

**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: October 1, 2010 – October 31, 2010

Cumulative Dollar Costs Incurred: \$72,876.10

Percentage of Work Completed: 63.3%

Expected Completion Date: December 31, 2012

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1) Monitoring results:

- a) Data sondes are in place and collecting data within specified parameters and displaying expected results at all three stations. Water temperatures increased significantly from the previous month rebounding from seasonal lows compared to previous years. The San Diego area received its first significant rainfall of the year this month and analysis of turbidity related to rainfall events will be tracked throughout the rainy season.
- b) Interesting relationships have been observed with respect to the location of individual monitoring stations and monthly averages of temperature and chlorophyll a concentrations. Station A and B displayed similar monthly averages with respect to chlorophyll concentrations for the months July – September with station averages of 4.95 mg/l and 5.41 mg/l respectively. Station C displayed markedly lower chlorophyll concentrations, 2.95 mg/l, over the same period. Differences in chlorophyll concentrations between the other stations and station C, in the south bay, highlights the limited availability of productive oceanic water within the south bay waters during moderate tides and the competition from eelgrass for nutrient availability. Temperature data displayed expected results with the coolest monthly averages occurring at Station A, 17.89 °C for July – September, 19.89°C for Station B, and 22.07°C for the time period of July – September.

2) Discussion of activities conducted:

- a) Initial sonde deployment occurred on April 20th, 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). Data was downloaded from sondes on October 6th and October 20th, 2010. Instruments displayed various degrees of biological fouling and were cleaned, calibrated, and redeployed after each bimonthly download. 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 during each visit by performing vertical casts using an YSI 6920 V2 sonde.

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- c) Monthly sondes at each of the fixed stations are fully serviced, batteries replaced, wipers exchanged, and antifouling coatings reapplied. Affixed sonde housings are scrubbed to reduce data inconsistencies from attached algae and invertebrates.

3) Problems encountered/resolutions:

- a) The USCG plans to service each of the three navigational aid buoys that the Ports sondes are currently attached too and collecting data. Communications with the USCG confirmed that the buoys will be serviced the week of November 1st and sondes and PVC housings will need to be removed to insure no damage occurs to the units. The removal of all three data sondes during the service period will create a one week data gap. This time period will be utilized to clean and reapply antifouling tape to each of the three sondes deployed in the field and perform office calibrations on associated probes.

4) Activities planned for next reporting period:

- a) Subsequent sonde downloading and redeployment of serviced sondes is expected to be performed on November 9th. Upcoming service dates are projected to be reinitiated on regular two week intervals starting November 23rd, 2010.

Table 2. Project Deliverables:

Quarterly Progress Reports	April 1, 2010 – combined with July 1, 2010 Report due to late start.
	July 1, 2010 – submitted
	October 1, 2010 – currently being prepared
	January 1, 2011
	April 1, 2011
	July 1, 2011
	October 1, 2011
Draft Report	October 31, 2011
Final Report	December 31, 2011

Location Map for Port of San Diego Water Quality Sensors

