

**Deepwater Horizon Oil Spill (DWHOS)  
Water Column Technical Working Group**

**Addendum to:  
NRDA CTD Processing Plan – Processing of Towed CTD Data**

**July 24, 2012**

**Prepared by:**

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**Reviewed by:**

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Louisiana: Amanda Vincent (LDEQ)

BP: Tim Thompson (Cardno ENTRIX)

Except as amended herein, all provisions of the Natural Resource Damage Assessment (NRDA) Conductivity, Temperature, Depth (CTD) Processing Plan remain in effect.

**Background:**

The processing of most NRDA CTD data is currently being implemented as described in the signed cooperative CTD processing plan. This Addendum addresses the need to process additional similar data. During some of the offshore cruises led by the Water Column and/or Deepwater Benthic Communities Technical Working Groups (TWGs), CTDs were deployed in a towed manner as opposed to being cast from a drifting vessel. These data require a modified version of the processing routine used for the CTD casted deployments described in the signed CTD Processing Plan.

**Scope of Work:**

Several types of field deployments resulted in CTD data collection in a towed manner and were conducted on a limited number of cruises. Table 1 lists cruises with CTD towed data to be processed pursuant to this Addendum.

**Table 1. List of cruises with towed CTD deployments, in processing priority order.**

Arctic AR4 Chemistry/COOP Nov 2010
Arctic AR5 Chemistry/COOP Dec 2010
HOS Davis HD1 Water Aug 2010
HOS Davis HD2 Water/DAVPR Aug-Sep 2010
Walton Smith WS2 DAVPR Fall 2010
Arctic AR6 DAVPR Jan 2011
HOS Sweetwater HS2 Water/Sediment Spring 2011
HOS Sweetwater HS4 Water/Sediment Jul-Aug 2011
HOS Sweetwater HS6 Water/Sediment Sep-Oct 2011
HOS Sweetwater HS3 Megafauna/Megaplankton Jun 8-22 2011

It is noted that Table 1 does not list all NRDA cruises with towed CTD instruments. The omitted cruises used towed instruments with internal CTD packages that did not record raw CTD data, only the converted parameter values. For this reason, the CTD data from these instrument packages are not addressed by this Addendum. These instruments include VPRII, DAVPR, SIPPER, ISIIS, and MOCNESS and any processing of CTD data from these instruments will be determined at a later date.

**Procedure:**

The procedure for processing CTD towed data is similar to that developed for the casted data. The only difference is the addition of the Sea-Bird processing routine “Section” and the removal of the Sea-Bird “Split” routine. “Section” splits the files at a user-specified scan number, enabling multiple up and down casts to be developed from the towed data. These “break points” will be determined in a pre-processing step in which the pressure data will be reviewed and the scan numbers recorded for the beginning of each up and down section. The “Section” routine will be performed upon the completion of the “Derive” routine, but prior to the “ASCII Out” routine and will take the place of the “Split” routine (see attachment 2 of the main plan for details on these routines).

**Level of Effort and Timeline:**

This work will be completed by either NOAA’s NODC or ASA, depending on availability. As with the main CTD Processing Plan, representatives from ASA and Cardno ENTRIX will cooperatively review configuration files prior to processing. After processing, ASA will perform the quality assurance steps. All quality checks and data distribution procedures will be followed as outlined in the main plan.

These data will be processed in addition to the casted CTD data listed in the signed CTD processing plan. Data will be processed in the order listed in Table 1. It is estimated that each cruise will take approximately a week’s worth of time to complete all steps, processing and quality checks. The personnel needed for this task are currently engaged in processing CTD casts. The current schedule for this activity is to process the 2010 casts and then the 2011 casts. This Addendum will modify that schedule by inserting the 2010 towed CTD processing task after the 2010 cast processing and before the 2011 cast processing.

**Budget:**

The Parties acknowledge that this budget represents additional funds to the budgets listed in the NRDA CTD Processing Plan, that it is an estimate, and that actual costs may prove to be higher due to a number of potential factors. The costs indicated in the budget chart below and any additional reasonable costs within the scope of this workplan that may arise shall be reimbursed by BP upon receipt of written invoices submitted by the Trustees. The Trustees will make a good faith effort to notify BP in advance of any such increased costs.

**Budget Chart #1. NOAA labor costs.**

Processing and QA/QC Review	\$50,000
<b>TOTAL</b>	

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**Approvals**

Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment. Each party reserves the right to produce its own independent interpretation and analysis of any data collected pursuant to this work plan.

BP Approval	<u>Joyce Miley</u> Printed Name	<u>Joyce Miley</u> Signature	<u>7/27/12</u> Date
Federal Trustee Approval	<u>Donald Horn</u> Printed Name	<u>[Signature]</u> Signature	<u>7/27/12</u> Date
Louisiana Approval	<u>MARILENE DEBOSSCHERE</u> Printed Name	<u>[Signature]</u> Signature	<u>9/7/12</u> Date