SECTION 5 CUTTERHEAD DREDGE - AREA 2
(contaminated material)

A. Summary of Operations
Contractors Daily Reports

B. Dredgehead Samples - TSS

C. Quantity Calculations

SDMS DocID 49871

Superfund Records Center
SITE: New Bedford
BREAK: 4.04
OTHER: 49871

NEW BEDFORD HARBOR, MA
PILOT STUDY - SUMMARY OF ACTIVITIES
CUTTERHEAD DREDGE - AREA # 2

Saturday 7 January 1989 (1020 - 1100) High Tide 0712
First day of dredging with disposal in CAD cell. Dredge (CH) operating for approximately 40 minutes removing contaminated material.

Monitoring:
EPA Narragansett sampling . (24 Hours turnaround)
NED lab carrying out plume sampling. Dredgehead sampling from a boat.

Sunday 8 January 1989 (0715 - 1155) High Tide 0758
Dredge (CH) operating for 4.25 hours removing contaminated material with disposal in CAD cell

Monitoring:
EPA Narragansett (24 hour turnaround) NED Lab - 5 plume sampling events, dredgehead samples taken from a boat.

9 January - 13 January 1989
"Matchbox" dredge operating in area #2 removing contaminated material with disposal in CAD cell.

14 January - 15 January 1989
Mudcat dredge operating in area #2 removing contaminated material with disposal in CAD cell.

Wednesday 18 January 1989 (1535-1945) High Tide 1710
Dredge (CH) operating for 2.6 hours removing contaminated material with disposal in CAD cell. No monitoring taking place.

Thursday 19 January 1989 (0830 - 1130) High Tide 0539
Dredge (CH) operating for 3.3 hours removing contaminated material with disposal in CAD cell. Completed first pass at approximately 0930. No monitoring taking place.

Friday 20 January 1989 (0830 - 1130) High Tide 0629
Dredge (CH) operating for 3.0 hours removing contaminated material with disposal in the CAD cell. Completed second pass over area. No monitoring taking place.

Monday 23 January 1989
NED lab sampling sediment from Matchbox Dredge area in area #2.

Tuesday 24 January 1989
NED Lab sampling sediment from Cutterhead work area in area #2.
NED survey crew surveying Areas #1 & #2.

Summary
Cutterhead dredge operated for 14.67 hours over 5 days removing contaminated sediment from area #2 with disposal into the CAD cell. Dredge made two passes over the area attempting to remove 18 - 24" on the first pass and attempting to remove just surface material on the second pass.

Monitoring:

Plume sampling around disposal operation	1 - 7 - 2 events
	1 - 8 - 5 events
Dredgehead sampling from a boat	1 - 7 & 1 - 8
Sediment sampling	1/24

EPA Narragansett

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SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION Cutterhead Dredge - Dredge Area #2

COMPUTED BY _____ CHECKED BY _____ DATE _____

Contaminated Material being discharged into CAD cell

DATE	DREDGE	AREA	OPERATING TIME (HRS)	DOWNTIME (HRS)
1-7	CH	2	0.67	–
1-8	↓	↓	4.25	0.42
1-18			3.50	0.67
1-19			3.25	0.25
1-20			3.00	–
[illegible]			[illegible]	[illegible]
5 days			14.67	1.34

1. Production Rate

233 cy removed / 14.67 hrs = 15.9 cy per hour
Average depth of cut = 1.1 ft

16.01 / 5 = 3.22 hrs per day

14.67 / 16.01 = .916
Dredge operating 92% of the time

2. Rate of advance

90 ft / 14.03 HRS = 8.9 ft per hour on initial pass
90 ft / 3.67 = 24.5 ft per hour on second pass

3. Operating Procedure

Dredge made 2 passes through area attempting to remove 24" of material on first pass and attempting to just skim the surface on second pass.

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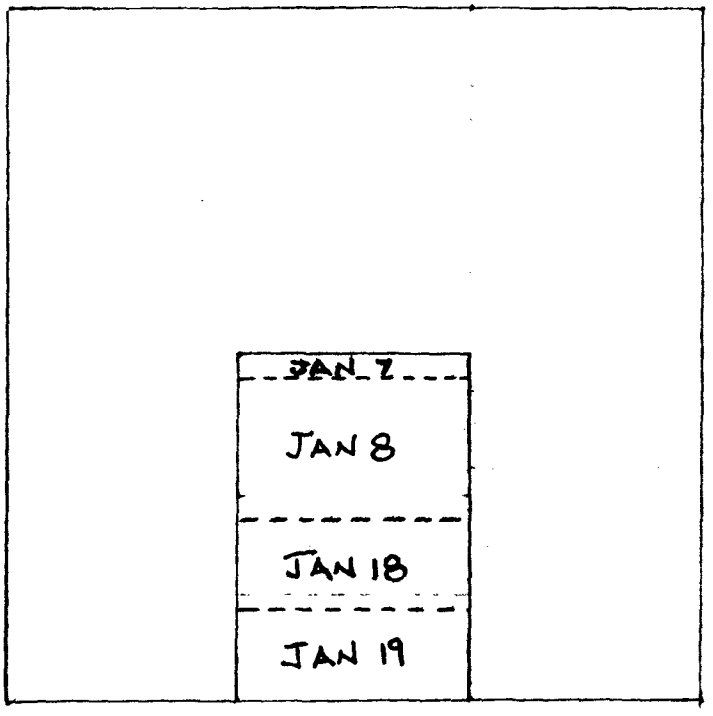
SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION AREA 2 - DREDGE LOCATION - CUTTERHEAD

COMPUTED BY CHECKED BY DATE

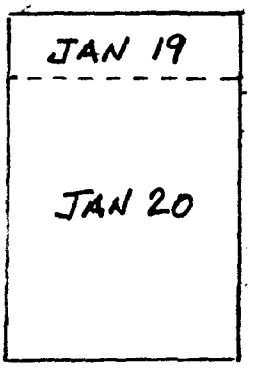


DREDGE AREA #2

• Initial pass attempting to remove 24" of materail

Rate of Advance: 90/[illegible] =

8.2 ft/hr



• Second pass attempting to skim the surface

Rate of advance: 90/3.

24.5 ft/hr

51 ...
2 1/2-3 IN
2+4

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 33 Wind: NE 5-10 High Tide: 8:15 AM
Date: 1-7-89

	TIME	COMMENTS
START	5:00 AM	Move Dredge To New Cut - Hook
STOP		up Pipe Line
START	10:20	Start Digging
STOP	11:00	No Water - Shut Down - Winterize
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

2 1/2 hr

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

White House
yellow Sign

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 32° Wind: Variable Foggy High Tide: 8:30
Date: 1-8-89

	TIME	COMMENTS
START	6:00	Warm up Dredge - Dewinterize
STOP		Prime up
START	7:15	Start Digging
STOP	11:15	Pull Swing Wires From Bank
START	11:40	
STOP	11:55	Shut Down - No Water
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

4 in Vacumn
51 PSI

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 40° Wind: 5-10 SW High Tide: ~~9:30~~ 5:30 pm
Date: 1-18-89

	TIME	COMMENTS
START	3:35	Start Digging
STOP	4:30	Suction Plugged - Fix Wire on Drum Mudcat Cable in way
START	5:10	
STOP	7:45	Shut Down - No Water - End of Cut
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 35 Wind: E-5-10 High Tide: 6:00 AM
Date: 1-19-89

	TIME	COMMENTS
START	6:55 AM	
STOP	9:30	Move Back and Sweep Cut over
START	9:45	
STOP	10:25	No Water
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat ____
Temp: 28° Wind: SW 10-20 High Tide: 7:00 A.M.
Date: 1-20-89

	TIME	COMMENTS
START	8:30	Warm Dredge up - Start Digging
STOP	11:30	Shut Down - Winterize
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

5-B DREDGEHEAD SAMPLES

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SUBJECT NEW BEDFORD HARBOR PILOT STUDY
COMPUTATION DREDGEHEAD SAMPLING - CUTTERHEAD DREDGE
COMPUTED BY CHECKED BY DATE

CUTTERHEAD DREDGE - CONTAMINATED SEDIMENT
7 JANUARY - AREA 2

TIME	PORT 1	2	3	4	5	6		Swing Speed (ft/sec)	Cutter Speed (RPM)
1035	277.6	82.0		210.2	219.0		P-S	~~.40~~ 0.62	
1048	684.9	537.6		700.1	100.4		S-P	~~.22~~ 0.68	31
1050	43.2	342.7					P-S		

* SAMPLES TAKEN FROM BOAT

8 JANUARY - AREA 2

0848	326.8	113.3	94.3	907.0	254.6	841.5	P-S	~~.42~~ 0.42	
0900	296.7	40.8	286.1	1986.8	94.1	458.4	S-P	~~.18~~ 0.55	
0915	138.6	1126.5	169.9	252.7	92.2	630.6	P-S		
0930	92.2	40.7	152.3	655.0	135.3	1649.8	S-P		
0945	213.5	470.8	333.5	540.9	122.0	884.9	P-S		
1005	76.1	61.2	137.6	679.2	167.2	513.6	S-P		
1025	271.3	329.2	179.5	275.6	135.0	104.3	P-S		
1034	495.7	633.5	111.7	425.8	122.9	813.5	S-P	~~.46~~ 0.51	
1055	481.9	336.9	177.3	166.8	211.3	121.8	P-S		47
1150	486.0			350.4			S-P		

* SAMPLES TAKEN FROM BOAT

SWING SPEED - circumference of spool = 2.83 ft

1-7 2.83/4.55 = 0.62 ft/sec

2.83/4.15 = 0.68

1-8 2.83/6.70 = 0.42

2.83/5.11 = 0.55

2.83/5.56 = 0.51

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SUBJECT NEW BEDFORD HARBOR PILOT STUDY
COMPUTATION DREDGEHEAD SAMPLING - CUTTERHEAD DREDGE
COMPUTED BY CHECKED BY DATE

CUTTERHEAD DREDGE - CAP MATERIAL
27 JANUARY - AREA 2

TIME	PORT 1	2	3	4	5	6
	1413.8		698.6	1359.2		145.7
	336.6		209.4	1150.8		947.7
	420.4		98.0	765.8		1131.1
	1063.0		532.7			471.3
	482.1		300.9	132.1		226.9
	209.9		153.0	705.7		544.7
	353.0		258.5	2419.2		1192.8
	536.1		895.4	2043.2		510.5
	950.2		2866	7963.8		661.6
	497.0		449.0	555.2		281.2
	3105.4		630.9	769.2		484.6
	304.4		270.4	618.6		442.1
	871.9		268.2	631.3		332.8
	676.6		479.7	498.4		405.4
	1278.6		520.0	1481.4		604.7
	794.8		1129.8	2019.6		3850.6
	433.7		494.8	3151.0		3972.8
	892.6		837.8	1498.6		4324.8
	1001.2		400.6	753.4		2094.0

5.C QUANTITY CALCULATIONS

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SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredging Area #2 Quantity Calculation
COMPUTED BY CHECKED BY DATE

CUTTERHEAD DREDGE

STATION	(ft^2) AREA	(ft^2) AVERAGE AREA	(ft)^3 VOLUME
0+00	121.2		
		109.3	1639.5
0+15	97.4		
		81.4	1628
0+35	65.4		
		64.4	966
0+50	63.4		
		53.3	799.5
0+65	43.2		
		44.8	672
0+80	46.4		
		38.4	576
0+95	30.4		

6281 / 27

233 cy

1. Stations run east to west

2. Average depth of cut 1.1 ft

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SUBJECT New Bedford Harbor Superfund Site - Pilot Study
Dredge Area #2 - CUTTERHEAD DREDGE

COMPUTATION

COMPUTED BY

CHECKED BY

DATE

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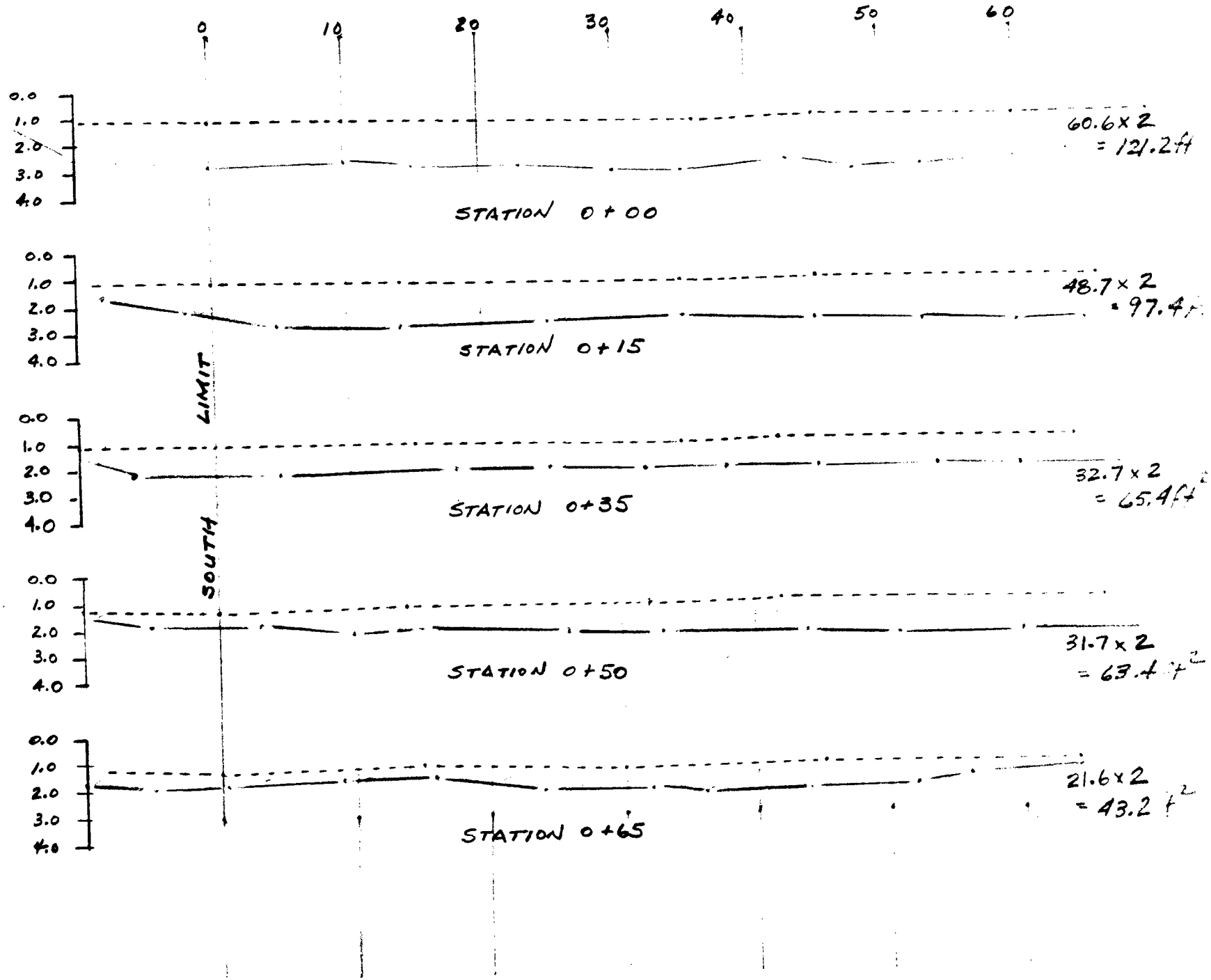

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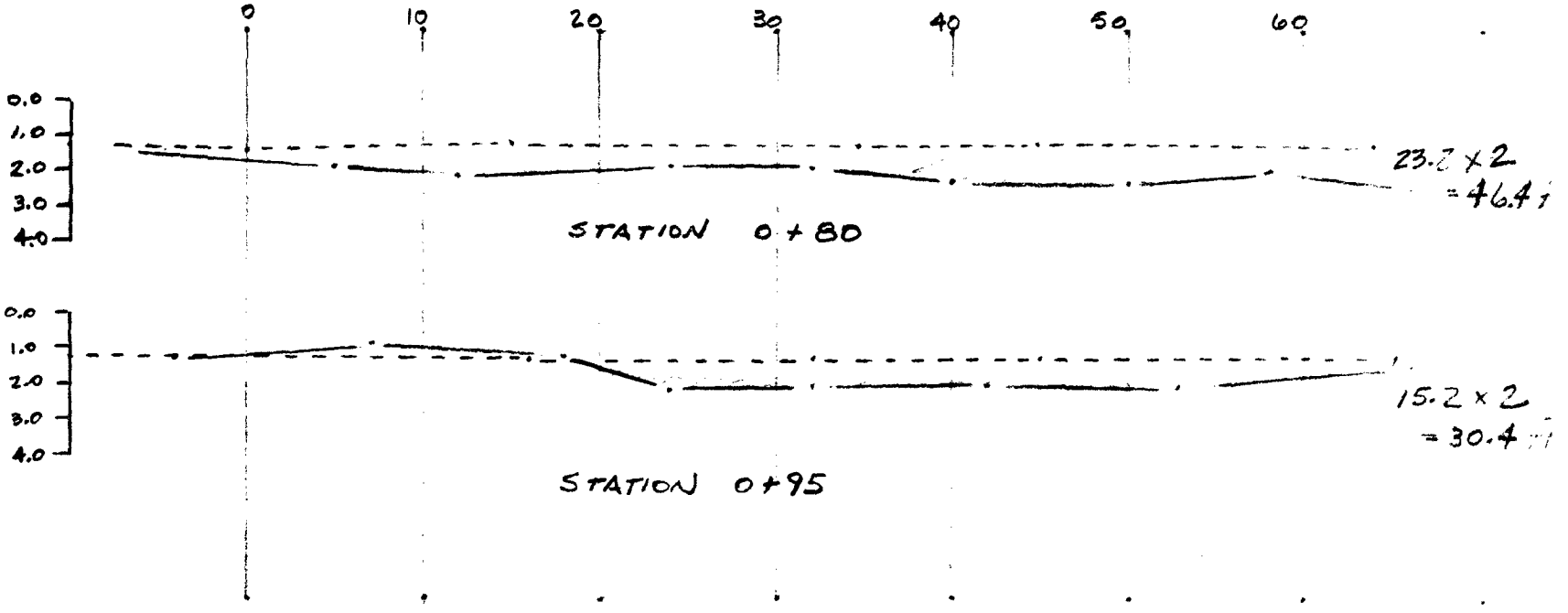
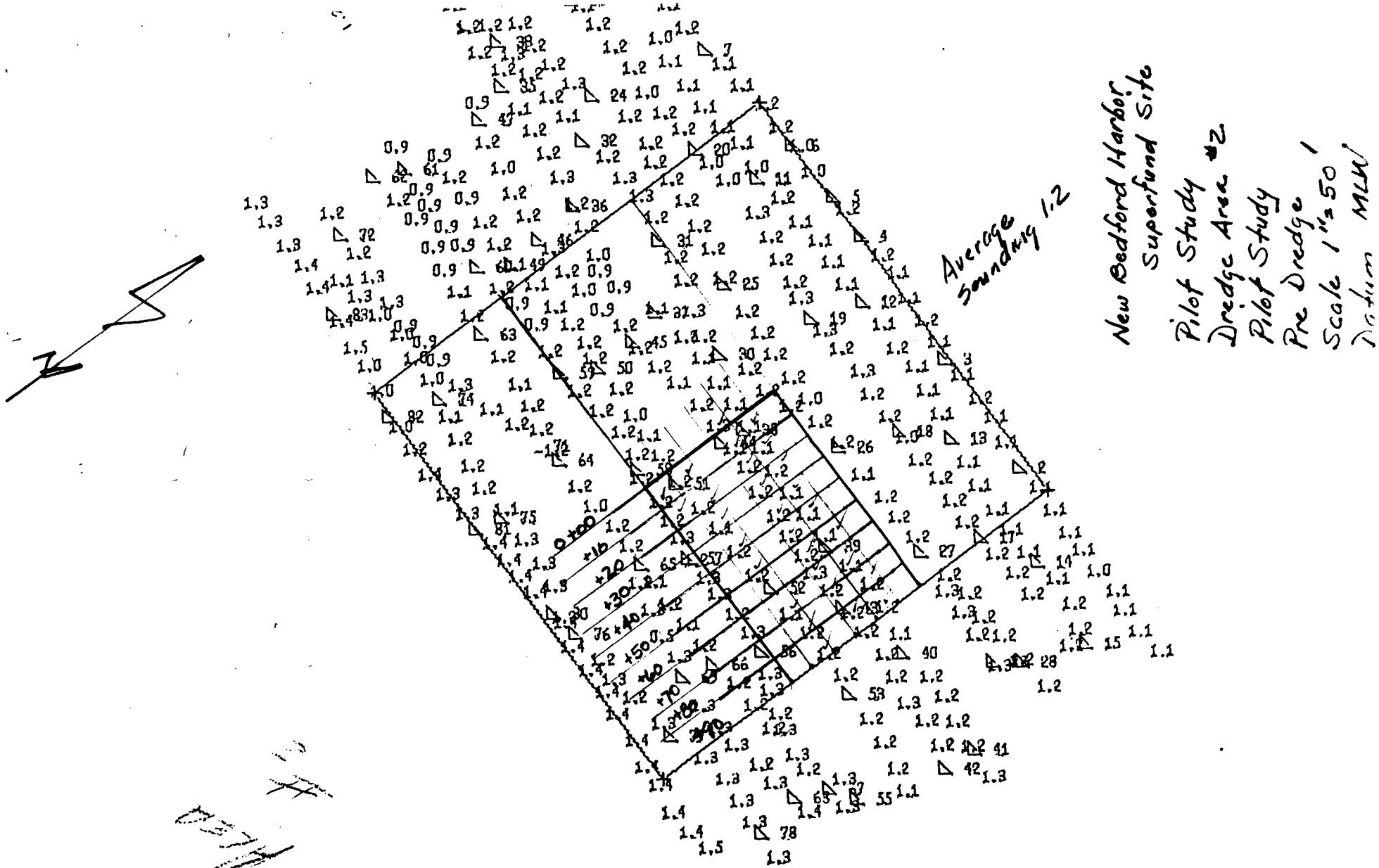
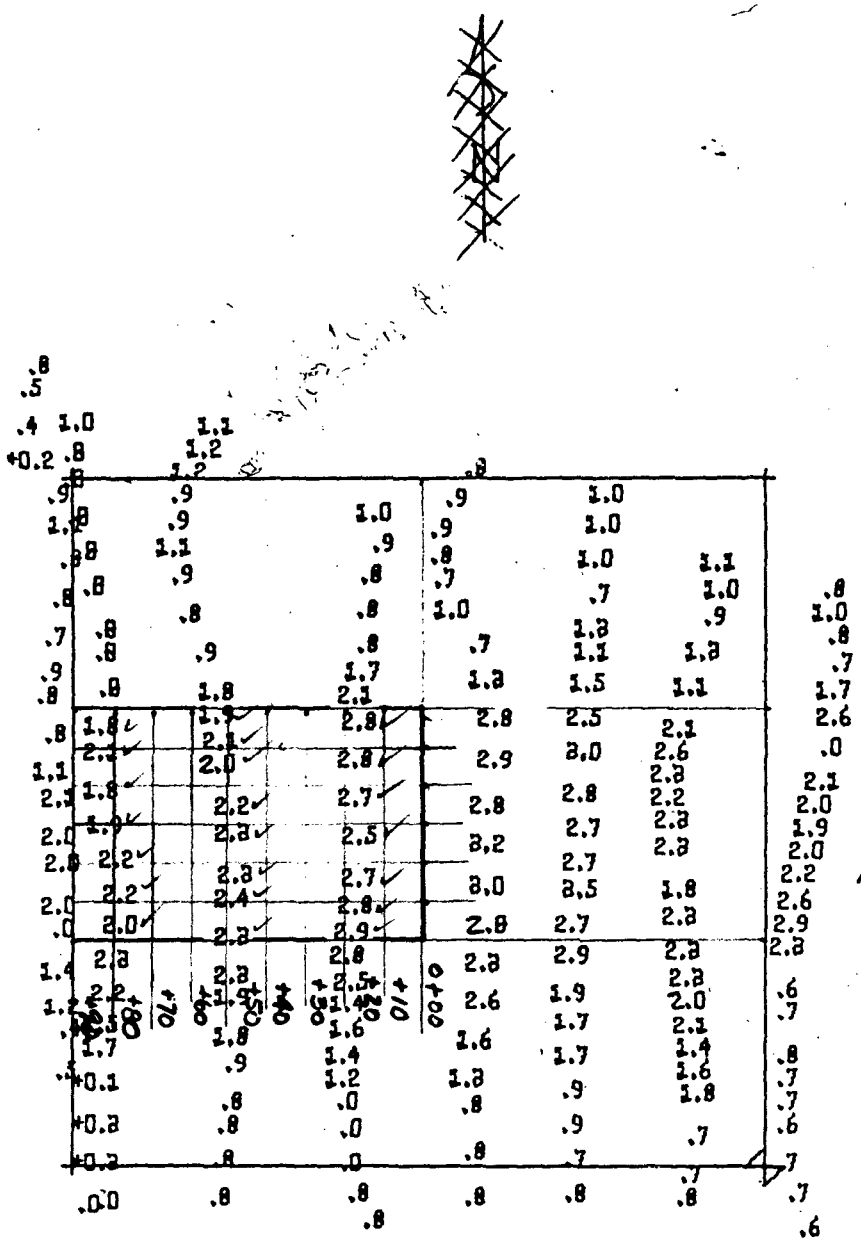
SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - CUTTERHEAD DREDGE

COMPUTED BY CHECKED BY DATE PAGE




New Bedford Harbor
Superfund Site
Pilot Study
Dredge Area #2
Pilot Study
Pre Dredge 1
Scale 1"=50'
Datum MLW
Average sounding 1.2
0+00
+10
+20
+30
+40
+50
+60
+70
+80
+90

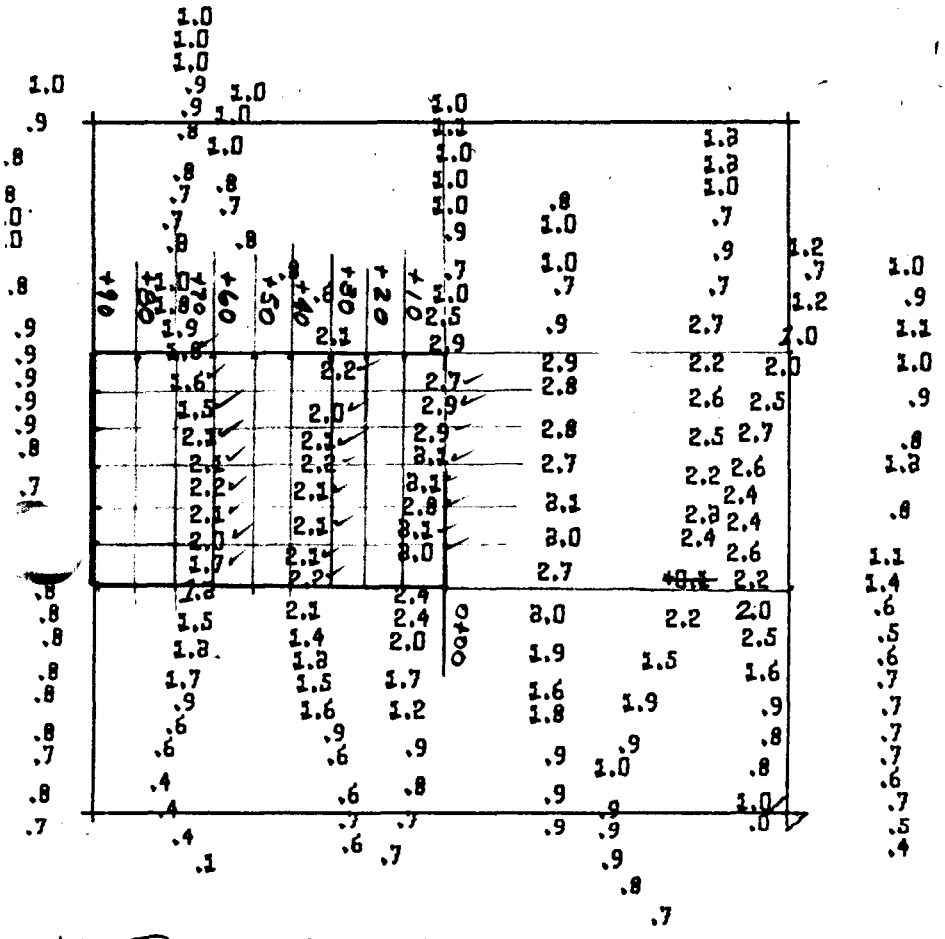


Average Sounding 2.3

eld Plot Area #2

Pilot Study
Dredge Area 2
Cutterhead Dredge

1/24/89 New Bedford
After dredge Survey
Superfund
ESS#3 - McIntyre
Ref. BK. R+H 2309
Scale 1"=50'
Datum M.L.W.



=ld Plot Area #2

Pilot Study
Dredge Area 2
Cutterhead Dredge
1/24/89 New Bedford, MA
After dredge Survey
Superfund
ESS #3 - McIntyre
Ref. BK. R+H 2309
Scale 1"=50'
Datum M.L.W.

SECTION 6 MATCHBOX DREDGE - AREA 2
(contaminated sediment)

D. Summary of Operations

E. Dredgehead Sampling - TSS

F. Quantity Calculations

NEW BEDFORD HARBOR, MA
PILOT STUDY - SUMMARY OF ACTIVITIES
MATCHBOX DREDGE - AREA #2

Monday 9 January 1989 (0900-1145) High Tide 0845

Dredge (MB) operating for 1.5 hours removing contaminated sediment with disposal in CAD cell. Dredge appeared to be making a 18' - 24' cut which was overloading the dredgehead resulting in the plowing of material. A sheen of oil was visible over the entire cove.

Monitoring: EPA Narragansett (24 hour turnaround)
Dredgehead sampling was limited due to equipment problems.
Plume sampling (4 events).

Tuesday 10 January 1989 (0830 - 1230) High Tide 0933

Dredge (MB) operating for 3.6 hours removing contaminated sediment with disposal in CAD cell. Operating procedures changed. Attempting to remove 6" per swing with two swings per advance.

Monitoring: EPA Narragansett (24 hour turnaround)
Dredgehead sampling for boat and pump.
Plume sampling (5 events).

Wednesday 11 January 1989 (0830 - 1230) High Tide 1022

Dredge (MB) operating for 4.0 hours removing contaminated sediment with disposal in CAD cell. Completed first pass and moved back to pick up winrows from first day of dredging, Completed this effort and moved back to begin second pass.

Monitoring: Dredgehead sampling with one composite sample taken from the vicinity of diffuser.

Thursday 12 January 1989 (1000 - 1430) High Tide 1112

Dredge (MB) operating for 4.2 hours removing contaminated sediment with disposal in CAD cell. Silt curtain moved around diffuser and dredge at approximately 1100 HRS.

Monitoring: Dredgehead sampling and one set of samples from vicinity of diffuser.

Friday 13 January 1989 (1000 - 1130) High Tide 1210

Dredge (MB) operating for 1.3 hours removing contaminated sediment with disposal in CAD cell. Completed second pass.

Monitoring: Dredgehead samples and a sample from the vicinity of the diffuser.

Summary

Matchbox dredge operated for 14.65 hours over 5 days removing contaminated sediment from area #2 with disposal into the CAD cell. The dredge made 2 passes over the area removing 12" per pass. The dredge attempted to remove 6" per swing and made 2 swings per advance.

Monitoring:

Plume sampling around disposal operation	1/9 & 1/10
Dredgehead sampling	1/9, 1/10, 1/11, 1/12 & 1/13
1 Sample from disposal plume	1/11, 1/12 & 1/13

EPA Narragansett

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SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - Matchbox Dredge
COMPUTED BY CHECKED BY DATE

Contaminated Material being discharged into CAD cell

DATE	DREDGE	AREA	OPERATING TIME (HRS)	DOWNTIME (HRS)
1-9*	MB	2	1.48	1.18
1-10	↓	↓	3.70	
1-11			4.00	0.33
1-12			4.17	
1-13			1.30	
5 days			14.65 hrs	1.51 hrs

1. Production Rate

359 cy / 14.65 hrs = 24.5 cy / hr

16.16 / 5 days = 3.23 HRS per DAY

14.65 / 16.16 = .91
Dredge operating 91% of the time

2. Rate of Advance

100' / 6.43 HRS = 15.5 ft per hour - first pass

100' / 6.97 HRS = 14.3 ft per hour - 2nd pass

3. Operating Procedure

- On 9 January dredge appeared to be making an 18"-24" cut which resulted in plowing of material. Decision criteria was exceeded at Coggeshall Street Bridge Station.
- Operating procedure changed. Dredge making a 6" cut, two swings per advances from 10-13 January
- On January 11 dredge operated for approximately 1.25 hours removing windrows of material at start of cut.

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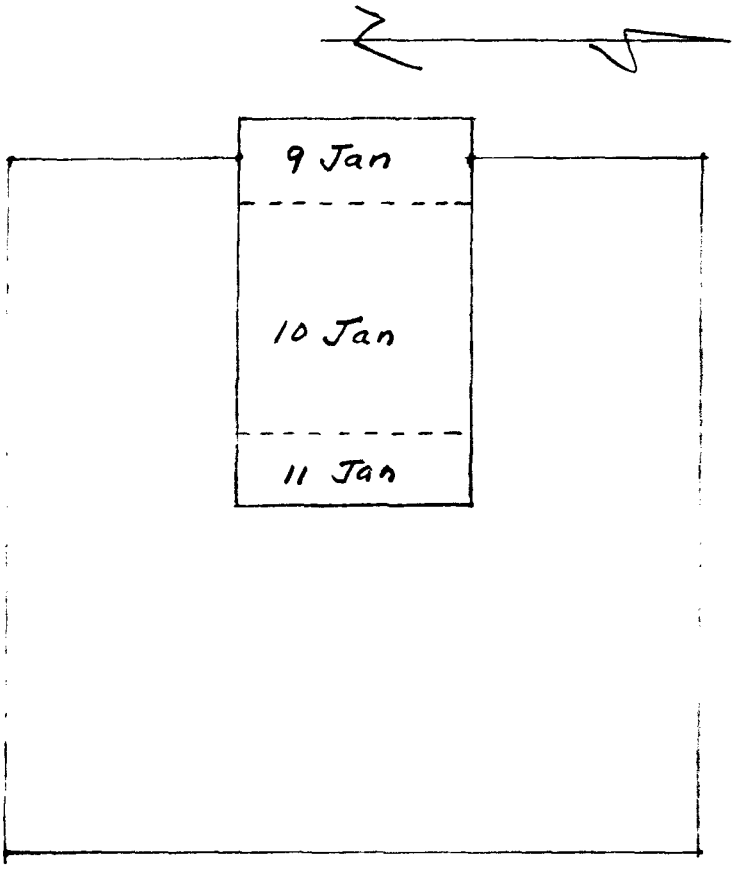
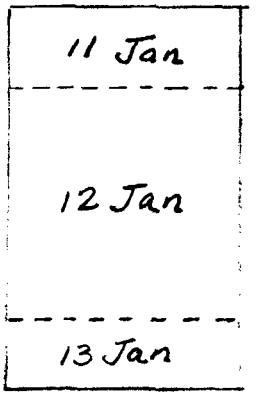
SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION AREA 2 - DREDGE LOCATION - MATCHBOX
COMPUTED BY CHECKED BY DATE



DREDGE AREA #2

- Rate of Advance 15.5 ft/hr - initial pass



- Second Pass Rate of Advance 100'/6.97 HRS = 14.3 ft/hr

On 1/11 dredge operated for 1.5 hours removing winnrows on east end of work area

6 - E DREDGEHEAD SAMPLING - TSS

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SUBJECT NEW BEDFORD HARBOR PILOT STUDY

COMPUTATION DREDGEHEAD SAMPLING - MATCHBOX DREDGE

COMPUTED BY CHECKED BY DATE

MATCHBOX DREDGE - CONTAMINATED MATERIAL
9 JANUARY - AREA 2

TIME	PORT 1	2	3	4	5	6		Swing (ft/sec)
0855	1099.9	62.7	59.6	38.5	190.2	407.6	S-P	.23
0919	2243.8	250.7	216.0	2216.4	436.0	2814.8	P-S	
0930				76.8	527.8	1804.1	S-P	.22
1105	254.0	148.0 (P-S)		681.5	330.4 (S-P)			
1111	163.7	112.8		248.2			P-S	
1121		76.8		144.0			S-P	
Chemistry sample taken @ 1119 (S-P)								.24
10 JANUARY								
0900	858.6	52.5	99.9	224.7	305.0	1347.9	S-P	
0915	63.0	43.1	53.2	69.5	55.0	36.3	P-S	
0925	23.0	39.8	59.3	167.0	47.0	33.9	S-P	
0946	46.2	36.0	30.4	196.1	29.1	36.8	P-S	
0953	97.0	118.2	83.8	94.5	89.7	116.2	S-P	
1003	87.0	94.8	78.1	64.7	64.7	87.6	S-P	.31
1052	144.5	159.6	297.3	387.7	813.4	830.1	P-S	.28
1103		198.7		687.9	1152.3		P-S	.22
1111	1649.4	496.8	34.6	101.0	253.7	353.2	S-P	.20
1125	257.2	163.6	536.6	746.2	1246.6		P-S	.29
1141	217.9	122.5		183.2	192.8			.24
1146	222.9	252.5		151.7	339.3		P-S	
1158	119.2	163.8		269.1	355.3		S-P	
1200	340.5	137.7		221.2	1025.4		P-S	.27
0942 Chemistry							P-S	
1111 "							S-P	.20
1146 "								

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SUBJECT NEW BEDFORD HARBOR PILOT STUDY
COMPUTATION DREDGEHEAD SAMPLING - MATCHBOX DREDGE
COMPUTED BY CHECKED BY DATE

MATCHBOX DREDGE - CONTAMINATED SEDIMENT
11 JANUARY - AREA 2

TIME	PORT 1	2	3	4	5	6		Swing Speed (ft/sec)
0845	74.7	44.1	39.9	1484	51.0	1082.0	S-P	.30
0900	37.2	30.7	32.1	33.3	24.8	87.6	P-S	
0912	30.6	49.0	31.6	41.4	35.6	55.3	S-P	
0918	38.0	33.6	26.3	33.0	32.2	27.6	P-S	.27
0935	39.8	26.8	24.9	33.6	34.5	207.0	S-P	
1135		101.3	88.1	266.3	918.2	126.1	S-P	
1142	169.8	184.6	339.3	88.6	76.8	77.4	P-S	
1155	103.4	89.0	162.4				P-S	
1205	78.6	139.0	531.3	89.1	96.8	86.0	S-P	.30
	271.7	454.4	560.3	2780.5	3048.1	1096.2	P-S	
1229	1398.7	1823.8	960.6	1015.6	589.4	1925.6	S-P	
1230	160.6	165.4	175.8	165.8	186.2	177.7		

CHEMISTRY SAMPLE AT 1230

* First 5 sample sets may have been taken while dredge was operating in an area that had already been dredged.

12 JANUARY - AREA 2

1008	60.6	66.9	111.9	55.5	100.4	716.7	P-S	.27
1030	110.2	264.9	149.7	115.6	602.8	971.9	S-P	.28
1037	262.6	231.3	187.1	218.6	271.3	211.4	P-S	
1045	184.4	109.3	189.7	279.2	302.2	715.9	S-P	.35
1050	318.6	209.2	198.0	198.1	200.1	299.5	P-S	
1100	187.0	199.8	49.7	263.2	286.9	219.8	S-P	.32
1105	187.2	367.0	182.4	228.4	601.9	363.5	P-S	
1110	185.0	379.6	269.2	121.2	158.7	136.2	S-P	
1115	245.8	153.0	375.1	244.1	230.9	229.0	P-S	
1120	288.7	381.0	208.2	217.3	232.5	247.3	S-P	.34
1125	194.0	171.3	241.0	321.5	273.0	250.0	P-S	
1130	193.3	171.2	193.1	217.1	239.6	182.2	S-P	
1200	217.7	185.9	199.3	230.2	257.0	219.7	P-S	
1220	200.2	210.9	223.8	175.5	312.2	232.1	S-P	.37
1330	211.1	207.2	171.2	146.4	316.4	456.4	P-S	
1350	205.5	214.0	212.8	172.3	174.7	164.7	S-P	
1400	248.8	267.6	182.2	188.3	191.0	205.6	P-S	
1410		1019.5	722.1	331.1	518.1	882.6	S-P	

Chemistry sample @ 1100 & 1220

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT NEW BEDFORD HARBOR PILOT STUDY
COMPUTATION DREDGEHEAD SAMPLING - MATCHBOX DREDGE
COMPUTED BY CHECKED BY DATE

MATCHBOX DREDGE - CONTAMINATED MATERIAL
13 JANUARY - AREA 2

TIME	PORT 1	2	3	4	5	6		Swing Speed (ft/sec)
1015		176.3	121.8	363.1	390.3		P-S	
1025	101.8	84.0	82.1	117.5	93.7	74.3	P-S	
1035	12.9	1274.6	601.0	90.0	64.3	57.5	S-P	.29
1040	4832.7	168.5	103.4	1083.4	654.0	180.7	P-S	.23
1053	503.2	236.6	95.4	76.0	123.6	325.9	S-P	.27
1100	27.6	18.3	22.8	22.0	16.3	17.2	P-S	
1115		75.7	208.0	59.4	44.6	44.7	P-S	
1125(C)			88.8	174.1	146.2	55.5	P-S	

6-F QUANTITY CALCULATIONS

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredging Area #2 - Quantity Calculation
COMPUTED BY CHECKED BY DATE

MATCHBOX DREDGE

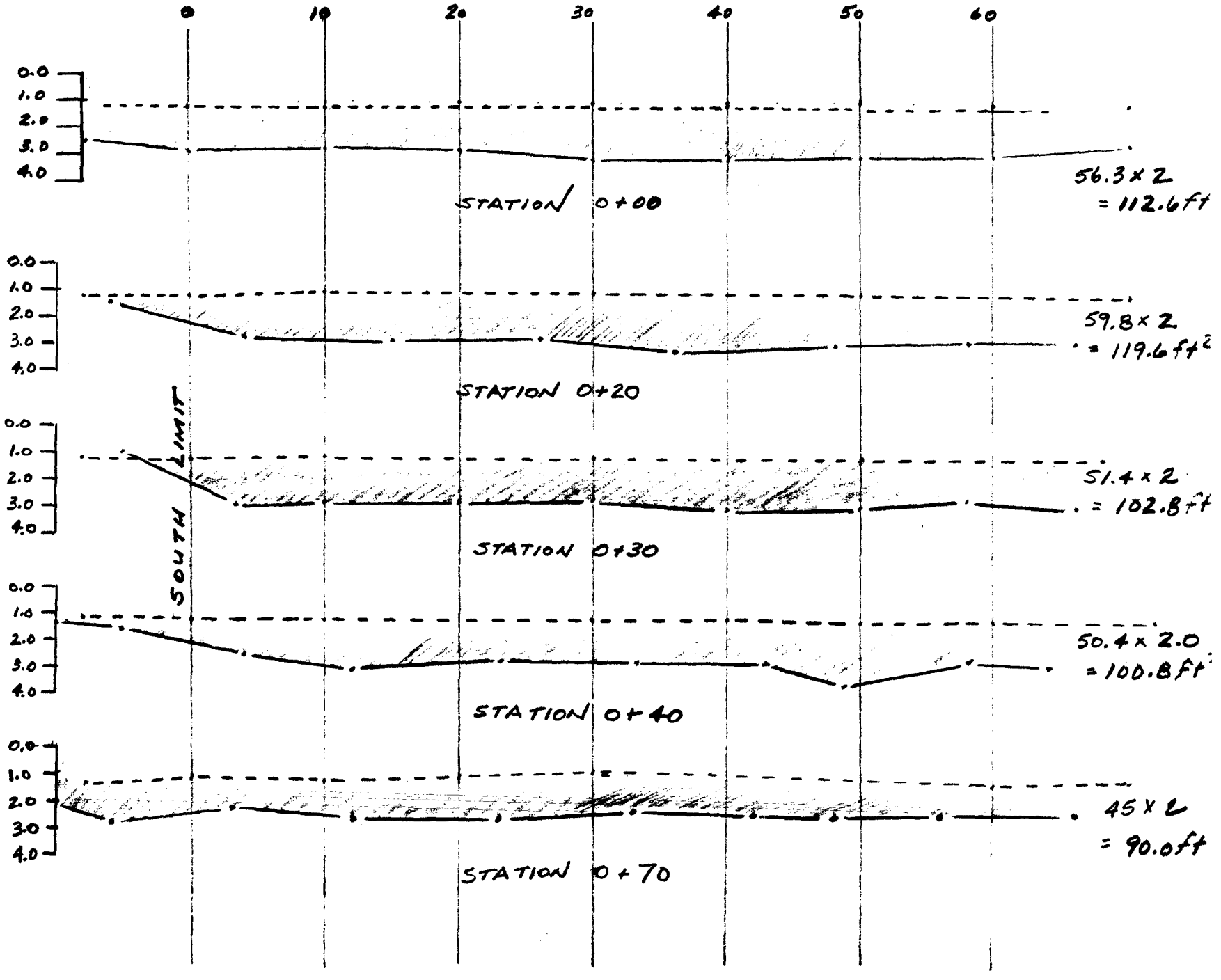
STATION	AREA (ft^2)	AVERAGE AREA (ft^2)	VOLUME (ft^3)
0+00	112.6		
		116.1	2322
0+20	119.6		
		111.2	1112
0+30	102.8		
		101.8	1018
0+40	100.8		
		95.4	2862
0+70	90.0		
		89.3	893
0+80	88.6		
		74.8	1496
1+00	61.0		
			9703/27
			359 cy

1. Average depth of cut 1.5 ft.
2. Stations run west to east

NED FORM 223
27 Sept 49

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

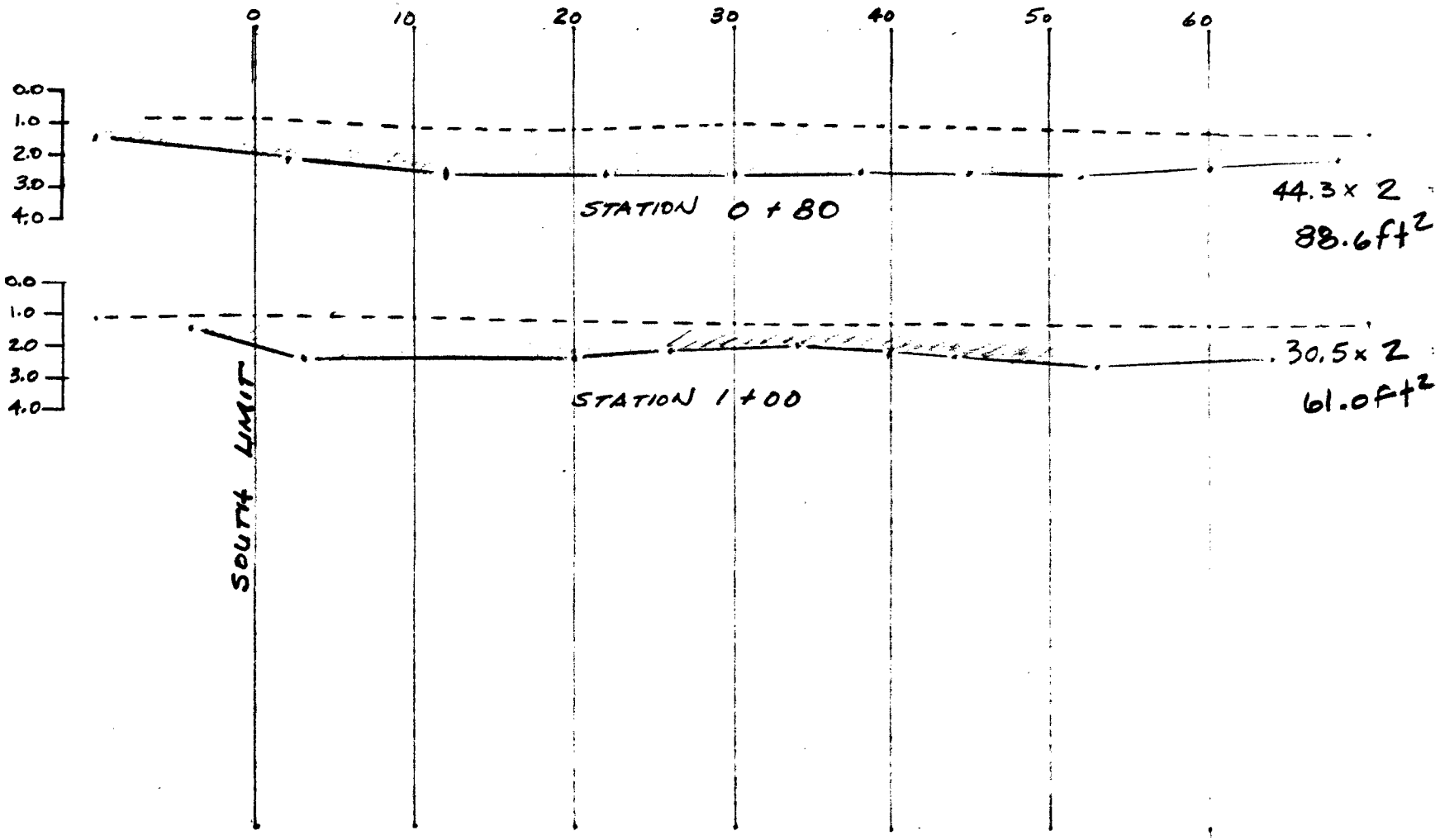
SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION DREDGE AREA #2 - MATCHOX DREDGE
COMPUTED BY ____ CHECKED BY ____ DATE ____ PAGE ____

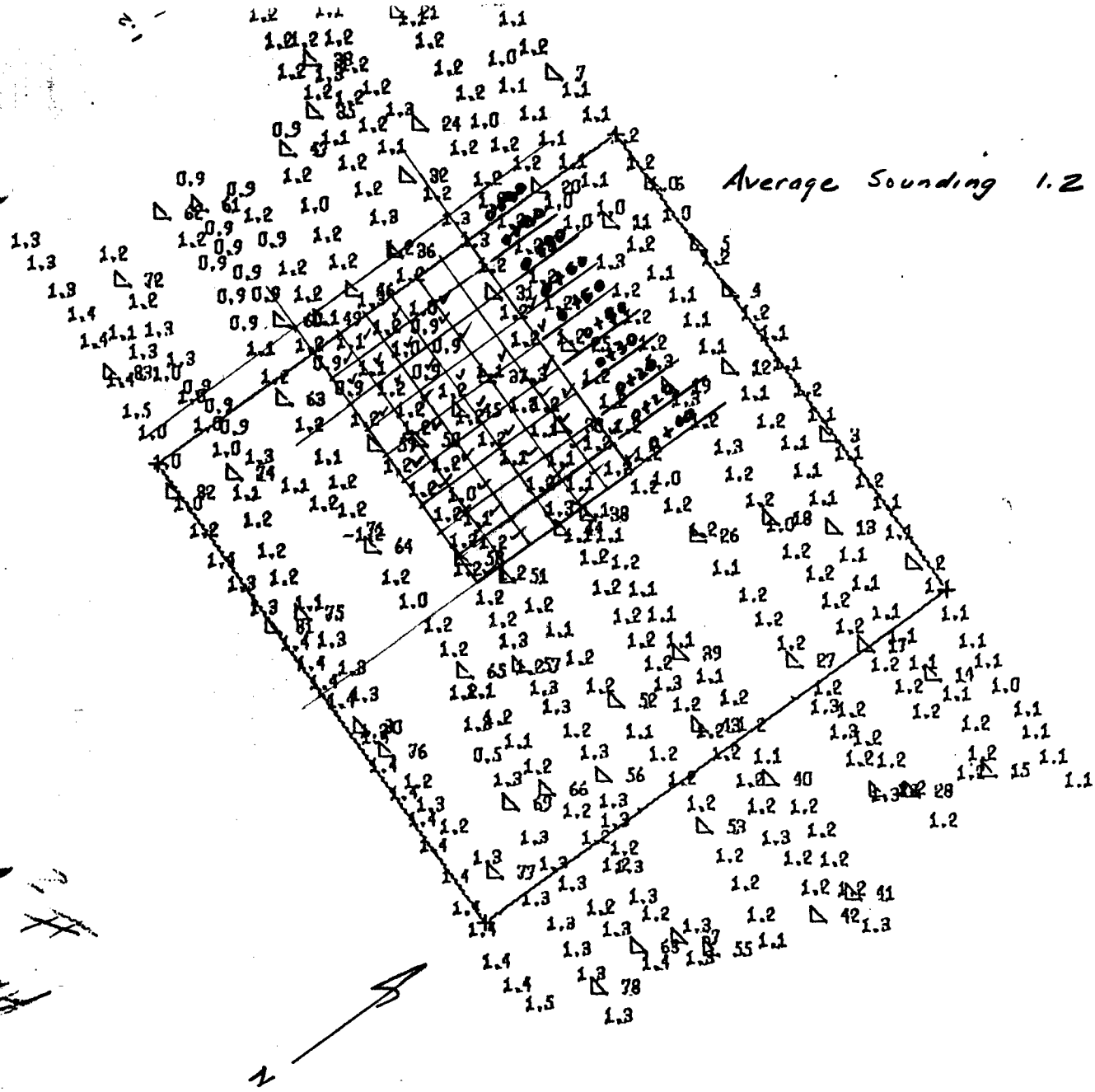


NED FORM 223
27 Sept 49

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

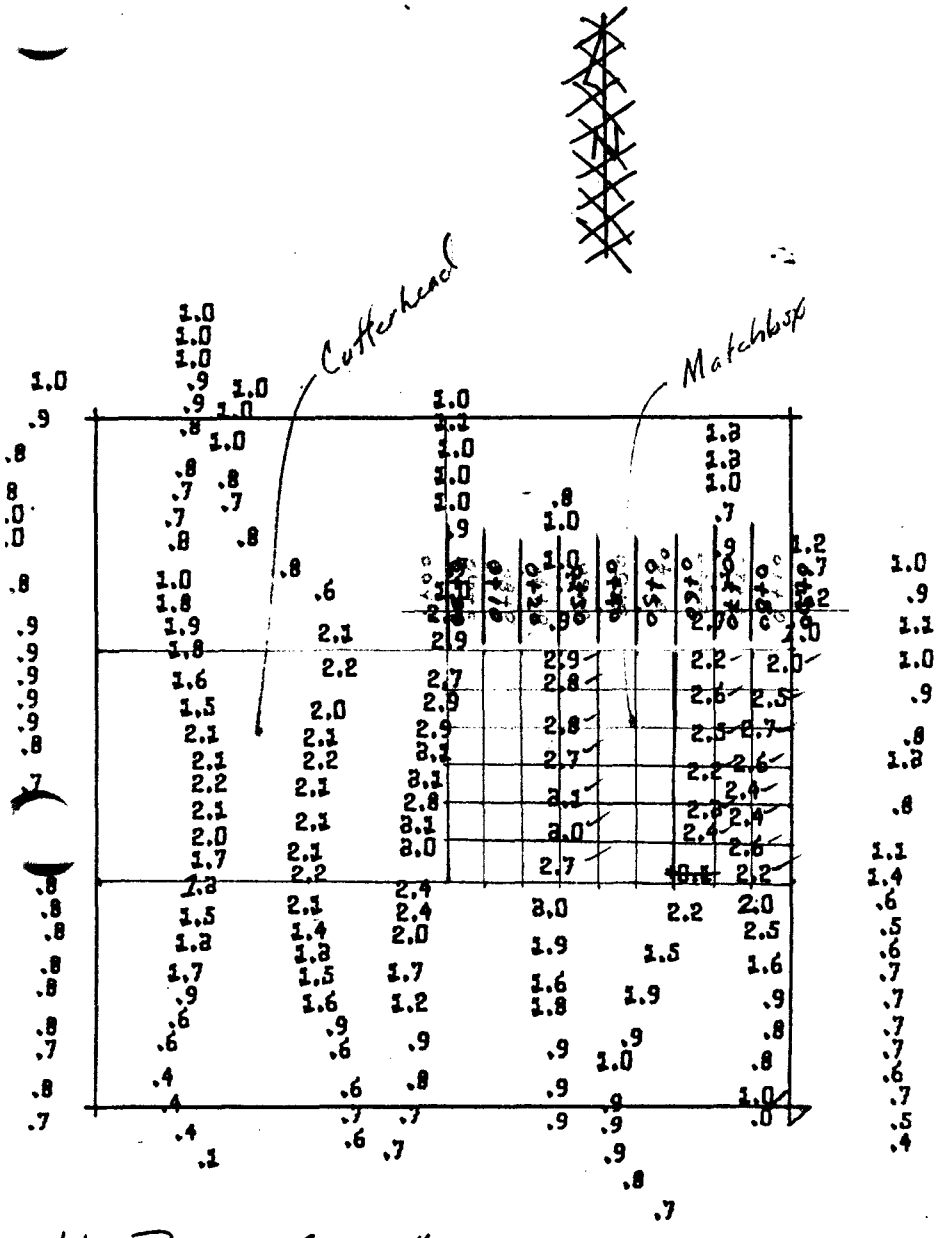
SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - MATCHBOX DREDGE
COMPUTED BY _____ CHECKED BY _____ DATE _____ PAGE _____





PRE DREDGE

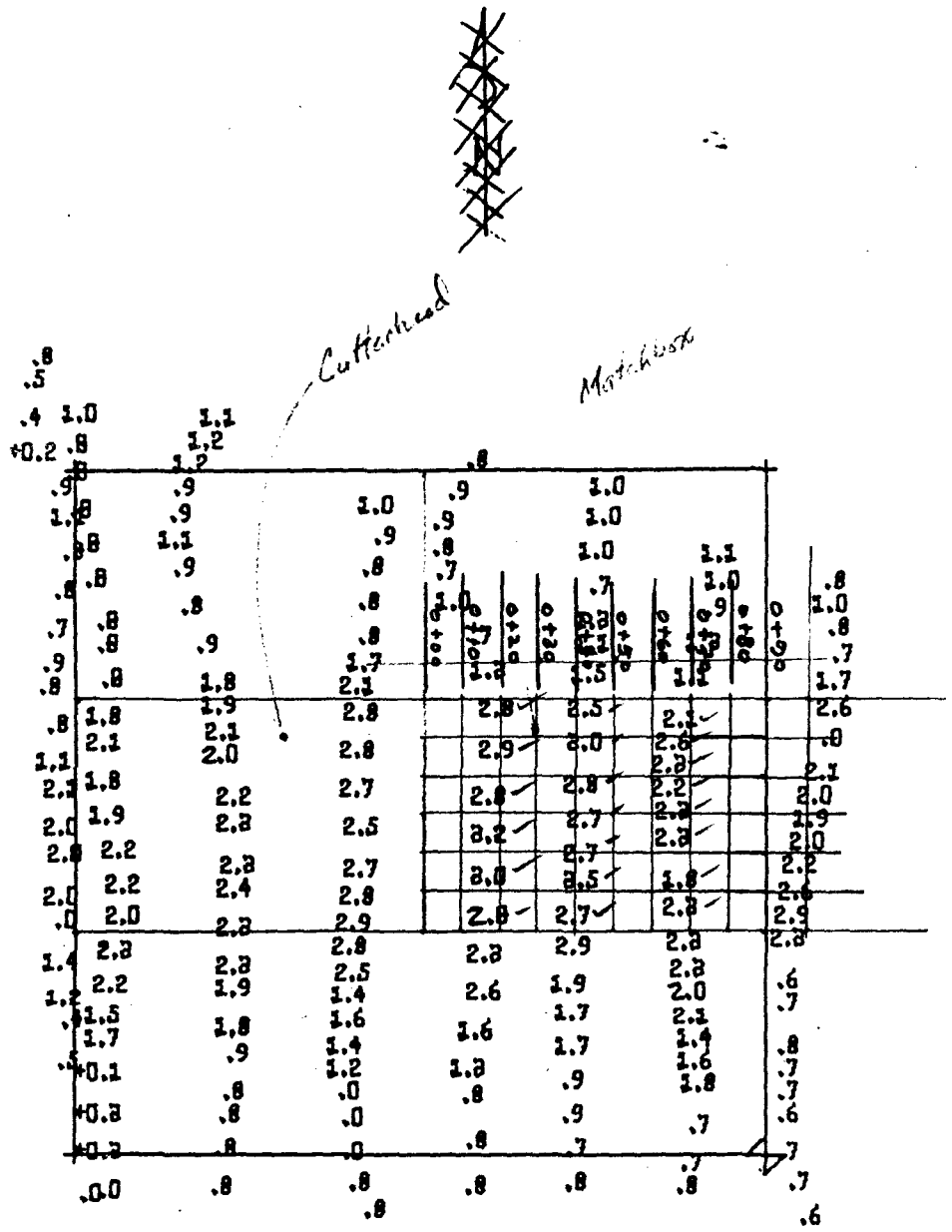
NEW BEDFORD HARBOR
PILOT STUDY
DREDGE AREA #2
PRE DREDGE
SCALE 1" = 50'
DATUM MLW



Field Plot Area #2

PILOT STUDY
DREDGE AREA #2
MATCHBOX DREDGE

1/24/89 New Bedford, MA
After dredge Survey
SUPERFUND
ESS #3 - McINTYRE
REF. BK. R+H 2309
SCALE 1" = 50'
DATUM M.L.W.



Average Sounding 2.7

'eld Plot Area #2

Pilot Study
Dredge Area #2
Matchbox Dredge
1/24/89 New Bedford
After dredge Survey
Superfund
ESS #3 - McIntyre
Ref. Bk. R+H 2309
Scale 1"=50'
Datum M.L.W.

SECTION 7 - MUDCAT DREDGE - AREA 2
(contaminated sediment)

G. Summary of Operations

H. Dredgehead Sampling

I. Quantity Calculations
- hydrographic surveys

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - Mudcat Dredge
COMPUTED BY CHECKED BY DATE

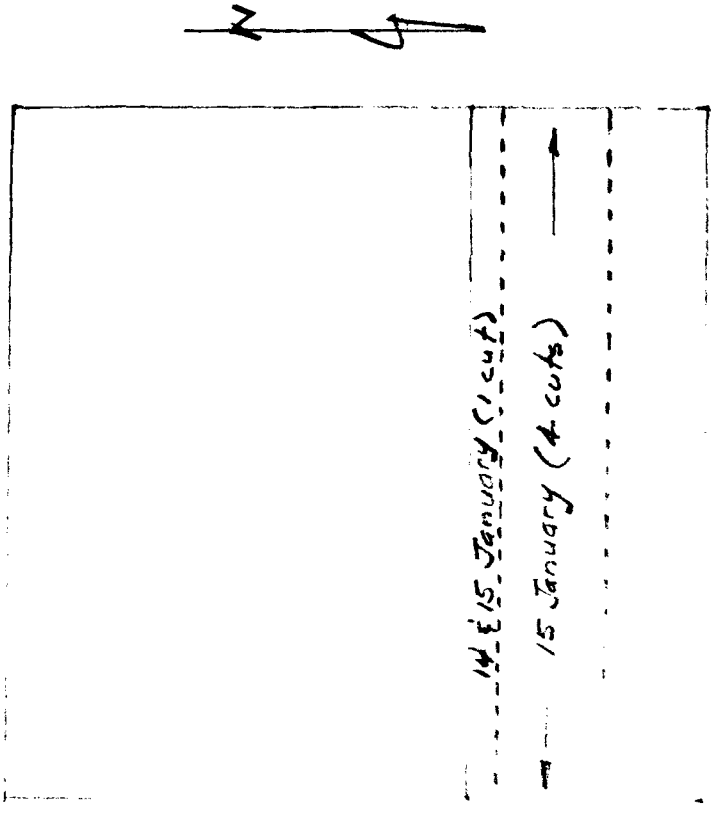
Contaminated Material being discharged into CAD cell

DATE	DREDGE	AREA	(HRS) OPERATING TIME	(HRS) DOWNTIME
1-14	MC	2	0.75	-
1-15	MC	2	5.67	1.75
2 days			6.42 hrs	1.75 hrs

Production Rate: 127 cy / 6.42 HRS = 19.8 cy / HR
127 cy / 8.17 HRS = 15.5 cy / HR
6.42 / 8.17 = 0.79
Dredge Operating 79% of the time

Method of Operation: Dredge made two passes per cut attempting to remove 12" per pass. A pass consisted of one forward and one reverse trip over the cut.

Location of Dredge:



Vacu

27

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott _____ Mudcat ✓
Temp: 23° Wind: SW 10-20 High Tide: 1:30
Date: 1-14-89

	TIME	COMMENTS
START	9:00	Set up Wires for Mudcat + Put
STOP		on Location
START	3:15	Start Digging
STOP	4:00	Something in Pump - Shut Down for Day
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

28 PSI- 1800 RPM

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott _____ Mudcat ✓
Temp: 35° Wind: W-10-20 High Tide: 2:30
Date: 1-15-89

	TIME	COMMENTS
START	10:00	Prepare Dredge
STOP		
START	10:50	Start Digging
STOP	~~11:20~~ 11:45	Move over 7' 2nd
START	12:05	
STOP	1:55	Move over 7' 3rd
START	1:25	
STOP	2:25	Move over 7' 4th
START	2:50	
STOP	4:00	Move over 7' 5th
START	4:30	
STOP	5:15	Ran out of Water
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

7-H DREDGEHEAD SAMPLING

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT NEW BEDFORD HARBOR PILOT STUDY
COMPUTATION DREDGEHEAD SAMPLING - MUDCAT DREDGE
COMPUTED BY CHECKED BY DATE

MUDCAT DREDGE - CONTAMINATED MATERIAL
14 JANUARY -- AREA 2

TIME	PORT 1	2	3	4	5	6
	210.2	46.3	457.0			
	537.4	340.4	606.7		397.0	
	448.9	456.3				

15 JANUARY		'	'	'	'	'	'	Pull Speed (ft/sec)
1105	R	2411.5	386.3	128.5				.13
1135	F	1026	184.3	222.7				
1205	F	162.7	258.8	314.7				.28
1220	R	820.9	903.3	312.0				.31
1235	F	655.8	1515.9	1350.2				.33
1250	R	228.6	1266.6	641.9				.30
1335	F	1062.6	1148.3	591.5				.28
1350	R	403.5	343.2	451.0				.37
1400	F	2515.6	1428.4	4041.8	456.0	444.4	717.6	.21
1415	R	127.8	494.4	355.6	524.8	641.0	265.4	.22
1455	F	377.2	319.2	174.4	561.5	514.0	78.8	.25
1505	F&R	60.5	136.0	1806.4	1726.6	888.5	72.4	.20
1515	R	435.5	1982.6	1367.0	465.6	699.8	116.8	.26
1525	F	363.9	3094.8	2925.2	4049.2	5949.8	350.0	.22
1535	F	3312.8	2904.4	3275.6	3120.8	4187.8	372.1	.20
1545	R	366.0	3098.6	726.3	581.4	983.0	111.3	.23
1555	R	116.5	123.2	769.4	725.0	690.4	76.3	
1635	F	1451.6	4634.2	5888.4				.21
1645	R	2044.6	2407.0	3935.8				.23
1655	R	2012.2	1873.4	2175.6				
1705	F	2418.0	1664.2	1338.0				

Chemistry samples @ 1220, 1400, 1525 & 1635

7-I QUANTITY CALCULATIONS

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - Quantity Calculation
COMPUTED BY CHECKED BY DATE

STATION	(ft²) AREA	(ft²) AVERAGE AREA	(ft³) VOLUME
0-10	70.5		
		86.9	2607
0+20	103.3		
		105.8	2116
0+40	108.3		
		126.4	2528
0+60	144.5		
		145.9	2918
0+80	147.3		
		144.7	2894
1+00	142		
		110.3	2206
1+20	78.5		
		82.2	1644
1+40	85.8		
		71.1	1422
1+60	56.3		
		53.6	1072
1+80	50.8		
			19407/27
			719 cy

1. Stations run east to west

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27 Sept. 49

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

PAGE

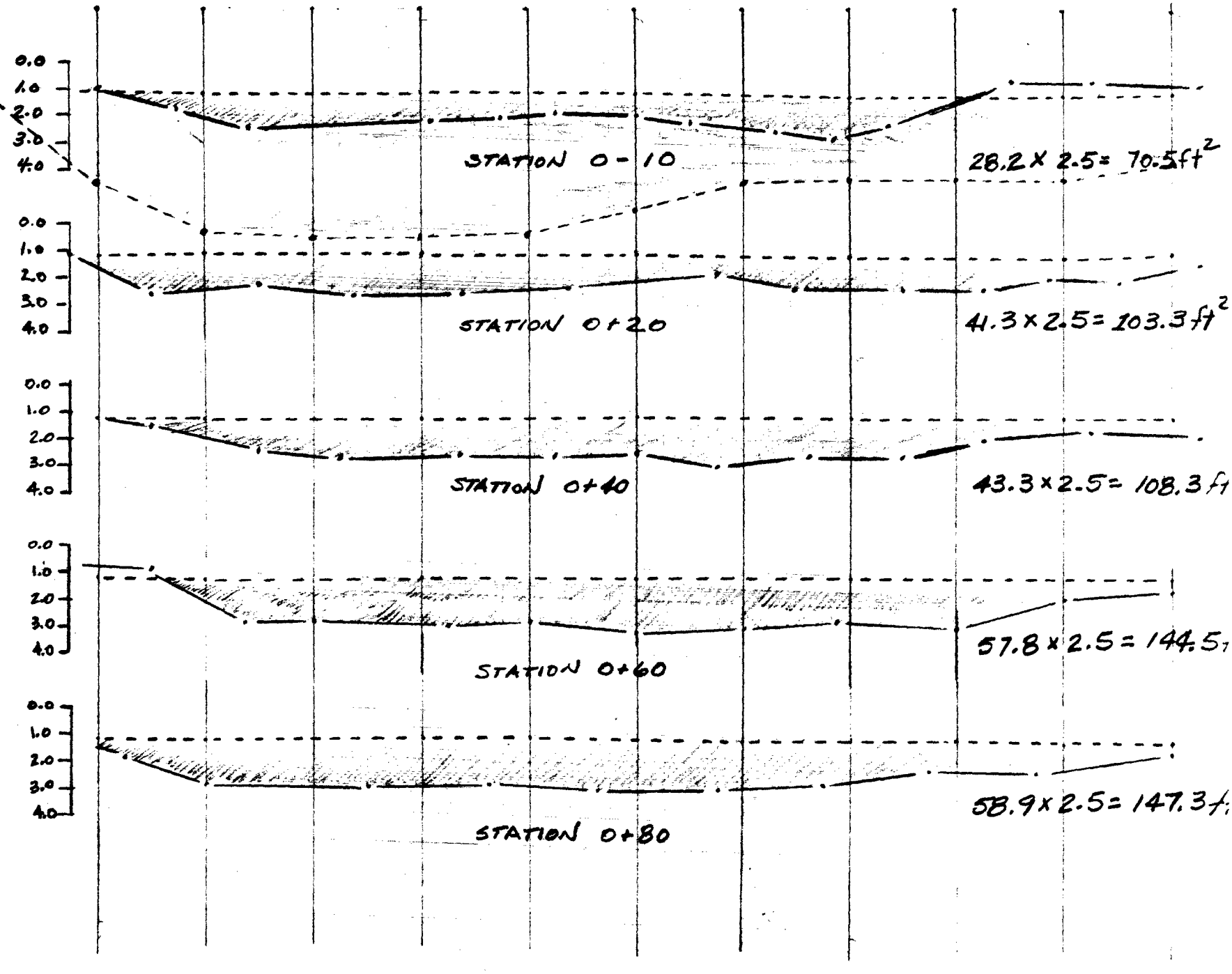
SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION Dredge Area #2 - Quantity Calculation

DATE

COMPUTED BY

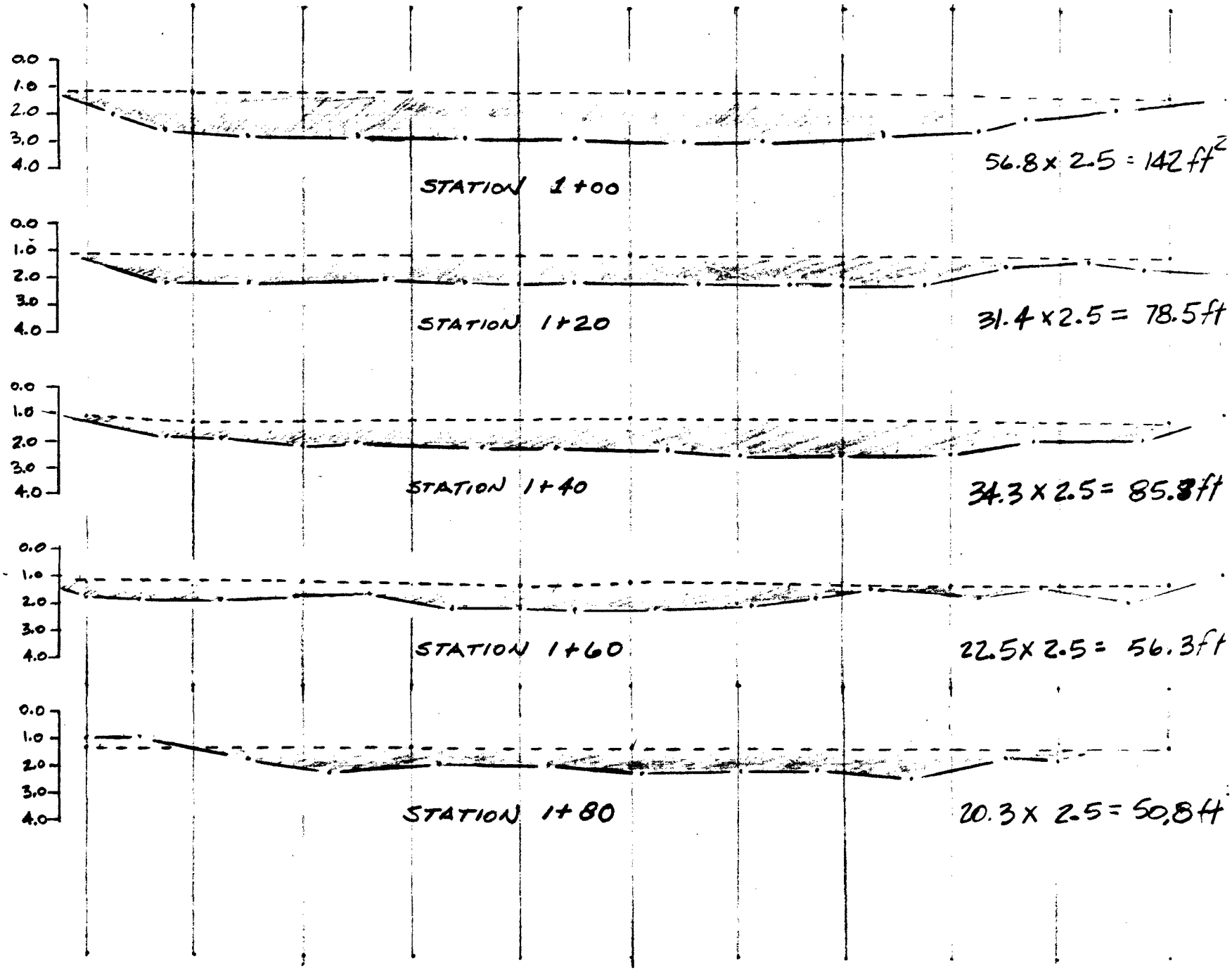
CHECKED BY

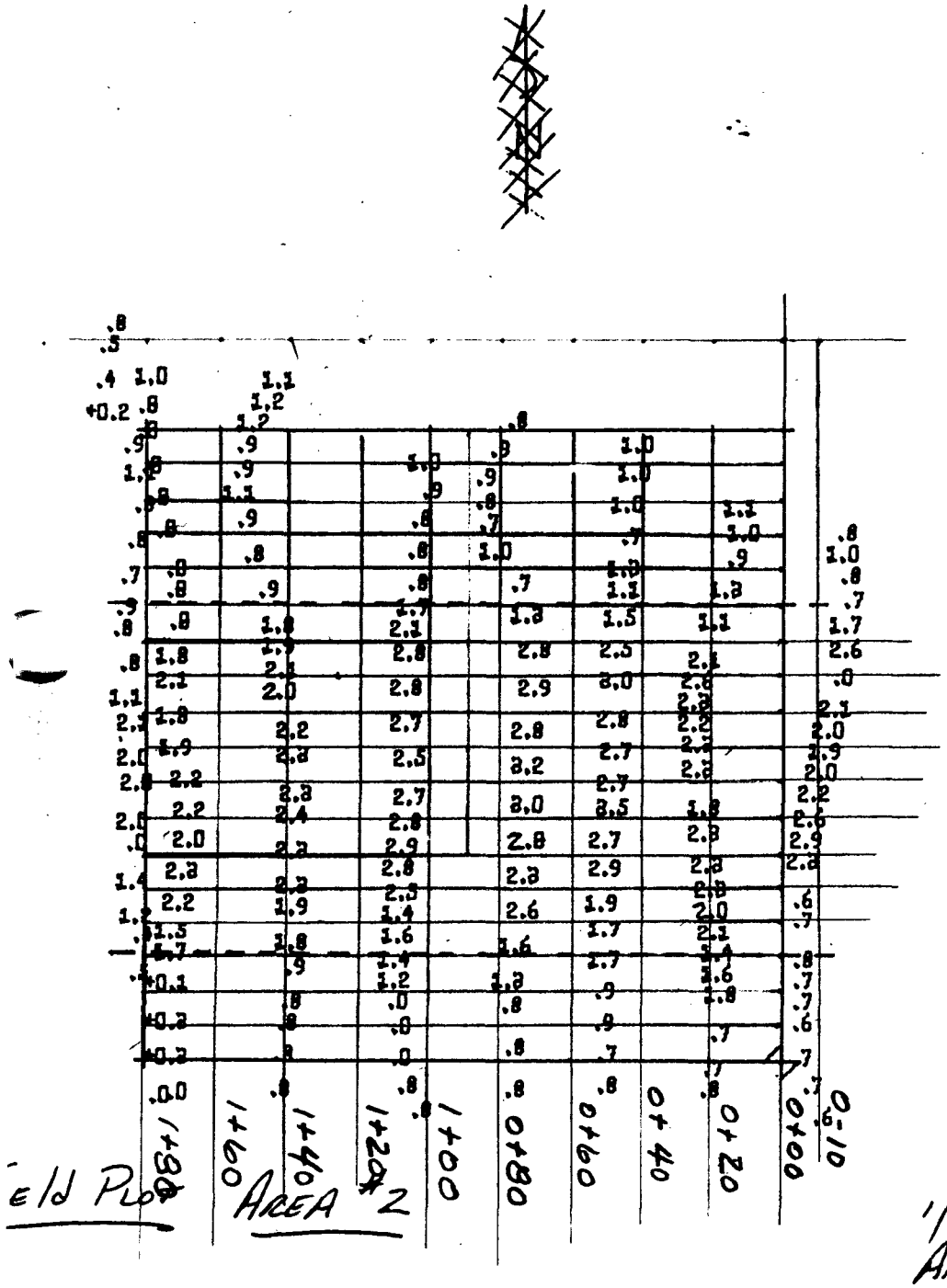


NED FORM 223
27 Sept 49

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

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Dredge Area #2 - Quantity Calculation
COMPUTED BY _____ CHECKED BY _____ DATE _____ PAGE _____

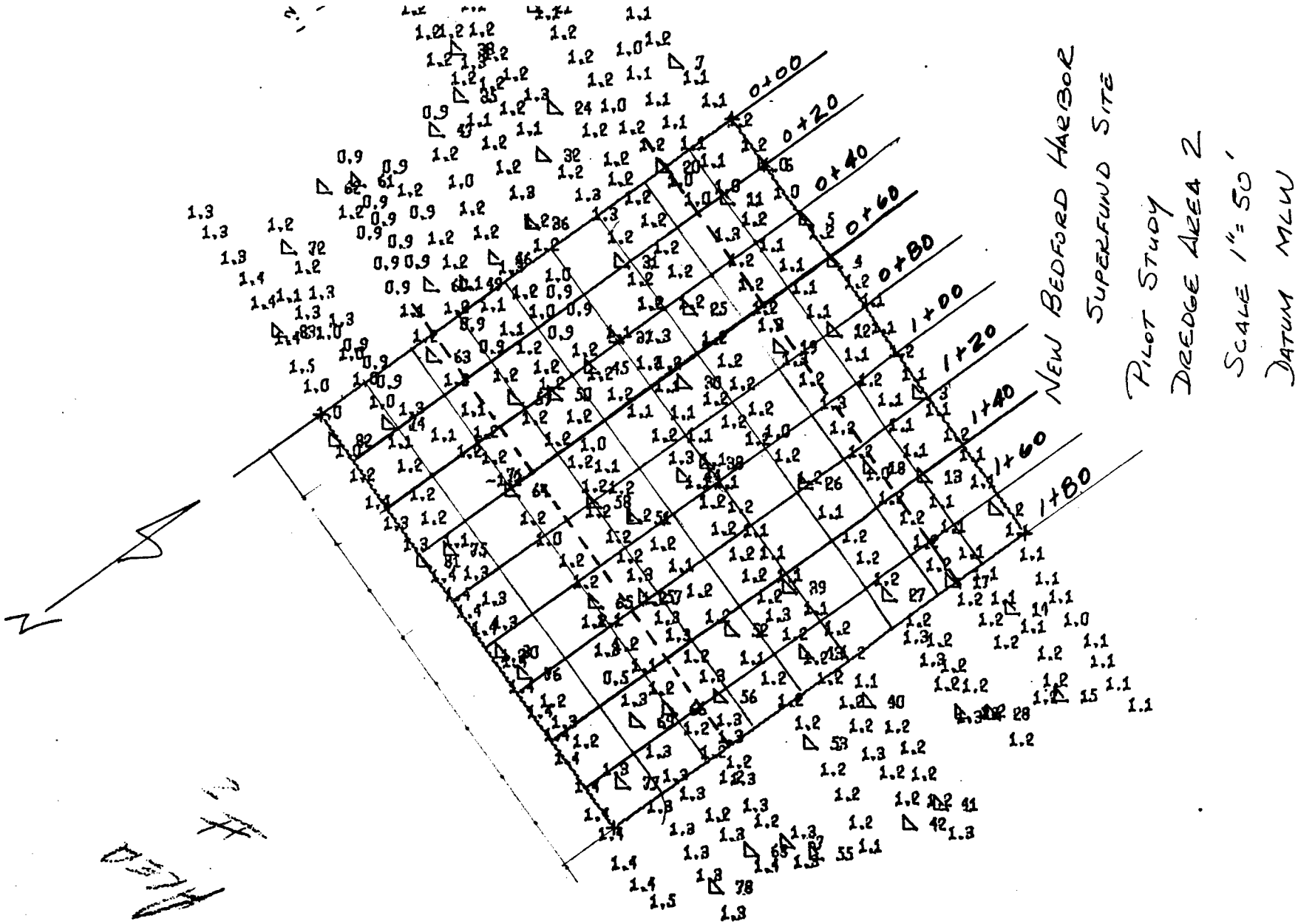


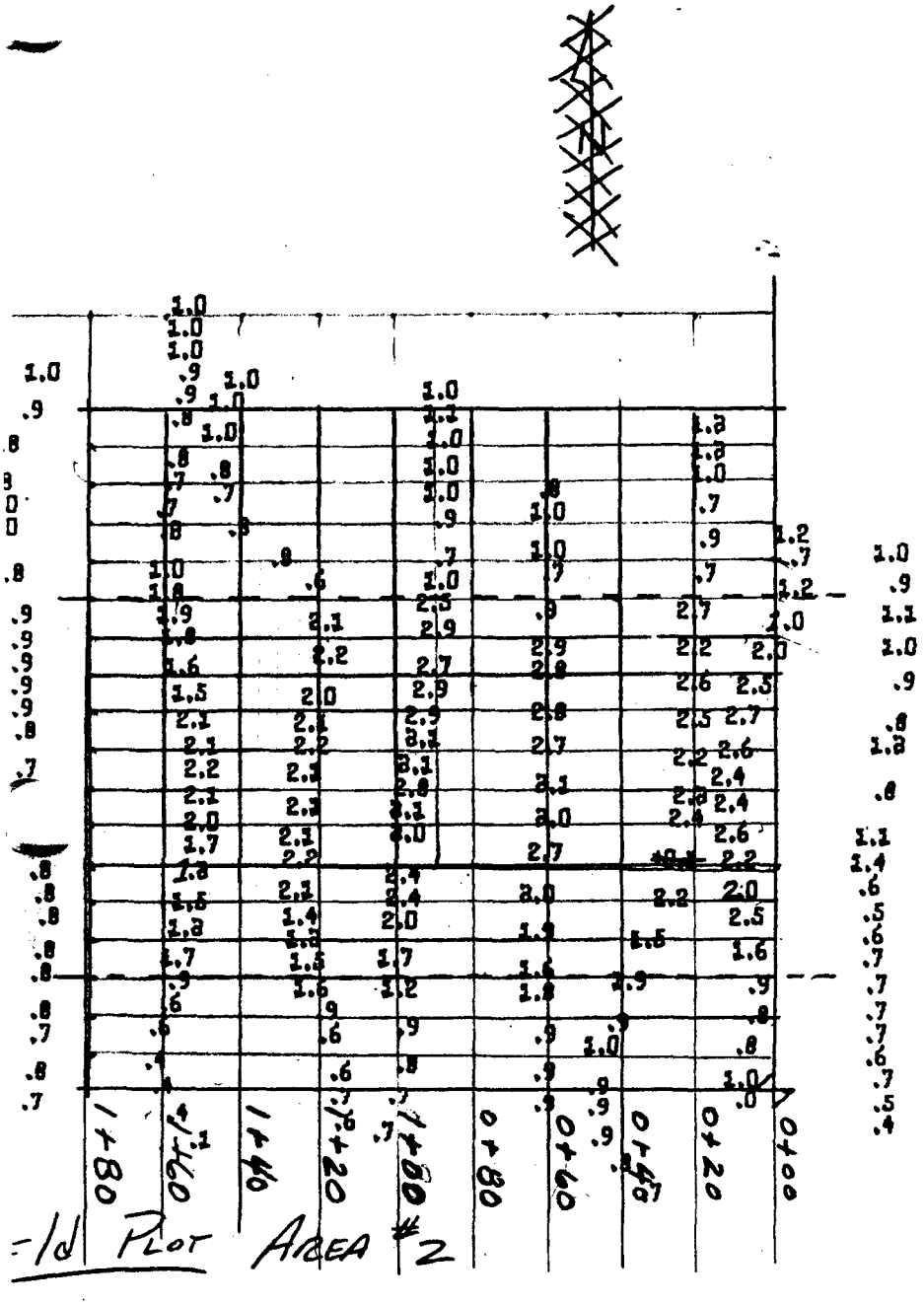


N

NEW BEDFORD HARBOR
SUPERFUND SITE
PILOT STUDY
DREDGE AREA 2

1/24/89 NEW BEDFORD
AFTER dredge Survey
SUPERFUND
ESS#3 - McINTYRE
REF. BK. R+H 2309
SCALE 1"=50'
DATUM M.L.W.


NEW BEDFORD HARBOR
SUPERFUND SITE
PILOT STUDY
DREDGE AREA 2
SCALE 1" = 50'
DATUM MLW
0+00
0+20
0+40
0+60
0+80
1+00
1+20
1+40
1+60
1+80
N



NEW BEDFORD HARBOR
SUPERFUND SITE
PILOT STUDY
DREDGE AREA 2

1/24/89 New Bedford, MA
After dredge Survey
SUPERFUND
ESS #3 - McINTYRE
REF. BK. R+H 2309
SCALE 1" = 50'
DATUM M.L.W.

SECTION 8 CUTTERHEAD DREDGE - AREA 2
(Cap Material)

J. Summary of Operations
- Contractors Daily Reports

K. Quantity Calculations
- hydrographic surveys

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Cutterhead Dredges - Dredges Area 2
COMPUTED BY _____ CHECKED BY _____ DATE _____

Clean material being discharged into CAD cell

DATE	DREDGE	AREA	OPERATING TIME (HRS)	DOWNTIME (HRS)
1-25	CH	2	1.83	
1-26	↓	↓		
1-27			3.25	
1-28			3.45	
1-29			4.00	
1-30			4.92	
1-31			3.67	
2-1			1.92	
2-2			4.50	
2-3			3.58	
2-4			3.25	
2-5			3.42	
2-6			3.75	
2-7			9.08	
2-8			4.42	
2-9			2.25	
2-10			2.83	
2-11			4.08	
18 DAYS			64.2 Hours	

Vacumn
Petcock OPE
Food Mart Sign
Steel Smoke Sta

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat ____
Temp: 32° Wind: 10-20 - N High Tide: 10:15 AM
Date: 1-25-89

	TIME	COMMENTS
START	7:00 AM	Move Dredge on Location - Fix Flex Joint
STOP		on Defuser - Move Port Anchor
START	9:45	
STOP	9:55	STB. Anchor Pulled out
START	10:10	
STOP	10:50	Port Anchor Pulled out
START	11:45	
STOP	12:45	Ran out of Water - No Service Water
START		
STOP		15'
START		TO -4.0 DIGGING 2'
STOP		
START		1.83 hours
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Vacumn open
Food Mart Sigh
Steel Smoke Sta
Tide Guage

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 30° Wind: SE 15-25 High Tide: 11:00
Date: 1-26-89

	TIME	COMMENTS
START	10:00	Warm up Dredge - Start Digging
STOP		Unplug Service Water - Take Pump Apart
START		Impeller Plugged with Periwinkles
STOP		
START	1:40	Start up and Test Pump - All Set
STOP	1:50	Shut Down - No Water under Dredge
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Food Mart Sign
Steel Smoke St
Tide Guage for n

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 34° Wind: W - 10-20 High Tide: 11:30 AM
Date: 1-27-89

	TIME	COMMENTS
START	10:15	Dewinterize Dredge - Warm up Engine -
STOP		Fix Plumping on cutter Head for Testing
START	10:45	Start Digging
STOP	2:00	Winterize Dredge - No Water
START		
STOP		3.25 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Food Mart Sign
Steel Snake St
Tide Guage For M

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 32° Wind: W-10-20 High Tide: 12:30
Date: 1-28-89

	TIME	COMMENTS
START	10:00	Warm up Dredge - Move Difuser
STOP		Pull Swing Wires out of Bank
START	11:45	Start Digging
STOP	3:30	Shut Down - No Water - Winterize Dredge
START		
STOP		3.45hour.
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Corner of Buildin
Orange Rock
Steeple For Mou

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 35° Wind: W - 10-20 High Tide: 1:30 PM
Date: 1-29-89

	TIME	COMMENTS
START	11:00	Dewinterize Dredge - Move Defuser - Pick Wires
STOP		out of Bank
START	12:00	Start Digging
STOP	12:50	Rock Box
START	12:55	
STOP	3:05	Winterize Dredge - No Water
START		
STOP		ADVANCE — 30'-35'
START		
STOP		4 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Corner of Bi
Coment on Shor
Brownhouse Fort

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 40° Wind: SW 10-20 High Tide: 2:00 PM
Date: 1-30-89

	TIME	COMMENTS
START	11:00	Dewinterize Dredge - Grease up - Pull Wires From Bank
STOP	12:00	Start Digging
START		
STOP	2:40	Pull Wires From Bank
START	2:55	
STOP	3:25	Move Port Swing Anchor Ahead
START	3:50	
STOP	5:35	No Water Shut Down
START		ADVANCMENT — 40'-45'
STOP		
START		4.92 hours
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Corner of Building
Cement on Shore
Steeple for Move

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: _____ Wind: SW - 20 - 30 High Tide: 2:15 PM
Date: 1-31-89

	TIME	COMMENTS
START	12:00	Dewinterize Dredge - Move Defuser - Pick
STOP		Swing Wires From Bank
START	1:00	Start Digging
STOP	4:40	Shut Down
START		
STOP		3.67 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		ADVANCE 20-25'
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Food Mart Sig
Hazard Sign on Ov
STeeple For Mou

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat ____
Temp: 55° Wind: 10-20 SW High Tide: 4:15 PM
Date: 2-1-89

	TIME	COMMENTS
START	1:00	Dewinterize Dredge - Warm UP - Set Defuser up
STOP		
START	2:15	Start Digging
STOP	2:25	Rock Box (Stones)
START	2:30	
STOP	4:00	End of Cut - Move To New Location
START	5:40	Start Digging
STOP	5:55	Shut Down - No Water Under Dredge
START		
STOP		1.92 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Call Sam Before 5:00

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 35° Wind: NE 10-20 High Tide: 5:00 P.M.
Date: 2-2-89

	TIME	COMMENTS
START	2:00	Wait For Water - Dewinterize Dredge
STOP		Move Defuser
START	3:35	
STOP	4:30	Stick in Suction
START	4:40	
STOP	5:40	Rock Box
START	5:50	
STOP	6:30	Something in Suction
START	6:25	
STOP	7:25	Pull Swing Wire From Bank
START	7:35	
STOP	8:30	No Water - Shut Down - Winterize
START		
STOP		4.5 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 33° Wind: N - 10-20 High Tide: 5:30 nm
Date: 2-3-89

	TIME	COMMENTS
START	5:00	Warm up - Dewinterize
STOP	~~5:~~	
START	5:45	
STOP	8:40	Move Swing Wire - Move Defuser
START	9:05	
STOP	9:45	No Water - Shut Down - Winterize
START		
STOP		3.58 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 17° Wind: NW -10-20 High Tide: 6:30 AM
Date: 2-4-89

	TIME	COMMENTS
START	5:00	Dewinterize Dredge - Swing To Warm up
STOP		Winches - Thaw Gauges (Plumbing)
START	7:15	Start Digging
STOP	10:30	No Water - Shut Down
START	11:00	
STOP		3.25 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 16° Wind: 10-20 N High Tide: 6:15 am
Date: 2-5

	TIME	COMMENTS
START	5:00	Warm up Dredge - Warm up Swing Winches
~~STOP~~ START	~~6:30~~	~~Start Digging~~ Thaw Guages Etc.
START	6:30	
STOP	7:40	Move Swing Wires Ahead
START	7:50	
STOP	10:05	Move Back in New Cut
START		
STOP		3.42 hours
START		
STOP		
START		Snow 5:00 - 11:00
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

Last Pine Tree (Port)
Steeple (STB)

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 20° Wind: 5-10 N High Tide: 8:00 AM
Date: 2-6-89

	TIME	COMMENTS
START	6:00	Move Dredge Back on Range - Prime up -
STOP		Warm up
START	7:35	Dig
STOP	8:20	Pressure Guage Froze (Thaw)
START	8:25	
STOP	11:25	No Water - Shut Down
START		
STOP		ABOUT 30' ADVANCE
START		
STOP		3.75 hours
START		
STOP		
START		SNOW
STOP		TIDE 8:00 HIGH 4.8
START		6:00 - 12:30
STOP		Boat from Corp
START		2 LOADS FILL
STOP		
START		
STOP		
START		
STOP		

House on Hill

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: ~~20°~~ 30° Wind: N-5-10 High Tide: 8:30 AM
Date: ~~2-6-89~~ 2-7-89

	TIME	COMMENTS
START	6:00	Warm up Dredge - Dewinterize
STOP		
START	7:00	Start Digging
STOP	7:45	Suction Plugged
START	7:50	
STOP	10:25	Rock Box - Move Swing Wires Ahead
START	10:45	
STOP	11:30	Wood in Cutter
START	11:45	
STOP	12:10	Rock Box
START	12:20	
STOP	2:15	Pull Swing Wires Ahead
START		
STOP	2:27	Rock Box
START	2:30	
STOP	400	Move Swing Anchors Wires
START	4:00	
STOP	5:10	Move Swing Wires 9.08 hours
START	5:30	
STOP	5:30	Shut Down - Secure
START		
STOP		

Check Pot Cock

Location: Acushnet River, New Bedford, Massachusetts
Hydraulic Dredge Rental, US Army Corp of Engineers
Contract #: DACW33-88-C-0023

Dredge Type: Ellicott ✓ Mudcat _____
Temp: 14° Wind: W - 10 - 20 High Tide: _____
Date: 2-8-89

	TIME	COMMENTS
START	6:00	Fuel up - Grease up - Warm up
STOP		Move Port Swing Wire - Move Defuser
START	7:45	Dig
STOP	10:05	Pull STB Swing Wire Ahead
START	10:10	
STOP	11:25	Pull Swing Wires Ahead - Clean Suction
START	11:45	
STOP	12:20	Rock Box
START	12:25	
STOP	12:40	No Water - Winterize
START		
STOP		4.42 hours
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		
START		
STOP		

2-9-89

Start	8:15	Warm up - Thaw out High Tide 10:20 AI
Start	9:00	
Stop	10:15	Suction - Move Swing Wires Ahead
Start	10:25	
Stop	11:35	End OF CUT - Move To New Locatio
Start		No Water - Winterize
Stop		
Start		2.25 hours
Stop		
Start		
Stop		
Start		

Elicott Dredge

2-10-89
High Tide: 11:15
Wind - W 10-20

8:00 Warm up Dredge - Guage Lines Froze
Straighten out Swing Wires

Start 10:15 - Diggy Diggy

Stop 10:35 - Cutter Head to Rock Box Obstruction

Start 10:45 -

Stop 1:05 - Pull Swing Wires Ahead

Start 1:25

Stop 1:35 No Water - Winterize - Shut Down

2634 hrs

2-11-89

High Tide - ~~10:00~~ 1'

Start - 9:30 - Move Defuser - Warm up Dredge

Stop

Start - ~~10:30~~ 10:20 - Start Digging

Stop 11:40 Move Swing Wires Ahead

Start 11:50

Stop 12:55 Move Swing Wires Ahead

Start 1100

Stop 2:40 No Water - Winterize Dredge

4.0 hours

8-K QUANTITY CALCULATIONS

NED FORM 223
27 Sept 49

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

PAGE

SUBJECT NEW BEDFORD HARBOR SUPERFUND SITE - PILOT STUDY

COMPUTATION DREDGING AREA #2 QUANTITY CALCULATION

COMPUTED BY _____ CHECKED BY _____ DATE _____

STATION	AREA (ft^2)	AVERAGE (ft^2)	VOLUME (ft^3)
0-10	70.5		
		266.8	8004
0+20	463		
		474	9480
0+40	485		
		493	9860
0+60	501		
		519	10380
0+80	537		
		533	10660
1+00	529		
		551	11020
1+20	573		
		585	11700
1+40	596		
		576	11520
1+60	555		
		400	8000
1+80	245		
			90624/27
			3356 cy

Contaminated Material 719 cy

Cap Material 2637 cy

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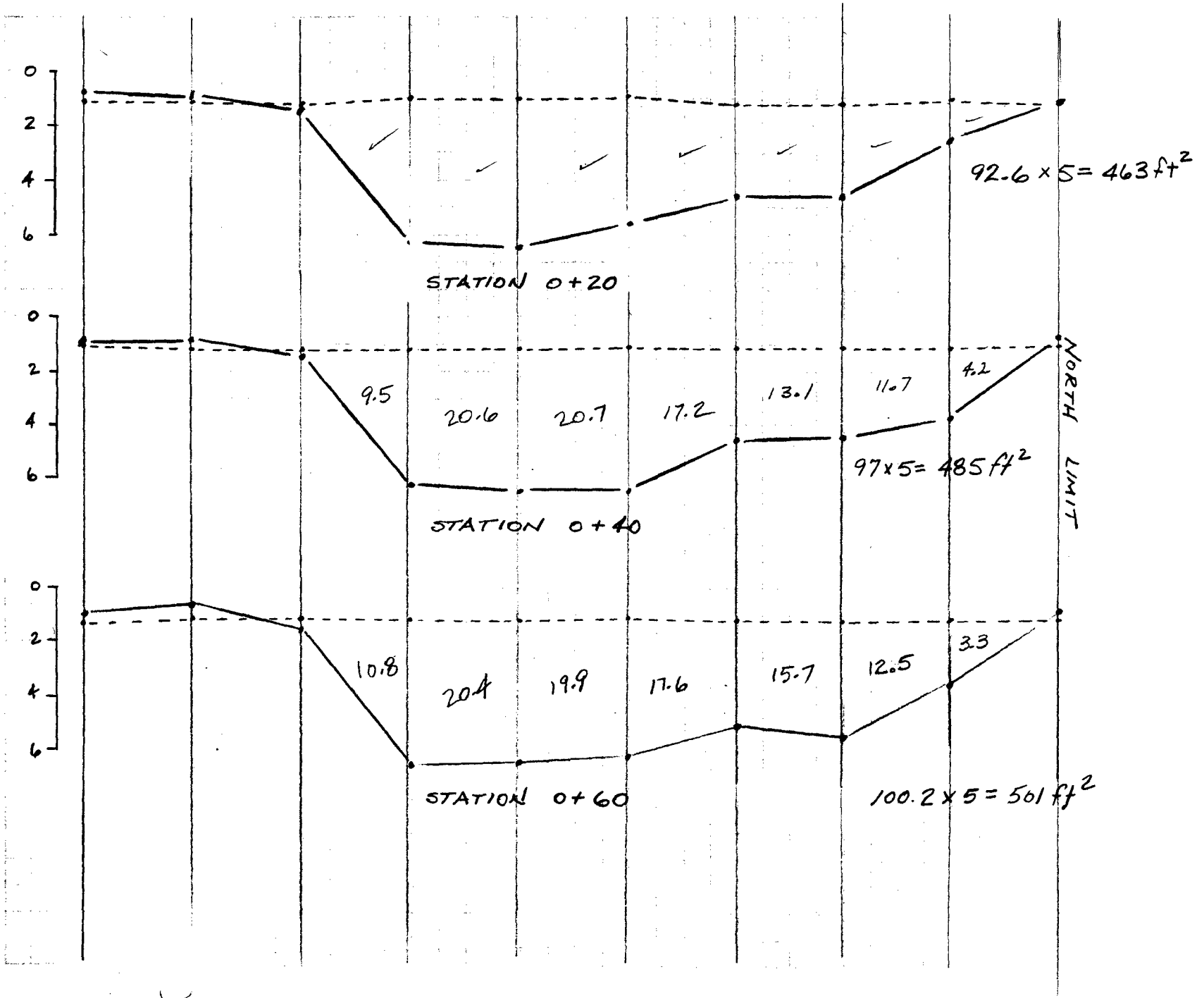
SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION Dredge Area #2 - Quantity Calculation

COMPUTED BY _____ CHECKED BY _____ DATE _____



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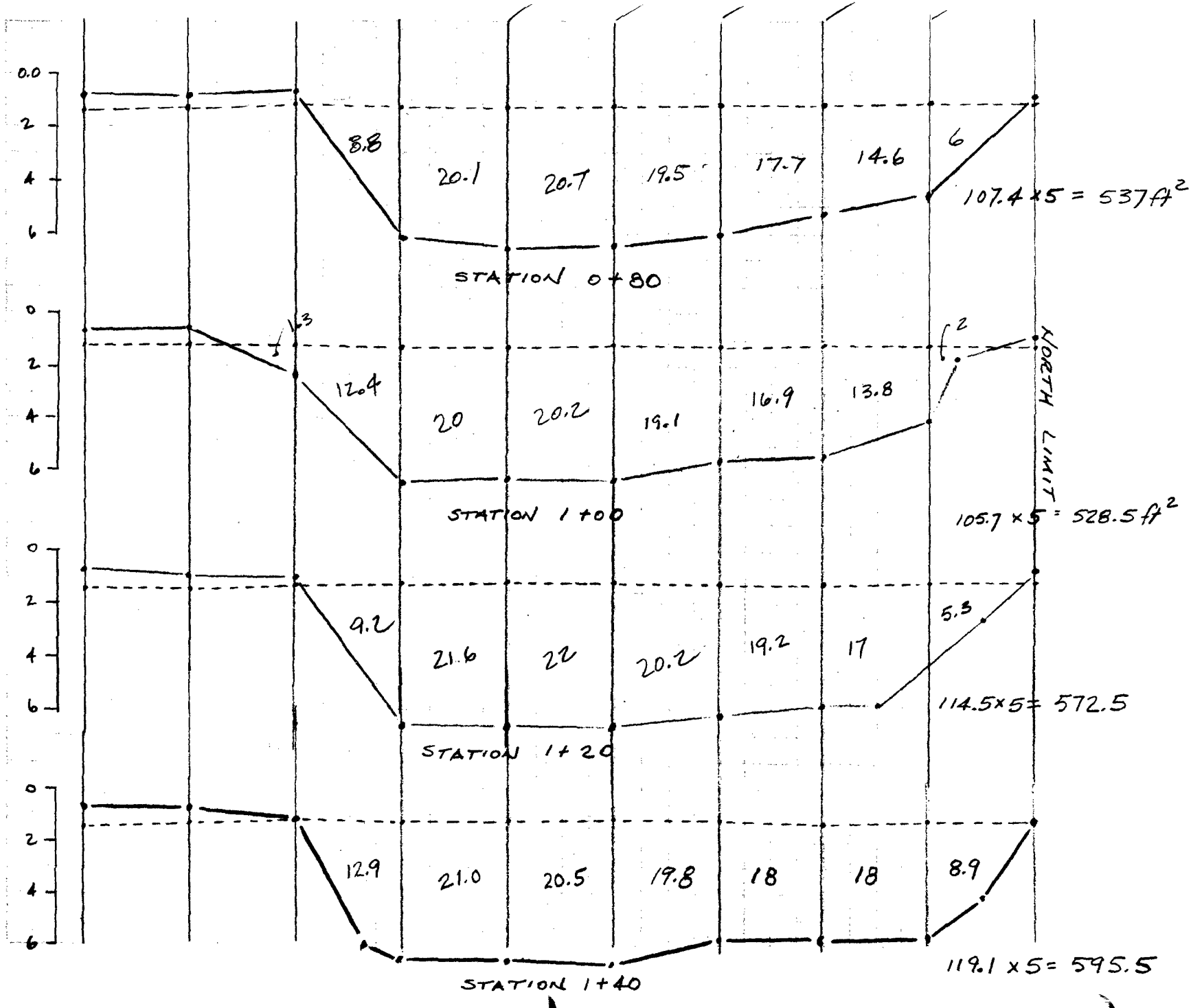
CORPS OF ENGINEERS, U.S. ARMY

SUBJECT New Bedford Harbor Superfund Site - Plot Study
COMPUTATION Dredge Area 2 - Quantity Calculation
COMPUTED BY _____ CHECKED BY _____ DATE _____ PAGE _____



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27 Sept 49

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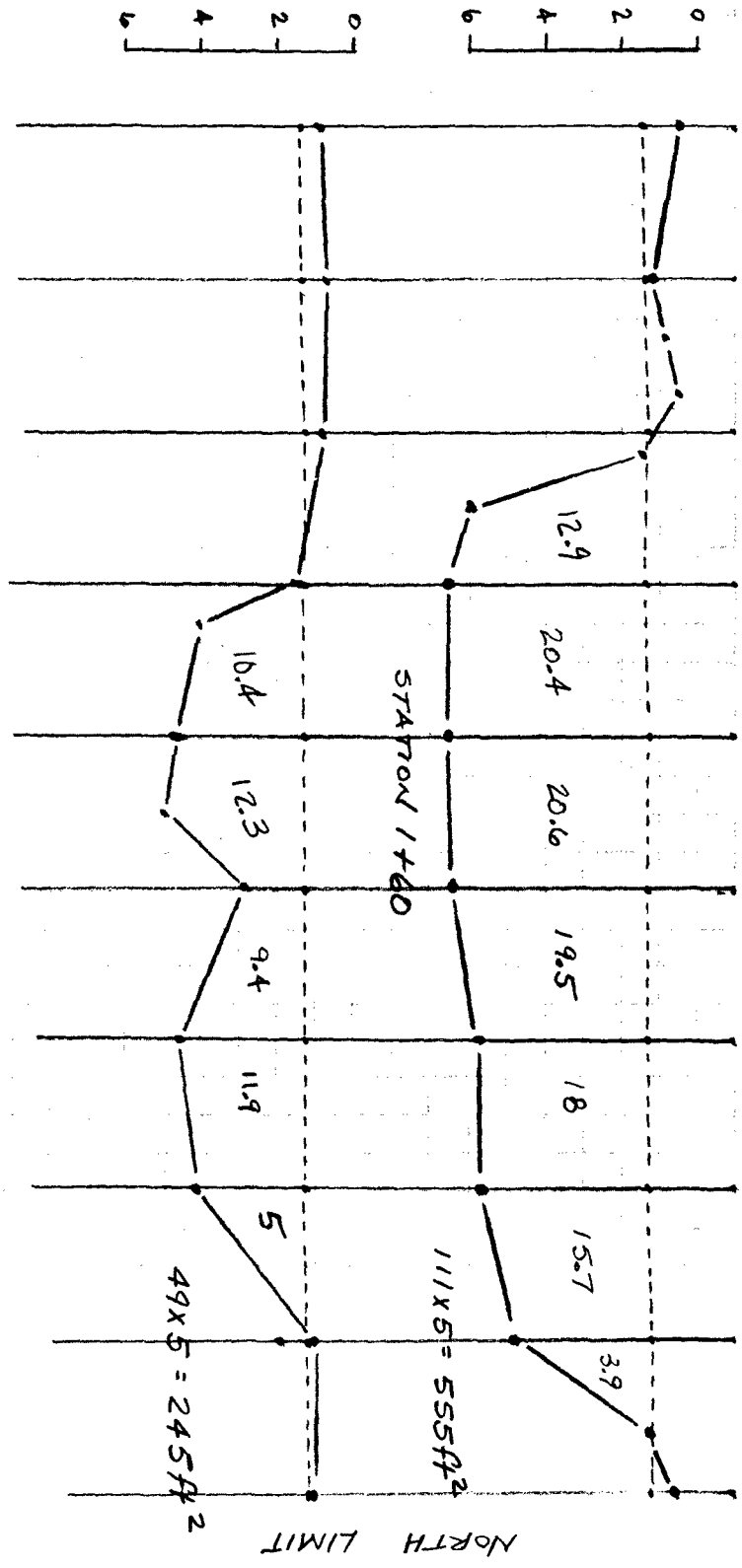
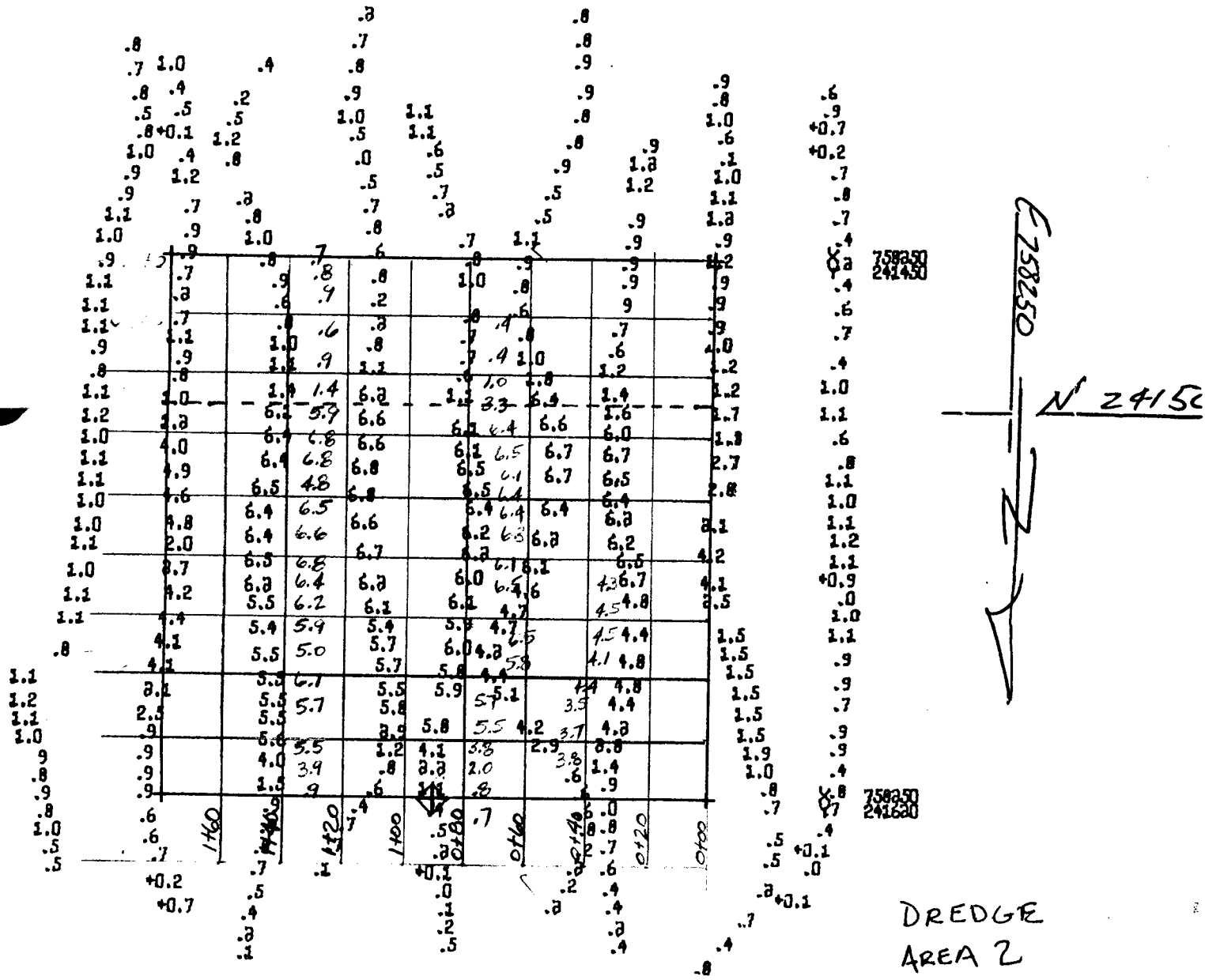
SUBJECT NEW BEDFORD HARBOR SUPERFUND SITE - PILOT STUDY

COMPUTATION DREDGE AREA #2 - QUANTITY CALCULATION

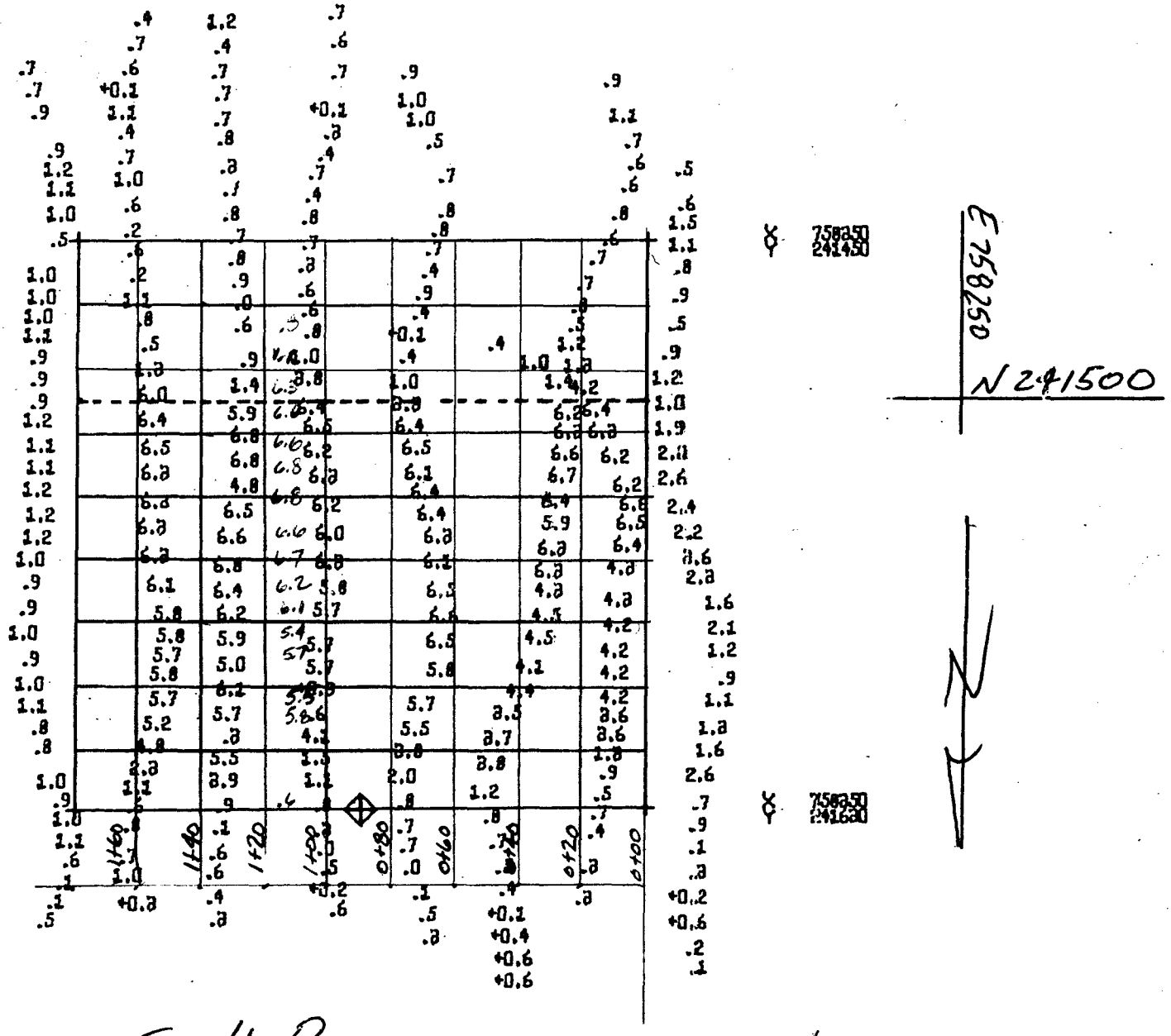
COMPUTED BY _____ CHECKED BY _____ DATE _____



6/22/89
NEW BEDFORD, MA
PILOT STUDY SITE
AFTER DREDGE SURVEY



FIELD PLOT (1 OF 2)



Field Plot

(2 of 2)

DREDGE AREA 2

6/22/89
New Bedford MA.
Superfund Pilot Stud.
After dredge Survey
ESS # 3 - McIntyre
Ref. BK. R+H 2309
Scale 1" = 50'

SECTION 9 CONTAINED AQUATIC DISPOSAL

L. Diffuser & Plume Sampling Locations

M. Plume Sampling - TSS

- PCB Data - Stations 2 & 7
- TSS Data - Stations 2 & 7

N. Cross Sections after Filling

- hydrographic surveys

NED FORM 223
27 Sept 49

NEW ENGLAND DIVISION
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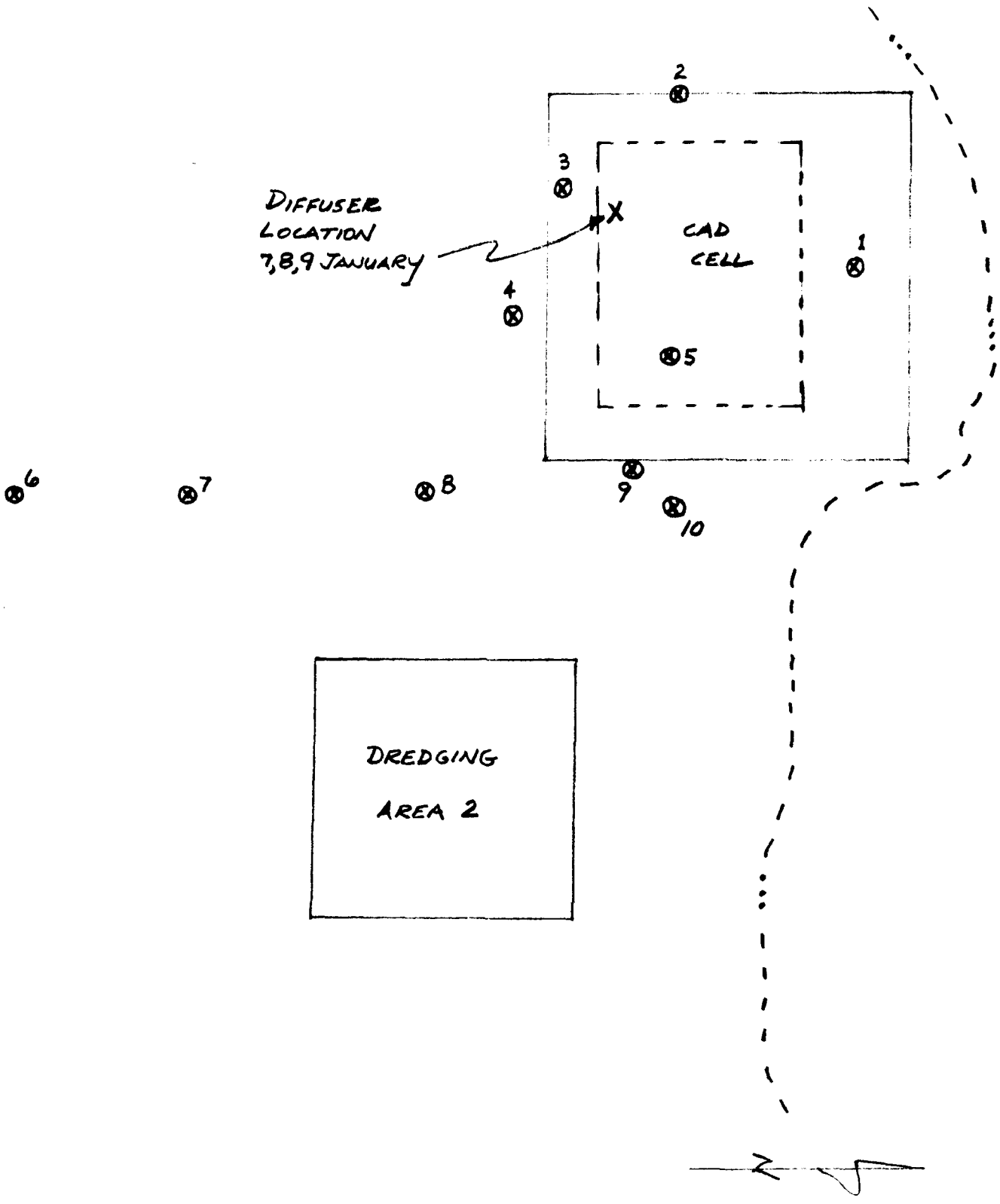
SUBJECT NEW BEDFORD HARBOR PILOT STUDY

COMPUTATION PLUME SAMPLING STATIONS - CONTAINED AQUATIC DISPOSAL

COMPUTED BY CHECKED BY DATE



⊗ PLUME SAMPLING STATION 7, 8, 9 JANUARY

SCALE 1" = 100'

NED FORM 223
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NEW ENGLAND DIVISION
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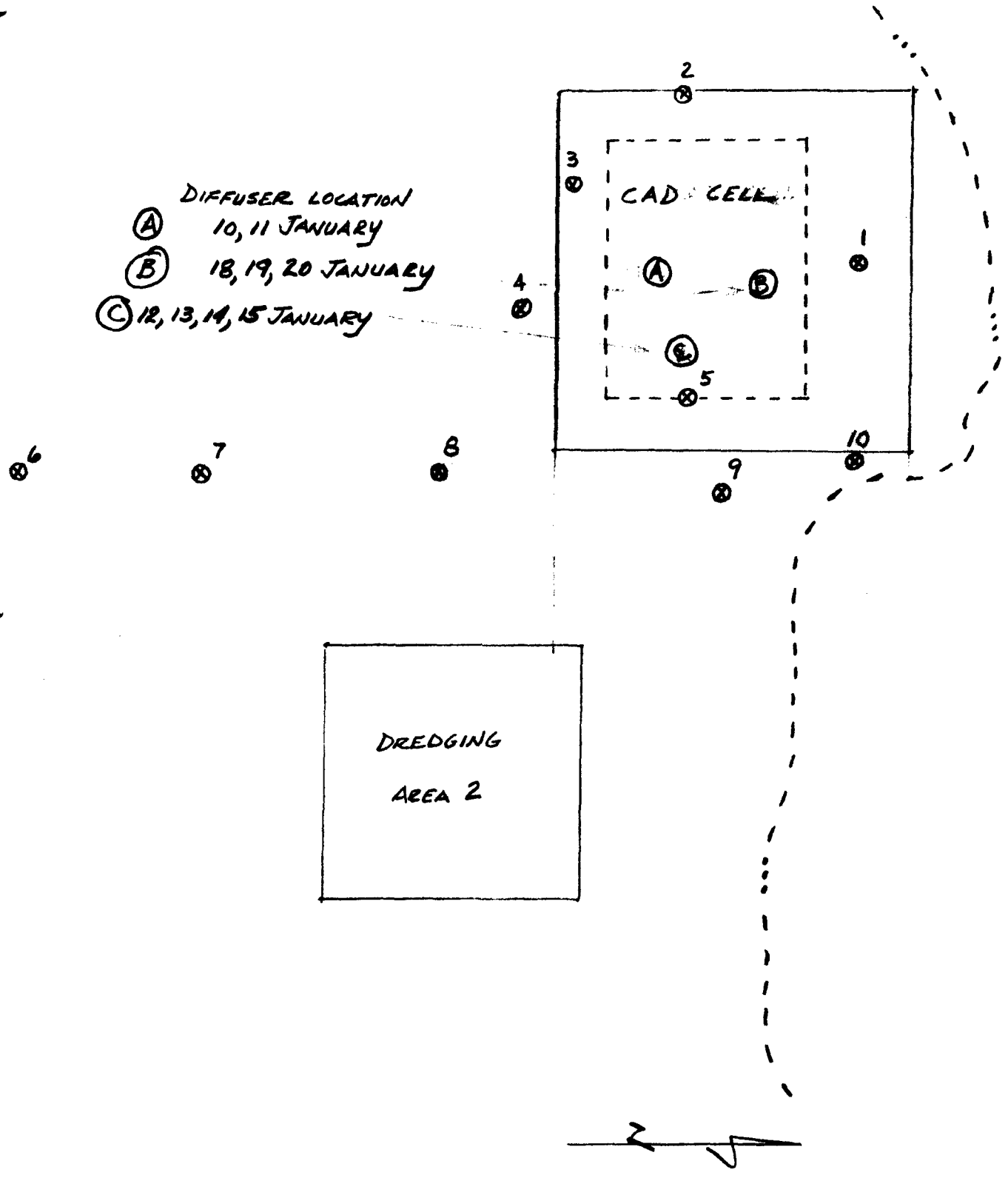
SUBJECT NEW BEDFORD HARBOR PILOT STUDY

COMPUTATION PLUME SAMPLING STATIONS - CONTAINED AQUATIC DISPOSAL

COMPUTED BY _____ CHECKED BY _____ DATE _____



⊗ PLUME SAMPLING STATION 10 JANUARY

SCALE 1" = 100'

9-M PLUME SAMPLING

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CORPS OF ENGINEERS, U. S. ARMY

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SUBJECT NEW BEDFORD HARBOR SUPERFUND SITE - PILOT STUDY
COMPUTATION PLUME SAMPLING - CONTAINED AQUATIC DISPOSAL
COMPUTED BY _____ CHECKED BY _____ DATE _____

JANUARY 7 CUTTERHEAD DREDGE

PLUME SAMPLING (TSS mg/l)

STATION	SAMPLING EVENT 1040-1052	1112-1120
1	138.8	131.9
2	29.9	100.2
3	19.8	44.9
4	16.4	143.0
5	18.6	96.1
6	12.6	
7	57.8	15.8
8	11.2	15.9
9	22.4	38.6
10	80.3	83.7

COMPOSITE (STATIONS 1-5) 67.4

Dredge (CH) operating from 1020 - 1100.

JANUARY 8 CUTTERHEAD DREDGE

STATION	SAMPLING EVENT 0745-0755	0845-0855	0945-0955	1045-1055	1138-1148
1	10.3	9.6	12.8	18.0	81.8
2	13.6	12.9	30.5	29.8	197.3
3	25.8	75.8	85.3	263.9	917.6
4	16.9	10.5	25.6	61.2	54.7
5	11.1	7.9	70.3	131.6	16.8
6	13.0	13.3	42.8	26.8	10.5
7	15.8	12.6	16.0	58.5	1407.8
8	71.9	14.8	25.4	28.4	171.3
9	79.4	17.0	19.2	49.6	38.6
10	12.6	7.6	11.5	95.0	

C

C

C

Dredge (CH) operating from 0715 - 1155.

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27 Sept 49

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CORPS OF ENGINEERS, U.S. ARMY

PAGE

SUBJECT NEW BEDFORD HARBOR SUPERFUND SITE - PILOT STUDY

COMPUTATION PLUME SAMPLING - CONTAINED AQUATIC DISPOSAL

COMPUTED BY _____ CHECKED BY _____ DATE _____

JANUARY 9 MATCHBOX DREDGE

PLUME SAMPLING (TSS mg/l)

STATION	SAMPLING EVENT 0905-0912	1105-1112	1128-1135	1215-1222
1	18.7	39.0	54.0	
2	25.4	150.2	461.2	
3	163.6	57.6 C	723.1 C	
4	21.2	96.5	114.8	
5	19.3	53.7	59.2	
6	18.8	44.6	47.7	
7	18.0	52.4	63.3	
8	16.8	49.9	55.9 C	
9	20.6	46.8	69.8	
10	12.8	13.6	59.5	

Dredge (MB) operating for 1.5 hours between 0900 and 1145.
Decision criteria exceeded at Coggeshall Street Bridge.

JANUARY 10 MATCHBOX DREDGE

STATION	SAMPLING EVENT 0850-0900	0950-1000	1050-1100	1145-1165	1245-1255
1	—	94.1	48.6	83.8	343.6
2	26.8	80.0	84.6	151.8	233.7
3	30.3	28.7	44.1	125.2	145.2
4	50.3	23.2	31.4	65.1	75.0
5	17.6	62.7	34.3	108.2	98.0
6	10.5	46.7	14.5	18.0	31.3
7	15.0	15.8	27.6	38.0	44.8
8	12.0	28.5	32.8	120.6	110.9
9	14.0	48.7	48.7	133.9	279.1
10	79.2	181.0	73.7	—	—

Dredge (MB) operating for 3.8 hours between 0830 and 1230.

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

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PAGE ____
SUBJECT ____
COMPUTATION ____
COMPUTED BY ____ DATE ____
CHECKED BY ____ DATE ____

MONITORING STATIONS 2 and 7 PCB CONCENTRATIONS (ppb)

DATE	STATION	TIDE		PCB (ppb)	
1-7	7	E		0.92	WWC
1-8	7	E		3.12	WWC
1-9	7	E	2.25	5.42	WWC
1-11	7	E		1.66	WWC
1-12	7	E		1.50	WWC
1-14	7	E		0.87	WWC
1-7	2	E		0.61	WWC
		F		0.84	
1-8	2	E		0.69	
		F		0.77	
1-9	2	E	0.90	1.50	
		F		0.64	
1-10	2	E		1.04	
		F		0.76	
1-11	2	E		0.86	
		F		0.67	
1-12	2	E		0.74	
		F		0.76	
1-14	2	E		0.74	
		F		0.84	

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

PAGE ____

SUBJECT New Bedford Harbor Pilot Study

COMPUTATION Monitoring Station 7 - Total Suspended Solids

COMPUTED BY ____ CHECKED BY ____ DATE ____

MONITORING STATIONS 2 AND 7 - TOTAL SUSPENDED SOLIDS (mg/l)

DATE	TIME	TSS (mg/l)	MONITORING STATION
1-10	H+1	19.96	7
	H+2	25.84	
	H+3	46.64	
	H+4	94.88	
	H+5	12.12	
1-12	H+1	19.00	
	H+2	38.24	
	H+3	19.24	
	H+4	38.78	
	H+5	50.32	
1-10	H+1	2.56	2
	H+2	7.3	
	H+3	10.56	
	H+4	9.5	
	H+5	28.66	
1-11	H+1	18.18	
	H+2	10.4	
	H+3	6.58	
	H+4	7.30	
	H+5	33.98	
1-12	H+1	7.58	
	H+2	8.4	
	H+3	7.58	
	H+4	9.88	
	H+5	16.24	

9-N Cross Sections

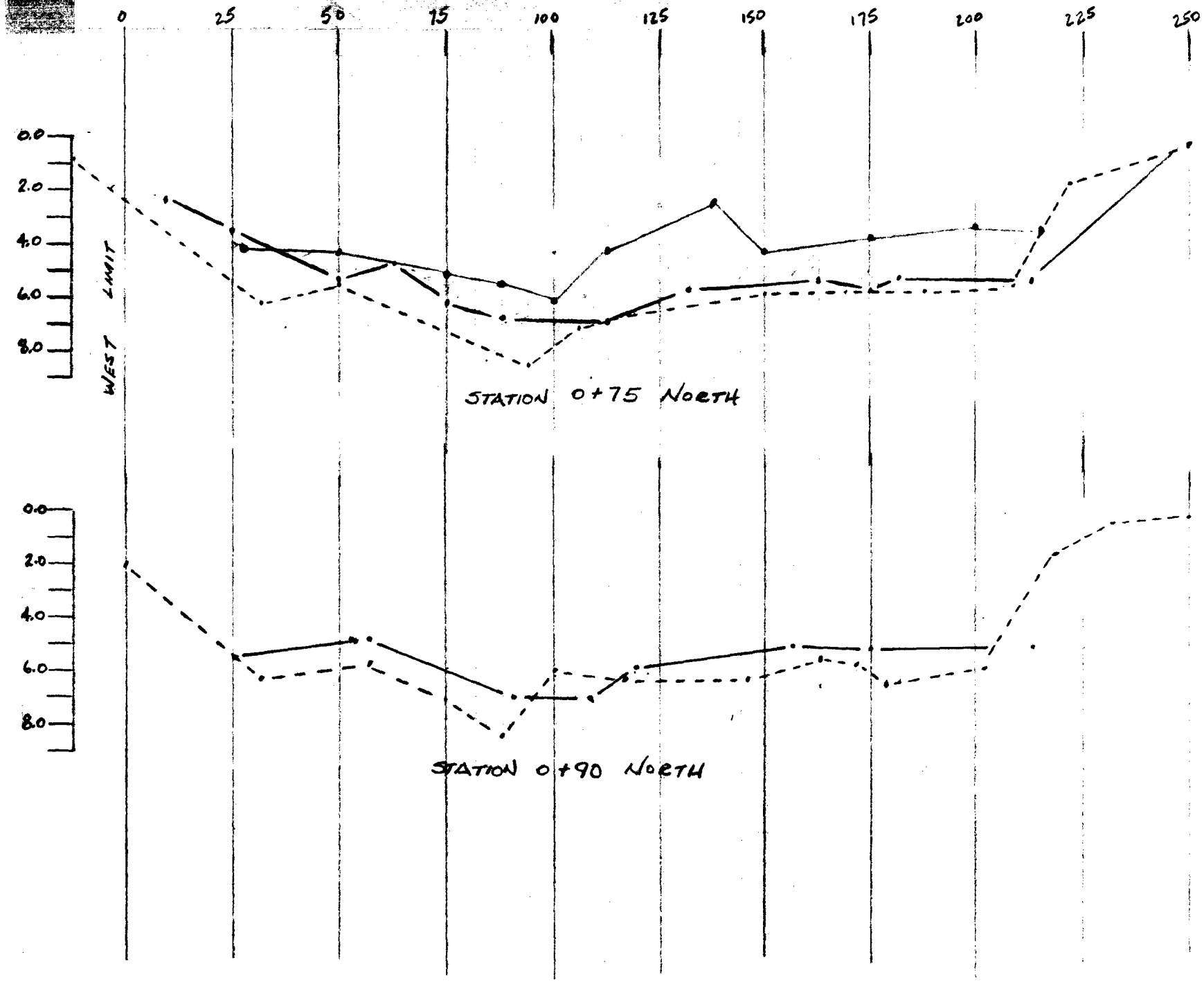
NED FORM 223
27 Sept 49

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

SUBJECT _____ PAGE _____

COMPUTATION _____

COMPUTED BY _____ CHECKED BY _____ DATE _____



NED FORM 223
27 Sept 49

NEW ENGLAND DIVISION

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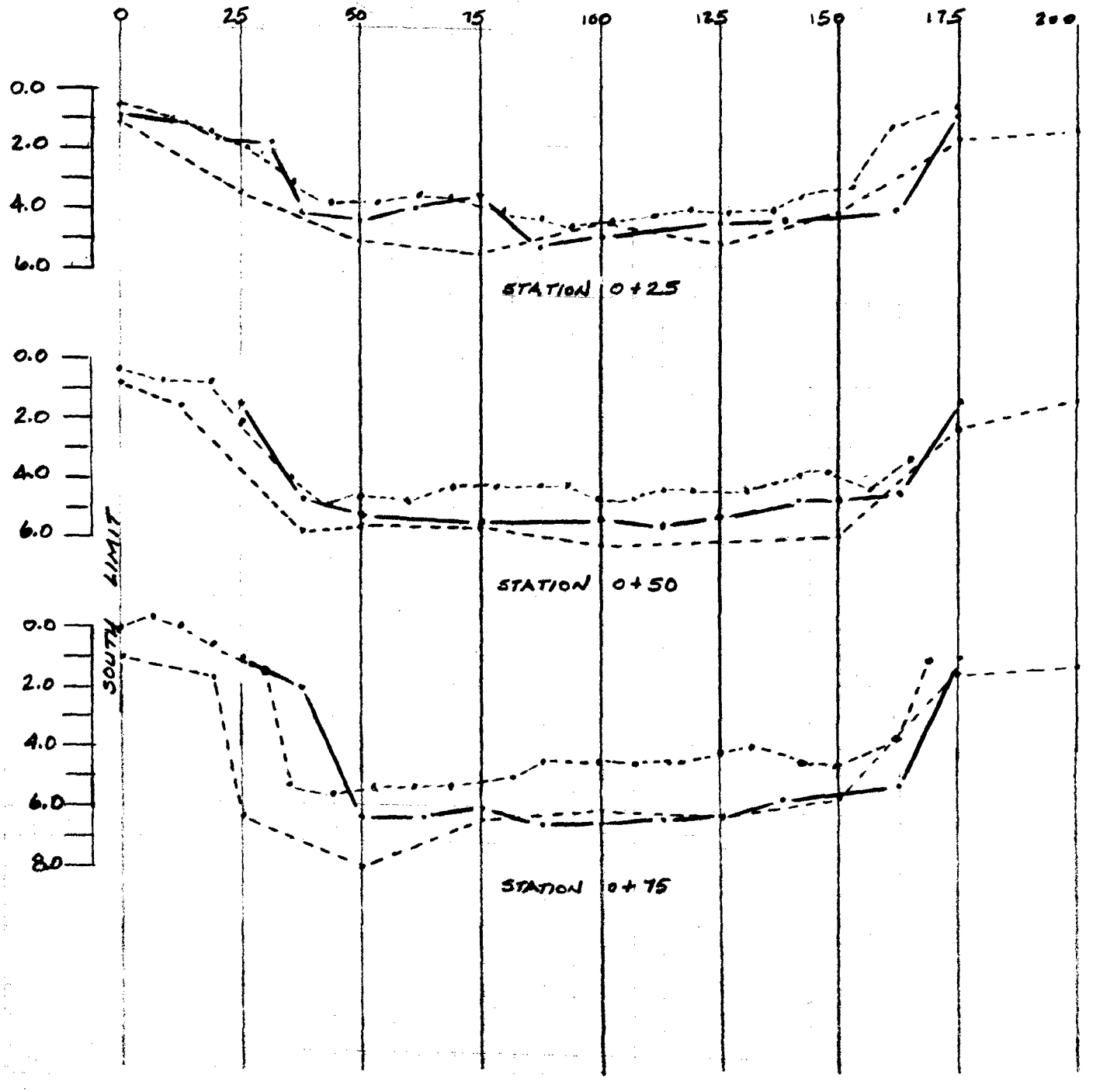
PAGE

SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION Hydrodynamic calculations - CAD cell after filling

COMPUTED BY _____ CHECKED BY _____ DATE _____



NED FORM 223
27 Sept 49

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

PAGE

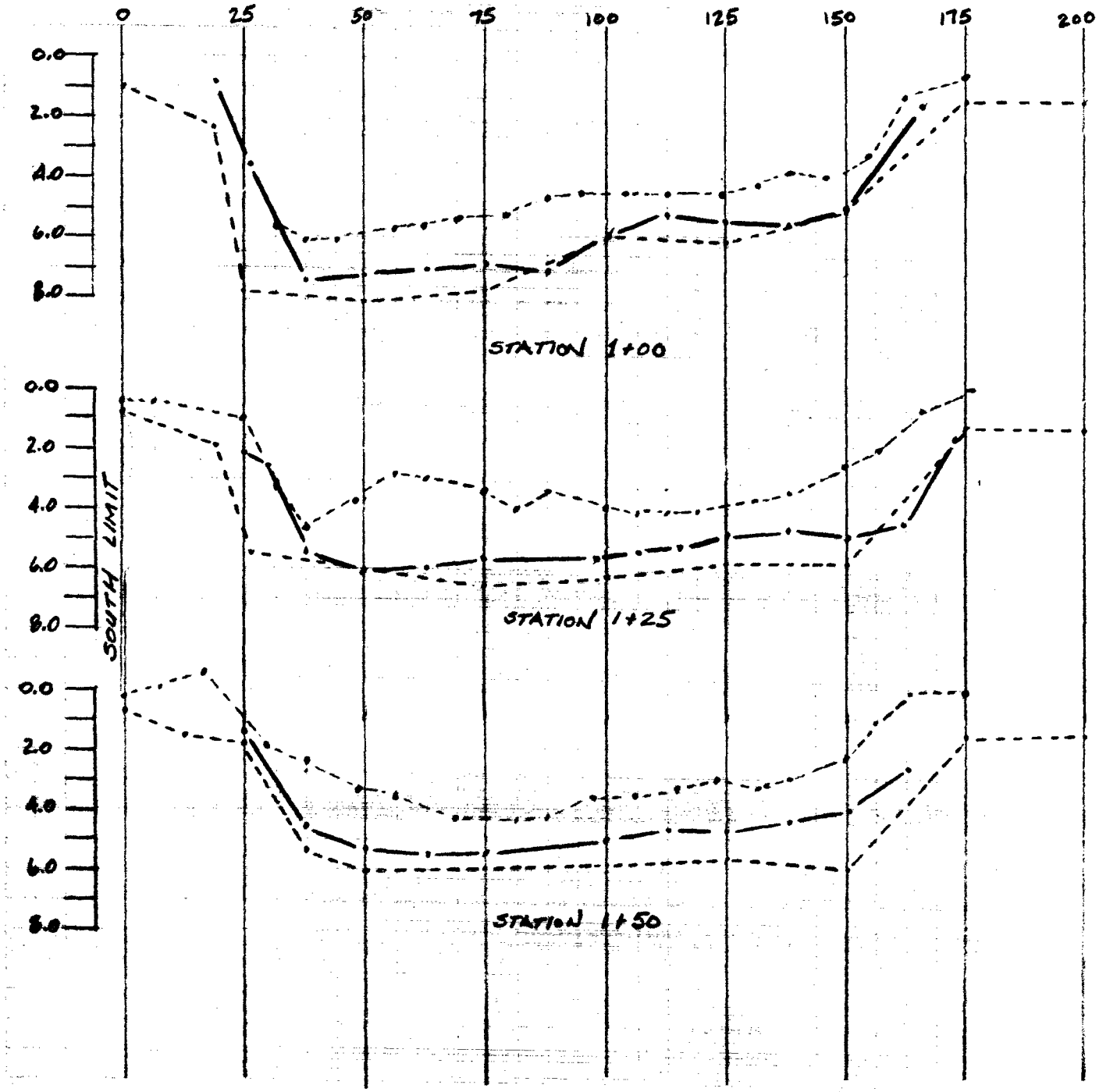
SUBJECT New Bedford Harbor Superfund Site - Pilot Study

COMPUTATION Volume calculations - CAD cell after filling

DATE

COMPUTED BY

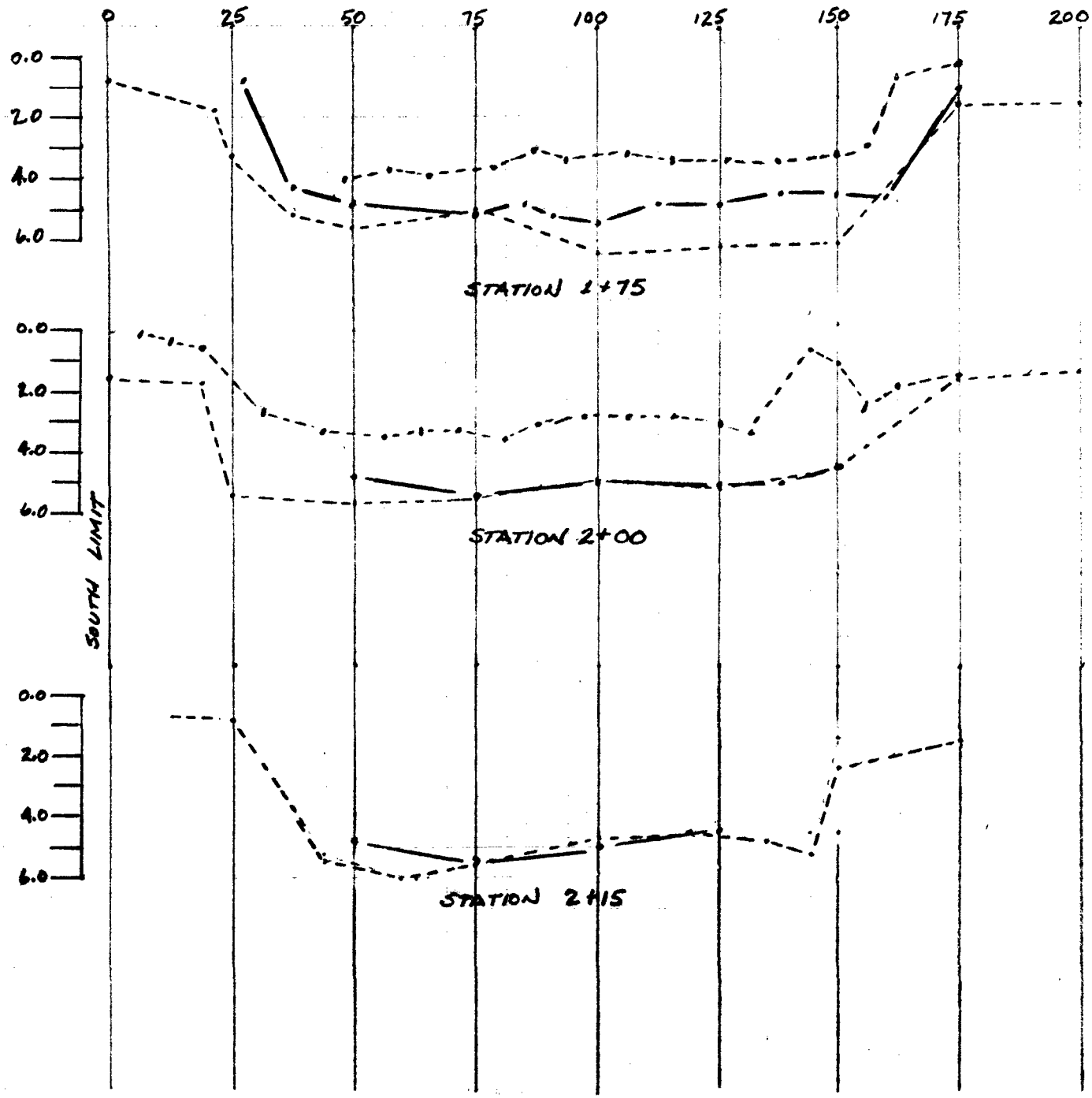
CHECKED BY



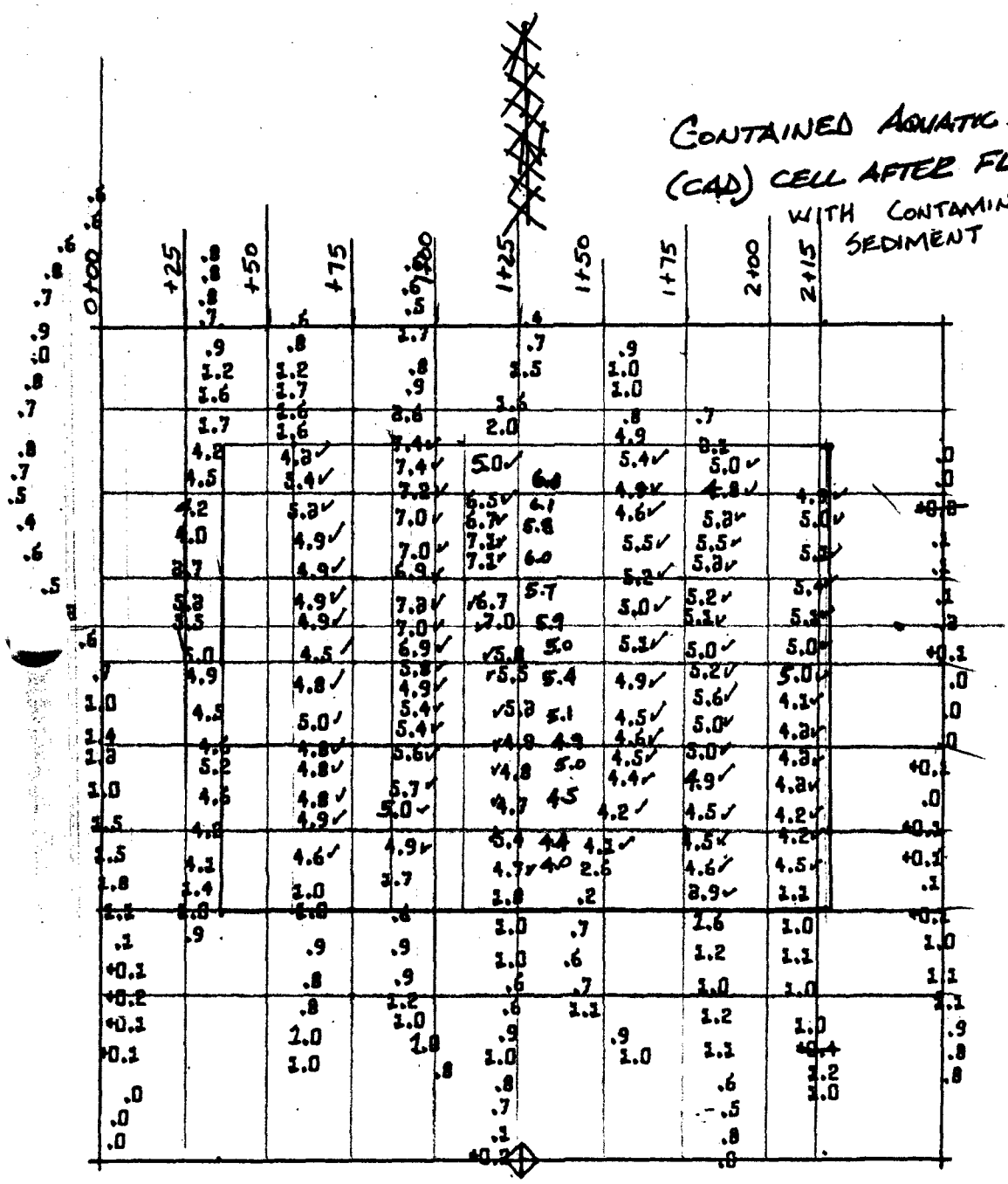
NED FORM 223
27 Sept 49

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

SUBJECT New Bedford Harbor Superfund Site - Pilot Study
COMPUTATION Volume calculations - CAD cell after filling
COMPUTED BY _____ CHECKED BY _____ DATE _____ PAGE _____



CONTAINED AQUATIC DISPOSAL (CAD) CELL AFTER FILLING WITH CONTAMINATED SEDIMENT

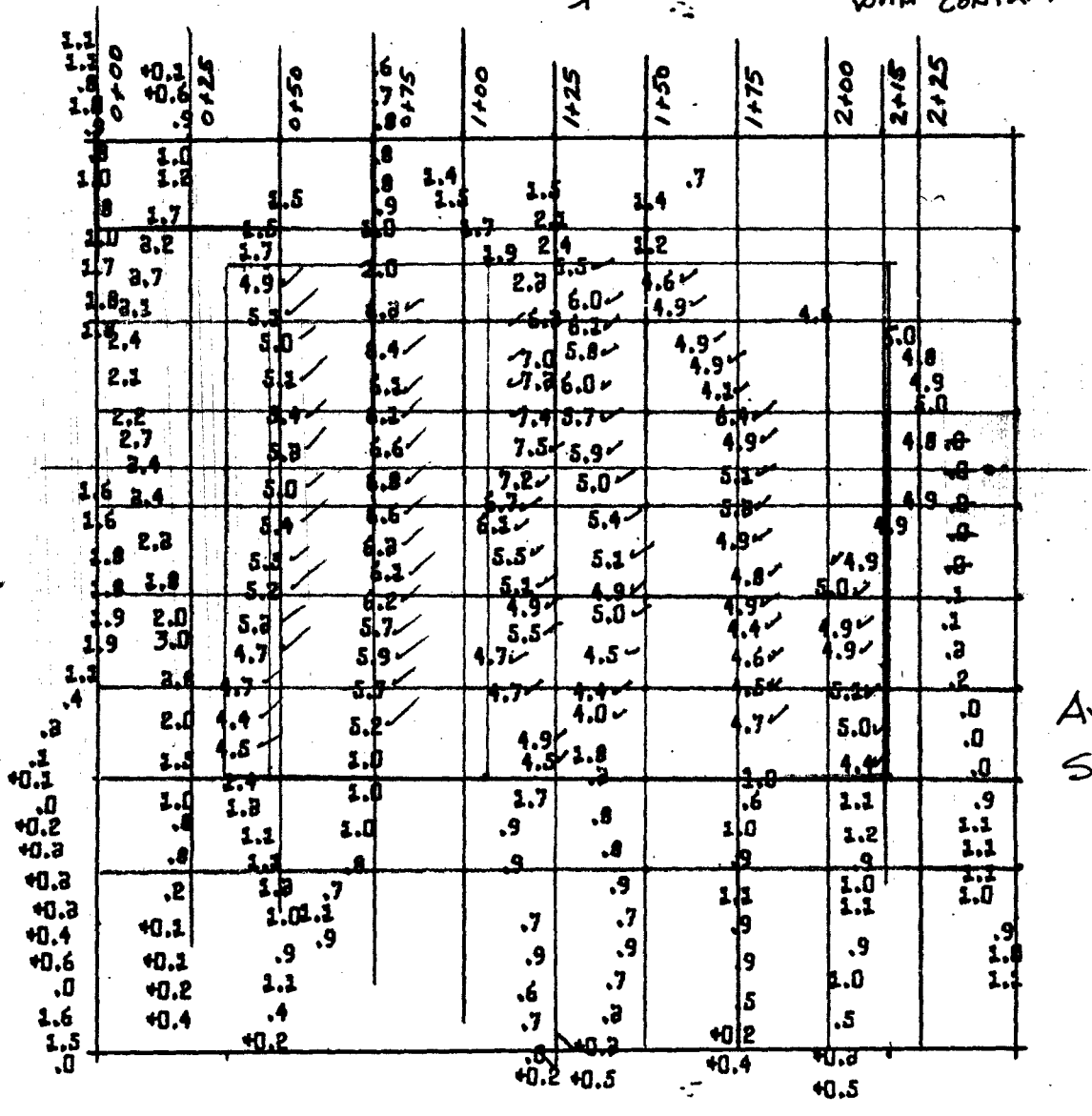


Average 5.3
Soundings (91)

Field Plot Area #1

1/24/89 New Bedford, Ma
After dredge Survey
Superfund
ESS#3 - McIntyre
Ref. BK. R+H 2309

CONTAINED AQUATIC DISPOSAL (CAD) CELL AFTER FILLING WITH CONTAMINATED SEDIMENT

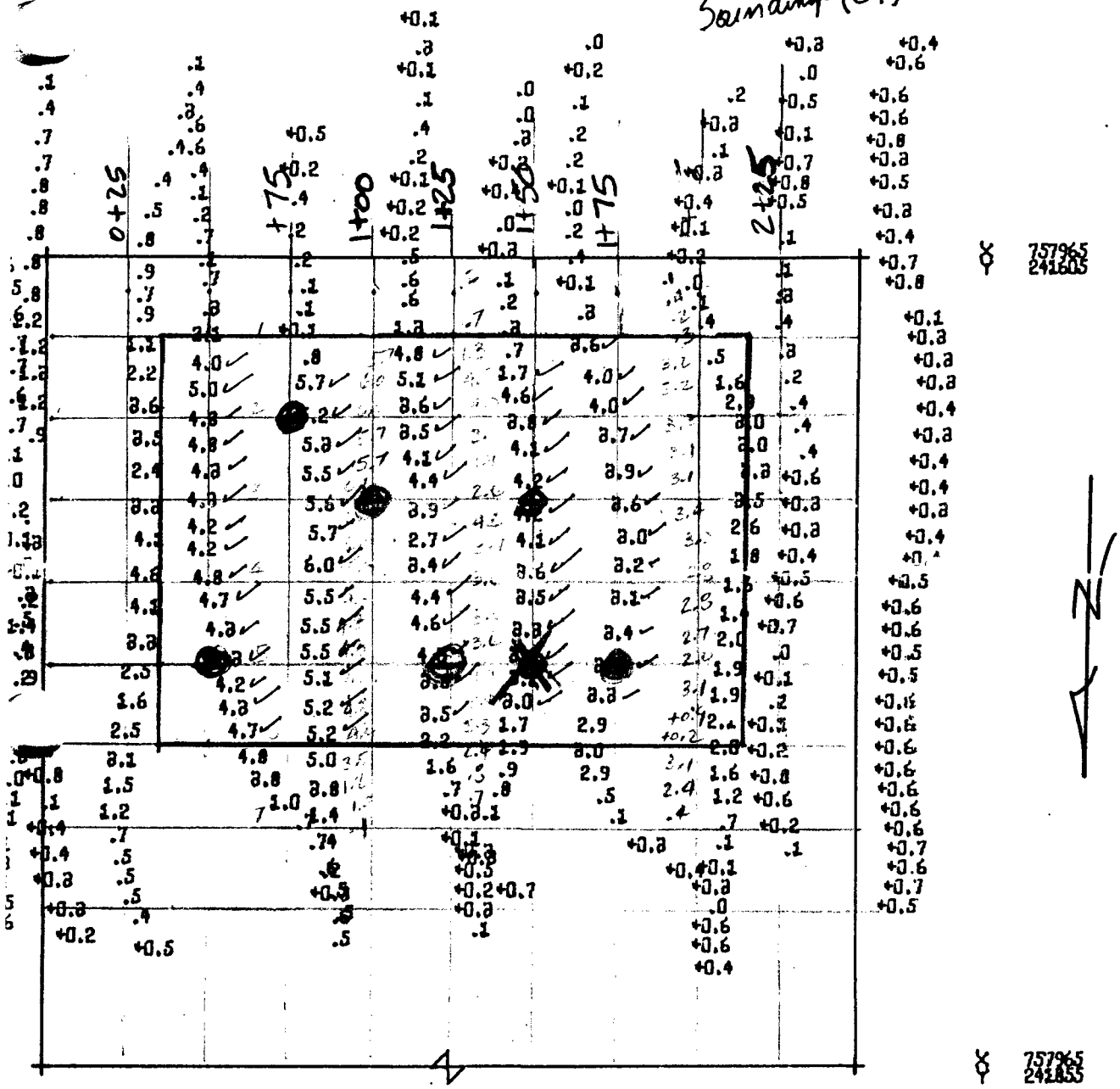


Average 5.4
Soundings (83)

FIELD PLOT AREA #1

1/24/89 New Bedford
After dredge Survey
SUPERFUND
ESS #3 - McINTYRE
REF. BK. R+H 2309

Average 4.2
Soundings (67)



Field Plot (1 of 2)

After Capping

6/22/89

New Bedford, Ma.
Superfund Pilot Study
After dredge Survey

6/22/89

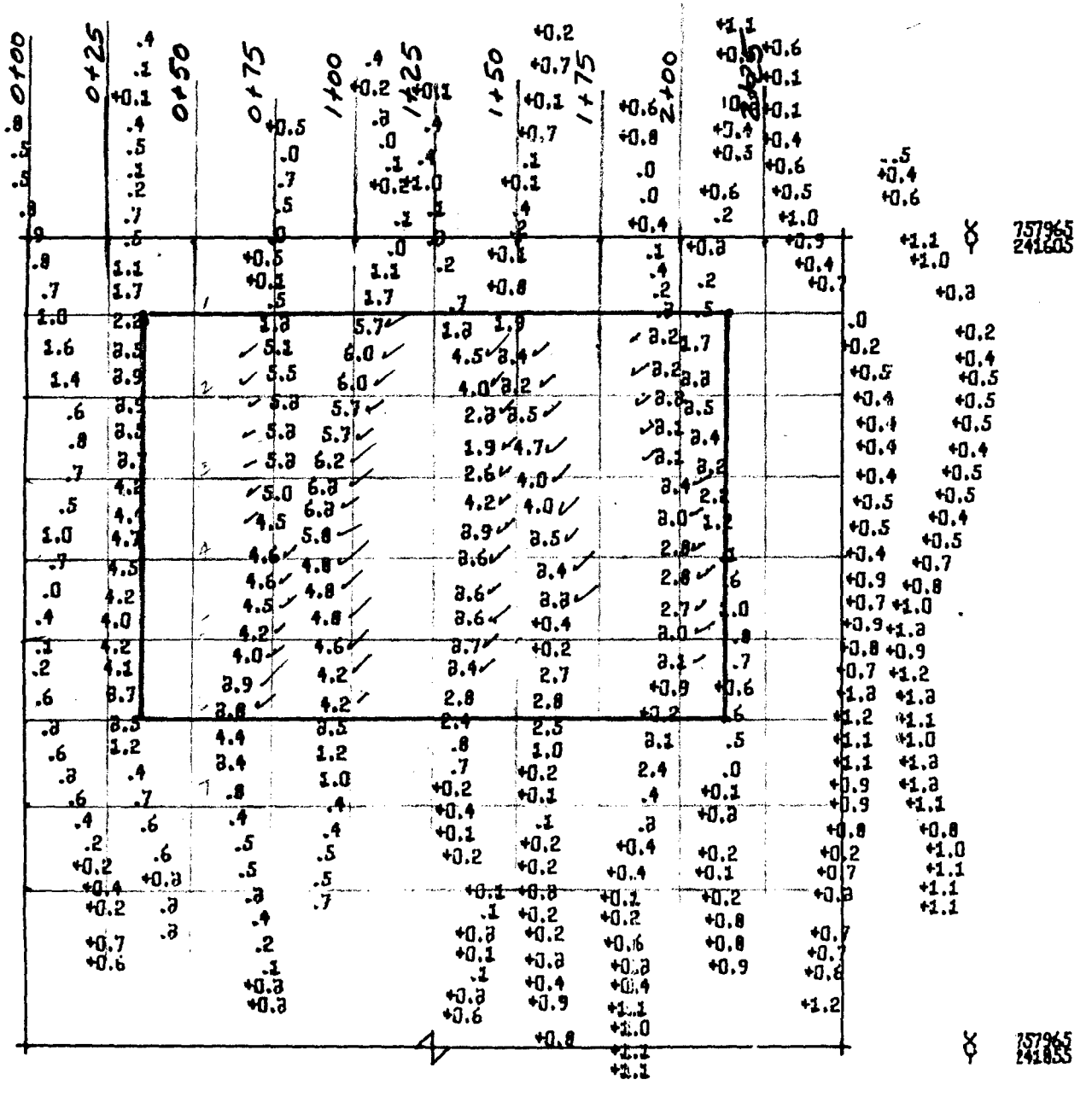
NEW BEDFORD, MA

PILOT STUDY SITE

AFTER DREDGE SURVEY

After Capping

Avg. Sounding 4.2 (62)



Field Plot

LOG OF OPERATIONS

16 MAY 88 — 23 JANUARY 88

16 May

Mark Otis and Steve Andon on site 9:30-10:30

① 3 trucks, backhoe, front end loader working moving fill from excavation area to soccer field

Met Marcie Wetherbee on site to discuss shifting soccer field to avoid property along the north side of the site which is not owned by the city. Marcie didn't see a problem in making the shift. She will speak to the Mayor today. We should not start filling the parking area until we hear from city.

Thomas J. Barnes (357-2222) owner of property along north side of site
Barnes & Company
84 Joy Street
Boston MA

24 MAY

MARK OTIS ON SITE 8:00 - 9:30

1. Backhoe excavating within CDF site (burying concrete slabs)
2. Dozer grading soccer field
3. Sedimentation fence being assembled
4. Several rolls of geotextile have been delivered

Purpose of visit was to meet Emmanuel (EBASCO) and to introduce him to Moe. He did not make it to the site while I was there.

Provided M. Beaudoin with a drawing showing the sample locations and PCB concentrations along the dike alignment.

Briefly discussed CF Systems requirements at the site.

Took several pictures of concrete walls within the CDF site

14 June

Mark Otis, Steve Andon, 12:30 - 3:00
Mike Carroll, John Warwick (WES)
Rich Hergenroeder (SAIC)

1. Went over plans for CF systems pilot plant. Staging area, security, water, electricity etc.

2. Delivered drawings to M. Beaudoin showing outlet structure

3. WES photographer scoping out site

4. Mike Carroll and crew onsite taking samples for E.C. Jordans elutriate tests.

5. Met with Mark Sangster of Diving Services Inc.

Work ongoing on site

1. Material for dikes being trucked to site and stockpiled

(2) EPA · Narragansett personnel on-site performing sampling operations.

(3) Berms have been constructed

(4) Sheetpile wall in place

(5) Silt curtain installed

22 JUNE

Mark Otis, Steve Andon, Russ Bellmer 9:00-4:00
Donny Averett (WES)

(1) Contractor shifting fabric into position.

(2) Discussed location of boat ramp and CF SYSTEMS site with M. Beaudoin

(3) Jim Peck, Bill McCarthy and OCE Safety representative visited site.

(4) Met Don Phelps, Dave Hanson, John Scott and Skip Nelson at site. Discussed start of monitoring operations on 23 June

(5) Representative from Nicolon (geotextile) on site

(6) A large gasoline spill occured today. Those flying in the helecopter reported that a large slick was visible between the I 195 and Route 6 bridges.

23 JUNE

Steve Ardon, Russ Bellmer on site in Morning
Mark Otis & Danny Averett (WES) arrived approximately 1:00 PM
Pam Rubinoff, Paul Schmilfenys and Jack Fowler (WES) on site in morning

Contractors CIH on site along with representative from NICOLON

① Contractor installed geotextile for north arm of in-water dike. Operation started at approximately 1:30 and continued for approximately 1 hour. Contractor placed fill on fabric above the MHW line until approximately 5 PM.

② This was the first event that could have required the decision committee to meet.

Factors that may influence monitoring results.

① Operation was conducted on the flood tide.

② New Bedford received heavy showers in the morning, lasting until approximately noontime. A significant flow from CSO's was reported.

③ The northeast corner of the silt curtain had to be pulled out during the operation. The contractor used two outboards to perform this operation. They operated outside of the curtain

④ An opening remained in the south side of the silt curtain during most of the operation.

⑤ ERLN personnel took a sample at the northeast corner of the silt curtain immediately adjacent to the operating outboards that were repositioning the silt curtain.

24 June

MARK OTIS on site at approximately 6:45 until 10:30 AM
Paul Schimelfenyg (GEB) and Jack Fowler (WES) on site

Nicolas representative on site for contractor

① Contractor using two bulldozers, 1 front end loader and one 10 wheel dump truck to move fill onto geotextile. One trailer dump hauling fill to site. Operation started at approximately 7:15

② ERLN began monitoring operations at approximately 10:30. Factors which may influence monitoring results.

* low tide was approximately 9 AM

* silt curtain was open at south end until approximately 8 AM

* weather was clear and breezy
The fill material was blowing around.

* Mud wave was evident along the north toe of the dike and in front of the advancing fill

27 June

MARK ORIS on site at approximately 10 AM with John Hart from GEB

Frank Fedele and Frank Vilkas (Const) also on site

① Contractor continuing to place fill on north leg of CDF dike. Trailer dumps hauling fill to site. Large mud waves evident on all sides of fill. It appears that 2-3 feet of soft material has been displaced by filling operation. Top of fill is at approximately +6.0 MLW. Thickness of fill is 8 to 10 feet.

② Low tide was approximately 1 PM. Portions of the mud wave are exposed at the lower stages of the tide.

③ EBLN monitoring operation started at approximately 9 AM.

④ There was a small break in the sedimentation fence along the south side.

⑤ There had not been any heavy rain within 24 hours of the operation

6 July

Mark Otis onsite at approximately 12 NOON with Tony Mancini (GEB) and Dick Reardon.

Carl Boutilier (Nav Br) Andy Andreliunas (Ops Div) Heather Batchelder (Intern) also on site

Frank Ciavattieri (EPA) and Sig Stockinger (Ebasco) on site

Helen Waldorf (DEQE) on site

Contractors CIH on site along with Nicolon representative

① Contractor installed ~~[illegible]~~ geotextile for south arm of in-water dike. Operation started at approximately 12:30 and continued for 1½ hours. Contractor placed fill on fabric above the MHW line.

② ERLN did not monitor this event

③ Operation was conducted on the flood tide

Russ Bellmer on site to service tide gauge.

NED sampling crew working in harbor.

Weather - Clear calm and warm

8 July

Don Ostiz (GHR Eng) - represents the PRPs. His organization will be monitoring construction activities by periodically taking pictures. He stopped by today. A representative from his office was taking pictures on Tues and would not identify himself to. M. Beaudoin

Mark Otis on site at 7:00 AM
Paul Schnelfenyg -GEB also on site

① Contractor placing fill on south leg of in-water dike using a D-3 low ground pressure dozer. Only a small mud wave evident in front of the advancing fill. Material also being placed in smaller lifts (2 feet vs. 4).

② Low tide at approximately 9AM

③ Weather - Clear calm and Hot

(4) Provided M. Beaudoin with a ~~copy~~ drawing showing property lines. NED survey crew located points on Saturday ~~2 July~~ 2 July.

(5) Left site at approximately 9:30

(6) M. Beaudoin provided a cost breakdown for moving and providing additional sedimentation fence across the cove

9 JULY

Mark Otis & Steve Andon on site from 9AM - 10:30 with
Frank Ciavattieri (EPA)
Sig Stockinger (Ebasco)
4 members of the Citizens Work Group
2 people from Channel 6

(1) Mud wave evident beneath fabric in front of advancing fill on south leg of in-water dike

15 July

Mark Otis and Frank Ciavattieri (EPA) onsite from 10 - 12.

Dick Carlson onsite

EPA Narragansett sampling John Scott (SAIC) on site

① Spoke to John Scott regarding sampling during construction of third leg of in water dike. Geotextile is scheduled for installation on either July 26 or 27. EPA Narragansett wants two weeks notice of the day they are to start sampling. After discussing situation with Moe Beaudoin and John Scott it was agreed that 28 July would be the day sampling begins.

② Frank Ciavattieri and I discussed the need to minimize any mud wave during the construction of the third leg with Moe Beaudoin. We raised the possibility of placing fill along the outside (east) edge of the fabric.

initially to then force any mud wave towards the interior of the site. Moe thought this might be possible but suggested that I route a DF through CEB to construction since this would involve a change in procedure from that outlined in the specification.

Onsite Activities

1. Contractor hauling fill to site
2. Contractor placing some fill on south leg of in-water dike. Working to cover mud wave under geotextile

Weather – fair and warm with a breeze

High tide 9:30 AM

* E.C. JORDAN trailer has been moved onto the site

21 JULY

MARK OTIS and DANNY AVERETT (WES) on site approximately 2:30

RUSS BELLMER and Gary Lacroix (intern) on site with WES photographer

Onsite Activities:

1. Contractor pulled ½ the third leg of the geotextile (north-south leg of in-water dike)
2. Jack Fowler (WES) and two technicians installing strain gauges after geotextile installed

Representative from Nicolon on site

High Tide: 2PM

No monitoring taking place

26 July

Mark Otis on site 8:45 - 11 AM

Alan Fowler (Ebasco)
Paul Schimelfenyg (CEB)
Walt (SAIC)
Technician (WES)
} also on site

Onsite Activities:

1. Contractor pulled third leg of geotextile into position on 22 July. Today he was continuing to move geotextile into proper position.

2. WES technician on site to oversee additional work associated with strain gauges

3. Zappo worker cut his wrist and was taken from the site by ambulance at approximately 9:15 AM

29 July

Mark Ors on site 7-11 AM

Wolf (SAIC)
Russ Bellmer servicing tide gage
John Scott (SAIC)

Onsite Activities:

1. Contractor placing fill on north south leg of in-water dike. D-3 working from north, D-4 from south.

2. Finishing fence for CF Systems

3. WES technician on site for strain gages

4. EPA Narragansett on site conducting water quality sampling

High Tide - 8AM - approximately

Weather - Hot, Humid, Calm

* Strong odor from Sawyer St. CSO
Don Phelps reported on 8/1 that monitoring data from Station 7 (located off CSO) for 7/29 showed significant toxic effects

8 August

Mark Otis on site - 2PM
Danny Averoff, Mike Palermo, Tommy Myers (WES) on site - 3PM
Frank Fedele, Ron Dubriel and Larry Dwio on site for COE.

- Shed for SAIC constructed on 6 Aug
- SAIC office trailer on site
- NED Lab delivered drums of sediment

Onsite Activities

- Wick Drain installation completed today

- Fill being delivered to site
- Land dike being constructed

- Tide: Mid height

Weather: Warm, Humid, Calm

11 August

- Mark Otis and Steve Andon on site from 9:15 - 10:15
- Frank Fedele, Ron Dubried and Frank Vilkas on site for COE
- 5 people on site for SAIC.
- Paul Schimelfenyg (GEB) reading strain gauges

<u>On site Activities</u>

- Contractor working on land dike

- Discussed ramp construction and monitoring wells with Frank Fedele. Move well 4 within dike and adjust screen elevation for well D

- Discussed SAIC's proposed screening operation and emphasized the need to be discrete.

- Requested that SAIC try to minimize their use of our phone and office trailer

16 August

- Mark Otis and Gary Lacroix on site with Frank Ciavottieri (EPA) 10:30 - 1:00

- M. Beaudoin and Ron Dubriel on site for Construction Division

- Met with representatives of GHR Engineering and Rizzo Associates who are technical consultants to the generators committee. ~~Wanted~~ An arrangement was worked up to allow site visits by this group

On Site Activities

- Contractor constructing outlet structure

- We are in consolidation period for in water dike. Settlement plates have been installed and we are awaiting piezometer installation.

26 August

C.F. Systems Demonstration

- Approximately 75 people were given a tour of the site, starting at approximately 11:15 AM. The group included representatives from EPA Region 1 and Massachusetts DEQE.

- Contractor Activities
  - Completing installation of inclinometers
  - Power Co. completed hookup for C.F. Systems.

I provided a range layout to M. Beardsin

Paul Schimelfenyg on site

27 August

C.F. Systems Demonstration

- Approximately 15 people were given a tour of the construction site between 11:30 and 12:30

- New Bedford Police Officer was on site

2 Sept

- Mark Otis and Frank Ciavattieri on site 8:30 - 10 AM

- M. Beaudoin and Ron Dubriel on site for Const. Div.

- Spoke with Mike Cote - GHR Engr.

- SAIC & CF SYSTEMS personnel on site

- M. Beaudoin indicated that dike was continuing to settle at a fairly constant rate. He didn't expect to be able to continue filling operations until the week of the 12th

8 Sept

- Mark Otis and Steve Andon on site 10AM – 1PM
- Frank Ciavattieri and Alan Fowler on site
- John Mikutowicz (AGM) and assistant on site

(1) Held pre-work conference for dredging work. M. Beaudoin ran meeting

(2) Frank and Alan on site to meet with press in regard to C.F. Systems

(3) EPA photographer filming C.F. Systems

(4) Zoppo crew work on weir structure

(5) Fence crew installing fence along west side of site

21 Sept

- Mark Otis on site @ 8:15 AM
- Frank Ciavattieri (EPA), Alan Fowler (Ebasco) and an additional representative from Ebasco on site at 8:30 AM
- M. Beaudoin on site for Construction Div.

① Purpose of the meeting was to discuss locations for ~~and~~ air monitoring stations as well as any additional requirements for this effort.

② Concrete pad will be constructed by COE for weather tower.

③ Power for air monitoring stations to be provided by generators.

④ Also discussed with SAIC disposal of 6 barrels of sediment and additional bags of waste. It appears that SAIC will dispose of this material.

22 Sept

- Mark Otis and Danny Averett (HES) on site from 2:45 - 4 PM.

- M. Beaudoin and Ron Dubriel on site for Construction Division.

① Per discussions with Danny Averett it was decided to shift the location of the discharge point within the secondary cell.

② Contractor continues final grading of soccer field, fence installation and outlet structure construction

29 Sept

- Mark Otis, Steve Andon, V. Andreliunas onsite from 9AM – 10AM giving site tour to Col. Wilson

- M. Beaudoin onsite from Construction Division

- Tony Ricci from Engr. Div

① Contractor installing discharge line from weir box to secondary cell

② Athletic field being graded

30 Sept

- M. Otis onsite 6:30AM
- M. Beaudoin, F. Villas, F. Donovan onsite for Construction Division
- P. Schmelfenyg. GEB Jack Fowler WES
- M. Cote GHR Engr. Observing

① Survey of dike to provide cross sections for Geotech conducted

② Drill crew from environmental drilling onsite @ 8AM. Performed vane shear tests at six locations

③ Met Bob Hancock at site and discussed dock construction

④ Alan Fowler delivered air monitoring equipment

13 OCTOBER

- Mark Otis and Russ Bellmer on site at 9AM

- M. Beaudoin on site for Construction Division

1. Survey work performed to determine the elevation of the tide gauge.

2. Ebasco personnel on site working on air monitoring equipment

17 OCTOBER

- Mark Otis on site at 12AM with Charles Berring (EPA)

- M. Beaudoin on site from Const. Div.

- Frank Ciavatteri (EPA) and Alan Fowler (Ebasco) on site

(1) Lawyers for the PRP's along with several of their technical consultants were given a tour of the site

(2) Clean Harbors on site to remove several additional barrells of waste material

20 OCTOBER

- Mark Otis on site at 9:45 with Denny Averett. Remained on site until 12:45

- M. Beaudoin and C. Hysler onsite for Construction Division

- P. Schimelfenyg on site for GEB

- Mike Carroll and Brian Condike on site for NED Laboratory

- Don Phelps, Skip Nelson, Bruce Reynolds John Scott and Terry Pesch on site for EPA Narragansett

(1) Held meeting to discuss upcoming monitoring efforts associated with the dredging and to coordinate efforts between the laboratories.

(2) Contractor placing fill & trucks hauling fill to site

25 October

- Mark Otis on site all day
- C. Hysler on site for Const Div.
- M. Carroll on site for NED laboratory with lab personnel. Setting positioning stakes for plume sampling

(1) Contractor placing fill for stage 2 of in-water dike. Dike at elev +8.0

(2) EPA Narragansett on site sampling

1 November

- Mark Otis on site 8:30 - 10:00

- Met with M. Beaudoin to discuss scheduling of monitoring activities and necessary support to monitoring operations

- M. Cole on site for GHR

(1) Contractor placing fill for stage 2 in water dike. Dike at elevation +13.0.

4 November

- Mark Otis on site 7:30 - 3:30
- M. Beaudoin, F. Vilkas and F. Donovan on site for Construction Division
- M. Cote on site for GHR

① Range Layout completed for dredging area 1

② Contractor performing final grading of dike sideslopes

③ Contractor installing walkway to weir between primary and secondary cells.

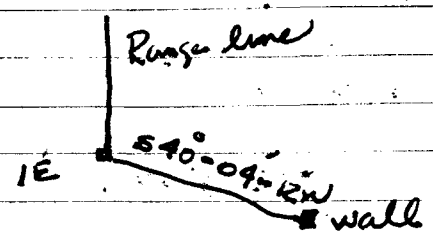
9 November

Mileage Wattham to site 69 mi
New Bedford to NED 70
139 mi

- In New Bedford from 12 - 2PM
- Met with M. Beaudoin and Craig Hyster from Const. Div
- Met with Mike Carroll, Bob Brazeau and crew from NED Laboratory.

① Fence contractor finishing fence (soccer field).
② Zappo const ramp for BEAN dredge & finish grading on dike slopes
③ GZA installing wells (5 installed)
④ Air monitoring crew from Ebasco installing equipment
⑤ Russ Bellmer met with NED & EPA lab personnel in morning

Δ WALL	N 241 025.51
	E 758 265.90
Δ FENCE	N 241 966.22
	E 758 220.17
Δ FENCE 1	N 241 960.19
	E 757 985.28
Δ PIPE 1	N 241 808.38
	E 757 259.06
1E Range Line	N 240 965.00
	E 758 215.00



11 November

π on Δ West 0-00-00 on 1E

SAMPLING POINTS	ANGLE RT
1	129°-41' ✓
2	135°-47 ✓
3	139°-00' ✓
4	143°-10'
5	147°-[illegible]
6	150°-[illegible]
7	163°-[illegible]
8	[illegible]
9	164°-41

π on 1E 0-00-00 on Δ WEST

SAMPLE POINTS	ANGLE LT
1	42°-21'
2	38°-28
3	36°-15'
4	27°-50'
5	27°-40'
6	25°-33'
7	12°-43
8	13°-07
9	13°-02

on 10 November attended city council meeting

71 miles - Wallham to New Bedford
52 miles - New Bedford to Sharon

11 November

- Met Steve at Skipper Motor Inn at approximately 7:30
- EPA sampling
- Ebasco on site
- AGM on site - installing silt fence
  Cashin on site
- Fence contractor on site
- Bob Brazeau, Paul Spano, and Nancy Webster on site sampling wells
- Survey work to locate plume sampling locations (see preceding page)
- Spoke to Alan Fowler
- Spoke to M. Beaudoin
- Set bases for two air monitoring stations on east leg of dike

Hours worked 8

52 miles - Sharon to New Bedford
52 miles - New Bedford to Sharon

14 November

Mileage - 140 mi NED to New Bedford & Return

- MARK OTIS and Steve Andon onsite from 10:30 to 3:00

- Frank Ciavattieri (EPA) and Sig Stockinger and Alan Fowler (Ebasco) on site

- Representative from Ellicot Dredging arrived in afternoon

- M. Beaudoin & Craig Hysler on site for Construction Div.

- WQL personnel sampling wells

(1) Steve and I installed 2 sections of dock

(2) Ebasco on site operating air samplers

(3) AGM on site mobilizing (pipeline, trailer)

(4) Fence contractor on site completing hookups

(5) Zoppo placing gravel on top of dike and assisting in fence hookup at Sawyer Street CSO.

(6) Buddy Ragsdale (WES) on site

15 November

Mileage 140 miles round trip
NED to New Bedford

- Mark Otis & Steve Andon onsite from 10 AM to 4 PM
- Alan Fowler & other Ebasco personnel onsite for air monitoring
- Two representatives of Ellicot Dredging on site
- C. Hysler onsite for Construction Division
- WQL personnel onsite sampling wells
  Mike Carroll onsite

(1) Steve & I installed staging around wells that are located within interior of CDF

(2) AGM onsite mobilizing & positioning floating pipeline

(3) Fence contractor onsite completing hookups

(4) Zoppo completed gravel roadway along top of dike, dredge launching ramp & manhole adjacent to 40' gate

(5) Buddy Ragsdale (WES) working on Polymer feed system.

16 November

Mileage 70 miles - NED to New Bedford

- Mark Otis arrived @ Skipper Inn at 6:30 AM. Met Don Hayes & Danny Averett (WES)
- Buddy Ragsdale (WES) on site
- John Warwick (WES) photographer on site
- M. Beaudom & Craig Hyoler (Const Div.)
- B. Brazeau and WQC personnel on site - 3 people from materials lab arrived
- Skip Nelson and Bruce Reynolds on site from EPA Narragansett
- Russ Bellmer (morning) and Steve Andon on site

(1) Cutterhead dredge arrived @ approximately 1 PM. Had not been launched from Fairhaven Shipyard @ 4:00

(2) AGM setting pipeline & trailers

(3) Zoppa completing grading of dike and dredge launching ramp

(4) Ellicott representatives onsite

(5) Ebasco - air monitoring

(6) NED lab people taking sediment sample for WES & setting range poles to mark plume sampling points

(7) ASA (?) doing some work in vicinity of Coggeshall St. Bridge

Telephone Calls:
- Frank Ciavattieri - would not make meeting
- Don Phelps - confirm Fri start
- Kevin Mayberry's office

Discussed dredge operating procedures

1. Operate cutterhead at low speed (50%)

2. Reduce swing speed

3. 2 - 1 foot cuts

Measure periodically

- swing speed
- cutter rotation

17 November

• Locating sampling points for plume sampling.

⊼ on △ WALL

00-00-00 on △ pipe

STATION	ANGLE RT
1	22°-45'
2	28°-40'
3	31°-50'
4	36°-00'
5	42°-50'
6	56°-10'
7	60°-00'
8	63°-20'
9	65°-30'
10	66°-00
11	76°-20'
12	77°-30'
13	77°-20'

$\bar{X}$ on △Fence 0-00 on △FENCE 1

STATION	ANGLE LT.
1	58°-00'
2	43°-20'
3	25°-40'
4	27°-40'
5	48°-20'
6	94°-50'
7	99°-10'
8	
9	
10	
11	103°-00'
12	
13	

- Mark Ofus on site all day
- Danny Averett & Buddy Ragsdale (WES)
- NED Laboratory personnel (6)
- Craig Hysler & M. Beaudoin (Const Div)

(1) Dredge towed to site in early morning spuds installed at Coggeshall St. Bridge

(2) AGM on site preparing dredge Nuclear density gage arrived but gages and meters have not been installed

(3) Survey work to locate plume sampling locations

(4) NED Lab personnel brought their small barge into the cove

Telephone calls:

- Don McCaig (Ellicot) MUDCAT will not arrive until 11/28
- Spoke with Russ Bellmer
- Spoke with reporter for a Fairhaven newspaper (Advocate) Kim Reed

18 November

26 miles in New Bedford
(11-16, 11-17, 11-18)

50 miles to Sharon

10 HRS WORKED

- Donny Averett (NES)
- MARK OTIS & RUSS BELLMER ON SITE
- M. Beaudoin and C. Hysler (Const Div)
- NED Laboratory personnel
- Mike Carroll (Lab) Peter Hue (Const)
- Representative from Cashin Assoc.
- Mike Cole (GHR)
- Technician setting up flowmeter & recorder
- Five people from EPA Region I (Linda Murphy)
- Ellicot representative working with AGM

① AGM moved dredge into position, attached diffuser, and attempted to dredge. Swing anchors would not hold so we were unable to start. Will weld plates to anchors and try tomorrow

② EPA - Narragansett on site

③ Set tide board

④ EPA Narragansett - Ebb sample only

19 November

50 miles to New Bedford (arrived 8:45)
50 miles to Sharon (arrived 7:00)
T on range line 35 west

0-00 on range line east

STATION	ANGLE LT
8	72° - 20'
9	71° - 20'
10	71° - 20'
12	59° - 10'
13	60° - 10'
14	59° - 50'
15	60° - 50'

T on ⊡ WALL 0-00 on ⊡ pipe

STATION	ANGLE LT
8	63° - 10'
9	66° - 00'
10	65° - 20'
11	76° - 10'
12	77° - 30'
13	77° - 15'
14	78° - 35'
15	78° - 00'

T on ▫ wall 0-00 on ▫ pipe

ANGLE TO DREDGE
LT SPUD 36° 40'

T on range line 35' west
0-00 on range line
LT Angle to LT spud 96°-30'

① pumping water at 3:40 PM
problems with anchors, pumped material for approximately 10 minutes
quit at about 6PM

② NED Lab personnel on site (6)
③ Danny Averett (WES)
④ Ellicott representative left early afternoon
⑤ Technician installing recorder for flow meter.
⑥ Alan Fowler on site (air samples)
⑦ Michael Cote GHR
⑧ EPA Narragansett took ebb samples only

Clear, mid 40s, very windy

21 November

- Dredge pumping water @ 6:40
- Moving material 7:00
- Begin sampling 7:05
- Dredge stopped 7:45

7:10 { 2048 ppm, 2269, 2128, 2147 } 2148

7:20 { 1975, 1614, 1847, 1902 } 1834

7:30 { 2045, 2159, 2186, 2157 } 2137

7:40 { 2183, 2157, 2180, 2167 } 2172

- AGM onsite with 3 people
- Ellicott representative arrived in afternoon (2PM)
- NED Lab personnel on site. (6)
- Texas nuclear representative to install gage on Friday
- Danny Averett on site (WES)
- Met with contractor after todays dredging and decided to make a two foot cut and walk through the area only once.

Mileage
Mon & Tues - 17mi

Plume Sampling - 3 events
- One composite from row 6-10 on second event

Dredge head Sampling
- one composite

22 November

- Start Dredging: 6:35
- End Dredging: 8:20

Start Sampling: 6:45
Last plume sample: 9:00

	FLOWRATE (GPM)			
TIME	1	2	3	4
6:45	2078	1853	1638	2096
6:55	1250	1987	2090	2277
7:10	2338	2350	2260	2200
7:30	2097	2028	2228	1691
7:45	1723	1993	2148	1870
7:55	2217	1838	2124	2188
8:10	1689	2040	1628	976

			1916	6:45
Mileage.			1901	6:55
To	Waltham	68	2287	7:10
	RETURN	68	2011	7:30
		136	1934	7:45
			2092	7:55
			1583	8:10

- Ellicot representative on site
- AGM 3 men on site
- Danny Averett (WES)
- M. Beaudoin, Steve Andon, Russ Bellmer & M. Otis (NED)
- Zoppo on site along with fence contractor
- Ebasco - air monitoring
- M. Cote - GHR Engr - on site from 7-8
- Chris Turner ASA - stopped by trailer ASA apparently sampling from Coggeshall Street Bridge
- EPA Narragansett sampling John Scott & Bruce Reynolds on site
- NED lab personnel on site (6)

- Received call from Frank Ciavattieri Criteria exceeded
  - 1.7 PCB
  - 13 copper
  - 7.6 lead
- Had discussions with Skip Nelson, Don Phelps & John Scott concerning speeding up analysis of plume and dredgehead samples.

- Don Phelps & 3 people from EPA headquarters visited site

- Returned to Waltham at approx 11:30

- Plume Sampling - 4 events
  - Composite on row 6-10 on second event
  - Composite on row 11-15 on fourth event

- Dredgehead Sampling
  - One composite

- Dredging Method
  - depth - 2' cut
  - Advance - 1' advance

23 November

- Start Dredging 6AM Down immediately RESTART: 6:50
- End Dredging 10:10

Start Plume Sampling: 7:00 AM

Last plume sample: 10:00

	FLOWRATE GPM			
TIME	1	2	3	4
6:55	1771	2020	1670	2363
7:00	2407	2275	1741	2420
7:15	2367	2346	2275	2284
7:25	2026	1741	1937	1466
7:45	2200	2119	2315	2282
8:00	1183	1352	1921	1615
8:15	2079	1416	1824	2100
	2145	2247	2234	2255
8:55	1606	2196	2258	2317
	1554	2195	2183	1834
9:40	1530	1710	1928	1912
	2192	1862	2238	2079
10:05	1961	2140	2130	1876
	1052	1717	1962	1311

- Ellicott representative on site
- AGM (3 men) on site
- Danny Averett (NES)
- M. Beaudoin, F. Vilkes (Const Div)
- M. Otis R. Bellmer, S. Andon (Operations Div)
- V. Andreliunas, J. Caffrey (Operations)
- NED lab (4 people) 1 person Cape Cod Canal
- Fence contractor on site
- M. Cote (GHR) on site 7-8 AM
- Ebasco on site air monitoring
- EPA Narragansett on site (Bruce Reynolds)

* Spoke with Frank Ciavattieri at approximately 6AM
* Spoke with Skip Nelson
  Results of Tues sampling at Coggeshall St. Bridge Station
  PCB 0.97
  Copper 3.3
  lead 2.1
- John Mikatowitz on site in afternoon
  Discussed contract with Moe Beaudoin, John and Dave Lafleur. Initial indication is that we have underestimated the amount of noneffective time required to carry out project.

Plume Sampling - 5 events
3 chemistry composites
- Stations 1-5 on second event
- Station 6-10 on third event
- Station 11-15 on fifth event

Dredgehead Sampling
- 2 composites

Dredging Method
depth - 2 feet
advance - 2 feet

Mileage to Waltham 70 miles

25 November

- Start Dredging 6:20 intermittant until 7AM
- End Dredging 11:30

	FLOWRATE GPM				
TIME	1	2	3	4	5
	FLOWMETER NOT OPERATING				

- Dredge running into a lot of debris Moves material for 10 minutes then down 10 minutes cleaning out rocks & debris

- Last 1½ hrs dredged continuously without having to stop because of debris

- Changed anchors at the end of day which stirred up a considerable amount of material

- Results of Wed monitoring at Cogeshall Street Bridge

PCB 0.67

- Mark Otis, Steve Andon, Russ Bellmer and M. Beaudoin on site (NED)
- AGM (3 people)
- Ebasco (R) air monitoring
- EPA Narragansett monitoring
  Skip Nelson & Don Phelps on site
- Judy Perry (DEQE) visited site

Dredgehead Sampling - suspended sediment only

Mileage:

Sharon to New Bedford	50 mi
New Bedford to NED	70 mi

26 & 27 November

- Steve Andon on site
- Ebasco on site - air monitoring
- AGM on-site
- EPA Narragansett continuing monitoring no chemistry on Saturday or Sunday
- Texas Nuclear technician on site Sat & Sunday along with representative of CPE controls. Gages operating on Sunday

TIME	GPM	MG/L	TONS/HR
10:00	1952	1.074	47.4
	1751	1.069	30.7
	1167	1.065	36.9
	1530	1.025	12.4
10:25	1441	1.055	33.4
	1875	1.031	20.4
	2204	1.022	19.0
	2037	1.021	15.7
10:48	1582	1.070	53.8
	1483	1.056	29.4
	1549	1.023	6.0
	1059	1.021	16.7

1 DGING TIME:

TIME	GPM	MG/L	TONS/HR
11:03	1864	1.030	12.4
	1673	1.018	15.5
	2064	1.019	14.7
	2126	1.018	14.5
11:28	2423	1.009	8.4
	2426	1.009	8.6
	2428	1.010	8.5
	2427	1.010	8.6
11:57	2390	1.016	10.1
	1763	1.017	8.2
	1453	1.017	10.4
	1676	1.017	12.6
12:10	928	1.020	12.5
	1628	1.019	12.4
	2221	1.014	12.3
	2410	1.012	11.4
12:28	2105	1.023	18.3
	2238	1.021	16.5
	1972	1.021	13.7
	1536	1.020	14.4

28 November

TIME	GPM	MG/L	TONS/HR
11:30	2146	1.015	12.9
	2342	1.014	12.3
	1440	1.039	27.7
	1641	1.059	39.5
11:40	2393	1.016	14.1
	2396	1.015	11.9
	1937	1.016	13.2
	2112	1.016	13.3
	1936	1.027	19.9
11:50	1822	1.045	31.1
	1704	1.044	
	1973	1.044	18.6
	1373	1.043	34.6
	2156	1.044	35.3
12:00	1979	1.019	14.1
	1898	1.029	24.7
	1982	1.029	25.4
	2142	1.029	22.4

TIME	GPM	MG/L	TONS/HR
1:15	2125	1.014	12.6
	2395	1.013	12.0
	2371	1.013	11.7
	2426	1.013	12.2
1:25	1824	1.026	19.2
	1858	1.029	30.0
	1977	1.039	29.8
	1320	1.043	19.6
	1561	1.036	28.6
1:35	1275	1.068	41.3
	1294	1.072	41.0
	1524	1.033	15.1
	1389	1.017	10.2
1:45	1656	1.030	24.2
	1971	1.031	35.4
	1452	1.078	47.3
	1397	1.084	46.5
	1707	1.083	53.9
1:55	1941	1.023	10.8
	1403	1.020	13.3
	1659	1.034	15.8
	1153	1.050	30.7
	1352	1.056	19.5

START DREDGING 8:15
END DREDGING ≈ 3:00

- MARK OTIS on site 11:00 AM
- M. Beaudom (Const. Div.)
- NED Lab personnel (5) sampling wells
- AGM (3)
- Ebosco (1)

* Increased cutter RPM at approx 12:30

* Mudcat Dredge arrived today

Summary of 29 & 30 November

- Dredging Hours on 11/29 4-5 HRS
- Sediment sampling by NED crew in Cutterhead Dredging Area
- Well sampling by NED personnel on 11/29 & 11/30
- BEAN personnel arrived on 11/30
- Dredgehead sampler installed on Mudcat 11/30
- Treatment unit arrived

Mileage: 70mi

1 December

- Mark Otis, Steve Andon, Russ Bellmer & M. Beaudoin on site (NED)
- Danny Averett, Don Hayes & Buddy Ragsdale on site (WES).
- NED personnel (LAB) completing sediment sampling in cutterhead dredging area. Sediment turned over to EPA Narragansett.
- Skip Nelson (ERLN) on site
- Bean Dredgehead arrive (5 Bean personnel on site)
- Treatment Unit being set up

* Mudcat began dredging a 3:25
  Completed dredging 4:45

* Two foot cut with a 20 foot per minute advance. Complete approximately 220 foot cut
* Visually was causing a large amount of turbidity

* No sampling/monitoring ongoing

Mileage 50mi

2 December

- MARK OTIS, STEVE ANDON, Russ Bellmer, M. Beaudoin (NED)
- NED LAB (6)
- AGM (4)
- EPA Narragansett - CHEMISTRY 24 HR TURNAROUND
- Zoppo - grading dike
- BEAN - Assembling dredge

① Tour of site (11AM)
② Start dredging 1:30
③ Complete dredging 4:30
④ Plume sampling - 4 events
⑤ Dredgehead sampling
⑥ Effluent sampling - primary weir
10 samples

Effluent Samples - Primary weir

2:30
3:45
4:35
5:30
6:30 pm.
7:30
8:30
9.30
10.30
11.30
12.30

TUBE SAMPLER

	DREDGE	PLUME
1555		X
1600	X	
1610		X
1615	X	
1625		X
1630	X	
1640		X
1645	X	
1710	X	X
1740		

Mileage: 104mi

3 December

- Mark Otis, Steve Andon, Russ Bellaver
- Danny Averett, Don Hayes, B. Ragsdale (NED)
- NED Lab (6)
- EPA Narragansett
- Ebasco (1)
- BEAN (5)

(1) Tour of site & presentation @ Buttonwood Library

(2) Started dredging at approx 1:30 Completed at

(3) Speed of advance reduced to 15 feet per minute. Four passes per cut. Visually the most resuspension appeared on the initial forward cut

(4) Plume sampling, effluent sampling at primary weir and well sampling

(5) Problems with pump and generator for dredgehead sampling

(6) CPI technician on site completing computer hookup

(7) 10 effluent samples

TUBE SAMPLER

	DREDGE	PLUME
1650	x	
1655		x
1710	x	x
1725	x	x
1740	x	x
1755	x	x
1825	x	x
1855	✓	✓
1955	✓	✓
~~2055~~ 2105	✓	✓

TIME	GPM	MG/L	T/H
1737	1663	1.030	22.1
	1454	1.028	21.1
	1825	1.029	20.6
	1718	1.030	22.5

Initial 1 foot cut - forward

1745	2016	1.015	11.9
	2044		11.6
	2063	1.014	11.4
	2064		11.3
	2073	1.014	11.2
	2077	1.014	11.0

Initial 1 foot reverse cut

1800	1558	1.060	27.5
	1384	1.066	42.0
		1.075	22.6
	1117	1.073	40.6
	1249	1.059	26.7
	1254		27.5
	1925	1.057	40.1
	1654	1.057	36.1

2nd one foot cut · forward

4 December

- MARK OTIS, STEVE ANDON, RUSS BELLMER ONSITE
- Buddy Ragsdale returned to WES
- EBASCO (1) on site
- NED Lab personnel (6)
- BEAN Dredging (5) on site
- AGM (3)

1. Dredging from 4-7
2. 3 rounds of plume sampling
3. Dredgehead sampling
4. Primary weir sampling (10 samples taken on the half hour)
5. Weather - Windy & cold
6. EPA Narragansett sampling

Sharon to site (52)

5 December

- Mark Otis, Steve Andon & Russ Bellmer on site. M. Beaudoin (Construction)
- AGM (3) 2:15 — 8:15
- Zappo - placing fill on dike
- Fence contractor (3)
- Ebasco (1)
- Bean personnel left today
- Crew from St. Paul District arrived today
- EPA Narragansett sampling today
- Visited office & returned (140 mi)

(1) Primary weir sampling 10 samples
First sample at 1600 hrs
Last sample at 0200 hrs on 12/6

(2) Dredging from approximately
2:15 - 8:15

(3) Delivered I-Chem bottles to site from NED Laboratory

6 December

- Mark Otis, Steve Anton on site
- Roy Wade & John Warwick (WES)
- AGM (3)
- Zappo (4)
- Peroxidation (1)
- Ebasco (1) → M. Carroll on site
- NED Laboratory (6) - well samples
  - setting up for sediment sampling
- EPA Narragansett sampling
- Dredge Crew from St. Paul District

(1) Roy Wade hooked up polymer feed system
(2) pushed Matchbox Dredge into water
(3) NED Lab - well samples & mobilizing for sediment sampling
(4) AGM - 2 hours of dredging with Mudcat - completed dredging with this equipment approx 15 feet short of north limit
(5) Received 200 gallons of fuel for Matchbox

* Returned to Hudson

7 December

- MARK OTIS & STEVE ANDON & M. BEALIDON
- NED LAB PERSONNEL (6)
- AGM (3)
- ZOPPO (5) Ivan Droodin visited site
- Paul Schimelfenyg & 3 Engr. Interns on site
- St. Paul District dredge crew (3)

(1) MATCHBOX DREDGE LAUNCHED AND MOVED INTO COVE

(2) NED Lab crew taking sediment samples

(3) Paul Schimelfenyg taking readings on strain gages and inclinometers

(4) Decision made to put stone on dike

(5) Skip Nelson (EPA Narragansett) met with Russ Bellmer on site

(6) Peroxidation and Carbon Adsorption units being installed

(7) John Warwick (WES) on site

(8) EPA Narragansett delivered barrells of sediment for disposal in CDF

(9) Purchased equipment - batteries, fuel pump, for dredge

Hudson - New Bedford - Hudson

8 December

- Mark Otis, Steve Andon, Russ Bellmer
- AGM (3)
- Zoppo (4)
- St. Paul District (3)
- Peroxidation / Carbon Adsorption Unit (1)

(1) Mudcat dredge moved to shore, Cutterhead being used to refuel Matchbox. Anchors set onshore
(2) New rockbox installed on Matchbox
(3) Frank Ciavottieri visited site
(4) Mike Palermo and 3 other people from WES visited site
(5) John Warwick (WES) having his equipment repaired

Hudson - WALTHAM - New Bedford

on site 5AM

9 December

- MARK OTIS, STEVE ANDON, RUSS BELLMER AND M. BEAUDOIN
- DANNY AVERETT, JOHN WARWICK (WES)
- NED LABORATORY (6) MIKE CARROLL
- EBASCO (1) AIR MONITORING SIG STOCKINGER AND SOMEONE FROM NEW YORK OFFICE ON SITE
- EPA Narragansett on site monitoring
- Zoppo (4) Hauling gravel to site
- Ancil Taylor - BEAN DREDGING
- AGM (3)
- ST. PAUL Dredge Crew
- Tom ROSATO & Engr. intern visited site
- Doug Allen (E.C. JORDAN)

① ATTEMPTED TO DREDGE BUT HAD CONTINUOUS MECHANICAL PROBLEMS

② No sampling with Corps personnel EPA Narragansett took one sample from weirs for biological testing

onsite 5:30AM

10 December

- MARK OTIS, STEVE ANDON RUSS BELLMER
- DANNY AVERETT, JOHN WARWICK (WES)
- ANSIL TAYLOR (BEAN)
- AGM (3) + John Mikatowitz
- St. Paul District (3)
- NED LAB (6) + SALEM (1)
- EPA Narragansett - Skip Nelson & DAVE HANSEN on site
- EBASCO (1)

① Dredge pumping material @ approx 6:15 Estimate 3+ hours of productive dredging. Encountered a lot of debris which required numerous shutdowns. Matchbox dredgehead plugged at approx 10. Problems with hydraulic system. Could not lift dredgehead out of water. Borrowed 6 ton (chain falls) from Coast Guard cutter.

② plume samples - 5 events
③ effluent samples - 24 hours - both weirs
④ Well sampling in afternoon
⑤ Dredgehead sampling lines frozen

Onsite 8AM - 2PM

11 December

- MARK OTIS & RUSS BELMER
- Danny Averett (WES)
- AGM (3)
- St Paul District (3)
- Ebasco (1)
- NED Laboratory (6)
- Ansil Taylor (BEAN)

(1) Aerial photos from helicopter
(2) Dredge operated for approx 20 mins
Rocks & debris plugging dredge
in numerous places
(3) Well sampling & effluent sampling
hourly in morning - Last sample
taken at approximately 2PM

(4) EPA / Narragansett on site

Onsite @ 6:30

12 December

- Mark Otis, Russ BELLMER AND STEVE ANDON
- M. BEAUDOIN
- Donny Averett & Don Hayes (VE)
- NED Laboratory (6)
- Ebosco (1)
- Zoppo (4)
- AGM (3)
- St. Paul District (3)
- EPA Narragansett sampling
- John Scott, Bob Morton (SAIC)

(1) POSSIBLE BAD SAMPLE TASK 5 - SAMPLE TAKEN IN POOL BELOW PIPE

(2) Dredge had numerous frozen lines which had to be thawed. Pumped material from 11:30 - 1:15 One foot cut

(3) Plume sampling - 3 events Dredgehead sampling from boat Effluent

(4) ~~Plume~~ sampling - hourly until mid morning then 1 large grab sample to acquire volume for ERLN biological tests

Onsite 6:30

13 December

- Mark Otis, Steve Andon, M Beaudoin
- NED Lab (6)
- Danny Averett (WES) Don Hayes (WES)
- Ebosco (1)
- Zappo (4) -
- AGM (3)
- St. Paul District (3)
- EPA Narragansett

① Started dredging at 9:15 and continued uniterupted for approximately 1½ hours. Dredgehead then became plugged and we were unable to clear it because of faulty hydraulic system which made it impossible to lift dredgehead from water.

② Dredgehead sampling, plume sampling (3 events), effluent sampling (hourly until 5PM)

③ Decision made to move Matchbox out of area. Steve will go to New Orleans and talk with BEAN DREDGING

RETURNED TO HUDSON - 100 mi

14 December

- Was not on site
- Russ Bellmer & M. Beaudoin on site
- Steve Andon travelling to New Orleans
- Danny Averett (WES) on site in morning
- NED Lab (6)

① Attended PRP meeting in Boston with Danny
② Sediment sampling in Matchbox dredge cut (16 samples - 4 composites)
③ One grab sample from CDF discharge (Task 5) for EPA Narragansett
④ Sediment samples taken for Don Hayes (WES)
* Danny and I spoke to Charlie Berring (EPA Regional Counsel) regarding chain of custody forms for pilot study samples. Charlie didn't see a need for the forms as long as an adequate set of records was being kept

15 December

- Progress meeting in Boston
- Russ Bellmer & M. Beaudoin on site
- Steve Andon in New Orleans meeting with Bean Dredging
- NED Laboratory

① Hydro survey of dredge area 1 Jim McIntyre's crew
② AGM (3) moving cutterhead into position
③ Visited site with Kevin Mayberry (Omaha District) (2:30 - 3:00)

Boston to site - 60 mi
New Bedford to NED - 70 mi

16 December

- MARK OTTS, STEVE ANDON, RUSS BELLMER
- Bob Brazeau - WEIR SAMPLING
- AGM (3)
- Zoppo (4)
- Peroxidation (2)

① Dredging water from 1-1:45, pumping material from 1:45 to 3:45

② Dredgehead sampling from sampler. Lines frozen - could not use pump & manifold

③ Effluent sampling from weirs, began at 2PM

④ Percent solids averaged 5.0% - flowrate avg. 2200 - 2400 GPM

⑤ PSA samples
1500, 1515, 1530, 1545, 1600, 1640, 1710

⑥ Ron Dubriel & Ed O'Donnell sampling weirs starting @ 1300 HRS

NED - to site - Sharon

Arrived 11:30

17 December

- EPA Narragansett (1)
- Ebosco (1)
- Peroxidation (1)
- AGM (3)
- Ron Dubriel & Ed O'Donnell (weir samples)
- MARK OTIS, STEVE ANDON, ROSS BELMIR

① Dredge pumping water @ approx 1300 HR
Began moving material @ approx 1320
Deepened dredge cut @ 1500 HR
Soundings taken behind dredge indicated that we were only removing 6" of material

② Stopped dredging @ 1645 - dredge on red range

③ Dredgehead samples taken by hand
Hoses frozen

Sharon - New Bedford - Sharon

1340 onsite

18 December

- MARK OTIS, STEVE ANDON
- Ron Dubrie - weir sampling
- AGM (3)
- EPA Narragansett (1)

① Dredge started at approx 1400
Began moving material @ 1415
Stop dredging on red range, set back to green range and make additional pass to remove 20' wide ridge of contaminated material

② Dredging completed approx 1900

Sharon - New Bedford - Easton

ONSITE 0700
Left site 1700

19 December

- MARK OTIS, M. BEADOW, STEVE ANDON
- Ed O'Donnell (weir sampling 0400 — 0700)
- BEAN DREDGING (3)
- AGM (3)
- Zoppo (7)
- Peroxidation (1)
- Ebasco (1)
- NED LABORATORY (1)

① WEIR SAMPLING (24 HR)

② Dredging begins 1515
" Ends 2030

Began digging in contaminated material. 20' wide cut. Completed digging in contaminated sediment

③ Zoppo placing stone protection on CDF

EASTON - NEW BEDFORD - Hudson

onsite 3PM
leave site 9:00 PM

20 December

- MARK OTIS, STEVE AUDON - 3.-
- RUSS BELLMER ONSITE ALL DAY -
- AGM (3) BEAN (3)
- ZOPPO
- PEROXIDATION (1)
- Ebasco (1)
- NED Laboratory (1)

① EPA - Narragansett sampling at bridge
② Weir Sampling - 24 HR cycle
③ Polymer delivered
④ Dredging clean material
Dredge moved into position 1515 - 1615
Started dredging 1615
Ended dredging 2015

Production rate much higher than when we were moving contaminated sediment. Averaging 15% solids
100 tons moved in approx 2 1/2 hours
- Shifted discharge location at completion of dredging

WALTHAM - NEW BEDFORD -

• Received travel check
• Received money for safety boots

onsite 5:30

21 December

• MARK OTIS, STEVE ANDOW, RUSS BELLMER
M BEAUDOIN
• Danny Averett (WES)
• Ebasco(1) BEAN(3)
• Peroxidation (1)
• Zoppo (4)
• AGM (3)
• NED LABORATORY (1) alternating 8 HR SHIFTS

① Dredging began 5:15
Dredging completed 9:15
Digging clean material

② Started polymer system @ 0920 HR
620 gallons pumped - 1400 HR
Pressure gage - 3
Polymer pump - #1 setting

③ Weir sampling - 24 HR CYCLE

④ Zoppo digging toe for stone protection and placing stone

⑤ Measured flow from secondary discharge
8 gal/sec x 60 = 480 gal/min

RETURN TO HUDSON

onsite 6AM

22 December

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- M. BEAUDOIN
- AGM (3)
- Zoppo (7)
- BEAN (3)
- Peroxidation (1)
- Ebasco (1)
- NED Laboratory (Bob Brazeau)

① Dredging began 0540 HRS
" ended 1000 HRS
Difficulty moving clay material
Production and rate of advance less than previous two days

② Weir sampling - 24 HR SAMPLING

③ Dave Goodrich, Bobby Byrne, Roy Clark & 3 eng. interns visited site

④ Polymer system operating
- Polymer flow increased to #2 setting at approx 0700 HRS
Gallons of water 3440 @ 1130 HRS
Pressure setting - 3

onsite 5:30
arrived NED 1200

23 December

- Mark Otis, Steve Andon, M. Beaudoin
- AGM (3)
- BEAN (3)
- Zoppo (7)
- EPA Narragansett (1) – left @ 0630

① Dredging began 0600 HRS
" completed
Dredging clean material to cap CDF

② Polymer system shut down @ 0715
6,070 gallons of water as of 0715

③ Zoppo placing stone protection & excavating for toe of stone protection.

④ Water began flowing over weir at approx 0900. Weir set at approximately elev. +8.0 MLW

⑤ Sandbagged weir in secondary cell to hold water in secondary cell for permeation unit.

NEW BEDFORD – NED

onsite 1100 - 1500 HES

27 December

- MARK OTIS, STEVE ANDON, M. BEAUDOIN
- NED LABORATORY (4)
- AGM (3)
- Zoppo (5)

① Dredging began 0900
" completed 1330 HES

② Polymer system not operating

③ Well sampling - NED LAB

④ Zoppo excavating toe for stone protection and placing stone

NED - to New Bedford - to Hudson

onsite 9AM - 1500

28 December

- MARK [illegible], STEVE ANDON, RUSS BELLMER
  M. BEATON
- NED LABORATORY (5)
- AGM (3)
- Zoppo (5)
- Ebasco (1)
- EPA Narragansett (1)

① Dredging began: 0800 HR
Dredging completed: 1415 HR

② Polymer system turned on at 0915
pressure gage [illegible]
polymer pump 2
6,070 gallons start

③ Zoppo digging toe for stone [illegible]
and placing stone

④ Water flowing over weir, elevation ≈ 8.5 [illegible]
1300 HRS

⑤ Weir sampling began at 0600 HRS

⑥ Length of pipe added to discharge line
Discharge now located west of concrete
foundation wall

29 December

- Steve Andon & M. Beaudoin
- NED Laboratory (2)
- AGM (3)
- BEAN (2)
- Ebasco (1)
- Zoppo (5)
- EPA Narragansett (1)

① Dredging cap material. Dredge moved into second cut. Initially removed only two feet

Dredging began 0800 HRS
" completed 1430 HRS

② Zoppo - digging toe for stone protection and placing stone

③ 24 Hour sampling at both weirs
Polymer system operating
polymer pump 2
pressure in water line 3

30 December

- Mark Otis, Russ Bellmer, Steve Andon
- AGM (3)
- BEAN (2)
- Zoppo (5)
- EPA Narragansett (1) left at 6AM
- NED Laboratory (1) left at 6AM

(1) Dredging clean material for cap
Dredging began - 0930
" completed - approx 1530 HC

(2) Zoppo — digging toe for stone protection and placing stone

(3) Weir sampling completed at 0600
Palmer system operating
12,030 gallons pumped as of 1005
polymer pump 2
water line pressure 3
12,542 gallons pumped as of 1400 HC
POLYMER SYSTEM SHUTDOWN

(4) Installed two additional boards on weir. Weir elev ≈ 9.0 MLW

31 December

- Steve Andon
- AGM (3)

① Dredging clean material for cap
Dredging began ≈ 1000 HR
" completed ≈ 1600 HR

② Moved discharge pipe. Disposing material within the area surrounded by foundation walls which had not been previously filled.

3 January

- Steve Andon, M. Beaudoin
- AGM (3)
- Zoppo
- NED Laboratory (3)

① pumping clean material for cap
Dredging began ≈ 1430 HRS
" completed ≈ 2000 HRS

② Zoppo continuing to place stone protection

③ NED Laboratory - preparing for well and plume sampling efforts

4 January

- M. Otis, Steve Andon, M. Beaudoin
- NED Laboratory (3)
- AGM (3)
- Zoppo (5)
- Peroxidation (1)
- SAIC (1) Skip Nelson & Don Phelps visited site

① Completed dredging of clean material
Dredging began ≈ 0600 HR
" completed ≈ 1630 HR

Encountered stiff clay along northern limited. Moved dredge south and dug deeper at approx 1300 HR. Removed pipeline from discharge end of line at approx 1300. First day that we have dug through low tide.

② Sampling wells. SAIC technician on site to filter well samples.

③ Zoppo repairing inclinometer

④ Weir set a 10' MLW - discharge over weir in afternoon
NED - SITE - HUDSON

5 January

- Steve Anton, M. Beaudoin
- AGM (3)
- Zoppo
- Peroxidation (1)

(1) Dredging completed on 4 January. Welding frame to floatation balls which will be used to hold & adjust diffuser. Moved dredge out of AREA 1

(2) NED survey crew arrived in afternoon

on site 6:45
left site 5:00

6 January

- MARK OTTS, STEVE ANDON
- DANNY AVERETT (WES)
- NED LABORATORY (5)
- Zoppo (2)
- AGM (3)
- PEROXIDATION (1)
- EBASCO (1)

1) NED SURVEY CREW - SURVEY OF AREA 1

2) AGM moving pipeline, setting anchors
3) Peroxidation sent two samples to EPA Narragansett for quick analysis.
4) Zoppo completed his work

onsite 5:45
left 13:30

7 January

- Steve Andon, Russ BELLAFER, MARK OTIS
- D. AVERETT (WES)
- NED LAB (5) CCC (1)
- BEAN (1) + Mechanic (Ancil Taylor)
- AGM (3)
- Peroxidation (1)
- Ebasco (1)
- EPA Narragansett

1) First day of dredging for CAD. Cutterhead dredge moved into position, pipeline hookup and setting anchors. Dredging from 10:20 to 11:10.

2) EPA Narragansett - 24HR TURNAROUND SAMPLING

3) Plume sampling - two events
Dredgehead - taken from boat

- ST. PAUL DISTRICT (3) - ARRIVED IN AFTERNOON

onsite 615

8 January

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- DANNY AVERETT (WES)
- NED LABORATORY (5) CCC (1)
- EBASCO (1)
- AGM (3)
- EPA Narragansett (24 HR TURNAROUND)
- PEROXIDATION (1)

1) CUTTERHEAD PUMPING CONTAMINATED SEDIMENT (0720 - 1200 HR)

2) 5 events plume sampling
Dredgehead sampling (taken from boat)

3) TWO FOOT CUT, two FOOT ADVANCE

4) MOVED BEAN SWEEP INTO POSITION
PUMPED WATER

- BEAN (1)
- ST. PAUL DISTRICT (3)

ONSITE 6:45
18:00

9 January

- MARK OTIS, STEVE ANDON, RUSS BELLITER
- DANNY AVERETT (WES)
- NED LABORATORY (5) CCC (1)
- AGM (3)
- BEAN (1)
- ST. PAUL DISTRICT (3)
- PEROXIDATION (1)
- EPA NARRAGANSETT

① MATCHBOX DREDGE STARTED DREDGING @ 0900. BREAKDOWN JUST PRIOR TO 1000. DREDGING AGAIN FROM 1100-1145 PROBLEMS WITH ANCHORS HOLDING ON NORTH BANK. IT APPEARED THAT DREDGE WAS MAKING A 18-24" CUT INSTEAD OF 12"

② Plume sampling (4 events)
Dredgehead sampling (limited)
- 1 Plume sampling event taken 30 minutes after dredging stopped
PSA samples

③ Oil slick visible over entire cove
Worst condition seen to date.

④ * 0.82' of polymer used from 55 gallon drum

· STATIONS 5 & 10 were not located

LOCATE PLUME SAMPLING STATIONS

⊼ on △ WALL	0-00 on △ PIPE
STATION	ANGLE
1	39°-00
2	28°-00
3	30°-00
4	37°-00
5	range pole missing
7	47°-30'
8	48°-30'
9	47°-00
10	50°-30'
6	range pole missing
DIFFUSER	32°-30'

⊼ on △ FENCE	0-00 on △ FENCE-1
1	44°-40°
2	45°-00
3	59°-30'
4	73°-40'
5	range pole missing
7	90°-40'
8	90°-30'
9	88°-00'
10	94°-40'
6	range pole missing
DIFFUSER	59°-00

0700

10 January

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- M. BEAUDOIN
- NED LABORATORY (5), CCC (1)
- AGM (3)
- BEAN (1)
- PEROXIDATION (1)
- EBASCO (1)
- ST. PAUL DISTRICT (3)
- EPA NARRAGANSETT

① MATCHBOX DREDGE OPERATING 0830 - 1230. DREDGE MAKING 6" CUT. FOUR SWINGS PER ADVANCE.

② DECISION CRITERIA EXCEEDED FOR PCBs at BRIDGE (1.5ppb)

③ LEVEL RUN FOR TIDE BOARD TIDE BOARD ACCURATE TO 0.1'

④ PLUME SAMPLING - 5 EVENTS DREDGEHEAD SAMPLING - FROM BOAT AND PUMP. PSA samples

⑤ Samples taken from surface (3) on last plume sampling event to check oil sheen. Samples to be analyzed at NED LABORATORY

LOCATE PLUME STATIONS AND DIFFUSER

π on △ WALL 0-00 on △ PIPE

STATION	ANGLE
5	
8	48°-00'
10	49°-00'
9	50°-30'
DIFFUSER	37°-40'

π ON △ FENCE 0-00 on △ FENCE 1

STATION	ANGLE
5	
8	90°-03'
10	90°-32'
9	94°-41'
DIFFUSER	65°-20'

ONSITE 1030
left site 1630

11 January

- MARK OTIS, STEVE ANDON, RUSS BELLMEIR, M. BEAUDOIN
- DANNY AVERETT (WES)
- AGM (3)
- ST. PAUL DISTRICT (3)
- NED LABORATORY - left in morning
- EPA NARRAGANSETT

(1) MATCHBOX DREDGE OPERATING FROM 0830 – 1230 HRS. Completed 1st pass, stepped back to remove windrows, stepped back and began removing second foot.

(2) Dredgehead sampling - / chemistry composite. Chemistry sample taken from the vicinity of the diffuser. PSA samples.

(3) Decision criteria not exceeded on Tuesday

(4) Dropped weir boards to approx elevation 7.5 MLW.

NED - SITE

onsite 0700
left site 1630

12 January

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- DANNY AVERETT (WES)
- AGM (3)
- EBASCO (1)
- PEROXIDATION (1)
- ST PAUL DISTRICT (3)
- EPA NARRAGANSETT

1) MATCHBOX DREDGE OPERATING FROM 1000-1430 HRS.

2) DREDGEHEAD SAMPLES, 1 SET OF CHEMISTRY SAMPLES FROM PLUME NEAR DIFFUSER (APPROX STATION 3)

3) Diffuser moved prior to the start of dredging

4) Silt Curtain moved around diffuser and dredge at approximately 1100 HRS

5) SPOKE WITH SKIP NELSON. SAMPLES FROM U.V. Peroxide unit in EBASCO for toxicity testing

6) EPA Narragansett collecting water for toxicity tests. No chemistry.

ONSITE 0815

13 January

- MARK OTIS, RUSS BELLMER, STEVE ANDON
- DANNY AVERETT (WES) – left in morning
- PEROXIDATION (1)
- AGM (3)
- ST. PAUL DISTRICT (3)

(1) PEROXIDATION MOVING THEIR EQUIPMENT OFF SITE IN MORNING

(2) MATCHBOX DREDGE COMPLETING CUT. DREDGING FROM 1000-1130 HRS

(3) DREDGEHEAD SAMPLES, CHEMISTRY FROM PLUME, PSA from dredge

(4) PRP's taking samples from vicinity of dredge (Rizzo Assoc.)

DIFFUSER LOCATION

π on ΔWALL 0-00 on ΔPIPE

ANGLE 42° 20'

π on ΔFence 0-00 on ΔFence 1

ANGLE 74° 20'

ONSITE 1330-1630

14 January

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- AGM (3)
- EPA Narragansett

1) Moving MUDCAT dredge into position. Dredged from 1530 - 1600 HRS before running out of water.

2) Dredgehead sampling - 3 sets of samples from lower ports.

3) EPA Narragansett (chemistry from bridge)

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onsite 0930 - 15 January

- MARK OTIS, STEVE ANDON, RUSS BELLMER
- AGM (3)

1) Mudcat dredge operating from 1050 - approximately 1700 HRS

2) Dredgehead samples - 5 chemistrys 20+ sets

26 January

- ~~AGM placing cap material on CAD cell~~
- Mechanical problems with dredge no dredging
- Zoppo completed silt curtain removal Worked for approx 2+ hours.
- EPA sampling

27 January
- AGM dredging -
- EPA sampling
- Russ. took dredgehead samples
- * Criteria exceeded 2.0 ppb for PCB at bridge

28, 29 & 30 January
- AGM dredging

31 January
- M. Otis on site
- AGM dredging

1 February
- AGM dredging - lowered diffuser
- EPA sampling at bridge

ONSITE 7AM

20 January
- MARK OTIS, STEVE ANDON, M. BEAUDOIN
- Zoppo (3)
- AGM (3)
- Ebasco (1)

(1) Bean Sweep pulled out of water
(2) Cutterhead dredge completing cut in contaminated sediment. Cutterhead operated on 1/18 and 1/19 for a total of 11 hours. Todays operation: 0830 - 1130

Location of diffuser

π on Δ Wall 0-00 - Δ Pipe
Angle 39°-00

π on Δ Fence 0-00 on Δ Fence
Angle 60°-00

25 January

- Steve Andon, M. Beaudoin
- AGM
- BEAN
- ZOPPO
- NED LAB (3)
- EPA Narragansett

(1) AGM began capping CAD cell

(2) Zoppo removing silt curtain

(3) EPA Narragansett began sampling

(4) Disassembling BEAN SWEEP

onsite 7AM

23 January

- MARK OTIS, RUSS BELLMEK, STEVE ANDON
  M. BEAUDOIN
- AGM (3)
- NED LAB (5) CCC (1)
- BEAN (2)

(1) NED LAB SEDIMENT SAMPLING
16 cores composited into 4 samples from Matchbox Dredge area in dredge area II.

(2) AGM cleaning Matchbox & Mudcat dredges

(3) NED survey crew arrived on site

onsite 6:45 24 January

- Mark Otis, Steve Andon
- AGM (3) NED Survey crew
- BEAN (2)
- NED LAB (5) CCC (1)

(1) Finishing sediment sampling Cutterhead area

(2) Survey of areas 1 & 2

(3) Disassembling Bean Sweep

(4) Mudcat brought to shipyard