



DEPARTMENT OF THE NAVY
NAVAL SUBMARINE BASE NEW LONDON
GROTON CONNECTICUT 06349-5000

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28 MAY 2002

From: Commanding Officer, Naval Submarine Base New London
To: Distribution

SUBJ: RESTORATION ADVISORY BOARD (RAB) MINUTES FOR
NAVAL SUBMARINE BASE NEW LONDON

Encl: (1) Minutes from the 8 May 02 RAB Meetings

1. Draft minutes from the 8 May 02 RAB meeting are attached for review.
2. Please contact me at (860) 694-5176 if you have any comments or questions concerning this matter.


RICHARD D. CONANT
Environmental Director, Acting
By direction of the
Commanding Officer

Enclosures

Meeting Minutes

Restoration Advisory Board Installation Restoration Program Naval Submarine Base New London Groton, Connecticut

8 May 2002

Attendees:

Sue Orrill (RAB Community Co-Chair)
Bart Pearson (Public)
Kymberlee Keckler (EPA Region I)
Pam Harting-Barrat Ph.D. (EPA Region I)
David Pearson (EPA Region I)
Mark Lewis (CTDEP)
Mark Evans (EFANE)
Dick Conant (NLSB)
Deborah Downie (RAB Member)
Corey Rich (Tetra Tech NUS)
Bernie Boylan (Sierra Club)
Doug McClure (EA Engineering)
Chip McLeod (EA Engineering)

1. Mr. Dick Conant opened the RAB meeting at 6:35 PM. The meeting began with a review of the minutes from the last meeting held on 7 November 01 at SUBASE. Hearing no objections or changes, the 7 November 01 minutes were accepted.
2. Ms. Susan Orrill, RAB Community Co-Chair announced her resignation as Co-Chair being effective immediately. Ms. Deborah Downie was elected to serve as the new RAB Community Co-Chair for an unspecified tenure.
3. Mr. Conant passed around copies of the Department of the Navy Environmental Restoration Report for Fiscal Years 2002-2006. Copies of the report are available by contacting Mr. Conant.
4. Mr. Conant reviewed responses to the RAB questionnaire distributed with the 7 Nov 01 minutes. A summary of the questionnaire responses is included with the minutes. There was general satisfaction with the location, time and frequency of the RAB meetings. Recommendations were received on how best to increase public notification and involvement with the RAB. Mr. Conant will attempt to implement those recommendations for the next scheduled RAB.

5. Mr. Corey Rich of Tetra Tech presented the current status of Groundwater Monitoring Programs at Naval Submarine Base New London. A copy of his presentation is attached with the minutes.

Ms. Kimberlee Keckler inquired as to what was determined by the tidal study of monitoring wells at the Goss Cove Landfill Cap. Mr. Rich indicated that the three-day study was conducted to determine the low tide stage in each well for future sampling needs. Mr. Rich noted that all wells with the exception of the upgradient wells showed some degree of tidal influence and that the lag time between the observed low water level in each well and actual low tide in the Thames River varied from 2 to 45 minutes depending on well location. Ms. Debbie Downie questioned what action the state of Connecticut was taking on offsite PCE contamination affecting groundwater at Goss Cove. Mr. Mark Lewis replied that direct state action was not a priority and that the state was monitoring the situation through review of the Navy's groundwater monitoring data from the Goss Cove Landfill Cap project. Mr. Bart Pearson inquired if there was any stormwater quality sampling being done for the stormwater flowing through the new Goss Cove Landfill Cap box culvert and discharging to the Thames River. Mr. Conant replied that stormwater was sampled yearly from a manhole in the SUBASE ballfields, but that this sampling was only reflective of stormwater runoff from ground surfaces throughout the southern portion of SUBASE.

6. Mr. Chip McLeod presented an update on the progress with the Lower Base Feasibility Study (FS). His presentation is included with the minutes.

Mr. Bernie Boylan of the Sierra Club inquired about the current schedule for the Lower Base investigation and remedial action and expressed concerns that funding shortages might prevent the schedule from being met. Mr. Conant replied that the current schedule anticipates that the FS will be completed by 30 Sept 02, with a Record of Decision completed by 30 Sept 03. Design and remedial action will commence soon after the ROD is finalized and site work is expected to be completed by 30 Sept. 04. Ms. Keckler indicated that funding should not be a problem for this federal CERCLA site.

7. The next RAB has been **rescheduled** for 6:30 PM on 31 July 2002 at the Best Western. Having no further business, Mr. Conant closed the RAB meeting at 8:20 PM.

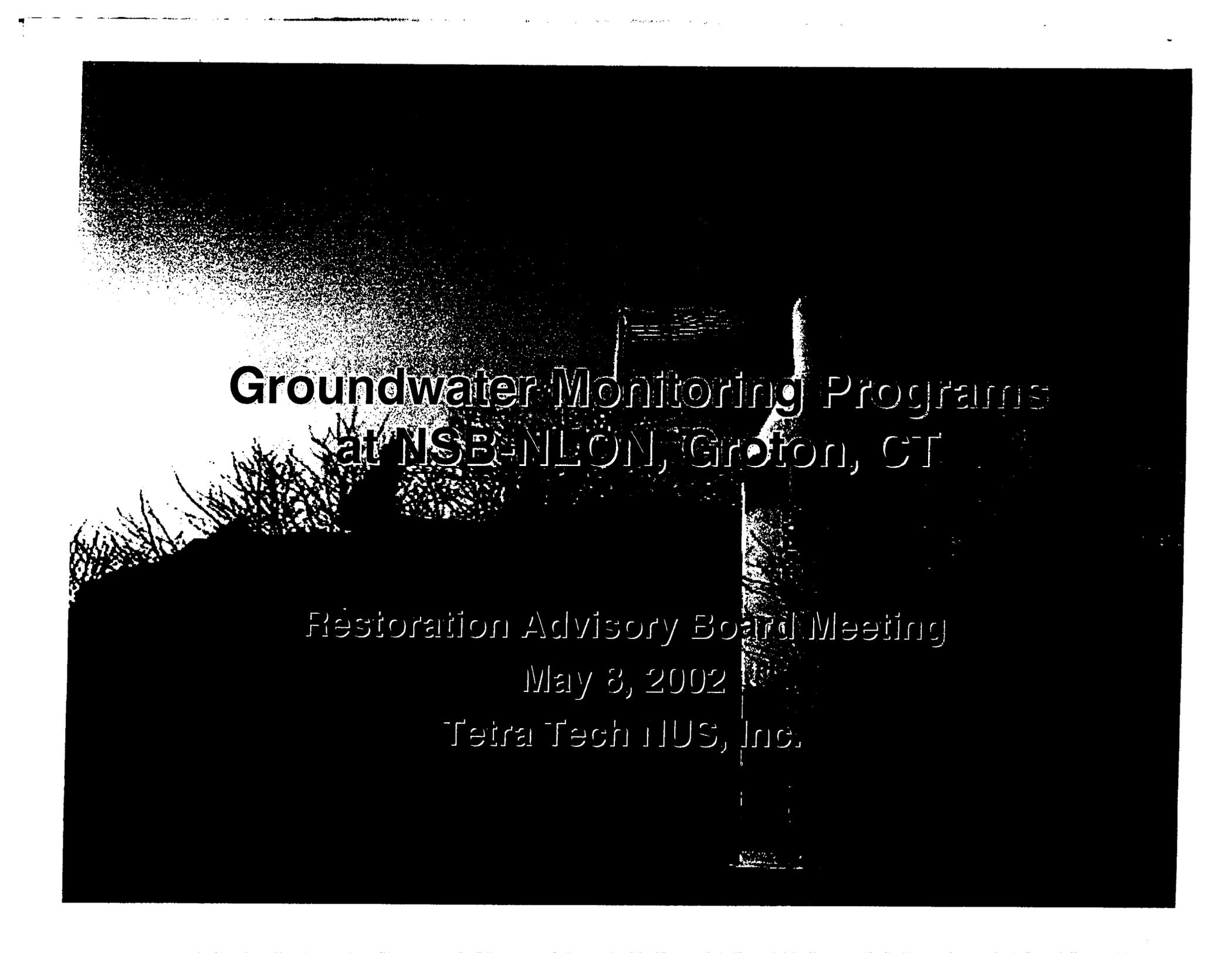
U.S. NAVY
SUBMARINE BASE NEW LONDON

RESTORATION ADVISORY BOARD
QUESTIONNAIRE RESPONSES

May 8, 2002

The Naval Submarine Base New London (SUBASENLON) Environmental Department received nine questionnaire responses concerning the future scheduling of RAB meetings at SUBASENLON. The responses were as follows:

1. **Scheduling of RAB meetings:** 78% preferred quarterly meetings, as necessary. 22% preferred meeting less frequently.
2. **Location of RAB meetings:** 100% preferred a combination of off-site informational presentations and site field visits as opportunities arise.
3. **RAB presentations:** 89% indicated that the current RAB presentations are of adequate technical scope, length and focus. 11% indicated that current presentations are too long.
4. **RAB location:** 100% indicated that location, facility and refreshments are adequate.
5. **RAB meeting time:** 67% found the meeting date and time okay. Other responses suggested a different meeting day or an earlier or later start time.
6. **RAB attendance:** Suggestions to improve RAB attendance included the following:
 - Notify local colleges
 - Notify State Environmental Professional Organizations
 - Notify local State Representatives
 - Post RAB meetings on the Community Bulletin Board in the **New London Day**



**Groundwater Monitoring Programs
at NSB-NLON, Groton, CT**

Restoration Advisory Board Meeting

May 8, 2002

Tetra Tech IUS, Inc.

Current Monitoring Programs

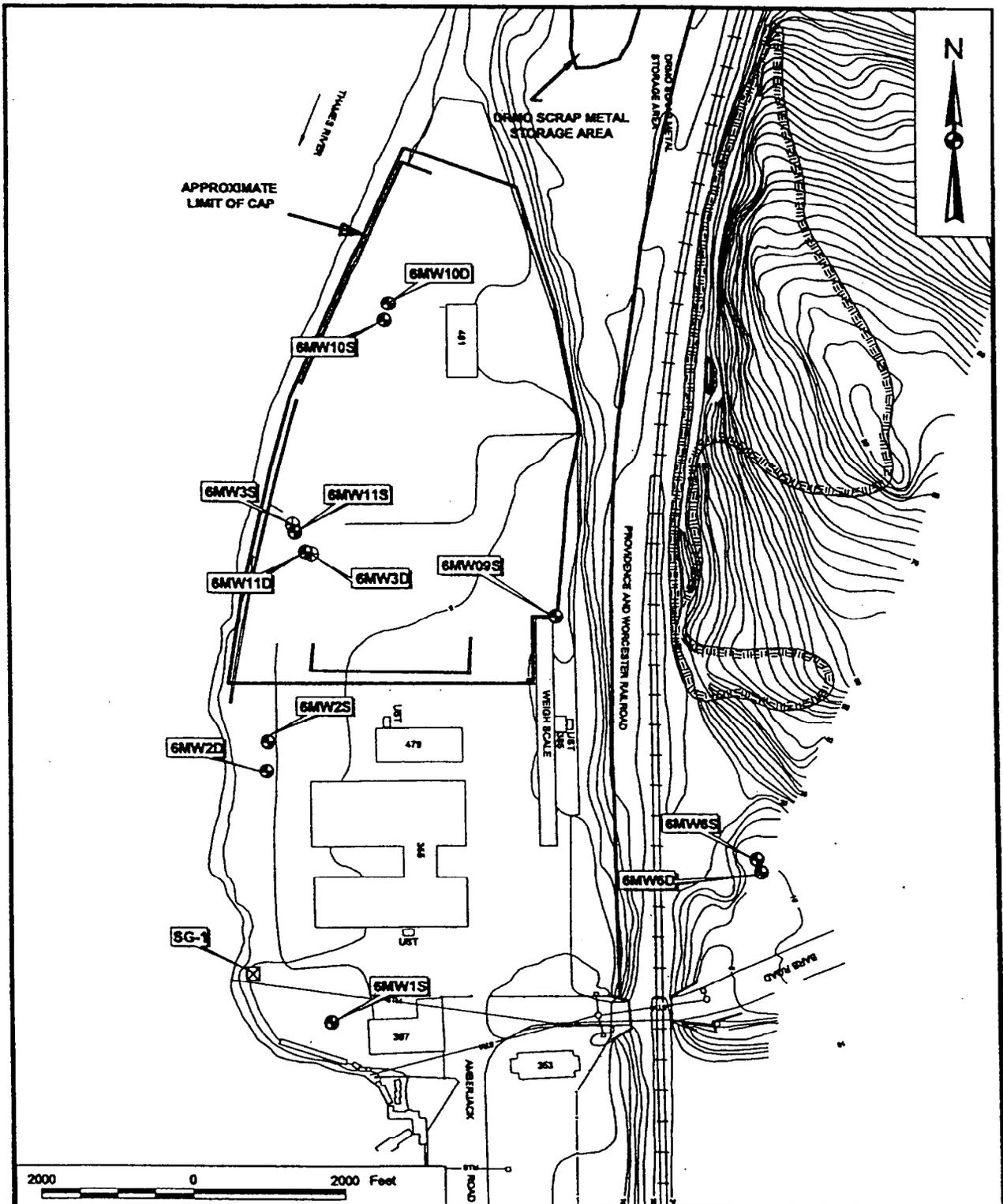
- DRMO (Site 6/OU2)
- Area A Landfill (Site 2/OU1)
- Goss Cove Landfill (Site 8/OU5)

DRMO Monitoring Program - Background

- **Time-Critical Removal Action completed at DRMO in January 1995.**
- **Groundwater Monitoring Plan for DRMO (February 1998).**
- **Interim ROD signed for DRMO (March 1998).**
- **Groundwater monitoring program was initiated in April 1998.**

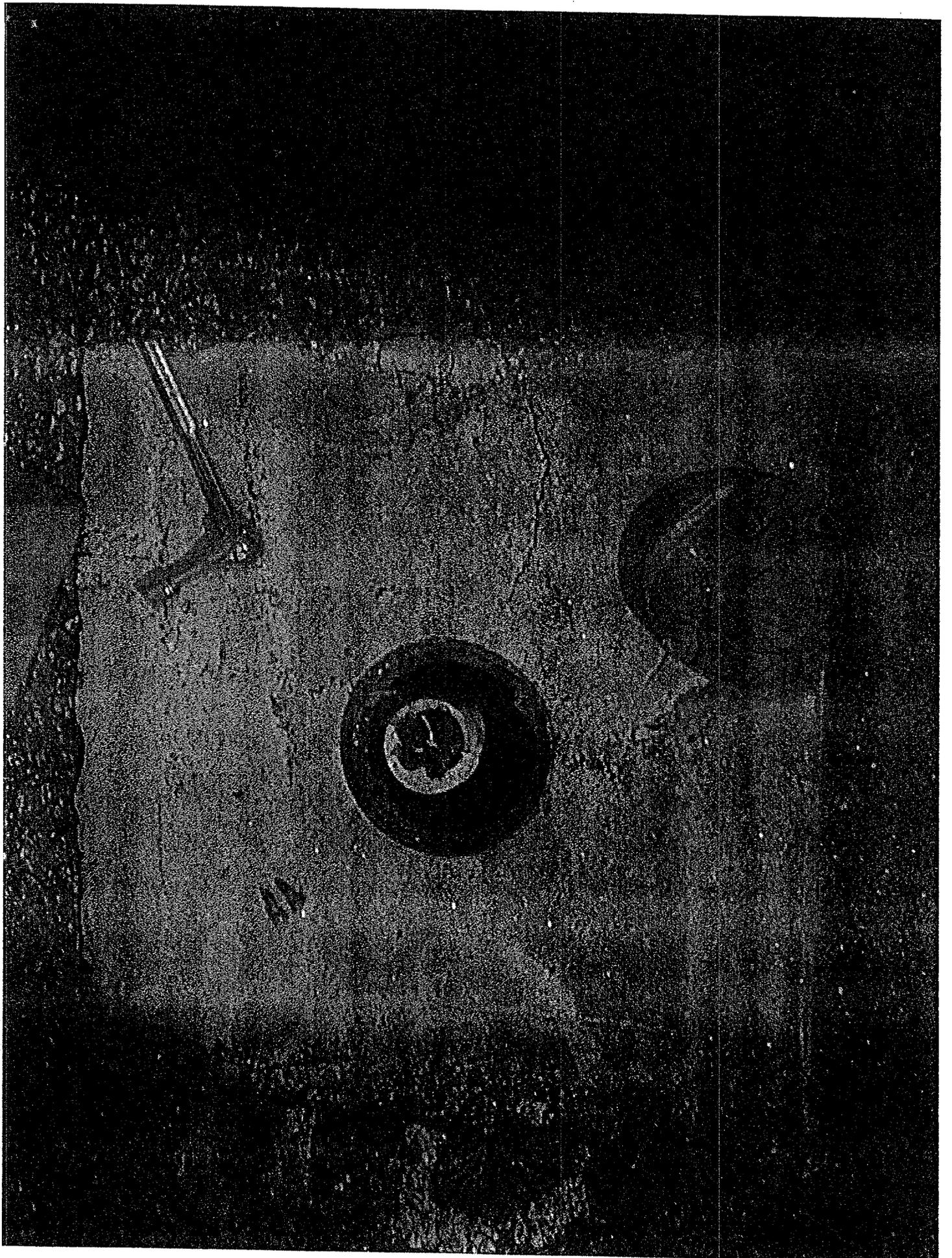
DRMO Monitoring Program - Approach

- **Media - Groundwater (10 monitoring wells).**
- **Site-specific analytical program including VOCs, SVOCs, Pesticides, PCBs, and Inorganics.**
- **Quarterly groundwater sampling (13 rounds).**
- **Groundwater level measurements during each round.**
- **Criteria - Primary (Site-Specific SWPC, CTDEP SWPC, and Volatilization Criteria) and Secondary (AWQCs and WQs).**



DRAWN BY J. BELLONE	DATE 10/1/88	Tetra Tech NUS, Inc. DRMO MONITORING WELLS NSB - NLON GROTON, CONNECTICUT	CONTRACT NUMBER 7363	OWNER NO.
CHECKED BY <i>MLM</i>	DATE 10/20/99		APPROVED BY <i>Mark K. Nungel</i>	DATE 10/20/99
COST/SCHEDULE-AREA _____			APPROVED BY _____	DATE _____
SCALE AS NOTED			DRAWING NO. FIGURE 3-1	REV 0

5



DRMO Monitoring Program - Results

- **Low concentrations of VOCs.**
- **Concentrations of SVOCs (BEHP and PAHs) > Secondary Criteria.**
- **No detections of Pesticides or PCBs.**
- **Concentrations of inorganics (arsenic, copper, lead, silver, and zinc) > Secondary Criteria.**
- **Statistical analysis of data did not show any significant increasing contaminant trends.**

DRMO Monitoring Program - Recommendations

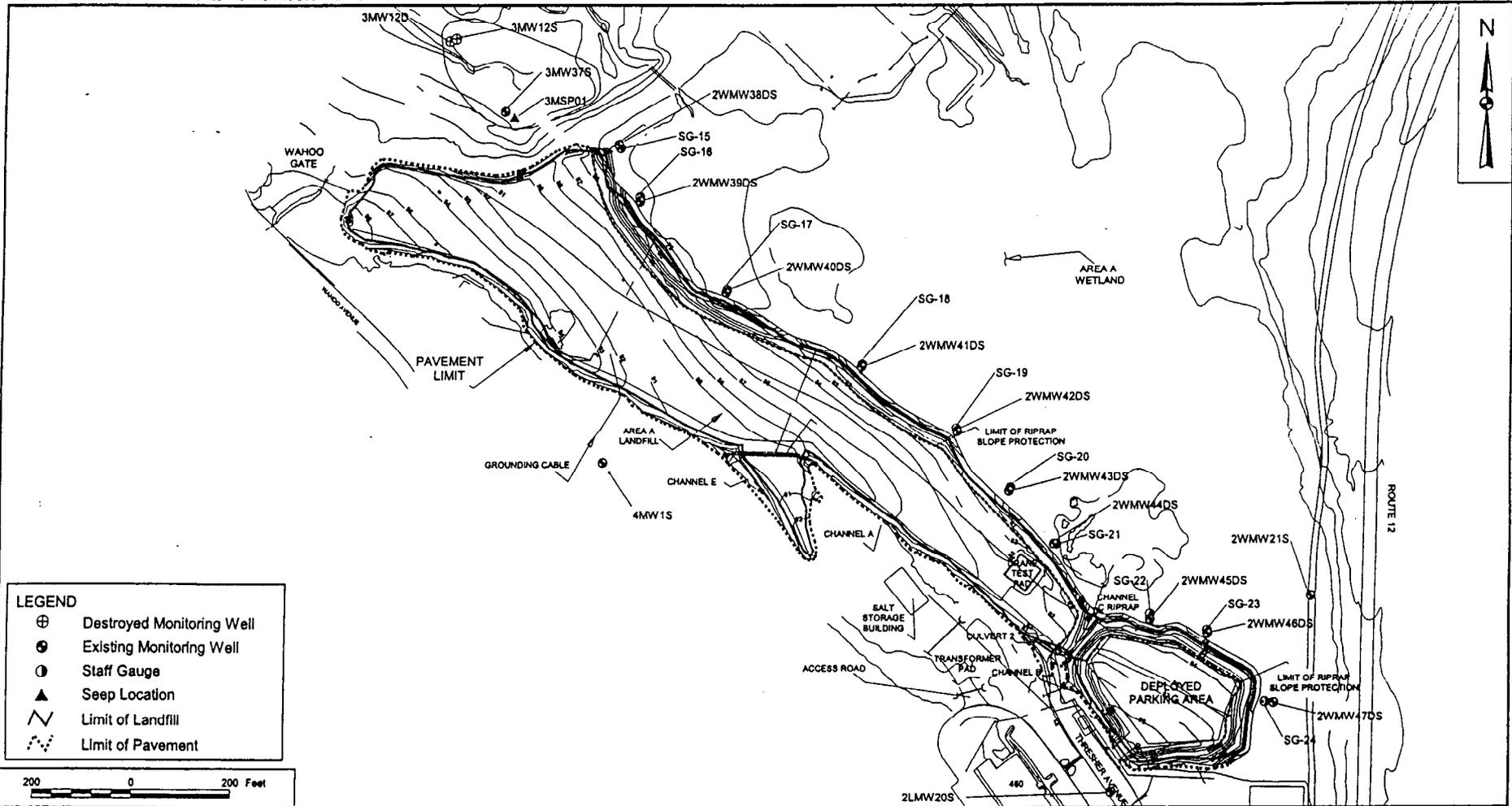
- **Prepare final ROD for the site.**
- **Reduce sampling frequency from quarterly to annual.**
- **Reduce monitoring well network (i.e., eliminate deep wells 6MW2D, 6MW10D, and 6MW11D).**
- **Continue routine maintenance of monitoring wells and sampling equipment.**

Area A Monitoring Program - Background

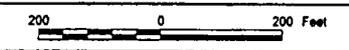
- **Interim ROD for soil OU signed in June 1995.**
- **Remedial Action completed at Area A Landfill in September 1997.**
- **Groundwater Monitoring Plan for Area A Landfill (January 1999).**
- **Groundwater monitoring program was initiated in October 1999.**

Area A Monitoring Program - Approach

- **Media - GW (16 monitoring wells) and SW (11 locations).**
- **Site-specific analytical program including VOCs, SVOCs, Pesticides, PCBs, Inorganics, and Water Quality Parameters.**
- **Quarterly groundwater sampling (10 rounds).**
- **GW and SW level measurements during each round.**
- **Criteria - Primary (CTDEP SWPC) and Secondary (AWQCs and WQSs).**



LEGEND	
⊕	Destroyed Monitoring Well
⊙	Existing Monitoring Well
⊖	Staff Gauge
▲	Seep Location
~	Limit of Landfill
- - -	Limit of Pavement



NO	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE	Telra Tech NUS, Inc.		CONTRACT NUMBER	OWNER NUMBER
							J. BELLONE	1/12/00	SAMPLING LOCATIONS FOR GROUNDWATER AND SURFACE WATER MONITORING AREA A LANDFILL		2863	CTO 818
									APPROVED BY C. RICH			DATE 2/19/02
									APPROVED BY			DATE
									DRAWING NO.			REV 0
									SCALE AS NOTED		FIGURE 3 - 1	



Area A Monitoring Program - Results

- **No detections of VOCs, Pesticides, or PCBs in GW or SW, except xylene detected in SW during 1 round.**
- **Concentrations of SVOCs (BEHP and PAHs) in GW and SW > primary and secondary criteria.**
- **Concentrations of inorganics in GW and SW (arsenic and zinc) > primary criteria and (chromium, copper, and lead) > secondary criteria.**
- **Statistical analysis showed that arsenic concentrations are significantly higher in downgradient wells.**
- **High levels of TDS, salinity, and chloride in downgradient wells.**

Area A Monitoring Program - Recommendations

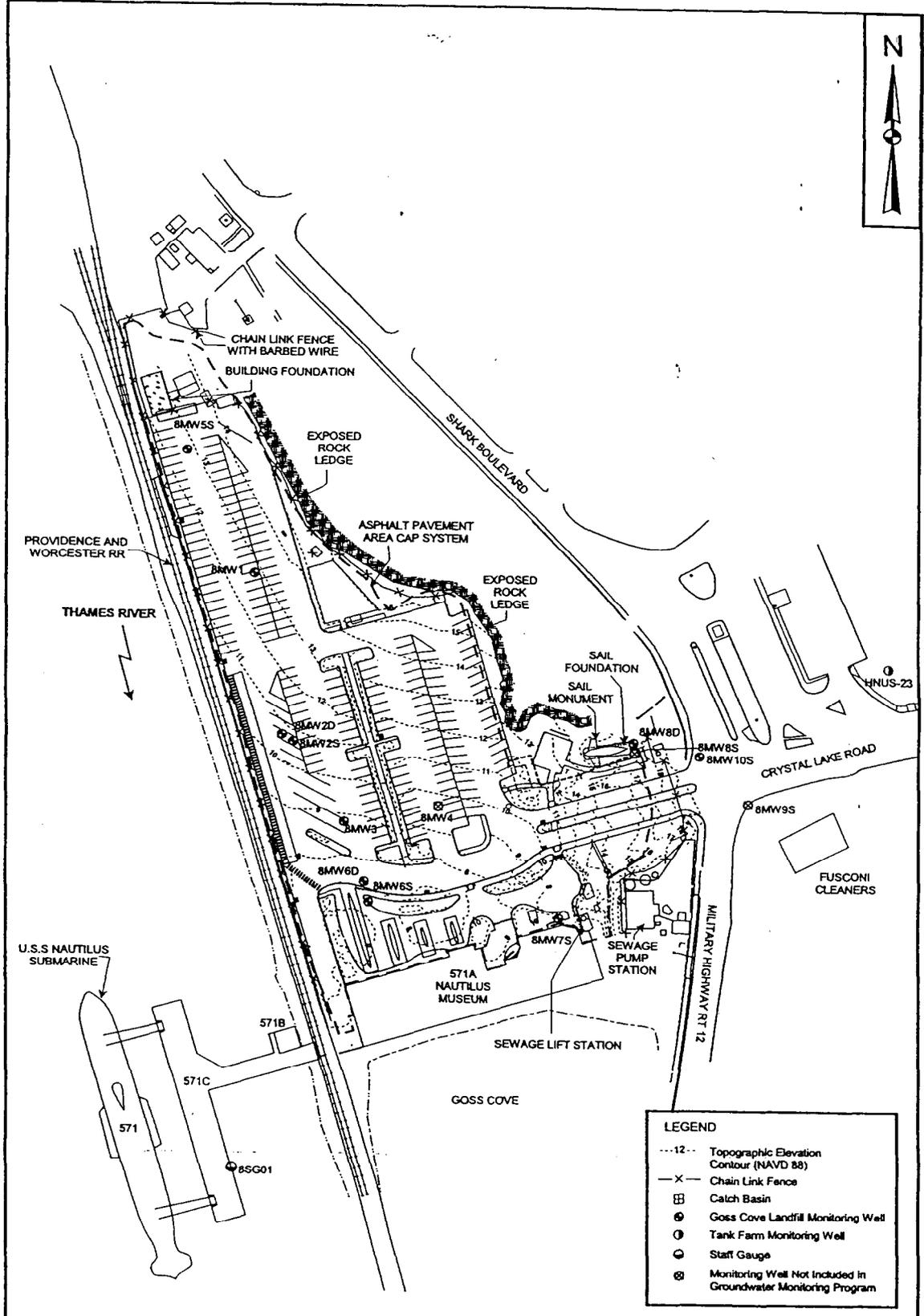
- **Prepare final ROD for the site.**
- **Reduce sampling frequency from quarterly to annual.**
- **Eliminate VOCs, Pesticides, and PCBs from analytical suite.**
- **Eliminate staff gauges SG-15, SG-16, and SG-17.**
- **Continue to evaluate arsenic and water quality issues.**
- **Maintain/replace monitoring equipment as necessary.**

Goss Cove Monitoring Program - Background

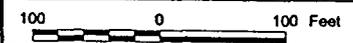
- **ROD for soil and sediment signed in September 1999.**
- **Groundwater Monitoring Plan for Goss Cove Landfill (March 2001).**
- **Remedial Action completed at Goss Cove Landfill in June 2001.**
- **Groundwater monitoring program was initiated in January 2002.**

Goss Cove Monitoring Program -Approach

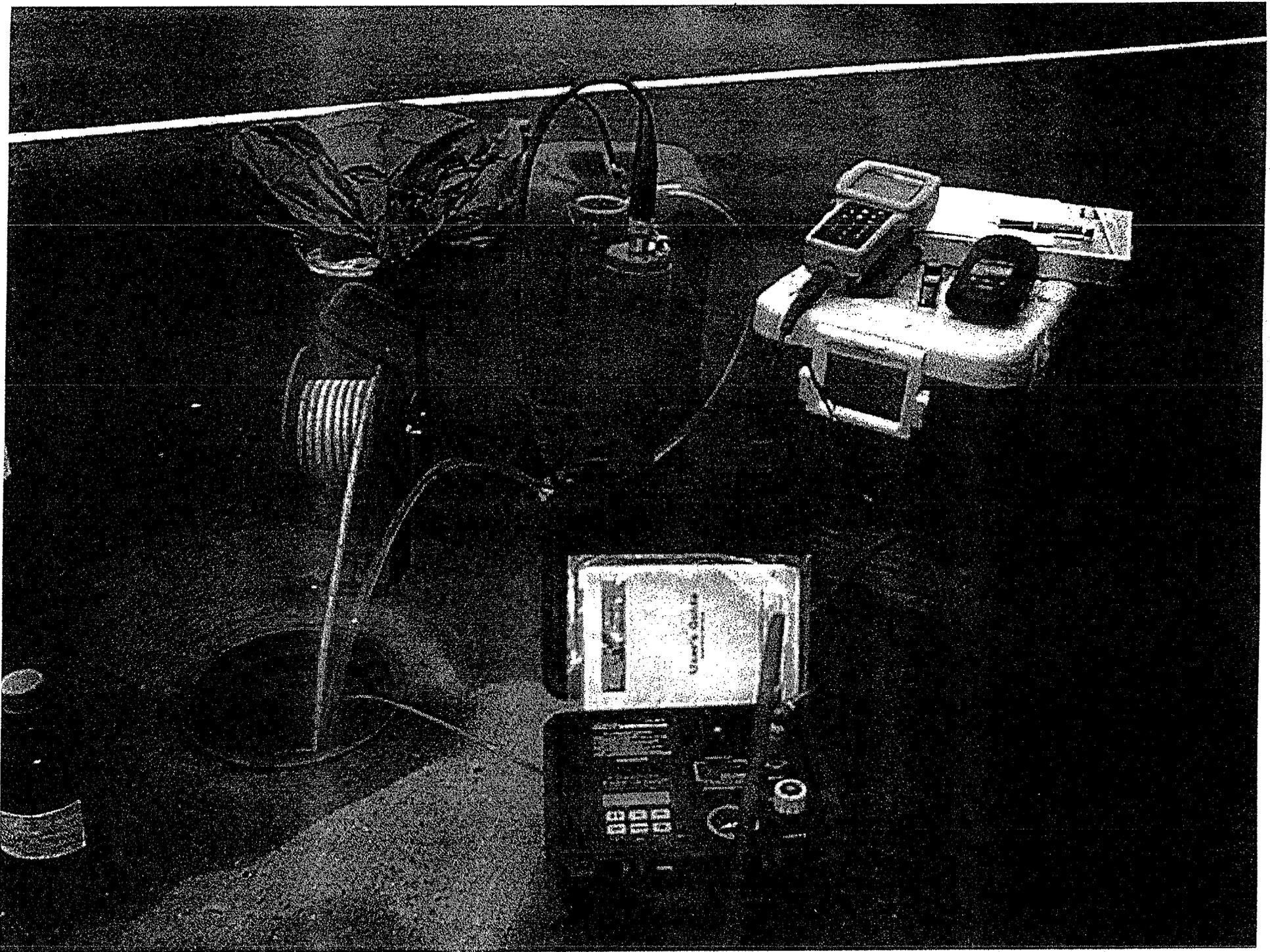
- **Media - Groundwater.**
- **Site-specific analytical program including VOCs, SVOCs, Pesticides, PCBs, Inorganics, and Water Quality Parameters.**
- **Initial tidal study for monitoring well network.**
- **Quarterly groundwater sampling (2 rounds).**
- **Groundwater level measurements during each round.**
- **Criteria - Primary (Site-Specific SWPC, CTDEP SWPC, and Volatilization Criteria) and Secondary (AWQCs and WQSs).**



LEGEND	
---12---	Topographic Elevation Contour (NAVD 88)
-X-	Chain Link Fence
⊞	Catch Basin
⊙	Goss Cove Landfill Monitoring Well
⊕	Tank Farm Monitoring Well
⊖	Staff Gauge
⊗	Monitoring Well Not Included in Groundwater Monitoring Program



DRAWN BY J. LANEY CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 4/16/02 DATE DATE DATE	Tetra Tech NUS, Inc. SAMPLING LOCATIONS FOR GROUNDWATER MONITORING GOSS COVE LANDFILL NSB NLON GROTON, CONNECTICUT	CONTRACT NUMBER 2883 OWNER NUMBER 816 APPROVED BY <i>Car</i> DATE 5/1/02 APPROVED BY DATE DRAWING NO. FIGURE 2-1 REV 0
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Goss Cove Monitoring Program - Results (RD 1)

- **No detections of Pesticides or PCBs.**
- **Concentrations of PCE > primary monitoring criteria in upgradient monitoring wells.**
- **Concentrations of SVOCs (primarily BEHP and PAHs) > primary and secondary criteria.**
- **Concentrations of inorganics (arsenic, copper, lead, mercury, nickel, zinc) exceeded primary and/or secondary criteria.**

Goss Cove Monitoring Program-Recommendations

- **Complete 4 rounds of sampling.**
- **Statistically evaluate data.**
- **Prepare Year 1 Annual Report.**

Lower Subbase Feasibility Study

Restoration Advisory Board Meeting
8 May 2002

Douglas E. McClure, P.E. - Project Manager

Charles E. McLeod, P.E. - Project Engineer

*EA Engineering, Science, and Technology
Newburgh, New York*



Constituents of Concerns

- Soil
 - ◆ Benz(a)anthracene
 - ◆ Benzo(a)pyrene
 - ◆ Benz(b)fluoranthene
 - ◆ Dibenz(a,h)anthracene
 - ◆ Indeno(1,2,3-cd)pyrene
 - ◆ Arsenic
 - ◆ Lead
 - ◆ Mercury (Connecticut RSRs ONLY)
 - ◆ Total Petroleum Hydrocarbons (Connecticut RSRs ONLY)



Remedial Action Objectives

- Remediation of characteristic hazardous waste which is over the waste-specific TCLP levels, in accordance with Connecticut Hazardous Waste Management Regulations
- Minimize human exposure to COCs in soil above the Connecticut RSRs and risk-based PRGs under the current industrial land use scenario
- Minimize the potential migration of COCs above PMC and dilution-based criteria for pollutant mobility from soil into ground water.



General Response Actions

- No further action
- Institutional controls
- Containment
- *In situ* and *ex situ* soil treatment
- Disposal



Project Status

- Revised Draft FS submitted on 1 October 2001
- Received comments from EPA and Navy
- Attended 14 February 2002 technical meeting to review response to comments and address technical issues
- Draft Final to be prepared and submitted pending final EPA and CTDEP approval of responses and finalization of technical issues.

