

## Impact Water Quality Monitoring for Dredging Activities at SB CMP 1

| Sampling Date | Tide | Station | Time     | Depth | Depth (m) | Current Direction | Current Velocity (m/s) | Water Temp (°C) | Salinity (ppt) | D.O. Saturation (%) | D.O. (mg/L) | Turbidity (NTU) | pH   | SS (mg/L) |
|---------------|------|---------|----------|-------|-----------|-------------------|------------------------|-----------------|----------------|---------------------|-------------|-----------------|------|-----------|
| 2013/04/05    | MF   | DS1     | 13:21:20 | B     | 3.0       | 271.0             | 0.06                   | 21.05           | 25.97          | 90.94               | 6.96        | 6.00            | 7.49 | 8         |
| 2013/04/05    | MF   | DS1     | 13:22:08 | T     | 1.0       | 285.2             | 0.48                   | 21.25           | 25.18          | 92.14               | 7.06        | 6.50            | 7.51 | 8         |
| 2013/04/05    | MF   | DS1     | 13:23:09 | B     | 3.1       | 266.9             | 0.53                   | 21.22           | 25.34          | 91.84               | 7.03        | 6.60            | 7.54 | 8         |
| 2013/04/05    | MF   | DS1     | 13:24:09 | T     | 0.9       | 198.2             | 0.14                   | 21.26           | 25.22          | 92.45               | 7.08        | 6.70            | 7.56 | 9         |
| 2013/04/05    | MF   | DS1     | 13:25:09 | B     | 2.9       | 321.6             | 0.48                   | 21.22           | 25.33          | 91.95               | 7.04        | 6.30            | 7.59 | 9         |
| 2013/04/05    | MF   | DS1     | 13:26:12 | T     | 1.0       | 269.3             | 0.16                   | 21.25           | 25.28          | 92.35               | 7.07        | 6.20            | 7.61 | 9         |
| 2013/04/05    | MF   | DS2     | 13:32:43 | B     | 2.1       | 340.3             | 0.40                   | 21.15           | 25.67          | 92.17               | 7.05        | 5.50            | 7.72 | 9         |
| 2013/04/05    | MF   | DS2     | 13:33:40 | T     | 1.0       | 323.4             | 0.46                   | 21.22           | 25.38          | 92.38               | 7.07        | 5.30            | 7.71 | 9         |
| 2013/04/05    | MF   | DS2     | 13:34:35 | B     | 1.9       | 13.6              | 0.48                   | 21.12           | 25.89          | 91.98               | 7.03        | 5.50            | 7.71 | 8         |
| 2013/04/05    | MF   | DS2     | 13:35:31 | T     | 1.1       | 286.8             | 0.40                   | 21.19           | 25.50          | 92.18               | 7.05        | 5.40            | 7.72 | 9         |
| 2013/04/05    | MF   | DS2     | 13:37:21 | B     | 2.0       | 333.7             | 0.36                   | 21.18           | 25.52          | 92.19               | 7.05        | 5.70            | 7.74 | 8         |
| 2013/04/05    | MF   | DS2     | 13:38:11 | T     | 1.2       | 138.3             | 0.45                   | 21.17           | 25.60          | 92.19               | 7.05        | 5.70            | 7.75 | 8         |
| 2013/04/05    | MF   | DS3     | 13:44:46 | B     | 2.0       | 177.2             | 0.35                   | 21.15           | 25.66          | 92.51               | 7.08        | 4.50            | 7.86 | 7         |
| 2013/04/05    | MF   | DS3     | 13:45:50 | T     | 1.0       | 280.1             | 0.43                   | 21.17           | 25.60          | 92.02               | 7.04        | 4.50            | 7.81 | 8         |
| 2013/04/05    | MF   | DS3     | 13:46:43 | B     | 2.1       | 146.1             | 0.49                   | 21.14           | 25.72          | 92.12               | 7.05        | 5.00            | 7.80 | 6         |
| 2013/04/05    | MF   | DS3     | 13:47:39 | T     | 0.9       | 322.4             | 0.21                   | 21.18           | 25.62          | 92.42               | 7.07        | 4.80            | 7.81 | 6         |
| 2013/04/05    | MF   | DS3     | 13:48:57 | B     | 2.0       | 266.9             | 0.43                   | 21.14           | 25.68          | 91.83               | 7.02        | 4.70            | 7.81 | 6         |
| 2013/04/05    | MF   | DS3     | 13:49:43 | T     | 1.0       | 51.6              | 0.03                   | 21.16           | 25.67          | 92.03               | 7.04        | 4.70            | 7.81 | 8         |
| 2013/04/05    | MF   | DS4     | 13:56:23 | B     | 3.3       | 67.2              | 0.48                   | 21.35           | 25.92          | 93.15               | 7.09        | 4.80            | 7.89 | 7         |
| 2013/04/05    | MF   | DS4     | 13:57:28 | T     | 1.1       | 205.4             | 0.36                   | 21.34           | 25.92          | 93.46               | 7.11        | 5.20            | 7.85 | 9         |
| 2013/04/05    | MF   | DS4     | 13:58:18 | B     | 2.9       | 286.9             | 0.32                   | 21.27           | 26.03          | 92.96               | 7.08        | 5.30            | 7.84 | 9         |
| 2013/04/05    | MF   | DS4     | 13:59:20 | T     | 1.0       | 242.0             | 0.31                   | 21.37           | 25.97          | 93.46               | 7.11        | 5.30            | 7.85 | 10        |
| 2013/04/05    | MF   | DS4     | 14:00:26 | B     | 3.0       | 73.3              | 0.61                   | 21.33           | 25.98          | 93.47               | 7.11        | 5.30            | 7.84 | 7         |
| 2013/04/05    | MF   | DS4     | 14:01:33 | T     | 1.1       | 92.6              | 0.15                   | 21.30           | 26.02          | 93.57               | 7.12        | 5.30            | 7.85 | 10        |
| 2013/04/05    | MF   | DS5     | 14:10:04 | B     | 5.0       | 358.5             | 0.19                   | 20.75           | 27.79          | 88.39               | 6.73        | 8.40            | 7.87 | 11        |
| 2013/04/05    | MF   | DS5     | 14:11:09 | M     | 3.6       | 295.7             | 0.21                   | 20.83           | 26.83          | 89.99               | 6.89        | 8.00            | 7.84 | 7         |
| 2013/04/05    | MF   | DS5     | 14:12:17 | T     | 1.0       | 245.2             | 0.57                   | 21.34           | 26.14          | 93.51               | 7.11        | 6.10            | 7.86 | 8         |
| 2013/04/05    | MF   | DS5     | 14:13:09 | B     | 5.0       | 252.3             | 0.16                   | 20.75           | 27.73          | 88.50               | 6.74        | 8.80            | 7.83 | 11        |
| 2013/04/05    | MF   | DS5     | 14:14:08 | M     | 3.5       | 250.4             | 0.19                   | 21.21           | 26.34          | 92.11               | 7.01        | 6.90            | 7.85 | 8         |
| 2013/04/05    | MF   | DS5     | 14:15:10 | T     | 1.1       | 39.0              | 0.84                   | 21.34           | 26.15          | 93.82               | 7.13        | 6.20            | 7.85 | 7         |
| 2013/04/05    | MF   | DS5     | 14:16:08 | B     | 5.0       | 73.7              | 0.45                   | 20.78           | 27.49          | 88.81               | 6.77        | 8.70            | 7.83 | 11        |
| 2013/04/05    | MF   | DS5     | 14:17:13 | M     | 3.7       | 101.4             | 0.19                   | 21.32           | 26.15          | 92.72               | 7.05        | 6.30            | 7.85 | 8         |
| 2013/04/05    | MF   | DS5     | 14:18:09 | T     | 1.0       | 249.2             | 0.58                   | 21.35           | 26.12          | 93.83               | 7.13        | 6.10            | 7.86 | 8         |
| 2013/04/05    | MF   | US1     | 14:51:54 | B     | 5.0       | 316.4             | 0.58                   | 21.03           | 26.53          | 89.42               | 6.82        | 6.20            | 7.69 | 6         |
| 2013/04/05    | MF   | US1     | 14:52:42 | M     | 3.4       | 287.2             | 0.23                   | 21.16           | 25.86          | 92.03               | 7.03        | 4.30            | 7.71 | 5         |
| 2013/04/05    | MF   | US1     | 14:54:04 | T     | 1.0       | 346.6             | 0.46                   | 21.25           | 25.47          | 93.04               | 7.11        | 3.60            | 7.72 | 4         |
| 2013/04/05    | MF   | US1     | 14:55:24 | B     | 4.9       | 301.7             | 0.49                   | 20.68           | 28.32          | 88.63               | 6.73        | 4.50            | 7.72 | 7         |
| 2013/04/05    | MF   | US1     | 14:56:09 | M     | 3.4       | 88.1              | 0.48                   | 21.12           | 26.07          | 91.74               | 7.00        | 4.30            | 7.73 | 4         |
| 2013/04/05    | MF   | US1     | 14:57:09 | T     | 1.1       | 240.2             | 0.39                   | 21.31           | 25.34          | 93.25               | 7.13        | 3.70            | 7.75 | 5         |
| 2013/04/05    | MF   | US1     | 14:58:21 | B     | 5.1       | 5.6               | 0.22                   | 21.00           | 26.74          | 91.35               | 6.96        | 4.40            | 7.75 | 6         |
| 2013/04/05    | MF   | US1     | 14:59:40 | M     | 3.5       | 285.5             | 0.73                   | 21.07           | 26.95          | 92.28               | 7.04        | 3.90            | 7.77 | 5         |
| 2013/04/05    | MF   | US1     | 15:00:19 | T     | 1.0       | 158.4             | 0.34                   | 21.30           | 25.36          | 93.16               | 7.12        | 3.70            | 7.78 | 4         |
| 2013/04/05    | MF   | US2     | 15:18:28 | B     | 7.0       | 317.8             | 0.13                   | 20.37           | 30.21          | 87.80               | 6.62        | 6.70            | 7.77 | 8         |
| 2013/04/05    | MF   | US2     | 15:19:33 | M     | 4.6       | 188.7             | 0.32                   | 20.76           | 28.13          | 89.31               | 6.78        | 4.10            | 7.74 | 8         |
| 2013/04/05    | MF   | US2     | 15:20:14 | T     | 1.1       | 214.6             | 0.24                   | 21.33           | 25.05          | 93.23               | 7.13        | 3.60            | 7.74 | 4         |
| 2013/04/05    | MF   | US2     | 15:21:13 | B     | 7.1       | 187.6             | 0.42                   | 20.46           | 30.21          | 88.01               | 6.64        | 6.30            | 7.74 | 7         |
| 2013/04/05    | MF   | US2     | 15:22:09 | M     | 4.5       | 223.0             | 0.34                   | 20.55           | 29.60          | 88.21               | 6.67        | 4.30            | 7.73 | 7         |
| 2013/04/05    | MF   | US2     | 15:23:08 | T     | 1.0       | 145.6             | 0.45                   | 21.24           | 25.58          | 93.34               | 7.13        | 3.60            | 7.74 | 5         |
| 2013/04/05    | MF   | US2     | 15:24:24 | B     | 7.0       | 340.2             | 0.79                   | 20.46           | 30.20          | 87.92               | 6.63        | 4.80            | 7.75 | 7         |
| 2013/04/05    | MF   | US2     | 15:25:24 | M     | 4.5       | 294.4             | 0.22                   | 20.89           | 27.29          | 90.43               | 6.88        | 4.00            | 7.74 | 7         |
| 2013/04/05    | MF   | US2     | 15:26:11 | T     | 1.0       | 111.0             | 0.31                   | 21.33           | 25.07          | 93.45               | 7.15        | 3.50            | 7.76 | 4         |
| 2013/04/05    | MF   | MW1     | 15:20:01 | B     | 19.0      | 97.7              | 0.07                   | 20.31           | 31.16          | 86.64               | 6.52        | 1.87            | 7.89 | 8         |
| 2013/04/05    | MF   | MW1     | 15:21:01 | M     | 10.0      | 87.0              | 0.23                   | 20.39           | 30.66          | 87.51               | 6.59        | 1.97            | 7.88 | 4         |
| 2013/04/05    | MF   | MW1     | 15:22:10 | T     | 1.0       | 118.2             | 1.20                   | 21.16           | 26.11          | 93.49               | 7.13        | 2.97            | 7.84 | 5         |
| 2013/04/05    | MF   | MW1     | 15:24:09 | B     | 19.2      | 69.0              | 0.36                   | 20.31           | 31.15          | 86.70               | 6.52        | 2.07            | 7.88 | 6         |
| 2013/04/05    | MF   | MW1     | 15:25:04 | M     | 10.2      | 292.5             | 0.03                   | 20.36           | 30.83          | 87.37               | 6.58        | 1.77            | 7.87 | 5         |
| 2013/04/05    | MF   | MW1     | 15:26:18 | T     | 1.2       | 195.9             | 0.19                   | 21.13           | 26.15          | 93.44               | 7.13        | 2.97            | 7.85 | 4         |
| 2013/04/05    | MF   | MW1     | 15:27:45 | B     | 19.3      | 99.1              | 0.18                   | 20.31           | 31.16          | 86.56               | 6.51        | 2.17            | 7.89 | 9         |
| 2013/04/05    | MF   | MW1     | 15:29:06 | M     | 10.0      | 48.5              | 0.30                   | 20.37           | 30.77          | 87.33               | 6.58        | 1.77            | 7.89 | 3         |
| 2013/04/05    | MF   | MW1     | 15:30:15 | T     | 1.2       | 160.2             | 0.07                   | 21.07           | 26.20          | 92.80               | 7.09        | 2.97            | 7.86 | 5         |
| 2013/04/05    | MF   | THB1    | 13:50:39 | B     | 3.1       | 73.9              | 0.18                   | 21.44           | 26.00          | 94.30               | 7.16        | 5.67            | 7.95 | 7         |
| 2013/04/05    | MF   | THB1    | 13:51:28 | T     | 1.0       | 24.6              | 0.25                   | 21.59           | 25.83          | 95.78               | 7.26        | 4.57            | 7.94 | 8         |
| 2013/04/05    | MF   | THB1    | 13:52:27 | B     | 2.9       | 22.4              | 0.12                   | 21.43           | 26.01          | 94.28               | 7.16        | 6.07            | 7.92 | 8         |
| 2013/04/05    | MF   | THB1    | 13:53:06 | T     | 1.0       | 95.8              | 0.35                   | 21.56           | 25.86          | 95.46               | 7.24        | 4.77            | 7.93 | 6         |
| 2013/04/05    | MF   | THB1    | 13:55:39 | B     | 3.0       | 187.6             | 0.17                   | 21.37           | 26.11          | 93.64               | 7.12        | 6.17            | 7.91 | 6         |
| 2013/04/05    | MF   | THB1    | 13:56:27 | T     | 1.1       | 55.5              | 0.34                   | 21.49           | 25.95          | 94.92               | 7.20        | 5.57            | 7.91 | 7         |
| 2013/04/05    | MF   | WSR45C  | 14:14:56 | B     | 12.1      | 146.8             | 0.07                   | 20.48           | 30.03          | 87.67               | 6.62        | 6.47            | 7.93 | 9         |
| 2013/04/05    | MF   | WSR45C  | 14:16:10 | M     | 6.5       | 224.3             | 0.23                   | 20.72           | 28.09          | 89.04               | 6.77        | 4.37            | 7.91 | 7         |
| 2013/04/05    | MF   | WSR45C  | 14:16:59 | T     | 1.2       | 312.2             | 0.32                   | 21.29           | 24.34          | 92.99               | 7.15        | 3.77            | 7.88 | 4         |
| 2013/04/05    | MF   | WSR45C  | 14:19:07 | B     | 12.0      | 250.0             | 0.08                   | 20.49           | 29.92          | 87.33               | 6.60        | 6.17            | 7.91 | 10        |
| 2013/04/05    | MF   | WSR45C  | 14:19:55 | M     | 6.5       | 279.9             | 0.24                   | 20.77           | 27.82          | 88.80               | 6.76        | 5.17            | 7.89 | 7         |
| 2013/04/05    | MF   | WSR45C  | 14:20:38 | T     | 1.2       | 185.8             | 0.21                   | 21.29           | 24.36          | 92.75               | 7.13        | 4.27            | 7.88 | 5         |
| 2013/04/05    | MF   | WSR45C  | 14:21:23 | B     | 12.0      | 257.8             | 0.30                   | 20.53           | 29.67          | 87.70               | 6.63        | 6.17            | 7.91 | 8         |
| 2013/04/05    | MF   | WSR45C  | 14:22:12 | M     | 6.1       | 227.4             | 0.26                   | 20.83           | 27.28          | 89.57               | 6.83        | 4.77            | 7.90 | 6         |
| 2013/04/05    | MF   | WSR45C  | 14:22:57 | T     | 1.0       | 119.7             | 0.47                   | 21.30           | 24.34          | 93.12               | 7.16        | 3.87            | 7.89 | 5         |
| 2013/04/05    | MF   | WSR46   | 13:22:55 | B     | 8.9       | 288.8             | 0.11                   | 20.47           | 29.99          | 88.56               | 6.69        | 7.77            | 7.91 | 10        |
| 2013/04/05    | MF   | WSR46   | 13:24:05 | M     | 5.1       | 138.1             | 0.12                   | 20.83           | 26.58          | 90.05               | 6.89        | 5.47            | 7.89 | 8         |
| 2013/04/05    | MF   | WSR46   | 13:24:47 | T     | 1.0       | 80.0              | 0.65                   | 21.22           | 24.62          | 92.63               | 7.12        | 4.57            | 7.89 | 6         |
| 2013/04/05    | MF   | WSR46   | 13:29:05 | B     | 9.1       | 331.0             | 0.02                   | 20.47           | 29.99          | 88.10               | 6.65        | 8.07            | 7.94 | 10        |
| 2013/04/05    | MF   | WSR46   | 13:29:49 | M     | 5.1       | 199.0             | 0.13                   | 20.81           | 26.75          | 89.68               | 6.86        | 5.17            | 7.92 | 7         |
| 2013/04/05    | MF   | WSR46   | 13:30:31 | T     | 1.2       | 114.8             | 0.47                   | 21.32           | 24.19          | 93.05               | 7.16        | 4.27            | 7.91 | 5         |
| 2013/04/05    | MF   | WSR46   | 13:31:19 | B     | 9.1       | 304.7             | 0.14                   | 20.48           | 29.95          | 88.37               | 6.67        | 7.67            | 7.93 | 11        |
| 2013/04/05    | MF   | WSR46   | 13:32:01 | M     | 4.9       | 140.8             | 0.08                   | 20.73           | 27.68          | 89.35               | 6.81        | 6.27            | 7.93 | 8         |
| 2013/04/05    | MF   | WSR46   | 13:32:42 | T     | 1.1       | 114.8             | 0.47                   | 21.20           | 24.74          | 92.23               | 7.09        | 4.57            | 7.91 | 6         |

Remarks: No current speeds and directions were measured at Station THB2.  
Impact Monitoring for Dredging for Ebb Tide was cancelled due to adverse weather (Amber Rainstorm) on 5 April 2013.