

DRAFT MINUTES

JOIDES SITE SURVEY PANEL MEETING

Feb 25 - 27 2001

Banff, Canada

Members*: Diebold, John (*LDEO, NY, USA*) -- Chair

Caress, David (*MBARI, USA*)
Droxler, Andre (*Rice U., USA*)
Enachescu, Michael (*Husky, Canada*)
Kleinrock, Martin (*VU., USA*)
Kuramoto, Shin'Ichi (*GSJ, Japan*)
Holbrook, Steve (*UWYOM, USA*)
Lee, Chao-Shing (*PACRIM*)
Lizarralde, Daniel (*GA Tech, USA*)
Lyle, Mitchell (*BSU., USA*)
Mallinson, David (*USF, USA*)
Meyer, Heinrich (*BGR, Germany*)
Lewis, Stephen (*CSU, USA*)
Scrutton, Roger (*UK*)
Yao, Bochu (*GMGS, China*)

Liaison:

Janik, Aleksandra (*JOIDES Office*)
Klaus, Adam (*ODP/TAMU*)
Shiple, Tom (*SCICOM/OPCOM*)
Quoidbach, Daniel (*ODP Data Bank*)
Claypool, George (*PPSP*)

Apologies:

Anselmetti, Flavio (*ESF*)
Leroy, Sylvie (*France*)

*: Last meeting for this member

1. Preliminary Matters (Enachescu, Diebold, Quoidbach)

- 1.1 Introduction of members, liaison, guests and meeting logistics.
- 1.2 Charge and procedures for the meeting
- 1.3 Greet new members - Droxler, Lewis, Mallinson, Scrutton
- 1.4 Watchdog assignments and feedback to proponents

2. Reports

- 2.1 JOIDES (Janik)
- 2.2 PPSP (Claypool)
- 2.3 ODPDB (Quoidbach)
- 2.4 TAMU (Klaus)
- 2.5 SCICOM/OPCOM (Shipley, for Kevin Brown)
- 2.6 SCIMP ad Hoc Committee (Diebold/Quoidbach)
- 2.7 ISSEP/ESSEP Enachescu, Lyle

3. Site Survey Status Of Upcoming Scheduled Legs For 01, 02 – see classification scheme, appended.

3.1 **Leg 195: West Pacific Ion 431 + 505 – Full3: Mariana Convergent Margin Subduction Factory (Holbrook) PPSP**

3.2 **Leg 196:Nankai II Proposal #:572 Target Type: C(Active margin) SSP Watchdog: Diebold SSP Proponent(s): None**

SSP Review: The cruise prospectus for this leg includes three sites, ENT-03, ENT-01, and hole 808. Migrated crossing lines from the Ewing Nankai 3D data set have been submitted to the data bank, and the data set is adequate for drilling. It is expected that more extensive amounts of further processed data will be available in IESX format by the time the cruise sails.

**SSP Consensus: All sites in the cruise prospectus are backed by data in the Data Bank
Site Survey Readiness Classification: 1A.**

3.3 **Leg 197: Hawaiian/Emperor Hotspot Proposal #: 524**

**Target Type: G (elevated feature)
SSP Watchdog: Diebold
SSP Proponent(s): None**

SSP Review: Through the efforts of Data Bank personnel, all proposed sites had been previously brought to a status of 1A. Due to clearance problems, there is now a need to select an alternate to the northernmost site.

**SSP Consensus: Proponents must work with the Data Bank to select an alternate site for which adequate data exist.
Site Survey Readiness Classification: 1A/1B**

3.4 **Leg 198: Extreme Warmth/Shatsky Rise**

Proposal #: 534

SSP Watchdog: Lyle

SSP Proponents: None

Target type(s): all Sites D

SSP Review: A bathymetric map was submitted as part of the PPSP report. This has resolved the one previously remaining issue about site SHAT-13.

SSP Consensus: Ready to drill

Site Survey Readiness Classification: 1A

3.5 **Leg 199: Paleogene Equatorial Pacific APC**

Proposal #: 486

Target Type: A

SSP Watchdog: Diebold

SSP Proponent(s): Lyle

SSP Review: The data package for this proposal has been classified as 1A for over a year now.

SSP Consensus: No new sites, no sites have been moved, Proposal is ready to drill.

Site Survey Readiness Classification: 1A

3.6 **Leg 200: H2O Observatory - Drilling fast spread Pacific crust at the H2O long term seafloor observatory**

Proposal #: 500

Target Type: E

SSP Watchdog: David Caress

SSP Proponent(s): NA

SSP Review:

This scheduled drilling leg 200 will drill a reentry hole at the Hawaii-2 Observatory (H2O) site in the eastern Pacific; a broadband seismometer will be installed within the hole as part of the worldwide ION program. As of the July, 2000 review, the proponents had designated drilling sites and provided a package of figures satisfying the site survey requirements, including site locations and annotated SCS and 3.5 kHz records.

SSP Consensus: All required data are in the Data Bank.

Site Survey Readiness Classification: 1A

3.7 **Leg 201 Full Peru Margin deep biosphere**

Proposal #: 571

SSP Watchdog: Meyer

SSP Proponent(s): None

SSP Review: Proponents, as well as DB personnel, have done a lot of work on the data package since the previous meeting.

SSP Consensus: The data package seems complete, and has been approved by PPSP>

Site Survey Readiness Classification: 1A

3.8 **Leg 202 465 SE Pacific Paleooceanography 465 (Lyle) 1A but final sites not yet chosen**

3.9 **Leg 203 544-Full2 Costa Rica Subduction Zone (Holbrook) 1A
Costa Rica Subduction Zone (544) - Proposal Title: Fluid Flow, Seismic Cycling, and
Pressure-Temperature Characteristics of the Costa Rica Subduction Zone**

Proposal #:544-Full2

Target Type: C, D

SSP Watchdog: Dan Lizarralde (July 2000)

SSP Proponent(s): Eli Silver

SSP Review:

Sites 1039-S and 1039-T, previously not on a seismic line, have been moved eastward to lie on seismic line CR-30. Now all Sites lie along existing seismic lines. Although no cross lines exist through the 1039X Sites, Lines CR-20 and 30 are only ~1.5 km apart and exhibit very little lateral variability. All Sites are now considered 1A in site survey readiness.

SSP Consensus: Sites 1040R and 1043R lie close enough to previously drilled sites to be considered 1A. Sites 1039R,S and T lie along closely spaced seismic lines within a clear stratigraphic context of Leg 170 Sites 1039, 1040 and 1043. These Sites are now also considered 1A.

Site Survey Readiness Classification: 1A

3.10 **Leg 204: Gas Hydrates on Hydrate Ridge**

Proposal #: 546

Target Type:

SSP Watchdog: Diebold

SSP Proponent(s): None

SSP Review: We assume sites may be relocated on the basis of high resolution 3D MCS data acquired during June 2000. No new sites have been submitted, and we still await the processed 3D data set.

SSP Consensus: The classification of the data package for this leg remains 2A.

Processed high resolution 3D data should be submitted to the Data Bank as soon as available.

Site Survey Readiness Classification: 2A

3.11 **Leg 205 499 – Rev: Equatorial Pacific ION (Caress) 1A since ‘98**

4. Highly Ranked by SCICOM, AUGUST 2000

4.1 **533-Full2: Paleooceanographic and tectonic evolution of the Central Arctic Ocean**

SSP Watchdog: Lyle

SSP Proponents: None

Target type(s): A/B/G [Alternate Platform Required]

This proposal was first examined at the February 2000 SSP meeting, and this is the third examination of the data package. New data has arrived—swath bathymetry from the SciCex cruise, a trackline map with shotpoint navigation, and data supporting 5 new drillsites.

The proponents have chosen to provide a series of alternate sites and alternate strategies to collect a Neogene-Paleogene section of sediments from the high Arctic and to sample the older continental margin sediments underneath a prominent unconformity. Site Survey Panel has encouraged similar strategies in other environments difficult for drilling, and we believe that this is also the proper approach here. The proponents also want to define drillsites as a length of seismic line between shotpoints. Again, this seems to be a proper strategy in a difficult environment. The proponents should be prepared to narrow the shotpoint range they propose since the proposed ranges now cover the entire top of the ridge.

There is a cruise on the Oden scheduled for August 2001 for crosslines on the sites nearest the pole (some combination of LORI-1,-3,-8, and -9) and we look forward to seeing this new data when it becomes available.

Comments about specific sites: For all sites with proposed 400-500 m penetration—a velocity in unconsolidated sediments of >2 km/sec is unrealistic and it is unclear how close the deep drilling will come to the unconformity. Better velocity information is needed, perhaps by sonobuoys on the summer surveys.

The SciCex chirp subbottom profile data is missing still. In the case of LORI-04 and -05, these data could provide crossline information that is currently missing.

All sites penetrating the unconformity need significant information about velocity and better control about the geometry of the sediments beneath the unconformity. Because these are margin sediments, there is a potential of hydrocarbon accumulation that must be avoided.

SSP Consensus: Significant data in support of this drilling proposal have been deposited in the data bank. A significant amount of important data is missing but should be collected for several of the sites in August 2001 for a subset of the sites. We thank the proponents for their efforts to complete this data package and look forward to reviewing it in the next year.

Site survey readiness status: Classification 2B—substantial items of data missing but should be collected on a scheduled cruise—Sites LORI-01,-03,-08,-09. Classification 2B or 5 (impossible for drilling in FY2003 because significant data are missing and no cruise scheduled to get data)—LORI-04, -05. Classification 5—LORI-06,-10,-11,-12

4.2 **525-Full: Proposal for Drilling Mantle Peridotite along the Mid-Atlantic Ridge from 14° to 16° N**

Target Type: F

SSP Watchdog: Kleinrock

SSP Review: This proposal is for drilling of mantle peridotites along the Mid-Atlantic Ridge from 14° to 16°N, where igneous crust is locally absent and the structure and composition of the mantle can be determined at sites over 100 km along strike. Focus of study is on 3D vs. 2D upwelling below a slow spreading ridge. There are 7 primary and 4 alternate sites, all of

which are classified as Target Type F: hard-rock drilling. This target type requires the following data types for drilling: swath bathymetry, photography or video over site, rock samples, and navigation. A substantial amount of data has been deposited into the data bank.

Regional swath bathymetry was submitted to the data bank, but it is insufficient for drilling. SSP requests enlarged swath bathymetry maps for each site with the site marked. Dive videos exist for all primary sites and 3 of the 4 alternate sites; however, only the Shinkai videos have been submitted to the data bank at this time and the SSP requests that the Nautila dive tapes be deposited in the data bank. Descriptions of rock samples for all sites are in the data bank. SSP requests that the bathymetric maps with compiled sample locations for all known dredging and submersible cruises be submitted to the data bank. Plots of all dives exist in the data bank; it is recommended that digital navigation of these dives also be supplied. The site survey readiness status of these sites is ranked 2A

Given the extremely high ranking of this proposal, the proponents are very strongly advised to get their site survey package completed prior to the 1 July 2001 data submission deadline. This is the last chance for submission for Site Survey Panel to designate the project as drillable prior to the final ODP scheduling meeting of SCICOM/OPCOM in August 2001.

As an aside, we note the recent success of new technology for bare-rock drilling; the proponents should consider its potential.

SSP Consensus: No new data have been submitted to the data base and thus the SSP consensus remains the same. The following data is believed to exist, and is requested for submission to the data bank: enlarged swath bathymetry maps for each site with the site marked, Nautila dive videos, bathymetric map with compiled sample locations, and digital navigation of Shinkai and Nautila dives. This proposal is extremely highly ranked, and it is essential that a final site survey package be provided to the ODP data bank prior to 1 July 2001.

Site Survey Readiness Classification: 2A

4.3 **455-Rev3: High Resolution Transects of Laurentide Ice Sheet Outlets**

Target Type: A/B

SSP Watchdog: CS Lee

SSP Proponent(s): None

SSP Review: The Data Bank have run an inventory before this panel meeting in Feb. 2001 and no new data was found. Since the proposal is highly ranked by the SCICOM, we would like to encourage the proponents to submit the missing data and a new drilling strategy as stated in the previous July 2000 SSP review. It is essential to submit the data before the July deadline (for July 2001 SSP meeting and subsequently for August 2001 SCICOM meeting).

SSP Consensus: Since no new data has been submitted, the site survey readiness remains unchanged. Proponents should make every effort to complete the data package.

Site Survey Readiness Classification: 1A/2A.
1A for sites HUD01A-HUD07A, and LAW02A-LAW05A;
2A for sites HUD08A, LAW01A, and LAW06A.

4.4 559-Full: Early Cenozoic climate: The Walvis Ridge Transect.

Target Type: A

SSP Watchdog: Yao Bochu

SSP Review: The proposal is suggesting six ODP well sites which use the high resolution seismic profiles on the Southern Atlantic margin and hope to recover fully intact sequences of sediments deposited at water depth between 2500m and 4500m. These data will be used to reconstruct in detail the paleoceanographic variations associated with several prominent episodes of early Cenozoic extreme climate change including the Latest Paleocene Thermal Maximum (LPTM), the Early Eocene Climate Optimum (EECO), and the Early Oligocene Glacial Maximum (EOGM). But the proposal well data were used in the DSDP Leg 74, the low resolution seismic data. The new site survey data didn't do, but they plan to collect the high resolution seismic data in this year, therefore, there haven't new site survey data in the Data Bank. So I believe that this proposal is not complete, and need to do additional site survey data.

SSP Consensus: A survey, aboard Meteor, is scheduled for Jan, 2002. We encourage proponents to submit data from that cruise by the July 1 deadline.

Site Survey Readiness classification : 3A

4.5 564-Full New Jersey Shelf

Target Type: A and secondary B

SSP Watchdog: Michael E. Enachescu

SSP Proponent(s): None

SSP Review: This proposal consists of three shallow water (33 to 36 m) holes located on the New Jersey/Mid-Atlantic Sea-Level Transect (MAT) and demanding each for 762m (1000ft) sediment penetration. All sites are located on the New Jersey inner shelf and are beyond Joides Resolution safe operation capabilities. Drill funds should be secured from different sources including ODP. The holes must be drilled using an oil industry jack up platform. Except for a new ranking by SCICOM during August 2000 (rank 10), nothing significant happened since July 2000 SSP meeting. We are aware that proponents are working on seismic stratigraphic interpretation and site survey report, however, no new data has been deposited with DB and therefore we are repeating here the observations that were made during July 2000 meeting.

Numerous multi-channel and high-resolution data sets related to MAT were inspected prior to leg 150 and 174. The various sets exist in the DB but must be repackaged to address the specifics of the new proposal. Swath bathymetry and sonar data is available, but not yet in the DB. We insist that the proponents to complete and organize the data and re-write specific site survey description forms after a final selection of the drillsites MAT-1 to MAT-3. It is understood that final drill sites will be selected after analysis and review of CH0698 hazard grid.

We expect that a detail seismic stratigraphic study and associated maps of the main interpreted sequences that were prepared for the SSEP review will be included with the proposal. They are absolute necessary to support the scientific objective of the MAT transect and allow for regional correlation of markers. All this remaining repackaging and documenting of the new selected sites should be received at the DB prior to the deadline of July 2001 SSP meeting.

SSP Consensus: The SSP acknowledges that most of the required data for this type of site is in DB, but must be properly organized. Final sites, once selected and displayed on data, should be analyzed and discussed by the panel. All required missing data, final site location and attached stratigraphic study should arrive at DB prior to July 2001 meeting. The authors should present all data and a detail site survey hazards report should be prepared on behalf of the marine drilling contractor. This site survey report should be tabled with the SSP.

Site Survey Readiness Classification: 2 A

4.6 **539-Full2: The Dynamics of Methane Cycling in a Large Gas Hydrate Deposit on the Blake Ridge**

Proposal #: 539-Full2 Target Type: B

SSP Watchdog: S. Kuramoto

SSP Proponent(s): S. Holbrook

SSP Review: This proposal was reviewed by SSP in February 26, 2001 at Banff, Canada. DB has been received several seismic data which were taken by the R/V Ewing cruise last year. SSP appreciates to the proponents that the data set looks very high quality and high resolution data. The data set is composed of 2-D and 3-D data. Current proposed sites are BRC-1, -4A, -4B, -4C, -4D, -4E, -5, -6, -10 and -11. The proposed sites are covered by the new seismic lines. Navigation data with bathymetry also stored in the DB. SSP requires 3.5 kHz sub-bottom profiles to store to the DB. The profiles are existing. Also SSP requests to send the description of seismic data acquisition (survey configuration) of the last cruise. Proponent will process the 3-D data, we recommend to do the mapping of gas hydrate BSR amplitude by the 3-D data. It will be quite useful to find the most significantly changing point of the BSR amplitude in the 3-D seismic survey box. It could be helpful.

SSP Consensus: We ask the proponents to send additional required data (3.5 kHz profiles) to the DB as soon as possible, no later than July 1st, 2001.

Site Survey Readiness Classification: 1B

4.7 **512-Full2: Quantifying the Processes of Oceanic Core Complex Formation**

Target Type: F plus

SSP Watchdog: Kleinrock

SSP Proponent(s): NA

SSP Review: In order to study the formation of oceanic core complex massifs, the proponents propose to drill a series of holes to bit destruction (expected to be ~100m deep, hole might be deepened) in the gabbroic and ultramafic rocks exposed in the foot wall of a

detachment fault at the Western RTI of the MAR-Atlantis FZ. In addition, a single hole to bit destruction is proposed through a hanging wall block and the detachment below.

Given the extremely high ranking of this proposal, the proponents are very strongly advised to get their site survey package completed (as discussed below) prior to the 1 July 2001 data submission deadline. This is the last chance for submission for Site Survey Panel to classify the project as drillable prior to the final ODP scheduling meeting of SCICOM/OPCOM in August 2001.

Congratulations on an excellent site survey cruise--including the spectacular chimneys found! Thank you for submitting the Marvel Cruise Report, the multibeam and gravity grids and images, and the DSL-120 trackline info. The sample sidescan image provided in the cruise report looks very good indeed

In order for the data package to be completed, there are several items that need to be deposited in the ODP data bank:

1. From the Marvel cruise: navigation of all collected data (DSL-120, Argo-II, Alvin) the rest of the DSL-120 imagery, the processed DSL-120 bathymetry, the video and photography, and summaries of the bottom observations.
2. The final processed seismic data (all data, including reflection, refraction, and Nobel).
3. A description of the rock samples from the area. For the CD100 dredges, this can be satisfied by submitting reprint of Blackman et al. (1998). For Alvin and new dredge samples, new descriptions are needed.
5. Magnetics (both surface and near-bottom), and seafloor gravity.
6. Preliminary data to be collected during the upcoming MCS cruise on R/V Ewing should be forwarded to the Data Bank as soon as they become available, as the objective of drilling through the upper block to the fault will benefit greatly by getting knowledge of where the fault is.
7. Specification of proposed drill sites and complete Site Survey Detail forms for a modified Target-type F (bare rock drilling) for each proposed site (as described in the accompanying form). The ranking of 2A is tentative, depending on final specification of sites and objectives.

As an aside, we note the recent success of new technology for bare-rock drilling; the proponents should consider its potential.

SSP Consensus: The panel commends the proponents on their recent data collection and initial submissions to the data bank. Much remaining data are collected and need to be finally processed and submitted prior to the 1 July 2001 deadline.

Site Survey Readiness Classification: 2A (pending final site selection)

5. Forwarded To SCICOM for Consideration

- 5.1 **519 Full2: The Last Deglacial Sea-Level Rise in the South Pacific**
Target Type:A [Alternate Platform Required]
SSP Watchdog: Scrutton
SSP Proponent(s):None

SSP Review: There has been a small but significant advance since the last SSP meeting in that a site survey cruise for the Tahiti transects has been secured on board l'Atalante in 2002 for dredging, high-resolution seismic and bathymetric data. Unfortunately, apart from this nothing has progressed since July 2000 and there is still no data submitted for either the Tahiti or Great Barrier Reef transects. Moreover, there are outstanding comments from SCICOM to respond to and some doubt over the availability of the PROD alternative drilling platform. Also, the timing of the l'Atalante cruise may preclude the science being programmed as a component of the ODP bearing in mind the end date of the program of September 2003.

Thus, Tahiti will probably be in good shape to drill as target type A following the l'Atalante cruise. Site survey data are believed to exist for the Great Barrier Reef sites but are not yet at the Data Bank

SSP Consensus: The scientific reviews of this proposal are good and the SSP would like to see the proponents make every effort to continue to prepare it for drilling. They are urged to submit the necessary data for target type A to the Data Bank as soon as possible for the Great Barrier Reef and as soon as practicable after the site survey cruise for Tahiti.

Site Survey Readiness Classification: Overall, 3A

5.2 **522-Full2: An In Situ Section of oceanic crust spread at superfast rate**

Target Type: E

SSP Watchdog: Caress

SSP Proponent(s): NA

SSP Review: The proponents propose to drill a complete upper crustal section including volcanic rocks, sheeted dikes and into gabbros in 15 Ma crust generated at a superfast spreading ridge.

An addendum to the proposal and a data package was submitted prior to the July 2000 SSP meeting. Based on results from MCS and OBH tomography, the proponents changed the primary site, with a new designation of GUATB03B. The SSP requested some additional data items, and classified site GUATB03B as 2A. No new data have been submitted to the databank prior to the February 2001 SSP meeting, so the SSP ranking and requests for this proposal remain unchanged.

The proponents should be aware that the final opportunity for drilling legs to be scheduled in the ODP program will occur this August, 2001. Consequently, the July 2001 SSP meeting will be the last chance to achieve the 1A SSP ranking required for this proposal to be considered drillable in the current program. SSP strongly encourages the proponents to submit the required data to the databank by the July 1, 2001 deadline.

The previously submitted data package includes a location map, processed lines 21 and 22, and results from OBH 2D refraction tomography along lines 21 and 27. Site GUATB03B is located on MCS line 22, between crossing lines 26 and 27.

SSP requests additional justification for the placement of site GUATB03B between crossing lines. The tomography results for lines 22 and 26 should be submitted to the databank prior

to the July 2001 SSP meeting. SSP also requests an MCS navigation plot annotated with CDP or shot number, new MCS with CDP/shot number and time annotation, and a location figure showing the location of the gravity core. SSP recommends that the proponents select alternate sites in the GUATB03 seismic grid, and that they indicate whether GUATB03A is considered an alternate site.

SSP Consensus: Substantial items of required data are not in the Data Bank but are believed to exist and are likely to be available in time for consideration for FY2002 drilling schedule.

Site Survey Readiness Classification: 2A

5.3 **561-Full3: The Caribbean Large Igneous Province (CLIP)**

Target Type: S & VB, D; BR, G

SSP Watchdog: Scrutton

SSP Proponent(s): J Diebold, S Leroy

SSP Review: The proposal has very good external reviews and the proponents have responded enthusiastically to review comments by SCICOM. The proponent's model, based on a considerable amount of existing geological and geophysical data suggests that the CLIP offers the opportunity to study igneous emplacement processes and geochemistry both laterally and vertically through the province. The only negative aspect of an otherwise exciting proposal is that the drilling targets are ambitious.

Four sites are proposed. S6A in the Colombian Basin is a reentry of OD site 999 to deepen 300m through sediments and then 150m into basement. All the site survey data to satisfy type D target will be in the Data Bank. Sites BR3A and 4A are an offset drilling pair on the western, steep slope of the Beata Ridge. These are reentry sites planned to penetrate 500m into basement beneath 100m of sediments. Following a recent submission of seismic reflection data to the DB there is sufficient of this data for drilling. However, velocity data, 3.5kHz, multibeam bathymetry and seabed sampling data, although thought to exist, are not yet submitted, with the exception that the Nautila dive data are in the proposal. There are alternate sites BR1A and BR2A 50km to the south for which the same data situation pertains, but details of these sites are not in the proposal. These details are needed. Site VB3A is a reentry site planned to penetrate over 800m of sediments and then 800m into basement. For this, velocities and seabed sediment information are not yet in the DB though sufficient data is thought to exist. The situation is the same for the alternate site VB4A. Although these target type D sites are not on seismic profile crossing points it is felt that there is sufficient seismic data in their vicinity to be aware of any geological variability in the third dimension.

SSP Consensus: SSP believes that all necessary site survey data exist and would encourage the proponents to continue to assemble the database for this exciting proposal. Details of alternate sites BR1A and BR2A are needed.

Site Survey Readiness Classification: 2A overall

5.4 **577-FullAdd2: Demerara Rise: Equatorial Cretaceous and Paleogene**

Paleoceanographic Transect, Western Atlantic

Target Type: B

SSP Watchdog: CS Lee

SSP Proponent(s): None

SSP Review: No additional data has been received by the Data Bank since July 2000. Therefore, the site survey readiness remains the same:

1A for sites DR-1, DR-6 and DR-7;

2B for sites DR-2, DR-3, DR-3alt, DR-4, DR-5, DR-6alt and DR-8.

The proponents have previously indicated that they have funds to collect the site survey data (high resolution single channel seismic data, sea beam, and core samples). Since this proposal is highly ranked and the SCICOM will be decided on the legs for 2003, the last opportunity for the ODP phase, in August of this year, we would like to encourage the proponents to submit the required site survey data before the July deadline and this panel will review the data in next meeting.

The proponents have sent an addendum regarding the biochemistry objectives in Oct. 2000. It will be evaluated by the ESSEP panel.

Site Survey Readiness Classification: 1A for DR-1, DR-6 and DR-7; 2B for others (lack of crossing lines).

5.5 **584 – Full: TAG II: Evolution of a Volcanic-Hosted Hydrothermal System on a Slow Spreading Ocean Ridge**

Target Type: F

SSP Watchdog: Lizarralde

SSP Proponent(s): M. C. Kleinrock

SSP Review: This proposal seeks to drill at 5 of the identified mounds in the TAG hydrothermal region in order to extend the work of Leg 158 and continue investigations into the evolution of hydrothermal systems and the nature of the deep biosphere.

Site 1 is located in the Leg 158 active mound area, for which there is adequate site survey data, and its readiness was considered 1A at the July 2000 SSP panels.

The most recent data submission includes (among other items) bottom photography, video, and catalogues of existing data for each of the remaining sites that have been acquired through several submersible dives and deep-tow surveys. As for Site 1 (Active mound), it is clear that sufficient data now exist in the databank to site drill holes at the 4 other mound areas (Alvin, Mir, Shinkai, and Shimmering mounds). All 5 proposed sites are now considered 1A.

SSP Consensus: The proponents have submitted individual data packets for each of the five proposed sites. This submission was responsive to all of the site survey needs identified by the SSP. The data packets for each site contain bathymetric and bottom photography data required for hard-rock bottom site survey, and all sites are now considered 1A.

Site Survey Readiness Classification: 1A, Sites 1, 2, 3, 4, and 5

5.6 **APL-14: Pleistocene Kuroshio Paleooceanography: Transient On-Site Drilling in the Southern Okinawa Trough, Western Pacific**

Target Type: A

SSP Watchdog: Kuramoto

SSP Proponent(s): C.S. Lee

SSP Review: All required data were deposited in the DB in time for the last [July,2000] SSP meeting. We suggested that the proponents supply Kuroshio current information in the drilling area. The proponents kindly sent this data immediately, and there appears to be no problem for drilling.

SSP Consensus: Ready to drill.

Site Survey Readiness Classification: 1A

6. SSEPs Sent For External Review

6.1 **543-full2: Proposal for Installation of a CORK in Hole 642E to Document an Monitor Bottom Water Temperature Variations Through Time**

Target Type: B

SSP Watchdog: Kleinrock

SSP Proponent(s):

SSP Review: This proposal is to CORK ODP hole 642E (a legacy hole) to determine temperature as a function of depth and infer changes in temperature of bottom water as a function of time. There are no data presently in the data bank that are associated with this proposal, but Leg 104 drilled the hole originally, so there are presumably many data available. The proponent is encouraged work with the Dan Quoidbach of the ODP Data Bank to assure that all necessary data are placed in the appropriate .

SSP Consensus: The panel feels that all site survey data exist and are probably already are in the data bank under Leg 104. The data need to be reassigned to Proposal 543.

Site Survey Readiness Classification: 2A

Oceanic Subsurface Biosphere (Lewis) *New* sites, old data. Probably a 2A, but Hard to tell without serious work by proponents and DB.

6.2 **547-Full3: Oceanic Subsurface Biosphere (OSB): Exploring its Nature and Extent**

Target Type: E

SSP Watchdog: Lewis

SSP Proponent(s): None

SSP Review: The Ocean Subsurface Biosphere (OSB) proposal is a new and unique scientific theme for ocean drilling in a relatively mature and well-explored segment of the Juan de Fuca Ridge. Extensive data from previous geophysical, geochemical, and drilling programs are available in the region of this new proposed drilling. Thin sediment cover (<200 m), modest proposed basement penetration (100 m) and proximity to existing ODP drillsites makes leverage of existing site survey data feasible.

SSP Consensus: The proponents are urged to work closely with the ODP Data Bank to compile the relevant existing data from Middle Valley into a complete stand-alone data package in support of this drilling proposal. The proponents must make sure that the data required for this drilling environment are available for SSP review at its July 2001 meeting. The July 1, 2001 deadline for the receipt/compilation of data by the ODP Data Bank is an important deadline for this proposal to remain eligible for drilling by the current program.

Site Survey Readiness Classification: 2A

6.3 548-Full2: Chicxulub: Drilling the K-T Impact Crater

Target Type: B *[Requires Alternate Platform]*

SSP Watchdog: Lewis

SSP Proponent(s): None

SSP Review: This proposal defines drilling targets in the offshore Yucatan Peninsula on the Chicxulub impact crater, hypothesized to be the impact resulting from the end Cretaceous event. This is a very timely and complex topic of scientific investigation that is amenable to scientific ocean drilling, given that a substantial portion of the Chicxulub structure is offshore. Land seismic reflection data from the northern Yucatan Peninsula are often of poor quality due to karst and cenote structures common to the region. This makes offshore investigations of the impact structure particularly attractive, where marine seismic techniques typically provide much higher data quality than onshore seismics.

The centerpiece of data reviewed by the SSP at this meeting was seismic Line Chicx-A, a BIRPS reflection profile acquired across the offshore northern flank of the impact structure. Crustal reflection events to Moho are imaged clearly in the data, including the shallow features directly related to the impact; 1) the central crater basin, 2) the annular trough, the peak ring structure, the crater rim, and the outer ring. However, the SSP was surprised to learn how little publicly-available seismic and other geophysical data have been acquired over the Chicxulub structure in the 20 years that it has been hypothesized to be related to the end-Cretaceous impact event. We strongly support the proponents' efforts to acquire a 3-D seismic data set to augment the existing deep-penetration 2-D profiles.

The SSP recommends to the proponents that:

1. The upper 5 seconds or so of the deep-penetration BIRPS seismic data be reprocessed to optimize the stratigraphic and structural imaging of the Chicxulub structure at a resolution more compatible with drilling observations.
2. Special attention be paid to ODP guidelines for both shallow-water drilling and passive margin drilling during future site-survey data acquisition.
3. Special attention be paid to Pollution Prevention and Safety Panel guidelines for shallow-water drilling.

Please note that July 1, 2001 is an important deadline for receipt of data by the ODP Data Bank for review at its July 2001 meeting,

SSP Consensus: Drilling proposal addresses a new class of target for ODP, and represents exciting scientific opportunities. The proposed 3-D program is important to the requirements for site survey requirements.

Site Survey Readiness Classification 4

- 6.4 **554-Full4: Gas Hydrates in a Petroleum Basin**
Target Type: B and secondary A
SSP Watchdog: Enachescu
SSP Proponent(s): None

SSP Review: This recently received (Sept 2000) gas hydrate proposal consists of a series of drill holes at two slope sites in the north central Gulf of Mexico. A total of 19 holes (GC-1 to 9, MC-1 to 5 and AT-1 to 5) are located, combining shallow (100-200m) and deep (200-500m) penetration at water depth between 500 and 1900m. The objective of the proposal include among others: the measurement of mass and phase distribution of gas hydrates and associated gases in shallow marine sediments in a high fluid flow regime and effect of gas hydrates on sediment physical properties, inferring potential for geohazards. Gas hydrates in the GOM is controlled by faulting and occurs as shallow vein-filling deposits, not as traditional BSR features. The proposal has received interest from oil companies active in the area. The proposal is scientifically well documented and after several re-writes the hypothesis to be tested and the measurement s program is clearly stated. The multiple-site drilling will provide a 3-D characterization of the biogenic and thermogenic gas hydrate distribution in the areas.

I find difficult to evaluate this proposal as in the log sheet 19 sites are listed and in the text the author proposed only two primary transects (named Garden Banks-425 and Atwater Valley- 425) with two alternative transects for backup. All sites are surveyed with industry 3-D MCS and closely-spaced 3.5 kHz echosounder profiles. Multibeam bathymetry exist in the area but only illustrative maps were provided in the text. An Appendix with site locations and associated geophysical survey is mentioned in the proposal but was not included (missing?) in the watchdog book. In the text is also mentioned that a site survey cruise was planed, proposal for this was submitted to NSF, but no results are yet communicated to the data bank and we need information as the status of this survey to accordingly classify the proposal.

As the date of this meeting, no support data was sent to the DB. However exempt for the site survey all other data is presumed to exist. The proposal needs cleaning with text and documentation to be referred mostly to the final selection of drillsites and site description should be provided for all of them. Geohazard report should be completed. Additional guidance for the main proponents is needed as to the Site Survey Panel requirement.

SSP Consensus: The SP believes that no required data for this type of site is in DB. A site survey cruise was proposed but I do not know if was funded. Data pertinent to the main site and alternates should be properly organized. Final sites, once selected and displayed on data, should be analyzed and discussed by the panel. The safety panel should carefully evaluate all possible drillsites. All required missing data, final site location and proper site description forms should arrive at DB prior to July 2001

meeting. *We also note that the PPSP has never approved drilling in this type of environment.*

Site Survey Readiness Classification: 7= unclassifiable; no data in DB

6.5 **557-Full2: Storegga Slide Gas Hydrate Drilling**

Target Type: F

SSP Watchdog: Lizarralde

SSP Proponent(s): None

SSP Review: This proposal seeks to drill 7 sites in the region of the Storegga slide, offshore Norway. The goals of this work are to understand the relationship between continental gas hydrate deposits, slope stability, large mass-wasting events, and abrupt release of methane into the atmosphere. No data have been submitted to the databank, and so it is impossible to assess the site survey readiness of these sites. All seven sites are thus assigned a readiness classification of 7, "No determination could be made because no data have been submitted to the Data Bank." Examples of data that are generally required for passive margin settings (and which would very likely be required for these sites) include crossing seismic lines through each of the sites and 3.5 kHz data at each site. The proponents indicate that a substantial body of industry and academic data exists for the region, and so many of these requirements could possibly be met with existing data.

SSP Consensus: No data have been submitted to the databank, and so it is not possible to determine the site survey readiness of the proposed sites. The data presented in the proposal are not sufficient in and of themselves for site survey of these sites. The proponents are urged to collect and submit relevant existing data by the July 1, 2001 data submission deadline.

Site Survey Readiness Classification: 7, Sites 1-7

6.6 **572-Full2: Ice Sheet-Ocean-Atmosphere Interactions on Millennial Time Scales during the Late Neogene-Quaternary Using a Paleo-intensity-Assisted Chronology (PAC) for the North Atlantic**

Target Type: A: Paleo environment or Fan (APC/XCB)

SSP Watchdog: André W. Droxler

SSP Proponent(s):NA

SSP Review: SSP acknowledges receiving a series of data sets for the proposed leg (series of different and often relatively old vintage often single channel seismic lines, their track lines, and the plotted location of the proposed site and known piston core locations).

According to SSP guidelines, there are a minimum of four types of required data sets that make a proposal viable for drilling:

- (1) high resolution seismic reflection profile(s) passing through the proposed drill site
- (2) 3.5 kHz record across the proposed drill site
- (3) Existing sediment core(s) located in close proximity of the drill site
- (4) Accurate navigation during the acquisition of these different data sets.

Moreover, the profiles need to be annotated by the proponents. The locations of the proposed sites and the existing piston cores have to be clearly shown on the seismic and 3.5 kHz profiles, as well as the line crossings if a seismic grid exists.

Overall the data set submitted to the Data Bank are still quite incomplete. The submitted seismic profiles and 3.5 kHz lines were often acquired by the R/V *Vema* and R/V *Conrad*. For several proposed sites, the proposed site location does not fall on top of existing seismic line(s).

According to the knowledge of one SSP member newer data sets than the one presented do exist for instance for the area of the Gardar Drift (WHOI cruise in early 1990). Based upon the proposal, we realized that high resolution MCS profiles from the Eirik and Gardar Drifts will be collected sometime but most likely not before 2002. Another set of data will be acquired on the Orphan Knoll in summer 2001.

SSP Consensus:

Based upon the Site Survey Readiness classification scheme, the panel members have classified 572-Full2 as a category "6" proposal: "Not considered because data in the Data Bank do not match present proposal: awaiting new data set and better prepared data set package".

Given the high level of interest for this proposal in the paleo community, the proponents are strongly advised to get their site survey package completed prior to the 1 July 2001 data submission deadline. This is the last chance for submission for Site Survey Panel to classify the project as drillable prior to the final ODP scheduling meeting of SCICOM/OPCOM in August 2001..

Site Survey Readiness Classification: 6

6.7 573-Full2: Modern Carbonate Mounds: Porcupine Basin

Target Type: B: Passive Margin

SSP Watchdog: André W. Droxler

SSP Proponent(s): NA

SSP Review: SSP acknowledges receiving a series of data sets for the proposed leg (bathymetric maps, seismic grids, high resolution single channel and multi channel seismic lines, and core descriptions). The panel members were impressed by the high quality of the submitted high resolution single channel seismic lines and the large and diverse data sets that have been and will be submitted in the near future to the Data Bank. Given the extremely high ranking of this proposal, the proponents are strongly advised to get their site survey package completed prior to the 1 July 2001 data submission deadline. This is the last chance for submission for Site Survey Panel to classify the project as drillable prior to the final ODP scheduling meeting of SCICOM/OPCOM in August 2001.

The sites (PORC-03A, 6A, 7A, and 12A) that are proposed to penetrate mud banks have crossing lines. Swath bathymetry is scheduled to be collected in 2001 for these sites and SSP feels that this type of data will be necessary to locate their final drilling latitude and longitude.

SSP Consensus: The panel was impressed by the overall quality of the submitted high resolution single seismic lines and the seismic images of the different carbonate mud banks proposed to be drilled. At their February 2001 meeting, SSP has classified ODP proposal 573-Full2 as 2A. Substantial items of required data are not yet in the Data Bank, but are believed to exist and are likely to be available in time for consideration for FY 2003 drilling schedule (see details in the attached sites description forms). As we mentioned above, this is the last chance for submission for Site Survey Panel to classify the project as drillable prior to the final ODP scheduling meeting of SCICOM/OPCOM in August 2001.

Site Survey Readiness Classification: 2A

6.8 **575-Full3: Gulf of Aden Drilling: Testing African Climate-Human Evolution Hypotheses**

Target Type: B, D, E

SSP Watchdog: Mallinson

SSP Proponent(s): N/A

SSP Review: The proponents propose to drill eight sites within the Gulf of Aden and on the Somalia Margin in order to link terrestrial records of climate and hominid evolution to the marine record of climate change in East Africa. The sites range from 650 to 2490 m water depth with penetrations ranging from 250 to 800 mbsf. The following objectives will be addressed by the proposed drilling:

1. Determine the late Neogene history of East African climate and vegetation changes;
2. Quantify late Neogene variations in atmospheric and oceanic signatures of variations in the Indian monsoon;
3. Develop a comprehensive record of East African explosive volcanism and volcanic ash deposition;
4. Use the paleoclimatic, paleoceanographic, and tephra correlation data to place the fossil record of African hominid evolution within the context of regional and global paleoclimatic change.

Proponents indicate the existence of a substantial data base. Single channel seismic data are presented within the proposal and a follow-up site survey report. These seismic data were deemed sufficient for the purposes of this proposal at sites GOA-1, 2, 3, 4, 5, and 6. Seismic data at sites GOA-7 and 8 are insufficient as these sites will require crossing lines and greater penetration. Velocity requirements for sites can be met with LDEO sonobuoy data.

SSP Consensus: Seismic data have not yet been submitted to the Data Bank, but are known to exist. Please submit all required data to the data bank prior to the July 1, 2001 deadline.

Site Survey Readiness Classification: Sites GOA-1, 2, 3, 4, 5, 6 = 2A

Sites GOA-7, 8 = 5

6.9 **581-Add: Latest Pleistocene Drowned Coralgall Banks and Mounds along the Edge of the South Texas and Mississippi-Alabama Continental Shelves**

Target Type: B *[Requires Alternate Platform]*

SSP Watchdog: David Mallinson

SSP Proponent(s): Andre Droxler

SSP Review:

This is an alternate platform proposal. The proponents propose to use the drill-ship R/V Seaprobe 1 owned by Fugro-McClelland to drill a series of sites within late Pleistocene relict reefs along the Texas and Mississippi-Alabama continental shelf. The sites are at 60 to 98 meters water depth with penetrations ranging from 80 to 100 mbsf. The following objectives will be addressed by the proposed drilling:

1. To shed light on findings that coralgall banks flourished in the Gulf of Mexico during the first part of the last deglaciation;
2. To improve the resolution of the last deglacial sea-level and climate history from late Glacial to the Younger Dryas;
3. To better understand the processes involved with the origin, growth, and demise of carbonate reef tracts along siliciclastic shelves;
4. To use these banks as recent analogs for reefal reservoirs in siliciclastic shelves.

As an alternate platform, shallow-water, shallow-penetration site, many of the requirements for passive margin drilling were deemed unnecessary. Proponents have provided multichannel seismic data for the first five proposed sites on Southern Bank. Data have not been submitted for Baker Bank sites or Mississippi-Alabama sites.

SSP Consensus: The seismic data submitted to the data bank are sufficient for drilling on Southern Bank. Velocity measurements are unnecessary at these shallow penetration depths. Please submit all required data to the data bank prior to the July 1, 2001 deadline.

Site Survey Readiness Classification:

Sites SB-1, 2, 3, 4, 5	2A
Sites BB-1, 2	5
Sites MS-1, 2	5

6.10 **589-Full2:Overpressure and Fluid Flow processes in the Deepwater Gulf of Mexico**

Target Type: B

SSP Watchdog:Diebold

SSP Proponent(s):None

SSP Review: The sites have been chosen on the basis of industry data, which is presumably complete, but none of which has been either released or deposited in the DB. With the possible exception of 3.5 KHz data over the sites, the owners of the industry data are known, and have indicated some willingness to cooperate.

SSP Consensus: The proponents should make every effort to have the proprietary seismic data released to the data bank. Access limitations can be provided by data bank administration. We also note that the PPSP has never approved drilling in this type of environment.

Site Survey Readiness Classification: 7 [or 2A, if data are truly available]

6.11 **594-Full: Newfoundland margin**

Target Type: B

SSP Watchdog: Enachescu

SSP Proponent(s): S. Holbrook

SSP Review: This recently received (Sept 2000) proposal is a sound revision of the previously analyzed proposal 504, consists of a principal and series of alternate and follow-up drill holes at several deep water sites in the Newfoundland Basin. A total of 8 holes are located, illustrated with MCS seismic lines and fully documented in the site description forms. One site is in 3580 m water depth while all other sites are in water depth surpassing 4500 m.

The objective of the proposal include among others: drilling a non-volcanic rifted margin, correlation with Iberia margin, mechanisms of asymmetric rifts formation, composition and history of basement, dating and tectonic significance of major unconformities. The proposal is co-authored and has received interest from a large group of researchers from both sides of the Atlantic and also from the oil industry. The proposal is scientifically well documented and the various hypotheses to be tested and the measurements program are clearly stated. The authors suggest that one deep hole (2300 m) NNB01A in the central Newfoundland Basin will help test most of the objectives of the proposal and will take a full ODP leg time.

Various vintages of MCS migrated and unmigrated, single channel reflection and OBS data, magnetic and gravity, heat flow, bathymetry, side-sonar, water current, navigation exist in the area and was deposited with the data bank (Farnella, Conrad, Agnich, Huston, Ewing cruises). The multichannel and wide-angle data recently acquired by R/V Ewing during 2000 season and submitted to the DB is of excellent quality. A cruise report containing detailed description of data acquisition is annexed with the proposal.

The initial focus of the proposal is to drill the NNB01A hole 2200m through sediments and 100 m into the basement. The site is located slightly off the crest of a basement block, landward of the anomaly M3, in 4559 m water depth. Preliminary depth conversion for this and all other sites was obtained both from MCS reflection and OBS/H data (they differ by about 10%). Alternate sites with shallower depth to basement are fully documented and ready to drill, if the NNB01A is considered not feasible. After assimilating the scientific results, the initial central basin hole may be followed by several holes on the Newfoundland-Iberia transects that are all included and well documented in this proposal.

All the pertinent data was sent to the DB and site survey detail forms were properly filled in and attached to the proposal. However, some data is still labeled as preliminary or currently being analyzed. Also final velocity conversion and drilling depths should be corrected in the text. The proposal needs minimum editing work with both text and illustrations and some cleaning up of the seismic interpretation and geophysics maps. No geohazards are visible on the seismic lines.

SSP Consensus: The SP believes that most of the required data for this type of site is in DB. Intersecting MCS lines support all the proposed sites. Data pertinent to the main site and alternates is well organized. Minor fine-tuning of text and illustrations to

include final maps and depth conversion is needed. All final modification of the site survey data set must arrive at DB prior to July 2001 meeting.

Site Survey Readiness Classification: 1B

7. Other Business

- 7.1 SSP Recommendations re SCIMP/SSP/etc. ad-hoc Core-log Integration, U/W Geophysics working group report. SSP supports the SCIMP adhoc Core-log Integration and Underway geophysics working group report in the matter of replacing all air guns currently aboard J/R with GI/G guns that can be used both for checkshots and, in case of need, for SCS acquisition. To facilitate the latter, the adhoc committee's recommendation for underway geophysics training and improved documentation are also supported. We acknowledge the importance of checkshots in correlating drilling results with reflection seismic survey data.
- 7.2 Thanks and applause for departing members: Anselmetti, Kleinrock, Kuramoto, Lyle, Meyer.
- 7.3 Schedule Feb.,2002 meeting – 25, 26,27, Feb.2002 Torogo Gorge, E.Taiwan? Beijing?. China Academy, Geophysical and geological institutes
- 7.4 May SSEP Liaisons:
Droxler ESSEP Alt Malinson, Lewis ISSEP Alt Diebold.

Site Survey Readiness Classification Scheme.

- 1. ***Presently viable proposal for FY 2003 drilling.***
 - 1A. All required data are in the data bank
 - 1B. A few required items are missing from the data bank, but data are believed to exist and to be readily available.
- 2. ***Possibly viable proposal for FY 2003 drilling; likely for FY 2004 or later.***
 - 2A. Substantial items of required data are not in the data bank but are believed to exist and are likely to be available in time for consideration for FY 2003 drilling schedule.
 - 2B. Substantial items of required data are not in the data bank, not believed to exist but could be available in time for consideration for FY 2003 drilling if a **scheduled** site survey proceeds as planned.
 - 2C. Substantial items of required data are not in the data bank, not believed to exist but could be available in time for consideration for FY 2003 drilling if a **proposed** site survey proceeds as planned.
- 3. ***Unlikely for FY 2003; possible for FY 2004 or later.***
 - 3A. Required data are not in the data bank, not believed to exist but are likely to be available in time for consideration for post-FY 2003 drilling if a **scheduled** site survey proceeds as planned.

3B. Required data are not in the data bank, not believed to exist but could be available in time for consideration for post-FY 2003 drilling if a **proposed** site survey proceeds as planned.

4. ***Impossible for FY 2003:*** Required data are not in the data bank and not believed to exist. Data could be available after FY 2003 if a **proposed** site survey proceeds as planned.
5. ***Impossible for FY 2003:*** Required data are not in the data bank and not believed to exist. A site survey needs to be conducted but is not proposed at this time.
6. ***Not considered*** because data in the Data Bank does not match present proposal; awaiting a new proposal.
7. ***Not classifiable*** because no data has been submitted to the data bank.