

September 17, 2004

Barry S. Drucker
Minerals Management Service
381 Elden Street, MS 4030
Herndon, VA 20170-4817

Dear Mr. Drucker:

This letter is the sixteenth Bi-Monthly Status Letter for Cooperative Agreement Number 1435-01-02-CA-85050, *Field Testing of a Physical/Biological Monitoring Methodology for Offshore Dredging and Mining Operations*.

Task 1: Biology: Bob Diaz and Christina Tallent state that the invertebrates collected in June 2004 for isotope analysis have been identified and processed so they may be sent to the University of California at Davis Stable Isotope Facility. The fish tissue collected for isotope analysis is currently being processed so it may be sent within the next week. The gut content samples from fishes collected by trawl have been completed. Sediment samples collected for grain size have been taken to the VIMS Analytical Service Center for analysis. Benthic macrofauna samples continue to be processed and identified for biomass measurement. Video transect and sediment profile imagery analysis continues. We will proceed to finish up the June 2004 samples and carry on with data analysis in preparation for a draft report.

Task 2: Shoreline and Beach Studies: Scott Hardaway and Donna Milligan report that they are continuing the ATV beach surveys at Sandbridge and Dam Neck. The next survey is scheduled for September 28th. They are also in the process of pulling together information for and formatting the draft final report. This includes our literature search, historic profile database, pre and post Hurricane Isabel beach surveys, monthly ATV data, GIS historic shore change data, and geomorphic analysis along with the review of the monitoring protocol.

Task 3: Bottom Imagery and Bathymetry: Jesse McNinch and Grace Browder report that they continue with the integration of the shoreline and nearshore data. They are focusing on the assessment of monitoring techniques as well as previously unidentified variables, *e.g.* the geologic framework, that might influence shoreline response.

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Task 4: Wave Studies: Jerome Maa reports as follows.

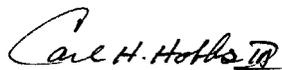
We have completed the test of given images. We generated images with 1 to 7 wave components (wave period from 4 to 12 sec., wave heights from 0 to 1 m, and wave direction from 0 to 180 degrees). These synthetic images are then analyzed (mainly 3-D FFT processes) to determine if our process can find the given wave components. The 3-D process requires a series of snap shots, e.g., 64 to 128 images, and gives wave frequency and wave number, k_x and k_y , as output. As we mentioned before, it is rather complex for presentation the 3-D results (f , k_x , & k_y), and thus, we integrate the results in k domain numerically and convert the (f , k_x , k_y) information into (f , θ) information, where f is wave frequency and θ is wave direction. We have successfully finished this process, and now we are working on processing the radar images obtained during February, March, and April, 2004. We anticipate that it will take a while to remove all the bugs and have a smooth process.

We also anticipate reactivating the radar station at the roof of the Clarion Resort and Conference Center, probably in early October for another round of observation.

Task 5: Project Management: There has been little activity concerning project management other than reminding all of the investigators that draft final reports are due very soon. We await word on both the July 4 request for supplemental funding for Tasks 1 and 4 and on the June 23 request for a no cost extension, primarily for the same two tasks. The next period will see an increased management load as we anticipate work on draft reports for Tasks 2 and 3.

As always, please do not hesitate to contact any of us should you have any questions.

Sincerely,



Carl H. Hobbs, III
Associate Professor and Project Manager

Copy: MMS: J. Kendall, W. Adcox, J. Rowland, R. Amato
VIMS: R. Diaz, C. Tallent, J. McNinch, G. Browder, S. Hardaway, D. Milligan, J. Maa,
C. Harris, M. Fonner