

DRAFT

(April 22, 1993)

JOIDES SITE SURVEY PANEL MINUTES

APRIL 6-8, 1993
OGS, Trieste, Italy

Members: Kastens, Kim (L-DEO, Palisades, NY, USA) Chair
Camerlenghi, Angelo (OGS, Trieste, Italy)
Farre, John (EXXON, Houston, TX, USA)
Hinz, Karl (Bundesanstalt fur Geowiss u. Rohstoffe, Germany)
Moore, Greg (SOEST, Honolulu, HI, USA)
Mountain, Greg (L-DEO, Palisades, NY, USA)
Shirohana, M. (alternate for N. Hirata, Japan)
Scrutton, Roger (U. of Edinburgh, Edinburgh, UK)
Sibuet, Jean-Claude (IFREMER, Brest, France)
Srivasatava (Atlantic Geoscience Center, Dartmouth, NS, Canada)

Liaisons: Blum, Peter (TAMU)
Collins, Bill (JOIDES Office)
Kidd, Rob (PCOM)

Observers: Maria Cita (U. of Milan, Milan, Italy)
Rainer Zahn (Geomar, Kiel, Italy)

Apologies: Trehu, Ann (OSU, Corvallis, USA)
von Herzen (WHOI, Woods Hole, USA)

Inactive: Zverev, Sergey (IEP, Moscow, Russia)

AGENDA

**JOIDES Site Survey Panel
April 6-8, 1993
OGS, Trieste, Italy**

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 - Changes to minutes (Kidd)**
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3. POST-MORTEM ON RECENTLY DRILLED LEGS

- A. Leg 145: North Pacific Transect (Blum)**
- B. Leg 146: Cascadia Margin (Camerlenghi)**

4. UPDATES ON SCHEDULED LEGS

- A. Leg 149: Iberia Abyssal Plain Deep Hole: NARM-NV1 (Mountain)**
- B. Leg 150: New Jersey Margin (Kastens)**
- C. Leg 151: North Atlantic Arctic Gateway (Mountain)**
- D. Leg 152: East Greenland Margin (Mountain)**
- E. Leg 153: MARK (Shirohara)**
- F. Leg 154: Ceara Rise (Kidd)**
- G. Leg 155: Amazon Fan (Kidd)**
- H. Leg 156: North Barbados Ridge (Camerlenghi)**
- I. Leg 157: DCS test at Vema Fracture Zone (Kastens)**
- J. Leg 158: TAG Hydrothermal System (Moore)**

5. POTENTIAL FUTURE DRILLING TARGETS: TECP

- A. Alboran Basin (323-rev2) (Kastens)**
- B. NARM non-volcanic II (Iberia II) (Mountain)**
- C. Eastern Equatorial Atlantic Transforms (346-rev3) (Camerlenghi)**
- D. Mediterranean Ridges, shallow (330-rev) (Farre)**

- E. North Australian Margin (340-rev) (Scrutton) NEW
- F. Costa Rica Accretionary Wedge (400, 400rev) (Moore)

6. POTENTIAL FUTURE DRILLING: SGPP

- A. Gas Hydrate, Blake Ridge & Carolina Rise (423-rev) (Mountain) NEW
- B. New Jersey Margin II (Kastens)
- C. Bahamas Transect (412-rev) (Sibuet) NEW
- D. Mediterranean Spropels (391-rev) (Kidd)
- E. VICAP/MAP (380-rev3) (Farre)

7. POTENTIAL FUTURE DRILLING: LITHP

- A. Evolution of Oceanic Crust (420) (Shrivastava) NEW
- B. Return to 735B, Atlantis II FZ (300-rev) (Shrivastava) NEW
- C. NARM volcanic II (NARM) (Scrutton)
- D. Red Sea (086-rev) (Scrutton) NEW
- E. Sedimented Ridges II (SR-DPG) (Hinz)

8. POTENTIAL FUTURE DRILLING: OHP

- A. North Atlantic Arctic Gateways II (Hinz)
- B. Sub-Antarctic SE Atlantic Transect (430) (Camerlenghi) NEW
- C. Benguela Current (354rev, 354add) (Farre)
- D. Caribbean K/T boundary (415rev) (Mountain)
- E. California Margin (386-Rev2/422-Rev) (Kidd)
- F. Bermuda Rise/Blake Bahama Outer Ridge (404) (Mountain)
- G. South Florida Margin (427) (Farre) NEW

9. OTHER BUSINESS

- A. Response to draft report on JOIDES Advisory Structure
- B. SSP Guidelines
- C. Feedback to proponents
- D. Panel membership
- E. Next meeting

Executive Summary
JOIDES Site Survey Panel Meeting
April 6-8, 1993

The primary goals for this meeting were: (1) to evaluate the status of data for those proposals that had been highly ranked (top 7) by the Spring '93 Thematic Panel meetings, and (2) to provide feedback to the proponents of those proposals concerning the data required for submission to the ODP Data Bank. Following are the consensus and action items resulting from this meeting.

SSP CONSENSUS 1: For the 1993 round of assessments SSP will flag proposals at its April meeting that potentially could have **safety considerations**. By discussion with PPSP Chair, SSP may invite proponents on these proposals to present data at SSP's July meeting. After this, or in lieu of this, these proposals may be recommended for PPSP pre-review at PPSP's Fall meeting.

SSP CONSENSUS 2: SSP notes that the presence of gas in the sediments at the **Santa Barbara Basin** site drilled on Leg 146 is obvious in 3.5kHz and SCS profiles in the data package. Although the gas was CO₂, and thus did not pose a safety problem, the stratigraphic objectives may have been somewhat compromised by pervasive gas-induced disturbance of the sediment laminae. The data package for this site was rushed through the SSP and PPSP review process, and SSP wonders if a more deliberate approach to the compilation and evaluation of regional seismic data might have found a site where gas-disturbance of sediments would have been less of a problem.

SSP CONSENSUS 3: All data required for Leg 149, **Iberia Abyssal Plain** NARM-V I, have been deposited with the Data Bank.

SSP CONSENSUS 4: Two vital seismic lines (Ex77-8 and BGR 201), in support of the new **New Jersey margin** sites MAT 13 and MAT 14, need to be submitted to the data bank immediately. In addition, 3.5kHz data is said to exist across the two new sites, but is not in the data bank. Finally, every effort should be made to submit "desirable" data types: GLORIA, Hydrosweep bathymetry, and logs of cores in the vicinity.

SSP CONSENSUS 5: **North Atlantic Arctic Gateway** proponents must submit full data packages for sites ICEP-2, ICEP-3, ICEP-4, NIFR-1 and SIFR-1. These sites were approved by PPSP at their April meeting, but have never been seen or evaluated by SSP, and no data in support of these sites exists in the Data Bank.

SSP CONSENSUS 6: For Leg 152, **East Greenland Margin**, the Data Bank lacks copies of the new high-res seismic data collected in the summer of '92, 12kHz records, a summary of surficial grab samples, and information related to bottom currents and surficial ice conditions.

SSP CONSENSUS 7: The data package for the primary targets at **MARK**(Leg 153) is nearly complete. We still await (a) locations for the photographs near site MK1, (b) additional data from the MPL/SIO Deep Tow cruise, and (c) existing refraction data. SSP feels that it would be prudent for barerock drilling legs to plan backup sites in sediment ponds in case of technical failure on barerock sites; 3.5kHz and/or SCS and/or coring information should be submitted to document drillable sediment pockets in the vicinity of the primary sites.

SSP CONSENSUS 8: The **Ceara Rise** data package is complete except for 4 piston core descriptions still to be filed at the Data Bank.

SSP CONSENSUS 9: The **Amazon Fan** site survey data package is complete in the Data Bank.

SSP CONSENSUS 10: The **North Barbados Ridge** has a strong data package. All "vital" data types are in the Data Bank. Several existing "desirable" data types are not yet submitted, including improved seismic velocities, and the results of the 3-D seismic processing.

DCS [SSP CONSENSUS 11: SSP cannot at the present time endorse drilling at 1500m water depth on the crest of the **Vema Fracture Zone** transverse ridge, in the absence of any observational evidence that lithologies of interest for scientific or engineering purposes will be recovered at that water depth. It is possible that a suitable target can be found at ~1500m waterdepth by SCS/dredging/Hydrosweep operations aboard the Ewing this summer. Data packages for originally-proposed sites VE-1, VE-2 and VE-3 are expected to be completed after the August 1993 Ewing cruise.

SSP CONSENSUS 12: All "vital" data types for the proposed sites at the **TAG Hydrothermal System** (361-Rev2) are in the Data Bank. Newly-collected heatflow data should be submitted in time for Safety review. SSP feels that it would be prudent for barerock drilling legs to plan backup sites in sediment ponds in case of technical failure on barerock sites; 3.5kHz and/or SCS and/or coring information should be submitted to document drillable sediment pockets in the vicinity of the primary targets.

SSP CONSENSUS 13: From a scientific perspective, sufficient data now exist in the data bank to schedule an **Alboran** drilling leg. Heatflow measurements are still desirable for safety panel consideration, and a core is still required near the re-entry sites; these will be collected on an April/May 1993 Hesperides cruise. If new sites are selected in response to safety pre-review, proponents must ensure that the documentation for these new sites is in the Data Bank.

SSP CONSENSUS 14: All "vital" data types for **Eastern Equatorial Atlantic Transforms** are in the Data Bank except for the MCS crossing of IG5. Several "desirable" data types exist, but have not yet been deposited. The program is ready for PPSP pre-review.

SSP CONSENSUS 15: The data package for drilling the **Mediterranean Ridge** remains incomplete. There is a general lack of high-resolution SCS data across the sites. On the complex areas of the Mediterranean Ridge, SSP is requiring crossing high-resolution SCS profiles and swath bathymetry over the sites in addition to the usual requirements for Target Type "A". Based on SSP's understanding of several site surveys planned for summer '93, it is possible that a complete data package for one leg worth of drilling will be submitted by November 1, '93.

SSP CONSENSUS 16: In considering data types that will be needed in support of **North Australian Margin** drilling, SSP points out (a) the need for a grid of intersecting seismic lines plus swathmapping data in this structurally complex setting, (b) the need for heat flow data if the fluid flow objective is pursued, and (c) the need for core data if reentry holes are proposed.

SSP CONSENSUS 17: The **Costa Rica Accretionary Wedge** (400/400-Add) data set is satisfactory for the current structural objectives and would be drillable in 1995.

A detailed heat flow and Alvin dive program have been funded and should provide required data for fluid objectives for 1995 drilling.

SSP CONSENSUS 18: No data for **Gas Hydrates** (423-rev) is in the Data Bank, although the proposal suggests that significant relevant data exist. In addition to the usual data types required for paleoenvironment sites, SSP will want to see velocity determinations so that the position of drilled samples relative to the BSR can be accurately known. Also, SSP will want to see heat flow measurements so that the observed clathrate distribution in the drillhole can be compared with the distribution predicted for the theoretical temperature/pressure stability field.

SSP CONSENSUS 19: In support of the sealevel objectives of the **Bahamas Transect**, a grid of seismic lines, rather than a single crossing, will be required to get a three dimensional view of the prograding sequences. In support of the fluid flow objectives, SSP will want to see observational evidence that the hypothesized discharge and recharge zones exist (relevant data could include detailed heatflow measurements, near-bottom towed side-looking sonar and 3.5/4.5kHz, and visual observations).

SSP CONSENSUS 20: No data has been submitted to the Data Bank since the packages that arrived in support of the **Mediterranean Sapropels** proposal in November '92. Apart from the proposed re-occupation of Tyrrhenian Sea ODP site 652, none of the Medsap sites can be considered fully documented in terms of site survey data. Based on SSP's understanding of several site surveys planned for summer '93, it is possible that a complete data package could be submitted by November 1, '93.

SSP CONSENSUS 21: The data package for is complete, and from SSP's perspective, the program is ready to drill. Since the August '92 SSP meeting, a minor quantity of additional data has been deposited in the data bank in support of **VICAP**; however, this data package remains far from complete. SSP is aware of planned cruises that will address many or all of the deficiencies in the **VICAP** data package.

SSP CONSENSUS 22: SSP generally endorses the planned survey data collection strategy outlined in the "**Evolution of Oceanic Crust**" drilling proposal. Because the experimental design of the drilling leg depends critically on penetrating a hypothesized normal fault, SSP urges the proponents to make every effort to image or otherwise document the existence, attitude, and depth of this fault, rather than relying on inference from surface morphology alone.

SSP CONSENSUS 23: The proposal to **return to site 735B** on the Atlantic II Fracture Zone is an ambitious project which will be more successful if the geological and geophysical setting of the sites are better understood through additional survey/sampling work before drilling begins.

SSP CONSENSUS 24: If the East Greenland transect EG63 is not completed on Leg 152, very little additional data would be needed to plan a **second NARM volcanic margin leg** using already-approved EG63 sites. If, however, Leg 152 does complete the EG63 objectives, and a second NARM volcanic leg wishes to focus on the Voring Margin, substantial improvement to that data package will be needed.

SSP CONSENSUS 25: Only a small amount of a very large **Red Sea** data set is presented in the proposal. Existing data sets have not yet been fully exploited in support of this program, and it is unclear at this time whether additional data collection would be necessary before the Red Sea could be scheduled for drilling.

SSP CONSENSUS 26: Much of the data needed for **Sedimented Ridges II** drilling remains in the Data Bank in the package prepared for Leg 39. ROV and side-looking sonar data acquisition scheduled for 1993 will strengthen the data package.

SSP CONSENSUS 27: The existing Data Bank data package prepared for NAAG I (now scheduled as Leg 151) will need to be supplemented to provide enough fully-documented sites for a **second leg of NAAG** drilling.

SSP CONSENSUS 28: New data must be acquired to prepare an adequate site survey data package for the **Sub-Antarctic SE Atlantic Transect**, and proponents plan to request funding to acquire such data. SSP does not anticipate that the data package for this leg will be ready in time for FY95 scheduling.

SSP CONSENSUS 29: No data has yet been deposited in the data bank in support of **Benguela Margin** drilling, but a site survey cruise is scheduled for April/May 1993. Because of the likelihood of encountering stratigraphy affected by mass wasting, SSP is requiring crossing high-resolution SCS at all sites, and swath bathymetry across areas of rugged topography, in addition to the core data and 3.5kHz/Parasound that are always considered "vital" for paleoceanographic sites.

SSP CONSENSUS 30: NSF has recently declined a proposal to survey the region of the **Caribbean K/T boundary** drilling targets; and no effort has yet been made to compile a data package from existing data. In addition to the normal data types for Target Type "D," SSP will want to see (1) regional data (e.g. magnetic anomalies, seismic ties to existing drillholes) documenting that the basement age is not younger than Late Cretaceous, and (2) piston cores in support of the paleoceanography objectives.

SSP CONSENSUS 31: No original data has yet been submitted in support of **California Margin** proposal 386-Rev2 but it is now to be merged by OHP with California Borderland proposal 422-Rev. SSP urges the proponents of these two offshore California proposals to finalize site locations and prepare their data packages to meet Target A requirements for the 1 July '93 deadline.

CONSENSUS 32: Although no data has yet been submitted to the Data Bank in support of **NW Atlantic Sediment Drifts**, SSP anticipates that the proponents will be able to assemble a strong data package from abundant existing data, and from a funded upcoming (1993) cruise.

SSP CONSENSUS 33: No data package has yet been submitted in support of **South Florida Margin** drilling. SSP generally endorses the proposed site survey plan outlined in the proposal. Because of proposed shallow-water drilling and the desired use of the DCS, this proposal will need special attention from the ODP advisory system.

SSP CONSENSUS 34: SSP considers that it would be prudent for **barerock drilling legs** to have alternate site(s) in sediment pockets, which could be spudded-in with conventional technology in the event of technical failure at the barerock site(s). Consequently, the data package for barerock legs should include 3.5kHz data, and/or SCS data, and/or coring data sufficient to document the location of drillable sediment pockets in the vicinity of the primary targets.

ACTION ITEM 1: Kastens to convey the sense of SSP's discussion of **shallow water hazards** surveys to PPSP Chair Mahlen Ball for incorporation into the guidelines

under preparation. SSP to review the draft guidelines for shallow water drilling when they become available.

ACTION ITEM 2: Kastens to alert PPSP Chairman Ball to the possible need for a safety pre-review for **Eastern Equatorial Atlantic Transforms**.

ACTION ITEM 3: Kastens to alert PPSP Chair Ball to the possible need for a Safety Prereview for the **Costa Rica Accretionary Wedge** program, if the program is put in the prospectus for FY95.

ACTION ITEM 4: Kastens to alert PPSP Chairman Ball to the possible need for a safety pre-review for **Gas Hydrates**.

ACTION ITEM 5: PCOM liaison Kidd to present the sense of SSP's discussion on **Dürbaum report** to PCOM.

ACTION ITEM 6: Each **watchdog** will write a letter to the lead proponent of each proposal discussed in Trieste, enclosing the relevant section of the SSP minutes, plus copies of the completed SSP worksheets (if applicable). A copy of these letters will be sent to the ODP Data Bank.

ACTION ITEM 7: Kastens to contact **three candidate members** to see if they are willing to join SSP. Kastens to forward names of candidate members to PCOM chair.

ACTION ITEM 8: Kastens to request permission for **SSP meeting** at Lamont the last week of July from PCOM Chair.

MINUTES
JOIDES Site Survey Panel
April 6-8, 1993
OGS, Trieste, Italy

1. PRELIMINARY MATTERS

A. Introductions (Kastens)

Kastens welcomed new members Jean-Claude Sibuet (France), Roger Scrutton (Great Britain), and Shiri Srivastava (Canada), and new JOIDES Office liaison Bill Collins. Rob Kidd has changed status from SSP member to PCOM liaison. Peter Blum has changed status from JOIDES Office liaison to TAMU liaison.

B. Logistics (Camerlenghi)

C. August 1992 Lamont meeting:

Changes to minutes (Kidd): There were no changes to the minutes.

Action Items (Kastens): Kastens reported that she had not submitted guidelines for survey requirements for Offset Drilling (Tectonic Windows) for publication in the JOIDES Journal because of uncertainty over whether near-bottom towed side-looking sonar should be "required" or "recommended." We decided to reconsider this question when we discuss Leg 147 (Hess Deep) at our next meeting.

D. Charge for this meeting (Kastens)

The primary goals for this meeting were: (1) to evaluate the status of data for those proposals that had been highly ranked (top 7) by the Spring '93 Thematic Panel meetings, and (2) to provide feedback to the proponents of those proposals concerning the data required for submission to the ODP Data Bank.

E. Status of latest Thematic Panel ratings (Collins)

Collins summarized the rankings from the Spring '93 thematic panel meetings and briefly described the goal of each of the new proposals.

F. New watchdog assignments (Kastens)

Watchdogs were selected for new proposals. The new watchdog assignments are reflected in the agenda at the beginning of these minutes. All of the watchdog assignments in the minutes are permanent, with the following exceptions: Mountain is the temporary watchdog for Leg 152 (East Greenland Margin), pending return of the regular watchdog Trehu. Kastens is the temporary watchdog for the Vema Fracture Zone, pending return of the regular watchdog Hirahata. Shirohara is the temporary watchdog for Leg 153 (MARK), pending return of the regular watchdog Hirahata. Camerlenghi is the temporary watchdog for Leg 156 (Barbados) pending return of the regular watchdog Trehu. Scrutton is the temporary watchdog for NARM volcanic margin II, pending return of the regular watchdog Trehu. Sibuet replaces Camerlenghi as the permanent watchdog for Eastern Equatorial Atlantic Transforms because of a newly-developed conflict of interest.

G. New SSP evaluation worksheets (Kastens)

Kastens described new evaluation worksheets developed for November '92 SSP-subgroup meeting. Worksheets evaluate each site against SSP guidelines. Worksheets will be provided to the proponents and included as an appendix in the SSP minutes. Worksheets will be kept on disk for easy updating at subsequent SSP meetings. Collins asked whether to include SSP worksheets in the digital database on proposal status

maintained by the JOIDES office; we decided not to do so until we have more experience using these worksheets internally within SSP. After discussion, the worksheet format was changed to distinguish explicitly between data that exists somewhere in the world, and data that has been deposited in the ODP Databank.

2. REPORTS

A. Nov. '92 SSP-subgroup meeting (Kastens/Kidd)

By the end of the August 1992 SSP meeting, it was obvious that no program was 100% ready for drilling from the perspective of site-survey readiness. Every program had at least minor items missing from the package in the Data Bank. After PCOM compiled the FY'94 Prospectus at their August 1992 meeting, proponents of prospectus proposals were given a new deadline of 1 Nov 1992 to complete their data packages.

A subgroup of SSP (Kastens, Kidd, Mountain plus Jamie Austin representing PCOM) met at Lamont in early November to evaluate the new data submitted in response to the November 1 deadline. Alboran Sea, Ceara Rise, Amazon Fan, N. Barbados Ridge, E. Equatorial Atlantic Transform, and NARM-Newfoundland Basin were considered to be ready for drilling from a scientific perspective. MARK and TAG had outstanding deficiencies, but it was thought that they could be made ready for PPSP review by April 1993. Within the Vema FZ proposal, only Site VE-3 could be made ready for FY'94 drilling; and within VICAP-MAP, only MAP was ready. The Mediterranean Ridge and Mediterranean Spropels proponents had deposited a large amount of data in the Data Bank, but even so the data packages were incomplete at the time of the November subgroup meeting. Appendix 2 (prepared by Rob Kidd for PCOM) summarizes the detailed status of each proposal at the time of the November meeting.

B. PCOM/PANCH (Kidd)

Kidd had earlier circulated a report to SSP members summarizing his report to PCOM/PANCH on SSP issues. Among his recommendations: (1) SSP should flag potential safety problem proposals in April, (2) SSP should meet 3 times per year, (3) SSP and PPSP should be involved in any WG on shallow water drilling surveys. Recommendation (3) came to pass; see agenda item 2G below.

Discussion of the increased emphasis of the role of SSP in early identification of proposals that might have safety connotations resulted in agreement that SSP should flag such proposals at its April meeting. The PPSP Chair should decide in consultation with SSP whether the proponents should be asked to present data at the summer SSP meeting. After this, or in lieu of this, SSP and PPSP Chair could recommend a pre-review at the fall PPSP meeting, ie prior to PCOM consideration for scheduling. Since PPSP Chair Mahlon Ball was unable to attend this meeting, it was agreed that SSP would adopt this procedure for the 1993 round by flagging the relevant proposals for Ball to make his decision for July SSP based on his reading of the proposal.

In clarification of the recommendation that SSP should meet three times per year, the ODP annual proposal cycle was reviewed for the benefit of new panel members: The April SSP meeting evaluates all proposals that were highly ranked at the Spring Thematic Panel meetings, and provides feedback to proponents on how to collect and compile data in support of their programs. The summer SSP meeting evaluates the site-survey readiness on a site-by-site, datatype-by-datatype basis, of those highly-ranked proposals for which a data package has been submitted to the ODP Data Bank. The results of the summer meeting guide PCOM in deciding which programs to put into the prospectus. Last year, a November subgroup meeting was necessary to complete a second round of evaluations of the site-survey readiness, on a site-by-site, datatype-by-datatype basis, of the proposals in the prospectus. The results of the November meeting results guided PCOM in their final scheduling for FY'94. Discussion ensued on the optimum configuration of SSP meetings,

i.e. number of meetings and their timing, and several viable alternatives were considered. A decision on the necessity of a November meeting will be made when we see how many data deficiencies remain in top-ranked proposals (i.e. lead candidates for FY95 scheduling) at the end of the July SSP meeting.

SSP CONSENSUS 1: For the 1993 round of assessments SSP will flag proposals at its April meeting that potentially could have safety considerations. By discussion with PPSP Chair, SSP may invite proponents on these proposals to present data at SSP's July meeting. After this, or in lieu of this, these proposals may be recommended for PPSP pre-review at PPSP's Fall meeting.

C. JOIDES (Collins)

Collins summarized recent issues being addressed by the JOIDES office: (a) response to the draft Dürbaum report; (b) the Budget Committee report; and (c) the status of the Can/Aus consortium.

D. Data Bank (Mountain)

Acting ODP Data Bank manager Greg Mountain circulated a list of data received at the Data Bank since our August meeting.

E. PPSP (Mountain)

Acting ODP Data Bank Manager Greg Mountain reviewed the outcomes of the April 1993 PPSP meeting. All sites proposed for New Jersey continental slope and rise (revised Leg 150), North Atlantic Arctic Gateways (Leg 151), and East Greenland margin (Leg 152) were approved, in some cases with minor modifications. Safety pre-review of Barbados Ridge (Leg 156) revealed no potential safety issues. Safety pre-review of the Alboran Sea proposal revealed several concerns about deep drilling into overpressured units, and about certain sites located in potentially hydrocarbon-prone structural settings. PPSP members gave Alboran proponent Watts detailed advice about data processing and display strategies that can help improve the ability of PPSP to evaluate these risks accurately. The Alboran safety pre-review had been recommended by SSP, and we were pleased to see that it had been effective at uncovering both potential safety problems and potential solutions to those problems.

F. Shallow Water Drilling Workshop (Kastens)

In response to the safety problems of Leg 150, New Jersey margin, a meeting was convened to consider new strategies that might make it possible for ODP to drill safely and productively in shallow (<200m) water depths. The meeting was chaired by PPSP Chair Ball and attended by SSP Chair Kastens. Two kinds of strategies were discussed: improved high-resolution site surveys to identify and avoid gas pockets in the drilled section, and techniques to safeguard the ship while drilling. Hazard survey techniques used in industry, and hazard survey requirements of various governments were reviewed. The usual approach is an MCS grid survey. The line spacing is denser (50-100m), the source is higher frequency, and the shotpoint spacing is tighter, than are used for academic scientific MCS surveys. By the end of the meeting, the sense was that ODP can indeed find sites suitable for drilling on the continental shelf, provided that additional dedicated hazard surveys are conducted at each candidate site. A draft set of requirements for shallow water hazard surveys and shallow water drillship procedures is being written under the direction of Mahlen Ball. SSP will have an opportunity to review and comment on the survey requirements as soon as they are written.

Some SSP members expressed dismay over the impression conveyed by some PPSP members that academic investigators were incapable of carrying out adequate hazard surveys. These SSP members felt that their own expertise was transferrable to this new

type of survey, provided that the guidelines were clear and explicit. There was some discussion of the potential for biased interpretation of hazards survey data: a commercial interpreter might maximize stated hazards to minimize his company's liability; whereas an academic investigator might minimize stated hazards to maximize the chances of getting interesting sites drilled. Finally, some SSP members expressed concern about how such potentially expensive surveys could ever get funded in the academic system, and queried whether as extensive a survey as is used in industry is really needed in the ODP context.

ACTION ITEM 1: Kastens to convey the sense of SSP's discussion of shallow water hazards surveys to PPSP Chair Mahlen Ball for incorporation into the guidelines under preparation. SSP to review the draft guidelines for shallow water drilling when they become available.

3. POSTMORTEM ON RECENTLY DRILLED LEGS

A. Leg 145: North Pacific Transect (Blum)

SSP had requested that the Co-Chief Scientists of Leg 145 carry out a pre-drilling seismic survey at several sites where the seismic lines in the data package were of marginal quality. These surveys were carried out as requested, and the subsequent drilling did not encounter any problems that might have been avoided with better pre-cruise data.

B. Leg 146: Cascadia Margin/Santa Barbara Basin (Camerlenghi)

The Cascadia margin proponents had prepared an excellent data package, which was approved by SSP well in advance of the drilling leg. Drilling did not reveal any problems related to the background data set.

One site in the Santa Barbara Basin was added to the Leg 146 program only a short time before the drilling leg. The data package for this site was approved after mail review by the Chairmen of SSP and PPSP, but the full data package was not methodically reviewed by SSP in our normal fashion. Drilling in the Santa Barbara Basin recovered very gassy sediments. The gas was mostly carbon dioxide, and thus did not present a safety hazard. However, most of the cores were heavily disturbed by gas expansion fractures, and by sediment extension at the end of the sections and through the holes punched in the liners to allow gas pressure to dissipate. The gas-induced sediment disturbance is particularly critical for the detailed paleoceanographic objectives dependent on the recovery of laminated deposits. In looking back at the seismic data around the Santa Barbara Basin site, SSP notes that gas is extremely evident on the SCS and 3.5kHz profiles contained in the data package. Below about 30m subbottom, gas appears to be pervasive and no seismic reflectors are detectable. Gas is also present at the surface and a gas expulsion mound is present on line Farnella 92-4, line 6. Drilling in the Santa Barbara Basin reached 200m subbottom, well below the zone of obviously disturbed sediments on the SCS profiles. SSP wonders whether a more methodical, deliberate approach to the compilation and examination of seismic and 3.5kHz data from the Santa Barbara Basin might have found a site where gas-disturbance of sediments would have been less of a problem.

SSP CONSENSUS 2: SSP notes that the presence of gas in the sediments at the Santa Barbara Basin site drilled on Leg 146 is obvious in 3.5kHz and SCS profiles in the data package. Although the gas was CO₂, and thus did not pose a safety problem, the stratigraphic objectives may have been somewhat compromised by pervasive gas-induced disturbance of the sediment laminae. The data package for this site was rushed through the SSP and PPSP review process, and SSP wonders if a more deliberate approach to the compilation and evaluation of regional seismic data might have found

a site where gas-disturbance of sediments would have been less of a problem.

4. UPDATES ON SCHEDULED LEGS

A. Leg 149: Iberia Abyssal Plain: NARM-NV1 (Mountain)

[SSP members Sibuet, Srivastava, and Hinz are proponents for NARM]

All data required for Leg 149 have been deposited with the Data Bank. SSP commends the several proponents and their respective institutions for the cooperation shown in preparing these data. We note, however, the benefit that could have derived from all participants submitting digital navigation; this would have enabled the Data Bank to display all relevant ship tracks at a common scale.

SSP CONSENSUS 3: All data required for Leg 149, Iberia Abyssal Plain NARM-V I, have been deposited with the Data Bank.

B. Leg 150: New Jersey Margin (Kastens)

[SSP member Greg Mountain is a proponent for New Jersey margin.]

At our August 1992 meeting, SSP considered that the New Jersey shelf and slope sites were ready to drill from a scientific perspective, but noted that the possibility of shallow gas was still an unresolved safety hazard. At the October Safety Panel meeting, sites MAT 1 through MAT 9, i.e. all of the shelf sites, were disallowed. The present plan includes sites MAT 10, 11 and 12, which were approved by SSP in Aug 1992 and by PPSP in October 1993. In addition, two new primary sites, never before considered by SSP, have been proposed. MAT 13 & 14, plus alternate sites 15, 16 & 17, were approved by PPSP at its April 1993 meeting.

MAT 13 is on the slope (345m water depth), along strike to the NE from the cluster of other planned sites, in a region where the upper Neogene (5.5Ma) to recent units are particularly well developed. Total proposed depth is 833m (predicted age 13.5Ma). The site is almost but not quite on a crossing of MCS lines: site is on dip line Ew9009, 0.5km upslope of a crossing with line Ex77-8. The Ewing line is in the data bank; the Exxon line is available, but not yet deposited. The Ewing SCS grid does not reach this far northeast. According to the proponents, 3.5kHz data (vital), Hydrosweep (desirable), GLORIA (desirable), and cores (desirable) exist but are not yet deposited in the data bank.

MAT 14 is on the continental rise (2761m water depth), downslope from the main cluster of drillsites. The site is at the intersection of MCS lines USGS line 25 and BGR line 201. The USGS line is in the data bank, but BGR line is not. According to the proponents, 3.5kHz data (vital), Hydrosweep (desirable), GLORIA (desirable), and cores (desirable) exist but are not yet deposited in the data bank.

Worksheets evaluating sites MAT-13 and -14 against the SSP guidelines for Target Type B: Passive Margin are included in the Appendix.

SSP CONSENSUS 4: Two vital seismic lines (Ex77-8 and BGR 201), in support of the new New Jersey margin sites MAT 13 and MAT 14, need to be submitted to the data bank immediately. In addition, 3.5kHz data is said to exist across the two new sites, but is not in the data bank. Finally, every effort should be made to submit "desirable" data types: GLORIA, Hydrosweep bathymetry, and logs of cores in the vicinity.

C. Leg 151: North Atlantic Arctic Gateway (Mountain)

[no SSP members are proponents for NAAG]

Sites ICEP-2, -3 and -4 plus NIFR-1 and SIFR-1 were developed as potential targets since the last meeting of SSP and have thus not been examined for survey data adequacy. These sites as well as the sites seen previously by SSP were approved by PPSP at their April '93 meeting. Sites not drilled on Leg 151 may be attempted on a future NAAG leg. Proponents should submit all data relevant to these "unseen" sites at the soonest possible date, but in any case not later than the July 1 data deadline. This will ensure that: (a) SSP can evaluate survey data adequacy for NAAG II for potential 1995 drilling, and (b) the Data Bank can prepare data packages to send to TAMU and to the Resolution in time for Leg 151.

SSP CONSENSUS 5: North Atlantic Arctic Gateway proponents must submit full data packages for sites ICEP-2, ICEP-3, ICEP-4, NIFR-1 and SIFR-1. These sites were approved by PPSP at their April meeting, but have never been seen or evaluated by SSP, and no data in support of these sites exists in the Data Bank.

D. Leg 152: East Greenland Margin: NARM-V I (Mountain)

[SSP members Sibuet, Srivastava, and Hinz are proponents for NARM]

High-resolution seismic data of excellent quality were collected in the summer of '92 across each of the four proposed EG63 sites; SSP encourages the proponents to submit reproducible copies of these profiles to the Data Bank at their earliest convenience. Additional data useful to the drilling operations that await deposit include 12 KHz records and a summary of surficial grab samples (both of which SSP believes were collected last summer). Similarly, information relating to bottom currents and surficial ice conditions (as described in the Leg 152 Safety package presented to PPSP in Kiel) should be sent to the Data Bank and TAMU/ODP operators alike.

SSP CONSENSUS 6: For Leg 152, East Greenland Margin, the Data Bank lacks copies of the new high-res seismic data collected in the summer of '92, 12kHz records, a summary of surficial grab samples, and information related to bottom currents and surficial ice conditions.

E. Leg 153: MARK (Shirohara)

[no SSP members are proponents for MARK]

Since SSP's August meeting, several datasets have been submitted to the Data Bank. These are: (1) representative ALVIN photographs near MK1 site (but not located on track), a map showing ALVIN and Angus dive tracks with drill holes and seismic surveys, ALVIN dive track profiles and sample locations with description of samples, and a reprint containing ALVIN and Angus results; (2) 96-ch MCS data with a track chart, and a reprint of MCS survey and results; (3) track lines from recent MPL/SIO deep-tow side looking sonar cruise plus two page-size "preliminary" side-looking sonar images; (4) Videos of Nautille dives in the vicinity of MK2 site; (5) annotated map of gravity data showing sites MK1 and MK2.

A note from the proponents says that ALVIN video data cannot be provided for MK1 site, because video systems did not work during dive in the region of MK1. Original films of still camera photos are archived at WHOI. The representative photographs near site MK1 will be more useful when location information is submitted to the Data Bank. More extensive data from the MPL/SIO Deep Tow cruise has been promised by Jeff Karson. The Data Bank has a location map for refraction data but no data are in the Data Bank; refraction data are "recommended" in support of tectonic window sites, and so this data should be submitted to the Data Bank.

There is no 3.5 kHz or SCS in the Data Bank. SSP feels that it would be prudent for all bare rock legs to go to sea ready with alternative sites in sediment pockets in case of

technical failure with bare rock procedures (see below under Site Survey Guides, agenda item 9B). If this advice is taken, the proponents should submit 3.5kHz, SCS and or coring data to document the sediment distribution in the vicinity of the primary targets.

Worksheets evaluating the status of the MARK data package against the draft SSP guidelines for Tectonic Window drill sites are included in the Appendix.

SSP CONSENSUS 7: The data package for the primary targets at MARK(Leg 153) is nearly complete. We still await (a) locations for the photographs near site MK1, (b) additional data from the MPL/SIO Deep Tow cruise, and (c) existing refraction data. SSP feels that it would be prudent for barerock drilling legs to plan backup sites in sediment ponds in case of technical failure on barerock sites; 3.5kHz and/or SCS and/or coring information should be submitted to document drillable sediment pockets in the vicinity of the primary sites.

F. Leg 154: Ceara Rise (Kidd)

[SSP member Mountain is a proponent for Ceara Rise]

The Ceara Rise data set was judged complete during the November '92 SSP assessment, except for core log descriptions that still were to be submitted for as-yet unsplit cores taken at 4 of the 7 proposed sites. Subsequently PCOM scheduled a Ceara Rise leg at its December '92 meeting and PPSP has deferred its assessment to its summer meeting. The remaining core descriptions are still to be filed with the Data Bank.

SSP CONSENSUS 8: The Ceara Rise data package is complete except for 4 piston core descriptions still to be filed at the Data Bank.

G. Leg 155: Amazon Fan (Kidd)

[no SSP members are proponents for Amazon Fan]

The Amazon Fan data package was judged complete at the November SSP subgroup meeting.

SSP CONSENSUS 9: The Amazon Fan site survey data package is complete in the Data Bank.

H. Leg 156: North Barbados Ridge (Camerlenghi)

[SSP member Moore is a proponent for Barbados Ridge]

Since the August SSP meeting, a large amount of good quality data has been added to the North Barbados Ridge data package. The North Barbados Ridge program was pre-reviewed without problems during the April meeting of PPSP.

The sites are very well documented seismically by a 3-D MCS survey. Example lines are in the data base, and the proponents say that all the 2-D migrated lines belonging to the 3-D survey (103 lines, 50m spacing) should be submitted to the Data Base shortly. Previous MCS stacking velocities used for Leg 110 drilling are available in the Data Base. Other MCS stacking velocities from various cruises are available, but they are not in the Data Base. Refraction velocities from OBS recordings are being worked on, and are not yet submitted to the Data Base.

French 3.5 kHz deep-tow subbottom profiles, and heat flow measurements in the vicinity of site NBR-4 have been submitted. A French multibeam map at 10 m contour interval, and a French SAR near-bottom towed side-looking sonar image, cover all of the proposed sites.

Track charts for 1992 Nautille dives around ODP site 676 are in the Data Base, but visual data have not been submitted. A letter from S. Lallement says that no signs of fluid expulsion were noted on the submersible dives. Because these dives were not at a proposed site, and because the dive records apparently do not contain visual information that might relate directly to the fluid flow objectives of the drilling proposal, and because the submersible data are newly collected and not yet published and considered still proprietary by the acquirer, SSP will not press to have visual data from the Nautille dives deposited in the Data Bank.

Even though these are re-entry sites, SSP does not require coring data because the lithology of the sediments to be drilled is well known from previous DSDP and ODP drilling in the area.

Worksheets evaluating the North Barbados Ridge data package against the SSP guidelines for Target Type "C: active margin" are included in the Appendix.

SSP CONSENSUS 10: The North Barbados Ridge has a strong data package. All "vital" data types are in the Data Bank. Several existing "desirable" data types are not yet submitted, including improved seismic velocities, and the results of the 3-D seismic processing.

I. Leg 157: DCS test at Vema Fracture Zone (Kastens)

[no SSP members are proponents for Vema; however SSP member Kastens is involved with site survey work in this area]

The status of sites VE-1 and VE-2, the lower crust/upper mantle targets, has not changed since they were declared unready for drilling at our August meeting. Deep-towed SLS scheduled to be collected on the Ewing this summer should complete these data packages.

Site VE-3 was proposed for conventional drilling in 600m water depth on the crest of the Vema southern transverse ridge, where a cap of shallow water limestone is present. Prior to the November 1992 subgroup meeting, the Data Bank received a cruise report containing a section of MCS data across site VE-3. In Trieste, we received monitor records for additional crossings of the limestone cap from the same R/V Explora data set. The Explora data is of good quality, and shows quite a bit of detail within the 400m-thick limestone cap. The seismic coverage of the limestone cap will be supplemented by additional high resolution SCS coverage on the Ewing this summer.

At our November 1992 subgroup meeting, we considered VE-3 to be ready for potential drilling in 1994. Then, at the December PCOM meeting, leg 157 was tentatively scheduled as a test of the diamond coring system, at a site identified as VE-3. The perceived advantages of site VE-3 were that the DCS could be tested in both reefal carbonates and igneous basement, and that the single hole, if successful, could address scientifically-interesting questions about vertical tectonics. However, in spite of the fact that VE-3 was proposed in 600m water depth, the DCS test was directed to take place at a water depth of 1500m to maximize the chance of success of the secondary heave compensator, the Achilles's heel of the DCS.

The distribution of limestone on the Vema transverse ridge is controlled by the amount of subsidence below the photic zone. The existing seismic data show that the base of the limestone cap is fairly uniform at ~1000m below sealevel. The deepest known carbonate-covered point on the relatively-flat crest (as opposed to the steep flanks) of the transverse ridge is at 957m water depth; however, the carbonate cap is <50m thick here and cannot be expected to yield a good subsidence history. It is true, as stated at PCOM, that the water depth of the crest of the transverse ridge deepens progressively eastward to near-normal oceanic depths; however, no limestone cap is known to exist at longitudes where the crestal water depth exceeds ~1000m. There remains a slight possibility that reefal

limestones may cap the transverse ridge at deeper water depths beyond the westward limit of the Explora data set. This possibility can be explored with the Hydrosweep/SCS/dredging work this summer aboard the Ewing.

The present Vema Fracture Zone data set includes no site-specific data about potential sites around 1500m water depth. Sites VE-2 and VE-3, the gabbro and peridotite targets, are in ~3500m and ~4200m water depth respectively. If one selected a hypothetical site at the longitude where the crest of the transverse ridge intersects the 1500m bathymetric contour, such a site would be located at ~43°30'W, ~90 km east of proposed site VE-3, and ~85 km west of proposed sites VE-1 and VE-2. We have no empirically-based knowledge of what might be found at such a site. The most likely recovery would be basalt, based on analogy with the section exposed along the Nautila dive transect at 42°40'W. There is no particular reason to think that such a site would address scientific goals posed in the Vema Fracture Zone proposal or in the Offset Drilling Group Whitepaper. The Ewing cruise this summer could explore this hypothetical 1500m site with Hydrosweep, dredging, 3.5kHz and gravity coring. The Ewing will not be equipped to collect photo or video, so no information will be available about the microtopography for guidebase emplacement.

SSP CONSENSUS 11: SSP cannot at the present time endorse drilling at 1500m water depth on the crest of the Vema Fracture Zone transverse ridge, in the absence of any observational evidence that lithologies of interest for scientific or engineering purposes will be recovered at that water depth. It is possible that a suitable target can be found at ~1500m waterdepth by SCS/dredging/Hydrosweep operations aboard the Ewing this summer. Data packages for originally-proposed sites VE-1, VE-2 and VE-3 are expected to be completed after the August 1993 Ewing cruise.

J. Leg 158: TAG Hydrothermal System (Moore)

[SSP member von Herzen is a proponent for TAG]

Much new data has been submitted to the Data Bank since August, including an Alvin video, bottom photos of proposed drill sites, a TOBI image, bathymetric contours of the TAG area, various kinds of magnetics data, a Bouguer gravity anomaly map and several heat flow profiles. All "vital" data types for the proposed sites are in the Data Bank.

There is no 3.5 kHz or SCS or coring data in the Data Bank, although some data of these types do exist in the area. SSP feels that it would be prudent for all bare rock legs to go to sea ready with alternative sites in sediment pockets in case of technical failure with bare rock procedures (see below under Site Survey Guides, agenda item 9B). If this advice is taken, then proponents should submit 3.5kHz, SCS and or coring data to document to sediment distribution in the vicinity of the primary targets.

Additional resistivity, heat flow, photos, and dredge samples are to be collected during an April-May 1993 cruise. The heatflow data should be deposited in the Data Bank in time to be included in the Safety review package, and the other data should be submitted in time to be included in the data packages sent to the Co-Chiefs and to TAMU for the drilling leg.

Worksheets evaluating the TAG sites against the SSP guidelines for Target Type "F: Barerock Drilling" are included in the Appendix.

SSP CONSENSUS 12: All "vital" data types for the proposed sites at the TAG Hydrothermal System (361-Rev2) are in the Data Bank. Newly-collected heatflow data should be submitted in time for Safety review. SSP feels that it would be prudent for barerock drilling legs

to plan backup sites in sediment ponds in case of technical failure on barerock sites; 3.5kHz and/or SCS and/or coring information should be submitted to document drillable sediment pockets in the vicinity of the primary targets.

5. POTENTIAL FUTURE DRILLING TARGETS: TECP

A. Alboran Basin (323-rev2) (Kastens)

[SSP liaison is a proponent for Alboran Basin.]

At our August 1992 meeting SSP was generally pleased with the quality and quantity of the Alboran data set, but noted the following specific deficiencies: (a) sites AL-3 and AL-4 are apparently not on crossing MCS lines, (b) seismic velocities have not been provided for sites AL-3 and AL-4, (c) the likelihood of encountering Messinian evaporites has not been addressed for sites AL-3 and AL-4, (d) the proposed re-entry site AL-1 needs data on geotechnical properties of the surficial sediments from a nearby core. In addition, an SSP member inquired whether there were any analyses of dredged samples from outcrops on nearby bathymetric highs.

By the time of our November 1992 SSP mini-meeting, crossing lines had been provided for sites AL-3 and AL-4. These are SCS rather than MCS lines; however basement is reached, so SSP will not insist on the MCS lines usually required for passive margin sites. A map of Messinian evaporites distribution was provided by proponent Comas to watchdog Kastens, showing the western edge of the evaporite-bearing basin to be east of all of the proposed Alboran drilling sites. Seismic velocities for sites 3, 4 and 4A, based on R/V Conrad MCS data were received a few days after the November meeting. According to a letter from proponent Comas to watchdog Kastens, the core for geotechnical properties, as well as heatflow data, are being collected on an April/May 1993 cruise.

Alboran sites 1, 2, 3 and 4 had a safety pre-review at the April 1993 PPSP meeting, and multiple problems were noted. The 2700-deep hole AL-1 is proposed to enter a unit which is overpressured in a commercial well on the continental shelf. AL-3 is at a pinchout on the dipline and a rollover on the strike line. AL-4 needs to be moved away from a structural closure.

Worksheets evaluating the data package for the Alboran sites against the SSP guidelines for Target Type "B: Passive Margin" are included in the Appendix.

SSP CONSENSUS 13: From a scientific perspective, sufficient data now exist in the data bank to schedule an Alboran drilling leg. Heatflow measurements are still desirable for safety panel consideration, and a core is still required near the re-entry sites; these will be collected on an April/May 1993 Hesperides cruise. If new sites are selected in response to safety pre-review, proponents must ensure that the documentation for these new sites is in the Data Bank.

B. NARM non-volcanic II (Iberia II) (Mountain)

[SSP members Sibuet, Srivastava, and Hinz are proponents for NARM]

Survey data pertaining to sites IAP-1, -2, -3, -3B, -4 and -5 have been determined adequate by SSP and PPSP. Not all six of these sites can be drilled on Leg 149; those left over may be proposed for a return to the Iberian margin. SSP reminds the proponents that any sites other than these six, even if located on data already in the Data Bank, will have to be reviewed by SSP and PPSP.

C. Eastern Equatorial Atlantic Transforms (346-rev3) (Camerlenghi)

[no SSP members are proponents for Eastern Equatorial Atlantic]

All "vital" data requested from the proponents before November 1, 1992 has been sent to the Data Bank including all processed MCS lines except line MT17 (site IG5 crossing) which is not in the DB. It must be provided as soon as possible.

Some "desirable" data types are known to exist but have not yet been deposited in the data bank: (1) OBS refraction velocity results should be deposited. (2) Some pertinent photographs and information about samples from the submersible cruise EQUANAUTE should be provided to the DB along with their locations on a map. (3) A magnetic anomaly map of the area should be provided to the DB.

Heat flow data are not required by SSP but may be required by PPS Panel. These data have not been acquired by proponents.

Worksheets evaluating the Eastern Equatorial Atlantic Transform sites against the SSP guidelines for Target Type "B: Passive Margin" are included in the Appendix.

SSP CONSENSUS 14: All "vital" data types for Eastern Equatorial Atlantic Transforms are in the Data Bank except for the MCS crossing of IG5. Several "desirable" data types exist, but have not yet been deposited. The program is ready for PPSP pre-review.

ACTION ITEM 2: Kastens to alert PPSP Chairman Ball to the possible need for a safety pre-review for Eastern Equatorial Atlantic Transforms.

D. Mediterranean Ridges, shallow (330-rev) (Farre)

[SSP members Camerlenghi and Kastens are proponents for Med Ridge]

This proposal addresses the first of a two-phase strategy to study fundamental processes associated with incipient continental collision on a salt-bearing accretionary prism. Five transects across the deformation front of the Mediterranean Ridge (MR) are proposed (3-4 sites each), with one additional site on the Napoli mud volcano.

At the instruction of the proponents and PCOM, the November 1992 SSP subgroup meeting considered a possible hybrid leg combining objectives from the Mediterranean Ridge proposal with Mediterranean sapropel objectives. SSP has been informed that the proponents no longer wish to pursue this hybrid plan, and SSP is now evaluating proposal 330-Rev as submitted.

Although some additional data were submitted to the data bank prior to the November '92 deadline, the data package for MR remains insufficient to meet SSP guidelines for paleoenvironmental sites (Target A). The MR program involves drilling of both smooth abyssal plain and highly complex areas above the deformation front. In addition to the data types normally considered vital for paleoenvironmental sites, SSP will require sites above the deformation front to include crossing high-resolution SCS profiles and swath bathymetry in order to finalize site location and allow drilling results to be placed in context. In these complex terranes, deep-towed sidescan sonar/subbottom profile data are highly-desirable for the same reasons.

For sites MR 1-3 (Ionian transect) and MR 7-9 (Katia transect), the data bank lacks high-resolution single channel seismic and 3.5/12 kHz profiles and core data. For MR 2-3 and MR 8-9, the more extensive data coverage described above for complex areas is required.

Sites MR 4-6 (Sirte Transect) are best covered by available site survey data. However, the data bank lacks 3.5/12 kHz data across the sites. MR 6 also lacks crossing high-resolution SCS lines around the complex geology of the target area.

For sites MR 10-12 (Herodotus Transect), the data package in the data bank is far from complete. Proponent A. Carmerlenghi has informed SSP that these sites will be dropped from the drilling program. If this proves untrue, then additional data collection will be necessary.

For site MV-1 on the Napoli mud volcano, only required 3.5/12 kHz profiles are missing from the data bank. Additional site survey data collection, planned for summer '93, will only improve the understanding of this complex area.

For sites ESM 1-4 (Erastosthenes Transect), crossing high-resolution SCS and 3.5/12 kHz profiles and core data are needed. At ESM-4 (above the deformation front), the morphology is less complex than on the Mediterranean Ridge, so multibeam swath bathymetry will not be required in view of the expected availability of deep-towed side-looking sonar and subbottom profiles from an upcoming Russian cruise.

Based on SSP's understanding of several site surveys planned for summer '93 (table, Appendix ____), it is possible that a complete data package (with the exception of sites MR 10-12) will be submitted by November 1, '93.

Worksheets evaluating the data status for some of the Mediterranean Ridges sites against the guidelines for Target Type "A: Paleoenvironment" are included in the Appendix.

SSP CONSENSUS 15: The data package for drilling the MR remains incomplete. There is a general lack of high-resolution SCS data across the sites. On the complex areas of the Mediterranean Ridge, SSP is requiring crossing high-resolution SCS profiles and swath bathymetry over the sites in addition to the usual requirements for Target Type "A". Based on SSP's understanding of several site surveys planned for summer '93, it is possible that a complete data package for one leg worth of drilling will be submitted by November 1, '93.

E. North Australian Margin (340-rev) (Scrutton) NEW

[no SSP members are proponents for North Australia margin]

This proposal on Neogene/Quaternary collisional tectonism and foreland basin development across the northern Australian Margin is a tectonically focussed proposal. An earlier climate/oceanographic component has been dropped. However, the proposal remains preliminary because the sites are only indicative of the types of problems and locations that could be investigated in the region. Following the acquisition of new seismic data in 1993 clearly-defined and well-documented site locations will be proposed, probably towards the west in the Australia - Timor region.

There are three objectives: along-strike variability of the collisional tectonics in this oblique collision system; testing of conflicting models of tectonism and fluid flow in foreland basins; and the nature and timing of the reactivation of old passive margin structures. A fair to good regional data set, chiefly MCS lines, exists on which the objectives and indicative sites are based. A large number of oil exploration wells exist on the continental shelf immediately adjacent to the south. Some normal and high-resolution seismic reflection data, cores and hydrocarbon sniffer data exist in parts of the region. Five indicative sites are put forward, all in 2000m-3000m of water and with about 1000m penetration. However, if the sites are reorganised into transects as suggested by TECP, the targets may well change. Although the collection of new MCS in 1993 by "Rig Seismic" is described, there is no mention of other data sets that will be required for site survey and the best use of the drilling results.

With only site indications and no specific locations at this stage, SSP simply draws the proponents' attention to the Guidelines for the preparation of site documentation for Target Type "C: Active Margin" sites. In this structurally complex setting, a good

network of intersecting seismic lines and either swath bathymetry or side-looking sonar, will be needed to understand the three-dimensional tectonic setting of the sites. If the fluid flow object is pursued, heatflow data will be needed. If re-entry sites are planned, a core will be needed.

SSP CONSENSUS 16: In considering data types that will be needed in support of North Australian Margin drilling, SSP points out (a) the need for a grid of intersecting seismic lines plus swathmapping data in this structurally complex setting, (b) the need for heat flow data if the fluid flow objective is pursued, and (c) the need for core data if reentry holes are proposed.

F. Costa Rica Accretionary Wedge (400, 400rev) (Moore)

[no SSP members are proponents for Costa Rica]

A nearly complete data package for drilling of structural objectives (including 3-D seismic data and swath bathymetry) has been submitted to the Data Bank. Data from existing cores at proposed re-entry sites should be deposited in the Data Bank. SSP anticipates that a revised proposal adding fluid objectives will be submitted. We reiterate our August, 1992 statement that, "if fluid objectives are included, a detailed heat flow survey will be required." We note that the proponents have been funded for heat flow and Alvin surveys in 1994. We therefore anticipate that all necessary data should be in hand by the end of 1994.

SSP CONSENSUS 17: The Costa Rica Accretionary Wedge (400/400-Add) data set is satisfactory for the current structural objectives and would be drillable in 1995. A detailed heat flow and Alvin dive program have been funded and should provide required data for fluid objectives for 1995 drilling.

ACTION ITEM 3: Kastens to alert PPSP Chair Ball to the possible need for a Safety Prereview for the Costa Rica Accretionary Wedge program, if the program is put in the prospectus for FY95.

6. POTENTIAL FUTURE DRILLING: SGPP

A. Gas Hydrate, Blake Ridge & Carolina Rise (423-rev) (Mountain) NEW

[no SSP members are proponents for Gas Hydrates]

This proposal seeks to examine several aspects of clathrate-rich sediments along the margin of the SE United States. Knowledge of the distribution of clathrates is important for understanding: 1) the global carbon budget; 2) sediment stability; 3) pore fluid chemistry and circulation; and 4) sources of greenhouse gases. The proponents seek to: 1) estimate the source and amount of gas trapped as clathrates; and 2) establish the physical properties of clathrate-rich sediments, and (3) evaluate how these physical properties influence pore fluid circulation, by examining fabric and lateral variability.

Three drilling transects totalling 9 holes are proposed. One transect is on the NE flank of the Blake Ridge; two are along the adjacent continental rise offshore S. Carolina. Of the latter, one is along an open, undisturbed stretch of the rise; the other is in a slump scar associated with a diapiric structure cored by either mud or salt. Recognizing the risks in drilling through the base of clathrates and into a zone of potentially highly pressured, gas-prone sediments, the proponents offer a more conservative strategy of stopping short of any clearly expressed BSR. Should a safety pre-review relax the proponents' concerns that penetrating a BSR is to be avoided in most cases posed by their proposal, then they will modify their plans accordingly.

Abundant data contributing to a complete survey data set exists in this region, although none has yet been deposited in the Data Bank. The proponents will be collecting

Deep-Tow data in Sept., 1993. SSP points out to the proponents that their drilling plans call for survey data of category "A", i.e. paleoenvironment. The proponents describe access to data that is relevant to this category. SSP urges that existing data be deposited with the Data Bank before July 1, 1993 because only in this instance can the proposal be eligible for review at the next SSP meeting. A liaison from PPSP will be at that meeting, and the possible need for a safety pre-review will be determined at that time. Furthermore, discussion at that meeting could provide the proponents with useful guidance in track layout and general cruise design. SSP notes that even if no sites are intended to penetrate the BSR, velocity information will be critical for calculating true depth to the base of the clathrate zone. In addition, heat flow data will be highly desirable for comparing observed clathrate distribution with the distribution predicted for the theoretical temperature/pressure stability field. Finally, SSP urges that the proponents contact proponents Keigwin and Boyle of proposal 404 (Paleoceanography from W N Atlantic Sediment Drifts) and consider combining their efforts in assembling regional data for both of their respective survey cruises and potential drilling.

SSP CONSENSUS 18: No data for Gas Hydrates (423-rev) is in the Data Bank, although the proposal suggests that significant relevant data exist. In addition to the usual data types required for paleoenvironment sites, SSP will want to see velocity determinations so that the position of drilled samples relative to the BSR can be accurately known. Also, SSP will want to see heat flow measurements so that the observed clathrate distribution in the drillhole can be compared with the distribution predicted for the theoretical temperature/pressure stability field.

ACTION ITEM 4: Kastens to alert PPSP Chairman Ball to the possible need for a safety pre-review for Gas Hydrates.

B. New Jersey Margin II

[SSP member Mountain is a proponent for New Jersey II]

The continental shelf sites of the New Jersey margin transect already have SSP approval for drilling from a scientific perspective. They are not on the schedule for New Jersey I (Leg 150) because of safety hazards in shallow water. Proponents should be aware that special guidelines are being developed for hazard surveys in support of drilling in water depths less than 200m. Eventually, proponents will need to submit data conforming to these shallow-water guidelines before these sites can be scheduled for drilling.

C. Bahamas Transect (412-rev) (Sibuet) NEW

[no SSP member is a proponent for Bahamas Transect]

A transect of four holes is proposed on the slope of the Bahamas, offshore from two existing holes drilled by the Bahamas Drilling Project. The scientific objectives pertain to (1) sealevel history, and (2) fluid flow.

A detailed grid of single channel seismics across the proposed drill sites has been proposed for funding; in Trieste we had no knowledge of whether this project was funded. No data has been deposited in the Data Bank for this project. The proponents are reminded of the July 1 data deadline; programs which have no data in the Data Bank following this deadline will not be discussed at the July SSP meeting.

The Bahamas Transect data package will be evaluated against the guidelines for Target Type "A: paleoenvironment." In support of the sealevel objectives, a grid of seismic lines, rather than a single crossing, will be required to get a three dimensional view of the prograding sequences.

The fluid flow objective depends critically on siting holes accurately with respect to zones of discharge and recharge. In addition to the usual data types for Target Type A, SSP will want to see observational evidence that these hypothesized discharge and recharge zones exist and have been located. Such data might include detailed heatflow surveys, high resolution side-looking sonar and nearbottom-towed 3.5kHz images (to identify the potential diagenetic surficial sediments associated with fluid discharge), and visual images (to document possible vent-associated benthic life).

SSP CONSENSUS 19: In support of the sealevel objectives of the Bahamas Transect, a grid of seismic lines, rather than a single crossing, will be required to get a three dimensional view of the prograding sequences. In support of the fluid flow objectives, SSP will want to see observational evidence that the hypothesized discharge and recharge zones exist (relevant data could include detailed heatflow measurements, near-bottom towed side-looking sonar and 3.5/4.5kHz, and visual observations).

D. Mediterranean Sapropels (391-rev) (Kidd)

[SSP member Camerlenghi is a proponent for Med Sap]

At the instruction of the proponents and PCOM, the November 1992 SSP subgroup meeting considered a possible hybrid leg combining objectives from the Mediterranean Ridge proposal with Mediterranean sapropel objectives. SSP has been informed that the proponents no longer wish to pursue this hybrid plan, and SSP is now evaluating proposal 391-Rev as submitted.

A number of packages of data were received in the Data Bank in support of the Medsap sites for the November '92 SSP sub-group meeting. Apart from the proposed re-occupation of Tyrrhenian Sea ODP site 652, none of the Medsap sites could be considered fully documented in terms of site survey data. No new data has been received in the Data Bank since November but a number of cruises (see Appendix ____) are expected to fill remaining survey needs this year. SSP has been told that a revised Medsap proposal is known to be in preparation, which may document new sites. As with the Mediterranean Ridge sites, some survey data will almost certainly not be available from this series of cruises in time for assessment at the July SSP meeting. Proponents are nevertheless urged to submit to the Data Bank all the relevant data that they can gather for July 1 so that PCOM can consider the proposal's inclusion in the 1995 prospectus.

Worksheets evaluating the data status for Med Sap sites against the guidelines for Target Type "A: Paleoenvironment" are included in the Appendix.

SSP CONSENSUS 20: No data has been submitted to the Data Bank since the packages that arrived in support of the Mediterranean Sapropels proposal in November '92. Apart from the proposed re-occupation of Tyrrhenian Sea ODP site 652, none of the Medsap sites can be considered fully documented in terms of site survey data. Based on SSP's understanding of several site surveys planned for summer '93, it is possible that a complete data package could be submitted by November 1, '93.

E. VICAP/MAP (380-rev3) (Farre)

[SSP liaison Kidd is a proponent for MAP]

This proposal combines the Volcanic Island Apron Project (VICAP, 380) and Madeira Abyssal Plain (MAP, 059) proposals into a single effort aimed at studying the development of the Canary Basin in terms of: the history of volcanic activity at the Canary Hotspot; the evolution of large volcanic islands; and the filling of the Madeira Abyssal Plain.

For VICAP, a few newly-processed MCS profiles were deposited in the data bank since the August '92 SSP meeting. However, numerous deficiencies in the existing site survey data package remain. SSP is evaluating the VICAP drilling targets against the guidelines for Target Type "G: topographically elevated features." Due to the need to understand the basement architecture and the probability of encountering gaps in the stratigraphic record due to mass wasting, SSP is requiring: crossing MCS lines; high-resolution SCS; Parasound or 3.5kHz; careful velocity analysis of the MCS data for adequate estimation of drill depths; either sidescan sonar or swath bathymetry for choosing sites in areas of rough topography; and gravity data for addressing the tectonic objectives. Core data is also needed near each site requiring placement of a re-entry cone.

SSP is aware of planned cruises that will address many or all of the deficiencies in the VICAP data package. We recommend that the proponents submit a comprehensive data package of existing data and a detailed plan for upcoming data collection to the Data Bank prior to the July 1 '93 data deadline, to maximize their changes for inclusion in the FY '95 drilling prospectus.

For MAP, the site survey data package is complete, and from SSP's perspective, the program is ready to drill.

SSP CONSENSUS 21: The data package for MAP is complete, and from SSP's perspective, the program is ready to drill. Since the August '92 SSP meeting, a minor quantity of additional data has been deposited in the data bank in support of VICAP; however, this data package remains far from complete. SSP is aware of planned cruises that will address many or all of the deficiencies in the VICAP data package.

7. POTENTIAL FUTURE DRILLING: LITHP

A. Evolution of Oceanic Crust (420) (Shrivastava) NEW

[no SSP members are proponents for Evol. Oc. Cr.]

This is an ambitious project addressing a fundamental problem on the processes that control the evolution of the structure of the uppermost oceanic crust. To do this the proponents are proposing to drill a set of holes on the western flank of the East Pacific Rise. The program is divided into two legs; leg one to drill a pair of holes separated by a km or so where one hole is located on the crest of the abyssal hill and the paired hole located at the base of the same hill, positioned so as to penetrate the bounding normal fault at a few hundred meters subsurface. The second pair of holes are positioned in a similar fashion. The first pair of holes would be on 20m.y. crust; the second pair on 60m.y. old crust.

SSP realizes that the exact positions of these holes have not been decided yet and that ambitious plans are underway to carry out regional and detailed surveys for this purpose. We agree in general with the plans for these surveys and would appreciate being kept informed of progress. The proponents are reminded of the requirement for a core at re-entry sites. Because the experimental design of this drilling leg depends critically on penetrating a hypothesized normal fault, SSP urges the proponents to make every effort to image or otherwise document the existence, attitude, and depth of this fault, rather than relying on inference from surface morphology alone.

SSP CONSENSUS 22: SSP generally endorses the planned survey data collection strategy outlined in the "Evolution of Oceanic Crust" drilling proposal. Because the experimental design of the drilling leg depends critically on penetrating a hypothesized normal fault, SSP urges the proponents to make every effort to image or otherwise

document the existence, attitude, and depth of this fault, rather than relying on inference from surface morphology alone.

B. Return to 735B, Atlantis II FZ (300-rev) (Shrivastava) NEW

[SSP member von Herzen and SSP liaison Dick are proponents of return to 735B]

It is proposed to drill a set of holes along the crest of a 5km high ridge constituting the eastern wall of the Atlantis II transform valley along the Southwest Indian Ridge. The transect involves drilling four holes 500m deep, in addition to deepening hole 735B to a maximum depth of 2 km. The motivation for deepening 735B is to obtain a complete picture of the lower crust which was so successfully drilled at this site. The reason for drilling additional holes nearby is to obtain a representative section of the lower oceanic crust in order to decipher its temporal and spatial variability. Between two and three legs of drilling are proposed.

SSP appreciates the opportunity to build on the success of hole 735B, but feels that a better understanding of the geological and geophysical setting of the site can and should be obtained before multiple additional drilling legs are devoted to this area. For example, SSP would like to see observational evidence about the lateral variability of the lithologies and structures exposed on the top of the ridge penetrated by 735B; this will be an essential constraint when it comes time to site ODP holes in a manner that will neither oversample nor undersample for spatial and temporal variability. Similarly, SSP would like to see observational evidence that the structures depicted in the interpretive sketch in the proposal exist and can be mapped or imaged, and thus targeted for drilling. SSP recommends that the proponents of Return to 735B refer to the draft guidelines for tectonic windows sites ("offset drilling sites"), and remain in frequent contact with SSP through the SSP watchdog, as they formulate their data acquisition plans.

SSP CONSENSUS 23: The proposal to return to site 735B on the Atlantic II Fracture Zone is an ambitious project which will be more successful if the geological and geophysical setting of the sites are better understood through additional survey/sampling work before drilling begins.

C. NARM volcanic II (NARM) (Scrutton)

[SSP members Sibuet, Srivastava, and Hinz are proponents for NARM]

No new data has been received since August 1992. At their March 1993 meeting, LITHP recommended that NARM volcanic-II should proceed to the Voring margin if EG63-1 and EG63-II are completed on Leg 152; otherwise the EG63 Greenland Margin transect should be completed. SSP reiterates the need for 3.5kHz data at the EG66 transect sites, and the need to prepare a comprehensive data package for the Voring Margin. Voring Margin data would need to be deposited by the 1 July 1993 data deadline for evaluation at SSP's July meeting, in order for these sites to be in a strong position for FY95 scheduling.

SSP CONSENSUS 24: If the East Greenland transect EG63 is not completed on Leg 152, very little additional data would be needed to plan a second NARM volcanic margin leg using already-approved EG63 sites. If, however, Leg 152 does complete the EG63 objectives, and a second NARM volcanic leg wishes to focus on the Voring Margin, substantial improvement to that data package will be needed.

D. Red Sea (086-rev) (Scrutton) NEW

[no SSP members are proponents for Red Sea]

Now that the political situation in the Red Sea area is stable, it is proposed that some fundamental geotectonic and petrological questions related to the transition from continental to oceanic rifting should be addressed there. The Red Sea is a natural laboratory in which to study the initiation of seafloor spreading and the formation of passive margins as they take place. Stratigraphic and paleoceanographic problems may also be tackled by drilling in the Red Sea, but are not the subject of this proposal. A number of stages of continental splitting are identified from continental stretching in the north to fully-developed spreading in the south. Sites are proposed to sample different stages. All sites have basement objectives, although basement is not deep at the proposed sites (less than 400mbsf).

There is a wealth of background data of many types in the Red Sea, but some of it is quite old. Specific locations are proposed for sites, but supporting data in the proposal consists of only one poor quality seismic profile in each case. No data has been submitted to the Data Bank. Based on the proposal, the following data exist: Site 1A, intended to sample A2' oceanic basement in the southern axial trough, is documented by GLORIA coverage and a recent deep-tow profile. Site 1B, intended to sample 1-2Ma crust in the Nereus Trough central deep where spreading is just starting, is supported by SeaBeam, Deep Tow, and good SCS. Site 1C, intended to sample intrusive material in the Bannock Deep, has SCS. Sites 2 and 3, near to Zabargad Island (where mantle peridotites are exposed), appear to have little supporting data in hand.

Sites 1A, 1B and 1C are tentatively designated as Target Type "E: Oceanic Crust with less than 400m sediment." However, the proposal mentions possible bare-rock drilling at Site 1B, in which case that site would be evaluated against the guidelines for Target Type "B: Barerock Drilling." Sites 2 and 3 are designated as Target Type "B: passive margin." Hydrothermal circulation and mineralization are mentioned as potential objectives. The proponents are reminded that additional background data may be required for drilling in hot environments (data types labelled "H" in the SSP guidelines).

A cruise is proposed for 1993 on which SCS, SeaBeam and magnetics would be collected. There are probably older data sets that have not been fully assessed or fully exploited yet, e.g. heatflow and coring.

SSP CONSENSUS 25: Only a small amount of a very large Red Sea data set is presented in the proposal. Existing data sets have not yet been fully exploited in support of this program, and it is unclear at this time whether additional data collection would be necessary before the Red Sea could be scheduled for drilling.

E. Sedimented Ridges II (SR-DPG) (Hinz)

[no SSP members are proponents for Sed Ridges II]

Based on the results of Leg 139, the Sedimented Ridges Working Group developed a drilling strategy for Leg II for the area of Middle Valley on the northern Juan de Fuca Ridge and the Escabana Trough on the southern Gorda Ridge. Several holes for the Middle Valley area have been proposed to drill through and adjacent to the Bent Hill massive sulfide deposit and in the area of the Dead Dog vent field. A suite of holes have been proposed in the NESCA area of the Escabana Trough.

Besides the site survey data for Leg 139, additional data, including data from the CORKed boreholes, have been acquired by both submersible and ROV. Additional cruises with the ROV are planned in 1993 in the proposed Middle Valley drilling area. A USGS cruise in the proposed NESCA drilling area is planned for 1993 to collect detailed side looking sonar data. SSP did not have sufficient data in Trieste to evaluate the Sedimented Ridges II proposal on a site-by-site, datatype-by-datatype basis; however we anticipate that

much of the required data will remain in the Data Bank in the package prepared for Leg 139.

SSP CONSENSUS 26: Much of the data needed for Sedimented Ridges II drilling remains in the Data Bank in the package prepared for Leg 39. ROV and side-looking sonar data acquisition scheduled for 1993 will strengthen the data package.

8. POTENTIAL FUTURE DRILLING: OHP

A. North Atlantic Arctic Gateways II (Hinz)

[no SSP members are proponents for NAAG]

A large number of well-documented sites were prepared in planning for NAAG I (now scheduled as Leg 151). However, the existing data package prepared for NAAG I will need to be supplemented to provide enough fully-documented sites for a second leg of NAAG drilling. In particular, as noted in the writeup of Leg 151 above, sites ICEP-2, -3, and -4, plus SIFR and NIFR have no data package in the Data Bank at present. It is expected that NAAG II would drill sites left undrilled by Leg 151, presumably the southern sites that don't require an icebreaker.

We understand that the Ocean History Panel plans to hold a planning day at their fall meeting to finalize the design of NAAG II based on the results of Leg 151. At that time, they might also incorporate some sites from other proposals into the NAAG II plan. Even though that planning meeting will not yet have occurred, we strongly encourage the proponents to submit additional data (at least for sites ICEP-2, -3, and -4, plus SIFR and NIFR) before the July 1 data deadline, so that SSP can evaluate the site survey readiness of NAAG II before the FY95 prospectus is assembled at the August PCOM meeting.

SSP CONSENSUS 27: The existing Data Bank data package prepared for NAAG I (now scheduled as Leg 151) will need to be supplemented to provide enough fully-documented sites for a second leg of NAAG drilling.

B. Sub-Antarctic SE Atlantic Transect (430) (Camerlenghi) NEW

[no SSP members are proponents for sub-SAT]

The sub-SAT proposal in its present status does not include a site survey data package. Sites are tentatively located on existing seismic lines of rather poor quality. SSP acknowledges the statement of the proponents that "it is fully recognized that additional site survey data will be necessary in order to develop this proposal into a viable expedition by ODP. If the proposal is favorably reviewed by the thematic panels, we will seek funding to collect the necessary site survey data to produce a fully mature drilling proposal." SSP requests that the proponents prepare their site survey plans and data package according to the guidelines for Target Type A (Paleoenvironment) rather than D/E (Open Oceanic Crust), as they had indicated on their site summary forms.

SSP CONSENSUS 28: New data must be acquired to prepare an adequate site survey data package for the Sub-Antarctic SE Atlantic Transect, and proponents plan to request funding to acquire such data. SSP does not anticipate that the data package for this leg will be ready in time for FY95 scheduling.

C. Benguela Current (354rev, 354add) (Farre)

[no SSP members are proponents for Benguela Current]

Neogene history of the Benguela Current and coastal upwelling off Angola-Namibia West Africa are the subjects of this proposal. Eleven sites in 6 transects with an average penetration of 500 m are proposed.

All sites are being judged as paleoenvironmental (Target Type A) by SSP. No data has yet been deposited in the data bank. Because of the likelihood of encountering stratigraphy affected by mass wasting, crossing high-resolution SCS lines will be required at each site. Also, to aid site selection, swath bathymetry will be required in areas of rough topography. This is in addition to the core data and 3.5kHz or equivalent that are always considered "vital" for paleoceanographic sites.

SSP is aware of a site survey scheduled for April/May '93. It is possible that an acceptable data package will be deposited in the data bank by the July 1, '93 deadline. The proponents are urged to submit a data package of existing and/or newly-collected data by the deadline, as proposals with no data package will not be considered by SSP at its July meeting.

SSP CONSENSUS 29: No data has yet been deposited in the data bank, but a site survey cruise is scheduled for April/May 1993. Because of the likelihood of encountering stratigraphy affected by mass wasting, SSP is requiring crossing high-resolution SCS at all sites, and swath bathymetry across areas of rugged topography, in addition to the core data and 3.5kHz/Parasound that are always considered "vital" for paleoceanographic sites.

D. Caribbean K/T boundary (415rev) (Mountain)

[no SSP members are proponents for K/T boundary]

There has been no change in the status of this proposal or data package since our August '92 meeting. A second request for funds to collect survey data that would pinpoint the drilling targets proposed in this proposal has been declined by NSF. However, an unrelated MCS cruise aboard the R/V Ewing has been funded to investigate basement fabric and history in the Caribbean. The proponents for ODP proposal 415 are encouraged to contact the principal investigators of the funded cruise (Diebold and Driscoll, L-DEO) to see whether some data useful in support of proposal 415 will be or could be collected. SSP does not have a good sense as to whether or not an adequate data package could be compiled from existing data.

In thinking about what kind of data would be needed in support of proposal 415, the proponents have correctly identified the survey guidelines as Target Type "D". SSP considers it very important that the proponents provide some kind of data (e.g. magnetic anomaly data, seismic ties to existing drillholes) documenting that the basement age at each site is not younger than Late Cretaceous, to ensure that recovering the K/T boundary event is possible. The proponents are advised that piston cores will be important for evaluating their paleoceanographic objectives. If the drilling plans evolve to include more extensive plans for drilling into basement in support of LIP objectives, the proponents are advised to consider the need for survey data types beyond those of type "D".

SSP CONSENSUS 30: NSF has recently declined a proposal to survey the region of the Caribbean K/T boundary drilling targets; and no effort has yet been made to compile a data package from existing data. In addition to the normal data types for Target Type "D," SSP will want to see (1) regional data (e.g. magnetic anomalies, seismic ties to existing drillholes) documenting that the basement age is not younger than Late Cretaceous, and (2) piston cores in support of the paleoceanography objectives.

E. California Margin (386-Rev2/422-Rev) (Kidd)

[no SSP members are proponents for Calif marg.]

The OHP has advised construction of a one-leg program based on a synthesis of the 13 site Lyle et al California Margin proposal (386-Rev) and the 5 site Stott/ Thunnell California Borderland proposal (422- Rev).

At its August meeting 1992 SSP considered the Lyle proposal incomplete: the USGS EEZSCAN Atlas was referred to as the main source of data in support of the proposal and although a copy of the Atlas resides in the Data Bank, no original data was submitted for the August 1 deadline. In addition an upcoming survey cruise (as yet unfunded) was referred to by the proponents as pending. SSP characterized the proposal as awaiting a survey cruise and not ready for scheduling for 1994 and thus it was not included by PCOM in its 1994 Prospectus. In August SSP confined itself to advising these proponents on data that they should attempt to collect on their cruise, which we subsequently learned was not funded. Specific items under Target A (all sites <500m penetration) were the desirability of SCS crossings over the EEZSCAN lines where the cores were located, since a number of the sites were in somewhat complicated terrain. Some of the sites anticipate penetration of basement under a thin sediment cover. Two of the sites, CA-6 and CA-14 were re-locations of old DSDP sites and, as such, were not considered as needing further survey data under Target A. SSP now considers that, even in the absence of further cruise data, the proponents could possibly satisfy Target A requirements (vital = high res. SCS, 3.5kHz and a core) for many of the sites by submission of original EEZSCAN data and core logs for the 1 July '93 deadline.

The Stott/Thunnell sites must also satisfy Target A guidelines with sediment penetrations of up to 500m. Each site is located in a different Borderland basin and, although the proponents show maps of extensive seismic coverage of seismic tracklines, some of the xerox copies of the example basin crossings suggest poor records. None of the proposed sites are yet located on seismic lines. The impression is that sites can be chosen in this data network to satisfy Target A needs but SSP will await the merger of the two proposals before doing a detailed site by site assessment.

SSP Consensus 31: No original data has yet been submitted in support of California Margin proposal 386-Rev2 but it is now to be merged by OHP with California Borderland proposal 422-Rev. SSP urges the proponents of these two offshore California proposals to finalize site locations and prepare their data packages to meet Target A requirements for the 1 July '93 deadline.

F. NW Atlantic Sediment Drifts: Bermuda Rise/Blake Bahama Outer Ridge (404) (Mountain)

[no SSP members are proponents for NW Atlantic Sed Drifts]

Since our last review, the proponents have been funded to collect survey data along the Blake Outer Ridge in 1993. Drilling plans on the northern Bermuda Rise will be based on existing data. SSP reiterates its previous statement that a considerable amount of data exists in this region. This existing data should be assembled and submitted to the Data Bank before the July 1 data deadline; proposals that have no data in the Data Bank following that deadline will not be evaluated at SSP's July meeting.

SSP notes some common interests between proposal 404 and proposal 423-rev (Gas Hydrates, Paull et al). The proponents for these two programs are urged to consider combining their efforts in assembling regional data for both of their respective survey cruises.

CONSENSUS 32: Although no data has yet been submitted to the Data Bank in support of NW Atlantic Sediment Drifts, SSP anticipates that the proponents will be able to assemble a strong data

package from abundant existing data, and from a funded upcoming (1993) cruise.

G. South Florida Margin (427) (Farre) NEW

[no SSP members are proponents for S. Florida margin]

The purpose of this program is to test the concept and application of seismic sequence stratigraphy, determine the magnitude and rates of late Quaternary sea level fluctuation, understand the growth pattern of a carbonate margin, and determine the influence and importance of current activity on the stratigraphic record.

The proponents recognize the need to collect additional site survey data for these paleoenvironmental sites (Target A). SSP agrees with the proponents' plan to collect a grid of high-resolution SCS profiles, side-scan sonar imagery, multi-beam bathymetry, and piston coring/bottom sampling (at each drill site). SSP urges the proponents to ensure that 3.5 kHz (or equivalent) data are collected, preferably from the side-scan instrument. Because of the likelihood of significant bottom currents, SSP will require documentation of their magnitude and variability.

As 14 of the 17 proposed sites lie in water depths shallower than 200 meters, this proposal will have to satisfy new guidelines for shallow-water drilling being developed by PPSP. Also, SSP notes that use of the Diamond Coring System is desired for the 9 shallowest sites. SSP urges the proponents to submit a data package as soon as possible, even if it is incomplete, as this will allow safety issues to be addressed as early as possible. Proponents are advised that to be considered at the July '93 SSP meeting, a data package must be submitted to the data bank by the July 1, '93 data deadline.

SSP CONSENSUS 33: No data package has been submitted. SSP generally endorses the proposed site survey plan outlined in the proposal. Because of proposed shallow-water drilling and the desired use of the DCS, this proposal will need special attention from the ODP advisory system.

9. OTHER BUSINESS

A. Response to draft report on JOIDES Advisory Structure

The draft report submitted by the committee on the Joides Advisory Structure (Dürbaum report) was discussed. There was general agreement with the letter submitted by Kastens (Appendix), which incorporated feedback from other SSP members. In particular, the idea of loading SSP's existing or enlarged workload onto a smaller number of people in a Site Survey "Group" was felt to be impractical. The goal of incorporating site survey expertise into an end-of-the-year planning meeting could be achieved by inviting the SSP watchdogs for the relevant programs to that meeting, rather than by scaling down SSP.

In addition, several non-U.S. members emphasized the importance of having some meetings overseas (the draft report recommended that all SSP meetings be at the ODP Data Bank), to demonstrate the presence of ODP in their countries. We agreed that the data-intensive summer and fall SSP meetings should be held at the Data Bank to avoid shipping or carrying data around the world. However the April meeting, which focuses on proposals newly ranked by the Thematic Panels, typically involves viewing less data. We feel that the April meeting can and should be held outside the U.S.

ACTION ITEM 5: PCOM liaison Kidd to present the sense of SSP's discussion on Dürbaum report to PCOM.

B. SSP Guidelines

The SSP guidelines for Target Type F "Bare rock drilling" were re-evaluated. We decided to downgrade the guideline for high-res SCS, 3.5kHz, and core from "X vital" to

"(X)* desirable but may be required in some cases." The rationale for requiring these data types on a bare rock drilling leg is so that alternate sites can be selected in sediment pockets as backups in case of technical failure with the bare rock drilling procedure. We felt that 3.5kHz data and/or SCS and/or core information should be included in the data package to document the location of such sediment ponds. We noted with disapproval that MARK and TAG, on the schedule for FY'94 bare rock drilling, do not have any backup non-barerock sites.

SSP CONSENSUS 34: SSP considers that it would be prudent for barerock drilling legs to have alternate site(s) in sediment pockets, which could be spudded-in with conventional technology in the event of technical failure at the barerock site(s). Consequently, the data package for barerock legs should include 3.5kHz data, and/or SCS data, and/or coring data sufficient to document the location of drillable sediment pockets in the vicinity of the primary targets.

C. Feedback to proponents

For all highly-ranked but unscheduled proposals, watchdogs should inform the proponents about the outcome of the SSP meeting. Feedback from the watchdogs to the proponents should include: (a) the name and contact information of the watchdog, (b) the target types within the SSP guidelines against which each site will be evaluated, (c) for each data type classified as "desirable but may be required in some cases (X)*", an indication of whether SSP will or will not require this particular data type for these particular sites, (d) a reminder of the July 1 data deadline, and (e) a copy of the section of the minutes dealing with the proposal.

In addition, in some cases the feedback may include: (a) an indication of potential safety issues, (b) an indication of shallow water drilling problems, (c) an indication of additional data types that SSP might require in support of secondary or non-standard drilling objective in circumstances not well covered by SSP guidelines, (d) advice on other investigators who may have relevant data in the region, (e) advice on survey ships that may be able to visit the area, (f) copies of the SSP worksheets, if the data package is sufficiently mature to enable the watchdog to fill out worksheets.

For scheduled legs where new data was received, or data is still missing, or new sites have been discussed, the watchdog should also write to the lead proponent and inform him/her of the sense of the SSP discussion. For scheduled legs where there was no change in data status and no missing data and no substantive issues raised in Trieste, it is not necessary to contact proponents.

ACTION ITEM 6: Each watchdog will write a letter to the lead proponent of each proposal discussed in Trieste, enclosing the relevant section of the SSP minutes, plus copies of the completed SSP worksheets (if applicable). A copy of these letters will be sent to the ODP Data Bank.

D. Panel membership

Greg Moore is leaving SSP to join TECP after this meeting. Dick von Herzen will complete his four year term on SSP after the July meeting. We discussed the pros and cons of possible new members with expertise in shallow water hazards surveys, seismic data analysis, near-bottom-towed geophysical surveys, and crustal petrology. We narrowed our list of replacement candidates for Greg Moore to three candidates with expertise in seismic data analysis and/or deep-towed geophysical surveys.

ACTION ITEM 7: Kastens to contact three candidate members to see if they are willing to join SSP. Kastens to forward names of candidate members to PCOM chair.

E. Next meeting

We propose to hold the next SSP meeting at Lamont the last week of July, 1993. The primary goal of the July meeting is to provide advice to PCOM on the site survey readiness of proposals that they may wish to consider for inclusion in the prospectus for FY'95 drilling. After discussion, we decided that proposals that have absolutely NO data in the ODP Data Bank by the July 1 data deadline will be declared to be unready and will not be further discussed at our July meeting.

ACTION ITEM 8: Kastens to request permission for SSP meeting at Lamont the last week of July from PCOM Chair.