. Il

10:00 AM to  
10:30

Arrived at IT and loaded supplies on the truck. also located paper work.

10:30 to  
12:00 PM

Depart IT and traveled down to the site. had a travel delay due to construction on the highway.

12:00 PM to  
16:00 PM

Arrive on site, set up paper work and then went to check on the system. Found the system non operational. The system was down due to low air flow and high Lec indicator lights were on, on the control panel. Reactivated the system and let it run for awhile before obtaining readings. obtained readings from the system, then went and obtained Air and water DMR samples from the WTS and SVE systems.

After samples were obtained, I went and gauged the monitoring wells. was unable to gauge well 12, there was construction debris covering the well. gauged the other wells and then checked the vapor points.

Secured shed and departed site.

Returned to IT corp and placed the samples in the refrigerator for Nathan to pick up on 2/4/2000.

Stopped by dolphin mart and checked on the shed. it is OK and in good condition. The road box

are in good condition also.

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

**NAVAL SUBMARINE BASE  
GROTON, CT.  
87260014**

Date: 2/29/00  
 Project Number: 87260014  
 DB/SCA Box Check: Yes / No  
 Site Arrival Time: 13:20  
 Total Hours on Site: 3.75

Staff: J.K.JR  
 Task Number: 0401  
 Bill Code Override: \_\_\_\_\_  
 Site Departure Time: 17:00  
 Total Hours Billed: 6.00

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 all roadboxes

**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
- Meet Paul Farrington - IT Norwood, give him a brief
- tour of both sites. Paul will meet you at 1:00-1:30 at NEX

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

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

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

Date: 2/29/00  
 Time: 16:10  
 Technician: J.K.Jr

**AIR COMPRESSOR SYSTEM**

Flow Rate 45 SCFM      Total Flow 34469011 SCFM

**Air Compressor C-1**  
 Pressure 5.0 psi  
 Temperature 186 °F  
 Flow Control Valve Setting 100%  
 Bleed Valve 15%  
 Radiator  ON  OFF

**Air Compressor C-2**  
 Pressure NA psi  
 Temperature \_\_\_\_\_ °F  
 Flow Control Valve Setting \_\_\_\_\_  
 Bleed Valve \_\_\_\_\_  
 Radiator  ON  OFF

**SOIL VAPOR EXTRACTION SYSTEM**

Eastern Flow Rate 113 to 295 SCFM      Total Flow 178971736 SCFM

Western Flow Rate 34 to 174 SCFM      Total Flow 49982205 SCFM

**Vacuum Pump V-1**  
 Vacuum 3.5 "Hg  
 Temperature 128 °F  
 Particulate Filter OK  
 Flow Control Valve Setting 100%  
 Bleed Air Valve Setting 25%  
 Liquid Level OK

**Vacuum Pump V-2**  
 Vacuum NA "Hg  
 Temperature \_\_\_\_\_ °F  
 Particulate Filter \_\_\_\_\_  
 Flow Control Valve Setting \_\_\_\_\_  
 Bleed Air Valve Setting \_\_\_\_\_  
 Liquid Level X

**Vacuum Pump V-3**  
 Vacuum 3.5 "Hg  
 Temperature 166 °F  
 Particulate Filter OK  
 Flow Control Valve Setting 100%  
 Bleed Air Valve Setting 25%  
 Liquid Level OK

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

**ACTIVATED CARBON ADSORPTION SYSTEM**

**Carbon Adsorber A/B**  
 Pressure 16 psi  
 Inf. VOC Level 7.0 ppm  
 Mid. VOC Level 3.2 ppm  
 Eff. VOC Level 2.8 ppm

**Carbon Adsorber C/D**  
 Pressure 15 psi  
 Inf. VOC Level 5.6 ppm  
 Mid. VOC Level 0 ppm  
 Eff. VOC Level 5.6 ppm

Change out Date NA

Change out Date 8-22-96

**WATER TREATMENT**

Flowmeter Reading 25889 Gallons (arrival reading)      Flowmeter Reading 258804 Gallons (departure reading)

**COMMENTS**

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

## Groton subbase

87260014-04010000

2/29/00

Jonathan sorrow

J.K. JR

12:15 to

13:20

Depart IT and traveled to the site.

13:20

Arrived on site and met Paul Farrington from the Norwood, MA office of IT corp. showed Paul the system at Nex and walked the site. then took him up to Dolphin site and walked over the site and also showed him the system inside the shed. then Paul left the site.

The system was down upon arrival. checked the wts system and found a blown fuse. changed the fuse and the wts system was operational. then checked the oil and cleaned the air filters and greased the motors. Reactivated the system and let it run for awhile before obtaining readings. While system was operational, I found that one of the radiators for the sparge compressor had broken coils. the air was leaking out of the radiator. called and informed Jonathan sorrow about the condition of the radiator. He advised me to leave the sparge system operational. I did as instructed. obtained information off the radiator.

Secured shed and departed site.

all systems were operational upon departure from site. Dolphin mart site is in good

condition and the road boxes are fine. the shed  
there is secured and there is no damage to  
it.

We still have the carbon units being stored  
outside of the shed at dolphin mart.

**ATTACHMENT 2**  
**MONTHLY FIELD ACTIVITY SUMMARY**

**Field Activity Summary  
February 2000**

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

<b>Week Ending</b>	<b>Site</b>	<b>Period</b>	<b>Field Activities</b>	<b>Comments</b>
2/03/00	Dolphin Mart	Monthly Monitoring	Conducted drive-by and checked security and condition of road boxes.	Security and road boxes OK.
	NEX		Conducted O&M on the SVE system. Collected air and water DMR samples.	System was down due to low airflow upon arrival, but it was repaired and operating at departure.
2/29/00	Dolphin Mart	Monthly Monitoring	Conducted drive-by and checked security and condition of road boxes.	Security and road boxes OK.
	NEX		Conducted O&M on the SVE system	System was down due to a blown fuse, which was replaced. System was operating upon departure.

**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 (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
07/02/96	0	25	450	512.28	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	1.483	446.70	446.70	system operated approx. 102 hrs between 7/2 and 7/23
08/09/96	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	168.14	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	NA	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	NA	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	22.00	5.29	0.042	0.045	143.33	1091.28	
12/17/96	188	30	450	512.28	0.12	0.001	0.00	0.000	—	0.000	—	0.000	8.20	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	55.00	13.23	0.106	0.117	65.56	1177.68	
03/27/97	288	30	450	512.26	0.00	0.000	0.00	0.000	—	0.000	—	0.000	0.00	3.90	0.031	0.031	104.53	1228.95	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	13.00	3.13	0.025	0.025	14.13	1244.06	assume 50% up-time, blowers shutting down due to influent water
05/21/97	323	15	329	374.52	0.00	0.000	0.00	0.000	—	0.000	—	0.000	24.00	5.77	0.034	0.034	11.96	1258.03	assume 50% up-time, blowers shutting down due to influent water
09/10/97	343	15	329	374.52	0.25	0.002	0.00	0.000	—	0.000	—	0.000	47.00	11.31	0.068	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	340.00	81.79	0.477	0.488	138.78	1404.93	assume 50% up-time, blowers shutting down due to influent water
08/26/97	420	15	482	548.89	0.73	0.007	0.00	0.000	—	0.000	—	0.000	45.00	10.82	0.062	0.069	126.91	1531.85	assume 50% up-time, blowers shutting down due to influent water
09/30/97	455	15	482	548.89	0.34	0.003	0.00	0.000	—	0.000	—	0.000	88.00	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	100.00	24.06	0.251	0.251	120.10	1688.78	
11/20/97	506	32	590	671.83	0.00	0.000	5.45	0.050	—	0.000	—	0.000	180.00	38.49	0.403	0.453	118.28	1788.08	assume 50% up-time, blowers shutting down due to influent water
12/29/97	545	28	590	671.83	0.45	0.005	0.00	0.000	—	0.000	—	0.000	45.00	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	24.00	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	28.00	6.98	0.036	0.036	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	22.00	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	0.00	0.00	0.000	0.001	16.47	1995.65	
07/13/98	741	13	294	334.68	0.14	0.001	0.00	0.000	—	0.000	—	0.000	26.00	6.25	0.033	0.033	7.37	2012.89	assume 50% up-time, blowers shutting down due to influent water
09/18/98	777	10	294	334.68	0.07	0.0004	0.00	0.000	—	0.000	—	0.000	25.00	6.25	0.033	-0.033	34.22	2046.92	assume 50% up-time, AS blower shut down due to high pressure
10/15/98	820	14	294	334.68	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	24.00	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	835	0	231	262.98	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	170.00	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	0.00	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	36.00	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	37.00	8.90	0.055	0.055	16.37	2153.09	assume 50% up-time, blowers shutting down due to influent water
03/28/99	997	0	180	182.14	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	0.00	0.00	0.000	0.001	0.38	2153.47	
04/21/99	1023	0	180	182.14	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	0.00	0.00	0.000	0.001	0.38	2153.85	
05/28/99	1058	0	0	0.00	0.00	0.0000	0.00	0.000	—	0.000	—	0.000	0.00	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 10/18/96 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 10/18/96.
  - 6) Beginning 10/16/98 lab analysis was performed by Mikem Laboratory. Prior to 10/16/98 air analysis performed by NEI/GTEL.
  - 7) Mikem 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)	Extraction Flowrate (cfm)	Influent Concentration BTEX (ppmv)	Removal Rate BTEX (lb/hr)	Influent Concentration MTBE (mg/m3)	Influent Concentration MTBE (ppmv)	Removal Rate MTBE (lb/hr)	Influent Concentration Aliphatics (ppmv)	Removal Rate Aliphatics (lb/hr)	Influent Concentration Aromatics (ppmv)	Removal Rate Aromatics (lb/hr)	Influent Concentration TVPH (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	288.00	1.80	0.007	NA	---	0.000	130.00	0.455	0.00	0.000	---	---	0.000	0.463	0.00	0.00		
08/08/96	8	NA*	270	307.35	1.80	0.008	NA	---	0.000	130.00	0.486	0.00	0.000	---	---	0.000	0.494	46.93	46.93	system operated approx. 82 hrs between 7/31 and 8/8	
08/22/96	22	NA*	270	307.35	1.80	0.008	NA	---	0.000	130.00	0.486	0.00	0.000	---	---	0.000	0.494	52.85	99.78	24-hour per day system operation began 8/8	
09/19/96	47	NA*	320	384.27	2.70	0.015	NA	0.00	0.000	---	0.000	---	0.000	---	81.00	0.348	0.361	258.56	356.34		
10/19/96	77	NA*	320	384.27	2.50	0.014	NA	0.00	0.000	---	0.000	---	0.000	---	42.00	0.238	0.253	220.88	577.32		
11/19/96	111	NA*	324	368.83	0.95	0.008	0.00	0.00	0.000	---	0.000	---	0.000	94.00	22.81	0.130	0.135	158.31	735.63		
12/17/96	139	NA*	310	352.89	0.18	0.001	0.24	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	385.41	0.14	0.001	0.00	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	437.13	0.00	0.000	NA	0.00	0.000	---	0.000	---	0.000	---	0.55	0.004	0.004	22.62	850.47		
04/17/97	260	NA**	721	820.75	0.00	0.000	0.00	0.00	0.000	---	0.000	---	0.000	12.00	2.89	0.037	0.037	10.24	860.71		
05/21/97	294	5***	360	409.81	0.00	0.000	0.00	0.00	0.000	---	0.000	---	0.000	0.00	0.00	0.000	0.00	0.00	15.48	876.17	
08/10/97	314	2***	300	341.51	0.00	0.000	0.00	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	407.53	0.00	0.000	0.00	0.00	0.000	---	0.000	---	0.000	8.50	2.04	0.013	0.013	6.88	883.53		
09/26/97	391	29***	223	253.28	0.00	0.000	0.00	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	251.58	2.37	0.008	22.00	8.00	0.021	---	0.000	---	0.000	140.00	33.68	0.132	0.161	98.15	957.72	One blower down due to high water level in moisture trap.	
10/23/97	449	47***	322	366.55	2.47	0.013	82.50	17.05	0.088	---	0.000	---	0.000	395.00	95.02	0.542	0.841	80.12	1017.84	Two blowers down due to high water level in moisture trap.	
11/20/97	477	47***	213	242.47	0.50	0.002	4.10	1.12	0.004	---	0.000	---	0.000	88.00	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	242.47	0.50	0.002	4.10	1.12	0.004	---	0.000	---	0.000	88.00	16.36	0.062	0.067	40.27	1127.78		
12/29/97	516	47	520	591.37	0.78	0.007	8.00	2.18	0.018	---	0.000	---	0.000	140.00	33.68	0.130	0.335	42.29	1170.07		
01/22/98	540	53	479	544.70	2.48	0.020	18.50	4.50	0.034	---	0.000	---	0.000	485.00	111.86	0.949	1.003	83.06	1233.15		
02/12/98	581	NA***	324	368.28	0.77	0.004	3.85	1.05	0.005	---	0.000	---	0.000	67.50	18.24	0.093	0.103	248.54	1481.70		
03/24/98	601	53	240	282.88	0.44	0.002	3.00	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	193.52	0.57	0.002	30.50	8.32	0.022	---	0.000	---	0.000	76.50	18.40	0.055	0.078	36.71	1551.39		
07/13/98	712	53	154	174.74	1.86	0.005	0.00	0.00	0.000	39.42	0.084	0.00	0.000	---	0.00	0.000	0.000	83.78	1615.18		
10/07/98	798	0	278	315.89	8.40	0.042	0.00	0.00	0.000	0.00	0.000	0.00	0.000	890.43	214.49	1.054	1.098	0.00	1615.18	System modification/repair completed, system reactivated.	
10/15/98	806	0	278	316.46	8.40	0.042	0.00	0.00	0.000	0.00	0.000	0.00	0.000	890.43	214.19	1.058	1.098	210.77	1825.92		
11/19/98	841	41	216	245.31	4.87	0.018	1.87	0.48	0.002	0.00	0.000	0.00	0.000	1679.20	463.93	1.543	1.583	812.98	2638.91		
12/29/98	881	41	148	198.48	0.90	0.002	0.00	0.00	0.000	0.00	0.000	0.00	0.000	507.90	122.18	0.321	0.323	821.50	3260.40	One blower and air compressor down due to high water.	
01/12/99	895	82	307	349.47	3.22	0.014	1.99	0.54	0.002	0.00	0.000	0.00	0.000	4607.80	1108.41	6.032	6.052	459.48	3719.87		
02/10/99	924	70	294	334.11	0.81	0.004	1.26	0.34	0.002	0.00	0.000	0.00	0.000	165.78	39.88	0.207	0.214	31.87	3751.54		
03/26/99	968	79	255	290.28	0.08	0.000	1.00	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	277.19	0.00	0.000	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.000	0.00	3780.40		
05/29/99	1029	---	0	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.000	0.00	3780.40		
08/04/99	1038	---	0	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.000	0.00	3780.40	System is non-operational	
07/08/99	1072	32	290	330.12	1.82	0.010	16.00	4.36	0.020	0.00	0.000	0.00	0.000	210.00	50.52	0.280	0.289	0.00	3780.40	System reactivated 7/8/99	
08/05/99	1100	37	271	308.49	0.80	0.001	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.001	0.20	3780.59		
09/29/99	1155	36	352	400.70	1.88	0.011	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.011	3.86	3784.28		
10/12/99	1188	59	348	393.87	1.68	0.010	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.010	0.28	3784.51	Vacuum Pump V-3 is offline.	
11/30/99	1217	32	289	328.98	0.58	0.003	0.00	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.00	0.000	0.003	0.85	3785.36	Vacuum Pump V-3 is replaced and reactivated 10/20/99.	
12/18/99	1233	34	383	435.99	0.00	0.000	0.00	0.00	0.000	40.50	0.215	0.00	0.000	40.50	9.74	0.068	0.281	41.08	3806.44		
01/05/00	1253	35	354	402.98	0.23	0.002	0.00	0.00	0.000	0.00	0.000	0.00	0.000	33.00	7.94	0.050	0.051	10.17	3775.53		
02/03/00	1282	71	402	457.62	0.00	0.000	0.00	0.00	0.000	---	0.000	---	0.000	38.50	9.26	0.066	0.066	10.89	3786.22		

- 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 10/18/96 assumed for 9/18/96, due to a broken flow meter.
  - 6) Beginning 9/18/96 lab analysis was performed by Mitkem Laboratory. Prior to 9/18/96 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 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.
    - (1) System modifications and repairs completed on 10/7/98. System reactivated. Influent concentrations assumed to be the same as sampled on 10/15/98.
    - (2) 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.
    - (3) A flow rate weighted average was used to calculate the SVE system influent beginning 10/15/98.
    - (4) On 3/26/99 the air sparge compressor was not operating. The air sparge flow rate is based on the March 8 data.
    - (5) Air flow data from 4/2/99 used for April's flow rate.

**ATTACHMENT 4**  
**HISTORICAL WELL GAUGING DATA**

Well Gauging Data

Dolphin Mart Site

New London Naval Submarine Base, Groton, CT

Date	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	07/02/96	94.23	6.37	87.86	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/03/96	07/03/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/12/96	07/12/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/16/96	07/16/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/17/96	07/17/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/19/96	07/19/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/22/96	07/22/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/23/96	07/23/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/24/96	07/24/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/25/96	07/25/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
07/26/96	07/26/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/01/96	08/01/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/02/96	08/02/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
08/05/96	08/05/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
09/04/96	09/04/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
10/02/96	10/02/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
10/21/96	10/21/96	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
11/19/96	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	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	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	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	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	04/17/97	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
05/21/97	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	08/27/97	94.23	NG	NA	94.30	NG	NA	94.02	NG	NA	94.81	NG	NA
11/21/97	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	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	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	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	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	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	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	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
11/30/99	11/30/99	94.23	2.06	92.17	94.30	2.40	91.90	94.02	2.28	91.74	94.81	2.92	91.89

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

## Well Gauging Data

## Dolphin Mart Site

## New London Naval Submarine Base, Groton, CT

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
06/27/97	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
11/30/99	101.06	5.50	95.56	97.05	4.20	92.85	96.79	3.50	93.29			4.13

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	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
11/30/99		3.20			2.80		95.20	0.81	94.39	94.67	2.38	92.29

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-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
11/30/99		NG			NG		100.84	6.09	94.75	100.86	6.67	94.19

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
11/30/99	103.14	8.60	94.54	97.52	3.93	93.59	99.72	4.35	95.37	97.32	3.02	94.30

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

NG = Not Gauged

\* Possible interference due to AS/SVE system

Date	ERM-5			ERM-6			ERM-7		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96		3.82		22.09	5.14	16.95	21.98	5.27	16.71
10/16/96		NG		22.09	4.82	17.27	21.98	4.75	17.23
11/18/96		3.72		22.09	4.64	17.45	21.98	4.93	17.05
12/16/96		3.10		22.09	4.08	18.01	21.98	4.21	17.77
02/17/97		3.00		22.09	4.34	17.75	21.98	4.29	17.69
03/27/97		2.89		22.09	4.28	17.81	21.98	4.19	17.79
04/15/97		NG		22.09	NG	NA	21.98	NG	NA
04/17/97		2.73		22.09	NG	NA	21.98	NG	NA
04/24/97		NG		22.09	NG	NA	21.98	NG	NA
05/21/97		NG		22.09	4.72	17.37	21.98	4.61	17.37
08/28/97		NG		22.09	5.29	16.80	21.98	6.49	15.49
11/20/97		4.35		22.09	5.24	16.85	21.98	5.35	16.63
02/12/98		3.59		22.09	4.68	17.41	21.98	4.71	17.27
05/12/98		2.09		22.09	2.69	19.40	21.98	3.32	18.66
08/19/98		3.43		22.09	5.26	16.83	21.98	5.19	16.79
11/19/98		4.58		22.09	5.80	16.29	21.98	5.80	16.18
02/18/99		3.80		22.09	4.74	17.35	21.98	NG	NA
05/26/99		3.52		22.09	5.16	16.93	21.98	5.02	16.96
08/30/99		5.35		22.09	6.15	15.94	21.98	6.47	15.51
09/29/99		NG		22.09	NG	NA	21.98	NG	NA
11/29/99		5.36		22.09	6.01	16.08	21.98	NG	NA

Date	ERM-8			ERM-9			ERM-10		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96		NG			NG			NG	
10/16/96		NG			NG			NG	
11/18/96		NG			NG			NG	
12/16/96		NG			NG			NG	
02/17/97		NG			NG			NG	
03/27/97		NG			NG			NG	
04/15/97		NG			NG			NG	
04/17/97		NG			NG			NG	
04/24/97		NG			NG			NG	
05/21/97		NG			NG			NG	
08/28/97		NG			NG			NG	
11/20/97		NG			NG			NG	
02/12/98		NG			NG			NG	
05/12/98		NG			NG			NG	
08/19/98		NG			NG			NG	
11/19/98		NG			NG			NG	
02/18/99		NG			NG			NG	
05/26/99		NG			NG			NG	
08/30/99		NG			NG			NG	
09/29/99		NG			NG			NG	
11/29/99		NG			NG			NG	

NG = Not Gauged; NI = Not Installed

Well Gauging Data

NEX Site

New London Naval Submarine Base, Groton, CT

Date	ERM-11			ERM-12			ERM-13		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96	23.19	NG	NA	23.16	8.38	14.78	26.01	7.01	19.00
10/16/96	23.19	6.4	16.79	23.16	8.13	15.03	26.01	7.15	18.86
11/18/96	23.19	6.36	16.83	23.16	8.09	15.07	26.01	7.13	18.88
12/16/96	23.19	5.02	18.17	23.16	7.83	15.33	26.01	6.55	19.46
02/17/97	23.19	4.89	18.30	23.16	7.65	15.51	26.01	6.03	19.98
03/27/97	23.19	5.19	18.00	23.16	7.63	15.53	26.01	5.98	20.03
04/15/97	23.19	NG	NA	23.16	NG	NA	26.01	5.86	20.15
04/17/97	23.19	NG	NA	23.16	NG	NA	26.01	NG	NA
04/24/97	23.19	NG	NA	23.16	NG	NA	26.01	NG	NA
05/21/97	23.19	6.27	16.92	23.16	7.81/7.80	15.35	26.01	6.15	19.86
08/28/97	23.19	7.65	15.54	23.16	NG	NA	26.01	7.24	18.77
11/20/97	23.19	6.89	16.30	23.16	8.23	14.93	26.01	7.84	18.17
02/12/98	23.19	5.04	18.15	23.16	7.99	15.17	26.01	6.71	19.30
05/12/98	23.19	4.39	18.80	23.16	7.90	15.26	26.01	5.23	20.78
08/19/98	23.19	7.56	15.63	23.16	8.34/sheen	14.82	26.01	6.51	19.50
11/19/98	23.19	7.65	15.54	23.16	8.22	14.94	26.01	8.06	17.95
02/18/99	23.19	NG	NG	23.16	8.37	14.79	26.01	NG	NG
05/26/99	23.19	6.92	16.27	23.16	9.02/sheen	14.14	26.01	6.88	19.13
08/30/99	23.19	8.30	14.89	23.16	8.54	14.62	26.01	8.10	17.91
09/29/99	23.19	NG	NA	23.16	8.16/sheen	15.00	26.01	NG	NA
11/29/99	23.19	NG	NA	23.16	8.10	15.06	26.01	NG	NA

NG = Not Gauged; NI = Not Installed

Date	ERM-14			ERM-15			ERM-16		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96	25.56	6.89	18.67		4.30			8.51	
10/16/96	25.56	6.92	18.64		3.94			8.49	
11/18/96	25.56	7.10/6.91	18.61		4.03			8.43	
12/16/96	25.56	6.35	19.21		NG			7.8	
02/17/97	25.56	5.89	19.67		NG			7.85	
03/27/97	25.56	5.82	19.74		NG			7.79	
04/15/97	25.56	5.7	19.86		3.39			7.84	
04/17/97	25.56	5.66	19.90		3.31			NG	
04/24/97	25.56	NG	NA		NG			NG	
05/21/97	25.56	6.04/5.99	19.56		NG			8.16	
08/28/97	25.56	7.24/7.01	18.49		NG			8.63/sheen	
11/20/97	25.56	7.63	17.93		4.46			8.77	
02/12/98	25.56	6.59	18.97		3.54			8.18	
05/12/98	25.56	5.09	20.47		2.63			7.32	
08/19/98	25.56	6.37/sheen	19.19		4.02			8.79/8.75	
11/19/98	25.56	7.80	17.76		4.59			9.03/9.00	
02/18/99	25.56	7.47	18.09		4.29			8.00	
05/26/99	25.56	6.62	18.94		3.47			8.58/sheen	
08/30/99	25.56	7.73	17.83		5.26			9.31/9.28	
09/29/99	25.56	7.69	17.87		NG			8.86/sheen	
11/29/99	25.56	7.82	17.74		5.29			8.89/sheen	

NG = Not Gauged; NI = Not Installed

Date	ERM-17			ERM-18			ERM-19		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96		5.62			3.65		22.42	5.28	17.14
10/16/96		5.56			3.96		22.42	5.17	17.25
11/18/96		5.53			NG		22.42	5.19	17.23
12/16/96		3.73			NG		22.42	4.23	18.19
02/17/97		4.53			NG		22.42	4.18	18.24
03/27/97		4.87			NG		22.42	4.06	18.36
04/15/97		4.84			NG		22.42	NG	NA
04/17/97		4.67			NG		22.42	3.91	18.51
04/24/97		NG			NG		22.42	NG	NA
05/21/97		5.26			NG		22.42	4.46	17.96
08/28/97		5.77			NG		22.42	5.41	17.01
11/20/97		5.77			NG		22.42	5.79	16.63
02/12/98		5.14			NG		22.42	4.44	17.98
05/12/98		2.98			NG		22.42	3.43	18.99
08/19/98		5.83			NG		22.42	5.11	17.31
11/19/98		6.05			NG		22.42	6.29	16.13
02/18/99		NG			NG		22.42	NG	NA
05/26/99		5.20			NG		22.42	5.06	17.36
08/30/99		6.21			NG		22.42	6.21	16.21
09/29/99		NG			NG		22.42	NG	NA
11/29/99		NG			NG		22.42	NG	NA

NG = Not Gauged; NI = Not Installed

Date	FD-1			FD-2			FD-3		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/16/96	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/18/96	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/16/96	NI	NI	NI	NI	NI	NI	NI	NI	NI
02/17/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
03/27/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/15/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/17/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/24/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
05/21/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
08/28/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/20/97	NI	NI	NI	NI	NI	NI	NI	NI	NI
02/12/98	NI	NI	NI	NI	NI	NI	NI	NI	NI
05/12/98	NI	NI	NI	NI	NI	NI	NI	NI	NI
08/19/98	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/19/98	NI	NI	NI	NI	NI	NI	NI	NI	NI
02/18/99	NI	NI	NI	NI	NI	NI	NI	NI	NI
05/26/99	14.80	8.05	6.75	14.76	8.26	6.50	14.20	8.43	5.77
08/30/99	14.80	8.52	6.28	14.76	8.74	6.02	14.20	8.58	5.62
09/30/99	14.80	NG	NA	14.76	NG	NA	14.20	NG	NA
11/29/99	14.80	8.38	6.42	14.76	8.63	6.13	14.20	8.82	5.38

NG = Not Gauged; NI = Not Installed

Date	MW-4			MW-6			NEX-1		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96		NG			NG		24.16	NG	NA
10/16/96		NG			NG		24.16	NG	NA
11/18/96		NG			NG		24.16	NG	NA
12/16/96		NG			NG		24.16	NG	NA
02/17/97		NG			NG		24.16	NG	NA
03/27/97		4.91			4.49		24.16	5.81	18.35
04/15/97		NG			NG		24.16	5.74	18.42
04/17/97		NG			NG		24.16	NG	NA
04/24/97		NG			NG		24.16	NG	NA
05/21/97		NG			4.85		24.16	5.80	18.36
08/28/97		NG			5.34		24.16	6.15	18.01
11/20/97		NG			5.33		24.16	6.45	17.71
02/12/98		NG			4.92		24.16	5.28	18.88
05/12/98		4.16			3.74		24.16	5.20	18.96
08/19/98		NG			5.41		24.16	5.99	18.17
11/19/98		6.99			5.64		24.16	6.31	17.85
02/18/99		6.12			4.72		24.16	NG	NA
05/26/99		6.02			4.83		24.16	6.42	17.74
08/30/99		7.21			5.80		24.16	6.64	17.52
09/29/99		NG			NG		24.16	NG	NA
11/29/99		7.20			5.48		24.16	NG	NA

NG = Not Gauged; NI = Not Installed

Date	OBG-1			OBG-2			OBG-4		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96		NG		25.36	NG	NA	25.22	NG	NA
10/16/96		NG		25.36	NG	NA	25.22	NG	NA
11/18/96		NG		25.36	NG	NA	25.22	NG	NA
12/16/96		NG		25.36	NG	NA	25.22	NG	NA
02/17/97		NG		25.36	NG	NA	25.22	NG	NA
03/27/97		8.12		25.36	7.95	17.41	25.22	7.75	17.47
04/15/97		NG		25.36	7.92	17.44	25.22	7.75	17.47
04/17/97		NG		25.36	7.91	17.45	25.22	7.78	17.44
04/24/97		NG		25.36	NG	NA	25.22	7.74	17.48
05/21/97		7.98		25.36	7.81	17.55	25.22	7.64	17.58
08/28/97		8.22		25.36	8.03	17.33	25.22	7.9	17.32
11/20/97		8.43		25.36	8.23	17.13	25.22	8.07	17.15
02/12/98		8.19		25.36	8.01	17.35	25.22	7.84	17.38
05/12/98		7.88/7.87		25.36	7.71	17.65	25.22	7.51	17.71
08/19/98		8.13		25.36	7.94	17.42	25.22	7.76	17.46
11/19/98		8.21		25.36	8.03	17.33	25.22	7.91	17.31
02/18/99		7.97		25.36	7.78	17.58	25.22	7.26	17.96
05/26/99		8.35		25.36	8.17	17.19	25.22	8.05	17.17
08/30/99		8.58		25.36	8.74	16.62	25.22	8.48	16.74
09/29/99		6.48		25.36	NG	NA	25.22	NG	NA
11/29/99		8.61		25.36	8.81	16.55	25.22	8.51	16.71

NG = Not Gauged; NI = Not Installed

Date	OBG-6			OBG-7			OBG-8		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
10/16/96	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
11/18/96	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
12/16/96	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
02/17/97	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
03/27/97	24.76	7.95	16.81	25.47	5.61	19.86	24.87	NG	NA
04/15/97	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
04/17/97	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
04/24/97	24.76	NG	NA	25.47	NG	NA	24.87	NG	NA
05/21/97	24.76	NG	NA	25.47	5.79	19.68	24.87	5.60	19.27
08/28/97	24.76	NG	NA	25.47	6.49	18.98	24.87	NG	NA
11/20/97	24.76	NG	NA	25.47	7.09	18.38	24.87	NG	NA
02/12/98	24.76	NG	NA	25.47	5.84	19.63	24.87	NG	NA
05/12/98	24.76	NG	NA	25.47	4.56	20.91	24.87	NG	NA
08/19/98	24.76	NG	NA	25.47	5.83	19.64	24.87	NG	NA
11/19/98	24.76	NG	NA	25.47	7.22	18.25	24.87	NG	NA
02/18/99	24.76	NG	NG	25.47	NG	NG	24.87	NG	NG
05/26/99	24.76	NG	NG	25.47	6.04	19.43	24.87	NG	NG
08/30/99	24.76	NG	NG	25.47	7.66	17.81	24.87	NG	NG
09/29/99	24.76	NG	NG	25.47	NG	NG	24.87	NG	NG
11/29/99	24.76	NG	NG	25.47	NG	NG	24.87	NG	NG

NG = Not Gauged; NI = Not Installed

Date	OBG-9			VEA-4			VEA-7		
	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation	Well Casing Elevation	Depth to Groundwater/Product	Groundwater Elevation
09/16/96	24.93	NG	NA		NG			NG	
10/16/96	24.93	NG	NA		NG			NG	
11/18/96	24.93	NG	NA		NG			NG	
12/16/96	24.93	NG	NA		NG			NG	
02/17/97	24.93	NG	NA		NG			NG	
03/27/97	24.93	5.54	19.39		NG			NG	
04/15/97	24.93	5.54	19.39		NG			NG	
04/17/97	24.93	5.58	19.35		NG			NG	
04/24/97	24.93	NG	NA		NG			NG	
05/21/97	24.93	5.84/5.31	19.49		NG			NG	
08/28/97	24.93	6.56/6.45	18.45		NG			NG	
11/20/97	24.93	7.06	17.87		NG			NG	
02/12/98	24.93	NG	NA		NG			NG	
05/12/98	24.93	4.60/4.58	20.35		NG			NG	
08/19/98	24.93	5.81	19.12		NG			NG	
11/19/98	24.93	7.34	17.59		NG			NG	
02/18/99	24.93	6.36	18.57		NG			NG	
05/26/99	24.93	6.05	18.88	3.25	2.73	0.52		NG	
08/30/99	24.93	7.28	17.65	3.25	DRY			DRY	
09/29/99	24.93	7.19	17.74	3.25	NG			NG	
11/29/99	24.93	7.40	17.53	3.25	3.20	0.05		NG	

NG = Not Gauged; NI = Not Installed

Date	VEA-14		Groundwater Elevation	VEB-6	
	Well Casing Elevation	Depth to Groundwater/Product		Well Casing Elevation	Depth to Groundwater/Product
09/16/96		NG			NG
10/16/96		NG			NG
11/18/96		NG			NG
12/16/96		NG			NG
02/17/97		NG			NG
03/27/97		NG			NG
04/15/97		NG			NG
04/17/97		NG			NG
04/24/97		NG			NG
05/21/97		NG			NG
08/28/97		NG			NG
11/20/97		NG			NG
02/12/98		NG			NG
05/12/98		NG			NG
08/19/98		NG			NG
11/19/98		NG			NG
02/18/99		NG			NG
05/26/99	7.07	4.46	2.61		DRY
08/30/99	7.07	5.65	1.42		DRY
09/29/99	7.07	NG			NG
11/29/99	7.07	5.77	1.30		DRY

NG = Not Gauged; NI = Not Installed

**ATTACHMENT 5**  
**HISTORICAL GROUNDWATER SAMPLING RESULTS**

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	
11/99	<1.0	<1.0	<1.0	4.0	4.0	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>1.0</b>	<b>1,000</b>	<b>700</b>	<b>530</b>	<b>100</b>	<b>500</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	
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
11/99	<1.0	<1.0	<1.0	<1.0	4.0	<400	4.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 4 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	<1.0	2.0	<1.0	8.0	<1.0	800	10.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 5 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>1</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	1.0	1,000	700	530	100	500	NA	NA	NA	
<b>Well</b>	<b>Date</b>									
DM-5	3/95	<1.0	<1.0	<1.0	<1.0	<2.0 <sup>2</sup>	<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
11/99	<1.0	<1.0	2.0	9.0	<1.0	<400	11.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 6 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 7 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 8 of 18

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<b>3.0</b>	<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
11/99	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 9 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>1.0</b>	<b>1,000</b>	<b>700</b>	<b>530</b>	<b>100</b>	<b>500</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	
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
11/99	1.0	<1.0	<1.0	2.0	4.0	700	7.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 10 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	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	<b>730D</b>	<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	61	NS	NS
	2/98	<1.0	<1.0	<1.0	1.0	<1.0	21,000	1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
	8/98	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)
	11/98	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	NS	NS
	2/99	4.0	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
11/99	26	5.0	81	100	1.0	5400	213	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 11 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 416.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<b>72</b>	24.6	25.9	62.4	9.29	<473	NS	NS	NS
	5/96	<b>12.0</b>	<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	<b>3.0</b>	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	<b>2.0</b>	<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	<b>6.0</b>	<1.0	8.0	<1.0	5.0	800	19	NS	NS
8/99	<b>7.0</b>	<1.0	9.0	8.0	<1.0	3,300	24	NS	NS	
11/99	<b>1.0</b>	<1.0	2.0	2.0	6.0	1,900	11	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 12 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 13 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<b>2.0</b>	<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	<b>11,000</b>	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	<b>1,000</b>	<1.0	NS	NS
	5/98	<1.0	<1.0	<1.0	<1.0	3.0	<b>1500.0</b>	3.0	NS	NS
	8/98	<b>2.0</b>	<1.0	<1.0	<1.0	5.0	<500	7.0	NS	NS
	11/98	<b>2.0</b>	<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
	11/99	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 14 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>1.0</b>	<b>1,000</b>	<b>700</b>	<b>530</b>	<b>100</b>	<b>500</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	
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
11/99	<1.0	<1.0	6.0	<1.0	6.0	<400	12	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 15 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	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
11/99	<1.0	<1.0	<1.0	<1.0	20	<400	20	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 16 of 18

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	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
11/99	<1.0	<1.0	<1.0	2.0	7.0	<400	9.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>1.0</b>	<b>1,000</b>	<b>700</b>	<b>530</b>	<b>100</b>	<b>500</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	
<b>Well</b>	<b>Date</b>									
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
11/99	98	1.0	6.0	27	29	2,600	161	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

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

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	1.0	<1.0	<1.0	<1.0	4.0	1,000	5.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)

page 1 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method #010/0026) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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	<b>370D</b>	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
11/99	24	2.0	5.0	73	<1.0	1,300	104	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 2 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<b>610</b>	230	770	2,400 E	<40	5,000	4,054	500	7,800
	2/97	<b>430 D</b>	21	300	1,000 D	<10	2,000	1,763 B	2,200	4,800
	5/97	<b>430 D</b>	21	640 D	2,300 D	<1.0	1,000	3,391 D	1,500	6,700
	8/97	<b>470</b>	90	650	2,000	<1.0	2,000	3,210	3,500	6,200
	11/97	<b>250 D</b>	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	170 D	<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	NS	NS
	8/99	<1.0	<1.0	<1.0	2.0	<1.0	<400	2.0	NS	NS
11/99	<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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 3 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8018/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>21,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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	
11/99	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  
L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)

page 4 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 801 (80020)) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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	
11/99	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  
 L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 5 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	
11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 6 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	21,500	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
11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 7 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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	
11/99	<1.0	<1.0	<1.0	4.0	<1.0	900	4.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 8 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
11/99	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  
 L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 9 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8015/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>21,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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
11/99	<1.0	94	210	2,000	5.0	3,900	2,309	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)

page 10 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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
	11/99	19.0	<1.0	17.0	<1.0	<1.0	700	36.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 11 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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)
	11/99	<1.0	<1.0	<1.0	<1.0	1.0	14,000	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 12 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
	11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 13 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<1.0	<1,000	1.0	<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	<10	<10	<10	13	<10	<500	13	NS	NS
	11/98	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/99	NS	NS	NS	NS	NS	NS	NS	NS	NS
	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
	11/99	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  
 L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 14 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
	11/99	68	<5.0	17	<5.0	180	6,000	265	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 15 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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	<1.0	<1.0	<1.0	46	2,400	52	NS	NS
	11/99	83	<1.0	2.0	<1.0	34	5,200	119	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
	11/99	<1.0	<1.0	<1.0	<1.0	2.0	<400	2.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 16 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 415.1) <sup>1</sup>	Total Volatiles (by EPA Method 8018/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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)				
11/99	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  
 L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 17 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8018/8028) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>21,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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	<500	253	NS	NS
	11/98	5.0	<1.0	<1.0	2.0	<1.0	<400	7.0	NS	NS
	2/99	71	<1.0	<1.0	3.0	3.0	<400	77	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	3.0	<1.0	<400	3.0	NS	NS
11/99	<1.0	<1.0	<1.0	<1.0	3.0	<400	3.0	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 18 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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
	11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 19 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8018/8020) <sup>2</sup>	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	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	
	11/99	160	970	320	2,700	930	36,000	5,080	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 20 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8028) <sup>2</sup>	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)	NS (dry)
	11/99	71	260 D	410 D	3,800 D	2,200 D	39,000	6,741	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method-8021

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

(analytical results in µg/l)  
page 21 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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)
11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 22 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
	11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 23 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO
	Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard	215	21,500	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
	11/99	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  
 L P = Liquid-phase petroleum present; well could not be sampled  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 24 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8021) <sup>2</sup>	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
11/99	14	290 D	1,100 D	4,700 D	150 D	13,000	6,254	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
page 25 of 26

Compound	BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	DRO	GRO	
	Benzene	Toluene	Ethylbenzene	Xylenes						
<b>Remediation Standard</b>	<b>215</b>	<b>23,500</b>	<b>50,000</b>	<b>21,300</b>	<b>50,000</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	<b>NARS</b>	
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)				
	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)				
	6/99	NS (dry)	NS (dry)	NS (dry)	NS	NS				
	8/99	NS (dry)	NS (dry)	NS (dry)	NS (dry)	NS (dry)				
	11/99	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)				
	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)				
	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)				
	11/99	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021

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

(analytical results in µg/l)  
 page 26 of 26

Compound		BTEX				MTBE	TPH (By EPA Method 418.1) <sup>1</sup>	Total Volatiles (by EPA Method 8010/8020) <sup>2</sup>	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
	11/99	<1.0	<1.0	12	12	6.0	NS (dry)	30	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  
<sup>1</sup> = Beginning 5/98, TPH was analyzed using EPA Method 8100M  
<sup>2</sup> = Beginning 5/98, Total Volatiles (BTEX and MTBE only) were analyzed using EPA Method 8021