University-National Oceanographic Laboratory System

Ship Request

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Oxyhydrocarbons - 2014 - Atlantis

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Project Information

View STR

Project Title: Collaborative Research: Oxygenation of hydrocarbons in the ocean

Project Status: Submitted

Principal Investigator: Christopher Reddy, WHOI

Project Institution: WHOI

Project ID: 103767

Version #: 1

Date Submitted: 2/9/2013 2:57:00 PM

Created By: David L. Valentine

Date Last Modified: 7/15/2013 5:03:00 PM

URI Serial #: **None**

Funding Agencies: NSF/OCE/CO - 1333148 - Funded

Summary of Field Work: 1) Sampling of hydrocarbon seeps in the Gulf of Mexico using ROV or manned submersible.
2) Seep characterization by AUV to guide sampling operations.
3) Sampling of surface oil slicks overlying the studied seeps.
4) CTD sampling of waters in and around seeps.
5) Coring operations (gravity or box) in and around seeps.

Summary of Facility Requirements: 1) Oceanographic research vessel capable of hosting AUV/ROV/Submarine.
2) AUV (Sentry or Equivalent) capable of high resolution multibeam mapping, 3-dimensional photomosaics, water column chemical mapping.
3) ROV or Submarine capable of collecting sediment and oil samples from hydrocarbon seeps.
4) Coring apparatus such as box core or gravity core.
5) CTD Rosette.
6) Shipboard multibeam capable of capturing water column returns (to identify gas bubbles from hydrocarbon seeps).

Summary of other requirements and comments:

Ship Request Identification

Type of Request: Primary Ship Use

Request Status: Submitted

Request ID: 1006007

Created By: David L. Valentine

Date Last Modified: 2/9/2013 2:57:00 PM

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Requested Ship, Operating Days and Dates

YEAR: 2014

SHIP/FACILITY: Atlantis

Dates to Avoid: The slick sampling requires calm surface conditions (typical for summer and early fall). Undergraduate participation (one of our broader impacts) will greatly benefit from having the cruise scheduled outside of the regular course term. 2015 could also work, but is a bit late for the course of the project.

OPTIMUM START DATE: 9/15/2014

Earliest Start Date: 9/1/2014

Latest Start Date: 10/15/2014

Multi-Ship Op: No

Other Ship(s):

Operating Days Needed:	Science Days	Mob Days	De-Mob Days	Estimated Transit Days	Total Days
	8	2	2	4	16

Repeating Cruise? (within same year) No

Interval:

# of Cruises:

Description of Repeating cruise requirements:

Justification/Explanation for ship choice, dates, conflicts, number of days & multi-ship operations: The Atlantis would be the ideal vessel for these operations, with either HOV Alvin or ROV Jason. If we use Jason, then another vessel capable of hosting Jason and Sentry (sufficient size with Dynamic Positioning) is

acceptable.

There is some flexibility in the requested dates. Collecting surface slicks is an important complement to our deep ocean efforts, and requires calm conditions to find and sample the slicks (performed by RHIB using the coast guard method).

Work Area for Cruise

Short Description of Op Area for use in schedules: Gulf of Mexico

Description of Op Area: Operations will take place in the Gulf of Mexico, at a number of hydrocarbon seeps located at water depths of 700 to 3500m. We have several targets identified, ranging from the Lousianna slope to the Texas slope, within 250 nm of 26N91W. The operations area will be refined during the scheduling process, depending on the port chosen.

Op Area Size/Dia.: 250

	Lat/Long	Marsden Grid	Navy Op Area
Beginning	26° N / 91° W map	82 map	NA09 map
Ending	26° N / 91° W map	82 map	NA09 map

Show Degrees Minutes

Foreign Clearance and Permitting Requirements

Foreign Clearance Required? No

Questions about Foreign Clearances?

Coastal States:

Are you or any member in your science party bringing in any science equipment items which are regulated for export by the International Traffic in Arms Regulations (ITAR) and/or the Export Administration Regulations (EAR)? No

Questions about ITAR/EAR regulations?

If yes, have you applied for the necessary permits through your export control office? No

Comments about foreign clearance requirements or description of any other special permitting requirements (e.g., MMPA, ESA, IHA, Marine Sanctuaries, etc.)

Port Calls

Requested Start Port	***Intermediate Port(s)***	***Requested End Port***
Gulfport, MS, USA	None	Gulfport, MS, USA

Explanation/justification for requested ports and dates of intermediate stops or to list additional port stops

Science Party

Chief Scientist: Christopher Reddy, WHOI

 # in Science Party 20 ***# of different science teams*** 3 ***# Marine Technicians to be provided by ship operator: (include in science party total)*** 2

Explanation of Science Party Requirements and Technician Requirements Teams from WHOI, UCSB and the College of William and Mary will participate, including a large number of undergraduate students. 24 hour operations are planned. Wet chemistry will be performed on sampled material. -80 degree C storage is needed.

Instrumentation Requirements That Impact Scheduling Decisions

☑ Dynamic Positioning	☐ ADCP	☑ Multibeam	☐ Seismic
☑ Dredging/Coring/Large Dia. Trawl Wire	☐ Fiber Optic (.681)	☐ Diving	☑ Radioisotope use - briefly describe

☐ NO Radioisotope use/Natural level work

☐ Other Operator Provided Inst. - Describe

0 PI-Provided Vans - briefly describe

Explain Instrumentation or Capability requirements that could affect choice of ship in scheduling.

Major Ancillary Facilities (that require coordination of schedules with ship schedule)

Autonomous Underwater Vehicle (AUV)

☐ Other AUV ☑ Sentry

Coring Facility

☐ Jumbo Piston Coring ☑ Large Gravity Core ☐ OSU Coring Facility ☐ Other Large Coring Facility

☐ WHOI Long Core

Helicopter Facility

☐ Helicopter Ops (USCG)

Human Occupied Vehicle (HOV)

☑ Alvin ☐ Clelia (HBOI) ☐ JSL I & II (HBOI) ☐ Other HOV

Other Facility

☐ Other Facility ☐ Potential Fields Pool Equipment

Remotely Operated Vehicle (ROV)

☐ Jason ☐ Other ROV

Seismic Facility

☐ Ocean Bottom Seismograph Instrument Pool (OBSIP) ☐ Ocean-Bottom Seismometer Program (UTIG) ☐ Other Seismic Facility ☐ PASSCAL

☐ Portable MCS/SCS group ☐ U.S. Geological Survey Ocean Bottom Seismometer Facility (USGS at WHOI)

Towed Underwater Vehicle

☐ ARGO II ☐ Hawaii MR1 (HMRG) ☐ IMI12 (HMRG) ☐ IMI120 (HMRG - formerly DSL 120A)

☐ IMI30 (HMRG) ☐ Other Towed Underwater Vehicle

Unmanned Aerial Vehicle (UAV)

☐ Other UAV

UNOLS Van Pool

☐ AUV Lab Van #1 ☐ Clean Lab Van ☑ Cold Lab Van ☐ General Purpose Lab Van

☑ Radioisotope Lab Van ☐ Wet Lab Van

UNOLS Winch Pool

☐ Mooring Spooler ☐ Portable Winch ☐ Turn Table

Explain Major Ancillary Facilities Requirements and list description and provider for "other" systems. Either ROV Jason or HOV Alvin are needed for guided sampling within hydrocarbon seep environments. AUV Sentry will be used for mapping and imaging dive targets and for dive planning. Multibeam will be used to image study areas and to identify gas plumes in the water column. Sediment will be collected by gravity coring (or equivalent). We expect to have collaborators using radioisotopes, and include the van request for completeness (though this could be cancelled in the scheduling process).

⊞ ***Associated Schedules***

⊞ ***Ship Request History***

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