Special EPSP Meeting – July 25, 2005
Texas A&M University
College Station, Texas

A Special Meeting of EPSP was **called to order** at 9:15 by the chair. The purpose and goals of the special meeting were reviewed. They were:

1. to **review the results LWD/MWD program in the Gulf of Mexico (Expedition 308);**
2. to **determine whether these results suggest a go-forward plan for LWD/MWD prior to coring at Cascadia**; and
3. to **establish a go-forward plan for Cascadia**.

Self-introductions were made by all attendees.

EPSP Members present: Barry Katz (Chair) and Craig Shipp

Guests present: Jack Baldauf (TAMU), Keir Becker (SPC), Ron Grout (TAMU), Gilles Guerin (LDEO), Gerardo Iturrino (LDEO), Douglas A. Johnson (TAMU), Mitchell Malone (TAMU), Michael Riedel (Co-Chief – Expedition 311), and Michael Storms (TAMU).

The chair noted that **a quorum of EPSP members was lacking** and that final actions would require an electronic review, discussion, and vote by the panel.

Gerardo Iturrino reviewed the results of Expedition 308. The attendees were reminded of the location of the drill sites and the nature of the two drilling regions – Brazos-Trinity basin a normally pressured region and Ursa basin an over-pressured region. The bottom hole assembly was reviewed, noting the logging tools and their relative position compared to the drill bit. **A simplified drilling decision tree was presented.** This decision represented the essence of the detailed protocol reviewed by EPSP. The drilling results and the LWD/MWD data were presented first for the Brazos-Trinity locations and then the Ursa basin location. It was noted that there was **no real-time monitoring of the upper 45 meters** of section as a result of limitations placed on the pulse system by fluid circulation rates. It was felt by all that this limitation was **not a significant EPSP issue**. **At U1323A pressurized sand was penetrated and the pressured stabilized during monitoring. Drilling was terminated at the top of the next sand.** The resisitivity tool, which provided information of lithology, was the first indication of potential problems followed by the pressure data. It was reported that the pre-drill depths for the various reflectors were quite accurate but that sands were encountered shallower than had been originally predicted. The leg **clearly indicated that the LWD/MWD could provide the necessary safety monitoring for situations where overpressure is the key EPSP risk and that overpressure encountered could be controlled.**

Although the detailed **pre-drill protocol** provided a detailed understanding of the decision tree and required actions it was considered **too lengthy for practical implementation.** The detailed plan was **converted into a more simplified flow**

diagram for implementation. It was also suggested by the shipboard party that the **guidelines may have been too rigid** and the current process did not provide a means to modify. The weight of the drilling mud was cited as an example. It was felt that the original plan called for a mud weight that could have been reduced but there was no simple mechanism to modify the drilling protocols once the program was underway. It was noted by all that this was a learning experience and that the **degree of caution was high**. It was suggested that with the Gulf of Mexico drilling under our belt an **additional feedback loop should be included in the decision tree to permit modifications to the program within certain limitations**.

It was suggested that the EPSP risks associated with Cascadia were different than those of the Gulf of Mexico. In **Cascadia the potential for free gas below the hydrate layers is considered the key risk**, while **water flow as a result of overpressure was considered the key risk in the Gulf of Mexico**. This difference would indicate that a **different logging and monitoring protocols would be required for the Cascadia drilling**. **A measure of free gas would be required**. Based on drilling results at Site 1250 it was suggested that the crossover on the neutron and density porosity plots could provide such information.

It was concluded that LWD/MWD could be used as an effective means of safety monitoring as long as the data is examined in real-time and is appropriate for the key risk(s). In fact, it was commented that with real-time monitoring and the appropriate protocols in-place LWD/MWD may be a more effective means of monitoring than the current guidelines which rely on a suite of geochemical measurements on recovered cores. The logging approach provides data in a more timely fashion.

The proposed logging suite at Cascadia would include the same suite as that of the Gulf of Mexico (density, neutron porosity, caliper, gamma ray, resistivity, APWD, and ECD) with the addition of NMR. The stacking and specific tools may, however, be different based on program needs.

A brief discussion took place on whether a cored calibration hole should be drilled first. It was generally believed by those present that a calibration hole would not provide much benefit because of the variability expected along the transect.

The chair reminded all that the original drilling depths proposed and approved were based on coring and that the length of the logging tool was not considered. The co-chief was asked to consider whether depths would need to be reviewed.

The chair stated that it was his opinion that **the LWD/MWD approval process could be finalized at the December panel meeting after review by the full panel of both the Cascadia and the Gulf of Mexico drilling results. It was also stated that this process should be acceptable for all drilling platforms.**

The necessary action items and required timeline was summarized and confirmed.

The TAMU and LDEO staff will provide to EPSP their recommendations on which logging tools will be used for hydrocarbon monitoring and their relative and absolute position to the drill bit.

The TAMU and LDEO staffs provide to EPSP their recommendations as to what the "yellow" and "red" flags are for drilling. The procedures to follow if a "yellow" flag is encountered will also need to be outlined.

The proponents will need to assess whether as a consequence of the logging string the holes need to be deepened from that approved. If so, which holes and by how much? If additional depth is required EPSP will need to re-examine these holes and vote electronically.

EPSP and the TAMU and LDEO staff will need to establish guidelines as to procedures (including depth and hydrocarbon monitoring processes) if a hole was terminated during the LWD/MWD phase prior to reaching the target depth.

Timeline – Recommendations from TAMU and LDEO will be provided to EPSP by August 1st or 2nd. The initial EPSP review will need to be completed no later than August 10th. Discussions for modification or revision may occur through August 14th, with final recommendations due at TAMU no later than August 15th.

The meeting was adjourned at 11:45.