

**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: January 1, 2010 (project start date) through March 31, 2010

Cumulative Dollar Costs Incurred: \$37,787.07

Percentage of Work Completed: 32.84%

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) There are no monitoring results to report as of this date. Initial sonde deployment is expected to occur the week of April 19th, 2010.

2) Discussion of activities conducted:

- a) Four, Multiparameter Water Quality Sondes, YSI 6920 V2's were purchased from Merkel and Associates on February 10, 2010 under prearranged conditions and included pH, turbidity, and conductivity/temperature probes. The monitoring units, YSI sondes, were immediately cataloged and shipped to YSI for evaluation, software upgrade, pressure testing, and calibration. All four units were found in working order and the probes tested. Three of the four pH probes were out of range and needed replacement as well as one conductivity/temperature probe. Additional purchased items included three YSI 6425 chlorophyll "A" probes and a 100 ft data cable.

Hardware required for sondes (instrument) placement were constructed out of three foot sections of four inch grey ABS plastic pipe in preparation for attachment to private navigational buoys in San Diego Bay. The USCG District 11 was contacted to insure compliance with regulations pertaining to attachment of instruments and safeguard the sondes from potential damage or loss during buoy servicing. Sondes are scheduled to be placed on navigational aids 16A, 22A, and 34 pending approval from the USCG.

Three sondes were outfitted with turbidity, chlorophyll "A", conductivity/temperature, and pH probes. The fourth sonde will be used to perform vertical casts at each site prior to individual station sonde retrieval and was outfitted with dissolved oxygen (DO), turbidity, conductivity/temperature, and pH probes. Arrangements have been made with Dr. Ken Richter, of SPAWAR, for the use of a Photosynthetically Active Radiation (PAR) sensor to collect light information in tandem with sonde downloading and servicing to examine the relationships between turbidity and chlorophyll "A".

Calibration solutions and parts were purchased from YSI to maintain sondes in working order. Sondes were outfitted with AA batteries and tested for adequate voltage. Please refer to Appendix A for an equipment list associated serial numbers.

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3) Problems encountered/resolutions:

- a) No problems were encountered during this reporting period.

4) Activities planned for next reporting period:

Initial sonde deployment is expected to occur the week of April 19th, 2010 and data downloading, calibration, and servicing is planned to be performed on regular two week intervals.

Table of Project Deliverables:

Quarterly Progress Reports	April 1, 2010
	July 1, 2010
	October 1, 2010
	January 1, 2011
	April 1, 2011
	July 1, 2011
	October 1, 2011
Draft Report	October 31, 2011
Final Report	December 31, 2011

Port of San Diego Water Quality Equipment
Purchase under Contract 55783/TDI9-11, March 2010

Equipment	Serial #	Servicing	Date	Tag #	Comments
<u>SONDES</u>					
YSI 6920V2 Multiparameter Water Quality Sonde	07K-101338	Purchased	2/10/2010	817	Purchased from Merkel & Associates
YSI 6920V2 Multiparameter Water Quality Sonde	07K-101373	Purchased	2/10/2010	no tag/816	Purchased from Merkel & Associates
YSI 6920V2 Multiparameter Water Quality Sonde	07K-101638	Purchased	2/10/2010	808	Purchased from Merkel & Associates
YSI 6920V2 Multiparameter Water Quality Sonde	07J-101417	Purchased	2/10/2010	801	Purchased from Merkel & Associates
<u>PROBES</u>					
YSI 6560 Conductivity/Temperature Probe	N/A	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6560 Conductivity/Temperature Probe	N/A	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6560 Conductivity/Temperature Probe	N/A	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6560 Conductivity/Temperature Probe	N/A	Purchased	3/24/2010		New Purchased from YSI, original broken
YSI 6425 Chlorophyll Probe	10C101087	Purchased	3/24/2010		New Purchased from YSI
YSI 6425 Chlorophyll Probe	10C101086	Purchased	3/24/2010		New Purchased from YSI
YSI 6425 Chlorophyll Probe	10C100583	Purchased	3/24/2010		New Purchased from YSI
YSI 6579 pH Probe	N/A	Purchased	3/24/2010		New Purchased from YSI, original broken
YSI 6579 pH Probe	N/A	Purchased	3/24/2010		New Purchased from YSI, original broken
YSI 6579 pH Probe	N/A	Purchased	3/24/2010		New Purchased from YSI, original broken
YSI 6561 pH Probe	N/A	Purchased	2/10/2010		Included with Sonde Purchase

YSI 6136 Turbidity Probe	07J101543	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6136 Turbidity Probe	07K101555	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6136 Turbidity Probe	07K101553	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6136 Turbidity Probe	07J101546	Purchased	2/10/2010		Included with Sonde Purchase
YSI 6150 Optical DO Probe	07J1011119	Purchased	2/10/2010		Included with Sonde Purchase
<u>Misc Equipment</u>					
YSI 650 MDS Data Logger	07J1000387	On Loan	2/10/2010		On loan from Merkel and Associates
YSI 6093 100 ft Cable	N/A	Purchased	3/24/2010		New Purchased from YSI

* pH probes have a limited usable life and require replacement every 18 months

Note: All four used YSI 6920 V2's were purchased from Merkel and Associates with the understanding that they required annual service and pressure testing