

December 20, 2013

RE: A Comparative Analysis Of An Oil Spill On The Biota Inhabiting Several Gulf Of Mexico Shipwrecks: Archaeological Analysis. Contract No. M13PC00021.

The purpose of this letter is to serve as the Quarterly Status Report for Contract No. M13PC00021. This report lists a summary of the tasks completed for this contract during the months of September, October, and November, 2013.

Robert A. Church  
Senior Marine Archaeologist  
Project Manager  
C & C Technologies, Inc.

## QUARTERLY STATUS REPORT

During months of September, October, and November, 20013, C&C participated in several telecommunications meetings outlined below, hosted a meeting at the C&C office in Lafayette Louisiana, collected AUV geophysical and laser scanning data on three of the wreck sites included in the study, and processed the AUV data. Mr. Church corresponded regularly with Melanie Damour, BOEM Contracting Officer Representative (COR) and Chief Scientist Dr. Leila Hamdan, George Mason University (GMU). Mr. Church corresponded regularly with Droycon Bioconcepts, Inc.(DBI) concerning microbiology collaboration with the Navel Research Lab (NRL) and GMU biology team.

### Activity by C&C

#### Meetings

- Nov. 12, 2013: Post Award Meeting.
- Nov. 12, 2013: Conference Call with Roy Cullimore and Lori Johnston to discuss Microbiology.
- Nov. 25, 2013: Meeting at C&C in Lafayette with Melanie Dalmour (BOEM) and Chris Horrell (BSEE) to review AUV data.

#### Data Collection

C&C conducted three AUV geophysical and laser/photography surveys of the Mica Wreck. Preliminary data processing has been conducted as well as preliminary photo mosaics compiled. In addition, C&C collected AUV geophysical and laser/photography data over other wreck sites during equipment testing not related to the contract. This included the project wreck sites: *U-166* and the Ewing Banks Wreck. That data is being processed at C&C's expenses, but the final data products will be made available for uses in the contracted study.

#### Activity by the PAST Foundation (PAST) included:

- Preliminary preparations for education out research

#### Activity by DBI. included:

- Participated in Conference call with C&C on Nov. 22, 2013
- Preliminary preparations/planning for first field cruise.

#### **Upcoming Plans:**

- Additional planning meetings are scheduled with the BOEM, BSEE, and project scientists.
- An additional AUV survey is planned for next quarter, possibly to take place in January of February 2014.
- Data and image processing will continue through next quarter.
- C&C will continue to work on photo mosaics for the applicable sites.
- C&C will begin reviewing previously collected video data of the project wreck sites and continue field preparations of the upcoming ROV cruise.

April 10, 2014

RE: A Comparative Analysis Of An Oil Spill On The Biota Inhabiting Several Gulf Of Mexico Shipwrecks: Archaeological Analysis. Contract No. M13PC00021.

The purpose of this letter is to serve as the Quarterly Status Report for Contract No. M13PC00021. This report lists a summary of the tasks completed for this contract during the months of December 2013, and January and February, 2014.

Robert A. Church  
Senior Marine Archaeologist  
Project Manager  
C & C Technologies, Inc.

## QUARTERLY STATUS REPORT

During months of December 2013 and January and February 2014, C&C participated in several telecommunications meetings outlined below, collected AUV geophysical and laser scanning data on three of the wreck sites included in the study, processed the AUV data, and began reviewing previously collected video data of the project wreck sites. Mr. Church corresponded regularly with Melanie Damour, BOEM Contracting Officer Representative (COR) and Chief Scientist Dr. Leila Hamdan, George Mason University (GMU). Mr. Church corresponded regularly with Droycon Bioconcepts, Inc.(DBI) concerning and the PAST Foundation concerning upcoming fieldwork and education outreach activities.

### Activity by C&C

#### Meetings

- Dec. 2, 2013: Conference Call with Melanie Dalmour and Daniel Warren.
- Dec. 18, 2013: Conference Call with Sheli Smith (PAST) to discuss update on ROV and other project information.
- Jan. 15, 2014: Conference Call with BOEM, GMU, NRL, and Ole Miss to discuss the status of the ROV for March.
- Feb. 5, 2014: Conference Call with BOEM, GMU, to discuss the new ROV logistics for the March fieldwork.
- Feb. 12, 2014: Conference Call with BOEM, GMU, and PAST to discuss the Public Outreach information and March field logistics.

#### Data Collection

C&C conducted an AUV geophysical and laser/photographic surveys of the Viosca Knoll Wreck, and *Anona* sites. An AUV geophysical and multibeam survey of the *Halo* Site (the *Halo* has too high of relief to fly the AUV at a low altitude to collect laser and photographs) was also conducted within this time period. Preliminary data processing has been conducted as well as preliminary photo mosaics compiled where applicable.

#### Activity by the PAST Foundation (PAST) included:

- Preliminary preparations for education out research
- Participated in Conference call with C&C on Dec. 18, 2013.
- Participated in Conference call with C&C, BOEM, and GMU on Feb. 12, 2013.
- Preparation for upcoming ROV March 2014 fieldwork.

#### Activity by DBI. included:

- Preliminary preparations/planning for upcoming ROV March 2014 fieldwork.

## QUARTERLY STATUS REPORT

### Upcoming Plans:

- AUV Data and image processing will continue through next quarter as needed.
- C&C will continue to work on photo mosaics for the applicable sites and begin updating site maps.
- C&C will continue to review previously collected video data of the project wreck sites as needed for comparative analysis
- First ROV cruise scheduled for March 2014.
- C&C will begin processing and merging the AUV Laser data with the ROV 3D scanning sonar data.
- C&C and PAST will have a teleconference with Dr. Dennis Aig (MSU) regarding the filming for the project.

June 19, 2014

RE: A Comparative Analysis Of An Oil Spill On The Biota Inhabiting Several Gulf Of Mexico Shipwrecks: Archaeological Analysis. Contract No. M13PC00021.

The purpose of this letter is to serve as the Quarterly Status Report for Contract No. M13PC00021. This report lists a summary of the tasks completed for this contract during the months of March, April, and May, 2014.

Robert A. Church  
Senior Marine Archaeologist  
Project Manager  
C & C Technologies, Inc.

## QUARTERLY STATUS REPORT

During the months of March, April, and May 2014, C&C participated in two telecommunications meetings outlined below, re-processed the AUV laser, multibeam sonar, and photographic data, continued reviewing previously collected video data of the project wreck sites, and participated in the March ROV cruise. Mr. Church corresponded regularly with Melanie Damour, BOEM Contracting Officer Representative (COR) and Chief Scientist Dr. Leila Hamdan, George Mason University (GMU). Mr. Church corresponded regularly with Droycon Bioconcepts, Inc. (DBI) and the PAST Foundation concerning fieldwork and education outreach activities.

### **Activity by C&C:**

#### Meetings

- March 28, 2014: Conference Call with Dennis Aig (MSU) and Sheli Smith (PAST) to discuss MSU student involvement and education outreach information.
- May 7, 2014: Conference Call with BOEM, and GMU, to discuss the ROV Cruise 2 information.

#### Data Collection

C&C participated in the March 2014 ROV wreck investigations from March 14 to March 22. Five wreck sites were visited during the ROV investigation: *Halo*, Mica Wreck, *U-166*, *Anona*, and Ewing Bank Wreck. HD Video, digital still photographs, and 3D BlueView 5000 sonar (BV5000) data was collected at select location of each wreck site during the ROV fieldwork.

#### Data Processing

All of the BV5000 data has been processed and is being merged with the previously collected AUV laser and sonar data. Some of the AUV laser data is being reprocessed and assembled. Final photo processing for the AUV photographs is being conducted. Currently, only preliminary photo mosaics have been compiled for the wreck sites where applicable.

### **Activity by the PAST Foundation (PAST) included:**

- Preparations for education outreach
- Participated in a conference call with C&C and MSU on Mar. 28, 2014.
- Participated in the ROV March 2014 cruise.
- Began preparing for the summer Professional Development Program

### **Activity by DBI included:**

- Preliminary preparations/planning for upcoming ROV March 2014 cruise.
- Participated in the ROV March 2014 cruise.
- Began analysis of the 2003 *U-166* corrosion platform recovered during the March 2014 cruise.

## QUARTERLY STATUS REPORT

### Upcoming Plans:

- AUV image processing will continue through the next quarter as needed.
- C&C will continue to work on photo mosaics for the applicable sites and begin updating site maps.
- C&C will continue to review previously collected video data of the project wreck sites as needed for comparative analysis
- The second ROV cruise is scheduled for July 2014.
- C&C will continue merging the AUV Laser data with the BV5000 3D scanning sonar data.
- C&C will participate in additional teleconferences with PAST and MSU regarding graduate student participation and filming for the project and with BOEM and other project scientists regarding professional conferences and the upcoming ROV cruise.



September 19, 2014

RE: A Comparative Analysis Of An Oil Spill On The Biota Inhabiting Several Gulf Of Mexico Shipwrecks: Archaeological Analysis. Contract No. M13PC00021. Voucher No. 4.

The purpose of this letter is to serve as the Quarterly Status Report for Contract No. M13PC00021. This report lists a summary of the tasks completed for this contract during the months of June, July, and August, 2014.

Robert A. Church  
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C & C Technologies, Inc.

## QUARTERLY STATUS REPORT

Between May 17 and August 22, 2014, C&C participated in three telecommunications meetings outlined below, re-processed portions of the AUV laser, multibeam sonar, and photographic data, continued reviewing previously collected video data of the project wreck sites, and participated in the July ROV cruise. Mr. Church corresponded regularly with Melanie Damour, BOEM Contracting Officer Representative (COR) and Chief Scientist Dr. Leila Hamdan, George Mason University (GMU). Mr. Church corresponded regularly with Droycon Bioconcepts, Inc. (DBI) concerning the progress of laboratory analysis on the *U-166* corrosion platform. Mr. Church corresponded regularly with Montana State University and the PAST Foundation concerning fieldwork and education outreach activities.

### **Activity by C&C:**

#### Meetings

- June 2, 2014: Conference Call with Dennis Aig, Rosh Patel (MSU), and Sheli Smith (PAST) to discuss MSU student involvement and education outreach information.
- June 3, 2014: Conference Call with BOEM, and GMU, to discuss SHA Conference and the ROV Cruise 2 wreck sites.
- June 10, 2014: Conference Call with BOEM, and GMU, to discuss the ROV Cruise 2 information.

#### Data Collection

C&C and MSU participated in the July 2014 ROV wreck investigations from July 13 to July 22. Eight wreck sites were visited during the ROV investigation: *Halo*, Mica Wreck, *U-166*, *Anona*, Ewing Bank Wreck, Viosca Knoll Wreck, Mardi Gras Wreck, and the Desoto Canyon Bottle Wreck. HD Video, and digital still photographs were collected at the wreck sites and project surface footage was collected by MSU.

#### Data Processing

The previously collected BV5000 data is being merged with the previously collected AUV laser and sonar data. Some of the AUV laser data is being reprocessed and assembled. Some additional photo processing for the AUV photographs is being conducted. Currently, only preliminary photo mosaics have been compiled for the wreck sites where applicable.

### **Activity by the PAST Foundation (PAST) and MSU included:**

- Participated in a conference call with C&C and MSU on June 2, 2014.
- Began preparing for the summer Professional Development Program

### **Activity by Montana State University (MSU) included:**

- Participated in a conference call with C&C and PAST on June 2, 2014.
- Participated in the ROV July 2014 cruise.

## QUARTERLY STATUS REPORT

### Activity by DBI included:

- Conducted laboratory analysis of the 2003 *U-166* corrosion platform recovered during the March 2014 cruise.

### Upcoming Plans:

- AUV image processing will continue through the next quarter as needed.
- C&C will continue to work on photo mosaics for the applicable sites and begin updating site maps.
- C&C will continue to review previously collected video data of the project wreck sites as needed for comparative analysis
- C&C will continue merging the AUV Laser data with the BV5000 3D scanning sonar data and begin making 3D digital models from the data.
- C&C will participate in an Education Outreach event at the PAST Foundation in October 2014.