WATER QUALITY MONITORING REPORT

Dredge and Disposal Operations

New Bedford Harbor Dredge Project Phase II

(Part 1: Fish Island Area and Top of CAD Cell)

2/2/05 – 2/15/05

To: Paul Craffey (MADEP)

From: Stephen Tobin
Apex Environmental, Inc.

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

Date: February 28, 2005

Attached is the water quality monitoring results from the dredging operations for the New Bedford Harbor Dredge – Phase II from the dates of 2/2/05 and 2/11/05. Also included are the monitoring results from dredge disposal operations which took place on 2/5/05, 2/9/05, and 2/15/05. Dredging operations were completed on February 19, 2005. Cleanup operations, including disposal of the remaining dredged material, will be completed by March 1, 2005. Demobilization of equipment will be completed by March 3, 2005. Water quality monitoring was performed in accordance with the Water Quality Monitoring Plan dated 01/05/05. Included in this report are spreadsheets tabulating the turbidity results from each day and a map of the sampling locations. The sampling location identifications correspond to the turbidity results on the spreadsheets and are color-coded by day. An explanation of the location identifications may found in sections 3.2 and 4.2 of the Water Quality Monitoring Plan.

Following the guidelines of the WQMP, monitoring locations for water turbidity recorded an average turbidity from 3 depths, up and down-current from the dredge or disposal 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 disposal 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 dredge/silt curtains to monitoring locations changes. It should be noted that silt curtains were utilized by the dredging contractor during dredging operations.

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Dredging events were monitored on two days; 2/2/05 and 2/11/05, during dredging operations. Water quality monitors selected various sample locations around the dredging area to collect data. Water quality monitoring was discontinued early on 2/11/05 due to unsafe weather conditions on the sampling vessel. There were no turbidity exceedances to report during the dredging events.

Water Quality Monitoring Results Summary (Disposal):

Water quality monitoring for disposal operations also followed the guidelines set forth in the WQMP. Disposal events were monitored on three days; 2/5/05, when the bucket was utilized, and 2/9/05 and 2/15/05, when the dump-scow *Joe Verocchi* was used to dispose of dredged materials. Water quality monitors selected various sample locations around the disposal area and almost made 'transects' perpendicular to the down-current flow of water from the disposal operations. Transects were made with the turbidity probe at varying depths to compile an average of the down-current turbidity to compare with up and down-current reference turbidity values taken before disposal began. It should be noted that silt curtains were utilized by the dredging contractor during disposal operations. There were no turbidity exceedances to report during the disposal events.

The preliminary results from the second phase of water quality monitoring show that dredging and disposal operations have stayed within the permissible turbidity levels set forth in the Water Quality Monitoring Plan (Jan. 2005) 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.

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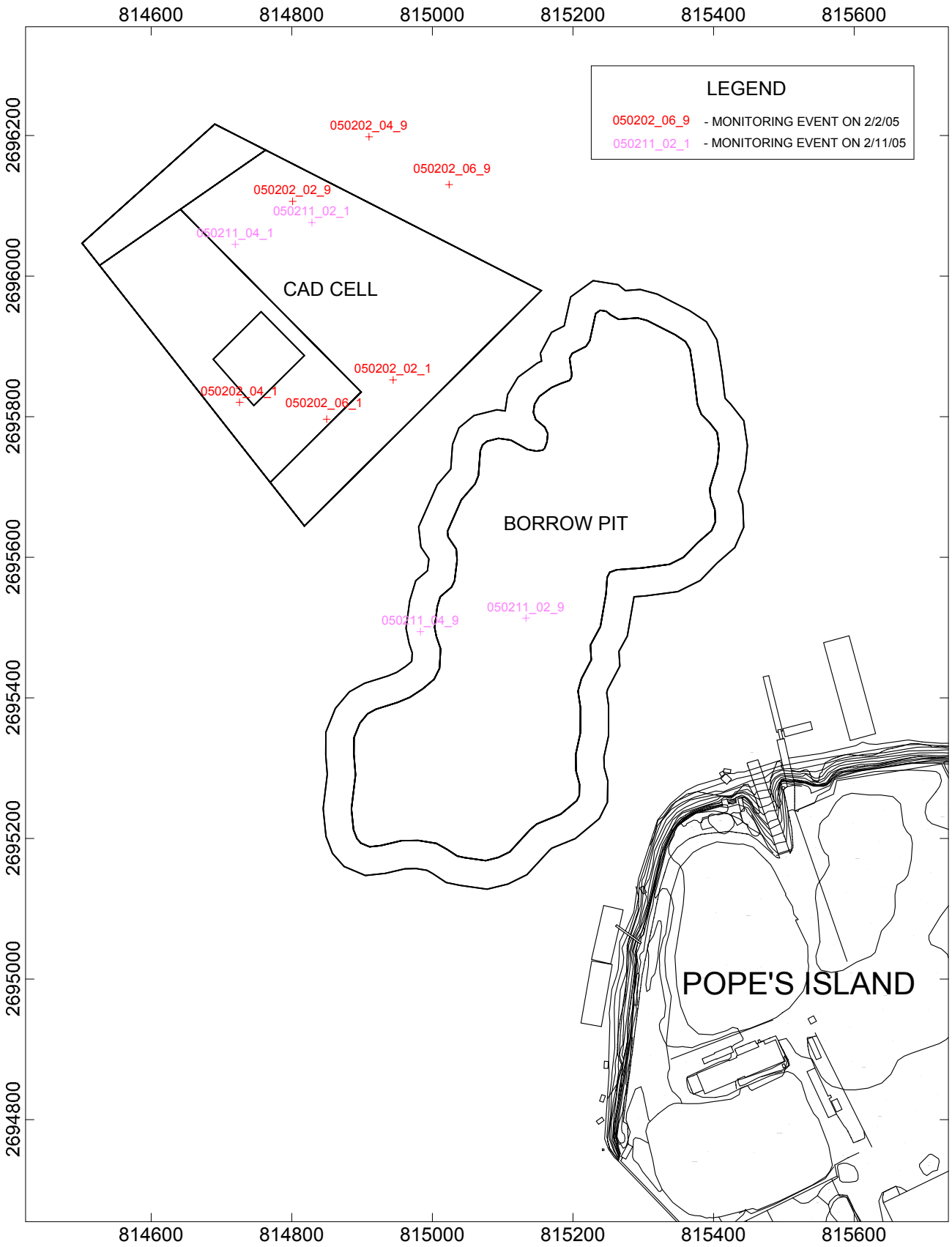

Scale 1:2400

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US survey foot

1" = 200'

NEW BEDFORD HARBOR DREDGE - PHASE II

WATER QUALITY MONITORING LOCATIONS 2/5/05 & 2/11/05

APEX ENVIRONMENTAL, INC.

2/2/2005
New Bedford Harbor Dredge Project - Phase II
Water Quality Monitoring

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel
Low 5:41				Current		(NTUs)	Increase (NTUs)		Traffic
	10:27	050202_02_1	2695852.23	Up	5	5.8		Clear, ~38 Degrees	None
			814944.175		10	4.3		NE Wind ~10 Knots	
					25	3.3			
					AVERAGE	**4.4**	**24.4**		
	10:32	050202_02_9	2696106.339	Down	5	7.5		Clear, ~38 Degrees	None
			814801.221		10	11.3		NE Wind ~10 Knots	
					25	50.0			
					AVERAGE	**22.9**	(1.5 Below Limit)		
	12:42	050202_04_1	2695820.376	Up	5	2.0		Clear, ~40 Degrees	None
			814725.721		15	3.4		NE Wind ~10 Knots	
					25	3.0			
					AVERAGE	**2.8**	**22.8**		
	12:47	050202_04_9	2696198.18	Down	5	20.0		Clear, ~40 Degrees	None
			814909.93		15	15.0		NE Wind ~10 Knots	
					25	15.0			
High 13:23					**AVERAGE**	**16.7**	(6.1 Below Limit)		
	14:32	050202_06_1	2694283.231	Up	5	15.0		Clear, ~40 Degrees	None
			814925.126		15	30.0		NE Wind ~10 Knots	
					25	7.5			
					AVERAGE	**17.5**	**32.5**		
	14:27	050202_06_9	2694333.149	Down	5	3.8		Clear, ~40 Degrees	None
			814836.066		15	5.6		NE Wind ~10 Knots	
					25	7.5			
					AVERAGE	**5.6**	(26.9 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.

2/11/2005
New Bedford Harbor Dredge Project - Phase II
Water Quality Monitoring

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel
High 9:38				Current		(NTUs)	Increase (NTUs)		Traffic
	9:39	050211_02_1	2696076.16	Up	5	6.5		Sunny, ~28 Degrees	None
			814828.76		10	11.0		NW Wind ~25 knots	None
					25	12.5			None
					AVERAGE	**10.0**	**30.0**		
	9:46	050211_02_9	2695513.409	Down	5	8.5		Sunny, ~28 Degrees	None
			815133.267		10	6.5		NW Wind ~25 knots	None
					25	14.0			None
					AVERAGE	**9.7**	(20.3 below limit)		
	12:03	050211_04_1	2696045.05	Up	5	5.3		Sunny, ~30 Degrees	None
			814719.637		15	5.5		NW Wind ~20 knots	None
					25	7.0			None
					AVERAGE	**5.9**	**25.9**		
	12:09	050211_04_9	2695494.165	Down	5	16.0		Sunny, ~30Degrees	None
			814983.059		15	19.0		NW Wind ~20 knots	None
					25	7.5			None
Low 15:21					**AVERAGE**	**14.2**	(11.7 below limit)		

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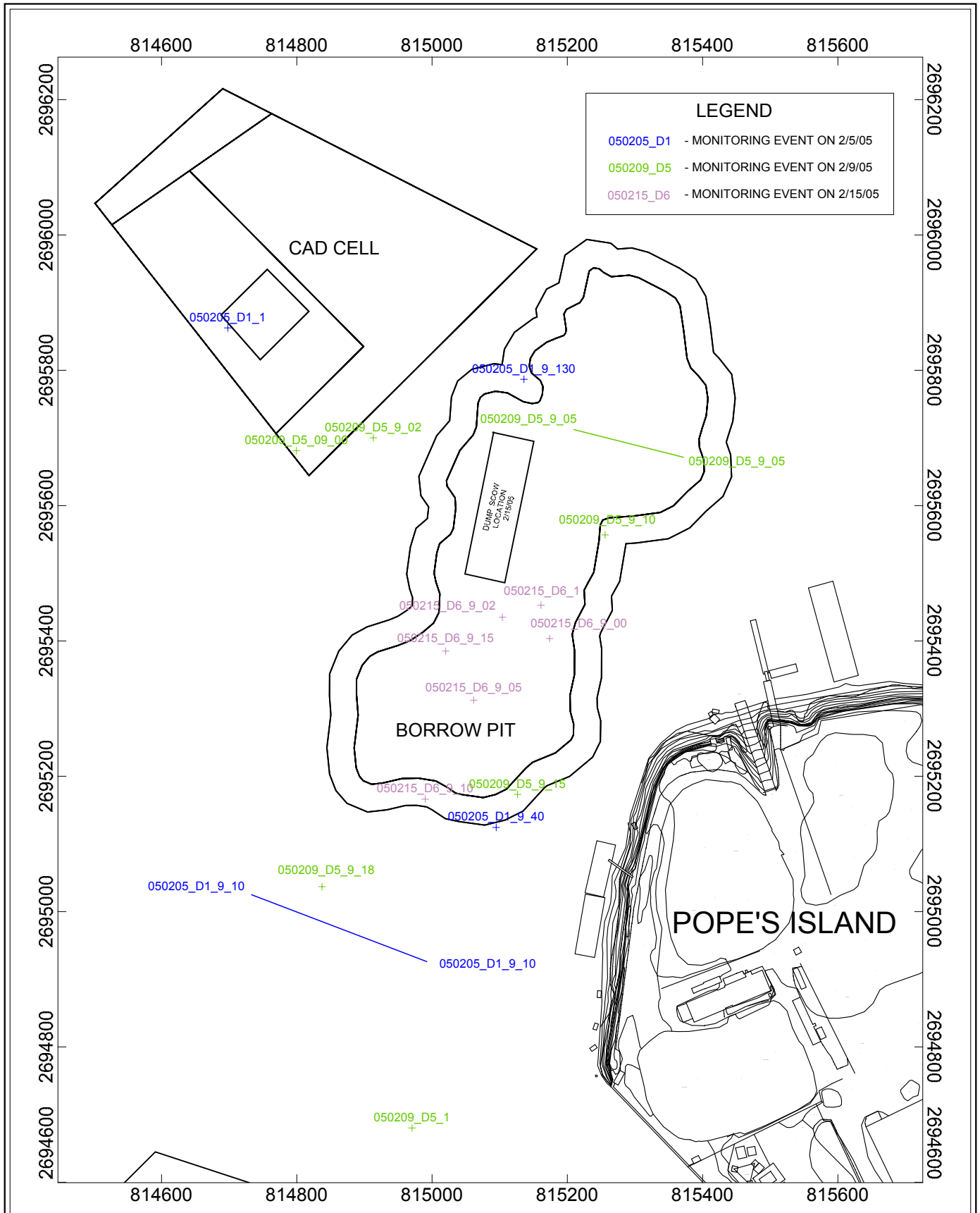

Scale 1:2400

100 0 100

US survey foot

1" = 200'

NEW BEDFORD HARBOR DREDGE - PHASE II

WATER QUALITY MONITORING LOCATIONS - DISPOSAL 2/5/05, 2/9/05, 2/15/05

APEX ENVIRONMENTAL, INC.

2/5/2005

New Bedford Harbor Dredge Project - Phase II

Water Quality Monitoring - Disposal Operations

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel
High 4:16				Current		(NTUs)	Increase (NTUs)		Traffic
	8:57	050205_D1_1	2695862.702	Up	5	2.7		Sunny, ~40 Deg. F	None
			814698.099		10	2.5		N Wind ~10 knots	
					22	4.0			
					AVERAGE	**3.1**	**43.1**		
	9:29	050205_D1_9_10	2694917.407	Down	5	4.0		Sunny, ~40 Deg. F	None
			815014.323		15	5.0		N Wind ~10 knots	
					25	4.0			
					AVERAGE	**4.3**	(38.8 below limit)		
	10:00	050205_D1_9_40	2695124.451	Down	20	4.0		Sunny, ~40 Deg. F	None
			815094.917		20	6.0		N Wind ~10 knots	
Low 10:41					**AVERAGE**	**5.0**	(38.1 below limit)		
	11:26	050205_D1_9_130	2695786.73	Down	10	35.0		Sunny, ~40 Deg. F	None
			815135.959					N Wind ~10 knots	
					AVERAGE	**35.0**	(8.1 Below Limit)		

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2/9/2005

New Bedford Harbor Dredge Project - Phase II

Water Quality Monitoring - Disposal Operations

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel
High 8:00				Current		(NTUs)	Increase (NTUs)		Traffic
	7:13	050209_D5_1	2694680.246	Up	5	2.8		Overcast, ~35 Deg.	None
			814970.38		10	2.5		Minimal wind	
					25	2.5			
	7:33	**DISPOSAL**	**STARTED**						
					AVERAGE	**2.6**	**42.6**		
	7:34	050209_D5_09_00	2695681.191	Down	5	3.4		Overcast, ~35 Deg.	None
			814799.558		10	3.3		Minimal wind	
					25	2.6			
					AVERAGE	**3.1**	(39.5 Below Limit)		
	7:36	050209_D5_9_02	2695700.186	Down	15	2.4		Overcast, ~35 Deg.	None
			814913.321		25	2.6		Minimal wind	
					AVERAGE	**2.5**	(40.1 Below Limit)		
	7:39	050209_D5_9_05	2695714.257	Down	15	3.1		Overcast, ~35 Deg.	None
			815195.677		25	3.3		Minimal wind	
					AVERAGE	**3.2**	(39.4 Below Limit)		
	7:42	050209_D5_9_10	2695556.76	Down	15	2.8		Overcast, ~35 Deg.	None
			815255.975		25	3.1		Minimal wind	
					AVERAGE	**2.9**	(39.7 Below Limit)		
	7:45	050209_D5_9_15	2695173.254	Down	5	3.8		Overcast, ~35 Deg.	None
			815126.475		15	7.0		Minimal wind	
					25	13.0			
					AVERAGE	**7.9**	(34.7 Below Limit)		
	7:48	050209_D5_9_18	2692864.793	Down	5	2.9		Overcast, ~35 Deg.	None
			815041.977		15	3.6		Minimal wind	
					25	2.8			
Low 14:03					**AVERAGE**	**3.1**	(39.5 Below Limit)		

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2/15/2005
New Bedford Harbor Dredge Project - Phase II
Water Quality Monitoring - Disposal Operations

Tide Time	Time	ID	Coordinates	Up/Down	Depth (ft.)	Ave. Turbidity	Permissible Turbidity	Weather Conditions	Vessel
High 13:54				Current		(NTUs)	Increase (NTUs)		Traffic
	15:42	050215_D6_1	2695452.865	Up	5	1.0		Clear, ~45 Degrees	None
			815161.014	Up	15	1.5		W Wind ~10 Knots	
				Up	25	2.8			
					AVERAGE	**1.8**	**41.8**		
	15:53	**DISPOSAL**	**STARTED**						
	15:53	050215_D6_9_00	2695440.594	Down	5	0.3		Clear, ~45 Degrees	None
			815142.875					W Wind ~10 Knots	
					AVERAGE	**0.3**	(41.5 Below Limit)		
	15:54	050215_D6_9_02	2695440.346	Down	5	0.7		Clear, ~45 Degrees	None
			815106.431		10	4.0		W Wind ~10 Knots	
					15	2.6			
					20	8.5			
					25	10.0			
					AVERAGE	**5.2**	(36.6 Below Limit)		
	15:59	050215_D6_9_05	2695312.5	Down	5	6.0		Clear, ~45 Degrees	None
			815061.745		10	8.0		W Wind ~10 Knots	
					15	9.0			
					20	11.5			
					25	10.5			
					30	10.0			
					15	11.5			
					10	9.0			
					5	7.0			
					AVERAGE	**9.2**	(32.6 Below Limit)		
	16:01	050215_D6_9_10	2695166.249	Down	5	6.5		Clear, ~45 Degrees	None
			814989.849		10	7.3		W Wind ~10 Knots	
					15	10.0			
					20	10.5			
					25	10.0			
					30	8.0			
					20	11.8			
					15	8.5			
					10	7.0			
					5	6.0			
					AVERAGE	**8.6**	(33.2 Below Limit)		
	16:05	050215_D6_9_15	2695385.098	Down	5	6.8		Clear, ~45 Degrees	None
			815020.248		10	7.0		W Wind ~5 Knots	
					15	7.5			
					20	6.5			
					25	10.5			
					30	11.9			
					25	13.0			
					20	6.5			
					15	27.5			
					10	7.3			
					5	6.3			
Low 18:54					**AVERAGE**	**10.1**	(31.7 Below Limit)		

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