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NSB NEW LONDON

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**MONTHLY OPERATIONS SUMMARY
FOR THE NAVAL EXCHANGE (NEX) AND DOLPHIN MART
AIR SPARGING/SOIL VAPOR EXTRACTION SYSTEMS
AND OT-8 PASSIVE FREE PRODUCT RECOVERY SYSTEM**

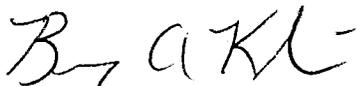
**NEW LONDON SUBMARINE BASE
GROTON, CONNECTICUT**

Month: December 1997

Prepared By:

Fluor Daniel GTI, Inc.

Prepared by:



**Barry Kline, P.E.
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Reviewed by:



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

OPERATIONAL SUMMARY

DOLPHIN MART AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site has been operating since June 29, 1996. As of December 29, 1997, thirteen (13) horizontal vapor extraction trenches (VET-1, VET-2, VET-3, VET-4, VET-5, VET-6, VET-7, VET-8, VET-9, VET-10, VET-11, VET-12, and VET-17) and seven (7) air sparge points (ASP-A, ASP-B, ASP-C, ASP-D, ASP-E, ASP-F, and ASP-G) were operating. VET-13 through VET-16 and air sparge points ASP-H through ASP-Q are currently not operating due to high groundwater conditions and low dissolved VOC concentrations in their vicinity. The SVE system is currently extracting subsurface air at a flow rate of approximately 590 scfm. The air sparge system is currently injecting air at a flow rate of approximately 28 scfm. A site map has been included as **Figure 1**. The site monitoring forms for O&M conducted during the month of December, 1997 are included in **Attachment 1**. A weekly break-down of the month's field activities has been included as **Attachment 2**.

Mass Removal - The total hydrocarbon mass removal rate, based on the SVE system influent sample collected December 29, 1997, was 0.19 lbs/hour. During the period from November 20, 1997 to December 29, 1997 approximately 134 lbs of hydrocarbons were extracted by the remediation system. The total hydrocarbon mass extracted by the remediation system, as of December 29, 1997, was approximately 1,920 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 CTDEP air quality guidelines was observed.

Carbon Usage - No carbon change-out occurred during the month of December, 1997. The last carbon change at the site occurred August 27, 1996.

Discharge Monitoring Sampling - No discharge monitoring sampling occurred during the month of December, 1997.

Monitoring Well Gauging - The site monitoring wells were last gauged November 21, 1997 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 0.95 feet in OBG-9A to 8.86 feet in WE-3. The next well gauging event is currently scheduled during the February 1998 quarterly groundwater sampling event. Historical well gauging data has been included in **Attachment 4**.

Monitoring Well Sampling - Monitoring well sampling was last completed on November 21, 1997. The Quarterly Groundwater Sampling Report for the November sampling event was issued on January 14, 1998. The next quarterly sampling event is scheduled for February, 1998. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities - On December 15 and 16, modifications were completed to eight of the valve vaults (handholes) located in Sailfish Drive. The asphalt was square cut a minimum distance of one foot around each vault. The asphalt and underlying stone was removed to a depth of six inches surrounding the vaults. A six inch thick concrete collar was then installed around each vault. In some cases, asphalt had broken and/or mounds had formed adjacent to the vaults. Where necessary, additional asphalt was square cut and the broken asphalt and/or mounds were removed. Where additional asphalt was removed, the concrete collar was extended to cover the affected area.

NEX AIR SPARGE/SVE SYSTEM

System Status - The remediation system at the site has been operating since July 31, 1996. Prior to December 5, 1997 eight (8) vapor extraction wells (VEB-8 through VEB-15) were operating. The remainder of the vapor extraction points were deactivated. Following modifications to the SVE system on December 4, 5 and December 11, 1997, that allow the system to continuously discharge water withdrawn by the SVE system, all of the SVE legs were opened. A description of the system modifications is included, under the section entitled **Additional Activities**. The SVE system is currently extracting subsurface air at an average flow rate of approximately 520 scfm. The air sparge system was activated April 17, 1997. As of December 29, 1997, eleven (11) air sparge points (SPB-15 through SPB-25) were operating. The air sparge system is currently injecting air at a flow rate of approximately 47 scfm. As dewatering of the remedial area progresses, additional sparge points will be activated.

A site map has been included as **Figure 2**. The site monitoring forms for O&M conducted during the month of December, 1997 are included in **Attachment 1**. A weekly break-down of the monthly field activities has been included in **Attachment 2**.

Mass Removal - The total hydrocarbon mass removal rate, based on the SVE system influent sample collected December 29, 1997, was 0.334 lbs/hour. During the period from November 20, 1997 to December 29, 1997 an estimated 41 lbs of hydrocarbons were extracted by the remediation system. The period between November 20 and December 29 was broken into two parts to calculate mass removal. Flow rates and SVE system influent VOC concentrations up to December 11, 1997 (the date system modifications were completed) were assumed to be the same as those collected on November 20, 1997. Flow rates and SVE system influent VOC concentrations after December 11, 1997 were assumed to be the same as those collected on December 29, 1997.

Increases in SVE system influent VOC concentrations beginning in August, 1997 may have been caused by a suspected release at the NEX Service Station. Along with the increased hydrocarbon concentrations, MTBE was detected in the SVE system influent for the first time in September, 1997. The MTBE concentration further increased in October and was again detected in November. MTBE was detected at a concentration of 2.18 ppmv in the December influent sample. The total hydrocarbon mass extracted by the remediation system, as of December 29, 1997, is approximately 1,521 lbs. The system database has been included in **Attachment 3**. Mass removal graphs have been included as **Figures 5A, 5B and 6**. Based on the hydrocarbon mass removal rate, no exceedance of CTDEP air quality guidelines was observed.

Carbon Usage - No carbon change-out occurred during the month of December, 1997. The last carbon change occurred 8/8/96.

Discharge Monitoring Sampling - Discharge monitoring sampling at the site was conducted on December 29, 1997.

Monitoring Well Gauging - The last complete round of well gauging occurred on November 20, 1997 during the quarterly groundwater sampling event. Depth to groundwater at the site ranged from 4.35 feet in ERM-5 to 8.77 feet in ERM-16. No measurable thickness of light non-aqueous phase liquid (LNAPL) was detected in any of the monitoring wells, however, petroleum absorbent socks have been placed in monitoring wells historically containing LNAPL including: ERM -12, ERM-14, ERM-16, and OBG-9.

The wells that historically have contained LNAPL were gauged on December 29, 1997. A LNAPL sheen was detected in both OBG-9 and ERM-14. Historical well gauging data has been included in **Attachment 4**. The next complete round of well gauging is scheduled during the February 1998 quarterly groundwater sampling event.

Monitoring Well Sampling - Monitoring well sampling was completed on November 20, 1997. The Quarterly Groundwater Sampling Report for the November sampling event was issued on January 14, 1998. The next quarterly sampling event is scheduled for February, 1998. The historical groundwater sampling results have been summarized in **Attachment 5**.

Additional Activities - On December 4 and 5, 1997, the NEX remediation system was modified to allow continuous discharge of water extracted by the SVE system. Previously, extracted water would fill the moisture separators until a high level alarm deactivated the extraction blower being serviced by the moisture separator, along with the air sparge compressors. The system was modified by connecting the moisture separator drains. This piping connection allowed equalization of the water levels in the separators. Additionally, one of the submersible pumps and level probes was removed from the transfer sump and relocated within the moisture separator servicing SVE blower V-3. Following activation of the modified system, it was determined that the moisture separators' 3/4 inch drains did not allow sufficient equalization between the moisture separators. On December 11, 1998, additional one inch PVC piping was installed between the moisture separators.

The system modification has yielded the following results:

- Prior to system modification the SVE system influent VOC concentration was 74 mg/m³ (November 1997). Following system modification the influent concentration was 153 mg/m³ (December 1997).
- Prior to system reactivation (following system modification) on December 10, 1997 the discharge water flowmeter reading was 5063.5 gallons. On December 29, 1997 the flowmeter reading was 41,237.6 gallons. The corresponding dewatering flow rate is approximately 1,900 gpd.
- Prior to system modification the total system extraction flow rate averaged 213 scfm. Following system modification, the extraction flow rate increased to an average of approximately 520 scfm.

OT-8 PASSIVE FREE PRODUCT RECOVERY SYSTEM

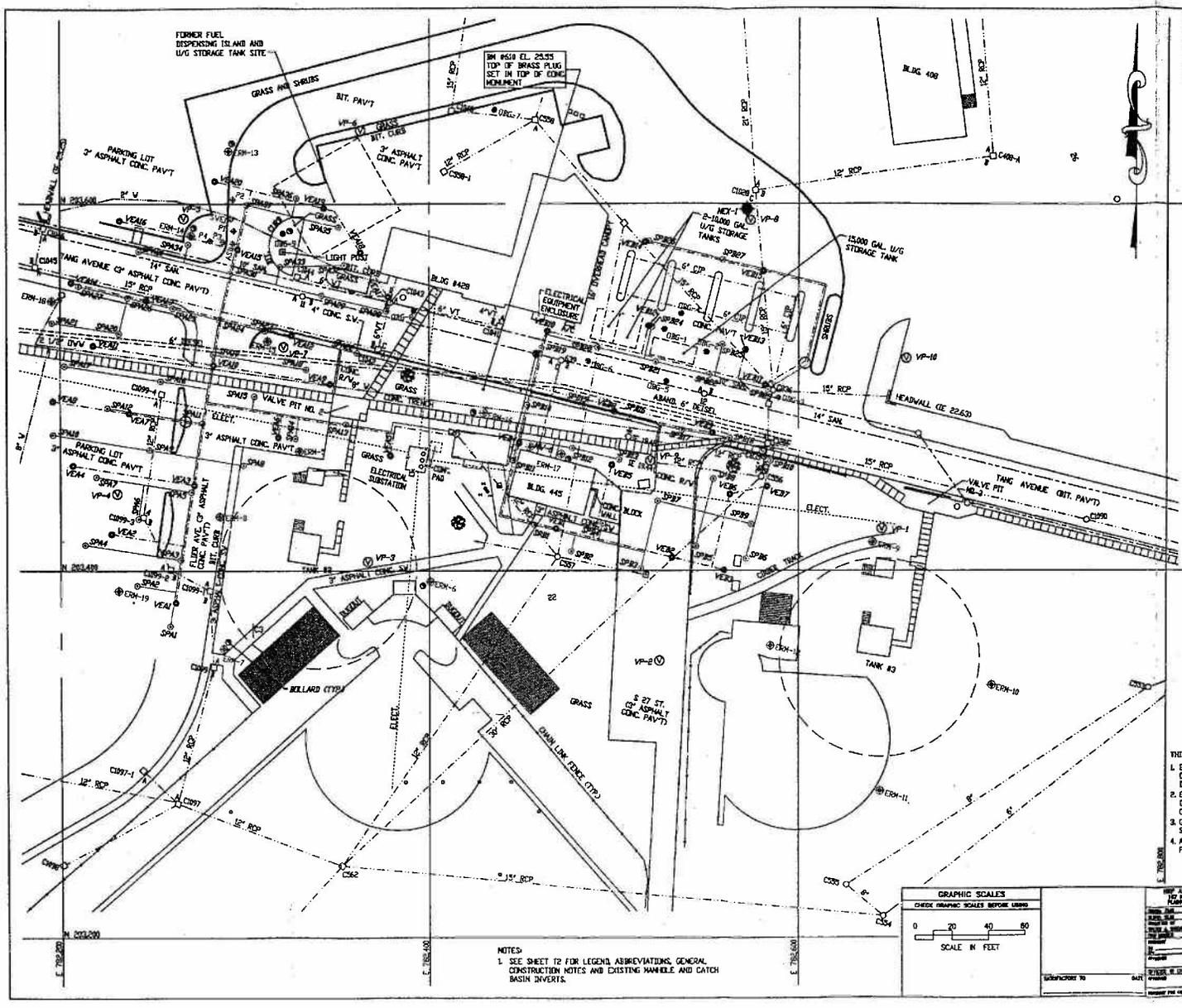
System Status - The OT-8 passive free product recovery system was activated on September 28, 1996. The system was active during the month of December 1997.

Product Recovery - As of December 20, 1997 a total of approximately 4.25 gallons of LNAPL have been recovered by the system. The fluctuating groundwater table around MW-7 may lead to smearing of the LNAPL. A copy of the well construction log for MW-7 has been included as **Attachment 6**. *Please note: The screen interval of MW-7 begins at five feet below grade.*

Monitoring Well Gauging - MW-7 was last gauged on November 20, 1997. On November 20, 1997 the depth to LNAPL was 4.73 feet below grade and the depth to groundwater was 4.74 below grade. Historical gauging data for MW-7 is included in **Attachment 5**.

Additional Activities - None.

FIGURES



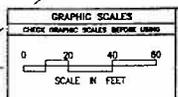
REVISIONS			
NO.	DESCRIPTION	PREP'D BY	DATE APPROVED

HIGHEST RECORDED GROUND WATER ELEVATION			
WELL NO.	GROUND WATER EL.	WELL NO.	GROUND WATER EL.
ERG-1	16.73	ERN-10	16.97
ERG-2	17.09	ERN-19	16.86
ERG-4	16.63	ERN-1	17.09
ERG-5	16.65	ERN-2	16.31
ERG-6	16.76	ERN-3	14.76
ERG-7	18.40	ERN-4	16.86
ERG-9	17.96	ERN-5	17.70
ERG-9	17.63	ERN-6	16.79
ERN-10	16.60	ERN-7	15.81
ERN-11	17.84	ERN-8	17.14
ERN-12	16.69	ERN-9	17.09
ERN-13	17.99		
ERN-14	17.46		
ERN-15	17.39		
ERN-16	17.71		
ERN-17	16.91		

NOTE:
GROUND WATER DATA SHOWN ON PLANS ARE APPROXIMATELY AS SHOWN FOR BIDDING PURPOSES. ACTUAL WELL ELEVATIONS TO BE DETERMINED IN FIELD BY CONTRACTOR.

THIS MAP WAS PREPARED FROM MAPS LISTED BELOW:
 1. EXISTING TOPOGRAPHY FROM MAP BY JAMES S. HODGES & ASSOCIATES, CARLSON & SWEATT FARMINGTON, CT & NEW YORK, NY, 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 ERN-PHC.
 4. ALL TOPOGRAPHIC FEATURES AND INVERTS SHOWN HEREIN SHALL BE FIELD VERIFIED.

NOTES:
 1. SEE SHEET 12 FOR LEGEND, ABBREVIATIONS, GENERAL CONSTRUCTION NOTES AND EXISTING MANHOLE AND CATCH BASIN INVERTS.



PREPARED BY: JAMES S. HODGES & ASSOCIATES CARLSON & SWEATT FARMINGTON, CT & NEW YORK, NY	REVISION OF THE MAP: NORTHEN BIVISON NAVAL SUBMARINE BASE NEW LONDON, CONNECTICUT REMEDIATION OF CONTAMINATED SOIL/GROUND WATER	DRAWING NO.: 2166439	SHEET NO.: C1-1
DATE: 8/8/91	PROJECT NO.: 80091	CONTRACT NO.: 2166439	DRAWING DATE: 8/8/91

REVISIONS			
DATE	DESCRIPTION	PREP'D BY	APPROVED

HIGHEST RECORDED GROUND WATER ELEVATIONS

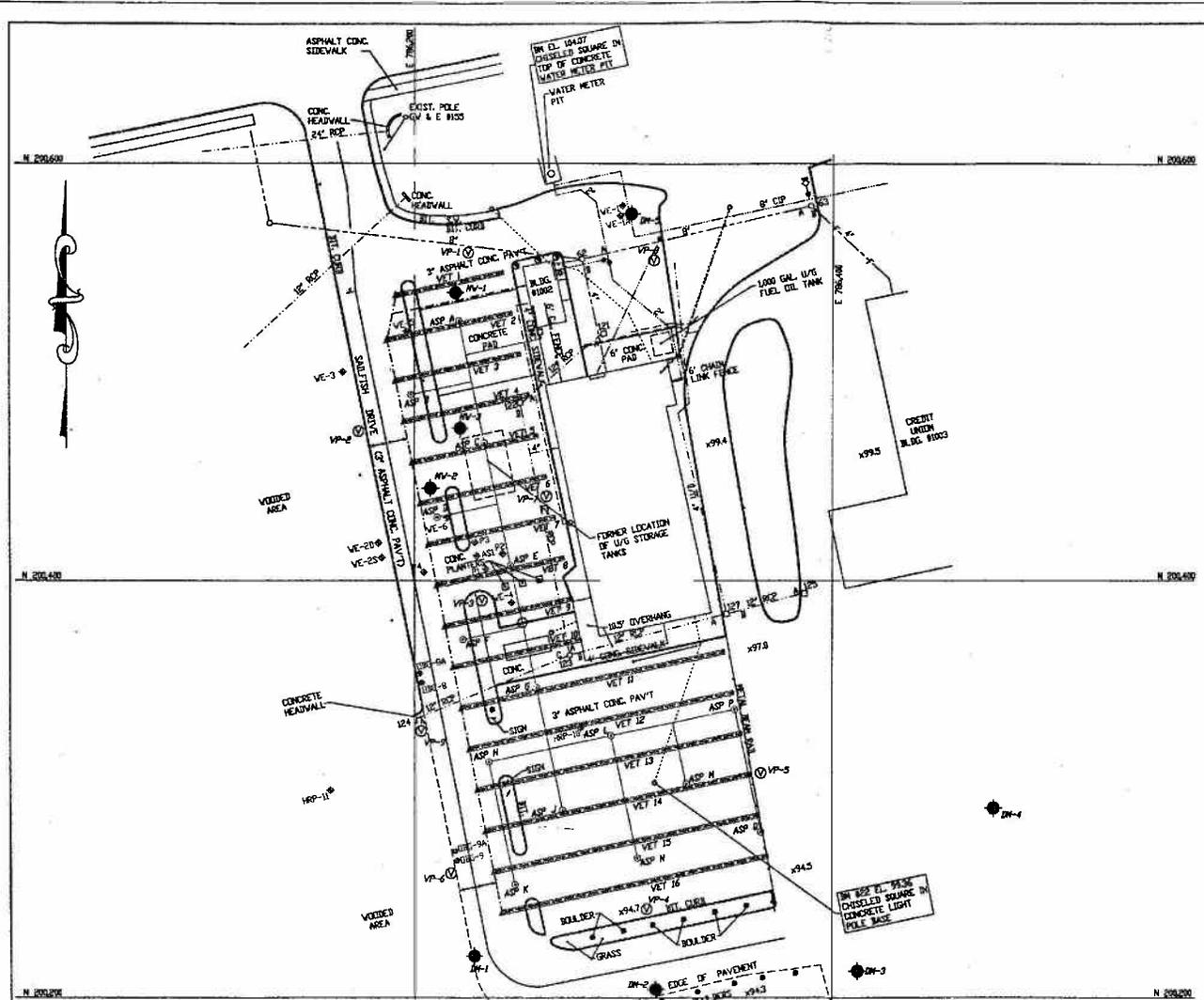
WELL NO.	GROUNDWATER ELEVATION
VE-1A	96.84
VE-2S	94.29
VE-2B	94.21
VE-3	93.93
VE-4	94.11
VE-5	95.40
VE-6	95.41
DBG-6A	93.70
DBG-9A	94.62
HRP-10	92.5 ESTIMATED
HRP-11	92.5 ESTIMATED

NOTE:
GROUND WATER DATA SHOWN ON PLANS ARE APPROXIMATELY AS SHOWN FOR BIDDING PURPOSES. ACTUAL WELL ELEVATIONS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR.

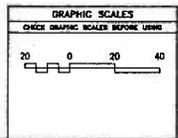
SOIL VAPOR EXTRACTION TRENCH PIPE ELEVATIONS - DELPHIN HART

TRENCH NO.	INVT. ELEV. 6" VAPOR COLLECTION PIPE	INVT. ELEV. 2" PIPE @ WEST END OF TRENCH	INVT. ELEV. 2" PIPE @ EAST END OF TRENCH
VET 1	94.64	99.41	99.46
VET 2	94.64	98.80	98.85
VET 3	94.48	98.19	98.24
VET 4	94.28	97.58	97.62
VET 5	94.16	96.78	97.30
VET 6	94.00	96.20	97.20
VET 7	93.84	95.63	97.20
VET 8	93.60	95.13	96.80
VET 9	93.52	94.62	96.50
VET 10	93.36	93.32	96.40
VET 11	93.20	93.37	93.30
VET 12	93.04	93.20	93.22
VET 13	92.88	93.29	94.54
VET 14	92.72	92.95	94.34
VET 15	92.56	92.80	92.56
VET 16	92.40	92.66	93.08

NOTES
1. SEE SHEET 10 FOR LEGEND, ABBREVIATIONS, GENERAL CONSTRUCTION NOTES AND EXISTING MANHOLE AND CATCH BASIN INVERTS.



THIS MAP WAS PREPARED FROM MAPS LISTED BELOW
 1. NAUTILUS PARK, GROTON, CONN. EXISTING UTILITIES MAPS PREPARED BY COLLINAN ENGINEERING CO., INC. SCALE 1"=40' DATE 3/25/83 NAVY/AC DRAWING NOS. 2364-328, 2364-329 AND 2364-374.
 2. MONITOR WELL LOCATION AND GROUND WATER CONTOUR MAP OF JANUARY 21, 1992 DELPHIN HART SITE US SUBSEA, GROTON, CT. PREPARED BY CON-NEOTEC/SCALE 1"=50' APRIL, 1992.
 3. UTILITY DATA FROM AS-BUILT DRAWINGS AND UTILITY MAPS EXACT LOCATIONS MUST BE VERIFIED IN FIELD.
 4. ALL TOPOGRAPHIC FEATURES AND INVERTS SHOWN HEREIN SHALL BE FIELD VERIFIED.



PREPARED BY DATE CHECKED BY DATE	DRAWN BY DATE INCHES FEET	HEP ASSOCIATES, INC. 100 W. MAIN ST. GROTON, CT. 06340	MEMORANDUM OF THE NAVY CENTER NORTHERN DIVISION	NAVY FACILITIES DISTRICT/COMNAVSTA NEW LONDON, CONNECTICUT
		REMEDIATION OF CONTAMINATED SOIL/GROUND WATER FIGURE 1 - SITE PLAN DELPHIN HART	PROJECT NO. 80091	SHEET NO. 2166440

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

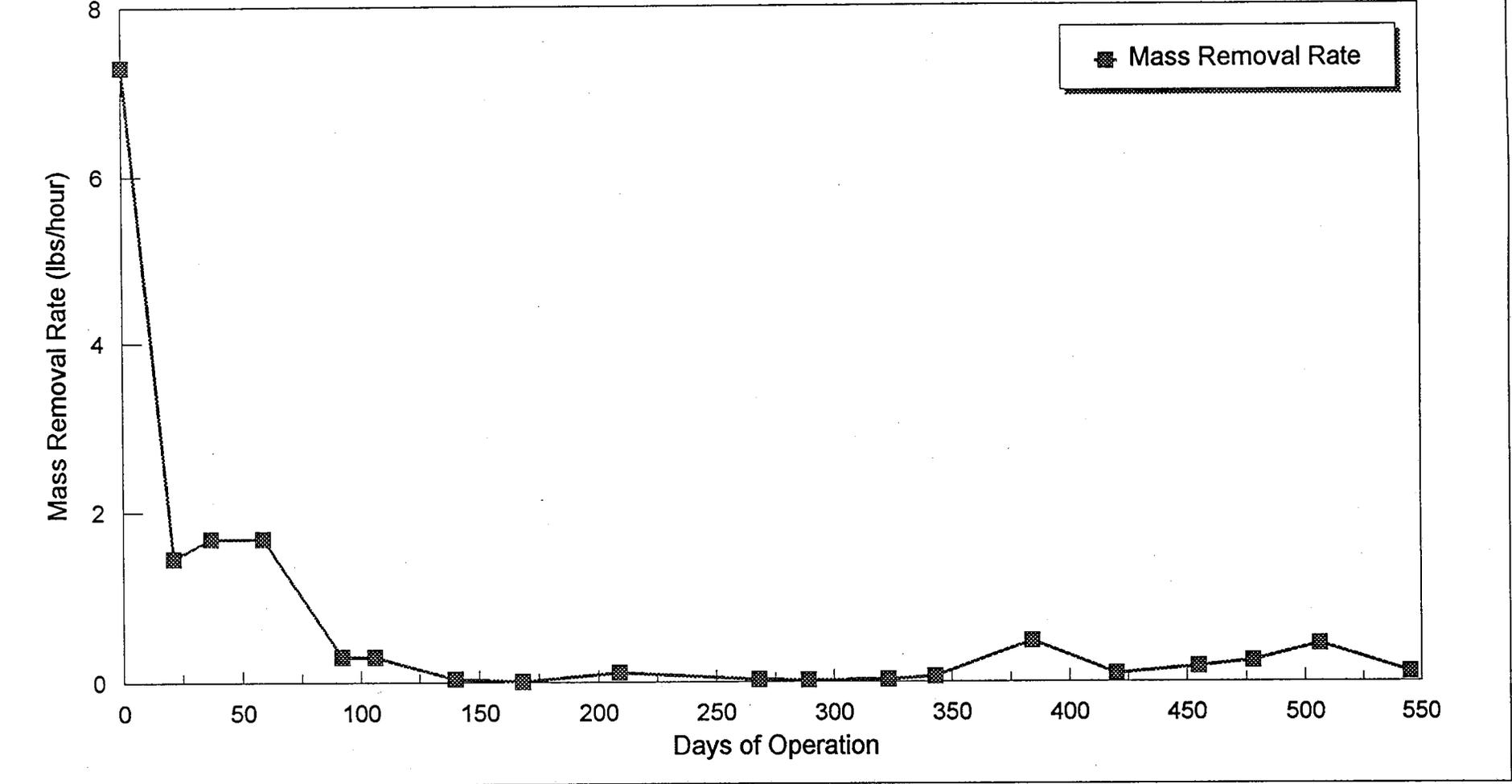


Figure 3B- Mass Removal Rate
Dolphin Mart Site, New London Naval Submarine Base, Groton, CT

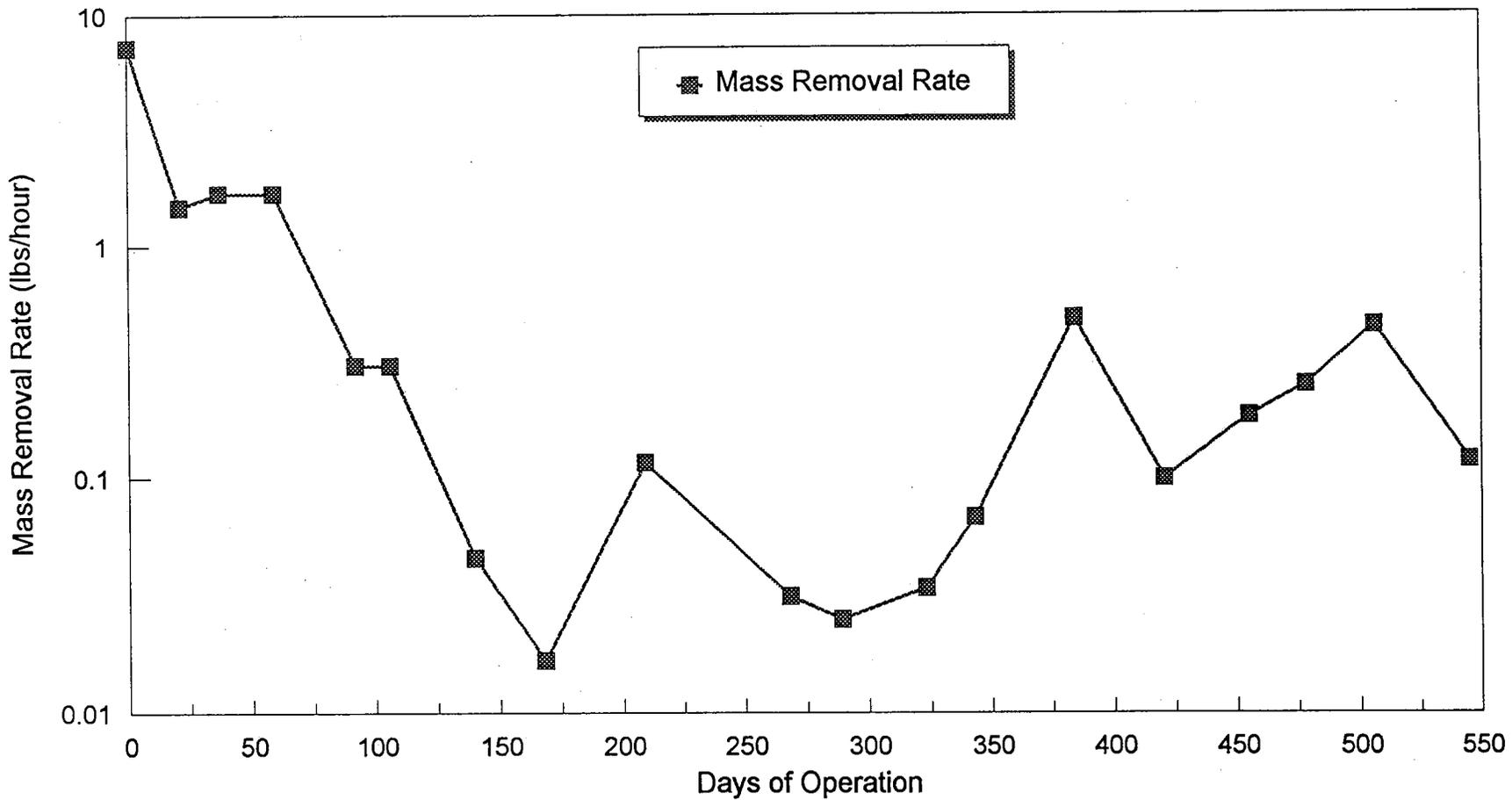


Figure 4 - Cumulative Mass Removed versus Time

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

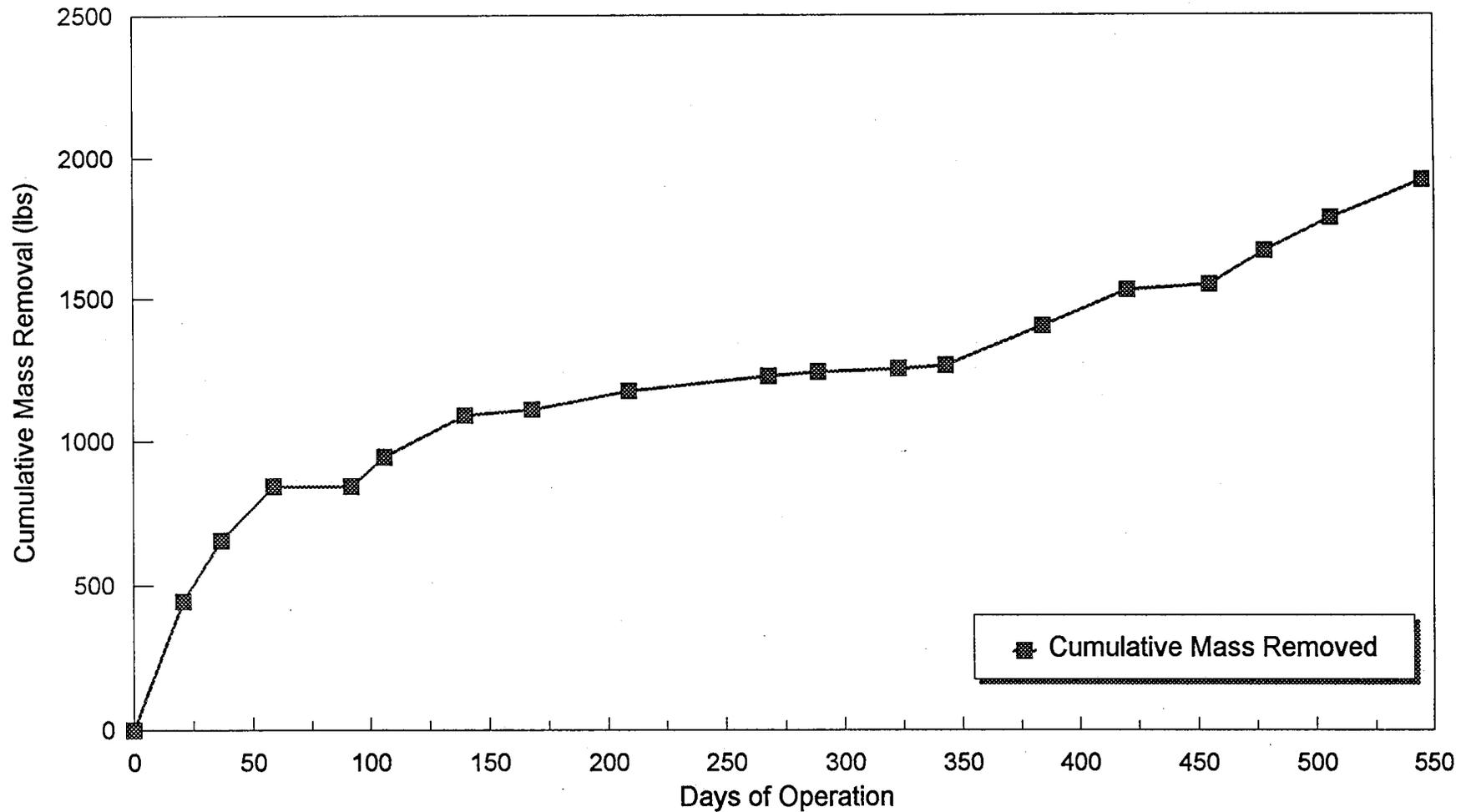


Figure 5A - Mass Removal Rate

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

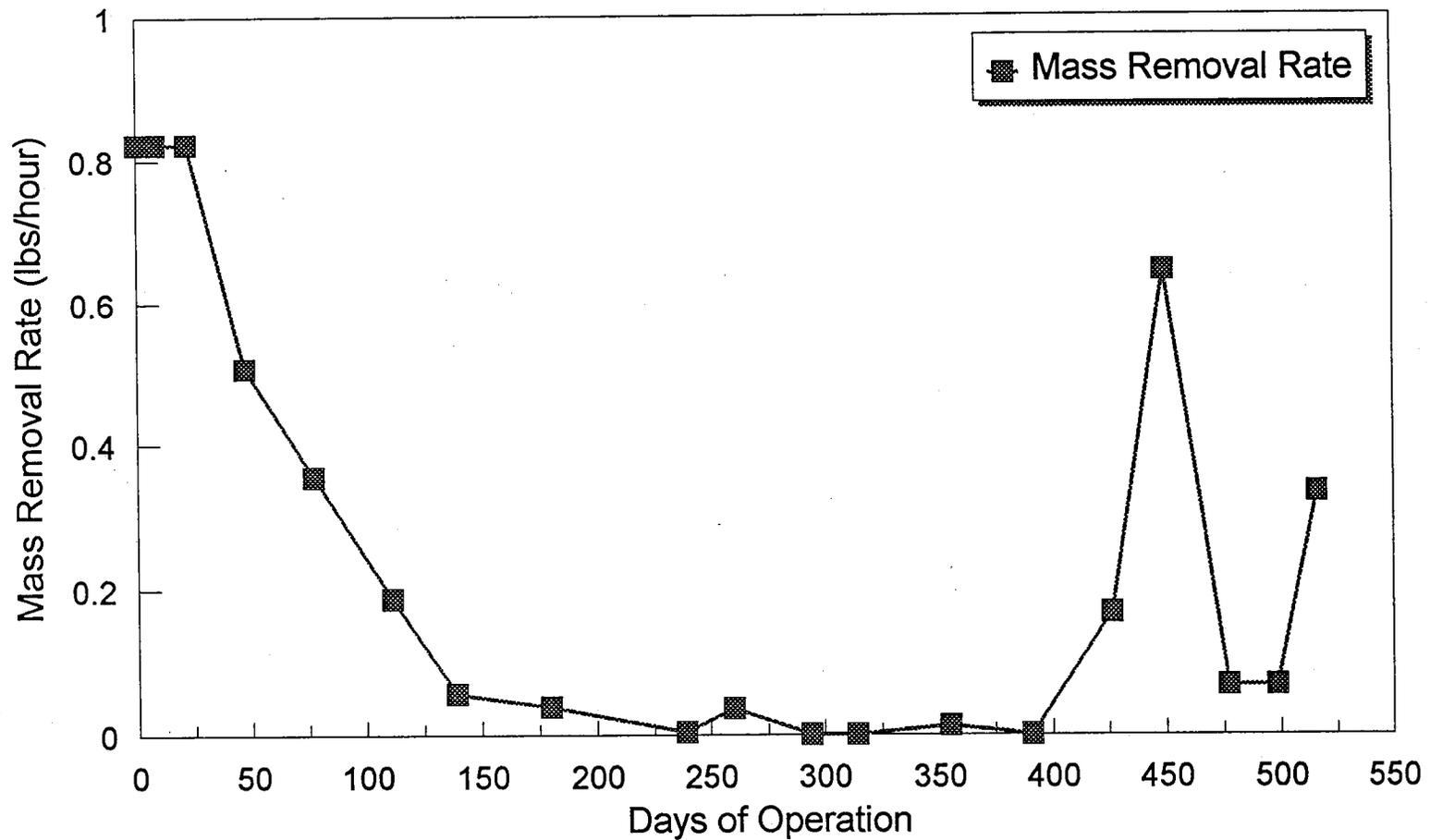


Figure 5B - Mass Removal Rate

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

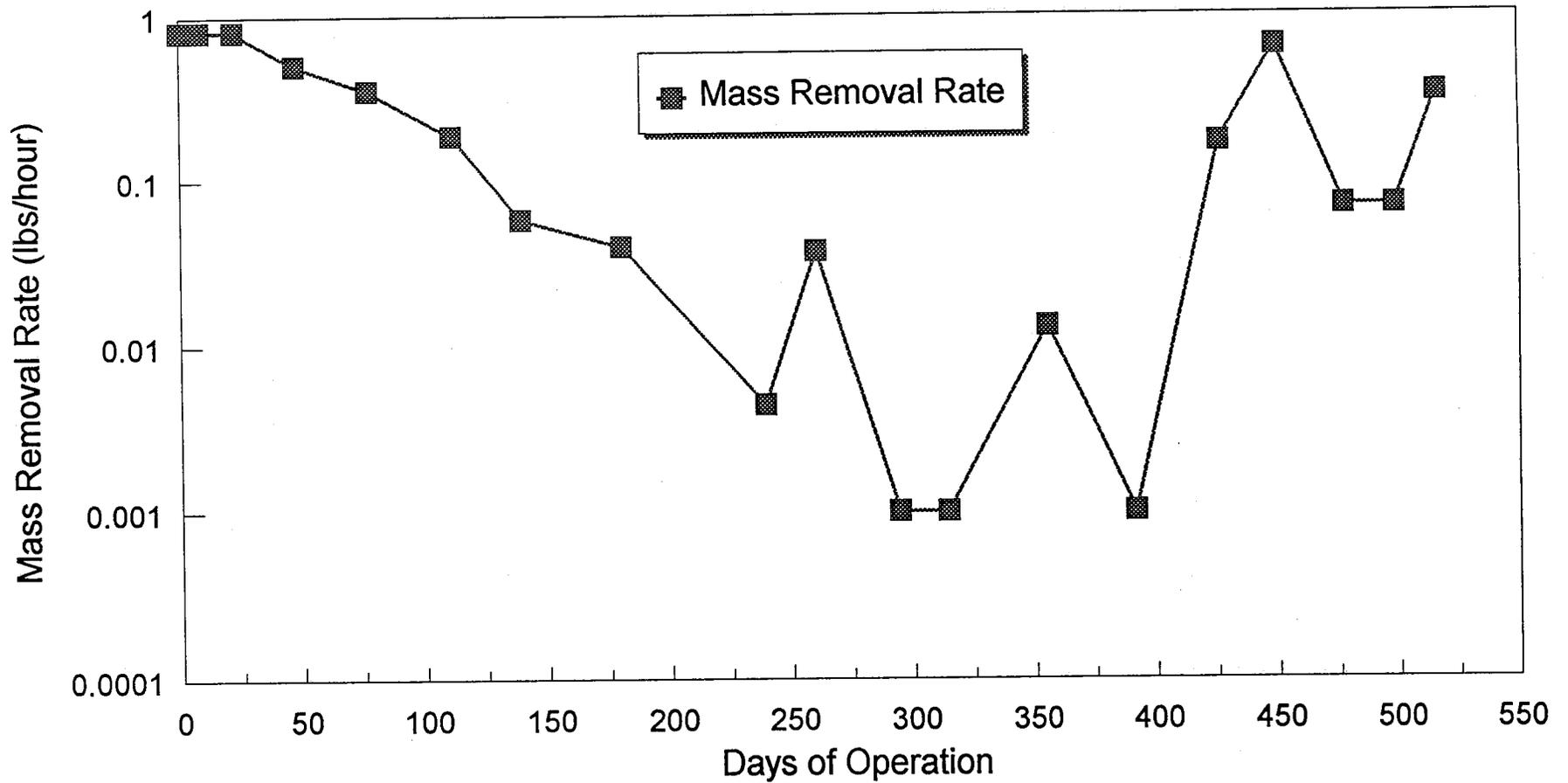
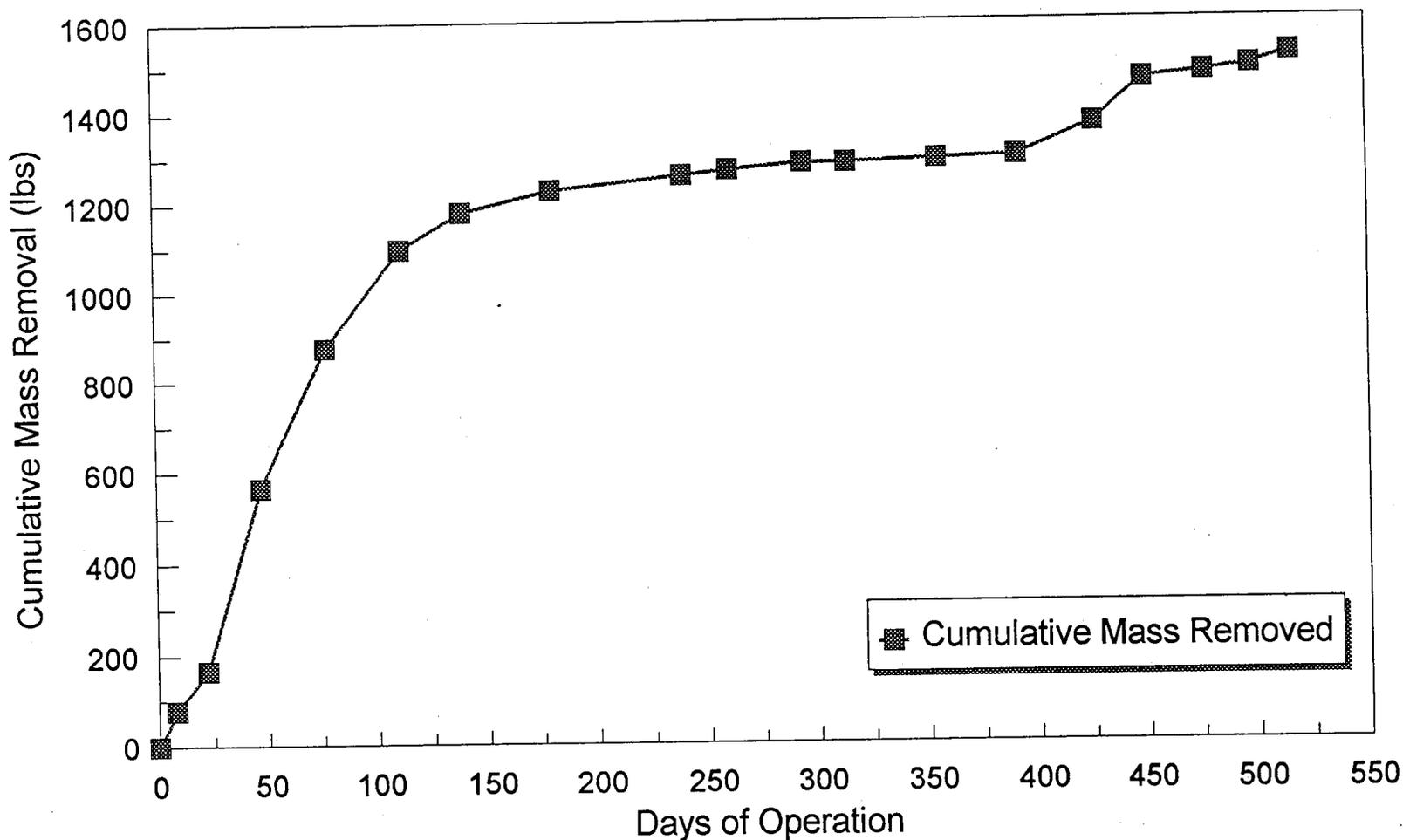


Figure 6 - Cumulative Mass Removed versus Time

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



ATTACHMENT 1
SITE VISIT FORMS

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

Date: 12-29-97

Time: 12:45

T1920759 Project #83001-9999 28 CFM

Technician: John Rowan, JR

AIR COMPRESSOR SYSTEM

Flow Rate 600cfm SCFM 600cfm (use anemometer in hole in pipe near Hersey flowmeter)

Air Compressor C-1
 Pressure 7.25 psi
 Temperature 185 °F
 Flow Control Valve Setting 100%
 Bleed Valve 50%
 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

Vacuum Pump V-1
 Vacuum 1 "Hg
 Temperature 124 °F
 Particulate Filter OK
 Flow Control Valve Setting 100%
 Bleed Air Valve Setting 25%
 Liquid Level 0

Vacuum Pump V-2
 Vacuum 4.25 "Hg
 Temperature 122 °F
 Particulate Filter OK
 Flow Control Valve Setting 100%
 Bleed Air Valve Setting 25%
 Liquid Level 0

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

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

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B
 Pressure NA psi
 Inf. VOC Level _____ ppm
 Mid. VOC Level _____ ppm
 Eff. VOC Level _____ ppm
 Change out Date _____

Carbon Adsorber C/D
 Pressure 76 psi
 Inf. VOC Level _____ ppm
 Mid. VOC Level _____ ppm
 Eff. VOC Level _____ ppm
 Change out Date 8-22-96

WATER TREATMENT

Flowmeter Reading 3203.5 Gallons (prior to discharge) Flowmeter Reading NA Gallons (after discharge)

COMMENTS

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

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

Date: 5-12-29-97
 Time: 15:00
 Technician: John K. Zura, JR.

AIR COMPRESSOR SYSTEM

Eastern Flow Rate <u>196 - 253</u> SCFM	Total Flow <u>66670465</u> SCFM
Western Flow Rate <u>284 - 306</u> SCFM	Total Flow <u>20780560</u> SCFM
Air Compressor C-1 Pressure _____ psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <input checked="" type="checkbox"/> ON / OFF	Air Compressor C-2 Pressure <u>NA</u> psi Temperature _____ °F Flow Control Valve Setting _____ Bleed Valve _____ Radiator <input checked="" type="checkbox"/> ON / OFF

SOIL VAPOR EXTRACTION SYSTEM

Vacuum Pump V-1 Vacuum <u>6.5</u> "Hg Temperature <u>149</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100 %</u> Bleed Air Valve Setting <u>25</u> Liquid Level <u>0</u>	Vacuum Pump V-2 Vacuum <u>5.5</u> "Hg Temperature <u>140</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100 %</u> Bleed Air Valve Setting <u>25</u> Liquid Level <u>0</u>
Vacuum Pump V-3 Vacuum <u>5.5</u> "Hg Temperature <u>166</u> °F Particulate Filter <u>OK</u> Flow Control Valve Setting <u>100 %</u> Bleed Air Valve Setting <u>25 %</u> Liquid Level <u>0</u>	Vacuum Pump V-4 Vacuum _____ "Hg Temperature _____ °F Particulate Filter _____ Flow Control Valve Setting _____ Bleed Air Valve Setting _____ Liquid Level _____

ACTIVATED CARBON ADSORPTION SYSTEM

Carbon Adsorber A/B Pressure <u>NA</u> psi Inf. VOC Level _____ ppm Mid. VOC Level _____ ppm Eff. VOC Level _____ ppm Change out Date _____	Carbon Adsorber C/D Pressure _____ psi Inf. VOC Level _____ ppm Mid. VOC Level _____ ppm Eff. VOC Level _____ ppm Change out Date <u>8-22-96</u>
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WATER TREATMENT

Flowmeter Reading 4117.9 Gallons (prior to discharge) Flowmeter Reading 41237.6 Gallons (after discharge)

COMMENTS

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

ATTACHMENT 2
MONTHLY FIELD ACTIVITY SUMMARY

Field Activity Summary

December 1997

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

Week Ending	Site	Period	Field Activities	Comments
12/5/97	Dolphin Mart	Monthly Monitoring	Conducted flyby system check.	
	NEX		Conducted modifications to SVE system to allow continuous discharge of extracted water.	
12/12/97	Dolphin Mart	Monthly Monitoring	Conducted flyby system check.	
	NEX		Conducted additional modifications to SVE water discharge system.	
12/19/97	Dolphin Mart	Monthly Monitoring	Conducted modifications to eight valve vaults located in Sailfish Drive.	
	NEX		Conducted flyby system check.	
1/2/98	Dolphin Mart	Monthly Monitoring	Conducted monthly system monitoring and effluent off-gas sampling.	High pressure alarm caused air sparge compressor to shut down. High water level in moisture separator caused SVE blower V-2 to shut down.
	NEX		Conducted monthly system monitoring and effluent off-gas sampling.	Air sparge compressor found shut down. No alarm indicated.
	OT-8		Conducted monthly system monitoring	Product recovery system operating normally.

ATTACHMENT 3

AIR SPARGE/SVE SYSTEM DATABASES

SYSTEM MONITORING DATA
SOIL VAPOR EXTRACTION/AIR SPARGE SYSTEM

New London Naval Submarine Base
Dolphin Marf Site
Groton, CT

Date	Air Sparge Flowrate (scfm)	Extraction Flowrate (scfm)	Influent Concentration BTEX (ppmv)	Removal Rate BTEX (lb/hr)	Influent Concentration MTBE (mg/m3)	Influent Concentration MTBE (ppmv)	Removal Rate MTBE (lb/hr)	Influent Concentration Aliphatics (ppmv)	Removal Rate Aliphatics (lb/hr)	Influent Concentration Aromatics (ppmv)	Removal Rate Aromatics (lb/hr)	Influent Concentration TVPH (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	25	450	24.00	0.187	NA	33.00	0.232	1000.00	6.876	0.00	0.000	—	—	0.000	7.295	0.00	0.00	
07/23/96	20	449	11.40	0.091	NA	0.00	0.000	200.00	1.375	0.00	0.000	—	—	0.000	1.467	446.86	446.86	system operated approx. 102 hrs between 7/2 and 7/23
08/08/96	32	454	18.00	0.142	NA	—	0.000	210.00	1.444	12.00	0.102	—	—	0.000	1.687	209.75	656.61	system operated approx. 133 hrs between 7/23 and 8/8
08/30/96	0	450	18.00	0.142	NA	—	0.000	210.00	1.444	12.00	0.102	—	—	0.000	1.687	187.31	843.92	system operated approx. 111 hrs between 8/8 and 8/30
10/02/96	30	448	2.30	0.019	NA	0.00	0.000	—	0.000	—	0.000	NA	36.00	0.287	0.306	0.00	843.92	system not in operation from 8/30 to 10/2 due to flow meter problem
10/16/96	30	450	2.30	0.019	NA	0.00	0.000	—	0.000	—	0.000	NA	36.00	0.287	0.306	102.81	946.74	system reactivated 10/2/96
11/19/96	30	450	0.38	0.003	0.00	0.00	0.000	—	0.000	—	0.000	22.00	5.29	0.042	0.045	143.33	1090.06	
12/17/96	30	450	0.12	0.001	0.00	0.00	0.000	—	0.000	—	0.000	8.20	1.97	0.016	0.017	20.84	1110.90	
01/27/97	30	450	1.35	0.011	0.00	0.00	0.000	—	0.000	—	0.000	55.00	13.23	0.106	0.117	65.56	1176.46	
03/27/97	30	450	0.00	0.000	NA	0.00	0.000	—	0.000	—	0.000	0.00	3.90	0.031	0.031	104.53	1228.73	assume 50% up-time, blowers shutting down due to influent water
04/17/97	30	450	0.00	0.000	NA	0.00	0.000	—	0.000	—	0.000	13.00	3.13	0.025	0.025	14.13	1242.86	
05/21/97	15	329	0.00	0.000	NA	0.00	0.000	—	0.000	—	0.000	24.00	5.77	0.034	0.034	11.96	1254.82	assume 50% up-time, blowers shutting down due to influent water
06/10/97	15	329	0.25	0.002	NA	0.00	0.000	—	0.000	—	0.000	47.00	11.31	0.066	0.067	12.14	1266.96	assume 50% up-time, blowers shutting down due to influent water
07/21/97	15	329	1.89	0.011	NA	0.00	0.000	—	0.000	—	0.000	340.00	81.78	0.477	0.488	136.76	1403.71	assume 50% up-time, blowers shutting down due to influent water
08/26/97	15	482	0.73	0.007	0.00	0.00	0.000	—	0.000	—	0.000	45.00	10.82	0.092	0.099	126.91	1530.63	assume 50% up-time, blowers shutting down due to influent water
09/30/97	15	482	0.34	0.003	0.00	0.00	0.000	—	0.000	—	0.000	88.00	21.17	0.181	0.184	17.84	1548.46	assume 50% up-time, blowers shutting down due to influent water
10/23/97	14	589	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	100.00	24.06	0.251	0.251	120.10	1668.56	assume ~15% up-time, blowers shutting down due to influent water
11/20/97	32	590	0.00	0.000	20.00	5.45	0.050	—	0.000	—	0.000	160.00	38.49	0.403	0.453	118.28	1786.84	assume 50% up-time, blowers shutting down due to influent water
12/29/97	28	590	0.45	0.005	0.00	0.00	0.000	—	0.000	—	0.000	45.00	10.82	0.113	0.118	133.65	1920.49	assume 50% up-time, blowers shutting down due to influent water

SYSTEM MONITORING DATA
SOIL VAPOR EXTRACTION/AIR SPARGE SYSTEM

New London Naval Submarine Base
NEX Site
Groton, CT

Date	Air Sparge Flowrate (scfm)	Extraction Flowrate (total) (scfm)	Influent Concentration BTEX (ppmv)	Removal Rate BTEX (lb/hr)	Influent Concentration MTBE (mg/m3)	Influent Concentration MTBE (ppmv)	Removal Rate MTBE (lb/hr)	Influent Concentration Aliphatics (ppmv)	Removal Rate Aliphatics (lb/hr)	Influent Concentration Aromatics (ppmv)	Removal Rate Aromatics (lb/hr)	Influent Concentration TVPH (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	NA*	253	1.80	0.013	NA	—	0.000	130.00	0.810	0.00	0.000	—	—	0.000	0.823	0.00	0.00	
08/08/96	NA*	270	1.80	0.013	NA	—	0.000	130.00	0.810	0.00	0.000	—	—	0.000	0.823	78.21	78.21	system operated approx. 92 hrs between 7/31 and 8/8
08/22/96	NA*	270	1.80	0.013	NA	—	0.000	130.00	0.810	0.00	0.000	—	—	0.000	0.823	88.09	166.30	24-hour per day system operation began 8/8
09/16/96	NA*	320	2.70	0.021	NA	0.00	0.000	—	0.000	—	0.000	—	61.00	0.487	0.508	399.38	565.68	
10/16/96	NA*	320	2.50	0.020	NA	0.00	0.000	—	0.000	—	0.000	—	42.00	0.335	0.355	310.76	876.44	
11/19/96	NA*	324	0.95	0.008	0.00	0.00	0.000	—	0.000	—	0.000	94.00	22.61	0.180	0.188	221.67	1098.10	
12/17/96	NA*	310	0.18	0.001	0.24	0.07	0.000	—	0.000	—	0.000	29.00	6.98	0.056	0.058	82.54	1180.65	
01/27/97	NA*	321	0.14	0.001	0.00	0.00	0.000	—	0.000	—	0.000	20.00	4.81	0.038	0.040	47.78	1228.42	
03/27/97	NA**	384	0.00	0.000	NA	0.00	0.000	—	0.000	—	0.000	—	0.55	0.004	0.004	31.10	1259.52	
04/17/97	NA**	721	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	12.00	2.89	0.037	0.037	10.40	1269.92	
05/21/97	S***	360	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	0.00	0.00	0.000	0.00	15.46	1285.39	
06/10/97	2***	300	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	0.00	0.00	0.000	0.00	0.48	1285.87	
07/21/97	36***	358	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	8.50	2.04	0.013	0.013	6.88	1292.74	
08/26/97	28***	223	0.00	0.000	0.00	0.00	0.000	—	0.000	—	0.000	0.00	0.00	0.000	0.00	6.04	1298.78	One blower down due to high water level in moisture trap.
09/30/97	27***	221	2.37	0.016	22.00	6.00	0.021	—	0.000	—	0.000	140.00	33.68	0.132	0.169	71.24	1370.01	One blower down due to high water level in moisture trap.
10/23/97	47***	322	2.47	0.016	62.50	17.05	0.086	—	0.000	—	0.000	395.00	95.02	0.542	0.644	96.55	1466.57	Two blowers down due to high water level in moisture trap.
11/20/97	47***	213	0.50	0.004	4.10	1.12	0.004	—	0.000	—	0.000	68.00	16.36	0.062	0.069	13.61	1480.17	One blower down due to high water level in moisture trap.
12/11/97	47	213	0.50	0.004	4.10	1.12	0.004	—	0.000	—	0.000	68.00	16.36	0.062	0.069	13.61	1493.78	
12/29/97	47	520	0.78	0.006	8.00	2.18	0.018	—	0.000	—	0.000	140.00	33.68	0.310	0.334	26.93	1520.71	

- 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.
 - 1) Aliphatics are weighted using a response factor of hexane. (MW = 86.2)
 - 2) Aromatics are weighted using a response factor of o-xylene. (MW=106.16)
 - 3) Analytical data for 7/31/96 is assumed based on results of sampling conducted 8/8/96.
 - 4) Analytical data for 8/22/96 is assumed based on results of sampling conducted 8/8/96.
 - 5) Air flow rate from 10/16/96 assumed for 9/16/96, due to a broken flow meter
 - 6) Beginning 9/16/96 lab analysis was performed by Mitkem Laboratory. Prior to 9/16/96 air analysis performed by NEIGTEL
 - 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.

ATTACHMENT 4
HISTORICAL WELL GAUGING DATA

Well Gauging Data
Dolphin Mart Site
Groton Naval Submarine Base
Groton, Connecticut

Date	Depth to Water (ft)																			
	Well ID																			
	DM-1	DM-2	DM-3	DM-4	DM-5	HRP-10	HRP-11	MW-1	MW-2	MW-3	OBG8A	OBG9A	WE-1	WE-1A	WE-2D	WE-2S	WE-3	WE-4	WE-5	WE-6
07/02/96	6.37	NG	NG	NG	NG	4.65	NG	4.65	3.55	3.12	NG	0.82	DRY	DRY	6.56	6.78	8.67	4.24	4.80	3.40
07/03/96	NG	NG	NG	NG	NG	5.19	NG	4.63	2.86	0.00	NG	0.89	NG	NG	6.35	6.58	8.69	6.38	4.33	2.30
07/12/96	NG	NG	NG	NG	NG	5.81	NG	5.01	3.82	1.95	NG	1.85	NG	NG	6.83	6.96	8.93	6.38	4.98	3.60
07/16/96	NG	NG	NG	NG	NG	4.33	NG	4.55	2.89	0.74	NG	0.69	NG	NG	6.24	6.47	8.50	6.27	4.08	2.76
07/17/96	NG	NG	NG	NG	NG	2.73	NG	4.94	1.63	2.79	NG	0.00	NG	NG	5.88	6.30	8.62	6.47	3.62	1.72
07/19/96	NG	NG	NG	NG	NG	4.38	NG	5.21	0.61	0.00	NG	0.00	NG	NG	5.53	6.18	8.45	NG	3.19	1.08
07/22/96	NG	NG	NG	NG	NG	4.54	NG	4.82	1.95	1.17	NG	0.00	NG	NG	6.42	6.45	8.64	3.68	3.73	1.96
07/23/96	NG	NG	NG	NG	NG	4.55	NG	4.75	3.33	0.00	NG	0.20	NG	NG	6.33	6.70	8.72	8.72	4.49	2.40
07/24/96	NG	NG	NG	NG	NG	4.33	NG	5.22	1.18	0.00	NG	0.00	NG	NG	5.67	6.31	8.45	3.38	3.33	1.49
07/25/96	NG	NG	NG	NG	NG	4.46	NG	5.31	NG	NG	NG	0.16	NG	NG	NG	NG	NG	NG	NG	2.12
07/26/96	NG	NG	NG	NG	NG	4.43	NG	4.79	NG	NG	NG	0.00	NG	NG	NG	NG	NG	NG	NG	2.95
08/01/96	NG	NG	NG	NG	NG	3.93	NG	4.96	2.20	1.28	NG	NG	NG	NG	6.09	6.39	8.55	3.22	4.06	1.15
08/02/96	NG	NG	NG	NG	NG	4.08	NG	5.24	1.82	1.31	NG	0.00	NG	NG	5.73	6.30	8.56	2.96	3.76	0.86
08/05/96	NG	NG	NG	NG	NG	4.35	NG	5.08	NG	1.08	NG	0.00	NG	NG	NG	NG	NG	NG	NG	1.28
09/04/96	NG	NG	NG	NG	NG	5.43	NG	6.07	4.59	DRY	NG	NG	NG	NG	7.51	7.39	9.73	5.11	6.23	4.59
10/02/96	NG	NG	NG	NG	NG	3.53	NG	5.43	NG	3.86	NG	NG	NG	NG	5.82	6.41	8.41	3.11	3.96	1.60
10/21/96	NG	NG	NG	NG	NG	3.98	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	2.43
11/19/96	1.90	NG	2.06	2.68	5.37	4.15	NG	3.85	3.00	DRY	NG	NG	NG	NG	5.89	6.46	8.32	3.53	3.87	2.90
12/17/96	2.53	NG	1.60	NG	3.67	NG	NG	3.85	2.17	NG	NG	NG	NG	NG	NG	6.10	7.92	2.17	2.96	2.10
01/27/97	1.91	NG	1.89	NG	4.26	3.29	NG	2.53	2.13	NG	NG	NG	NG	NG	5.73	6.24	7.94	3.08	3.26	1.53
02/18/97	1.93	NG	1.90	2.04	NG	4.04	NG	2.98	2.56	2.28	NG	NG	NG	NG	5.84	6.32	7.95	3.49	3.21	2.55
03/27/97	1.89	2.27	1.86	2.41	4.60	4.04	3.21	2.91	1.86	1.27	NG	NG	5.03	DRY	5.45	6.21	8.08	1.66	3.51	1.15
04/17/97	NG	NG	NG	NG	NG	5.25	NG	3.48	1.94	1.39	NG	NG	NG	NG	NG	NG	NG	3.00	3.18	1.30
05/21/97	2.04	2.39	2.08	3.08	5.19	4.11	3.43	3.14	2.93	2.44	NG	NG	DRY	DRY	6.11	NG	8.20	3.73	4.07	2.84
08/27/97	NG	NG	NG	NG	NG	5.01	4.10	3.60	4.28	DRY	NG	2.46	NG	NG	7.03	NG	9.54	4.69	5.77	4.07
11/21/97	2.26	3.20	2.56	3.33	6.83	4.43	3.77	5.33	3.84	3.06	2.26	0.95	DRY	DRY	6.66	6.97	8.86	7.53	5.29	3.56

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

NG = Not Gauged

PROJECT: BTYPNDGROTON.WM4

Well C Data
New London Naval Submarine Base
Groton, Connecticut

Date	Depth to Water/Depth to Product (ft)																									
	Well ID																									
	ERM-5	ERM-6	ERM-7	ERM-8	ERM-9	ERM-10	ERM-11	ERM-12	ERM-13	ERM-14	ERM-15	ERM-16	ERM-17	ERM-18	ERM-19	NEX-1	OBG-1	OBG-2	OBG-4	OBG-6	OBG-7	OBG-8	OBG-9	MW-4	MW-6	
09/16/96	3.82	5.14	5.27	NG	NG	NG	NG	8.38	7.01	6.89	4.30	8.51	5.62	3.65	5.28	NG	NG	NG	NG							
10/16/96	NG	4.82	4.75	NG	NG	NG	6.4	8.13	7.15	6.92	3.94	8.49	5.56	3.96	5.17	NG	NG	NG	NG							
11/18/96	3.72	4.64	4.93	NG	NG	NG	6.36	8.09	7.13	7.10/6.91	4.03	8.43	5.53	NG	5.19	NG	NG	NG	NG							
12/16/96	3.10	4.08	4.21	NG	NG	NG	5.02	7.83	6.55	6.35	NG	7.8	3.73	NG	4.23	NG	NG	NG	NG							
02/17/97	3.00	4.34	4.29	NG	NG	NG	4.89	7.65	6.03	5.89	NG	7.85	4.53	NG	4.18	NG	NG	NG	NG							
03/27/97	2.89	4.28	4.19	NG	NG	NG	5.19	7.63	5.98	5.82	NG	7.79	4.87	NG	4.06	5.81	8.12	7.95	7.75	7.95	5.61	NG	5.54	4.91	4.49	
04/15/97	NG	NG	NG	NG	NG	NG	NG	NG	5.86	5.7	3.39	7.84	4.84	NG	NG	5.74	NG	7.92	7.75	NG	NG	NG	5.54	NG	NG	
04/17/97	2.73	NG	NG	NG	NG	NG	NG	NG	NG	5.66	3.31	NG	4.67	NG	3.91	NG	NG	7.91	7.78	NG	NG	NG	5.58	NG	NG	
04/24/97	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	7.74	NG	NG	NG	NG	NG	NG	NG
05/21/97	NG	4.72	4.61	NG	NG	NG	6.27	7.81/7.80	6.15	6.04/5.99	NG	8.16	5.26	NG	4.46	5.80	7.98	7.81	7.64	NG	5.79	5.60	5.84/5.31	NG	4.85	
08/28/97	NG	5.29	6.49	NG	NG	NG	7.65	NG	7.24	7.24/7.01	NG	sheen/8.63	5.77	NG	5.41	6.15	8.22	8.03	7.9	NG	6.49	NG	6.56/6.45	NG	5.34	
11/20/97	4.35	5.24	5.35	NG	NG	NG	6.89	8.23	7.84	7.63	4.46	8.77	5.77	NG	5.79	6.45	8.43	8.23	8.07	NG	7.09	NG	7.06	NG	5.33	

Notes:
NG = Not Gauged

Gsubbas123\Gr190a.wk4

**MW-7 Well Gauging Data
OT-8 Site
New London Naval Submarine Base
Groton, Connecticut**

Date	Depth to Product (feet)	Depth to Water (feet)	LNAPL Thickness (feet)	LNAPL Recovered (gallons)	Cumulative LNAPL Recovered (gallons)
09/26/96	4.26	6.02	1.76	0.00	0.00
10/02/96	NS	NS	0.00	4.00	4.00
10/08/96	NS	NS	0.00	0.00	4.00
10/16/96	NS	NS	0.00	0.00	4.00
10/21/96	1.65	1.66	0.01	0.00	4.00
10/25/96	3.06	3.18	0.12	0.00	4.00
10/28/96	3.46	3.55	0.09	0.00	4.00
12/17/96	NA	0.00	0.00	0.00	4.00
01/13/97	7.76	7.86	0.10	0.00	4.00
01/27/97	NA	0.00	0.00	0.00	4.00
02/19/97	2.96	2.97	0.01	0.00	4.00
03/27/97	3.30	3.99	0.69	UNK*	4.00
04/17/97	3.12	3.34	0.22	0.00	4.00
05/21/97	4.09	5.07	0.98	0.25	4.25
06/10/97	sheen	4.64	sheen	0.00	4.25
07/21/97	5.43	5.55	0.12	0.00	4.25
08/04/97	5.62	5.73	0.11	0.00	4.25
08/26/97	5.28	5.31	0.03	0.00	4.25
10/09/97	6.14	6.75	0.61	0.00	4.25
10/23/97	6.38	6.75	0.37	0.00	4.25
11/20/97	4.73	4.74	0.01	0.00	4.25

Notes: Gauging on 10/02/96 and 10/16/96 was with a clear bailer, to visually confirm product thickness.
The well and vault were flooded on 12/17/96
NA = Not Applicable
NG = Not Gauged
* Product was recovered, but the volume was insufficient to fill the product piping and discharge into the recovery drum.

ATTACHMENT 5
HISTORICAL GROUNDWATER SAMPLING RESULTS

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 1 of 9

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-1	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	4.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	5	1,000	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
DM-2	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	4.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	8	<500	8	NS	NS

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

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 2 of 9

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-3	3/95	<1.0	<1.0	<1.0	<1.0	7.90	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	7	<500	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
DM-4	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	5	600	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	2	<1.0	<1.0	<1.0	3	<500	5	NS	NS

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

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 3 of 9

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
DM-5	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	<473	NS	NS	NS
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	6	<500	<500
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
HRP-10	3/95	304	35.2	257	1140	<50	6,080	NS	NS	NS
	5/96	125	21	54	329	<20	1,740	NS	NS	NS
	11/96	9	<1.0	65	<1.0	7	<1,000	81	600	<500
	2/97	<1.0	<1.0	<1.0	<1.0	3	<500	3	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	3.0	800	3.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS

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

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound	BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)	
	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
MW-1	11/96	3	<1.0	5	<1.0	<1.0	<1,000	11	1,000	<500
	2/97	<1.0	<1.0	4	<1.0	<1.0	<500	4	<500	600
	5/97	<1.0	<1.0	4	<1.0	<1.0	<500	6	700	760
	8/97	<1.0	<1.0	16	2B	<1.0	1,000	18	800	600
	11/97	2	<1.0	9	<1.0	<1.0	<500	11	NS	NS

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Bold numbers indicate an exceedance of State of CT Clean-up Standards
B = Analyte detected in method blank, D = Analyte concentration was obtained from a diluted analysis, E = Analyte concentration exceeded the calibration range
DRO=Diesel Range Organics, GRO=Gasoline Range Organics

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
MW-2	11/96	4	<1.0	14	<1.0	4	<1,000	28	1,200	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	1 B	1,200	1,200
	5/97	<1.0	<1.0	3	<1.0	<1.0	<500	3	500	580
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	2	<1.0	3	1	3	<500	9	NS	NS
MW-3	2/97	36	23	72	500	5	2,000	645 B	3,300	1,600
	5/97	60	38	69	730D	<1.0	5,000	897D	7,900	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	2	3	56	<1.0	<500	61	NS	NS

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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
OBG-8A	3/95	72	24.6	25.9	62.4	9.29	<473	NS	NS	NS
	5/96	12.0	<1.0	9.0	4.0	<2.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	3	25	5	5	<1.0	<500	38	NS	NS
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

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Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-2D(B)	11/96	1	<1.0	<1.0	<1.0	<1.0	<1,000	3	<500	<500
	2/97	2	<1.0	<1.0	<1.0	3	<500	5	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	4.0	11,000	4.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
WE-2S	3/95	37.9	24.2	60.3	126.4	21.3	725	NS	NS	NS
	5/96	50	22	101	144	<10	1,570	NS	NS	NS
	11/96	7	<1.0	9	4	14	<1,000	34	<500	<500
	2/97	5	<1.0	14	3	10	<500	32	500	600
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS

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

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
Remediation Standard		Benzene	Toluene	Ethylbenzene	Xylenes	100	500	NA	NA	NA
Well	Date									
WE-3	3/95	<1.0	<1.0	<1.0	<1.0	8.70	<473	NS	NS	NS
	5/96	2.0	<1.0	<1.0	<1.0	14.0	<473	NS	NS	NS
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	<1.0	<1.0	<1.0	<1.0	6	<500	6	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	220	3,000	220	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	38	<500	38	NS	NS
WE-4	3/95	267	29.8	392	712	<40	5,180	NS	NS	NS
	5/96	160	16	301	617	<40	3,680	NS	NS	NS
	11/96	41	1.0	100	2	19	<1,000	166	1,100	500
	2/97	21	<1	27	1	17	<500	66	500	700
	5/97	13	<1.0	13	<1.0	19	<500	45	700	540
	8/97	7.0	<1.0	19	3B	3B	700	44	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS

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

Table 1
Historical Groundwater Sampling Results
Dolphin Mart - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO (by EPA Method 8100M)	GRO (by EPA Method 8015M)
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		1.0	1,000	700	530	100	500	NA	NA	NA
Well	Date									
WE-5	11/96	240D	410D	720D	4,300E	27	9,000	5,697	12,000	8,900
	2/97	42D	10	89D	490D	6	2,000	637	2,000	1,200
	5/97	370	190	840	3,900D	<1.0	4,000	5,300	11,000	16,000
	8/97	210D	<1.0	210D	470DB	63D	6,000	953	3,900	2,500
	11/97	11	<1.0	2	6	27	1,100	46	NS	NS
WE-6	11/96	6	210D	71D	630D	<1.0	<1,000	916	2,000	1,400
	2/97	3	4	8	12	2	<500	29	800	700
	5/97	3	1.0	12	<1.0	<1.0	<500	15	1,200	1,200
	8/97	<1.0	1.0	<1.0	28	<1.0	1,000	29	<500	<500
	11/97	2	<1.0	3	2	4	<500	11	NS	NS

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 1 of 10

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-5	3/95	967	431	390	1,340	<100	NS	3,295.1	430	8,250
	5/96	112	6	34	28	<10	NS	196	159	554
	11/96	370D	14	33	61D	<1.0	3,000	480	1,100	1,600
	2/97	1,100	1,100	580	1,600	<50	3,000	4,440 B	3,900	9,100
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	730	250	870	620	<10	2,300	2,470	NS	NS
ERM-6	5/96	15	<1.0	<1.0	<1.0	<2.0	NS	35	63	<473
	11/96	610	230	770	2,400E	<40	5,000	4,054	500	7,800
	2/97	430D	21	300	1,000D	<10	2,000	1,763 B	2,200	4,800
	5/97	430D	21	640D	2,300D	<1.0	1,000	3,391D	1,500	6,700
	8/97	470	90	650	2,000	<1.0	2,000	3,210	3,500	6,200
	11/97	250D	23	260D	530D	<1.0	<500	1,063	NS	NS

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 2 of 10

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		216	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-7	5/96	5	<1.0	<1.0	<1.0	<2.0	NS	8	38	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	4	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	1	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
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

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		216	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-9	5/96	<1.0	<1.0	<1.0	<1.0	2	NS	4	3,310	<473
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
ERM-11	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	3	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	2	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	60,000	60,000	NA	NA	NA	NA
Well	Date									
ERM-12	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	1	27	<473
	5/96	1	2	7	14	<2.0	NS	61	4,300	1,390
	11/96	<1.0	2	<1.0	9	<1.0	3,000	16	7,300	6,700
	2/97	<1.0	1	2	9	<1.0	15,000	13	4,800	1,300
	5/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	<1.0	<1.0	<1.0	4	<1.0	7,100	4	NS	NS

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 5 of 10

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		216	23,500	21,300	60,000	60,000	NA	NA	NA	NA
Well	Date									
ERM-13	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	534	50	<473
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	NS	9	<100	<473
	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	2	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		216	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-14	3/95	292	4,880	8,190	6,020	<2.0	NS	19,995	4,840	3,670
	5/96	305	5,670	1,250	8,350	<2.0	NS	22,543	7,290	3,890
	11/96	270	8,300D	1,700D	11,000D	<25	7,000	21,270	12,000	30,000
	2/97	140	4,500D	980	7,100	<100	60,000	12,840	20,000	20,000
	5/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	40	2,300D	700D	2,500D	<1.0	4,600	5,540	NS	NS
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

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

Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		216	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-16	11/96	37	<2.0	13	16	30	<1,000	68	4,400	2,000
	2/97	56D	<1.0	16	34	27	6,000	136	11,000	1,400
	5/97	34	<1.0	20	42	11	26,000	107	60,000	2,000
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	5	<1.0	7	30	<1.0	15,000	42	NS	NS
ERM-17	11/96	10	<1.0	<1.0	<1.0	9	<1,000	11	600	600
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	<1.0	500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	1,500	<500
	8/97	12	<1.0	<1.0	<1.0	<1.0	1,000	12	1,000	500
	11/97	2	<1.0	<1.0	<1.0	<1.0	<500	2	NS	NS

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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
page 8 of 10

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (By EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
ERM-19	11/96	<1.0	<1.0	<1.0	<1.0	<1.0	<1,000	1	<500	<500
	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
MW-4	2/97	29	1	<1.0	3	<1.0	NS	33	NS	NS
	5/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	2/97	<1.0	9	<1.0	<1.0	<1.0	NS	9	NS	NS
	5/97	18	<1.0	2	8.0	<1.0	<500	28	<500	<500
	8/97	35D	1.0	<1.0	8.0	<1.0	<500	46	<500	<500
	11/97	6	<1.0	<1.0	3	<1.0	<500	9	NS	NS

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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

(analytical results in µg/l)
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Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	60,000	50,000	NA	NA	NA	NA
Well	Date									
NEX-1	3/95	<1.0	<1.0	<1.0	<1.0	<2.0	NS	7	35	<143
	5/96	<1.0	<1.0	<1.0	<1.0	<2.0	NS	8	<122	<143
	11/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/97	2	11	4	34	<1.0	<500	57	<500	<500
	8/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	3.0	<500	<500
	11/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	NS	NS
OBG-1	5/97	480	3,300D	1,100D	10,000D	540	110,000	15,420	260,000	49,000
	8/97	1,600	6,200	1,700	12,000	810	220,000	22,310	580,000	56,000
	11/97	1,600	8,800	2,300	16,000	38,000	21,000	66,700	NS	NS
OBG-2	5/97	77	280	530	9,800D	290	87,000	10,977	120,000	44,000
	8/97	470	410	1,100	11,000	830	180,000	13,990	99,000	75,000
	11/97	370	380	960	9,200	40,000	23,000	50,910	NS	NS

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Table 2
Historical Groundwater Sampling Results
NEX - March 1995 - November 1997
Naval Submarine Base, Groton, CT

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

Compound		BTEX				MTBE	TPH (By EPA Method 418.1)	Total Volatiles (by EPA Method 8010/8020)	DRO	GRO
		Benzene	Toluene	Ethylbenzene	Xylenes					
Remediation Standard		215	23,500	21,300	50,000	50,000	NA	NA	NA	NA
Well	Date									
OBG-4	2/97	<1.0	<1.0	<1.0	<1.0	<1.0	NS	<1.0	NS	NS
	5/97	<1.0	<1.0	<1.0	2	<1.0	6,000	2	3,100	<500
	8/97	<1.0	<1.0	<1.0	<1.0	4.0	1,000	4.0	3,500	<500
	11/97	<1.0	3	<1.0	7	8	NS	18	NS	NS
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
OBG-8	5/97	<1.0	<1.0	<1.0	<1.0	<1.0	<500	<1.0	<500	<500
	8/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
OBG-9	5/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	8/97	LP	LP	LP	LP	LP	LP	LP	LP	LP
	11/97	490	4,800	2,100	16,000	<200	24,000	23,390	NS	NS

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ATTACHMENT 6

MW-7 WELL CONSTRUCTION LOG



MONITORING WELL SHEET

TANK FARM WELLS

PROJECT NSB NLON
 PROJECT NO. 4626
 ELEVATION _____
 FIELD GEOLOGIST CONTI

LOCATION GROTON, CT.
 BORING HNUS-07
 DATE 10-3-95

DRILLER SOILTEST, INC.
 DRILLING METHOD HSA
 DEVELOPMENT METHOD PUMP

