



# WATER QUALITY MONITORING REPORT

## Dredge and Cap Placement Operations

### New Bedford Harbor Dredge Project - Phase II

**(Completion of Initial Construction of CAD Cell and OU #3 Cap Placement)**

**6/27/05 – 7/1/05**

**To:** Paul Craffey (MADEP)  
David Dickerson (EPA)

**From:** Stephen Tobin  
Apex Environmental, Inc.

**Re: New Bedford Harbor Dredge – Phase II**  
**Water Quality Monitoring Report**

**Date: July 7, 2005**

Attached is the water quality monitoring results from the dredging operations for the New Bedford Harbor Dredge – Phase II from the dates of 6/27/05 through 7/1/05. Also included are the monitoring results from EPA Operable Unit #3 (OU #3) cap placement. Water quality monitoring was performed in accordance with the Water Quality Monitoring Plan dated 01/05/05 and Figure 6 (Water Quality Monitoring Decision Sequence) and Figure 7 (Analytical Protocol Decision Sequence) dated March 2004 provided to Apex by the Environmental Protection Agency (EPA). Included in this report are spreadsheets tabulating the turbidity results from each day and a map of the sampling locations.

Following the guidelines of the WQMP and EPA documents, monitoring locations for water turbidity recorded an average turbidity over various water depths, up and down-current from the dredge or material placement operations, depending on tide. The values recorded as the Reference Site Turbidity were taken from up-current monitoring locations, or from monitoring events which occurred before dredge or material placement operations began. The Reference Turbidity Value was then compared to down-current turbidity values measured at regular time intervals after operations had begun.

#### **Water Quality Monitoring Results Summary (Dredging):**

For dredge operations, an exceedance of the project turbidity standard occurs when the average turbidity down-current exceeds the Reference Turbidity Value plus the permissible turbidity increase, as outlined in Section 3.3 of the WQMP. For a reference value less than 10 NTUs, the down-current permissible turbidity increase is plus 20 NTUs. The permissible turbidity increases for operations with or without silt curtains are the same, only the distance from the dredge to monitoring locations changes.



Dredging events were monitored on four days; 6/27/05, 6/29/05, 6/30/05 and 7/1/05, during dredging operations. Water quality monitors selected various sample locations around the dredging area to collect data. There were no turbidity exceedances to report during the dredging events.

#### **Water Quality Monitoring Results Summary (Cap Placement):**

Water quality monitoring during cap placement in the OU #3 area followed the guidelines set forth in the documents provided by the EPA. Material placement events were monitored on four days; 6/28/05, 6/29/05, 6/30/05 and 7/1/05. Water quality monitors selected various sample locations around the placement area to the down-current flow of water from the cap placement operations. ENSR accompanied Apex and performed monitoring during one of the monitoring event performed by Apex. There were no turbidity exceedances to report during the material placement events.

The preliminary results from first phase of water quality monitoring show that dredging and cap placement operations have stayed within the permissible turbidity levels set forth in the Water Quality Monitoring Plan and the EPA documents provided on the dates which monitoring occurred.

If you have any questions or comments regarding these results, feel free to contact me at 508-353-5202.

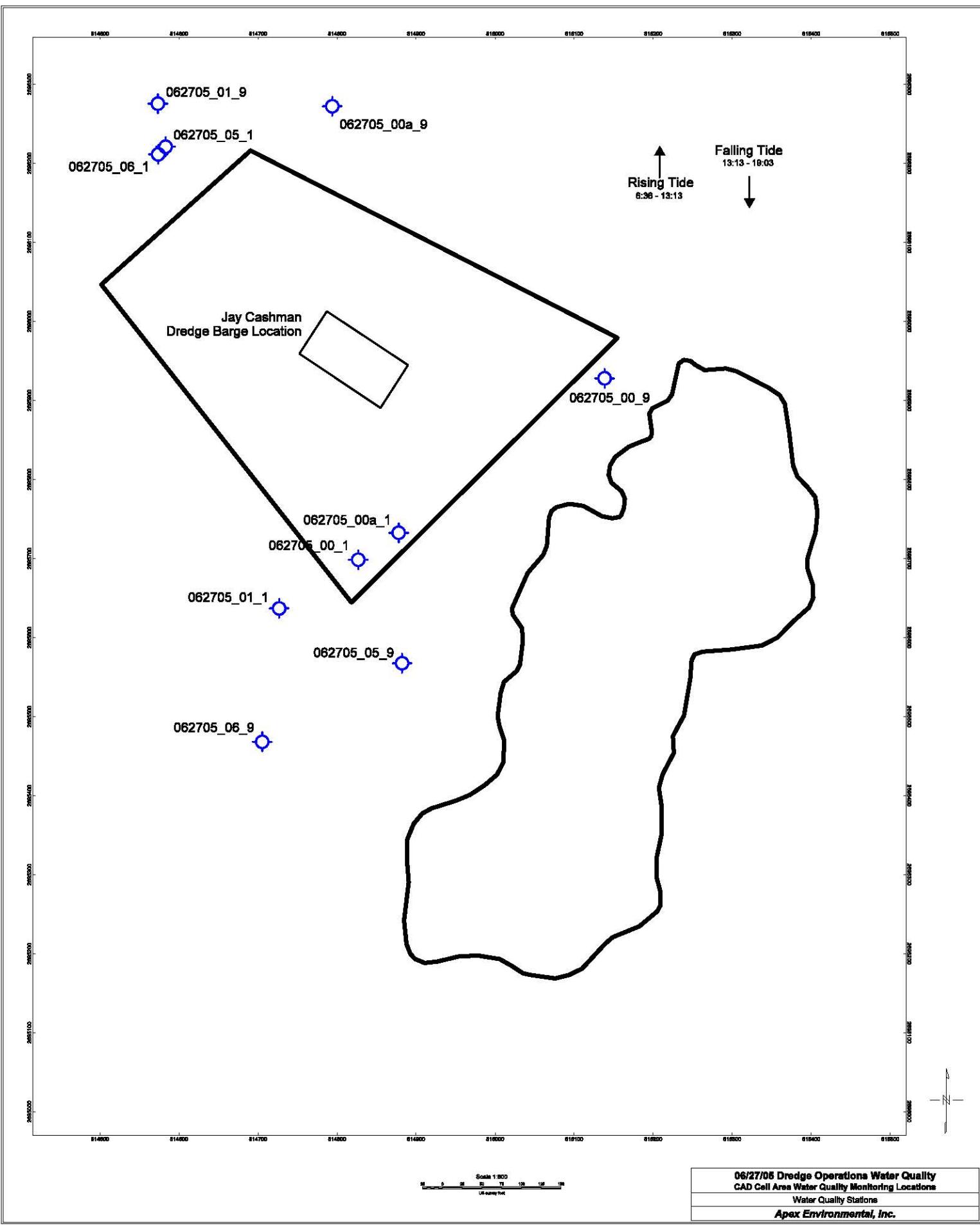
Stephen Tobin  
Apex Environmental, Inc.

Attachments

**6/27/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - CAD Cell Excavation Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 6:36									
Rising Tide	7:39	062705_00_1 (Background)	814882.29 2695567.46	Up	5 10 15 20 25 30	2.3 2.8 2.8 2.3 2.2 2.5		Sunny, ~82 Degrees W Wind 0-5 knots	None
					AVERAGE	2.5	22.5		
	7:47	062705_00_9	814793.96 2696272.35	Down	5 10 15 20 25 30	7.0 4.3 2.6 2.5 2.8 4.3		Sunny, ~82 Degrees W Wind 0-5 knots	None
					AVERAGE	3.9	(18.6 Below Limit)		
	12:13	062705_00a_1 (Background)	814726.76 2695636.82	Up	5 10 15 20 25 30	2.8 3.5 2.4 2.1 2.2 8.5		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	3.6	23.6		
	12:21	062705_00a_9	814573.74 2696211.51	Down	5 10 15 20 25 30	2.6 2.1 5.6 4.9 5.0 5.0		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	4.2	(19.4 Below Limit)		
	12:33	062705_01_1 (Background)	814878.05 2695732.56	Up	5 10 15 20 25 30	2.9 2.8 2.6 2.4 2.6 4.0		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	2.9	22.9		
	12:40	062705_01_9	814573.31 2696275.65	Down	5 10 15 20 25 30	2.7 2.8 3.0 5.8 6.3 5.5		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	4.3	(18.6 Below Limit)		
High 13:13									
Falling Tide	14:18	062705_05_1 (Background)	814583.06 2696221.14	Up	5 10 15 20 25 30	3.1 3.3 3.2 4.8 6.8 6.3		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	4.6	24.6		
	14:10	062705_05_9	814789.66 269578.51	Down	5 10 15 20 25 30	2.5 5.5 10.0 24.0 6.5 5.0		Sunny, ~85 Degrees W Wind 1-5 knots	None
					AVERAGE	8.9	(15.7 Below Limit)		
	15:40	062705_06_1 (Background)	814782.92 269618.36	Up	5 10 15 20 25 30	3.2 2.9 6.1 6.5 15.5 17.0		Sunny, ~85 Degrees S Wind 5-10 knots	None
					AVERAGE	8.5	28.5		
	15:48	062705_06_9	814705.34 2695467.98	Down	5 10 15 20 25 30	4.2 6.3 8.0 8.5 7.8 10.0		Sunny, ~85 Degrees S Wind 5-10 knots	None
					AVERAGE	7.5	(21.0 Below Limit)		
Low 19:03									

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



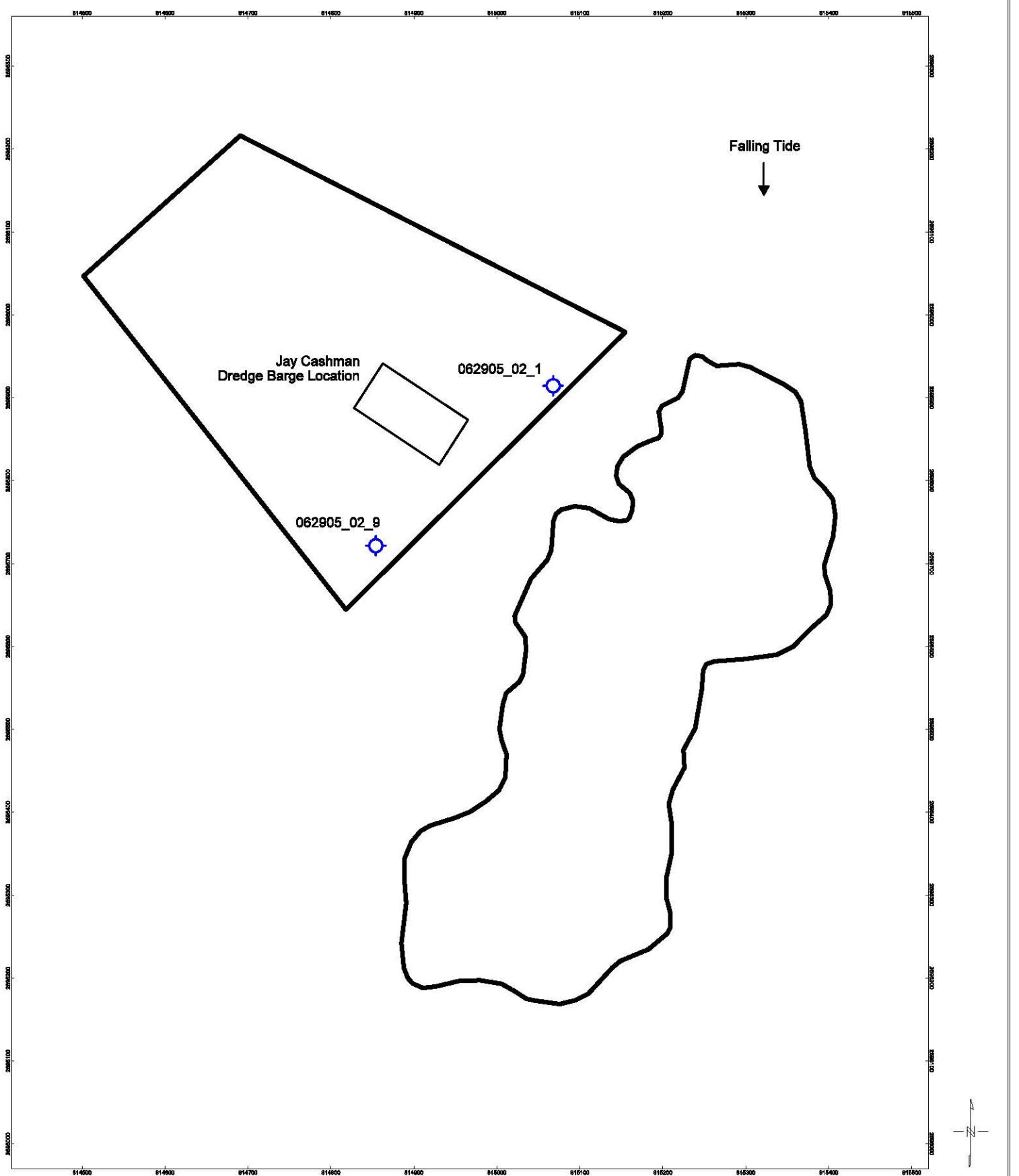
6/29/2005

New Bedford Harbor Dredge Project - Phase II  
Water Quality Monitoring - CAD Cell Excavation Area

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel Traffic
High 2:33				Current		(NTUs)	Increase (NTUs)		
Falling Tide	8:16	062905_02_1	814854.04	Up	5	4.9		Sunny, ~80 Degrees	None
		(Background)	2695721.48		10	4.8		W Wind 5-10 knots	
					15	6.3			
					20	11.0			
					25	4.7			
					30	4.3			
				AVERAGE		6.0	26.0		
	8:22	062905_02_9	815067.86	Down	5	14.0		Sunny, ~80 Degrees	None
			2695914.44		10	24.0		W Wind 5-10 knots	
					15	10.5			
					20	12.5			
					25	13.5			
					30	15.0			
Low 8:26				AVERAGE		14.9	11.1 NTUs		

Below Permissible  
Turbidity Increase Limit

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



Scale 1:600  
US Survey Grid

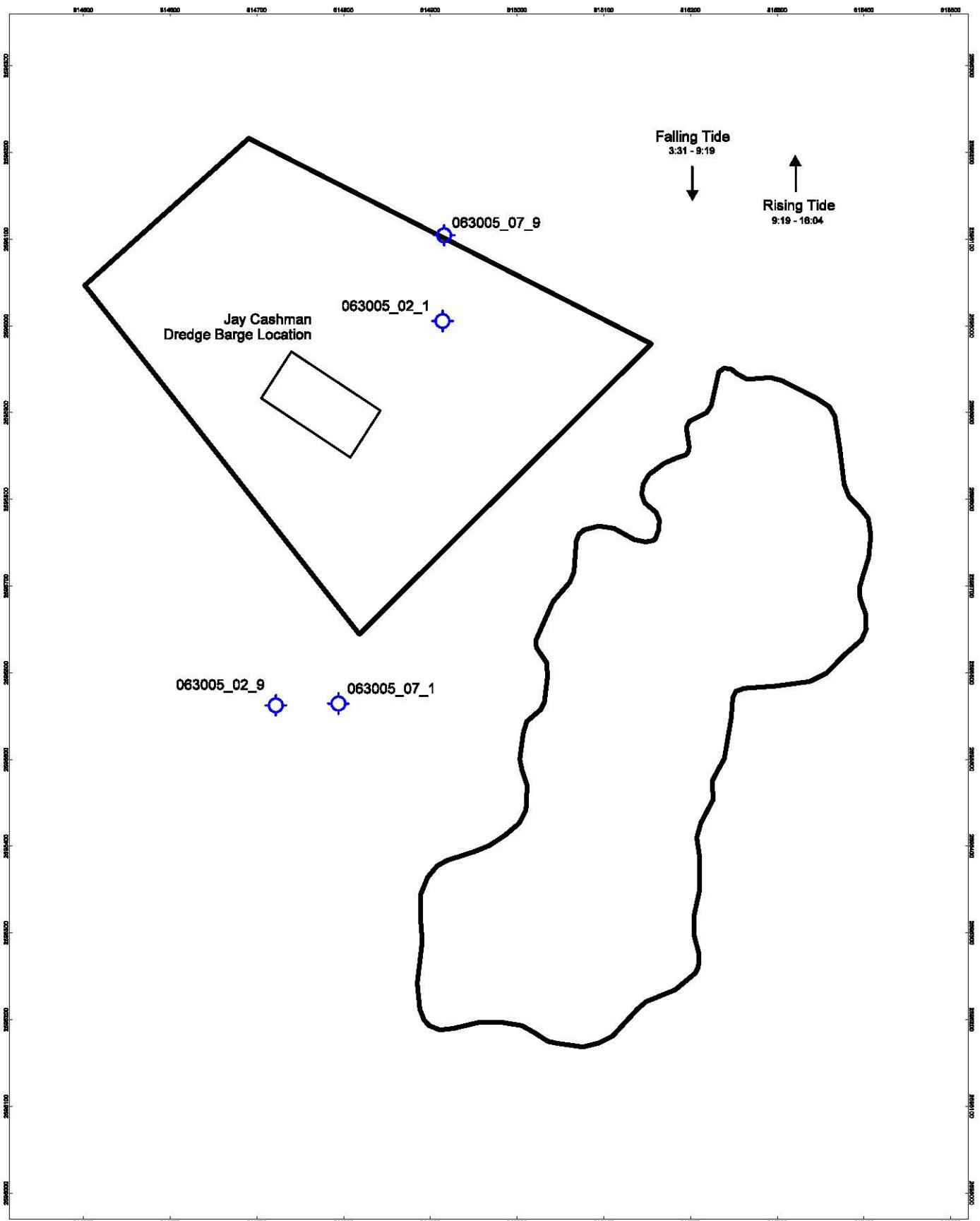
06/29/05 Dredge Operations Water Quality  
CAD Cell Area Water Quality Monitoring Locations  
Water Quality Stations  
Apex Environmental, Inc.

6/30/2005

New Bedford Harbor Dredge Project - Phase II  
Water Quality Monitoring - CAD Cell Excavation Area

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
High 3:31									
Falling Tide	8:53	063005_02_1	814721.76	Up	5	5.5		Rainy, ~75 Degrees	None
		(Background)	2695562.44		10	10.0		W Wind 5-10 knots	
					15	7.0			
					20	12.0			
					25	12.5			
					30	8.5			
					AVERAGE	9.3	29.3		
	9:00	063005_02_9	814914.04	Down	5	5.0		Rainy, ~75 Degrees	None
			2696005.58		10	5.1		W Wind 5-10 knots	
					15	3.1			
Low 9:19					20	19.0			
					25	30.0			
					30	42.0			
					AVERAGE	17.4	11.9 NTUs		
	14:16	063005_07_1	814793.99	Up	5	1.5	Below Permissible	Rainy, ~75 Degrees	None
		(Background)	2695564.51		10	1.7	Turbidity Increase Limit	SW Wind 5-10 knots	
					15	1.6			
					20	1.7			
					25	2.1			
					30	2.0			
Rising Tide					AVERAGE	1.8	21.8		
	14:07	063005_07_9	814915.86	Down	5	6.0		Rainy, ~75 Degrees	None
			2696104.53		10	11.0		SW Wind 5-10 knots	
					15	9.0			
					20	12.0			
					25	9.5			
					30	9.0			
					AVERAGE	9.4	(12.3 Below Limit)		
	High 16:04								

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



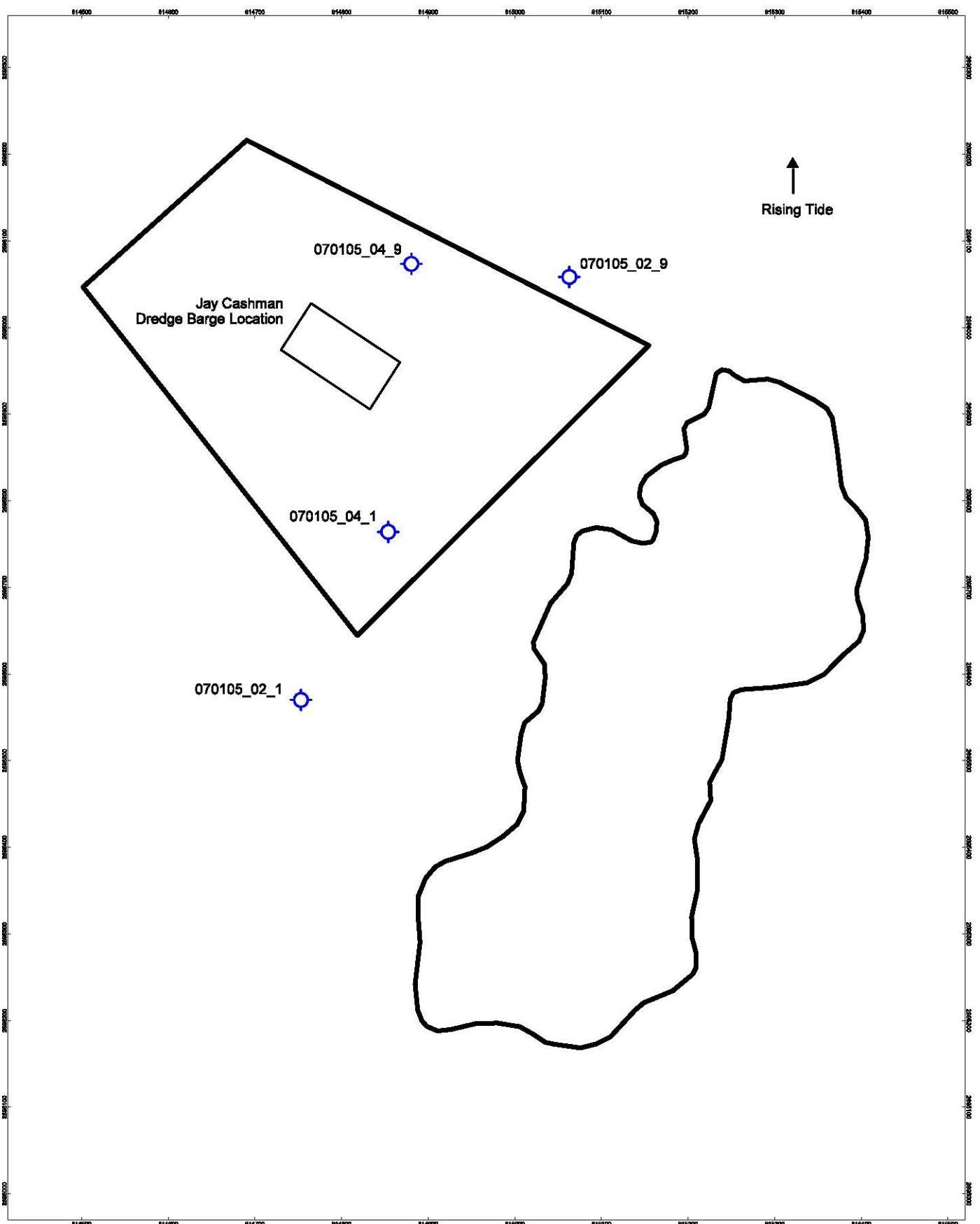
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100' survey feet

06/30/05 Dredge Operations Water Quality
CAD Cell Area Water Quality Monitoring Locations
Water Quality Stations
<b>Apex Environmental, Inc.</b>

**7/1/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - CAD Cell Excavation Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 10:04									
Rising Tide	12:19	070105_02_1	814753.16	Up	5	3.8		Cloudy, ~72 Degrees	None
		(Background)	2695570.14		10	5.3		S Wind 5-10 knots	
					15	5.5			
					20	9.0			
					25	10.0			
					30	3.5			
					<b>AVERAGE</b>	<b>6.2</b>	<b>26.2</b>		
	12:28	070105_02_9	815062.91	Down	5	9.5		Cloudy, ~72 Degrees	None
			2696058.4		10	12.8		S Wind 5-10 knots	
					15	10.0			
					20	11.5			
					25	9.0			
					30	18.0			
					<b>AVERAGE</b>	<b>11.8</b>	<b>14.4 NTUs</b>		
	14:35	070105_04_1	814915.86	Up	5	1.9	Below Permissible	Cloudy, ~72 Degrees	None
		(Background)	2696104.53		10	2.0	Turbidity Increase Limit	S Wind 5-10 knots	
					15	2.0			
					20	1.9			
					25	5.5			
					30	12.0			
					<b>AVERAGE</b>	<b>4.2</b>	<b>24.2</b>		
	14:39	070105_04_9	814793.99	Down	5	22.5		Cloudy, ~72 Degrees	None
			2695564.51		10	5.7		S Wind 5-10 knots	
					15	8.0			
					20	10.2			
					25	10.0			
					30	8.7			
High 17:04					<b>AVERAGE</b>	<b>10.9</b>	<b>(13.3 Below Limit)</b>		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



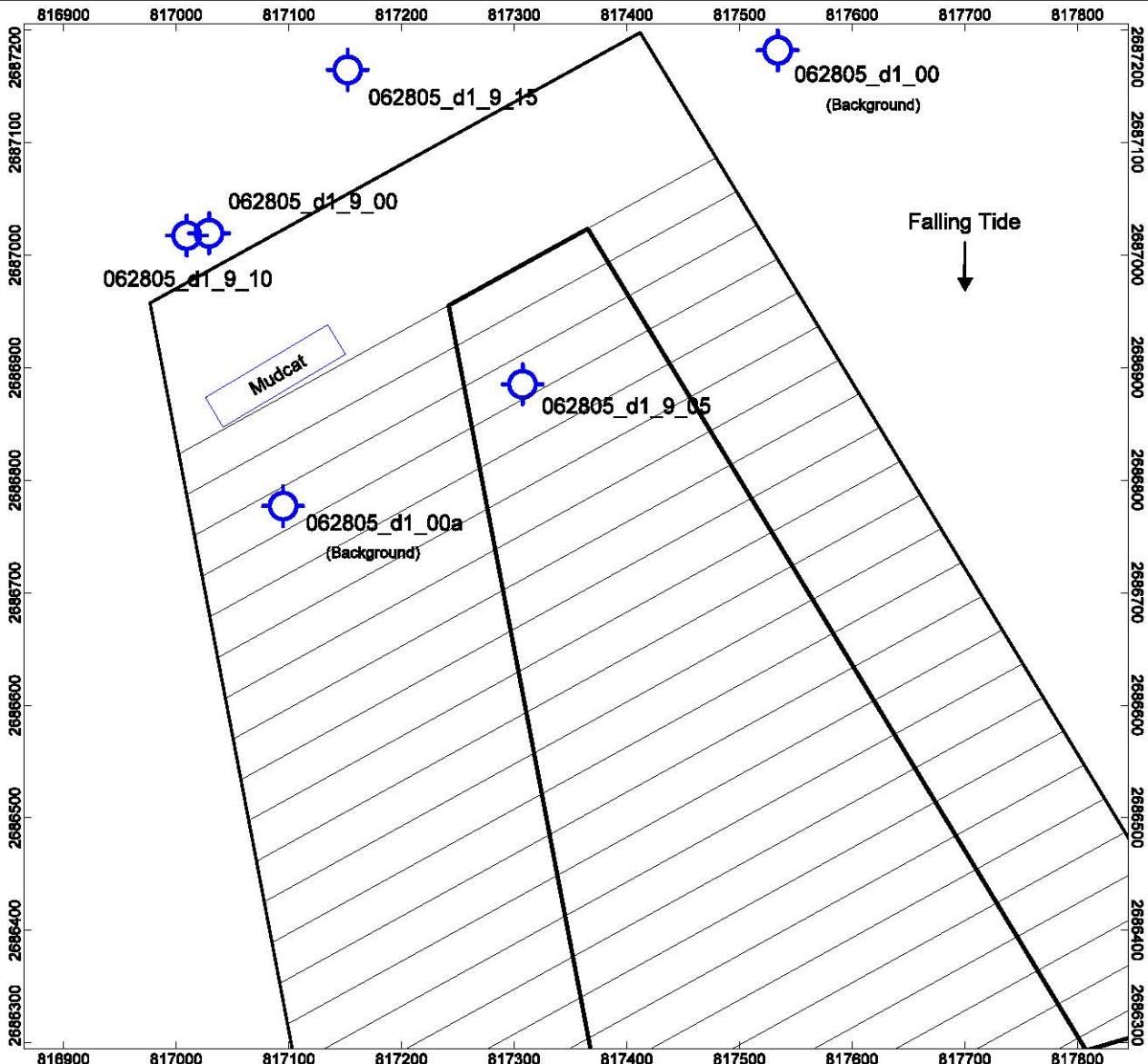
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US Survey Foot

07/01/05 Dredge Operations Water Quality
CAD Cell Area Water Quality Monitoring Locations
Water Quality Stations
<b>Apex Environmental, Inc.</b>

**6/28/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 7:30									
<b>Falling Tide</b>	10:22	062805_d1_00	817780.5	Up	2	4.5		Sunny, ~85 Degrees	None
	(Background)	2687437.15			4	4.0		W Wind ~10 Knots	
					6	3.6			
					8	4.5			
					<b>AVERAGE</b>	<b>4.1</b>	<b>44.1</b>		
10:46	062805_d1_00a	817159.23	Down	2	2.3			Sunny, ~85 Degrees	None
	(Background)	2686632.01			4	3.0		W Wind ~10 Knots	
					6	7.5			
					8	9.5			
					<b>AVERAGE</b>	<b>2.3</b>	<b>42.3</b>		
<b>11:30</b>	<b>PLACEMENT 1</b>	<b>STARTED</b>							
11:30	062805_d1_9_00	817014.81	Down	2	1.7			Sunny, ~85 Degrees	None
		2687052.69			4	3.5		W Wind ~10 Knots	
					6	5.0			
					8	6.0			
					6	4.5			
					8	2.5			
					10	3.8			
					<b>AVERAGE</b>	<b>4.5</b>	<b>37.8 NTUs</b>		
11:35	062805_d1_9_05	817023.65			2	20.0	Below Permissible	Sunny, ~85 Degrees	None
		2687068.38			4	11.0	Turbidity Increase Limit	W Wind ~10 Knots	
					6	7.0			
					8	18.0			
					<b>AVERAGE</b>	<b>7.3</b>	<b>(35.0 Below Limit)</b>		
11:39	062805_d1_9_10	817006.35	Down	10	6.0			Sunny, ~85 Degrees	None
		2687052.69			6	8.0		W Wind ~10 Knots	
					8	9.0			
					10	11.5			
					<b>AVERAGE</b>	<b>8.6</b>	<b>(33.7 Below Limit)</b>		
11:43	062805_d1_9_15	817233.98	Down	10	5.5			Sunny, ~85 Degrees	None
		2687271.84			8	6.5		W Wind ~10 Knots	
					6	4.5			
					4	2.5			
					2	4.0			
High 14:09					<b>AVERAGE</b>	<b>4.6</b>	<b>(37.7 Below Limit)</b>		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



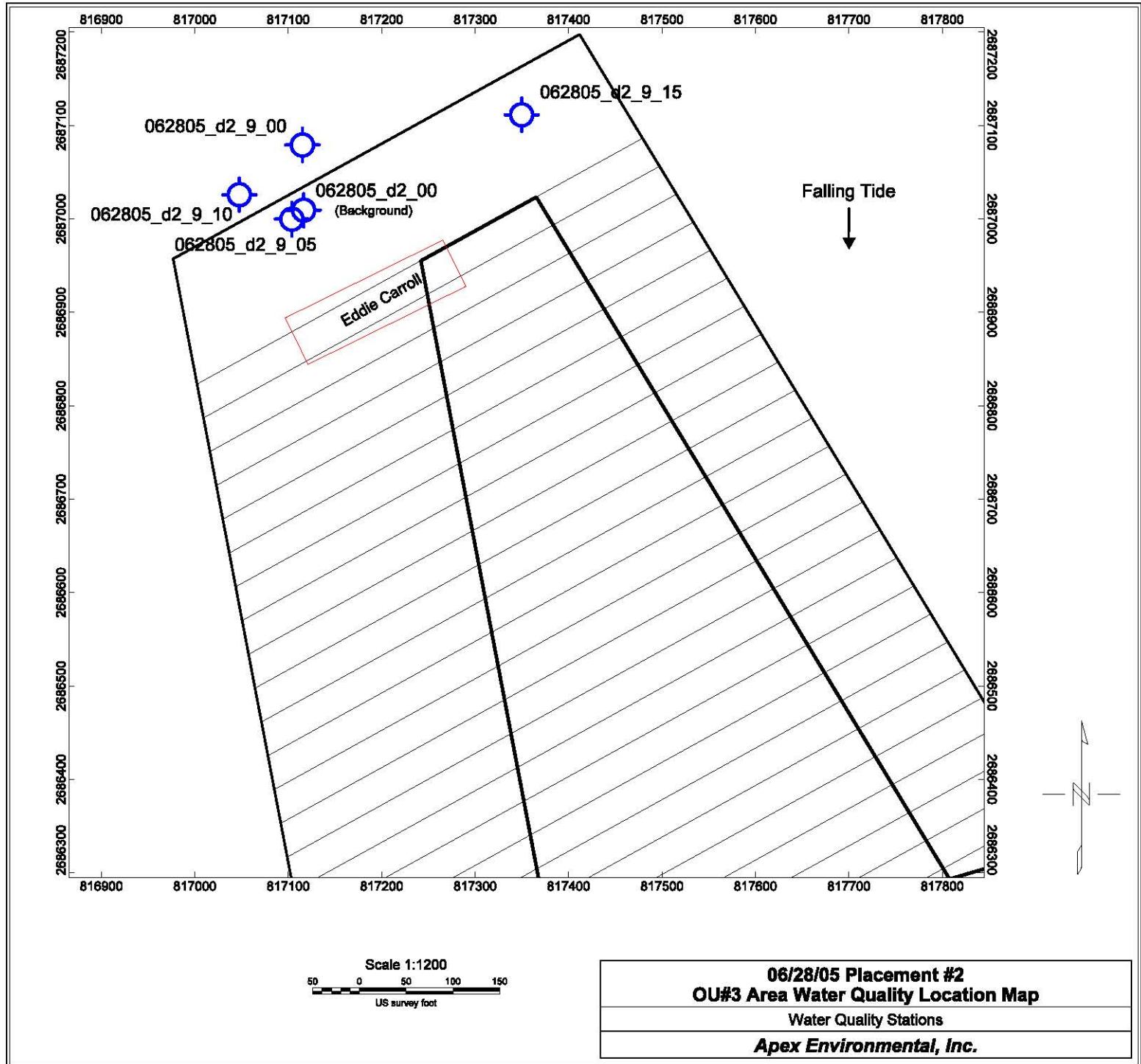
Scale 1:1200  
50 0 50 100 150  
US survey foot

<b>06/28/05 Placement #1</b>
<b>OU#3 Area Water Quality Location Map</b>
<b>Water Quality Stations</b>
<b>Apex Environmental, Inc.</b>

**6/28/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OUI#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
High 14:09									
<b>Falling Tide</b>	14:42	062805_d2_00	817102.22	Down	2	3.5		Cloudy, ~80 Degrees	None
	(Background)		2687100.03		4	3.8		SW Wind ~10 Knots	
					6	3.9			
					8	3.7			
					<b>AVERAGE</b>	<b>3.7</b>	<b>43.7</b>		
	<b>15:25</b>	<b>PLACEMENT 2</b>	<b>STARTED</b>						
15:25	062805_d2_9_00	817142.09	Down	2	3.4			Cloudy, ~80 Degrees	None
		2687139.84		4	3.5			SW Wind ~10 Knots	
				6	3.5				
				8	3.8				
				10	12.0				
				12	16.0				
				10	12.5				
				8	7.0				
				<b>AVERAGE</b>	<b>7.7</b>	<b>36.0 NTUs</b>			
15:30	062805_d2_9_05	817142.2	Down	8	7.5	Below Permissible	Cloudy, ~80 Degrees	None	
		2687080.87		6	13.0	Turbidity Increase Limit	SW Wind ~10 Knots		
				4	12.0				
				8	27.0				
				10	34.0				
				8	15.0				
				6	5.0				
				<b>AVERAGE</b>	<b>16.2</b>	<b>(27.5 Below Limit)</b>			
15:35	062805_d2_9_10	817154.12	Down	10	27.0			Sunny, ~85 Degrees	None
		2687090.14		8	13.0			W Wind ~10 Knots	
				6	4.0				
				4	0.7				
				2	0.3				
				4	0.5				
				6	2.5				
				8	11.5				
				10	25.0				
				<b>AVERAGE</b>	<b>9.4</b>	<b>(34.3 Below Limit)</b>			
15:40	062805_d2_9_15	817355.87	Down	2	0.4			Sunny, ~85 Degrees	None
		2687144.62		4	0.5			W Wind ~10 Knots	
				6	1.0				
				8	1.8				
				10	2.3				
<b>Low 20:45</b>				<b>AVERAGE</b>	<b>6.0</b>	<b>(37.7 Below Limit)</b>			

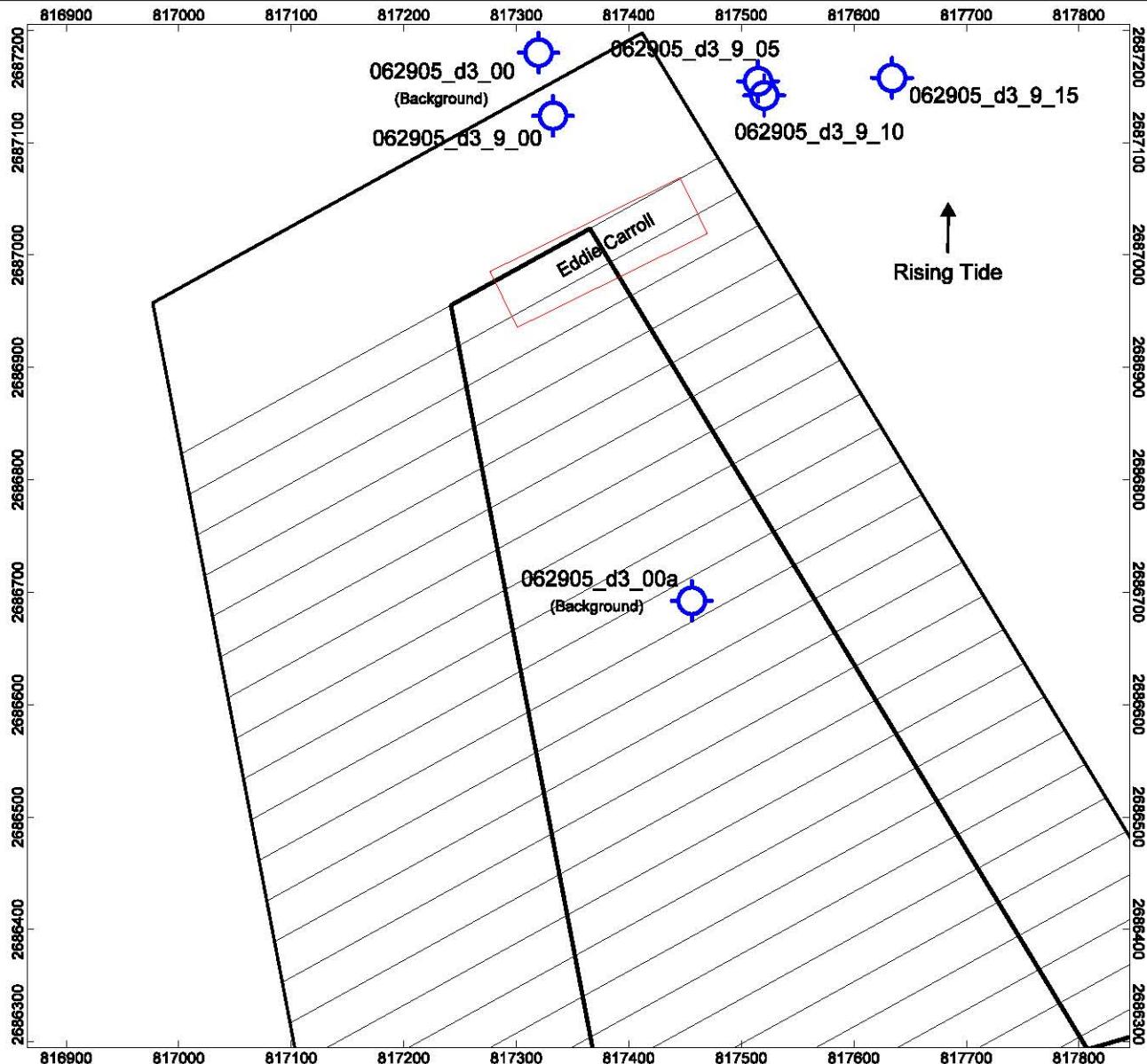
Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



**6/29/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 8:26				Current					
Rising Tide	8:42	062905_d3_00	817378.02	Up	2	2.0		Hazy, ~80 Degrees	None
		(Background)	2687268.54		4	1.9		SW Wind ~10 Knots	
					6	2.0			
					8	2.3			
					AVERAGE	2.0	42.0		
	9:09	062905_d3_00a	817461.49	Down	2	1.8		Hazy, ~80 Degrees	None
		(Background)	2686770.79		4	2.1		SW Wind ~10 Knots	
					6	2.5			
					8	2.5			
					AVERAGE	2.2	42.2		
	9:12	PLACEMENT 3	STARTED						
	9:12	062905_d3_9_00	817382.95	Down	2	7.0		Hazy, ~80 Degrees	None
			2687227.96		4	2.0		SW Wind ~10 Knots	
					6	2.3			
					8	7.0			
					6	6.5			
					AVERAGE	5.0	37.0 NTUs		
	9:17	062905_d3_9_05	817549.98	Down	2	6.0	Below Permissible	Hazy, ~80 Degrees	None
			2687276.36		4	8.5	Turbidity Increase Limit	SW Wind ~10 Knots	
					6	7.0			
					8	10.5			
					6	11.0			
					4	4.5			
					AVERAGE	7.9	(34.1 Below Limit)		
	9:22	062905_d3_9_10	817558.03	Down	2	7.5		Hazy, ~80 Degrees	None
			2687268.82		4	9.0		SW Wind ~10 Knots	
					6	8.0			
					8	10.0			
					AVERAGE	8.5	(33.6 Below Limit)		
	9:26	062905_d3_9_15	817608.51	Down	2	6.0		Hazy, ~80 Degrees	None
			2687283.65		4	8.5		SW Wind ~10 Knots	
					6	9.0			
					8	10.0			
	High 4:14				AVERAGE	8.4	(33.7 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



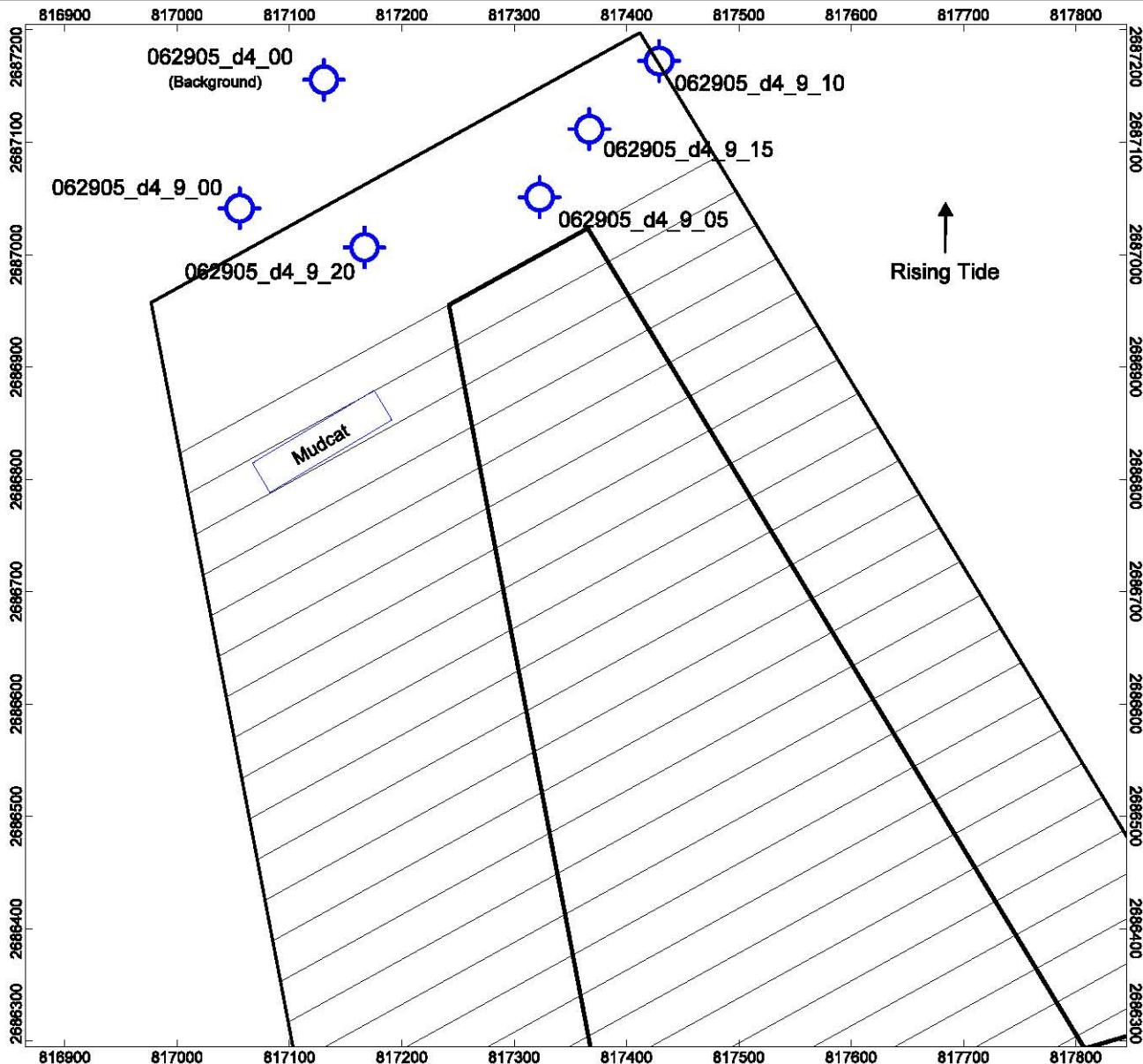
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US survey foot

<b>06/29/05 Placement #3</b>
<b>OU#3 Area Water Quality Location Map</b>
<b>Water Quality Stations</b>
<b>Apex Environmental, Inc.</b>

**6/29/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 8:26				Current					
Rising Tide	11:38	062905_d4_00	817169.09	Up	2	11.0		Sunny, ~80 Degrees	None
		(Background)	2687165.38		4	12.0		SW Wind ~10 Knots	
					6	12.5			
					8	11.9			
					AVERAGE	11.9	51.9		
	12:09	PLACEMENT 4	STARTED						
	12:09	062905_d4_9_00	817196.47	Down	2	1.8		Sunny, ~80 Degrees	None
			2687034.69		4	2.1		SW Wind ~10 Knots	
					6	2.5			
					8	2.5			
					AVERAGE	2.2	49.7 NTUs		
	12:14	062905_d4_9_05	817328.15	Down	2	16.0	Below Permissible	Sunny, ~80 Degrees	None
			2687051.98		4	17.0	Turbidity Increase Limit	SW Wind ~10 Knots	
					6	12.0			
					8	11.0			
					6	7.6			
					8	14.0			
					AVERAGE	12.9	(39.0 Below Limit)		
	12:19	062905_d4_9_10	817441.07	Down	2	14.0		Sunny, ~80 Degrees	None
			2687198.78		4	16.0		SW Wind ~10 Knots	
					6	23.0			
					8	28.0			
					6	30.0			
					AVERAGE	22.2	(29.7 Below Limit)		
	12:24	062905_d4_9_15	817386.58	Down	2	12.5		Sunny, ~80 Degrees	None
			2687114.23		4	8.0		SW Wind ~10 Knots	
					6	7.0			
					8	30.0			
					6	11.0			
					8	35.0			
					AVERAGE	18.0	(33.9 Below Limit)		
	12:29	062905_d4_9_20	817401.1	Down	2	12.0		Sunny, ~80 Degrees	None
			268147.32		4	13.0		SW Wind ~10 Knots	
					6	10.0			
					8	20.0			
					6	16.0			
					4	8.0			
					6	7.5			
					8	5.0			
High 4:14					AVERAGE	12.2	(39.7 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



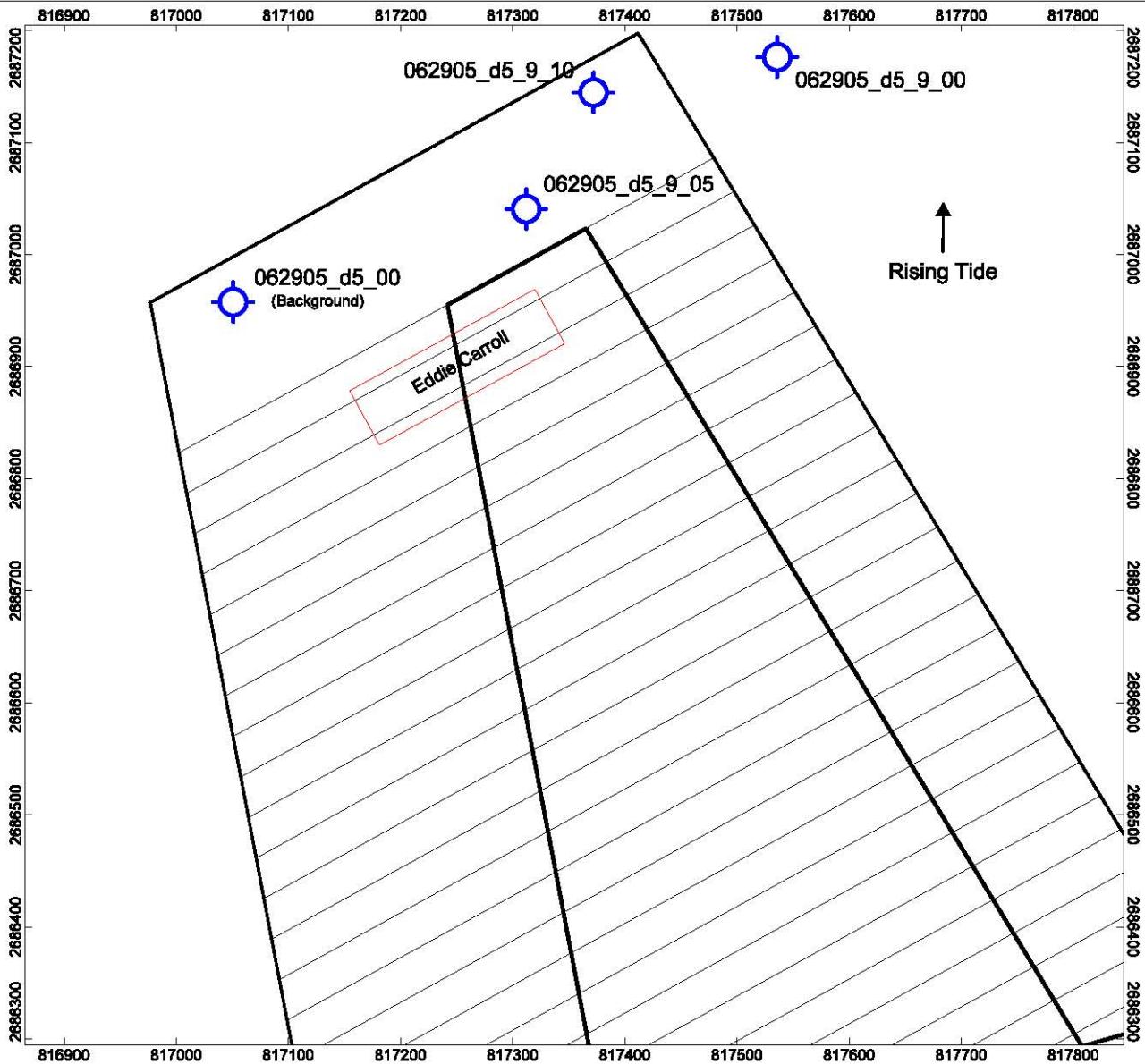
Scale 1:1200  
50 0 50 100 150  
US survey foot

06/29/05 Placement #4	
OU#3 Area Water Quality Location Map	
Water Quality Stations	
<b>Apex Environmental, Inc.</b>	

**6/29/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 8:26				Current					
Rising Tide	14:45	062905_d5_00	817088.64	Down	2	2.9		Sunny, ~80 Degrees	None
		(Background)	2687018.04		4	2.8		W Wind ~10 Knots	
					6	3.0			
					8	2.9			
					10	4.0			
					AVERAGE	3.1	43.1		
	15:13	PLACEMENT 5	STARTED						
	15:13	062905_d5_9_00	817556.14	Down	2	13.0		Sunny, ~80 Degrees	None
			2687248.75		4	10.0		W Wind ~10 Knots	
					6	11.0			
					8	21.0			
					10	35.0			
					AVERAGE	18.0	25.1 NTUs		
	15:18	062905_d5_9_05	817328.15	Down	2	16.0	Below Permissible	Sunny, ~80 Degrees	None
			2687051.98		4	17.0	Turbidity Increase Limit	W Wind ~10 Knots	
					6	12.0			
					8	11.0			
					6	7.6			
					8	14.0			
					AVERAGE	12.9	(30.2 Below Limit)		
	15:23	062905_d4_9_10	817441.07	Down	2	9.0		Sunny, ~80 Degrees	None
			2687198.78		4	12.3		W Wind ~10 Knots	
					6	14.0			
					8	55.0			
High 4:14					AVERAGE	22.6	(20.5 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



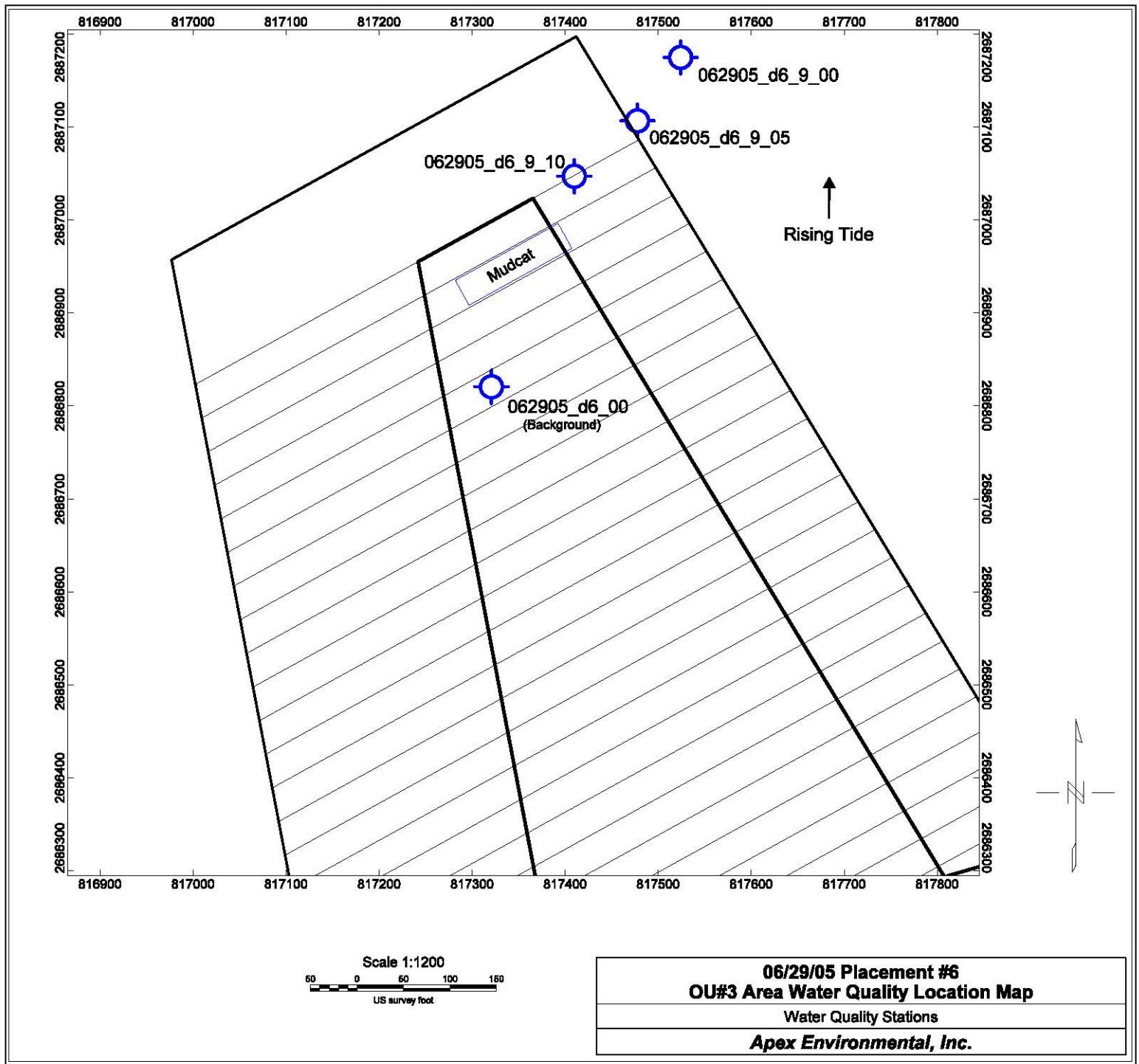
Scale 1:1200  
50 0 50 100 150  
US survey foot

<b>06/29/05 Placement #5</b>
<b>OU#3 Area Water Quality Location Map</b>
<b>Water Quality Stations</b>
<b>Apex Environmental, Inc.</b>

**6/29/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 8:26				Current					
Rising Tide	17:04	062905_d6_00	817140.14	Up	2	4.8		Sunny, ~80 Degrees	None
		(Background)	2682753.9		4	4.5		W Wind ~10 Knots	
					6	5.0			
					8	4.8			
					AVERAGE	4.8	44.8		
	17:09	PLACEMENT 6	STARTED						
	17:09	062905_d6_9_00	817504.71	Down	2	4.1		Sunny, ~80 Degrees	None
			2687251.9		4	6.1		W Wind ~10 Knots	
					6	4.4			
					8	5.8			
					6	5.3			
					4	5.6			
					AVERAGE	5.2	39.6 NTUs		
	17:14	062905_d6_9_05	817498.04	Down	2	16.0	Below Permissible	Sunny, ~80 Degrees	None
			2687155.56		4	17.0	Turbidity Increase Limit	W Wind ~10 Knots	
					6	12.0			
					8	11.0			
					6	7.6			
					4	14.0			
					AVERAGE	12.9	(31.9 Below Limit)		
	15:23	062905_d6_9_10	817402.84	Down	2	5.8		Sunny, ~80 Degrees	None
			2687051.81		4	6.2		W Wind ~10 Knots	
					6	9.5			
					8	10.0			
High 4:14					AVERAGE	7.9	(36.9 Below Limit)		

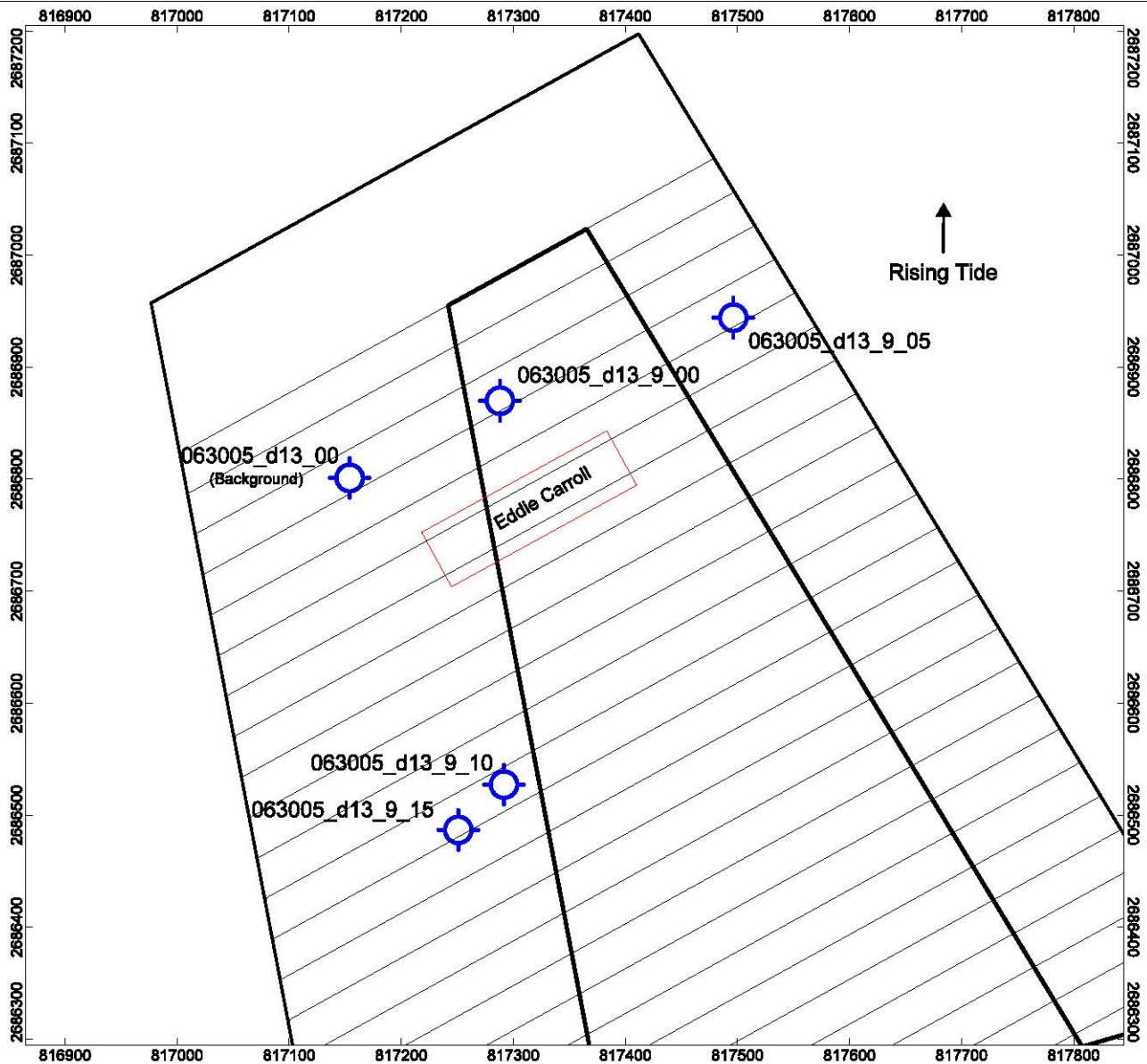
Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity



6/30/2005  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 8:26									
Rising Tide	12:56	063005_d13_00	817140.14	Down	2	3.3			
	(Background)		2682753.9		4	3.5			Cloudy, ~70 Degrees
					6	7.5			W Wind ~10 Knots
					8	8.0			
					AVERAGE	5.6	45.6		
	13:05	PLACEMENT 13	STARTED						
	13:05	063005_d13_9_00	817504.71	Down	2	6.5			Cloudy, ~70 Degrees
			2687251.9		4	6.9			W Wind ~10 Knots
					6	8.0			
					8	8.5			
					6	15.0			
					4	9.5			
					2	8.5			
					AVERAGE	9.0	36.6 NTUs		
	13:09	063005_d13_9_05	817498.04	Down	2	8.5	Below Permissible	Cloudy, ~70 Degrees	None
			2687155.56		4	7.5	Turbidity Increase Limit	W Wind ~10 Knots	
					6	7.0			
					8	10.1			
					6	13.3			
					4	12.0			
					2	5.0			
					AVERAGE	9.0	(36.6 Below Limit)		
	13:20	063005_d13_9_10	817402.84	Up	2	4.0		Cloudy, ~70 Degrees	None
			2687051.81		4	3.8		W Wind ~10 Knots	
					6	4.5			
					8	6.0			
					AVERAGE	4.6	(41.0 Below Limit)		
	13:25	063005_d13_9_15		Up	2	10		Cloudy, ~70 Degrees	None
					4	12.5		W Wind ~10 Knots	
					6	16.75			
					8	6.5			
					6	5.9			
					8	5.7			
High 15:06					AVERAGE	8.7	(36.9 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



Scale 1:1200  
50 0 50 100 150  
US survey foot

<b>06/30/05 Placement #13</b>
<b>OU#3 Area Water Quality Location Map</b>
<b>Water Quality Stations</b>
<b>Apex Environmental, Inc.</b>

**7/1/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
High 10:04									
Falling Tide	10:36	070105_d21_00	817562.15	Up	2	3.5		Cloudy, ~72 Degrees	None
		(Background)	2686529.48		4	3.0		S Wind ~10 Knots	
					6	3.5			
					8	4.0			
					10	7.5			
					AVERAGE	4.3	44.3		
	10:37	PLACEMENT 21	STARTED						
	10:39	070105_d21_9_05	817284.95	Up	2	14.3		Cloudy, ~72 Degrees	None
			2686765.33		4	19.0		S Wind ~10 Knots	
					6	21.0			
					8	6.0			
					AVERAGE	15.1	29.2 NTUs		
	10:45	070105_d21_9_10	817348.66	Down	2	22.5	Below Permissible	Cloudy, ~72 Degrees	None
			2686862.68		4	24.5	Turbidity Increase Limit	S Wind ~10 Knots	
					6	8.1			
					7	6.0			
					AVERAGE	15.3	(29.0 Below Limit)		
	10:49	070105_d21_9_15	817578.57	Up	2	6.8		Cloudy, ~72 Degrees	None
			2686934.87		4	11.0		S Wind ~10 Knots	
					6	24.0			
					8	30.0			
	Low 17:03				AVERAGE	18.0	(26.3 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.

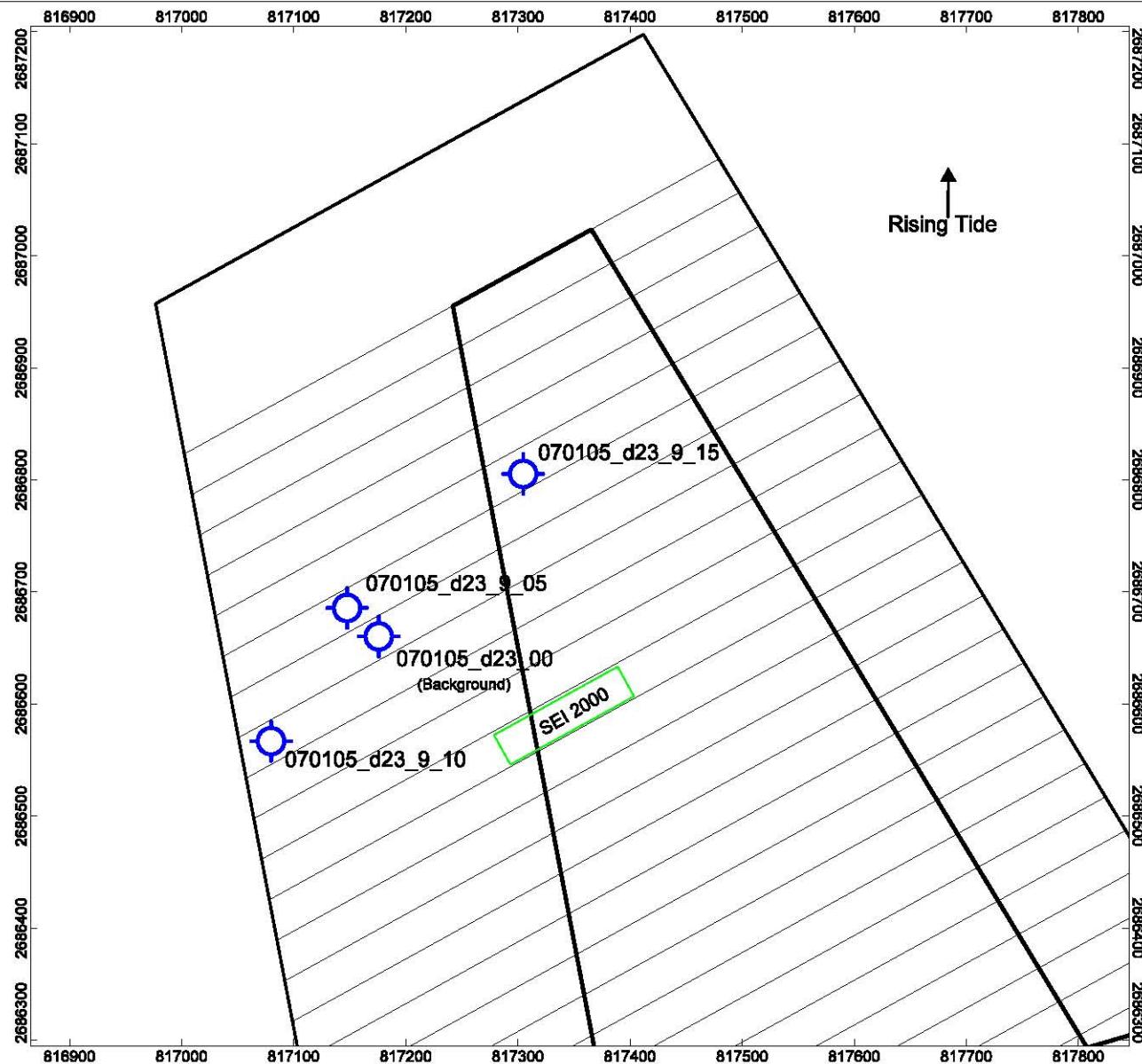


07/01/05 Placement #21	
OU#3 Area Water Quality Location Map	
Water Quality Stations	
<i>Apex Environmental, Inc.</i>	

**7/1/2005**  
**New Bedford Harbor Dredge Project - Phase II**  
**Water Quality Monitoring - Placement Operations - OU#3 Cap Area**

Tide Time	Time	ID	Coordinates	Up/Down Current	Depth (ft.)	Ave. Turbidity (NTUs)	Permissible Turbidity Increase (NTUs)	Weather Conditions	Vessel Traffic
Low 10:04									
Rising Tide	12:42	070105_d23_00	817329.23	Down	2	3.8		Cloudy, ~75 Degrees	None
	(Background)		2686350.62		4	4.0		S Wind ~10 Knots	
					6	3.5			
					8	4.3			
					AVERAGE	3.9	43.9		
	<b>13:18</b>	<b>PLACEMENT 23</b>	<b>STARTED</b>						
	13:18	070105_d23_9_05	817190.63	Down	2	9.0		Cloudy, ~75 Degrees	None
			2686732.17		4	8.5		S Wind ~10 Knots	
					6	10.0			
					8	7.5			
					AVERAGE	8.8	35.1 NTUs		
	13:22	070105_d23_9_10	817087.58	Down	2	12.0	Below Permissible	Cloudy, ~75 Degrees	None
			2686622.32		4	15.5	Turbidity Increase Limit	S Wind ~10 Knots	
					6	14.0			
					8	16.3			
					AVERAGE	14.4	(29.5 Below Limit)		
	13:32	070105_d23_9_15	817348.05	Down	2	9.3		Cloudy, ~75 Degrees	None
			2686808.55		4	9.8		S Wind ~10 Knots	
					6	10.0			
					8	11.5			
High 17:03					AVERAGE	10.1	(33.8 Below Limit)		

Notes: An X in the vessel traffic column indicates that either a vessel had passed or there was a movement of spuds that may have had an effect on turbidity.



Scale 1:1200  
50 0 50 100 150  
US survey foot

<b>07/01/05 Placement #23</b>
<b>OU#3 Area Water Quality Location Map</b>
<b>Water Quality Stations</b>
<b>Apex Environmental, Inc.</b>