

Superfund Records Center

SITE: New Bedford

BREAK: 04.02

OTHER: 46291

15 November 1990

Sediment (CDF) Sampling

CENED-ED-GL-E

4 March 1991  
Saner/11/928-4711

MEMORANDUM THRU

Director, NED Environmental and Materials Laboratory *MC 4.91*  
Chief, Geotechnical Engineering Division *B7M 3/4*

FOR Director, Programs and Project Management Directorate,  
ATTN: CENED-PD-L (Mr. Otis)

SUBJECT: Chemical Analysis Data for New Bedford Pilot  
Study

1. Two air samples and seven sediment samples were collected at the above subject project on 15 November 1990. Standard USEPA methods were employed for sample preservation. Copies of the chain-of-custody records are enclosed for your reference, along with a list of the samples collected.

2. The following analyses were performed in house :

<u>Analysis</u>	<u>EPA Method</u>
PCB's (soil)	3540/8080
PCB's (air)	5503-NIOSH

3. The tabulated analytical results are enclosed. We have reviewed these results and found them to be technically acceptable. A quality assurance review is enclosed for your reference.

4. If you have any questions, please feel free to call Mr. William Saner at 508-928-4238.

2 Encls  
as

CF:  
GED  
NED Envir Lab  
NED Envir Lab, Ms. Levesque  
NED Matls Lab  
Eng Dir File (112S)

*Robert D. Reardon*  
RICHARD D. REARDON  
Director of Engineering

## Quality Assurance Review

Project: New Bedford Pilot Study

Date: 25 February 1991

### Sample Handling:

All samples were collected using standardized procedures. Appropriate sample containers and preservation techniques were used. Proper chain-of-custody protocols were followed.

### Laboratory Analysis:

The method blank for PCBs in soil was free from contamination.

No blank Florisil tube was provided for the air sample, so there was no opportunity for a method blank for that matrix. Standard EPA (for soil) and NIOSH (for air) methodologies were employed. The 14-day maximum holding time prior to extraction was exceeded by 12 days for PCBs in soil. The notorious persistence of PCBs in the environment makes this short extension an unlikely source of significant error. The matrix spike and matrix spike duplicate were both within the laboratory control limits, indicating good precision and accuracy for PCBs in soil. Surrogate recoveries for this parameter were within control as well. Surrogates are not required for PCBs in air, and no blank Florisil tubes were provided for a complete set of QA analyses.



BRIAN J. CONDIK  
Quality Assurance Officer

				SAMPLERS (Signature)					
Lab Control Number	Station Number and Location	Date	Time	Sample Type				No. of Cont.	Tests
				Water		Sediment			
				Comp	Grab	Grab	Core		
	New Bedford Pilot Study "A" Surface	11/15/90	1215			✓		1	PCB
	" " " " "A-bottom 13-16"	11/15/90	1215			✓		1	"
	" " " " "A-bottom 16-19"	11/15/90	1230			✓		1	"
	" " " " "B-Surface	11/15/90	1250			✓		1	"
	" " " " "B-bottom 5-15"	11/15/90	1305			✓		1	"
	" " " " "B-Bottom 15-16"	11/15/90	1310			✓		1	"
	" " " " "C-Surface	11/15/90	1210			✓		1	"
	" " PreFilter	11/15/90	1205 1322					1	"
	" " FLUOXYSIL	11/15/90	1205 1322					1	"
Relinquished by: (Signature)		Received by: (Signature)		Date/Time					
<i>Lionel Knawley</i>		<i>Michael Powell</i>		11-19-90 3:30					
Relinquished by: (Signature)		Received by: (Signature)		Date/Time					
<i>Michael Powell</i>		<i>Kathleen Cimache</i>		11-20-90 10:00					
Relinquished by: (Signature)		Received by: (Signature)		Date/Time					
Received by: (Signature)		Received by Mobile Laboratory for field analysis: (Signature)		Date/Time					
Dispatched by: (Signature)		Date/Time		Received for Laboratory by:		Date/Time			
Method of Shipment:									
Distribution: Orig. - Accompany Shipment 1 Copy - Survey Coordinator Field Files									

Sample Type *	Collection Sample No./ Description	WQL No.	Sample Type *	Collection Sample No./ Description	WQL No.
Sed	New Bedford Pilot "A" Surface	11688			
"	New Bedford Pilot "A" Bottom 13'-16"	11689			
"	New Bedford Pilot "A" Bottom 16'-19"	11690			
"	New Bedford Pilot "B" Surface	11691			
"	New Bedford Pilot "B" Bottom 5'-15"	11692			
"	New Bedford Pilot "D" Bottom 15'-16"	11693			
"	New Bedford Pilot "C" Surface	11694			
Air	New Bedford Pilot Prefilter	11695			
"	New Bedford Pilot FLUORISIL	11696			

Remarks: Mix Sediment thoroughly before taking Sample for Analysis

\* Sample Types: Sed, Fresh, Salt, Soil, Fish, Oil, Algae, Fuel, Air, Waste, Other

SUPERFUND SITE - NEW BEDFORD HARBOR  
PILOT SUTDY

ENV NO	SAMPLE DATE	MATRIX	FIELD DESCRIPTION
11688	11/15/90	SEDIMENT	"A" SURFACE
11689	11/15/90	SEDIMENT	"A" BOTTOM 13"-16"
11690	11/15/90	SEDIMENT	"A" BOTTOM 16"-19"
11691	11/15/90	SEDIMENT	"B" SURFACE
11692	11/15/90	SEDIMENT	"B" BOTTOM 5"-15"
11693	11/15/90	SEDIMENT	"B" BOTTOM 15"-16"
11694	11/15/90	SEDIMENT	C" SURFACE
11695	11/15/90	AIR	PRE-FILTER
11696	11/15/90	AIR	FLUORISIL



U.S. ARMY CORPS OF ENGINEERS  
 NEW ENGLAND DIVISION, ENVIRONMENTAL LABORATORY

PRODUCED ON

01/04/91  
 11:34

NEW BEDFORD PILOT STUDY

PCBs (ppm)

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*****
*          *          11693          11694          METHOD          *
* PARAMETER *          B - BOTTOM    C - SURFACE    BLANK          *
*          *          15-16"          *          *          *
*          *          SOIL          SOIL          *
*****
* Total PCBs *          9.2          0.56 < 0.04          *
*****
* Surrogate Recovery ( % ) *          *          *          *
* DBC          *          *          38.0          22.0          *
* TCMX          *          *          105.0          96.0          *
*          *          *          *          *          *
*****
  
```

SAMPLE DATE:	11/15/90	11/15/90	
DATE RECEIVED:	11/20/90	11/20/90	
DATE EXTRACTED:	12/12/90	12/12/90	12/12/90
DATE ANALYZED:	12/28/90	12/28/90	12/26/90

NOTES:

\* - Surrogate diluted out.



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NEW ENGLAND DIVISION, ENVIRONMENTAL LABORATORY

PRODUCED ON

02/22/91  
14:10

NEW BEDFORD PILOT STUDY

PCBs (mg/m3)

```
*****
*          *          *          *          *
* PARAMETER *          *          *          *
*          *          *          *          *
*          *          *          *          *
*          *          *          *          *
*****
* Total PCBs * < 0.014 < 0.014 < 0.005 *
*****
* Surrogate Recovery ( % ) *
* DBC * * *
* TCMX * * *
*
*****
```

SAMPLE DATE:	11/20/90	11/20/90	11/20/90
DATE RECEIVED:	11/21/90	11/21/90	11/21/90
DATE EXTRACTED:	1/7/91	1/7/91	1/7/91
DATE ANALYZED:	1/8/91	1/8/91	1/8/91

NOTES:

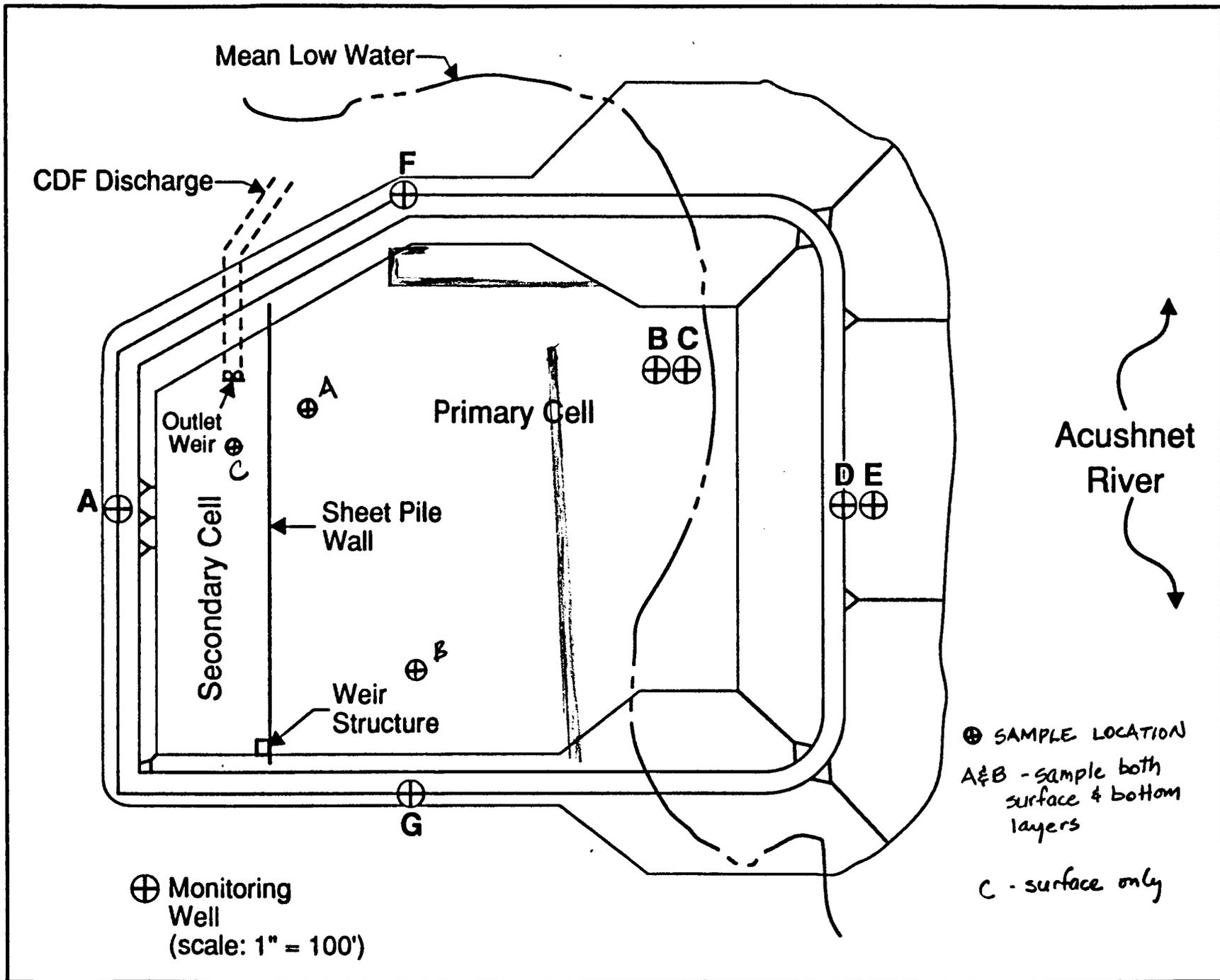
\* - Followed NIOSH Method 5503

No surrogate specified in the method.

Sample labelled "A" is florisisil front sorbent section.

Sample labelled "B" is florisisil back sorbent section.

Figure 2-1 Confined Disposal Facility



NEW BEDFORD HARBOR SUPERFUND SITE  
CONFINED DISPOSAL FACILITY - MONITORING WELLS

Seven monitoring wells were installed in and around the confined disposal facility (CDF) as shown on attachments 1 and 2. The wells were sampled prior to the facility being filled with dredged material and on three occasions since. The results of these sampling efforts are shown on attachments 3,4,5 and 6.

\* Attachment 3 provides the results from the pre-operational sampling period. The wells were sampled on November 11, 14 and 15, 1988 by personnel from the New England Division's Environmental Laboratory. The samples were analyzed by EPA's Environmental Research Laboratory in Narragansett, Rhode Island.

\* Attachment 4 provides the results from the sampling period immediately after dredging was completed. The wells were sampled on December 27, 1988, January 4, 1989, and January 9, 10, and 11, 1989 by personnel from the New England Division's Environmental Laboratory. These samples were also analyzed at EPA's Narragansett Laboratory. During this period the CDF was filled with water to approximately elevation +10 Mean Low Water.

\* Attachment 5 provides the results from sampling performed on 24 and 25 August 1989 by personnel from the New England Division's Environmental Laboratory. The samples were analyzed at the Massachusetts Department of Environmental Protection's Lawrence Experiment Station. By this time the CDF had drained with ponded water visible only in the southeastern portion of the site.

Attachment 6 provides the results from sampling performed on 9 and 10 October 1990 by personnel from the New England Division's Environmental Laboratory. The samples were analyzed at the New England Division's Laboratory.

Figure 10 Confined Disposal Facility

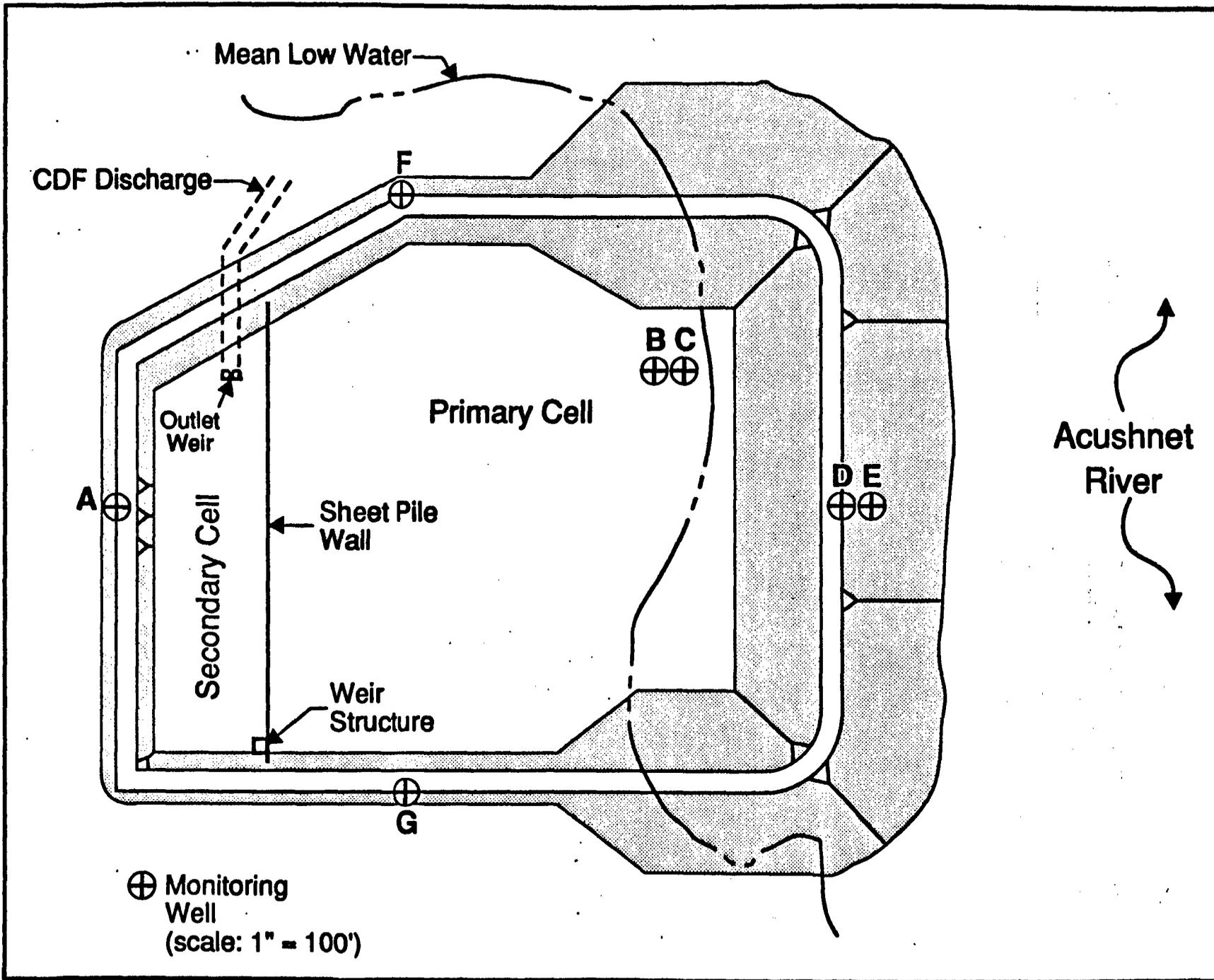
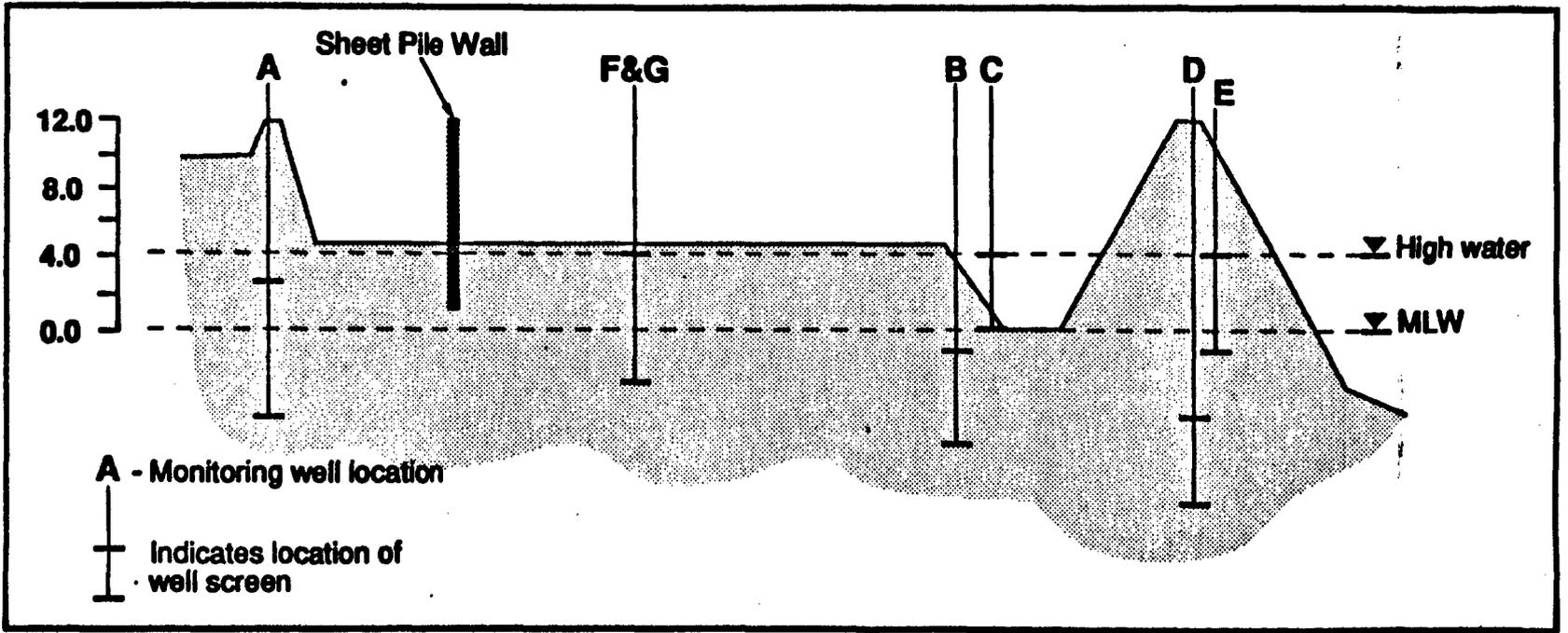


Figure 2-2 Confined Disposal Facility  
Monitoring Well Locations



27 Sept 49

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SUBJECT NEW BEDFORD HARBOR

COMPUTATION CONFINED DISPOSAL FACILITY - MONITORING Wells

COMPUTED BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_

Pre-Operational Period

Wells sampled on November 11, 14 & 15, 1988

Well	Sample No.	PCB	Cu (ppb)	Pb	Cd
A	518001	0.17	21.7	72.9	8.8
	518007	0.11	19.8	91.1	6.2
	518003	0.07	9.4	51.6	3.3
B	518002	2.46	337.2	85.9	1.2
	518008	2.32	333.0	67.7	0.9
	518014	3.23	234.5	64.4	0.6
C		Well screen located above original base of CDF			
D	518010	0.00			
	518016	0.03	0.0	4.9	0.3
E	518005	0.12	13.2	6.5	0.4
	518011	0.19	23.7	8.5	0.0
	518017	0.41	7.1	3.3	0.1
F	518006	0.00			
	518012	0.00	4.3	12.0	0.0
	518018	0.00			
G	518003	0.02	20.6	17.1	1.0
	518009	0.00			
	518015	0.00			

Note: Samples are whole water samples  
 Values shown for metals are the mean of 3 replicates  
 Analysis performed at EPA's Narragansett Laboratory

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SUBJECT New Bedford HarborCOMPUTATION Confined Disposal Facility - Monitoring Wells

COMPUTED BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_

Period immediately after the completion of dredging

Wells sampled on December 27 and 28, 1988, January 4, 1989 and  
January 9, 10 and 11, 1989

Well	Sample No.	PCB	Cu (ppb)	Pb	Cd
A	518082	0.15			
	518089	0.00			
	518096	0.06	9.4	21.8	32.7
B	518083	0.80			
	518090	0.02	16.9	3.7	1.9
	518097	0.28	138.3	33.4	6.5
C	518084	0.02			
	518091	1.08	2.6	0.0	0.5
	518098	0.71	137.1	54.9	19.3
D	518085	0.05			
	518092	0.00			
	518099	0.01			
E	518086	0.33			
	518093	0.02	0.0	1.9	0.0
	518100	0.13			
F	518087	0.02			
	518094	0.00			
	518101	0.00	25.1	0.0	0.2
G	518088	0.00			
	518095	0.00	1.9	0.0	20.2
	518102	0.00			

Note: Samples are whole water samples  
Values shown for metals are the mean of 3 replicates  
Analyses performed at EPA's Narragansett Laboratory

SUBJECT NEW BEDFORD HARBOR

COMPUTATION CONFINED DISPOSAL FACILITY - MONITORING WELLS

COMPUTED BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_

Wells Sampled on 24 and 25 August 1989

Well	Sample No.	PCB	Cu	Pb	Cd	Cr
				(mg/L)		
A	036191	ND				
	583938		<0.03	0.15	<0.02	0.04
B	136192	ND				
	583939		0.09	0.20	0.04	0.03
C	136193	ND				
	583940		0.07	0.20	0.02	<0.03
D	136194	ND				
	583941		<0.03	0.22	0.03	0.05
E	136195	ND				
	583942		<0.04	0.22	<0.02	0.06
F	136196	ND				
	583943		0.04	0.27	<0.02	0.04
G						

Note: Analyses performed at Lawrence Experiment Station (MA DEP)  
 ND - not detected

SUBJECT NEW BEDFORD HARBOR

COMPUTATION CONFINED DISPOSAL FACILITY - Monitoring Wells

COMPUTED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

Wells sampled on 9 & 10 October 1990

Well	Sample No.	PCB (ppb)	Cu	Pb (ppm)	Cd	Cr
A	11283	< 0.39	0.020(J)	0.028	0.0095(J)	< 0.015
B	11284	0.29(J)	0.041(J)	0.0086	0.028(J)	0.057(J)
C	11285	0.14(J)	0.035(J)	0.0031	0.019(J)	0.032(J)
C (repeat)	11286	0.42	0.063(J)	0.0055	0.016(J)	0.033(J)
D						
E	11287	< 0.38	0.0068(J)	< 0.003	0.009(J)	0.018(J)
F	11288	< 0.39	0.011(J)	< 0.0030	0.0054(J)	< 0.015
G	11289	< 0.42	0.028(J)	0.0068	0.014(J)	0.015(J)

\* The above samples are unfiltered

A	11290	< 0.39	0.017(J)	< 0.0030	0.012(J)	< 0.015
B	11291	< 0.39	0.007(J)	< 0.0030	0.028(J)	0.040(J)
C	11292	0.43	0.007(J)	< 0.0030	0.018(J)	0.024(J)
C (repeat)	11293	< 0.39	0.0089(J)	< 0.0030	0.016(J)	0.027(J)
D						
E	11294	< 0.41	< 0.006	< 0.0030	0.0087(J)	< 0.015
F	11295	< 0.38	0.012(J)	< 0.0030	< 0.0050	< 0.015
G	11296	< 0.41	< 0.0060	< 0.0030	0.0073(J)	< 0.015

\* The above samples are filtered

\* J - Estimated value. Analyte detected at < the practical quantitation limit but greater than the method detection limit.