

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

**Addendum to:  
NRDA Plankton Processing Plan – Analysis of Zooplankton Samples**

**July 26, 2012**

**Prepared by:**

Sandra Arismendez (NOAA) and John Quinlan (NOAA) on behalf of the Trustees

**Reviewed by:**

NOAA: Dan Hahn (NOAA), Deborah French McCay (ASA)

Louisiana: Amanda Vincent (LDEQ)

BP: William Graeber, Jeffrey Simms (Cardno ENTRIX)

Except as amended herein, all provisions of the NRDA Plankton Processing Plan remain in effect.

**Objectives and Justification:**

The NRDA Plankton Processing Plan is currently being implemented by the laboratories listed in the signed cooperative plan. Given the number of samples, the complexity of the task, the time consumed in workplan development and approval, and the time remaining for task completion, increased capacity is required.

This addendum addresses the need to add sample sorting, splitting, scanning, and ZooScan image analysis capacity above and beyond that specified in the cooperative NRDA Plankton Processing Plan. The University of Southern Mississippi (USM) Labs, Gulf Coast Research Lab (GCRL) in Ocean Springs, MS and NASA's Stennis Space Center (SSC), have been selected to provide additional plankton processing capacity. These labs were chosen because they have qualified staff and equipment available to assist in processing plankton samples. Their current laboratory equipment cache includes an immediately operational ZooScan housed at SSC.

GCRL and SSC both in Mississippi, are currently available and ready to provide sorting, splitting, scanning, and ZooScan imaging and analysis services as per the methodology described in the existing cooperative plan. This addendum describes the collaborative roles of GCRL and SSC as applicable to the on-going plankton sample processing.

**Level of Effort:**

GCRL has proposed to provide six (6) technicians with the potential to increase the number of its technicians to eight (8) in the coming months. USM SSC has proposed providing four (4) technicians working two 8 hr shifts per day (2 technicians per 8 hr shift) to maximize the use of the ZooScan currently available. USM SSC has also proposed purchasing an additional ZooScan to increase capacity as well as provide additional equipment in the event that one malfunctions due to extended daily use. Efficiencies can be realized if a second ZooScan is provided as a

single technician can operate two ZooScans simultaneously. Two technicians will be needed each 8 hr shift to operate either one or two Zooscans. One technician will be responsible for the physical scanning of the sample and operation of the ZooScan, while the second technician will conduct the file storage and data analysis.

At this level of staffing, the sorting and splitting capacity of GCRL and SSC is estimated to be 175-200 samples in 6 mos (350 - 400 samples per year).

**Scope of Work:**

Whole, unprocessed plankton samples will be shipped under Trustee chain-of-custody (COC) from the LSU/Dade Moeller Inc. storage facility in Port Allen, LA, to GCRL. GCRL will sort and split the plankton samples based on the protocol described in the existing cooperative plankton processing plan. The subsamples created by the sorting and splitting process will be assigned new sample IDs using the naming convention described in that plan. The newly created sub-samples will be transported under Trustee COC to USM SSC for scanning with the ZooScan.

Once samples have been sorted and scanned, the physical samples will be transported under Trustee COC to the appropriate taxonomic expert for taxonomic identifications, enumerations, and measurements. Samples for taxonomic identifications will be primarily shipped to the NOAA Pascagoula lab from the USM SSC lab upon completion of scanning since they are in close proximity and samples can be easily transported between the two facilities. Samples may also be sent from the USM SSC lab to other labs identified in the existing cooperative plankton processing plan as determined to be appropriate by the Trustees. The NOAA Pascagoula lab is fully staffed and able to process additional samples; no disruption in sample processing at the NOAA Pascagoula lab is anticipated as the GCRL and SSC labs are phased into operations. ZooScan images created at USM SSC will be saved to the computer hard drive and backed up to external hard drives at the end of each day. External hard drives will be stored under Trustee chain of custody at a secure location under Trustee control. Zooscan images will be processed by GCRL and SSC personnel pursuant to the existing plankton processing plan. Electronic data generated by the ZooScan process will be transferred under Trustee chain of custody to LSU by the USM SSC lab upon completion of image analysis for archiving purposes within a subtier of samples. Quarterly progress reports, COCs, sample crosswalks, and lab confirmations will be uploaded to the NOAA NRDA Content Management System.

**Deliverables:**

GCRL and SSC will follow the same reporting, documentation, and data delivery requirements as described in the NRDA Plankton Processing Plan.

**Retention of Materials:**

All imagery will be retained, along with any changes in processing software or results. All of this information will be maintained during all review steps in the process and stored in secure locations under Trustee control and will be provided to all parties as part of the data release process.

All materials associated with the collection or analysis of samples under these protocols or pursuant to any approved work plan, including any remains of samples and, including remains of extracts created during or remaining after analytical testing, must be preserved and disposed of in accordance with the preservation and disposal requirements set forth in Pretrial Orders (“PTOs”) # 1, # 30, #35, # 37, #39 and #43 and any other applicable Court Orders governing tangible items that are or may be issued in MDL No. 2179 IN RE: Oil Spill by the Oil Rig "DEEPWATER HORIZON" (E.D. LA 2010). Destructive analytical testing of oil, dispersant or sediment samples may only be conducted in accordance with PTO # 37, paragraph 11, and PTO # 39, paragraph 11. Circumstances and procedures governing preservation and disposal of sample materials by the trustees must be set forth in a written protocol that is approved by the state or federal agency whose employees or contractors are in possession or control of such materials and must comply with the provisions of PTOs # 1, # 30, # 35, 37, #39 and #43.

**Budget:**

The Parties acknowledge that these budgets represent additional funds to the budgets listed in the NRDA Plankton Processing Plan, that they are estimates, and that actual costs may prove to be higher due to a number of potential factors. The costs indicated in the budget charts 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.

USM GCRL Budget (12 months)

Category	Cost
Salaries & Fringe (PI at 25%, 6 technicians at 100%)	289,510
Supplies	30,000
Travel	9,500
Shipping	1,000
Other contractual services	2,000
Total Direct Costs	332,010
GCRL Indirect ( )	( )
<b>Total</b>	( )

USM SSC Budget (12 months)

Category	Cost
Salaries & Fringe (PI at 8.33%, 5 technicians at 100%, Program Coordinator at 16.67%)	234,659
Supplies	23,500
Travel	9,500
Shipping	1,000
Other contractual services	2,000
Equipment (ZooScan)	50,000
Total Direct Costs	320,659
USM F&A ( )	( )
<b>Total</b>	( )

**Grand Total (12 months): \$943,211.00**

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**Plan Date: July 26, 2012**

**Approvals**

Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment. Parties each reserve its 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>8/23/12</u> Date
Federal Trustee Approval	<u>Daniel Hahn</u> Printed Name	<u>[Signature]</u> Signature	<u>8/23/12</u> Date
Louisiana Approval	<u>MARILYN DEBUSSCHE</u> Printed Name	<u>[Signature]</u> Signature	<u>9/19/12</u> Date