

ODP Site Survey Panel
July 13-15, 1994
Lamont-Doherty Earth Observatory
Minutes

Note: These minutes are arranged in a logical order for ease of reading, and don't exactly reflect the order in which items were discussed at the meeting.

1. PRELIMINARY MATTERS

1.1 Introductions (Kastens) & Logistics (Mountain/Quoidbach)

Chair Kastens introduced acting TAMU liaison Leon Holloway, followed by self-introductions of panel members and other liaisons. Logistics for the meeting were described.

1.2 Action items from April 1994 Brest meeting (Kastens et al)

(April Action Item #1): ODP Data Bank Manager Quoidbach and SSP industry member Farre drafted a statement concerning commercial well data for inclusion in the Data Bank's guidelines for data submission.

(April Action item #2): NSF Liaison Shor provided to SSP Chair Kastens a copy of NSF's new policy statement concerning the obligation of investigators funded by NSF/ODP to deposit data in the ODP Data Bank. This statement was distributed to SSP members at the July/Lamont SSP meeting. Several non-US panel members indicated that they thought it would be useful and appropriate to have a similar statement within the funding structure of their own particular country; those panel members may pass NSF's statement along to program managers in their national funding agencies to consider as a model for possible adoption.

(April SSP Action Item #3): TAMU liaison Blum was asked to request specifications for a passive sonar reflector which could allow relocation of a site and which could be deployed from a site-surveying submersible. The hope was that inexpensive passive reflectors could be deployed even in circumstances where the possibility of drilling was so far in the future that either the cost of deploying an active sonar beacon could not be justified, or the battery life of an active beacon would probably be exceeded before the drillship reached the field area. Acting TAMU liaison Holloway provided the following information about the capabilities of the Resolution's drillstring scanning sonar and VIT video system, and about the feasibility of using passive markers/reflectors to help reoccupy a small drill site identified on a site survey cruise:

ODP has in the past provided site survey investigators with acoustic positioning beacons to allow accurate site relocations; they will continue to provide such beacons so long as budget permits. They recognize that such beacons may not always be feasible, and could be required several years in advance, in a field area that is not yet scheduled for drilling. Battery life, weight, and interfacing with other vessel's acoustic receivers are issues with this type of beacon. ODP is investigating the use of a modified acoustic beacon outfitted with syntactic foam in place of the glass spheres, because glass spheres represent a possible safety risk to a submersible in the case of an implosion.

With respect to passive reflectors, the existing types of sonar reflectors (circular disks with multidirectional gusseted sections and glass spheres) are not used to relocate a site. They are used to assist the VIT in making a reentry at a known/established site. Glass spheres are routinely used on the free fall funnels to assist in reentering a site if the FFF is not visible with the VIT. However, at least three of these spheres are used in a fairly tight circle (8 ft in diameter) to provide a recognizable pattern for reentering the cone. In order to

use this technique, the sonar (MESOTECH) must be set on the highest resolution for the spheres to be seen. The spheres are typically tethered at a height of several meters (2 to 3 m) above the FFF rim. It is doubtful that glass spheres will be able to be identified with the sonar at locations where crystalline rock is encountered on the seafloor surface, because of the numerous other high reflectivity sonar targets. Unfortunately, placing the sphere off the seafloor any appreciable distance will most likely reduce the possibility of it being seen at all because the sonar would then have to swing around in the water column out of VIT contact with the seafloor, in a mode in which its altitude and location are not well known or controlled.

As for marking hardrock locations, any type of marker on or near the seafloor within a given area would be beneficial. Preferably, several markers distributed throughout the area of interest with a consistent numbering scheme would be more useful and increase the chances of being found. However there is no guarantee that the marker(s) would be seen by the VIT when surveying the seafloor for a specific place to drill. Locating the marker(s) would depend upon the accuracy of where these markers were said to be on the maps provided by the scientific party. Any single marker then found/located by the VIT while an initial survey is being performed would help in establishing and orienting the drillstring to begin a specific site selection survey for placing a HRB or spudding a hole. A small plastic disk (i.e. the top of a 5 gallon bucket, 2 ft diameter) was used on Leg 142. The marker was located while surveying with the VIT, which help identify the site selected during an Alvin dive as a the best place to position an HRB. Holloway reiterated ODP/TAMU's position that the J/R is not the optimum vessel for conducting a seafloor survey due to cost and quality of data which can be provided.

In summary, it seems that passive sonar reflectors will be difficult to find with the Resolution's Mesotech sonar system in hard rock regions with rough irregular seafloor. There may be a role for such passive sonar reflectors in sedimented regions where there are small targets (for example the small zones of high and low heatflow proposed for drilling in the East Juan de Fuca Hydrothermal proposal.) In addition, there may be a role for a series of numbered markers, placed on the seafloor along a submersible dive track, which could be seen with the Resolution's VIT video system. If one marker were found, it would provide the tie between the Resolution's navigation reference frame and the submersible's navigation reference frame. Following the SSP meeting, Holloway forwarded a document describing the cost, dimensions, weight and other characteristics of a passive sonar reflector that could possibly be deployed from a submersible and found by the Joides Resolution. This document is included as Appendix A.

July Action Item #1: Holloway to discuss with WHOI personnel what restrictions might be placed on some type of numbered visual marker to be carried by ALVIN for placement during site surveys conducted prior to the arrival of the J/R.

(April SSP Action Item #4): For bare rock and offset drilling legs, ODP Data Bank was to provide ODP/TAMU with appropriate site survey data, especially submersible video tapes, to give operations personnel the best possible idea of the physical setting of drill sites in complex bare rock environments. There hasn't been an appropriate leg for which to implement this action item since our April meeting. However, acting TAMU liaison Holloway provided the following advice about how to make this new plan most useful: For bare rock and offset drilling legs it would be useful for co-chiefs to accompany the video data when reviewed at ODP/TAMU, or to provide a voice-over for directing the operations superintendent/development engineer in understanding the interpretation of what is being shown. Data should be sent to the Manager of the Operations group, Ron Grout, for proper distribution within ODP/TAMU. Information should be provided at as an early a stage as possible so direction can be provided as to the type of drilling problems and hardware best suited to accomplish the leg objectives.

(April Action Item #5): Data Bank manager Quoidbach incorporated a statement about format of sound velocity data into the draft revision of the Data Bank's data format document.

1.3 Charge and procedures for this meeting (Kastens)

SSP Chair Kastens described the charge for this meeting: (1) to evaluate the site survey readiness of proposals that were highly ranked at the spring thematic panel meetings and are within the geographic area of operations for FY'96 defined at the April PCOM meeting; (2) to advise proponents of these proposals about data that they need to acquire and/or submit to the Data Bank in order to be contenders for FY'96 scheduling; (3) to evaluate the site survey readiness of legs scheduled for drilling; (4) to assess any site survey issues arising from legs that were drilled since our last meeting; and (5) to complete the revision of the ODP Site Survey Guidelines and matrix. The main customer for the output of the SSP summer meeting is PCOM, who use the evaluations resulting from item (1) above as input into the process of creating the Prospectus for FY'96 drilling; PCOM will create this Prospectus at their April meeting.

1.4 Revisions to ODP Site Survey Guidelines & matrix (Kastens/Collins)

SSP has been asked to revise the ODP Site Survey Guidelines, in anticipation of the publication of the new "Guide to the Ocean Drilling Program." In order to present a clear explanation of the expected data standards in support of drilling proposals, we were asked to merge the data standards matrix and explanatory notes published in the JOIDES Journal Feb. 1992 with the matrix for the Tectonics Windows published in the JOIDES Journal Feb. 1994. We attempted to do this by an email discussion between the April and July meetings. However, it soon became apparent that a complete re-examination of the Data Types was necessary to reflect evolving tools and techniques utilized by proponents of the 1990's. This undertaking generated considerable discussion at the July meeting. The product of our deliberations is included as Appendix B.

The most visible change in format is the addition of the Target H "Tectonic Windows". In order to bring the other target types into conformity with the Tectonic Windows matrix, OBS microseismicity and deep source/deep receiver refraction have been added to the large matrix. In addition, side-looking sonar has been subdivided into deep-tow (high resolution), and shallow-tow (broad swath). Magnetics and gravity have been separated from each other. Seismic velocity data is now an independent data type. The definitions of seismic reflection data types have been revised to accommodate the increasingly common high-resolution multichannel data sets.

There has been a change from describing data as "vital" or "desirable" to "required" or "recommended". A working definition of "required" versus "recommended" has been provided: in essence, "required" data is make or break as far as getting onto the schedule is concerned; "recommended" data needs to be supplied for the use of the ODP community if it already exists, but need not be acquired specially for ODP if it does not already exist.

In only one case has there been an additional data requirement imposed on proponents. This occurs in target type G "Active Margin" where Swath Bathymetry is now a "required" data type. Other changes are all at the "recommended" level, or the "may be required" level. The notes accompanying the matrix have been expanded to provide more information to the proponent. Finally, a new preamble calls proponents' attention to the scientific criteria that are the ultimate determinant of a data set's acceptability, and to the existence of the separate guidelines for hazards surveys in shallow water.

Following our agreement on these new guidelines, SSP formulated the following recommendation to PCOM:

SSP recommendation to PCOM concerning new Data Standards: SSP recommends to PCOM that revised Site Survey Data Standards (Appendix B) be adopted and distributed to the ODP Community as guidelines for preparation of data packages for new proposals and proposals that have not yet been formally evaluated by SSP.

Note that the wording of SSP's recommendation to PCOM specifies that proposals that are already in the system will not be disadvantaged by these changes; the changes apply only to proposals that have never been evaluated by SSP.

One other data requirement was discussed in some detail but did not result in a change in the Guidelines: the need for a core at re-entry sites. This has been a requirement since the early days of the Site Survey Panel, and the rationale has been that the core was used to gauge the conditions of the surficial sediments for placing the re-entry cone. As far as we know, not much use is made of the coring information by the ODP/TAMU Operations group. In the past we have discussed whether this requirement should be dropped, and have had our TAMU liaison inquire whether the core was still necessary from an operations perspective. In the past we have had inquiries from proponents about what geotechnical measurements they should make on their cores to provide the needed information for re-entry cone planning; when we attempted to find an answer to this question, our liaison reported that the operations group said that the very fact that it was possible to take a core indicated that it would be possible to emplace a re-entry cone.

However, in the discussion at the July SSP meeting, acting TAMU liaison Holloway said that the TAMU operations group would find it useful to have a suite of geotechnical measurements performed on a piston core or gravity core from each re-entry site. The desired suite of measurements would include torvane, pocket penetrometer, and motorized minivane. Holloway's description of the desirable geotechnical measurements, and their utility in the re-entry context, is included as Appendix C. This would be a new set of requirements on proponents. For lack of time, SSP did not debate the pros and cons of asking proponents for these geotechnical measurements on a regular basis. This issue will have to be re-opened at another SSP meeting.

Another entirely separate issue related to data requirements was also discussed: the circumstance in which a site is put forward which may or may not be a bare-rock site. Two proposals which are currently in the system and highly ranked contain sites for which the sediment cover is known to be slight, in other words undetectable by 3.5kHz or seismic data. But the proponents don't have the visual data in hand to document whether or not the sites are truly "bare-rock" sites, in other words sites with a meter or less of sediment, for which a bare-rock guidebase is appropriate. The sites in question are in the West Woodlark Basin proposal and the East Greenland extension proposal (not all sites in either proposal). One school of thought says that the burden of proof is on the proponents to document, presumably with visual data, whether or not such sites are truly "bare rock" before the sites should be scheduled for drilling. Another school of thought says that ODP can cope with barerock and they can cope with non-barerock; therefore provided that the data required for safety and science are in hand, such a site should be eligible for scheduling even if the visual data which would make logistic planning easier are not in hand. Leon Holloway discussed the circumstances under which ODP has successfully spudded into unsedimented or lightly-sediment rock without a hardrock guidebase, including the use of free-fall funnels; he also described the costs and problems associated with the strategy of bringing a hard-rock guidebase on a contingency basis. In the end we reached no consensus on a general policy applicable to all sites with this problem; instead we will address individual sites as they arise.

2. REPORTS

2.1 PCOM (Dick)

At their spring meeting in Cardiff, PCOM endorsed the recommendation put forward by the Site Survey Panel regarding the funding for shallow water hazard safety surveys, putting the burden on the proponents to find funds for these surveys, while requiring that evaluation of the results of the surveys, and guidance in their conduct would be provided by ODP/TAMU through co-mingled funds. PCOM also endorsed two other recommendations from SSP: one that ODP/TAMU should be directed to investigate and facilitate logging of dynamic positioning data during video surveys, and the other that the Data Bank should be permitted to prepare and distribute three rather than four operational data packages for each leg.

PCOM discussed the results of drilling at MARK during Leg 153 and concerns as to the adequacy of the site survey. It was noted that setting a guidebase in such a terrain should require preplacing a positioning beacon, and good information on slopes. At the same time it was noted that the same level of survey required for re-entry sites was not needed for single bit spud-ins. It was also noted that ODP/TAMU is convening a meeting to discuss the site survey requirements for offset drilling in September, after which SSP might want to revisit this issue. The SSP PCOM liaison H. Dick will attend this meeting as will SSP chairman K. Kastens and member D. Toomey.

In other business, PCOM passed a motion with two abstentions endorsing the Japanese effort to design and construct a large new drill ship to be operated under a JOIDES-like structure beyond 1992. Site Survey Panel might want to consider the potential survey requirements of riser drilling.

2.2 PPSP (Ball)

At their June meeting in Villefranche, PPSP approved the proposed sites for the eastern and western Mediterranean drilling, and previewed the sites for Costa Rica margin.

2.3 JOIDES Office (Collins)

Collins reported that the Washington JOIDES office will be completing its tenure at the end of September. The new JOIDES Office at Cardiff is preparing to take over. Kathy Ellens will be the US representative and will likely be handling the proposals and serving as the JOIDES Office liaison to the SSP. Colin Jacobs will be the non-US member of the planning office. Collins reported that this will be his last meeting and that the August PCOM meeting will be the last meeting for the present JOIDES Office team.

It was reported that there were 30 documents received for the July 1 deadline consisting of 23 proposals and 7 letters of intent.

Collins distributed the final version of the Guidelines for Shallow Water Gas Hazard Surveys. He indicated that it is now the responsibility of the proponents to find the funding for the surveys while the ultimate responsibility for the quality control and interpretation lies with the Science Operator. The JOIDES Office will make these guidelines available on the internet and send them to all proponents of active proposals with sites less than 500 m. These guidelines will also be sent to all panel members. It is hoped that the guidelines will eventually be published in a similar fashion to the Guidelines for Pollution Prevention and Safety.

2.4 Data Bank (Quoidbach)

Since the last meeting, the Data Bank has received 459 pieces of data in support of drilling proposals. A listing of this data can be found in Appendix D. The Data Bank has produced Operations Data Packages for Leg 156 (N. Barbados) and is about to send out the Leg 157 (VICAP/MAP) package. At its last meeting, PCOM endorsed the SSP

recommendation to reduce the number of data packages produced for each Leg from 4 to 3. The Data Bank is now working with JOI to revise the Data Bank contract to enact this change. The Leg 158 package will probably be the first under the new system.

In preparation for the upcoming special issue of the JOIDES Journal, the Data Bank prepared new versions of three documents: 1) Introduction to the JOIDES/ODP Site Survey Data Bank, 2) Guidelines for Data Submissions to the JOIDES/ODP Site Survey Data Bank, and 3) Site Survey Target Types and Data Standards. Copies of the first two documents are available for examination, while the last item is undergoing further revision at this meeting.

Once these documents are published in the JOIDES Journal, the Data Bank intends to make them available on its World Wide Web page and via anonymous FTP. In the future the Data Bank hopes to offer an online, browseable catalog of its data holdings, possibly with page size navigation charts. In addition, blank data description forms will be made available that proponents can fill out and send in as cover letters for their data submissions. This will help ensure that each piece of data is described accurately in the database.

The Data Bank encountered difficulty in obtaining the Leg 149 shipboard seismic records from ODP/TAMU for inclusion in the NARM Non-Volcanic: Iberia II data holdings. It has been made clear by ODP/TAMU that they consider the Data Bank to be excluded from any data distributions until the expiration of the one-year moratorium. This delay may cause problems in the future where there is a proposal to return to a site recently drilled by *JOIDES Resolution*. The Data Bank might not be able to get the shipboard data into the proposal review system in a timely manner. The Data Bank requests that SSP recommend to PCOM that TAMU be directed to consider the Data Bank exempt from the one year moratorium on the distribution of shipboard data, and to see that this data is sent to the Data Bank as soon as possible after each cruise. The data would be covered by the Data Bank's blanket proprietary policy of only showing the data to JOIDES/ODP panels for cruise planning purposes.

SSP recommendation to PCOM #1, concerning prompt access to Joides Resolution survey data for ODP Data Bank: SSP recommends to PCOM that ODP/TAMU be directed to provide survey data (seismic, magnetic, 3.5kHz, video) to the ODP Site Survey Data Bank as soon as possible after the cruise, rather than waiting until the one-year moratorium has expired.

Explanatory note: In consideration of the site survey readiness of NARM non-volcanic II (Return to Iberia), SSP wished to examine seismic data from Leg 149. The Data Bank was not able to obtain the requested data until after the one-year moratorium on Resolution data had expired.

2.5 TAMU (Holloway)

Acting TAMU liaison Holloway provided an update on the status of the effort to log dynamic positioning data during video surveys. Starting with leg 155 the offsets (x & y) of the ship relative to the single positioning beacon are being recorded on tape. All legs prior to that time were cored only on a digitally strip chart recorder. This new digital data still does not solve the problem with making maps of the seafloor since the offsets of the positioning beacon which can be attached to the VIT frame are presently not recorded. Placement of a beacon on the VIT frame is not standard practice but has been done on special occasions when attempting to search for a location to place a HRB. ODP is investigating whether this additional signal can be conveniently added to the same tape where the digital data is now being recorded. Holloway emphasized that the data recorded is only accurate to within the dithered GPS signal received, typically 30 meters.

3. SITE SURVEY IMPLICATIONS OF RECENTLY DRILLED LEGS

3.1 Leg 155: Amazon Fan (Holloway/Kastens)

Leg 155 had a strong data package that was completed and approved by SSP well in advance of the drilling leg. No substantive data-related problems were encountered. Seventeen sites were drilled. Short surveys were conducted at nine of the sites to reconfirm the site position. No seismic data could be collected at the one site within Brazilian waters. In some cases, site positions were modified slightly to avoid slumps and other features detected in the Resolution seismic data. In one case, a site was shifted because the site survey navigation was found to be in error. Amazon channel sites 943/944 and 945/946 were added to the program following the success of site 935 in a cut-off meander. Permission to add these new sites was granted by ODP based on recommendations from the field scientists.

4. SITE SURVEY STATUS OF UPCOMING SCHEDULED LEGS

Note: the following Scheduled Legs were not on this SSP Agenda because their data sets have been approved at a previous SSP meeting: Leg 159: Equatorial Atlantic Transform Fault; and Leg 164: DCS Test at Vema Fracture Zone limestone cap. See also Appendix E, which shows the history of discussion/non-discussion and watchdogging for each scheduled and potential future leg.

4.1 Leg 157: VICAP/MAP

SSP Watchdog: permanent: Scrutton; acting: Quoidbach

SSP Proponents: SSP liaison Kidd is a proponent for MAP

Target Type(s): All sites type "G: topographically elevated feature". SSP has judged that swath bathymetry or side-looking sonar, seismic velocity, crossing MCS/SCS profiles, and gravity are "vital" data types for VICAP.

MAP

SSP did not discuss the MAP portion of VICAP/MAP as we had previously judged it to be ready to drill.

VICAP

At its April meeting, SSP felt that the VICAP dataset had improved, but noted that several types of vital data had yet to be submitted to the Data Bank. The drilling proponents responded by submitting *Meteor* 24 Parasound records, swath bathymetry, and gravity data, *Meteor* 16 gravity data, and velocity determinations from the processing of *Charles Darwin* 82 MCS lines. With these additions, the vital VICAP dataset is complete. There are several types of desirable data which have not been submitted, and SSP urges the proponents to send these in following the cruise.

SSP Consensus #1: With the submission of the M24 Parasound and swath bathymetry data, velocity data from Charles Darwin 82, and M16 and M24 gravity data, all vital data for VICAP have been submitted. As the MAP data package had been previously judged to be complete, VICAP/MAP (Leg 157) is now ready to drill.

4.2 Leg 158: TAG Hydrothermal System (Quoidbach)

SSP Watchdog: permanent: Toomey; Acting: Quoidbach

SSP Proponents: none

Target Type(s): Modified "F: bare rock drilling" guidelines, see previous minutes

No new data has been submitted for TAG since SSP's April meeting. At that time, TAG was judged to have a strong data package, and the primary sites were seen as ready to drill. However, the TAG Co-chiefs had responded to SSP's request for a suite of backup sites by proposing to drill in the Alvin and MIR relict hydrothermal zones. Specific site locations were not selected, pending the results of a site survey cruise which has just sailed. The results of this site survey need to be submitted to the Data Bank as soon as possible following the cruise, along with specific locations of the backup drill sites.

SSP consensus #2: SSP has previously judged the primary TAG sites, in the active hydrothermal zone, as ready to drill. SSP understands that a site survey cruise to the Alvin and MIR relict hydrothermal zones is currently underway, and that selection of specific backup sites will take place once this cruise is completed. SSP again urges the TAG Co-Chiefs to submit the data from this site survey to the Data Bank as soon as possible, along with the specific locations of their backup sites.

4.3 Leg 160: Eastern Mediterranean

SSP Watchdogs: Saprofels: Kastens; Med Ridge: Farre; all: Quoidbach

SSP Proponents: liaison Kidd and SSP member Camerlenghi have been involved in site surveys for Med Sap; SSP members Camerlenghi and Kastens were proponents for Med Ridge.

Target Types: Saprofel sites, Ionian Transect and Mud Volcano sites: A: paleoenvironment; Eratosthenes transect: B: active margin.

The eastern Mediterranean drilling leg comprises Mediterranean Saprofels sites (391-Rev) located east of Sicily, plus Mediterranean Ridge sites (330-rev) that were not too close to Libya.

Saprofel sites:

The saprofel objectives originally planned for MedSap-1C are now included in the proposed ESM-1A site on the Eratosthenes Seamount. The exact location of MedSap 2B remains unclear. The proponents are urged to provide the Data Bank with accurate locations of all sites as soon as possible.

Med Ridge Sites:

At its April '94 meeting, SSP noted that a complete data package existed in the Data Bank to support Ionian Transect (MR1-3), Mud Volcano (MV1), and Eratosthenes Seamount (ESM1-3) drilling. However, SSP urged the Co-chiefs to develop interpretative maps/sections (showing seismic coverage and proposed sites) for the recently-collected data from the Eratosthenes Seamount area, in preparation for safety review with PPSP.

At their June '94 meeting, PPSP approved all proposed eastern Mediterranean sites. PPSP, however, directed the Co-chiefs to develop a number of backup sites, should any approved sites encounter problems during operations. The Co-Chiefs have since submitted documentation to the JOIDES Office for 5 additional sites (1 of which was approved at the June PPSP mtg).

Three new sites are proposed at the southern end of the Ionian Transect, near the Victor Hensen Structure (MR-1A, 1B, and 1C). SSP urges the Co-chiefs to submit a map to the Data Bank that clearly locates the sites, and the key seismic profiles (MS-21, MEDRAC 1.7, 1.9, 1.11, etc.), as SSP is confused by the written descriptions regarding the positions of the new sites (e.g., MR-1A is located at SP 515 of OGS line MS-21 between crossings with MEDRAC lines 1.7 & 1.11?). All required site survey data to support these new sites reside in the Data Bank, except 3.5 kHz data. The Co-chiefs are urged to submit 3.5 kHz data over the proposed new sites.

Two new sites are proposed in the mud volcano area (MV-1A (already approved by PPSP), and MV-1/Alt2). All required site survey data to support these sites now reside in the Data Bank.

SSP Consensus #3: At the request of PPSP, the Co-chiefs for the scheduled Eastern Mediterranean drilling program submitted documentation and data for 5 backup sites, should any already approved sites encounter problems during operations. Two new mud volcano sites have complete data packages in the Data Bank and are ready to drill from SSP's perspective. The three new sites near the Victor Hensen Structure (MR-1A, 1B, & 1C) require 3.5 kHz data over the sites as well as a summary map, with the proposed site locations and key seismic profiles clearly located.

4.4 Leg 161: Western Mediterranean

SSP Watchdog: Kastens/Quoidbach

SSP Proponents: SSP liaison Kidd was a proponent for Alboran

Target Type(s): Sapropel sites: A: paleoceanographic; Alboran basin tectonics: B: Passive margin

The Western Mediterranean sites were reviewed and approved by PPSP at their June meeting.

Sapropel Sites:

There has been no change in the status of the sapropel sites of the western Med leg since the last SSP meeting. At that time we noted that MedSap 5, 6A and 7B had been previously approved, but we hoped that a more scientifically satisfactory site could be found for the west end of the sapropel transect than MedSap 7B (reoccupation of DSDP 121).

Tectonics Sites:

At the last meeting, SSP noted that the tectonically oriented sites in the western Med leg (ALB-2(new), ALB-3 and ALB-4) were still missing a few small items of existing data, specifically: 3.5kHz data or Parasound across ALB 2(new), heatflow data and coring data from a recent cruise. Since our last meeting, clear and informative core logs have been received for new cores in the vicinity of the proposed sites. We still await the heatflow and Parasound data. A map showing the position of the new cores relative to the proposed drill sites and other key data should also be provided.

SSP Consensus #4: The data package for the Western Mediterranean (Leg 161) is strong. A few small items of existing data remain to be submitted for the tectonics sites.

4.5 Leg 162: North Atlantic Arctic Gateways II (Peterson/Quoidbach)

SSP Watchdog: Peterson/Quoidbach

SSP Proponents: None

Target Type(s): all sites A (Paleoenvironment)

The NAAG II drilling program contains sites approved for but not drilled by Leg 151, plus additional high-priority sites put forth in ODP proposals 372, 406, and 416. The NAAG II program in its present scheduled format (Leg 162) is that described in the document resulting from the NAAG DPG meeting held in Bremen in October 1993.

A majority of the NAAG II sites (YERM-1, YERM-5, EGM-4, EGM-3, ICEP-1, ICEP-3, SIFR-1, NIFR-1) were previously approved for Leg 151 drilling and appeared in

the prospectus for that leg. Although all these sites are considered currently ready for drilling by virtue of their earlier approval, for a number of the sites the Data Bank still lacks data normally considered vital for paleoceanographic objectives. For example, EGM-4 and alternate site EGM-3 have been targeted using MCS data which currently reside in the Data Bank, but SCS, 3.5 kHz, and core data to support these sites have never been submitted. Such data should be submitted to the ODP Data Bank if and where they exist, for inclusion in the Operations Data Package and for the use of the ODP community in interpretation of the drilling results. A good summary of the data status for these sites can be found in the minutes of the April 1994 SSP meeting.

Since the April meeting in Brest, the only new data which have been submitted to the Data Bank in support of NAAG II drilling are 3.5 kHz and Hydrosweep data for the GARDAR-1 and BJORN sites located on drift deposits to the south of Iceland. Data packages for these two sites are essentially now complete. The Data Bank has still not received critical 3.5 kHz data from the FENI-1 and -2 sites on Feni Drift. Since the science objective at these sites is to collect sediments suitable for studying sub-Milankovitch scale climate variability, the 3.5 kHz data are vital and should be obtained and submitted.

Previous SSP examination of site SVAL-1 identified mud diapirs in the immediate vicinity that raise possible safety concerns. A recommendation was made to consider moving this site to an area free of such features, to which there has yet been no response from the proponents. Additional SCS data to be collected during summer 1994 (A. Solheim, Norwegian Polar Institute) may help refine a site location for SVAL-1. Sediment penetration at the current location of SVAL-1 is proposed to be on the order of 900 m. Unless the sediment velocities are unusually fast, SSP notes that the existing SCS data for SVAL-1 do not appear to image to that depth at present.

Site NAMD-1, on Hatton-Rockall Bank, is located at the crossing of two MCS lines where DSDP Site 116 was previously drilled. As noted in the minutes from the last SSP meeting, some disturbance is noted under the current target location in the MCS data and we again recommend that this site be moved slightly to avoid this problem.

In general, the majority of sites in the NAAG II program have adequate data already deposited in the Data Bank to support drilling objectives. We recommend that missing data be supplied as soon as possible and that cautions raised about the proposed SVAL-1 and NAMD-1 sites be addressed by proponents in their final fine-tuning of the Leg 162 program.

SSP Consensus #5: Most of the NAAG II (Leg 162) sites seem to have adequate data coverage, but there are still some critical items missing from the Data Bank. SSP recommends that missing data be supplied as soon as possible, as well as any other regional data that may assist in contingency planning in case of weather or ice-related problems. SSP notes possible sediment disturbance and safety problems at two sites and recommends minor adjustments of their proposed locations to ensure the best science.

4.6 Leg 163: Gas Hydrate

SSP Watchdog: Camerlenghi/Quoidbach

SSP Proponents: none

Target Type(s): A: paleoceanographic

The drilling program of Leg 164 has been substantially modified by proponents after the successful completion in the fall of 1993 of the site survey data acquisition (high resolution seismics, deep tow side looking sonar, deep tow camera) with R/V Knorr (cruise Kr 140-1).

1) The Cape Fear Diapir transect (previous Sites CFD-1, -2, -3, -4) have been re-located (about 2 miles maximum shift) based on a better definition of the topography and outcrops of melange in the area of the mud diapir. A short addendum that describes the proposed changes has been submitted, accompanied by the pertinent site survey data. The new sites have been re-named CFD-5, -6, -7, and -8. The scientific objectives, the proposed penetration, and the strategy for drilling are unchanged with respect to the previous CFD transect.

The panel notes that, although all the vital data for the new CFD sites are deposited in the DB, including newly collected bottom photographs, the quality of the data has decreased. The new location map is very confused, with labels of lines and cores either missing or incomplete. Therefore, the proponents are urged to re-submit a navigation map in a more readable format, and possibly in electronic format (the Data Base manager Dan Quoidbach can provide details on this). The quality of seismic line CH-07-88/19 deposited in the Data Bank, on which the new transect is located, is rather poor. Authors are urged to submit a better quality section of the line if it is available. Finally, the newly collected deep tow side looking sonar data are missing from the package and should be submitted as soon as possible.

(2) A new site has been proposed, called Blake Ridge Diapir (BRD-1). It is located in a new area, and is proposed as a multiple-hole site with four closely-spaced, 100 m penetration holes across an elongated mud diapir. The site is described in a detailed addendum. The scientific objectives of the site are to sample the fluids that are migrating along a fault that connects the base of the gas hydrate stability zone to the seafloor, and along which extensive evidence of fluid/gas escape has been collected during the Knorr cruise in 1993. The influence of these fluids on the host sediments and the nature of the plumbing systems are also part of the objectives. Therefore, the target of the new site is consistent and analogous to the target of the main proposal.

The panel notes that although all the vital data necessary for drilling Site BRD-1 exists or is in the Data Bank, the quality of the navigation map is rather poor. Lines are not labelled conveniently and the site location is not indicated. Authors are therefore urged, as for the Cape Fear transect, to re-submit updated navigation maps, possibly in electronic format, and to submit the side looking sonar data as soon as possible.

(3) The drilling program for the Blake Ridge sites BHR-1, -2, and -3, and the Carolina Rise CR-1 and -2 is unchanged. For these sites, the results of the OBH velocity data is still awaited.

SSP Consensus #6: Two addenda and new site survey data have been submitted to the Data Bank since the last meeting. A new site has been added to the program (BRD-1) and the Cape Fear transect has been re-located. The data package remains strong and nearly-complete, but proponents are urged to take the following steps in order to complete the package: (1) Re-submit navigation maps of the Cape Fear Diapir transect and Site BRD-1. (2) Submit the side looking sonar data over the pertinent sites. (3) Submit the velocity results from the OBH recordings. (4) Possibly submit colour amplitude sections of the lines on which the BSR will be drilled.

5. POTENTIAL FUTURE DRILLING: TECP

5.1 Costa Rica Accretionary Wedge (400rev/add2)

SSP Watchdog: permanent: Camerlenghi; acting: Tokuyama

SSP Proponents: none

Target Type(s):...C: active margin....

At our last meetings, SSP noted that an almost complete data package was in the Data Bank for the structural objectives, but that additional data (heat flow, cores, submersible observations) were recommended or required for the fluid objectives. Since then the Data Bank has received heat flow data in support of the fluid objectives. A core has been collected at the proposed re-entry site, but the Data Bank has not received any documentation about the core, such as a core log. SSP would also like to see documentation (e.g. photographs, dive profiles) of any features (e.g. cold vent biological communities) visually observed on the recent Alvin dives that pertain to fluid flow.

An addendum has been submitted proposing one new site, CR-5, within the transect previously proposed. The Data Bank received six new MCS profiles in support of this new site.

SSP Consensus #7: The data set for the Costa Rica Accretionary Wedge (400-rev2) is strong, and almost all of the existing and relevant data have been submitted to the Data Bank. The few missing items include a core log from the proposed re-entry location, and documentation of fluid flow features (if any) seen on submersible dives.

5.2 NARM Nonvolcanic-II: Return to Iberia (NARM-Add3)

SSP Watchdog: Mountain

SSP Proponents: Srivastava and Hinz were members of the NARM-DPG

Target Type(s):...all sites B: passive margin.....

The "preliminary" report discussed at our April meeting has been revised and submitted to the JOIDES Planning Office. The proponents did a good job addressing SSP concerns outlined in minutes from the April meeting, and in keeping the watchdog informed of their evolving plans. Extensive shorebased analysis of samples from Leg 149 Site 900 continue as before, but results will not steer the plans for a return to Iberia as much as they did in the preliminary report reviewed in April. The complex "if-then" drilling strategy is gone, and 5 sites are proposed: 2 begun on Leg 149 are to be continued (900 and 901), 2 that were alternates on 149 are now primary sites (IAP-3C and GAL-1), and 1 new site is proposed (IAP-7). The four southern sites in the vicinity of Leg 149 operations are designed to: 1) characterize the ocean-continent transition (re: petrology, age, and pre-rift level in the continental crust); 2) test pure vs. simple shear models of the rifting process; 3) determine the lateral and temporal extent of syn-rift magmatism; and 4) confirm the nature and location of the oldest ocean crust in the region. The northern site off Galicia will investigate mechanisms responsible for exposing what are thought to be mantle rocks at the level of today's acoustic basement.

Site 900, at the crossing of Lusigal MCS line 12 and Sonne 75 line 21, will be re-drilled in either of two locations yet to be decided: Site A is on line 12 800 m east of Hole 900, and Site B is another 950 m farther east, still on line 12. Both require RCB to reach and continue 50 m into basement, which is at 1100 and 1500 mbsf, respectively. While neither will be on a crossing, the extent of regional data and the quality of line 12 and its navigation determine that both of these sites are adequately surveyed by SSP standards.

Site 901 will be re-occupied and continued to the base of the sediment column at 600 mbsf, and then another 100 m into basement to confirm the latter is indeed continental. This site was selected and approved by ODP during Leg 149. It is on Lusigal 12 line, though without a crossing line. Similar to proposed sites 900-A and 900-B (above) the extent of regional data and the quality of line 12 and its navigation determine that this site is adequately surveyed by SSP standards.

Site IAP-3C, at the intersection of Sonne 75 MCS line 16 and a Discovery 161 SCS line, will drill through 830 m of sediment and 100 m into basement to determine the age of

the oldest known oceanic crust in the region. This site was previously approved by SSP as a Leg 149 alternate.

Proposed Site IAP-7 is entirely new, though within the grid of data already archived in the Data Bank. 920 m of sediment and 100 m of basement are to be drilled to: 1) determine if basement originated in the lower crust or is unroofed mantle; 2) distinguish simple vs. pure shear rifting; 3) look for evidence of syn-rift magmatism; and 4) possibly recover a record of turbidite vs. contourite sediment deposition. The site is on Sonne-75 MCS line 22, approximately 8 km east of the nearest crossing with Sonne line 19. The data quality, navigation, understanding of regional basement morphology, and prior drilling on Leg 149 allows SSP to endorse this site as adequately surveyed and ready for drilling.

Site GAL-1 (adopted from proposal 334-Rev3) is very well documented in a report supplied to the Data Bank by G. Boillot in May of this year. 600 m of sediment and 100 m of basement are to be drilled to determine the nature of the "enigmatic terrain" that immediately overlies reflector S'. The latter is suspected to be a detachment fault, and could be confirmed if the material above it is continental basement or pre-rift sediment. Penetrating deeply below S' will be left to future drilling. There is a considerable body of data in this region relevant to drilling this site, and the essential pieces of it are in the Data Bank. This site is ready for drilling from an SSP standpoint.

SSP notes one issue regarding the disposition of underway data collected aboard the JOIDES Resolution. During Leg 149 an SCS survey was conducted to locate the site eventually drilled as Site 899. Despite its requests, the Data Bank has thus far been denied access to these profiles with the explanation that the 1-yr moratorium on shipboard data applies to the Data Bank like everyone else. SSP expects this misunderstanding to be cleared up shortly and allow its members to review all the data relevant to future drilling off the Iberia margin.

SSP Consensus #8: Proposed Sites 900A, 900B, 901, IAP-3C, IAP-7, and GAL-1 in proposal NARM-NVII Add3 (Return to Iberia) are ready for drilling and need no further data deposited in the Data Bank, except for the Joides Resolution SCS data from Leg 149.

5.3 NARM Volcanic-II: E. Greenland transect extension (NARM-add2)

SSP Watchdog: Trehu

SSP Proponents: none, however Srivastava and Hinz were members of the NARM-DPG

Target Type: (B): passive margin

We received a new proposal for a NARM-V-II leg on the SE Greenland margin that was submitted just prior to the meeting and has not yet been evaluated by the thematic panels or PCOM. This proposal differs from the prior proposal and the addendum submitted in July, 1993, primarily through the detailed use of results from leg 152 for the scientific defense of the proposed sites and through the use of recently acquired high-resolution seismic data to fine-tune site locations. In addition, one new site, EG-66-1A and a return to 915 have been added.

Most of the data to support the proposed SE Greenland program are in the data bank at the present time. All sites are near the intersection of high-resolution seismic reflection profiles and/or a grid of seismic data. The data are of excellent quality and are well labeled and correlated with navigational charts, although we did come across an inconsistency between the location of site EG66-1 as shown in figure 14 of the proposal and site labeled on the large-scale seismic section in the data bank. On figure 14, site EG66-1 appears to be displaced slightly from the crossing between two seismic profiles in

order to place it on top of an elevated block, whereas on the line in the data bank, it is labeled as being at the intersection.

One important question about these sites remains that should be addressed by the proponents as soon as possible. At the last meeting, SSP questioned whether sites EG-63-5, EG-63-6, and EG-66-1 might be bare-rock sites, necessitating use of the bare rock guidebase for drilling. In this case, SSP generally requires visual data to document seafloor character (ie. photographs or video tape). In the revised proposal just submitted, the proponents state that the bare-rock guidebase will not be needed and that all sites have been chosen to have at least 5 m of overlying glacial sediment. Consequently free-falling funnels, which were successfully used at site 917 during leg 152, could be used to permit hole reentry. Leon Holloway, TAMU engineer, confirmed that in firm sediments such as glacial till, 5 meters should be adequate to support the FFF. The proponents suggest that a bare-rock guidebase be brought along as a backup. Because of the expense and time required to prepare a bare-rock guidebase, this equipment has never been scheduled or carried on a contingency basis. Whether a bare-rock guidebase could be carried as a backup in this particular case is beyond the mandate of SSP to resolve.

However, we do note that SSP did not see clear evidence for the quoted estimates of thickness of the glacial sediments in the seismic reflection data that has been provided to the data bank, and we could not find a detailed discussion of the basis for these estimates in the proposal. Because of the importance of characterizing the seafloor for logistical reasons, we request further clarification of the basis for these estimates. Are they based on detailed analysis of the seismic data or on consideration of the 3.5 kHz data?

Another deficiency is 3.5 kHz data. The proponents state that 3.5 kHz data exist but have limited penetration. SSP would appreciate submission of copies of the 3.5 kHz data in the vicinity of proposed sites, even if they are not very informative, so that we can judge their value ourselves. This would permit a better evaluation of the utility of such data for other cruises as well as this one.

Finally, SSP appreciates the cooperation of the proponents in preparing a thorough and legible data package.

SSP Consensus #9: All data that would be required for science purposes for passive margin drilling on a NARM-V-II leg to the SE Greenland margin now exist. Those data are of good quality and have been deposited in the Data Bank. However, a major logistical question remains: are these bare-rock sites or is there a sufficient veneer of glacial sediment to drill without a bare-rock guidebase? SSP has not seen data documenting the estimates cited for the thickness of the glacial sediments at the proposed sites.

6. POTENTIAL FUTURE DRILLING: SGPP

6.1 New Jersey Sealevel II (348add)

SSP Watchdog: Farre

SSP Proponents: Mountain

Target Type(s):...B: Passive margin....

New Jersey Sealevel II (348 add/letter)

The 9 shallow water continental shelf sites (<200 m water depth) of the New Jersey margin transect already have SSP approval for drilling from a scientific perspective. They were not drilled during New Jersey I (Leg 150) because of potential safety hazards in shallow water. Data conforming to new guidelines for shallow water hazards surveys need to be acquired/interpreted.

Proponent Mountain notes that he has been invited to submit a proposal to ONR (due in August '94) for funding of a geophysical survey in the vicinity of the New Jersey Transect that could be completed in the July '95 timeframe. Mountain notes if the survey is funded by ONR, additional funding would likely be needed from JOI/USSAC Site Survey Augmentation Funds to adequately survey all of the shelf sites. SSP urges the proponents to accelerate the proposal submission and communication process with ONR so that PCOM will have as much information as possible during their August '94 meeting. In summary if planned proposal(s) are funded, a satisfactory shallow water hazards survey could be completed by July '95 to support New Jersey Sealevel II.

SSP Consensus #10: Nine shallow water sites of the New Jersey margin transect, not drilled during New Jersey I (Leg 150) because of potential safety hazards, already have SSP approval for drilling from a scientific perspective. Proponents are soliciting ONR funding of a geophysical survey in the vicinity of the New Jersey Transect, plus additional funds from JOI/USSAC Site Survey Augmentation funds to comply with new ODP shallow water gas hazards survey requirements at the proposed sites. If the planned proposals are funded, a satisfactory shallow water hazards survey could be completed by July '95 to support New Jersey Sealevel II.

6.2 Bahamas Transect (412-add2)

SSP Watchdog: Sibuet

SSP Proponents: none

Target Type(s): fluid flow sites: A paleoceanographic; sealevel sites B: passive margin.....

Acquisition of vital (high-resolution SCS) data have been made in June 1994. Copies of all monitor records have been deposited in the Data Bank in early July 94. SSP have examined the complete data set during our July meeting, and they seem to be of good quality.

In addition, a revised proposal has been received. SSP appreciates the considerable amount of work done by the proponents to answer specific questions but also to increase the scientific value of the proposal. In particular, SSP notices several important points which have been clarified or changed:

- the problem of the 4.7 Ma Pliocene hiatus has been solved and now, stratigraphic, magneto-stratigraphic and Sr dates are in agreement, reducing this large hiatus to a small hiatus at the earliest Pliocene. There is a consensus among proponents.
- Proponents suggest to deepen site BT3 down to the K/T boundary in order to get a significant paleoceanographic record at low latitude.
- concerning fluid flows, the proponents propose three mechanisms and suggest that sea water recharge occurs along the flanks of the Bahamas platform. To test these mechanisms, they propose to determine the presence of fluid flow by drilling a specific complementary hole along the main transect, between proposed sites BT2 and BT3 but also to drill a series of three holes about 100 km to the south at waterdepth ranging from 250 m to 450 m and with penetrations smaller than 300 m.

With respect to the new fluid flow sites, SSP suggests to better define the rationale of fluid flow sites F4, F5 and F6. Why is it so important to drill a second fluid flow transect? Why this transect is located 100 km south of the first one? Without better understanding the scientific rationale for these new sites, SSP had trouble evaluating the data adequacy of these sites.

With respect to the deepening of site BT3 down to the K/T boundary, SSP reminds the proponents that a core is required in the vicinity of re-entry sites in order to gauge the characteristics of the surficial sediment for setting a re-entry cone.

In summary, SSP recognizes the high quality of seismic data acquired during the recent cruise, and thanks the proponents for their rapid data deposition. We encourage the proponents to quickly process their seismic data and to propose a final location for all sites. If this proposal is retained at the August PCOM meeting, SSP suggests to send 3.5 kHz, core logs of shallow cores, and processed seismic data to the DB before November 1. If this is done, all vital data would be in the DB.

SSP consensus #11: Acquisition of excellent high-resolution SCS data has been completed in June 1994, and preliminary data are already in the Data Bank. SSP suggests to process the seismic data, deposit the 3.5kHz and core data, and to propose final locations for drilling as soon as possible. Finally, SSP requests a better-defined scientific rationale of fluid flow sites F4, F5 and F6.

7. POTENTIAL FUTURE DRILLING: LITHP

7.1 Caribbean basement (411rev)

SSP Watchdog: Hinz

SSP Proponents: none

Target Type(s): D: ocean crust with >400m sediment

This revised proposal (No. 411 Rev.) submitted in June, 1994 addresses primarily open scientific questions of the Caribbean Cretaceous Basaltic Province (CCBP) attributed in the literature to the Late Cretaceous 'Caribbean sill event'. In the revised proposal the proponents suggest a four-site drilling plan primarily designed to test the "plume head and tail" model. Basement penetration in the order of 100 m to 150 m is proposed for establishing the history of the volcanic activity of the CCBP in time and space and for understanding its petrological and compositional diversity.

Since the last SSP meeting the Data Bank has received several MCS lines, e.g., from IG cruises and 3.5 kHz and SCS data, adding to the large body of data submitted before the April SSP meeting.

Proposed Site S-6 located in the western Colombian basin has a moderate seismic data coverage, with one SCS and one MCS line. This data package will be improved during a funded *R/V Ewing* cruise scheduled for early 1995.

The proposed Sites A-1 and B-1, located within the area of the Beata Ridge, are covered by a grid of CASIS MCS lines. The CASIS seismic data surrounding Sites A-1 and B-1 are of good quality but not yet migrated. The proposed alternate Sites S-3 (redrill DSDP Site 152) and S-3A should be surveyed during the forthcoming *R/V Ewing* cruise. SSP has been informed by one of the proponents that more precise velocities have been determined for the sedimentary sequences around the proposed Site A-1 by applying modern processing routines including pre-stack migration on Line CASIS-A12, and that an updated tectonic interpretation with compilations of depth and thickness maps are in preparation.

The existing seismic coverage of the easternmost Site C-1 located in the northern Venezuela Basin and its alternate Sites S-7 (redrill DSDP Site 146) and S-7A are of inadequate quality (one old Conrad single channel seismic line). This data package will be considerably improved by the funded MCS cruise of *R/V Ewing*.

SSP discussed whether the proposed basement penetration of 100 to 150m will be sufficient to adequately characterize the basement in a region where sills and hotspot

processes can be expected to complicate the record of magmatism. While it is outside SSP's mandate to comment directly on the scientific validity of the proposed drilling strategy, we do note that the acoustic basement in the submitted seismic lines shows numerous intracrustal reflectors (especially in the vicinity of site A-1 alternate), suggesting an inhomogeneous basement. If the proponents should happen to decide to deepen the proposed basement penetration at one or more of their proposed sites, they should keep in mind the need for a sediment core documenting the surficial sediment conditions at any site where use of a re-entry cone is anticipated.

SSP Consensus #12: A substantial amount of data has now been submitted in support of the Caribbean basement objectives described in proposal 411rev. Sites S-6, A-1 and B-1 have adequate seismic coverage. Existing seismic data at site C-1 are inadequate in quality. Additional MCS coverage at site C-1, S-1, and several alternate sites, is expected from a funded Ewing cruise scheduled for February 1995.

7.2 Sedimented Ridges II (SR11-rev 3)

SSP Watchdog: Srivastava

SSP Proponents: none

Target Type(s): E: open ocean environment (<400m sediment) with additional requirements for high temperature environments.....

A concise revised proposal has been received which addresses some of the concerns expressed by thematic panels. From SSP point of view the new proposal lacks specific details for each site, namely their exact location on a track chart and the seismic lines on which these sites are located. We therefore request a large scale track map showing the proposed sites together with time of day or shot points, the units used on the seismic lines for the Escanaba Trough. Noting that several of the sites are so close together that they have the same latitude and longitude, we request that the proponents provide additional details about the navigational accuracy available for each of the site survey data sets; in addition, they should spell out a strategy for finding these small and tightly-spaced targets with the drillship, in light of the known accuracy of the survey navigation and the expected positioning accuracy available aboard the drillship.

For the last several meetings, we have noted that the sites proposed for Sedimented Ridges II are in the immediate vicinity of the sites drilled on or approved for Leg 139, and should therefore be covered by the data package prepared for Leg 139. A closer inspection of the holding of the data bank has unfortunately now shown that a number of seismic lines on which some of these sites are located are in fact not in the Data Bank. The lead proponent was contacted by phone during the meeting, and has promised to send the relevant data as soon as possible, including copies of the multichannel lines for the Escanaba Trough (lines L6-85-NC; L1-86-NC) and 3.5 kHz data from Escanaba and Middle valley sites.

SSP thanks the proponents for keeping us informed about the progress being made in additional site survey work (dredging, coring, Alvin diving) to be carried out in these regions, and would appreciate if the proponents would let SSP know before our Nov. 94 meeting as to the status of these future cruises.

SSP Consensus #13: The sites proposed for drilling on Sedimented Ridges II are in the immediate vicinity of sites approved for Leg 139, and thus adequate data should exist to support these sites. Unfortunately, some of this data is apparently not in the Data Bank; efforts are being made to have copies of these data submitted by the proponent shortly. For the new, closely-spaced sites proposal revision 3, SSP would like more information on the navigational accuracy of the

survey data, and the strategy for accurately finding these sites with the drillship.

7.3 East Juan de Fuca Hydrothermal (440)

SSP Watchdog: Srivastava

SSP Proponents: none

Target Type(s):..E: open ocean environment (<400m sediment) with additional requirements for high temperature environments...

At our last meeting, we noted a new and interesting proposal, with abundant data in existence, but no data in the Data Bank. Since our last meeting some data has been received for this proposal, including location maps, some small scale seismic lines, and some heat flow data. SSP appreciates the efforts made by the proponents for depositing these data to the data bank. However, the data package in the Data Bank is far from complete. We still lack full scale seismic lines showing the location of sites together with a large scale track map with day and time or shot points, the same units as used on the seismic lines. Also heat flow values for the measurements carried out in the vicinity of PP sites should be supplied to the data bank. Judging from the site summary form for each category sites as enclosed in the proposal, magnetic and gravity data exist at these sites. It would be appreciated if copies of compiled gravity and magnetic maps of this region could also be deposited with the data bank. Site Survey matrices showing the status of this data set on a site-by-site, data set by data set basis are included in the appendix.

SSP also thanks the proponents for keeping us informed about the status of their planned work for 1995 and wish them success in their coming cruises. We realise the need for a marker at the proposed site is a difficult question to decide until a final decision is made about the size of the site to be drilled and SSP strongly recommends that due consideration be given to this question during your Alvin cruise. It is recommended that the proponents should let TAMU know ahead of time about their requirements for a suitable beacon or radar reflector for deployment during their cruise.

SSP Consensus #14: A great deal of data exists in the region of East Juan de Fuca Hydrothermal (proposal 440), and SSP anticipates that an acceptable data package can be compiled from existing data. However, the data package actually in the Data Bank lacks many required and recommended data types, including large scale seismic lines, core descriptions, some heat flow data.

7.4 NARM volcanic II: Voring

SSP Watchdog: Trehu

SSP Proponents: none, however Srivastava and Hinz were on the NARM DPG

Target Type(s):..B: passive margin.....

Since the last meeting, Conrad line 167 has been submitted to the data bank. Most relevant existing data (as far as we know) are now in the data bank (mostly in the leg 104 data package). Two deficiencies remain, which were first pointed out two years ago and which should be addressed by the proponents before SSP can determine whether the proposed Voring margin sites are ready for drilling from SSP's perspective.

The first deficiency is that no crossing line exists for VM-5, nor is VM-5 within a grid of seismic data. Crossing lines or seismic grids are generally required for deep-penetration sites on passive margins because of the structural complexity generally encountered in this type of environment. The proponents argue that they cannot obtain funding to acquire a crossing line unless VM-5 is already on the drilling schedule and that crossing lines have not always been available for other sites that have been drilled in the

past. First, we point out the the standard of quality of surveys submitted in support of ODP legs has improved over the years; virtually all the passive and active margin sites drilled in the last few years have been within a grid of seismic lines. Second, we encourage the proponents to prepare a detailed argument, based on nearby MCS (there exist 2 lines within about 30 km) and other geophysical data, that might demonstrate that the structure around the proposed site is simple enough that a crossing line may not be essential. Such an argument would be given serious consideration in lieu of a crossing line. The proponents have submitted a reprint of a paper from the ODP leg 104 summary volume, but this paper does not specifically address the issue of structure in the vicinity of VM-5.

The most serious deficiency concerns VM-6. The scientific objective of this hole is to sample normal oceanic basement. However, SSP feels that oceanic basement cannot be identified with confidence at the proposed site as shown in the proposal. The proposed location in the DPG report looks like it is in a region of very complicated structure and may be within a fracture zone. It therefore may not be an appropriate site for sampling normal oceanic crust. This site also does not have a crossing profile, although there is a parallel profile nearby (NOR-JM-10). The proponents have argued several times (as recently as May 24, 1994) that they cannot provide precise data about site VM-6 until the site is precisely identified, and that identification of this site is the responsibility of a committee that has not yet been convened. If this is the case, we urge the proponents to chose this site and assemble a suitable data package as soon as possible. SSP cannot approve a site that has not yet been chosen.

SSP Consensus #15: SSP considers that Voring margin (NARM-VII) is not ready for drilling; based on data presently in the data bank. SSP does not have enough information to evaluate whether the necessary data exist. VM-5 is lacking a required crossing profile or seismic grid, and SSP has not been presented with a strong argument that this requirement should be waived. VM-6 has apparently not yet been located precisely by the proponents and can therefore not be evaluated by SSP in detail. VM-3 is ready.

8. POTENTIAL FUTURE DRILLING: OHP

8.1 Caribbean OHP (415-Rev2)

SSP Watchdog: Mountain
SSP Proponents: Peterson is a proponent for Site CB-1
Target Type(s): All sites type A: paleoenvironment

BACKGROUND

At its April meeting, SSP discussed a drilling plan prepared by a Caribbean drilling workshop that met in late February, 1994. That document addressed two sets of objectives -- one focused in the sediments, the other in the oceanic crust. These were to be achieved by either two distinct legs or by one hybrid leg that addressed elements of each objective. SSP at that time urged workshop organizer Lew Abrams to oversee the preparation of a formal proposal or proposals to be submitted to the JOIDES office by July 1, and the deposit of accompanying material in the Data Bank by that same date. Proponents were encouraged to submit a plan that filled an entire leg with either sediment or crust objectives, but not both. Meanwhile, OHP reviewed proposal 415-Add2 in April and ranked the OHP sediment objectives embedded within that plan its number one "proposal". At its spring meeting, LITHP stated its interest in a straight basement leg with no attempts to attach sediment goals.

NEWEST PROPOSAL

A formal proposal (415-Rev2) was indeed submitted by July 1 that was an outgrowth of the February workshop report, and SSP discussed this proposal at its July meeting. It still contains two options: a single-leg sediment program, and a dual-leg program with basement objectives and an expanded set of sediment objectives. To simplify its review, SSP chose to evaluate data adequacy for the sediment-only sites in 415-Rev2; the following minutes summarize this discussion. The data relevant to the strictly basement objectives were discussed separately.

General SSP Summary

Seven primary sites (S2a, S3/152, S6, S7/146, NR1/2, NR4, and CB1) and five secondary sites (S1, S3a, S5/NR8, NR7, and NR9) with sedimentary objectives are proposed. All address the nature of the K/T boundary and/or Caribbean paleoceanography. Data quality for each site has been evaluated with reference to the guidelines for target type "A: paleoenvironment". SSP reiterates that these data types are intended to provide reasonable assurance that the sub-bottom target intervals are present, are undeformed, and are reliable records of wide-ranging events in basin history. Hence target type "A" relies on a grid of high-resolution reflection profiles coupled with 3.5 kHz echograms and accompanying cores. Side-scan sonar and/or swath bathymetry can provide additional reassurance that the proposed site is not located on or close to features that would mislead the interpretation of drilling results. While progress has been made towards meeting the SSP guidelines, several areas remain weak. Additional data are likely to be collected during a Ewing cruise in late winter '95 (funded and scheduled; Diebold and Driscoll, P.I's) or during a Cape Hatteras cruise sometime later (proposed to NSF and now under review; Droxler et al., P.I's.)

SSP Assessment of Primary Sites

Site S2a at 3150 m on Cayman Rise in the eastern Yucatan Basin is crossed by UTIG MCS line GT2-52E. There is concurrent 3.5 kHz data as well, and though the latter is noted by time-of-day and the former by shotpoint, the proponents have responded to SSP's request and have provided marked sections that allow one to cross-reference these data. There is an eroded section of some type (canyon?) just SE of the proposed site; the proponents are urged to consider the merits of moving the site NW, perhaps to sp 8090. This is an important site regarding the K/T impact event because it is the primary site closest to the possible impact at Chicxulub. Unfortunately, the site lacks truly hi-res seismic images, any type of grid, and local piston cores. The MCS display is a 12-fold stack of 24-channel data shot with 2 large-volume, low pressure airguns and filtered to a 5-35 Hz window. Basement is imaged rather well, but this is not hi-resolution seismic data. The absence of piston cores is more critical to the Neogene objectives than to those of the K/T event, as cores provide a sedimentary history whose relevance clearly decreases as one extrapolates farther back in time. It is hoped that SCS, 3.5, and core data will be collected at this site by Droxler et al.

Site S3/152 is a reoccupation of Leg 15 Site 152 on the lower Nicaragua Rise at 3900 m water depth. Basalt fragments were recovered at 475 mbsf with 28% recovery in 24 cores. The K/T boundary occurs within a poorly recovered zone at about 250 mbsf. The only data across this site were collected by the Glomar Challenger in 1971. Xerox copies made from archived microfilm are not adequate for evaluating the prospects of another drilling effort at this site. One option discussed by the SSP was to encourage the proponents to consider moving to Site 3a which is roughly 70 km SW of Site 152. The proponents report that total sediment thickness is much the same at this site. Furthermore, S3a is crossed by the deep-penetration CASIS MCS line C-01, 3.5 kHz data, a Vema SCS line, and there are reported to be piston cores in the vicinity. Though the CASIS line is

indeed good for imaging basement and assessing LITHP objectives, it is too low in resolution and the site is located on a slope not suitable for OHP objectives. There are additional Verna and Conrad SCS lines across Site 152 that the proponents have not discussed and have not requested be deposited in the Data Bank. SSP urges them to do so. Lastly, Diebold and Driscoll may cross both site S3 and S3a with the Ewing, though their focus will be deep-penetration seismic acquisition.

Site S6 is at 2750 m water depth on a basement high NE of Mono Rise in the Colombian Basin and is crossed by UTIG MCS line CT1-12A with accompanying 3.5 data. A Conrad SCS line and piston cores are located nearby. The proposed drillsite was located on a local high to minimize turbidite accumulations; UTIG MCS line CT1-11D intersects CT1-12A several km away, off this small structure and the proposed drill site. Though using the same source, receiver and processing as with proposed site S2a described above, the quality of Line CT1-12A is very much better and for the objectives described by the proponents, SSP considers the data adequate. The 3.5 data are marginal. Better topographic control and side-scan imagery would be very beneficial.

Site S7/146 is a re-occupation of Leg 15 Site 146 at 3950 m in the Venezuelan Basin; Site 149 was drilled 2 km SE of 146. Results of both were combined into one chapter by the Leg 15 shipboard party. The composite section was described as 750 m of sediment resting on basalt; the K/T boundary was at roughly 475 mbsf, though recovery at this level was moderate to poor. The Glomar Challenger SCS profiles across these sites, archived on microfilm at the Data Bank, are below the standards needed for OHP objectives at proposed site S7/146. The proponents report the site is at the intersection of Conrad 2103 MCS lines 119 and 120. These profiles have been deposited in the Data Bank, are excellent for LITHP objectives and acceptable for those of OHP. Unfortunately, the track chart for the latter, while close at hand, has not yet been submitted to the Data Bank. This will be completed by the Data Bank staff. Only then can the site be precisely located on these profiles. The proponents report that an additional Gulf oil MCS line is available through UTIG, but it has not been submitted to the Data Bank.

Proposed Site NR1/2 is in 910 m of water near Pedro Channel on the Nicaraguan Rise. Roughly 650 m of sediment are to be drilled with two objectives: (1) determine when Pedro Channel and Walton Basin were formed by recovering the contact between periplatform sediments resting on shallow water limestones of a drowned mega-bank; and (2) determine the Neogene history of the Caribbean Current that now flows across Nicaraguan Rise.

Proposed Site NR4 is a companion site to NR1/2 just described that must also be drilled to meet shared objectives. This latter site is roughly 200 km NE from NR1/2 in 1150 m of water on the northern Nicaraguan Rise. Both sites are located inside grids of Cape Hatteras SCS profiles of excellent quality, within 2 km of actual line intersections. Navigation for these has not been submitted to the Data Bank. Both sites have accompanying 3.5 data and piston cores, all collected by the Cape Hatteras, but on two different cruises. UTIG MCS Line CT1-29 crosses NR1/2 and CT2-16 crosses NR4; both are acceptable quality, but for OHP purposes are not as valuable as the higher resolution SCS lines.

The last of the primary Caribbean OHP sites described in 415-Rev2 is at 920 m in the Cariaco Basin. While the sediments are at least 1 km thick, only 200 m of multiple APC penetration is proposed. The objectives, while clearly paleoenvironmental, differ from those of the other Caribbean sites. At CB-1 the proponents intend to recover an especially high resolution late Quaternary record of upwelling and circulation history, fluvial discharge, climatically forced anoxia, and organic carbon deposition. This will be possible due to the high accumulation rates and the related periods of water column anoxia that exclude bioturbation. A fairly dense grid (~2 km line spacing) of moderate to very

good quality SCS data and 3.5 echograms collected by the Thomas Washington criss-cross the basin. Those lines most critical to proposed site CB-1 have been deposited in the Data Bank and some have recently been digitally processed at RSMS. Numerous piston cores were taken during the Washington cruise. Due to the dramatic circulation changes, high sedimentation rates, and steep terrain, the basin has experienced a complex history of episodic sediment failure and canyon incision. Consequently, SSP points out to the proponents that optimum site location may require moving off exact line intersections; with the structural control provided by the dense seismic grid, this is an acceptable compromise.

SSP Assessment of Alternate Sites

Site S1, proposed as an alternate to S2a, is in 1200 m of water roughly 100 off the Yucatan peninsula and 350 km ESE from the center of the Chicxulub crater. From available bathymetric data submitted to the Data Bank this site appears to be within a small basin with a very abbreviated sediment column (~500 m to acoustic basement.). It is crossed by UTIG MCS line CT1-40B. The proponents report there are Conrad cores nearby. There are no crossing lines and no 3.5 data. The low resolution of the MCS line, the isolated nature of the site, the lack of stratigraphic control, and the locally thin sediment column prompt SSP to state emphatically that this site is not suitable for drilling OHP objectives.

Site S3a was discussed earlier in reference to the primary site S3/152. Site S3a does not appear to be a suitable site for OHP objectives where located on the CASIS MCS line C-01; SSP suggests a more representative drill location could be found on more level and thickly sedimented seafloor, though the low resolution of the CASIS line and the lack of intersecting seismic control are problems. The proponents are urged to locate and submit to the Data Bank the additional SCS data they say exists near S3 and S3a.

Site S5/NR8 is an alternate to proposed site S6 and is in 2050 m of water on the lower Nicaragua Rise. The site is crossed by UTIG MCS line CT1-28B with accompanying 3.5 data of low quality. Though low-pressure, large-volume airgun data, the MCS profile is good quality for the site objectives. There is a published Conrad piston core nearby. Droxler, if funded, proposes to survey this site aboard the Cape Hatteras and collect hi-resolution SCS, 3.5 data, and piston cores. This survey data would increase greatly the odds of being able to predict the presence of the critical K/T boundary and to extrapolate the paleoceanographic record at this location to the larger context of Caribbean circulation history.

Site NR7 is an alternate to proposed site S2a in 4200 m of water in the SE Cayman Trough. It is crossed by SCS line SC2-68 with a Vema piston core reported to be nearby. The site may be surveyed by Droxler et al. , if funded, with SCS, 3.5 and piston cores. No data has been submitted to the Data Bank pertaining to this site.

Site NR9 does not appear to be a true alternate that could replace one of the primary sites proposed in 415-Rev2. Though located at 1200 m on the SE Pedro Bank 100 km SE of NR4, the proponents predict drill cores at NR9 could provide a unique periplatform history of metastable carbonate preservation. The site is crossed by a high-resolution Cape Hatteras SCS line of very good to excellent quality and accompanying 3.5 data. A piston core from that same cruise was taken nearby. No navigation for this cruise has been deposited in the Data Bank. Additional survey data (SCS, 3.5, cores and dredges) may be acquired by Droxler et al., if funded.

SSP Consensus #16: The Caribbean proponents have responded well to several SSP requests for submission of new data sets and clarification of existing ones. The multi-leg drilling scenario proposed in 415-Rev2 complicates the data evaluation process already made difficult by the large number of sites and the variable data quality and completeness of each. SSP has chosen to review sites according to

target type, regardless of the leg on which they may be drilled. Hence, the OHP objectives contained in 415-Rev2 were discussed separate from the LITHP objectives. Though all sites have paleoenvironmental objectives that entail specific data type requirements, "paleoenvironmental" covers a range of objectives and leads SSP to request small differences in proponents' adherence to these requirements. The recovery of K/T boundary impact material is the primary objective of several sites; for these, the ability to trace known stratigraphy to the site and demonstrate that odds favor the recovery of this interval is paramount. Neogene carbonate records are primary objectives at other sites; for these, the ability to extrapolate Quaternary-late Pleistocene information back in time and down the section is needed to determine that adequate temporal resolution and paleodepth will be present. SSP therefore emphasizes the critical nature of ties to existing wells for the K/T, while stressing the importance of cores, hires SCS, 3.5, and hopefully side-scan and swath topography for the Neogene goals. Paper copies of navigation have been submitted for all cruise tracks except the Cape Hatteras and the SCS track reported at NR7. It is greatly preferred that proponents provide digital navigation files that would allow the Data Bank staff to compile all tracks in one plot for each site. A Ewing cruise led by J. Diebold and N. Driscoll will possibly cross sites S3, S3a and S7 in early '95. Proponents are encouraged to maintain contact with these P.I's. and contribute to planning and cruise operations wherever appropriate. It is hoped that this cruise will provide swath bathymetry, 3.5 echograms, and reflection profiles of sufficiently high resolution to be useful for OHP objectives. The cruise plan submitted by Droxler, et al. and under review at NSF would greatly increase the data readiness across primary sites S2a, S3, S6 and alternates S1, S3a, S5/NR8, NR7 and NR9. Of these, the sites most urgently in need of such improvement are S2a, S3 or S3a, S1, S5/NR8, and NR7. In fact, at present there is nothing in the Data Bank for site NR7. The reoccupation of DSDP Leg 15 Sites 152 and 146 at proposed sites S3 and S7, respectively, relaxes considerably the need for site-specific data. However, recovering the K/T boundary interval without the seismic data to place other drilling results in a regional context would restrict these drill sites to a narrow base of scientific relevancy.

8.2 California Margin (386-Rev3,422-Rev,386-add2)

SSP Watchdog: Camerlenghi

SSP Proponents: none

Target Type(s):..A: paleoenvironment.....

A set of old 3.5 kHz data has been deposited in the Data Bank since last meeting. Nevertheless, the data package remains deficient of several types of vital data, as detailed at the last several SSP meetings and in the SSP matrices included in the Appendix F. A plan for acquisition of new site survey data has been presented by the proponents:

1) A cruise (Wecoma cruise W9406A) has been conducted in June 1994 to collect high resolution single channel seismic reflection profiles and 3.5 kHz subbottom profiles at Sites CA-1, CA-2, CA-4, and CA-7. The panel acknowledges the effort of proponents to submit, after only a few days from the end of the cruise, a short addendum that illustrates the main results of the cruise and provides neat location maps (particularly appreciated by

the panel) of the newly collected profiles. The site location has been slightly changed on the basis of the results of surveys. Proponents assure SSP that the data collected during the Wecoma cruise will be submitted before the fall meeting of the panel. Although the density of the Wecoma seismic grids seems to satisfy the panel, it is noted that sites CA-2, CA-4 and CA-7 are still missing core data, a required data type for paleoceanographic sites. Authors are urged to provide results of coring on site or in the vicinity, either taking the opportunity to use ship time in the future or collecting existing data. At site CA-2 the sediment section recovered at DSDP Site 173 (about 1.5 km to the SSW of the the new site location) will be considered as substitution of core samples.

2) 21 days of ship time of the M. Ewing (and possibly 3 extra days) have been funded in March 1995 for site survey data acquisition at proposed sites BA-2, BA-4, CA-15, CA-9, CA-11, CA-12, BA-6, CA-8, BA-1, BA-5, CA-14, CA-13. Data to be collected are high resolution seismic reflection profiles, 3.5 kHz subbottom profiles, and coring. Provided that the planned data is successfully collected, all these sites could be considered ready for drilling by the SSP summer meeting of 1995. The panel notes that the acquisition plan for the Ewing cruise is rather complex and time consuming. In order to optimise the time of acquisition, proponents are reminded that dense grids of seismic data such as those collected on the Wecoma cruise are needed only on topographically and structurally complex areas. Target type A (paleoceanographic) sites located on flat, layered undeformed sediments need only one or two crossing, provided the profiles are of good quality.

Because of the large number of sites planned in this drilling proposal, and the large number of cruises supplying supporting data, proponents are requested to submit the navigation data as clear and easily readable as possible. Electronic submission of navigation data is the preferred format. The Data Base manager Dan Quoidbach is available for providing details on electronic data submission.

The panel notices that in the Spring review of the proposal by the Tectonics Panel, particular emphasis is put on the penetration of the oceanic basement at Site CA-4. Proponents are recommended to make sure that the basement is well imaged in the seismic lines to be submitted for this site.

Finally, proponents are once again reminded to consider the possibility of man-made hazards on the seafloor near densely populated areas;

SSP Consensus #17: The data package for the California Margin proposal is far from complete. A detailed plan of new, funded site survey data acquisition has been presented. Part of the data have been collected in June 1994 and will be submitted to the Data Bank before the Fall 1994 meeting. The remnant data are scheduled for collection in March 1995. Provided that the planned acquisition is successfully completed, and that coring data will be identified for Sites CA-4 and CA-7, the data package could be complete by the summer 1995 SSP meeting.

8.3 NW Atlantic Sediment Drifts (404)

SSP Watchdog: Mountain

SSP Proponents: none

Target Type(s):..all sites A: paleoenvironment.....

Many items have been deposited in the Data Bank since our previous meeting in April, bringing this proposal closer to readiness from an SSP point of view. Regarding the N. Bermuda Rise (Site BR-1): Kate Moran (AGC, Canada) delivered large-scale maps of core locations and navigation, 3.5 kHz data, and deep-tow Hunttec profiles, all from

Hudson cruise 89-038. SSP and the Data Bank appreciate Moran's efforts, yet note with concern that the proponent Keigwin apparently has not retained (or even seen) a copy of these data. Developing a drilling strategy that includes selection of appropriate alternate drill sites implies that the proponent(s) be familiar with and have copies of the relevant data.

Several items pertaining to sites on the Blake Outer Ridge have been submitted by Keigwin, though data needed for 2 sites arrived after the panel meeting. Each of the 8 sites designated "BBOR-x" now have page-size bathymetric plots showing locations of cores from Knorr 31 and 140, xerox copies of excellent 3.5 profiles from Knorr 140, plus computer-generated plots of navigation from all *Vema* and *Conrad* cruises that passed through the region. Several sites have additional copies of *Vema* or *Conrad* 3.5 data. BBOR-8 is crossed by an SCS line collected on cruise Farnella 87-1. GLORIA side-scan data exist across the entire study area and SSP encourages the proponent to incorporate these data in planning a drilling program.

Two new sites designated CS-1 and -2 have been proposed by Keigwin based on results of the Knorr 140 site survey cruise conducted in fall '93. These have NOT been seen by thematic panels nor have they been logged with the JOIDES Planning Office. They were selected on the basis of high sedimentation rates detected in Kn140 large-diameter gravity cores. At 1900 and 1790 m water depth, respectively, they represent the shallowest drillsites on the proposed depth transect that begins at 4760 m water depth at site BBOR-1. Like each of the BBOR sites, these are located on the Knorr 140 track with excellent 3.5 profiles. In addition, moderate-quality SCS profiles from Farnella 87-1 and a good-quality SCS line collected by the *Cape Hatteras* cross or are within a few km of these two sites. Knorr 140 giant gravity cores were taken at the proposed drill sites. As before, GLORIA data covers these areas.

SSP Consensus #18: Progress has been made towards data readiness for proposal 440 (Northwest Atlantic Sediment Drifts) but much existing data is still not in the Data Bank. Hudson 89-038 3.5 kHz profiles and accompanying navigation plus piston core locations were recently deposited by Kate Moran, along with a small set of low-quality deep-tow Hunttec profile data. There is now sufficient data on the northern Bermuda Rise for proponent Keigwin to: 1) evaluate the regional setting, 2) select alternate locations to BR-1, and 3) prepare a complete data package with sites marked on large-format track charts. The BBOR sites, including the recently selected CS sites, have excellent and critical 3.5 kHz data that SSP saw for the first time in July in the form of page-size Xerox copies. The Panel urges the proponent deposit more of these data. Echograms assembled as a single, continuous depth transect along which sites are proposed would be especially helpful. Additional SCS data is available and must be incorporated in the site selection if targets are sought below several 10's of meters sub-bottom. Regional GLORIA data are available and could prove helpful by characterizing broadscale features of seabed morphology that could contribute to understanding Recent current-sediment activity.

In the process of exploring the Data Bank holdings for the Northwest Atlantic Sediment Drifts program, the SSP watchdog discovered, tucked in a Data Bank cubbyhole, a proposal for additional sites in the region of the sites discussed in Proposal 440 (404-Add: "Paleogene and Cretaceous intermediate water history on the Blake Plateau and Blake Nose"). This proposal, prepared by Dick Norris of WHOI, was apparently sent to the Data Bank with the data package but never submitted to the JOIDES Office. Because this proposal had come to our attention without Thematic Panel endorsement, SSP decided not to discuss the data sites in this proposal. We gave the proposal to our JOIDES Office liaison for incorporation into the JOIDES System.

9. OTHER BUSINESS

9.1 *Feedback to proponents*

SSP Action Item 2: each watchdog for a potential future drilling leg to send a watchdog letter, accompanied by the relevant segments of the minutes, to the lead proponent of the proposal conveying the sense of SSP discussion; Data Bank manager Quoidbach to send similiar information to the co-chief scientists of each scheduled leg.

Feedback to proponents should include the items detailed in the appendix of the April 1994 SSP minutes. Watchdog letters for potential future legs should not be sent out until PCOM completes the Prospectus for FY'96 drilling, which will happen the second week of August. Proponents of proposals which are included in the prospectus should be reminded of the November 1 deadline for submitting missing data items to the ODP Data Bank for consideration at SSP's November meeting.

9.2 *Panel membership*

There are no vacancies on the SSP at this time. However, Kastens would like to step down as Chair at the end of calendar 1994, for personal reasons. The Panel nominates Shiri Srivastava as the next Chair of the Site Survey Panel.

PCOM liaison Dick reiterated his earlier-expressed opinion that SSP needs a panel member with expertise in petrology of oceanic crustal rocks, and he recommended that SSP request that the Panel be enlarged by one U.S. member to permit the addition of this expertise. SSP Chair Kastens indicated that such a recommendation should come from the LITH Panel, if indeed that community feels inadequately represented on SSP. The recommendation should be addressed to PCOM, where issues of disciplinary balance can be weighed against issues of U.S. vs. non-U.S. representation. The precedent is OHP's request for appointment of an SSP member with paleoceanographic expertise, which led to the very productive appointment of Larry Peterson to fill a vacant U.S. slot on SSP.

9.3 *Next meeting*

The next meeting of SSP needs to be after the November 1 data deadline, and before the American Thanksgiving holiday. We wish to meet on November 14, 15 and 16. The meeting will be held at Lamont, to allow easy access to the large volume of data to be evaluated. In view of the high thematic priority of both Caribbean proposals, and the complexity of the Caribbean data set, it was suggested that a representative of the Caribbean proponent group be invited to the November SSP meeting to present the data set to the Panel.

Action Item #3: SSP Chair Kastens to request permission to hold a meeting of the Site Survey Panel at Lamont on November 14, 15, and 16, and to invite a proponent from the Caribbean proponent group to discuss their data set.