

**2010-2011 Water Quality Monitoring of Physical Parameters in  
San Diego Bay, San Diego, CA  
Port of San Diego Agreement No. 55783/Tierra Data Inc. No. 09-11  
Status Report**

---

**Date of Work:** December 1, 2010 – December 31, 2010

**Cumulative Dollar Costs Incurred:** \$85,929.73

**Percentage of Work Completed:** 74.0%

**Expected Completion Date:** December 31, 2012

**Project Manager:** Derek Lerma, Senior Marine Biologist, Tierra Data Inc., 10110 W. Lilac Road, Escondido, CA 92026, phone (760) 749-2247, email: derek@tierradata.com

**1) Monitoring results:**

- a) Data sondes are in place and collecting data within specified parameters and displaying expected results at all three stations. Winter water conditions appear to prevail throughout the bay with substantial rainfall events occurring frequently throughout the month. Data collection was interrupted for a one week period from November 29 – December 7 during this sampling period because of the USCG rescheduling to service navigational buoys monitoring instruments are affixed too.
- b) Expected increases in turbidity levels were observed in relation to heavy rainfall events and resulting storm runoff at each of the three monitoring stations. Individual station trends displayed spatially variability with respect to turbidity levels and tidal exchange and delayed storm water runoff showed expected lag times. Station C continues to record low concentrations of Chlorophyll with corresponding low hourly and daily variation when compared to stations A and B. Temperatures remain around seasonal averages and salinity displayed expected fluctuations from rainfall but appear to mix relatively rapidly following the departure of measurable precipitation.

**2) Discussion of activities conducted:**

- a) Initial sonde deployment occurred on April 20<sup>th</sup>, 2010 at all three stations. Water quality monitoring units, YSI 6920 V2 sondes, are currently in place and collecting data at Stations A, B, and C (Figure 1). All sondes and housings were removed on November 29<sup>th</sup> after the USCG notified TDI that servicing of the navigational buoys was rescheduled. A data gap from November 29<sup>th</sup> through December 7 occurred do to this servicing event. Data was downloaded from sondes removed during this time and sondes recalibrated in the office. Data was downloaded directly to an YSI 650 MDS data logger and transferred to the Tierra Data Inc (TDI) server for archiving and review. Data files were reviewed after each servicing for accuracy and integrated into station working files for analysis and graphical display.
- b) Additional data was collected on each of the three sampling locations by performing vertical casts using an YSI 6920 V2 sonde on December 7<sup>th</sup>, 15<sup>th</sup>, and 28<sup>th</sup>. The one week interval between the first two sampling events was utilized to reset the two week sampling schedule

## 2010-2011 Water Quality Monitoring of Physical Parameters - Status Report

around the Christmas Holiday and insure that reinstalled equipment was adequately deployed and the sondes were collecting data with expected parameters prior to the winter weather season.

### 3) Problems encountered/resolutions:

- a) The USCG's plans to service each of the three navigational aid buoys encountered delays because of vessel mechanical problems that altered scheduled service dates and further impacted data collection. Communications with the USCG confirmed that the buoys were rescheduled for service the week of November 29<sup>th</sup> and sondes and PVC housings were again removed to insure no damage or loss occurred to the units. The removal of all three data sondes during the service period created notable data gaps. Sondes were reinstalled at each of the three stations on December 7<sup>th</sup>, 2010.

### 4) Activities planned for next reporting period:

- a) Upcoming service dates are projected to be reinitiated on regular two week intervals occurring on January 11<sup>th</sup> and December 25<sup>th</sup>, 2010.

**Table 2. Project Deliverables:**

<b>Quarterly Progress Reports</b>	April 1, 2010 – combined with July 1, 2010 Report due to late start.
	July 1, 2010 – submitted
	October 1, 2010 – submitted
	January 1, 2011 – in prep
	April 1, 2011
	July 1, 2011
	October 1, 2011
<b>Draft Report</b>	October 31, 2011
<b>Final Report</b>	December 31, 2011

### Location Map for Port of San Diego Water Quality Sensors

