

BOEM ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

BOEM OCS Region: [Gulf of Mexico](#)

Planning Area: Central and Western

Title: Digital Conversion and Selected Analysis of Dive Video
From Fifteen Dive Seasons (GM-92-42-118)

Total Cost: \$159,506

Period of Performance: FY 2004-2010

Conducting Organization: [Coastal Marine Institute](#), Louisiana State University

BOEM Contact: [James Sinclair](#)

Description:

Background: Since 1985 manned submersibles have been routinely used in the Gulf of Mexico for studying seabed biology and geology of the northern Gulf's complex continental slope. Although seismic profiles and side-scan sonar images of the seafloor indicated a variety of geohazards prior to 1985, it was not until thriving communities of benthic organisms living on the products of oil and gas seepage were discovered that a detailed "look" at the sea bed became critically important. Discovery of gas hydrates and chemosynthetic communities in the northern gulf initiated a broad range of both site-specific and regional studies focused on the unusual benthic habitats created as a product of both fluid and gas expulsion. Manned submersibles played an important role in collecting site-specific samples (grab samples of organisms and sediment, cores, water samples, etc.) used to characterize these important benthic environments. From 1985 into the early 1990's numerous studies were initiated on a variety of sites where oil and gas was being transported from the deep subsurface to the modern seafloor. LSU researchers have collected video from 15 dive seasons using several different submersibles and four different recording mediums. This valuable archive of information about the continental slope is difficult to access because of the different recording formats. Several types of equipment are needed to access the data. More importantly, the analog VHS and Hi8 videotapes are starting to deteriorate. In the near future, they will be unusable.

Objectives: It is the objective of this project to convert all deepwater dive tapes accumulated by LSU researchers over a period of 15 years to a common digital format recorded on DVDs. A total of 58 different sites that range in depth from 200 to over 2,500 meters are included. In addition, to simply providing a catalog of DVDs from 15 dive seasons, analysis of the taped data will be provided from selected areas.

Methods: All available deepwater archive video between 1998 and 2003 will be transferred to digital format. All video taken prior to 2002 were not originally recorded using a digital format and will require conversion from older formats using associated hardware. A portion of the video data will be logged in detail to allow extraction of data. For one site, the brine Pool NR1, a time series video summary will be developed.

Products: A final report including edited footage from all 15 dive seasons in a “notebook of DVD video disks. One site will have results from a time-series extraction, and selected sites will include detailed logged data.

Importance to BOEM: Part of the responsibilities of BOEM is protecting sensitive benthic communities from the impacts of oil and gas operational activities in the deep sea. Knowledge of where these sorts of communities are located is essential to meet this obligation. The same information can be directly utilized for prediction of potential areas of sensitive habitats. The database can be used to support on-going as well as future studies of benthic communities and seabed geology.

Status: At this point the project is nearly complete; all tapes have been copied, burned to DVD, and labeled. The DVDs have been reformatted from AVI to Mpeg in order to reduce quantity while maintaining video quality. A total of 285 DVDs have been delivered to BOEM, along with a 2TB hard drive containing backup copies of videos in original AVI format. The draft final report has been submitted for review.

Final Report: Draft report under review.

Publications: None

Affiliated WWW Sites: None

Revised date: March 2012

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