

25-28 FEBRUARY, 1980 PCOM MINUTES

TABLE OF CONTENTS

| <u>PAGE</u> | <u>ITEM</u> | <u>SUBJECT</u> |
|-------------|-------------|------------------------------------------------|
| 1 | 289 | INTRODUCTORY REMARKS |
| 2 | 290 | CHALLENGER OPERATIONS AND RECENT RESULTS |
| | | I. Leg 69 (Costa Rica Rift Area) |
| | | II. Leg 70 (Galapagos Mounds) |
| | | III. Leg 71 (Falkland Plateau) |
| | | IV. Site Reports |
| 3 | 291 | NORTH ATLANTIC PROGRAM |
| | | I. Leg 76 (Blake-Bahama Basin) |
| | | II. Leg 77 (Florida Straits) |
| | | III. Leg 78 (Caribbean) |
| | | IV. Leg 79 (Mazagan or Galacia) |
| | | V. Leg 80 (Bixcay or Goban Spur) |
| | | VI. Leg 81 (Rockall) |
| | | VII. Leg 82 (N.J./Newf. Ridge) |
| | | VIII. North Atlantic Geochemical Heterogeneity |
| | | IX. Geophysical Leg-Logging Site 395 |
| | | X. Discussion |
| | | A. Geochemical Heterogeneity Transect |
| | | B. Logging Site 395 |
| | | C. Passive Margin Program |
| | | XI. Co-Chief Scientist Nominations |
| | | A. Leg 76 |
| | | B. Leg 77 |
| | | C. Leg 78 |
| | | D. Leg 79 |
| | | XII. PMP Membership Changes |
| 14 | 292 | PANEL REPORTS |
| | | I. DMP |
| | | II. SP4 |
| | | III. IHP |
| | | IV. Safety |
| | | V. AMP |
| | | A. Synthesis Volume |
| | | B. Recent Drilling Results |
| | | C. Membership Changes |
| | | VI. OPP |
| | | A. HPC and High Resolution Stratigraphy |
| | | B. South Atlantic Program |
| | | C. Membership |
| | | VII. Inorganic Geochemistry Panel |
| | | A. Information Items |
| | | B. Equipment Recommendations |
| | | C. Future Work |
| | | D. Membership |

| <u>PAGE</u> | <u>ITEM</u> | <u>SUBJECT</u> |
|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | 292 | VIII. OGP <ul style="list-style-type: none"> A. Panel Meetings B. Equipment C. Shipboard Staffing and Operations D. Organic Geochemistry Handbook E. Sampling F. Frozen Samples G. Panel Membership H. Gas Hydrate Experiment |
| | | IX. SSP <ul style="list-style-type: none"> A. IPOD Data Bank B. Status of Site C. Role of SSP/Next Meeting |
| | | X. SCP <ul style="list-style-type: none"> A. Paleo Data Base B. Working Groups and Panel Liaisons C. Shipboard/DSDP Activities D. Membership |
| 26 | 293 | NSF REPORT <ul style="list-style-type: none"> I. 81-83 Challenger Proposal II. Ocean Margin Drilling (OMD) |
| 29 | 294 | 81-83 CHALLENGER PROPOSAL <ul style="list-style-type: none"> I. Introduction II. Revisions |
| 29 | 295 | DSDP REPORT <ul style="list-style-type: none"> I. Developmental Engineering <ul style="list-style-type: none"> A. HPC Modifications B. Pressure Core Barrel (PCB) C. Extended Core Barrel (XCB) D. Drill Bit Motion Sensor II. Status of Challenger III. Budgets IV. Initial Reports <ul style="list-style-type: none"> A. Microfiching B. Color Reproductions V. Initial Core Descriptions VI. Shipboard Staffing VII. Strip Color Photographs VIII. Deep Sea Sediment Handbook |
| 33 | 296 | EXCOM REPORT <ul style="list-style-type: none"> I. Micro-Paleo Reference Centers <ul style="list-style-type: none"> A. Collection Permanence B. Smithsonian Institution Paleo Reference Collection C. Sample Preparation and Reference Center Establishment II. Synthesis Volumes III. Other Items |

| <u>PAGE</u> | <u>ITEM</u> | <u>SUBJECT</u> |
|-------------|-------------|-------------------------------|
| 34 | 297 | HPC PLANNING COMMITTEE |
| 35 | 298 | OTHER BUSINESS |
| | | I. Geophysical Log |
| | | II. Initial Site Prospectus |
| 36 | 299 | CLOSING REMARKS |
| 36 | 300 | FUTURE MEETING |

ACTION ITEMS

PCOM - 25-28 FEBRUARY, 1980

| <u>Page</u> | <u>Item</u> | <u>#</u> | <u>Responsibility</u> | <u>Subject</u> |
|-------------|-------------|----------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 290 | IV | DSDP/JOIDES Office | Include alpha-numeric initial site prospectus designation with initial site reports. |
| 10 | 291 | X | Safety | Review proposed Leg 76 sites before July PCOM meeting. |
| 10 | 291 | X | PCOM | Review Leg 76 priorities |
| 14 | 292 | II | DSDP | Implement recommendations in SP4 report "Undisturbed sampling..." |
| 14 | 292 | II | SP4/Curator/Leg 75 co-chiefs | Work out financial and sampling procedures for special geotechnical studies of Leg 75, HCP cores |
| 16 | 292 | III | DSDP | Prepare long term phase down plan, specifically including data management and publication. |
| 16 | 292 | III | PCOM/IHP | IHP Chairmanship |
| 18 | 292 | VI | PCOM | Discuss Leg 73 logging motion with your EXCOM representative and have him send his "vote" to the JOIDES Office. |
| 21 | 292 | VIII | DSDP | Invite shipboard organic geochemist to appropriate safety review. |
| 21 | 292 | VIII | DSDP/OGP | Obtain list of experienced Rock-Eval users, and include such a person in the shipboard party when the information is going to be needed. |
| 21 | 292 | VIII | DSDP | Investigate possibility of obtaining commercial PCB. |
| 21 | 292 | VIII | OGP | Recommend panel chairman |
| 24 | 292 | IX | SSP/JOIDES Office | Set up SSP meeting in July in France to coincide with high resolution seismics workshop. |
| 30 | 295 | II | DSDP | Try to make port call length proportional to the length of the Leg. |
| 33 | 296 | I | JOI | Submit proposal to NSF to prepare microfossil slide collection. |
| 34 | 297 | | JOIDES Office | Authorize funds for HPC working group meeting. |

| <u>Page</u> | <u>Item</u> | <u>#</u> | <u>Responsibility</u> | <u>Subject</u> |
|-------------|-------------|----------|-----------------------|--------------------------------------------------------------------------------|
| 35 | 298 | | JOIDES Office | Print and distribute initial site prospectuses for the North Atlantic Program. |

JOIDES Office
Woods Hole Oceanographic Institution
Department of Geology and Geophysics
Woods Hole, MA 02543
(617) 548-1400, Ext. 2828

DRAFT MINUTES

JOIDES Planning Committee Meeting
25-28 February, 1980 - Smithsonian Institution

PCOM Members:

Ewing, J. (Chairman, WHOI)
Beiersdorf, H. (FRG)
Bryant, W. (Texas A&M)
Cann, J. (UK)
Corliss, J. (Oregon State)
Creager, J. (U. Wash.)
Hayes, D. (LDGO)
Moberly, R. (HIG)
Montadert, L. (France)
Moore, T. (URI)
Nasu, N. (Japan)
Nikitin, L. (USSR)
Schlager, W. (RSMAS)
Winterer, E. L. (SIO)

O'Connell, S. (JOIDES Office)
Salisbury, M. (DSDP)
Theyer, F. (NSF)
Wilkniss, P. (NSF)

Panel Chairmen

Benson, R. (SCP)
Douglas, R. (OPP)
Garrison, L. (PPSP)
Gieskes, J. (IGP)
Hyndman, R. (DMP)
Jones, E. (SSP)
Kvenvolden, K. (OGP)
Rosenfeld, M. (IHP)
Richards, A. (SPP)
Sheridan, R. (PMP)
Von Huene, R. (AMP)

Guests

Brown, L. (NSF)
Clotworthy, J. (JOI)
Davin, E. (IDOE/NSF)
Grow, J. (PMP/USGS)
Heinrichs, D. (NSF)
Johnson, D. (NSF)
Lancelot, Y.
Odegard, M. (ONR)
Pyle, T. (ONR)
Rucker, D. (JOI)
Sherwood, W. (NSF)

289 INTRODUCTORY REMARKS

J. Ewing opened the meeting. R. Benson welcomed the PCOM, Panel Chairmen and guests to the Smithsonian Institution. Meeting logistics were discussed and an agenda adopted.

290 CHALLENGER OPERATIONS AND
RECENT RESULTS

I. Leg 69 (Costa Rica Rift Area)

Sites were drilled in two contrasting geothermal settings, with unexpected results. Drilling was done in a low heat flow area, with relatively young, smooth crust. The thick, rapidly deposited sediment cover, was H₂S rich, and had a high bacterial content. Bottom temperatures were about 10°C.

Drilling in the rougher topography, high heat flow area showed temperatures of 65° at the basalt/sediment interface. Chert and limestone were cored above basement and there was extensive compaction of the sediments. Strong Mg & Ca gradients were observed and these varied in holes only a few meters apart.

An extensive downhole instrument program was carried out in hole 501 (also 504b). Temperature logs showed that the hole intersected a zone with negative pressure so that water was running down the hole and into the basement at a rate of several meters per hour. This situation was still maintained 54 days later when T logs were taken in the same hole during Leg 70. Permeability measurements were made below an inflatable packer showing basement permeabilities of one darcy. The basement however was too cracked to be able to build up enough pressure to hydrofracture. Basement pore fluids sampled below the packer seemed to be related to pore fluids diffusing into the sediments. The borehole televiewer was used to provide acoustic pictures of downhole sediment and basement features. The Soviet magnetometer was deployed, showing the full range of crustal magnetic fluctuations.

II. Leg 70 (Galapagos Mounds)

An acoustic pinger was placed on the drill pipe and successfully helped to locate the mounds. Sediments were hydraulically piston cored. The hydrothermal sediments were confined to the mounds area, and had showed excellent recovery. Basement penetration was less successful.

Site 504b was re-entered and deepened. Three hundred and forty seven meters of basement were cored, extending the hole to 836 m sub-bottom (561 m into the basement). Thick lava flows were encountered, and gave good shear wave velocities in the upper part of the section. The hole is cased to basement and left open for future reentry.

III. Leg 71 (Falkland Plateau)

Leg 71 just ended and members of the shipboard party hadn't returned to DSDP. The following sites were drilled:

Ab-1B (Site 511), cored 632 m., bottoming in Neocomian to Aptian age mudstone. No open hole logging was done.

Ab-1C'b (Site 512), encountered very bad weather, penetrating mid-Eocene sediments so the Cretaceous objectives were not achieved.

AB-3, spent three to four days in bad weather with lots of icebergs. No drilling was done.

AB-4b (Site 513), HPC'ed the upper section and drilled to basement. Cherts were encountered just above basement.

AB-4A (Site 514), HPC'ed the upper 150m of sediments, recovering Pliocene to Quaternary diatomaceous clays and oozes.

The co-chiefs considered it to be a very successful leg.

IV. SITE REPORTS

DSDP was asked to include the initial site prospectus designation (alpha-numeric) with the site numbers in the initial site reports. The JOIDES Office was asked to include these in the JOIDES JOURNAL.

291 NORTH ATLANTIC PROGRAM

I. Leg 76

Leg 76 will be drilled in the Blake-Bahama Basin area. Three sites are proposed for the leg:

| <u>Site</u> | <u>Penetra- tion</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------------|------------------------|----------------|------------------------|-----------------|--------------------|
| ENA 1 | 1800m | Bathonian(?) | yes | 28 days | 1 | oldest sediment |
| ENA 5 | 500m | Early Tertiary | No | 10 days | 2 | Unconform- ity |
| ENA 7 | 400m | Late Tertiary | No | 4 days | 3 | Hydrates |

1. ENA-1 is located in the Blake-Bahama Basin west of the Blake Spur Anomaly. The objective here is to recover oldest sediment and sample basement in the Jurassic quiet zone. Discussion developed concerning the feasibility of successfully penetrating that depth of sediment at that water depth. Results of drilling nearby Hole 391 indicate high probability of success.
2. ENA-5 is located on the Blake Plateau in 2200m of water. An unconformity, possibly associated with Au, occurs at about 700m. The objective is to examine the sediments above and below the unconformity.
3. ENA-7 is located on the Blake outer ridge at 3150m water depth. The prime objective here is to use the Pressure Core Barrel to sample the gas hydrate. Safety OK on this site will depend on a rigorous science program and a working PCB. The test will be conducted where there is no bright spot below the BSR. A summary, prepared by John Hunt, of the proposed gas hydrate experiment was distributed prior to the PCOM meeting.

II. LEG 77

Leg 77 will be drilled in the Florida Straits area. Two sites are proposed.

| <u>Site</u> | <u>Penetration</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------|--------------------|----------------|--------------------|-----------------|----------------------------|
| ENA-12 | 1500m | Oxfordian (?) | Yes | 28 days | 1 | Old Gulf Sed- iments |
| ENA-13 | 1000m | Late Cretaceous | No | 14 days | 2 | Hiatuses |

1. ENA-12, in the Florida Straits is planned to penetrate lower Cretaceous and upper Jurassic sediments (probably limestone) that are traceable over the entire Gulf of Mexico. Sampling this reflector will enable the precise age and paleoenvironment of this part of the seismic stratigraphy to be determined. This information is important in understanding the role this area played in the rifting of the Atlantic.
2. ENA-13 is located slightly Northeast of ENA-12. It will be drilled to get continuous cores of the Tertiary and Cretaceous sediments, study the age and cause of hiatuses related to the origins of the Florida Current, and the exchange of water between the Atlantic Ocean and Gulf of Mexico.

3. Discussion.

Political and environmental concerns about drilling ENA 12 & 13 were expressed. Apparently there are no political problems with drilling in this area. The stiff 1-2 knot currents may pose a problem. DSDP has said that strong currents shouldn't cause difficulty as long as they are steady or change gradually over a period of time. Not enough current data was available at the PCOM meeting to determine how extensive the current problem would be. Some current information will be collected during the site surveys.

III. LEG 78 (Caribbean)

Three sites of equal priority were proposed for the Caribbean Leg:

| <u>Site</u> | <u>Water Depth</u> | <u>Penetration</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Objective</u> |
|-------------|--------------------|--------------------|----------------|--------------------|------------------------------------------------|
| CAR-7 | 4100 | 600 | No | 7 | Yucatan Basin age & Caribbean Reconstruction |
| CAR-3 | 5000 | 1600 | No | 20 | Venezuela Basin age & Caribbean Reconstruction |
| CAR-1 | 5000 | 1200 | No | 15 | Subduction Tectonics |

- CAR-7 is planned to be drilled on a basement high in the Yucatan basin, with the intention of dating the oldest sediments to provide information on Caribbean reconstructions. The validity of drilling basement highs to determine the age of the oldest sediment was questioned.
- CAR-3 is located on a high fault block in the Venezuela Basin. A continuous NW-SE change in the β and basement reflectors occurs in the Venezuela Basin. The NW part shows a strong continuous β reflector. In the SE, no β reflector is present, and the basement is more characteristic of rough oceanic crust. The major objective at this site is to date the lowest sediments and penetrate the Venezuela Basin crust. Washing through the upper portion of the sediments was discussed as a time-saving tactic, although this procedure is generally frowned upon by stratigraphers.
- CAR-1 is located on the toe of the Barbados accretionary wedge, with the objective of penetrating through the subduction complex, the underlying megathrust, and into the

lower plate along the Antilles arc. There is also a plan to place a recording seismometer in this hole.

4. Drilling Program and Discussion

The Caribbean Working Group proposed that Leg 78 begin in Belize (Honduras) and end in Barbados. This would decrease transit times and allow drilling of the three proposed sites.

The proposed sites were thought to fall into two categories, those of regional (CAR-1) and those of topical (CAR-3, 7) interest. On this leg active margin interests are in competition with passive margin interests, and therefore the prioritization of the sites should be done by the PCOM.

Cann moved and Moberly seconded that the PCOM felt that CAR-1, the Barbados toe drilling, be given higher priority than CAR-3, the Venezuela Basin site, and that both have higher priority than CAR-7 in the Yucatan Basin. Vote 9 for, 0 against, 3 abstain. Motion passed.

Nassau and Port of Spain had initially been proposed as possible ports. Fuel costs are less at U.S. ports so San Juan and Miami were also suggested. In addition, sometime between Legs 76 and 78, a 10 day mandatory dry dock will occur and this will be done in a U. S. port.

IV. LEG 79. (Mazagan or Galacia)

The first choice of sites for this leg are on the Mazagan escarpment. If these are unacceptable for safety reasons, alternative Galacia sites are proposed. Three sites are proposed for the Mazagan escarpment:

| <u>Site</u> | <u>Penetration</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------|--------------------|----------------|--------------------|-----------------|-----------------------|
| MAZ-1 | 1000m | Callovian (?) | No | 14 | 1 | Pre-rift Sediments |
| MAZ-2 | 1000m | Bathonian (?) | No | 14 | 1 | " |
| MAZ-3 | 1000m | " | No | 14 | 1 | " |

The Mazagan escarpment consists of a series of fault blocks. An E-W transect is planned. MAZ-1 will penetrate a slump mass on the fault scarp and into Jurassic (Callovian) sediments. Oxfordian age rocks have been dredged from this scarp. MAZ-2 will be drilled in the thick sediment wedge on the down-dipping part of a rotated fault block, recovering syn and post-rift sediments. MAZ-3 will be drilled on the more thinly sedimented high of a fault block and penetrate basement.

V. Leg 80

Leg 80 will be drilled on the Biscay Margin, with alternative sites on the Goban Spur. Three sites are planned:

| <u>Site</u> | <u>Penetra- tion</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------------|------------------------|----------------|------------------------|-----------------|------------------------------------------------------------------------|
| ARM-1 | 1200 m. | Jurassic(?) | yes | 20 | 1 | Pre-rift sediments |
| ARM-2 | 1000m. | Aptian | no | 12 | 2 | Ocean Crust |
| ARM-3 | 1000m. | Late Cretaceous | no | 12 | 3 | Mid-slope Paleo-depth & shelf conditions during rifting |

ARM-1 is planned to penetrate the thick sediment wedge in the down-tilted part of the fault block, somewhat similar to MAZ-2. In the preliminary safety review the PMP was asked to move this site more toward the tilted fault block. More surveys will be done in the area.

ARM-2 (west of ARM-1) is planned to penetrate through the sediment pile (including black shales) into the first ocean crust. ARM-3 is located on a fault block east of ARM-1 and will be drilled to compare the mid-slope development of the rifted margin with that further downslope (ARM-1). Black shales may also be encountered here.

Discussion developed concerning the importance of drilling at least two of the tilted fault blocks to examine the differential tilting and rates of tilting over time.

VI. Leg 81 (Rockall)

Three sites along an E-W transect are also proposed for Rockall.

| <u>Site</u> | <u>Penetra- tion</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------------|------------------------|----------------|------------------------|-----------------|-----------------------|
| Rock-3 | 800m | Paleogene | yes | 20 | 1 | Syn-rift sediments |
| Rock-2 | 300m | Paleogene | no | 10 | 1 | Outer high |
| Rock-1 | 600m | Paleogene | no | 13 | 1 | Oceanic crust |

Rock-3 will be a reentry site because of weather conditions and is planned to penetrate through the NW dipping reflectors and syn-rift clastic sediments. ROCK- will penetrate a thinly sedimented basement high. ROCK-1 will penetrate NW dipping clastic subbottom dipping reflectors and possibly oceanic crust.

VII. Leg 82

Two sites are planned for Leg 82;

| <u>Site</u> | <u>Penetra- tion</u> | <u>Age At T.D.</u> | <u>Reentry</u> | <u>Time (days)</u> | <u>Priority</u> | <u>Objective</u> |
|-------------|--------------------------|------------------------|----------------|------------------------|-----------------|-------------------------|
| ENA-3 | 1800m | Callovian(?) | yes | 28 | 1 | Reflect- or J, |
| ENA-8 | 1000m | Jurassic(?) | no | 12 | 2 | Newfound- land Ridge |

1. ENA-3. The β and underlying seismic reflections pinch out at Site 105, and therefore they are difficult to correlate. ENA-3 will be drilled on the continental rise off of Delaware, with the objective of continuously coring the pre- β stratigraphy to basement, and possibly sampling the J_1 reflector which is probably pre-Oxfordian. This site is also part of the Explorer transect, and the information should tie in with the COST B-3 well.

If full penetration isn't reached here, important information will be lost, but it was still thought to be worthwhile to attempt this drilling because the mid-late Cretaceous was poorly cored in this area.

Site 105 did not continuously core the A_{11} reflector. They were expecting to hit chert and didn't, and it is important to examine that horizon. HPC'ing the upper sediments will also allow studies of turbidites, mud waves, and other Tertiary/Pliocene material.

2. ENA-8 is on the Newfoundland ridge in relatively thin sediments. A single bit hole will be drilled to sample sediments above and below the mid-Cretaceous unconformity, determine the origin of the Newfoundland Ridge, and provide further paleoreconstruction information. It is not known if this is a continental fragment related to the Grand Banks (such as the Flemish Caps or Orphan Koll) or if it is an oceanic volcanic edifice possibly similar to the Walvis Ridge. The OPP also has interest in this site since it is shallow enough for Tertiary carbonates, but it isn't high on their list of priorities.

3. Other Sites. ENA-4 and ENA-2 are contingency sites for this leg. At ENA-4 the objective is to improve the stratigraphic relationships of the various A reflectors where that part of the sedimentary column is expanded. Because of the thickened sequence it will not be possible to drill much below β here and certainly not to basement. ENA-2 would be drilled to examine the A_u unconformity. It may be possible to determine the ages of Tertiary erosional hiatuses on the slope and correlate them with sea level changes. This site is near one of highest priority for the SP4 Panel for investigating slope geotechnical properties.

4. Discussion

Changing the priority of ENA-2 and ENA-8 was discussed. The objectives of 8 were not thought by some to be as clear as 2. However, ENA-5 is similar to ENA-2 so the unconformity question may already have been addressed. Three attempts are being made to drill the Jurassic and only one to drill the Tertiary. This is partly because application of Vail's sea level curves requires a good CDP record section. The geotechnical aspects of ENA-2 are included in the 81-83 proposal. In addition, work like this will probably be done by the USGS in conjunction with lease sales.

VIII. North Atlantic Geochemical Heterogeneity Transect

The Ocean Crust Panel presented a plan to drill a series of holes in the Western North Atlantic to examine the temporal and spacial distribution of what appears to be two distinctly different basalt types, indicating an enriched or depleted REE -earth element mantle source. It was asked that some of these sites be drilled during transits in the 79-81 program.

A recent CHARCOT cruise dredged the MAR and placed the boundary at 33°N, approximately coincident with the Hayes Transform Fault. One sample immediately to the North had a flat to enriched REE pattern. Samples 5-10 miles to the south had depleted REE patterns.

To further study this pattern the OCP proposed drilling:

- 1) AT-3 and AT-4, (on 81 & 38 Ma old crust, south of the Kane fracture zone) previously proposed and well surveyed sites.
- 2) AT-13, (on 38 Ma old crust) that was originally proposed for Leg 49 and would extend the FAMOUS transect, and
- 3) 1 or 2 holes in older crust around the extension of 33° to see the direction of the geochemical pattern away from the Ridge.

Several hypotheses have been proposed to explain the observed heterogeneity (see Tarney, Treuil document), but more data is needed to develop defensible models. Drilling is necessary to explain this problem because that is the only way older crust can be sampled. The proposed sites are considered by the OCP, to be important to begin to determine whether or not the heterogeneity pattern is a patchy or continuous.

The minimum program to begin to attack this problem was estimated to be 2 holes. Assuming single bit sites, with 100 m of basement penetration, approximately 4 days per hole were estimated to be necessary, with a minimum of 10 days for the 2 sites.

IX. Geophysical Leg - Logging Site 395

There was a plan to return to Site 395 (550 m into basement, drilled during Leg 45) to conduct a wide variety of downhole experiments and measurements. It will not be possible to organize these efforts. Therefore, the request is to return to the site in transit from Leg 78 to 79, and spend 2-3 days running a full suite of logs in the hole, possibly including the televiewer.

X. Discussion of North Atlantic Program

A. Geochemical Heterogeneity Transect.

Considerable concern was expressed about the timing of the proposal. When the 79-81 extension was first being assembled, panel chairmen were asked to look at where the OPP and PMP were planning to drill and make suggestions to the chairmen of those panels, to augment that program. When the geochemical heterogeneity transect was discussed at the March 1979, PCOM meeting, the OCP was asked to present the detailed plans at the July PCOM meeting. This wasn't done. In light of the degree to which the North Atlantic planning has progressed, it did not seem appropriate to the PCOM to further reduce the time of an already very tightly scheduled passive margin program.

B. Logging Site 395

Only a logging engineer and a televiewer operator would be necessary to run this program. It was suggested that the 3-days might be taken from CAR-3. CAR-3 however, has basement objectives and these should not be jeopardized. It was decided that the decision should be a real time decision. This might pose a problem for the availability of the televiewer. However, Anderson has a proposal to rebuild the equipment. ^{so the decision must be based on} Televiewer pictures of the Mazagan sites would also be useful, especially beneath the Oxfordian where the limestone-chert interbeds have been difficult to core in the past and recovery has been about 20%. In light of this discussion, it was decided to log Site 395 if CAR-1 takes too much time and there is no chance of completing CAR-3 or if there is enough time after completing CAR-3. ^{from AMCO.}

C. Passive Margin Program

The original passive margin plans for the North Atlantic program consisted of 7 legs. That time has now been reduced to 6 legs, including the Caribbean which is 2/3's active margin interests.

In support of the passive margin plans for deep penetration, it was pointed out that hole stability depends significantly on the type of sediments and the downhole conditions. At Site 105, the limestone drilling was very successful. It was recognized that if severe problems were encountered in the early legs, e.g. 76, plans for the later legs could be altered accordingly. Overall, the potential of achieving the objectives were thought to be worth the risk. Winterer moved and Bryant seconded that the PCOM accept in principal the general program and priorities as outlined by the PMP in their presentation, vote 11 for, 2 against, 0 abstain, motion passed.

Extensive discussion developed about the feasibility of achieving the proposed objectives. Drilling in the Florida Strait, for example, will be considerably complicated by the fast currents in that area. Almost all of the deep sites, especially the ENA sites, have objectives at the very limit of Challenger capability.

If these holes are to be cased as far as possible, an additional week may be required before significant penetration can be begun. The longer the ship is required to be on station, the greater the risk of failure. It was also pointed out that some of the sites and objectives might change in response to the safety review.

The success rate of some of the previous deep holes was reviewed.

1. Site 391 (Leg 44) was the first attempted deep hole penetration with reentry. It failed because the early *mobile* cone and casing was not strengthened well enough, and the cone sheared from the casing.
2. Reentry cones worked well on Legs 45, 46, and 47. Leg 47 at Site 398 achieved the second deepest penetration, with 3000m water depth, 1750m of sediment was cored. The sediment had a high carbonate content.
3. Leg 50 drilled 2 holes. Hole 415 failed because of highly fractured rock. Hole 416 failed because brittle flysch was difficult to drill. There was lots of caving and the hole couldn't be cleaned. In addition, there was an engineering failure because the skirt was too small so the cone caved in.
4. Off of Japan several single bit holes achieved deep penetration, by washing to ~800m and then coring.

5. Site 462A in the Nauru Basin was reentered 15 times, in 5189 m. water depth.

When a reentry cone is used the bit has to be changed every 50 hours. However, the rule is not so rigid that if the objective were close, eg. 300m., that the bit could not be run to the end.

Discussion continued about the prioritization of the ENA sites. Schlager moved and Hayes seconded that on Leg 76, ENA-7, the clathrates site be drilled first, followed by ENA-1. Then if ENA-1 were going well it could, if necessary be continued in the next leg.

Drilling ENA-7 first also poses problems. The PCB has not been successfully operated and the success of ENA-7 is dependent upon a successful PCB. Before clathrates are drilled, it was also thought to be important, if not essential, to have a reliable temperature probe, that would allow the scientists to know in real time where the cored material is in the hydrate stability field. Such a tool is also not available. It was not clear if the equipment to do a clathrate test would be ready in time for Leg 76. The PMP also maintained that determining the stratigraphy of the oldest sediments was its highest priority.

Before a vote was taken Schlager withdrew his motion. Winterer moved and Creager seconded, that the motion be tabled pending further information. UNANIMOUS, motion passed. The Safety Panel was asked to review the sites as early as possible and the PCOM will review the question again at the July meeting.

XI. Co-chief Scientist nominations

A. Leg 76

Moberly moved and Corliss seconded that R. Sheridan and C. Hollister be nominated as co-chiefs for Leg 76. Vote 10 for, 0 against, 2 abstain, motion passed.

B. Leg 77

Winterer moved and Moore seconded that R. Buffler be nominated to be a Leg 77 co-chief and that W. Schlager, D. Bernoulli, and H. Jenkyns, in that sequence, be nominated as the other co-chief. Vote 12 yes, 1 abstain, motion passed.

C. Leg 78

Cann moved and Winterer seconded that B. Biju-Duval and C. Moore be nominated as Leg 78 co-chiefs. UNANIMOUS, motion passed.

D. Leg 79

Until the Safety Review, it will not be known if Leg 79 will be drilled on the Mazagan escarpment or Galacia. Nominations were made for either case. Salisbury, Montedart, Winterer and Ewing were asked to work out the final decision.

| MAZAGAN | | GALACIA | |
|-------------------------------------------|-----------------------------------------------------------------------|------------------------------------|---------------------------------------------|
| Geophysicist | Other | Geophysicist | Other |
| Hinz (Watts)* (Pitman)* (Lehner) | Jansa Schlanger* Winterer* Bernoulli Jenkyns Sarnthein | (Boillot) (Watts)* (Pitman)* | Jansa Schlanger* Bernoulli Jenkyns |

() = have not previously been on the Challenger

* = U.S.

XII PMP Membership Changes

Two members, J. Ewing and D. Bernoulli, have resigned from the panel. Winterer moved and Schlager seconded that A. Bouma and J.E. VanHinte be approved as new members of the PMP. Vote 12 for, 1 abstain, motion passed.

292 PANEL REPORTS

I. DMP

The Downhole Measurements Panel prepared an extensive report on downhole measurements and experiments that was distributed in the pre-meeting package. This report stressed the need for integrated physical properties studies, described the main standard logs and special logging tools used by industry, made recommendations for improving log quality and utilization, discussed the types of recording instrument packages and deployment procedures that are possible in a borehole, listed and described downhole experiments and recordings carried out from the GLOMAR CHALLENGER between Legs 45-69, and listed related shipboard and shorebased core measurements.

Recent downhole experiments were described, particularly those carried out during Leg 69. DMP plans for the North Atlantic were discussed, and these were included with the North Atlantic Program plans. Future plans for downhole measurements and experiments were also discussed.

Creager moved and Beirsdorf seconded that Dr. Hajimu Kinoshita be approved as a new member of the Downhole Measurements Panel. UNANIMOUS, motion passed.

II. SP4

An ad hoc working group of the SP4 prepared a report on long range plans of the panel. This was distributed to the PCOM at the meeting. Specific items of importance to the PCOM were addressed. The SP4 requested that logging be carried out at all DSDP holes. This is already being done. Three recommendations were made regarding the HPC:

1. Use of sonic probes rather than x-rays for rapid indication of major structures or inclusions prior to splitting. The sonic probes are thought to be quicker and safer.
2. Color Photograph the cores as soon as possible. The current practice of photographing batch sections at one time introduces a delay that may result in significant color loss.
3. Cover the cores with plastic film as quickly as possible. This will prevent drying and the efflorescence and loss of detail that accompanies drying.

The SP4 also recommended a 3 or 4 arm Dipmeter be acquired, rented or designed for DSDP drill holes. This is a device that measures rock resistivities and enables the accurate measurement of in situ bedding and fracture orientation. A list of SP4 recommendations regarding the sedimentary petrology procedures aboard the CHALLENGER was

resubmitted. There are 3 categories of recommendations:

- 1) For DSDP immediate implementation on a routine basis (either on board the CHALLENGER or on shore).
- 2) For DSDP implementation as soon as possible or whenever possible.
- 3) For non-DSDP scientist or engineer priority implementation as soon as possible.

Almost all of the #1 items are being done except the Atterberg limits and grain densities. Most of the #3 items are also being done. Recommendation D.1.2.2 was amended to read: report layer interval velocities from cross-correlation travel time measured to 0.001S. The only conflict with implementing these recommendations is one of time and money.

Moberly moved and Moore seconded that the PCOM accept the recommendations of the SP4 report "Undistrubed Sampling and on Physical Properties Testing", within the financial limitations of DSDP. VOTE 11 for, 1 abstain. Motion passed.

Continuous coring in sediments was recommended. This is already being done. The SP4 selected several members to maintain an informal liaison with several of the other JOIDES Panels. The liaison does not mean that SP4 members will attend the other Panel meetings.

The SP4 requested that 4 complete sites in the Gulf of Mexico and Atlantic Ocean be drilled using the Hydraulic Piston Corer and the resulting material recovered be used initially for geotechnical, acoustical and geochemical testing. These cores should not be opened on board the CHALLENGER, but shipped to a designated stateside laboratory. After the tests are finished, all remaining materials will be sent to either the east or west coast repository.

The possibility of using less than the complete core, reassembling the scientific crew for sampling after the physical properties are completed, shipping the cores, curatorial support and funding were discussed. Sangery at Cornell is taking 30 cm lengths in a geometric progression (1, 3, 7, m, etc.) from Leg 72 HPC cores, for geotechnical tests. These samples are being cut on board and shipped in a vertical position to LDGO, sent to Cornell and then returned to LDGO.

It was generally agreed that the two major advantages of the HPC were its applications in high resolution stratigraphy and near in situ physical properties. The former has received the majority of the attention. The SP4 would prefer to have a complete section of one hole rather than parts of the four requested holes. An Angola Basin^{site} is the first location they requested. The OPP representatives agreed that they would back such a request. If time permitted, they would like to double HPC the site anyway to insure that a complete section was recovered.

Hayes moved and Cann seconded that the PCOM is prepared to endorse the SP4 request for special handling of the HPC samples from Leg 75, to be done in close consultation with the curator and co-chiefs. VOTE 11 for, 1 against, 1 abstain. Motion passed. "Prepared" was included in the motion because of concern about funding both the geotechnical tests and the sampling procedures when the tests were completed. These details should be worked out between the SP4 and the curator and Leg 75 co-chiefs.

Carl Clausen is resigning from the SP4. Nasu moved and Moore seconded that Mike Arthur be nominated to the SP4. UNANIMOUS. Motion passed.

III. IHP

A summary of the IHP minutes was distributed in the pre-meeting package. Several recommendations were made in the summary, two of direct importance to the PCOM were discussed.

At the 1977 Mexico City meeting, the IHP proposed that by October 1979, that all data bases should be completely up to date and there should be no backlog. This recommendation was strongly supported by PCOM. This goal has not been met. Last year, the way was paved to transfer the DSDP data base to the NGSDC for long term archiving. Some files were to be shared as soon as they were checked and validated. This effort has not started due to lack of resources at both DSDP and NGSDC.

Last year with the phase down budget, this year with increased fuel costs, and with the uncertainties for the continuation of the program beyond FY '81, there is considerable concern about what will happen to the data base preparation. The data base preparation is not considered to have a real time urgency and is therefore among the first activities to be cut back when funds are limited. Yet at present, there are no detailed plans, proposals or budgets for carrying out the necessary work during a phase down period. The preparation of the data base is dependent upon the Information Handling Group, and there is nothing to insure its being held together. It was suggested by the IHP that possibly this group should be administered and funded separately from the rest of DSDP to insure a proper phase down, and sufficient funds. However, the PCOM was reluctant to become so involved in DSDP management affairs. Winterer moved and Cann seconded that the PCOM ask DSDP to prepare, for the July meeting, a long term phase down plan, specifically including data management and publication. UNANIMOUS. Motion passed

This plan should look at the long term, beyond 3 years, including funding that the NGSDC will need. It was suggested that advice on the data management aspect of the phase down could be obtained from the IHP.

Mel Rosenfeld is resigning from the IHP, effective this September. Tom Davies was recommended as the new chairman but there was no motion from the panel to this effect. Mel Rosenfeld was thanked for his work on the IHP and contribution to JOIDES.

IV. SAFETY

During the last year two full Safety Panel review meetings were held. All sites for the South Atlantic Program (Legs 71-75) have been reviewed.

Fifty-three sites were approved, 5 with special precautions, 6 disapproved, and 3 moved to a nearby location. In conjunction with the November meeting, a one-day seminar on gas hydrates was held. Not enough is known about hydrates to establish clear guidelines, so each case will continue to be decided individually.

Last March, the Safety Panel held a meeting to discuss various ways in which the safety review process might be made more effective. Some of the changes that have been or will be put into effect include:

1. Safety Previews. These allow site proponents to be made aware of potential safety problems, in the early stages of planning.
2. Revised Safety Check sheets. The current check sheets are often treated casually by the site proponents. They are urged to consider their information more carefully.
3. Revise Safety Manual. The old manual is out of print. It will be updated and reprinted.
4. Membership. Three new members were added to the Panel to increase the available breadth of experience and knowledge.

After the last Safety Panel meeting, Alfred Mayer-Gurr resigned. Beiersdorf moved and Moore seconded that Ernst Hotz be nominated to the Safety Panel. UNANIMOUS. Motion passed.

V. AMP.

A. Synthesis Volume

The proposed active margin synthesis volume would not just be a compilation. It is hoped that the volume would include a reevaluation of previous DSDP results by some senior scientists. The volume would include petrological, geophysical, structural, etc. aspects of active margins. Don Hussong sent out a letter, but as yet no one has made a commitment to write a proposal for the work. The PCOM was asked to endorse the volume in hopes that their endorsement would help the volume to be produced. AGU, and possibly SEG, are interested in the volume.

The synthesis volume money is available for volumes that are essentially finished, but which need extra money for publishing costs. The monies are not for research. The PCOM encouraged interested scientists to proceed with the volume, but were unable to recommend financial assistance at this stage of the undertaking.

B. RECENT DRILLING RESULTS.

Leg 66 was drilled off of Oaxaca and Leg 67 off the Guatemala. The Leg 67 area received an extensive seismic survey during the cruise, while the HIG downhole seismometer was in place. It may also be surveyed with a seabeam, and the Navy is going to conduct submersible dives in the area.

A serious gas hydrate problem was encountered in several of the Leg 67 forearc holes. Thin layers of vitric sandy material and fine sediments containing hydrates were recovered at 200-300m penetration. These were interlayered with sediments devoid of hydrates, which possibly accounts for the absence of a BSR.

Three recommendations were considered to be essential in dealing with future hydrate encounters:

1. Real time temperature measurements, e.g., the possibility of a temperature probe before the bit, that is capable of penetrating hard sediments.
2. In situ pressure measurements are essential if P and T are to be used to determine whether or not the sediments are in the gas hydrate stability field.
3. A pressure core barrel that is capable of closing on very hard sediments such as hydrates is necessary. On Leg 67 the PCB couldn't operate on non-hydrated stiff sediments.

C. Membership Changes

K. Kobayashi will be Japan's new representative to the PCOM, and therefore is resigning from the Active Margin Panel. Nasu moved and Moberly seconded that Dr. Kazuaki Nakamura be approved as a new member of the AMP. UNANIMOUS. Motion passed.

VI. OPP

A. HPC and High Resolution Stratigraphy

Leg 68 in the Caribbean and eastern Pacific demonstrated that complete and undisturbed sequences of unconsolidated sediments could be recovered with the HPC. The OPP has adopted use of the HPC as a major element in the South Atlantic drilling program.

B. South Atlantic Program

The plans for the South Atlantic program were reviewed, and recommendations were made regarding Legs 73-75.

1. Leg 73 will be a transect of shallow holes across the South Atlantic Ridge. The HPC will be used to recover the upper sections or for total recovery (i.e., no rotary drilling). The OPP requested that logging be cancelled on Leg 73 because:

- a. Operation time on this leg is short, and because at least the upper sections at each site will be completely recovered, coring is considered more useful than logging.
- b. Sediments are so thin that only a small percentage of each hole would be logged.
- c. Leg 73 occurs at the time of contract renewal with Gerhardt-Owen and therefore money could be saved.

Moore moved and Schlager seconded that an exception be made to the rule of logging every hole so that Leg 73 holes did not have to be logged.
VOTE 8 for 3 against 2 abstain. Motion Passed.

The time window to implement this motion and cancel logging is very short. PCOM members were asked to discuss the motion with their EXCOM representative, and cable his approval/disapproval to the JOIDES office.

2. Leg 74 will be a transect across the Walvis Ridge. In view of the time constraints, if necessary, every other hole will only be hydraulically piston cored, i.e., holes 1, 3, 5 will be HPC'd and rotary drilled and holes 2, 4, and 7 will be HPC'd and not rotary drilled. Three recommendations were made by the OPP for changes in this leg:

- a. 5 operational days be taken from Leg 75 and added to Leg 74 for a total of 45 operational days.
- b. The additional 5 days of Leg 74 be used to either:
 - i. drill to completion SAII-2 or SAII-4, or
 - ii. HPC one site twice

In the Safety Review, site SAII-1, at the top of the Walvis Ridge, was allowed to drill to the basal reflector, if it is anything other than igneous rock then drilling will cease.

After a discussion of Leg 75 objectives, Moore moved and Moberly seconded that 5 operational days be taken from Leg 75 and added to Leg 74. VOTE 11 for, 2 against, 0 abstain. Motion passed.

C. Logging be done at Sites SA II-1, 3 and 5 and be omitted at 2, 4, and 7 because of the close spacing of the sites and the reduced number of operational days available. Should either 2 or 4 be drilled to completion, then the site should be logged.

Moore moved and Bryant seconded that on Leg 74 only rotary drilled holes will be logged. VOTE 12 for, 1 against, 0 abstain. Motion passed.

3. Leg 75

An additional request was made for time changes in Leg 75. When Leg 73 was being planned, it was hoped that modifications in the HPC would reduce the time required for its use. In addition, Leg 73 transit time was initially calculated as 14 days, but will more likely be 18 days. Leg 73 now has 30 operational days and it needs 34 to meet its first priority objectives. It might be possible to pick up 2 days by using Ascension instead of Recife as a port.

The OPP asked that 3 days be taken from Leg 75 and added to Leg 73. This would leave 29 operational days in Leg 75. There are 2 high priority sites on Leg 75, SA I-1C and SA I-SA, with estimated drilling times of 25 and 7 days. Using these estimates, there would be time to drill one hole. Both sites have Cretaceous objectives. If additional time was available after SA I-1C was drilled without sufficient time to drill SA I-5A, the upper SA I-1C section could be double HPC'd.

Schlager moved and Cann seconded that no further time adjustments be made in Legs 75 and 73. VOTE 10 for, 1 against, 2 abstain. Motion passed.

C. Membership

Jim Ingle and Michael Sarnthein are resigning from the OPP.

Beirsdorf moved and Creager seconded that Dieter Fulterer be nominated to the OPP. UNANIMOUS. Motion passed.

Discussion developed concerning the size of the OPP. Moore moved and Creager seconded that S.O. Schlanger be nominated to the OPP, with the understanding that Berger will not be replaced when he resigns. UNANIMOUS. Motion passed.

VII. Inorganic Geochemistry Panel

A. Information Items

1. T. Donnelly's geochemical data, on inorganic solids will be published in I.R. vol 54, and should be out shortly. The information will be presented in a specific format, and everyone will be asked to submit their data in that format.

2. Y. Tarchy has recommended that if bulk chemistry is done in the future, that specific attention be paid to the mineralogy, especially from Legs 76 onward, where diagenesis will play an important role. The IGP expects to make specific recommendations at their next meeting.

B. Equipment Recommendations

1. A better top loading balance is necessary to get better porosity data. Such a balance will probably cost around \$2,000.

2. A centrifuge.

C. Future Work.

The IGP is very interested in special physical properties studies, especially those relating to permeability. In the North Atlantic program, the inorganic and organic geochemistry interests will walk hand in hand, and both geochemists should be on board the CHALLENGER.

The PCB has a narrow bit and isn't compatible with many downhole instruments. The in situ water sampler can't be used with the HPC. This instrument hangs about .5m from the bit and descends into the soft sediments. This is an important instrument to test in situ gas compositions. The IGP is on record as requesting a compatible bit system so that all of these instruments may be used with a standard bit system. DSDP engineers are working on this.

D. Membership

E. Suess has resigned. Corliss moved and Cann seconded that Michael Bender be nominated to become a member of the IGP. UNANIMOUS. Motion passed.

W. Bryan Clarke has not attended any meetings. Cann moved and Bryant seconded that he be removed from the Panel. UNANIMOUS. Motion passed.

The IGP was asked to discuss a replacement for him.

VIII. OGP

A. Panel Meetings

The OGP has tried to hold their annual meetings in conjunction with national and international conferences, and thereby solicit wider community participation. The last meeting in Bristol, England, was successful in this regard. The next meeting will be held after the Gordon Conference on Organic Geochemistry in New Hampshire.

B. Equipment

Three equipment recommendations were made:

1. Stiffer temperature probes in order to obtain more and better temperature data for interpretation of maturity of organic matter,

2. Modified pressure core barrel capable of closing on frozen (hydrates) cores, and
3. Rock-Eval should be used on shipboard only when the staff includes someone trained to operate it.

C. Shipboard Staffing and Operations

Many organic geochemists have not had much experience with gas problems. An important reason for having an organic geochemist on board is to help monitor and assess potential hydrocarbon problems. The OGP recommended that the candidate organic geochemist be present at the Leg Safety Review so that he or she will be more aware of potential problems. The PCOM endorsed this recommendation.

The OGP would like to have a DSDP technician trained to operate the Rock-Eval. The training however, is non-trivial, involving understanding and interpreting the data. Using an inexperienced person has not been satisfactory in the past. It was recommended that DSDP obtain a list of experienced Rock-Eval users, and when Rock-Eval-type information is important, include an experienced person on board.

D. Organic Geochemistry Handbook

The organic geochemistry handbook was prepared by Stan White, based on information from the OGP and shipboard operations. Some OGP members thought that it was too technical. It was revised by Galimov and is now being edited by Erdman. The White version is currently being used on board.

E. Sampling

1. HPC sampling

At the last meeting the PCOM approved a revised organic geochemistry sampling procedure for HPC samples. Further revisions were suggested by the OGP, but these recommendations were withdrawn, and the November 1979 approved procedures still stand.

2. Sample Containers

The USGS is conducting an experiment to evaluate plastic sacks vs. cans for sediment and gas samples.

F. Frozen Samples

The DSDP curatorial staff, led by Linda Garifal and Bill Mills were commended for their efforts in getting samples catalogued

and distributed. 623 frozen samples from Legs 63 through 67 were distributed. The OGP feels the curatorial services are understaffed and that every effort should be made to reduce the time between sample acquisition and distribution.

Several changes have been made in the organic geochemistry. sample distribution procedures:

- a. Correspondence with investigators studying frozen samples now provides names of staff representatives.
- b. Staff representatives are present during sample distribution and make sample descriptions.
- c. Investigators, upon receipt of frozen samples, are expected to return a form to the appropriate staff representative acknowledging sample receipt, purpose of studies, tentative title for Initial Report Paper and estimated number of pages required in Initial Report.
- d. Ice cubes sealed in the plastic sack are used to monitor temperature history during transit from DSDP to investigators. This is done in place of maximum-minimum thermometers.

G. Panel Membership

Membership rotation on the OGP has been very slow. The PCOM recognized the service of these panel members to the JOIDES community, but in the interest of reducing panel size and for membership rotation Moberly moved and Cann seconded that:

1. Kvenvolden step down as chairman but be retained on the panel for at least one year to promote a smooth transition.
2. Baker and Erdman be retired from the panel with thanks for their input over the last ten years.
3. Hunt because of his continued vigorous interest in panel affairs, continue for one additional year. VOTE 11 for, 1 against, 1 abstain. Motion passed.

The Panel was asked to recommend a new chairman. Kvenvolden was thanked for his leadership of the OGP.

H. Gas Hydrate Experiment.

A letter from Hunt to the Planning Committee describing a gas hydrate experiment for Leg 76 was distributed in the pre-meeting mailing.

This experiment, subject to safety approval, would take several pressure core barrel samples to a maximum depth of about 400 m in the Blake Outer Ridge. The reliability of the PCB is critical to this experiment. The PCB is being tested on Leg 72. There has been a major change in the design, with soft seals, capable of being run to 5000 psi being used. One of the service companies was thought to have a working PCB. Although it would probably be expensive, Salisbury was asked to investigate the possibility of using such an instrument if the DSDP, PCB is not reliably operating.

IX. SSP

A. IPOD Data Bank

The SSP recommended that index maps be prepared showing the locations of the site survey track information. They further recommended that no site should be drilled unless all of the relevant data, necessary to making a final site selection decision, be available to the IPOD Data Bank. This recommendation was particularly aimed at having sufficient regional data.

Lengthy discussion developed. On the one hand it could be a powerful tool to use in getting agencies and governments to submit their data to the IPOD Data Bank. A case in point is some long seismic lines in the Rockall, Goban Spur area that were released by the U.K. Department of Energy rather than chance not having the site drilled. The PCOM agreed with the philosophy of this recommendation, but it was not clear how "relevant data" would be determined. The PCOM therefore requested that the SSP make recommendations to the PCOM about which data should be submitted to the Data Bank for each site. The PCOM will then use various persuasive mechanisms to encourage submittal of the appropriate data.

B. Status of Site Surveys

The South Atlantic site surveying went well. There was good coordination between the working groups and UTMSI. Included in the distributed minutes were lists of site surveys that are planned for this year.

C. Role of SSP/Next Meeting

The SSP is responsible for coordinating the overall JOIDES site survey needs with the limited site survey resources. This is particularly a problem since the panel only meets once a year, not allowing sufficient time for responsive iterations on survey needs.

A case in point, is the group of proposed sites for the 81-83 program. To review these proposed sites, the SSP requested a meeting this summer. The optimum time and place would be Brest in July, so that the meeting could be held in conjunction with a high resolution seismics workshop.

Many of the SSP members will be in France for the IGC. This was viewed favorably. A date will be established to avoid as many time conflicts as possible.

X. SCP

A. Paleo Data Base

The SCP has been discussing ways of improving the paleo data base and emphasized its importance. The Cretaceous data base for example is usable, but doesn't include everything. A Jurassic data base is being prepared. Sites designated for sampling for the micropaleo reference collections will be encoded in the Data Base.

B. Working Groups and Panel Liaisons.

A North Atlantic Stratigraphic gaps working group was established. This working group is attempting to interface with panels and working groups that are proposing drill sites to eliminate biostratigraphic deficiencies.

Informal liaisons have been established with several of the panels. The liaison is helpful in highlighting biostratigraphic needs and problems to site planners, for example, in the Mid-America Trench drilling, pointing out the importance of recovering Eocene-Oligocene horizon.

C. Shipboard/DSDP Activities

The SCP has recommended shipboard paleontologists. An inventory of shipboard references was made during the HPC mini Leg. SCP members are also assisting in reviewing I.R. articles.

D. Membership

Benson is resigning as the SCP chairman. He was thanked for his assistance in chairing the SCP. R. Poore will be the next SCP chairman.

293 NSF REPORT

I. 81-83 CHALLENGER PROPOSAL

The preliminary Challenger proposal has arrived at NSF, and has been internally circulated to program directors and other officials. The final proposal is expected at NSF in mid March. No clear review procedures have been established yet.

Funding plans have also not been established. NSF funds will be severely reduced, however, the possibility of additional funding from other members and/or government agencies is being pursued.

II. OCEAN MARGIN DRILLING (OMD)

Recent developments in the Explorer program were presented. Eight oil companies have entered into a preliminary agreement with the National Science Foundation to examine the possibility of funding an Ocean Margin Drilling program. Accompanying the new funds will be a revision in the NSF structure. The Ocean Sediment Coring program will be replaced by the Ocean Drilling Program and be elevated to the division level.

The program is considered to be on the level of a national effort. A twofold proposal for this program was sent to Congress in January:

1. A request for continuation of IPOD funds in 1981, with phase-out funds in 1982.
2. A request for a ten year Ocean Margin Drilling program to consist of investigating the four ocean environments as currently discussed in JOIDES; active margins, ocean crust, ocean paleoenvironment, and passive margins. A continuation of CHALLENGER level funding and an addition 10 m.d. are requested for this program. The program is proposed in 3 phases:

Phase 1 - 1 year (FY '81)

The first year will consist of the initial planning effort, including problem definition, choosing the platform, and

determination of site survey needs. At the end of FY '81 a go/no go decision will be made based on:

- a. the viability of the program
- b. its potential as a joint industry/academic venture
- c. the pace and direction that is thought necessary for the program to proceed

Phase 2 - 2 years (FY '82-84)

In this phase the program planning and preparation will be intensified (e.g., site surveys), the ship will be converted and the riser developed and built.

Phase 3 - 6 years (FY '84-90)

Scientific and Drilling Operations.

A final agreement with the petroleum industry still has to be negotiated. At the present time, there is an agreement in principal to enter into negotiations with industry and government, each contributing 10 m.d. next year. Some of the areas of the program have been defined and these include:

- a. it will be a basic research program
- b. publication of scientific results
- c. liability
- d. management, with JOI Inc. as the science manager

Congressional hearings will review the proposed program. The House authorization Committee has already reviewed the program, and asked for testimony from A. Bally, J. Sclater, W. Hay, D. McIver (Exxon) and D. Marrs (Mobil). Several Congressmen have visited the Explorer and one has written a letter to the president stating that this step was a bold approach to funding basic science.

Congress is also aware of the proposal to continue Challenger drilling. Another argument against continuing the Challenger is that too many major projects, especially long term projects, will decrease the flexibility of NSF to respond to individual research projects. In most cases, when funding for a particular project stops, those funds are lost to the sponsoring group. In the case with the Challenger, this money won't be "lost" to the scientific ocean drilling community.

A lengthy question and answer period developed after the NSF presentation. The following include some of the discussion:

- Q. How stringent in the commitment to a scientific program, for example, what happens if the program is thought to be worthwhile

for margin evaluation but not for science?

- A. The program must have two components to go:
1. It has to be good basic NSF type research with community support, and
 2. It has to have merits for the oil industry.

Q. How will you decide if it is good science or not? The reviews to date have reviewed recommendations not programs (e.g., the Gillette review of FUSOD).

- A. There has been a threefold review process:
1. peer review (Gillette)
 2. peer review in other countries (e.g. white paper review)
 3. technical review (NAE review)
 4. high level review (e.g., Blue Ribbon Panel)

There have also been numerous lower level academic reviews, e.g., special panels and the JOIDES structure.

Q. What is it they were reviewing?

A. The intent to continue to improve the understanding of the earth beneath the ocean.

Q. If this is just a continuation of drilling, are we tied to doing it with the Explorer?

A. No, the trade offs of using different platforms has been reviewed by the engineering support contractor and will be presented at the Houston meeting next week. The platform will depend on the scientific program that is chosen.

Discussion then developed about other platforms, funding two programs, and site location. At this stage, there are a tremendous number of variables and the program should stay flexible.

294 81-83 CHALLENGER PROPOSAL

I. INTRODUCTION

The 81-83 Challenger proposal addresses a wide variety of important basic scientific problems. In light of the emphasis on the societal, as well as scientific importance of the Explorer, it was pointed out that there are two major, geologic type problems facing society, energy and climate. The use of the HPC for high resolution, Neogene stratigraphy will contribute significantly to our understanding of climatic fluctuations. The increased understanding of physical properties will also help to assess waste disposal problems.

II. REVISIONS

The 81-83 Challenger proposal has gone through several iterations. A new revision was distributed at the beginning of the meeting. PCOM members and Panel chairmen, took sections in their field of expertise and further revised them. These were assembled by the PCOM chairman and given to Salisbury to be printed in a final version that will be submitted to NSF.

2

295 DSDP REPORT

I. DEVELOPMENTAL ENGINEERING

A. HPC Modifications

1. A system that will go from HPC'ing to rotary drilling without tripping the bit will be tested on Leg 72.
2. A mechanism to obtain oriented cores was attempted on an earlier Leg. This has been modified and the new system will be tested on Leg 72. This is a relative orientation that is obtained by using a swivel above the core barrel to take the torque out of the wire line.
3. Improved flapper core catchers and stronger polycarbonate core liners will also be evaluated on Leg 72.
4. Design efforts are continuing to determine the optimum core length. New 20 to 30 foot core barrel lengths will be tested on Leg 75.

B. Pressure Core Barrel (PCB)

The PCB will be tested on Leg 72. One reason for past failure was the hard seal, now a soft teflon seal, capable of withstanding 5000 psi in the laboratory, will be employed.

Two complete PCB assemblies and two additional pressure ball valves will be on board.

C. Extended Core Barrel (XCB)

The XCB will have a spring loaded cutting tool extending 6-8" beyond the bit and will be used in material that is too hard to HPC but soft enough to be disturbed by rotary drilling. The intention is to eventually build a compatible system of drill bits so that drilling can proceed - HPC - XCB - rotary without tripping the bit. The XCB will be tested on shore after Leg 71.

D. Drill Bit Motion Sensor

The drill bit motion sensors have been tested on land. This instrument is designed to assess what's happening to the drill bit, and monitor ship motion. The information will be used in future designs to try to optimize bit life and improve core recovery. The DSDP engineers wanted PCOM support for ship time to do these tests.

The Challenger has been funded in 2 year increments and this has often been used as an excuse not to do engineering studies. If more time had been allocated in the early stages of the program, engineering developments would probably be further along. By consensus the PCOM encourages co-chief scientists to allow time for engineering tests during their Legs.

II. STATUS OF CHALLENGER.

MacTarran's report was distributed in the pre-meeting mailing. The most persistent problem has been the thrusters, accounting for almost 50% of the ships down time. This is especially true of the stern thrusters since they require drydocking for repair. In the 3 months since the report was written, there was a computer breakdown and the ships electrical system closed down. Seven days were lost.

Starting in 1976, port call time was increased from 3 to 5 days so that more routine maintenance could be done. The South Atlantic Legs are only about 40 days each. This adds a significantly higher percentage of port time to these Legs. DSDP was asked to try to make port call length proportional to the length of the Leg. This should be possible in U.S. ports, although it will be more difficult in non-U.S. ports.

III. BUDGETS

Increased fuel costs have made serious inroads on the Challenger budget. U. S. ports where fuel is cheaper, will be used as much as possible. NSF has been asked for an additional .5 m.d. Unfortunately, the NSF has been flooded with such requests and doesn't have the funds to meet them.

This again points to the problem of funds for logging. ONR has expressed interest in logging some of the '81 holes, but there aren't any serious commitments yet. One of ONR's concerns was with the quality of the logs. DSDP holes do not have the uniform conditions that are present in industry holes. Even though DSDP logs are not up to industry standards they are still very useful, and the PCOM feels they are important. A lot has already been learned from logs, particularly about seismic reflectors. On Leg 50 some of the main results were through logs.

It was asked if the logging contract could stipulate that payment would be dependent upon log quality. At this time the logging business is very good and such a contract would not be likely. Designing tools to work with our hole conditions would be useful though.

IV. INITIAL REPORTS

A. Microfiching

Producing IR microfiche masters for Volumes 1-44 will cost approximately \$2000. The copies will cost \$160 a set. They will be particularly valuable since many of the earlier volumes are out of print.

B. Color Reproductions

Firms in L.A. and San Diego have been contacted about the price of color reproductions in the IR's, but nothing firm has been established.

V. INITIAL CORE DESCRIPTIONS

ICD's are becoming mini-IR's thick, costly, and typeset. DSDP is considering printing about 100 for shipboard and core repository people and microfiching the other copies. The initial response from people that DSDP has contacted has been both positive and negative. In view of its limited access, and short life, and mailing costs, the PCOM by consensus unanimously endorsed printing 100 ICD's and microfiching the rest.

VI. SHIPBOARD STAFFING

Leg 72 is almost completely staffed. There have been many verbal commitments to participate in Legs 74 and 75, but no invitations have been sent. DSDP was urged to proceed with the rest of the staffing as soon as possible. The IPOD countries were urged to submit their nominations to DSDP as soon as possible.

VII. STRIP COLOR PHOTOGRAPHS

Tom Chase of the USGS made continuous strip color photographs of the Leg 64 hydraulic piston cores. These were very successful. However, the quality of the core color deteriorates rapidly in the first two months. DSDP would like to transfer the process to the ship.

Moore moved and Moberly seconded that the PCom endorse shipboard continuous strip photography, provided that its operation and funding does not disturb coring and logging operations. UNANIMOUS. Motion Passed.

VIII. DEEP SEA SEDIMENT HANDBOOK

A request was received from K. Kelts, P. Scholle, and M. Arthur to use the high quality DSDP core color photographs in a publication about deep sea sediments. The publication would consist of about 200 plates and have 3 parts:

1. Classification and composition of deep sea sediments and colors.
2. Description of lithofacies and environments.
3. Sediment diagenesis and burial compaction.

AAPG has agreed to finance the publication. It could be a companion volume to the AAPG "Decade of Ocean Drilling" volume. The proposing group requested about \$1000 support from DSDP for some of the preparation costs. DSDP saw this volume as helping them in two ways:

1. The master plates could be used by DSDP for the SP4 request to make a new set of instructional posters and charts for the CHALLENGER.
2. It would reach a wide community and be good publicity for the DSDP information.

DSDP was asking PCOM's advice because of the precedent of using DSDP money. PCOM also wanted to be assured that an AAPG copyright wouldn't interfere with DSDP use of the photographs. The PCOM heartily endorsed the publication, but could not give any financial support. If DSDP needed the work done to meet an SP4 request, they could make a financial arrangement for that.

296 EXCOM REPORT

I. MICRO-PALEO REFERENCE CENTERS

A. Collection Permanence

The SIO micropaleo reference collection was set up when it appeared that funds wouldn't be available for the Smithsonian Institution collection. The samples were collected with NSF funds and therefore the collection technically belongs to NSF, until they relinquish their title, at which time the collections would then go to the SI. The SIO collection was established as a permanent collection, and was generally thought to be a useful location. An SI collection could be established as the permanent collection and the SIO collection could remain as a permanent collection.

B. Smithsonian Institution Micro Paleo-Reference Collection

Although the Smithsonian Institution is committed to its curatorial responsibilities, it does not have the funds to pay a technician to prepare microfossil slides. There was some confusion about a conflict of interest if someone from the SI were to write an NSF proposal. Moore moved and Corliss seconded that JOI Inc. be asked to submit a proposal to NSF to prepare a microfossil slide collection for the Smithsonian Institution.
VOTE 9 for, 1 against. Motion passed.

Riedel had previously offered to write such a proposal, and was thought to be the most likely person to do so.

C. Sample Preparation and Reference Center Establishment

Sample preparation and reference center establishment are proceeding slowly. As stated in the SCP section, the micropaleo reference center information will be tied in with the computerized paleo data base. Publishing a catalog of the collection was discussed. It was suggested that it might be easier to use the collection itself, but no consensus was reached.

II. SYNTHESIS VOLUMES

The JOIDES policy on synthesis volumes and a proposal by W. Haq to prepare a "Synthesis of Cenozoic Calcareous Nannoplankton Bio-chronology of DSDP-IPOD and Global Data," were distributed in the pre-meeting mailing. Before JOIDES funds a synthesis volume a good case has to be made that funding is not available from other sources. In addition, as stated in the AMP Section, the volume should be well along in preparation, and the funding cannot be used for research. The Haq synthesis volume proposal requested funds to compile data, and therefore

cannot be funded. He was encouraged to continue his work and if funds were needed at a later date to finalize publication, then funds could be solicited again.

III. OTHER ITEMS

The November PCOM minutes stated that the OPP endorsed R. Larson's Mariana and Nauru Basin site survey proposal and the concept of a long barrel, large diameter, punch corer. These are statements of support by the OPP for projects they consider to be worthwhile.

297 HPC PLANNING COMMITTEE

The need for a group to be a forum to advocate for and promote use of the HPC was recognized. Discussion developed concerning the parent organization, composition, and mandate for this group. Schlager moved and Creager seconded that the JOIDES PCom set up an HPC Working Group. VOTE 11 for, 1 abstain. Motion passed.

This would provide the opportunity for an international forum as well as the possibility of using JOIDES funds to hold a meeting

It was thought that the HPC Working Group should be small and have international and interdisciplinary representation, with the chairman chosen by the PCOM. Creager moved and Bryant seconded that T. Moore be nominated as chairman of the HPC working group. Creager moved and Moberly seconded that the HPC Working Group Chairman be selected by a white ballot. VOTE 9 for, 1 abstain. Motion Passed.

The initial membership, subject to change, will consist of :

T. Moore - (URI) Chairman
 M. Bender (URI) inorganic geochemistry
 Halewood (UK) paleomagnetist
 J. Hays (LDGO) paleontologist
 R. Moberly (HIG) sedimentologist
 N. Muzylev (USSR)
 P. Rothe (FRG) physical properties
 A. Richards (Lehigh) physical properties
 Surface layer organic geochemist from France
 Nomination from Japan

Moberly moved and Creager seconded that the mandate of this group would be to address the following questions:

1. Should a short-term (approx. 3 mos.) engineering study be subcontracted to a company like Santa Fe to see what ships might realistically be used for HPC work with or without minor modifications? How much lead time is required? Are ships available on a part-time basis?
2. What special handling of cores is required? This question should be answered precisely so it may serve as an input to the engineering subcontract listed above.

3. What special or new archiving and curation techniques--beyond what is required of normal Challenger cores will be required for HPC cores? Is there any disadvantage in having 2 repositories for them--as with DSDP cores?
4. What special or new analysis techniques or instruments are needed with these cores? When would the supply of HPC cores exceed the demand for them, given the rate at which they can be processed and studies?
5. How does one best answer the two oft heard comments that bottom biological activity tends to degrade the time resolution and that some areas are unsuitable for HPC work because of stiffness of sediments or because of negative rates of accumulations? and
6. Consider the optimum problems that can be solved with the HPC and the appropriate places to solve them.

UNANIMOUS
Motion passed.

The working group was urged to try to meet before the next PCom meeting. Creager moved and Corliss seconded that funding be granted for one HPC working group meeting. UNANIMOUS. Motion passed.

298 OTHER BUSINESS

I. GEOPHYSICAL LEG

B. Lewis has proposed a series of geophysical experiments in either ENA-1 or ENA-3. These experiments would require a couple of Challenger days and be designed to examine in hole acoustics with the intent of improving our understanding of seismograms. This was initially brought up three years ago at the PCOM meeting in College Station. His experiment is different than Duennebier's. The experiment has not been discussed with the PMP. The PCOM is in favor of this experiment, provided that it is compatible with the goals of the PMP.

II. INITIAL SITE PROSPECTUS

The initial site prospectus sheets are prepared by site advocates and used in the safety review. They are useful for keeping track of undrilled, proposed ^{sites} and the objectives of drilled sites. The JOIDES Office was asked to prepare and distribute these sheets for Legs 76 and onward, as a special JOIDES JOURNAL ISSUE with the same distribution.

299 CLOSING REMARKS

R. Benson and the Smithsonian Institution were thanked for hosting the meeting.

July 1, 1980, the JOIDES Office rotates to SIO. J. Winterer will assume the PCOM Chairmanship.

300 FUTURE MEETING

02-04 July, 1980

Paris

LePichon to arrange with JOI

15-17 October, 1980

URI - Alton Jones Campus

T. Moore to arrange with JOI

Late February, 1981 S.I.O.
(with Panel chairman)

J. Winterer to arrange with JOI

June, 1981 FRG

H. Beiersdorf to arrange with JOI

Tentative Agenda

JOIDES EXECUTIVE COMMITTEE MEETING

March 25-26, 1980

Le Pavillon Hotel, New Orleans, La.

1. adoption of agenda
2. approval minutes of November 26-28 meeting, Moscow
3. action items
 - a. paleo reference centers - Hay, JOIDES Office
 - b. punch core system - PCOM
 - c. synthesis volumes - PCOM
 - d. 1981-83 proposal - PCOM
 - e. science abstract - PCOM/DSDP
 - f. part-time use GLOMAR CHALLENGER - DSDP
4. status of CHALLENGER program - Peterson
5. PCOM report - Ewing
6. NSF report - Wilkniss
7. status of EXPLORER program - Maxwell/Wilkniss
8. other business
9. future meetings

School of
Oceanography



Corvallis, Oregon 97331 (503) 754-3504



MEMORANDUM

10 March 1980

TO: JOIDES Excom

FROM: G. Ross Heath, Dean

Ross H.

SUBJ: Future of PHC drilling

The trend of discussions in the U.S. suggests that the likelihood of a "Challenger-HPC" coring program continuing after the 1981 IPOD termination date is very slim. There has been talk of using the "Challenger" to drill pilot holes for "Explorer", but this does not seem very compatible with the type of scientific program proposed for the 1981-83 extension. Thus, we must face the imminent demise of the international program and of an exciting new era of deep sea sampling almost before it has begun.

At the same time, the recent meeting in Bristol of the Seabed Working Group (an NEA offshoot made up of Canada, France, Japan, Netherlands, U.K. and U.S.) emphasized that an HPC-type sampling capability will be essential in about 1984 to assess potential sites for the deep seabed disposal of nuclear wastes. It appears that some combination of applied and research support could both preserve or enhance the existing HPC capability and at the same time allow the pursuit of scientific goals at a reasonable cost.

Several operational options were mentioned at Bristol:

1. Continuation of present DSDP-Challenger operation. This would minimize managerial and logistical problems. However, the "overhead" cost is high in terms of both dollars and bureaucratic inertia.
2. Spin off the existing HPC hardware and engineering group as an independent organization capable of interfacing to a number of dynamically positioned drilling vessels. Such a scheme would minimize fixed costs, but would require that each user group develop its own operating scientific procedures.
3. Create an independent HPC engineering group (as 2. above), but develop the technology (perhaps using the larger surplus pipe string of Ocean Management Incorporated) so as to be able to collect the 10 cm diameter cores preferred for engineering studies. This option involves the advantages and disadvantages of 2., as well as additional development costs.

MAR 17 1980

cont.

Memorandum to JOIDES Excom
10 March 1980 - page 2

Both 2. and 3. will require the use of commercial dynamically positioned drillships, which represent an unknown and somewhat unpredictable cost factor. However, by restricting HPC-coring to a small fraction of each year, and maintaining an awareness of the existence of transit legs of the commercial vessels a year or two in advance, it may be possible to maintain a viable program at a cost significantly less than IPOD.

In order to address the issues raised here, I propose that we hold a brief session on March 24 or 25 at the Excom meeting in New Orleans. If there is sufficient interest, we can settle on a meeting time and place during the regular session on the 24th.

cc: R. Anderson
C. Hollister
G. Boyer
A. Laughton
A. Barbreau
J. Imbrie
J. Hays

jd