



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 be 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.

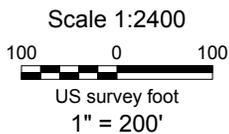
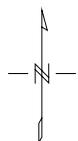
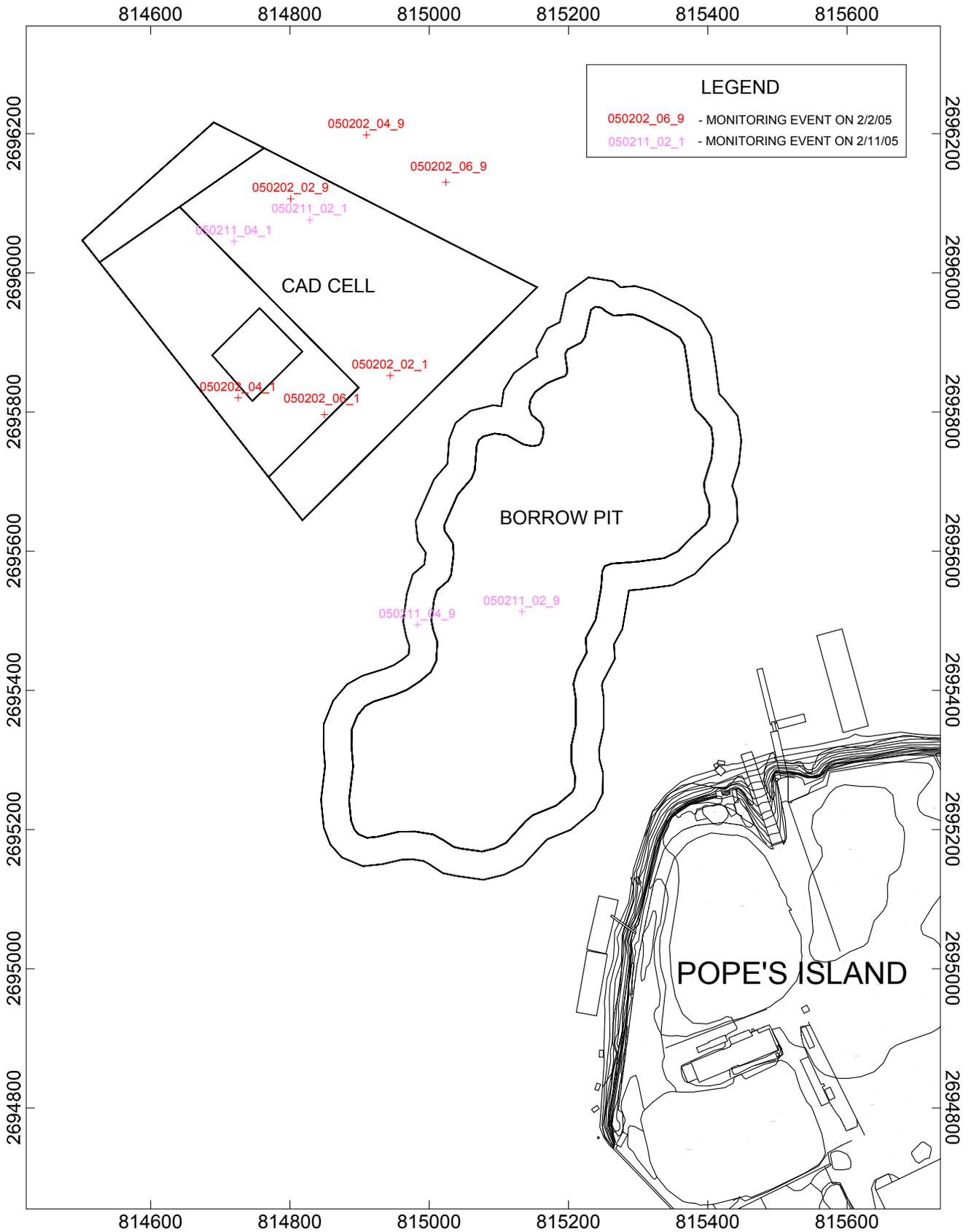
Water Quality Monitoring Results Summary (Disposal):

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.

Stephen Tobin
Apex Environmental, Inc.



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

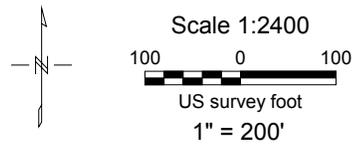
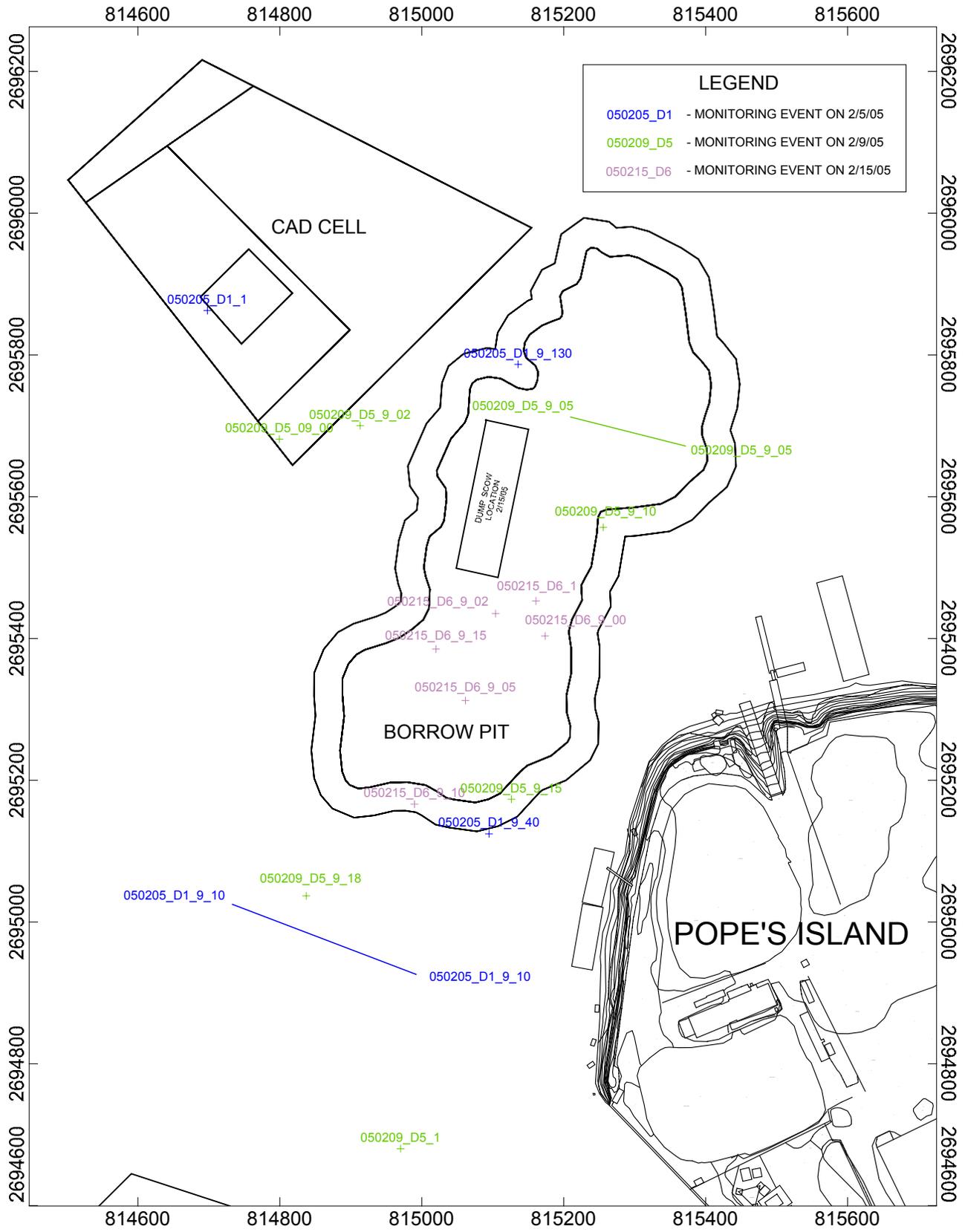
| Tide Time | Time | ID | Coordinates | Up/Down | Depth (ft.) | Ave. Turbidity (NTUs) | Permissible Turbidity Increase (NTUs) | Weather Conditions | Vessel Traffic | |
|------------|-------|-------------|-------------|---------|----------------|-----------------------|---------------------------------------|--------------------|----------------|--|
| Low 5:41 | 10:27 | 050202_02_1 | 2695852.23 | Up | 5 | 5.8 | | Clear, ~38 Degrees | None | |
| | | | 814944.175 | | 10 | 4.3 | | | | |
| | | | | | 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 | | | | |
| | | | | | 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 | | | | |
| | | | | | 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 | | | | |
| | | | | | 25 | 15.0 | | | | |
| | | | | | AVERAGE | 16.7 | (6.1 Below Limit) | | | |
| High 13:23 | 14:32 | 050202_06_1 | 2694283.231 | Up | 5 | 15.0 | | Clear, ~40 Degrees | None | |
| | | | 814925.126 | | 15 | 30.0 | | | | |
| | | | | | 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 | | | | |
| | | | | | 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 (NTUs) | Permissible Turbidity Increase (NTUs) | Weather Conditions | Vessel Traffic |
|-----------|-------|-------------|-------------|---------|----------------|-----------------------|---------------------------------------|--------------------|----------------|
| High 9:38 | | | | Current | | | | | |
| | 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) | | |

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.



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 (NTUs) | Permissible Turbidity Increase (NTUs) | Weather Conditions | Vessel Traffic |
|-----------|-------|-----------------|-------------|---------|----------------|-----------------------|---------------------------------------|--------------------|----------------|
| High 4:16 | | | | Current | | | | | |
| | 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) | | |

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.

2/9/2005

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) | | |

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.

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

| Tide Time | Time | ID | Coordinates | Up/Down | Depth (ft.) | Ave. Turbidity (NTUs) | Permissible Turbidity Increase (NTUs) | Weather Conditions | Vessel Traffic |
|------------|--------------|-----------------|----------------|---------|----------------|-----------------------|---------------------------------------|--------------------|----------------|
| High 13:54 | | | | Current | | | | | |
| | 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) | | |

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