IODP-Industry Meeting Draft Report

May 19 and 20, 2005

Houston, Texas

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EXECUTIVE SUMMARY

The IODP-Industry Workshop included 15 IODP scientists and 13 Industry participants from nine companies. The IODP scientists gave presentations that explained the structure and working of IODP. They also described IODP expeditions of interest to industry that have already been carried out or are planned for the future. Industry participants also gave a number of presentations on topics relevant to IODP. (PowerPoint slides for some of the presentations are on a CD accompanying this draft report).

Discussions centered around the theme of how IODP and industry could be of assistance to each other. It was generally agreed that there are a number of areas where the two sides could usefully cooperate. There were also a number of areas where the goals and implementation strategies of the two sides diverge.

It was agreed that an IODP-Industry Advisory Task Force be formed. This Task Force would provide a central point of contact between IODP and Industry. It would be complementary to the Industry-IODP Science Program Planning Group (IS-PPG) being set up by the SPC (Science Planning Committee) in which individual industry scientists plan joint drilling proposals with academic scientists. The Task Force may, among other tasks, suggest nominations to IS-PPG as well as other SPC panels.

PARTICIPANTS

INDUSTRY

BP

Pete Carragher Greg Mattson Prof. David G. Roberts Mark Thompson

ChevronTexaco

Martin Perlmutter

ConocoPhillips

James A. Deckelman Geoff Haddad

ExxonMobil

Pinar Yilmaz

JAPEX

Chikao Yoshida

Petrobras

Dimas Coelho

Shell

Carlos Pirmez

Statoil

Morten Rye-Larsen

Total

Didier-Hubert Drapeau

PARTICIPANTS

IODP

BGS

Dan Evans Ali Skinner

CDEX

Jun Fukutomi Hajime Saga

NSF

Jamie Allan

MEXT

Kenji Kimura

University of Miami Keir Becker

Greg Eberli

IODP-MI

Manik Talwani Tom Janecek Yoichiro Otsuka

JOI

Frank Rack

Pennsylvania State University

Peter Flemings

Rice University

Andre Droxler Ashley Francis Micah Nicolo

University of Hawaii

Greg Moore

University of Tokyo

Kensaku Tamaki Ryo Matsumoto

MEETING AGENDA IODP-INDUSTRY WORKSHOP

Thursday, May 19, 2005

INTRODUCTION

IODP ORGANIZATION AND STRUCTURE

DRILLING PLATFORMS

IODP PROPOSAL EVALUATION

FINALIZATION OF DRILLING PLANS REVIEW OF DRILLING RESULTS

DISCUSSION

LUNCH

INITIAL IODP SCIENCE PLAN

CURRENT AND PLANNED DRILLING PROGRAMS OF POSSIBLE INTEREST TO INDUSTRY, PRESENTATIONS BY IODP SCIENTISTS Yilmaz and Talwani

Talwani

Rack (US) Fukutomi (JAPAN) Skinner (ECORD)

Becker

Janecek

45 minutes round table discussion across the room

Tamaki

G. Moore (Nankai Trough)

Flemings (Gulf of Mexico; fluid flow)

Matsumoto (Gas Hydrates)

Eberli (Bahamas Drilling; Carbonates)

* T. Moore (Arctic Expedition)

^{*} Ted Moore's PowerPoint presentation was shown, however, he was not present at the meeting.

DISCUSSION One hour round table discussion across the room. Share learning and insights from the presentations. What have you heard that appears useful for your organization?

5:30 (or so) INFORMAL RECEPTION

Friday, May 20, 2005

PRESENTATION BY INDUSTRY PERSONNEL Rye-Larsen, STATOIL Oceanward Extent of Source Rocks

Pete Carragher, BP

Carlos Pirmez, Shell

David Roberts, BP

DISCUSSION

FINAL DISCUSSIONS

Highlights and inquiry as to what was learned.

What are key points to move forward with industry/academic liaison?

SOME REMARKS FROM INDUSTRY PARTICIPANTS CHOSEN TO GIVE A FLAVOR OF THE MEETING

"Collaboration (by industry) with academia is best way (for industry) to get proposed (sites drilled). Have academia see more 3D seismic data".

"What is (IODP's) strategy? This is needed. Deep Drilling (by IODP) can answer questions regarding basin evolution. Industry otherwise would not drill these wells. But they (these wells) would address fundamental problems."

"Would be interesting for industry to drill close to continents in order to better understand transects and overall picture of basin evolution. Industry has lots of experience with risers and can offer help to IODP based on this (experience). Oil industry could confirm their risk analysis by working with IODP."

"Industry can help with science aspect. But timing is difficult. Objectives need to be defined on both sides. Industry can provide 2D or 3D data."

"Maybe everyone should look at basins where there is no industry presence because of risk. If there is a scientific reason, then drilling should be done; could open up industry presence."

"Industry can help with deep water drilling challenges that industry has already faced and learned from."

- "Exploration does not keep up with production. Industry has used DSDP and ODP work to determine source rock distribution.
- Can source rocks be found in deep ocean settings?
- Source rocks usually restricted to continental crust. Is continent/ocean boundary limit for hydrocarbon exploration?
- How far oceanward can we find upwelling source?
- Other possible sources deep biosphere?
- Heat flow measurements needed past continental crust to judge maturation."

"A well planning tool kit (consisting of the following elements is needed:)

- --Basin modeling
- --Seismics
- --(nearby) well check
- --stress model
- --reservoir model

Seismic is very important for deepwater drilling.

Drilling base salt has been problematic for industry. Required collaboration (among different disciplines). Serious pressure ramps (pose problems). Well cost uncertainty (comes from)

- 1) Lack of knowledge of well complexity/scope.
- 2) Undefined details of execution.
- 3) Sporadic challenges during execution"

"IODP needs potential initiation with technology challenges. Guidelines for riserless drilling can set framework for riser drilling"

"Overview of Academic-Industry parented proposals to IODP-

- Continental margin fan systems
- Mississippi fan, DSDP, 1986
- Amazon fan, ODP, 1994
- Joint academic-industry proposal to investigate a slope depositional system in Gulf of Mexico.

"Areas of interest to IODP and Industry:

- Gas hydrates
- Surge in deep water exploration
- Volcanic vs. non volcanic margins subsidence differences
- Architecture of deep water furbidite systems
- South Atlantic paleoceanography Cenomanian to Oligocene
- Norwegian sea deep water outflow path which controls ocean circulation"

"Problems of mutual interest are already there. Proposals just need to be submitted or requested'

"Senior folk who can point IODP in the right direction are probably not the right group to generate proposals. Need academics to work with industry data to help generate proposals. Need single points of contact."

- "1. IODP seems to have vision, but no strategy.
- 2. How to get ideas of things to do? Need detailed plans and organizational commitments.
- 3. Operational aspect has to be built in"

"Important to integrate industry's need for immediacy."

"Needs to be clear what IODP wants from industry and what IODP can give (to industry.)"

"(Industry) cannot (just) release data. Needs to be bottom-up. Need to come up with problem first, then maybe data can be released."

RECOMMENDATION-FORMATION OF IODP-INDUSTRY ADVISORY TASK FORCE

As a result of the meeting between IODP personnel and members of industry representing several corporations, held May 19 and 20, 2005, in Houston, TX a specific recommendation was made to form a joint IODP-Industry Advisory Task Force to continue dialogue between the two entities and ensure future collaboration.

The IODP-Industry Advisory Task Force would have members from IODP and from industry. The industry membership would be initiated by the IODP-MI president requesting industry participants at this meeting to arrange the nomination of persons from their respective companies to serve on this Task Force. The expected nominee would be a mid level executive who will have access both to scientists at the working level as well as to top management. The IODP members would be nominated by the IODP-MI president after consultation with other IODP entities.

While the details of the working of this task force would be decided after it is formed and it meets, the following points were suggested for its consideration:

- 1. If a large number of companies agreed to be members, they would serve on the Advisory Task Force by rotation to keep the size of the task force small.
- 2. Among the industry members a person would be chosen who will serve as a single point of contact.
- 3. The Advisory Task Force must know the specific limitations and structures that IODP and NSF have in place to communication between industry and IODP, as well as how malleable those limitations and structures are. Beyond understanding structures and limitations, this includes understanding that this Task Force is a completely separate entity from IODP scientific planning committees.
- 4. There should be a way for members of industry through the single point of contact to know of the opportunities and needs presented by the various committees and panels of IODP. Similarly, there needs to be a mechanism for IODP to be aware of industry needs and interests.
- 5. One central objective of this task force may be developing a structured way that technologies (specifically regarding deep water riser drilling and real-

time drilling decision making) can be shared between industry and IODP and related to the policy manual designed under IODP.

- 6. This task force should coordinate scientific objectives of industry for advisement of IS-PPG formation. One way of accomplishing this is through the identification of areas (both geographic and scientific) that are of mutual interest to both IODP and industry.
- 7. One potential initiative of this task force would be the creation of a sister fellowship to the Schlanger Fellowship, which would be funded by the member companies of this task force and designed to foster research at the graduate level that both utilizes IODP materials and addresses industry related science goals.
- 8. This task force must be cognizant of individual company interests vs. general benefits to industry as a whole.
- 9. IODP typically operates on a time-scale that is longer than industry (i.e. 4-10 years vs. quarterly-yearly). In order for effective operation of this Task Force, a way to work around this difference must be constructed. This could perhaps be done by specifically addressing longer-term industry science goals or focusing predominantly on a technological relationship centered on riser drilling operations.
- 10. It is important to recognize areas of difference between general IODP and industry perspectives: IODP science deals with open information as was the case with its predecessor programs, DSDP and ODP. In many cases it is important for industry science initiatives to remain proprietary.