15-17 October 1980 JOIDES Planning Committee Minutes

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JOIDES PLANNING COMMITTEE MEETING

15-17 October 1980

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D R A F T M I N U T E S

JOIDES Planning Committee Meeting
15-17 October 1980
W. Alton Jones Center
University of Rhode Island

PCOM Members Present

Winterer, E. (Chairman, SIO)
Beiersdorf, H. (FRG)
Bryant, W., (Texas A&M)
Cann, J. (U.K.)
Dymond, J. (Oregon State)
Ewing, J. (WHOI)
Hayes, D. (L-DGO)
Kobayashi, K. (Japan)
LePichon, X. (France)
Moberly, R. (HIG)
Moore, T. (URI)
Nikitin, L. (USSR)
Schlager, W. (U. of Miami)

Lancelot, Y. (DSDP)
Worstell, P. (JOIDES Office)

Guests

Haq, B. (NSF)
Schnitker, D. (NSF)
Douglas, R. (OPP)
Fox, P. (OCP)
von Huene, R. (AMP)
Davies, T. (JOI)
Edgar, T. (USGS)

Not Present

Creager, J. (U. of Wash.)

311 INTRODUCTORY REMARKS

E. Winterer opened the meeting by thanking T. Moore for the excellent accommodations and meeting arrangements, and then welcomed and introduced the guests to the Planning Committee members. The Planning Committee (PCOM) accepted an agenda and approved the minutes of the July 1980 meeting.

312 NATIONAL SCIENCE FOUNDATION REPORT

I. 1981-83 PROPOSAL REVIEW

B. Haq reported that the 1981-83 drilling proposal (UCSD-1734) received a very favorable initial review from the NSF ad hoc review board; it also received generally very good reviews from the NSF

Climate Review Panel, but that panel seemed to deal more with long-term (Cenozoic) rather than the short-term (Pleistocene and Recent) paleoclimate effects that are the focus of the "official" U.S. Climate Program. DSDP/JOIDES then addressed the questions raised by the reviewers and submitted an addendum to the proposal during the first week of September. The ad hoc Panel met again 26 September to complete the proposal review and results of that review will be available shortly. P. Wilkniss will present the NSF recommendations to the full National Science Board on 20 November 1980.

B. Haq reported that the letter-writing campaign (initiated by J. Hays) had a significant impact. Francis Johnson, Director AAEO, NSF, received 45 to 50 well-reasoned letters from a wide spectrum of scientists recommending continued Challenger drilling. Numerous letters received from the academic community demonstrate its very strong support, not so many letters however, were received from industry.

Representatives from the IPOD countries met 18-20 September 1980 at Woods Hole Oceanographic Institution. Germany has committed $2 million per year to the 2-year drilling program and Japan is expected to do so soon. France and the United Kingdom were not able to announce a firm commitment for the entire amount, but are seeking ways to meet the requirements. NSF judged that thirty-nine million of the $52 million required to fund the 1981-83 drilling is "in sight."[1] This could support only 18 of the proposed 24-months of drilling, assuming a linear relation between funding levels and drilling time and continued full participation by all contributors in a reduced program.

Haq reiterated that NSF has made no decision about funding the 1981-83 program, but its continuation, at least for the first year, looks feasible; funding beyond that time is more difficult to assess.

II. OCEAN MARGIN DRILLING PROGRAM

The National Science Board and the Congress have approved $5 million for the FY 1981 OMD Program. Initiation of the program depends upon a $5 million contribution (=26 shares) from oil companies. Twenty eight shares have already been committed as follows:

Oil Co.	No. Shares
EXXON	8
Mobil Oil	4
ARCO Petrol.	4
Standard Oil of Calif.	4
Union Oil	2
Cities Service	2
Phillips Petrol.	2
Sun Oil	2

[1] Assuming, according to information from P. Wilkniss to E. Winterer on 20 October, 1980, that each of the non-U.S. IPOD countries contributes $4 million for the 2-year period, and if DARPA contributes $0.75 million.

(CONOCO is believed to be close to joining the consortium)

Japan and West Germany have also expressed an interest in joining the OMD program (IPOD meeting - Woods Hole, 18-20 September).

The next steps in the OMD planning are summarized on "Ocean Drilling Programs Milestones," Appendix I.

III. DIVISION OF OCEAN DRIILLING PROGRAMS

NSF has reorganized to create a Division of Ocean Drilling under which all NSF-funded drilling programs will fall. The ocean Sedimennt Coring Program, previously under the Division of Earth Sciences has effectively been elevated to division status. Presently, Peter Wilkniss is currently Acting Division Director, Anton Inderbitzen is Acting Chief Scientist for Science, OMD, and William Sherwood is Acting Chief Scientist for Engineering, OMD. Bilal Haq, who became the NSF liaison to JOIDES in September 1981, will continue in that capacity within the new division. NSF will advertise the new positions soon.

IV. DISCUSSION AND COMMENTS

Most of the discussion relating to the NSF report is noted under Item 318 (1981-83 Drilling), below.

During discussion the PCOM also addressed the concept of "decoupling" the Challenger and Explorer programs.

The PCOM noted that in the sense of scientific planning the two programs could not be decoupled, but agreed that decoupling in the sense that the programs are complementary and should not be competitive, is necessary. Decoupling in this sense means that the programs are viewed independently for budgetary purposes. One program need not stop when the other starts.

313 DEEP SEA DRILLING PROJECT REPORT

I. PROGRAM PLAN FY 1981

Y. Lancelot reported that NSF has reviewed and approved the FY 1981 DSDP program plan with some modification. DSDP was awarded $19.6 million out of $22 million requested. Fuel costs remain the greatest "unknown" and largest budgetary problem.

In conjunction with budgetary concerns, Lancelot noted that different institutions charge different percentages of overhead on shipboard scientists° salaries. Some institutions currently waive this charge. Lancelot urged all the JOIDES institutions to consider waiving all or part of the overhead whenever feasible so that the added cost does not become a factor in selecting shipboard scientists.

(Some PCOM members noted that certain institutions operate completely on "soft" money and may especially depend upon the

institutional overhead. Overhead costs, they claimed, should not be a factor in selecting shipboard scientists.)

II. CHALLENGER OPERATIONS

A. Legs 74-76

Lancelot reported that Challenger operations on Legs 73-75 have been extremely successful.

Leg 74 drilled six sites on the northwestern Walvis Ridge, recovering a complete sedimentary section. The shipboard scientists chose not to piston core Hole 527 (SA II-5) because extensive dissolution in the sediments would compromise the value of the recovered samples. The HPC, when used, however, worked very well. Technical improvements of the tool have greatly reduced the number of crushed liners and selective use of different types of core-catchers in different types of sediment has greatly improved recovery.

During Leg 75 cores from a deep hole in the Angola Basin recovered Cretaceous black shale (Site 532-Site of opportunity). The site was not cored twice with the HPC, as planned, because the upper part of the sediment column is rich in redeposited volcaniclastics and was judged inadequate for study of physical properties as planned by the SP[4]. Positioning problems precluded drilling the deep hole planned on the flank of the Walvis Ridge and the time remaining was devoted to drilling three complete HPC sections at old Site 362 (first drilled during Leg 40). The shipboard party collected HP-core sets (56 cores) for studies of sedimentary petrology, physical properties, and organic geochemistry. These cores remained unopened and one complete set was frozen for studies in shore-based laboratories.

DSDP sent Challenger to drydock in Norfolk (rather than Mobile) following Leg 75 earlier than originally planned. Problems with the stern thruster -- affecting the ship°s positioning -- had not halted Leg 75 operations, but could have curtailed future drilling if not corrected.

Making good speed, Challenger arrived in Norfolk 3 days early. Global Marine had extensive work done on the vessel including a complete overhaul of the thrusters, and a major overhaul of the engines. Challenger left for Leg 76 six days early, but returned after 1 hour of sea trials, because improper bearings had been installed and had to be replaced.

Challenger left for Leg 76 again on 10 October and is presently (October 15) on site ENA-7 taking piston cores (Site 533).

B. Challenger Condition and Future Plans

Lancelot reported that the Glomar Challenger is generally in good shape. Its thrusters and the positioning system are the weakest components for lonng-term use of the ship. The positioning system, which is obsolete, requires regular maintenance and would be greatly

improved if a longer term program would justify necessary investments. The thruster system is subject to regular maintenance. One improvement that also requires a major investment would be the modification of the hull configuration so that the stern thrusters could be repaired without drydocking. Global Marine (GMI) apparently sees no major problem in operating the Glomar Challenger ten more years. In fact, GMI is eager to use Challenger for other purposes; consequently, should there be a hiatus in drilling, DSDP might not be able to renew its contract for ship, at least without a significant increase in daily rates.

III. TECHNICAL DEVELOPMENTS

A. Personnel

The DSDP Engineering Department has been understaffed during the past few months owing to the illness of key staff members and to the departure of Stan Serocki (previously head of the Engineering Department) to industry. Development of certain tools is progressing well, but planning for long-term development has slowed somewhat.

DSDP plans to hire a downhole-instrument specialist; the Project will advertise the position shortly. The specialist's main task will be to facilitate development of downhole instruments, and oversee necessary improvements in logging tools and log interpretation.

B. Tool Development

1. Hydraulic Piston Corer (HPC)

The hydraulic piston corer is working so well and so reliably that coring with the HPC has become routine. Recovery is summarized as follows:

Legs	Average Recovery (%)	
64-69	80	(commonly 100%)
70-75	88	(Recovery was 95% in most cores. The occasional 0-recovery core skews the recovery percentage downward.)

Design of a variable-length piston corer, to sample sediments of varying firmness is 90 per cent complete. Scientists will be able to regulate the length of the variable length piston corer to between 3 and 9 meters in increments of 1.5 meters. DSDP plans to test a system to scribe cores as they enter the core barrel, to provide a reference orientation for paleomagnetic samples and to test an HPC that includes heat-flow probes in April 1981.

2. Extended Core Barrel (XCB)

The spring-loaded extended core barrel (XCB), which is designed to sample both soft and firm sediments in the upper 200 meters, and to

be interchangeable with the normal core barrel, will be tested on Leg 79 or 80.

3. Pressure Core Barrel (PCB)

DSDP successfully tested the pressure core barrel twice (onshore) and considers the system operational. Two complete PCB units will be tested at Site ENA-7 (crest of Blake-Bahama Outer Ridge) to sample gas hydrates during Leg 76.[1]

4. Drill-in Casing

Drill-in casing (casing that can be set without a re-entry cone) is now available onboard Glomar Challenger. The bit used for the drill-in casing is 16" in diameter and would probably disturb the sediments more than DSDP's standard 11-inch bit. DSDP would like to test the drill-in casing, but does not intend to use ship's time only for the test, but rather will test it as part of a normal scientific drilling operation.

5. Long-spaced Sonic Tool

The diameter of the long-spaced sonic tool, currently available from AMOCO, is too great for the DSDP drill string. DSDP would need to design a suitable tool.

6. Packers

DSDP intends to redesign packers and/or straddle packers so that they are better adapted to the Challenger drill string and can be used routinely.

(The downhole instrument specialist which DSDP plans to hire will work on development of sonic tools and packers.)

7. Drill-String Motion

DSDP continues to study drill string motion and the stress it induces in the drill pipe. Data (ship's motion, heave at the lower end of the drill string, and strain at the top of the pipe) are now in the computer. Curves relating rupture limit of the drill string to load and metal fatigue are being generated. DSDP plans to keep the instruments on board ship to continue monitoring the drill-string motion.

IV. SHIPBOARD COMPUTER

DSDP is planning to purchase a shipboard mini-computer that can quickly analyze the results of the gas chromatograph to allow better monitoring of gas-rich sediments. The shipboard computer is primarily

[1] Just after the PCOM meeting shipboard reports announced one successful use of PCB at Site ENA-7. The PCB was run successful four out of five tries.

being purchased for this purpose.

- process (enhance) single-channel seismic profiler data.
- process, digitize, integrate, and/or chart
- underway data (bathymetry, navigation, magnetometer)
- scientist-generated shipboard data (physical properties, smear-slide, inorganic geochemistry, paleomagnetic, and sediment thickness data). (GRAPE data could be integrated later.)
- certain data from previous cruises. The computer's storage capacity would be modest, but it would complement the shore-based facility.

DSDP would like to acquire the mini-computer in November and have it aboard ship by the end of March or in early April.

V. SCIENCE SERVICES

1. Volume Production

Seven Initial Report volumes were produced in FY 1980; seven more will be produced in FY 1981. Volume production is moving satisfactorily, but DSDP needs more cooperation from the shipboard scientists -- especially from the co-chief scientists -- to help actively in preparation of volumes and to pressure the shipboard scientists into timely submission of manuscripts. The chief cause of late volumes is late receipt of key chapters from participating scientists. DSDP will try to have post-cruise meetings only 7 months after the cruise, to help alleviate the problem.

Most volumes are presently published about 30 months after the cruise: DSDP aims to reduce that to a maximum of 28 months.

2. Initial Core Descriptions (ICD)

Lancelot is encouraging the DSDP staff representatives to finish more of the ICD, (which is nearly 100 per cent descriptive), on board ship so that the ICD's can be completed and distributed within a few months (no longer than a year) following the cruise.

3. Data Handling

DSDP has collected a wealth of data and information which are available to the general scientific community. To encourage greater use of these resources DSDP will prepare an 50-page brochure describing what is available, how to submit data requests, and how to use the data retrieval systems.

N.B. Lancelot — J. Fox suggested that DSDP place an ad in GEOTIMES to prompt interest in the DSDP data resources.

4. Contingency Plans

Lancelot noted that if DSDP is phased out, only the budgets related to Challenger operations can be cut immediately. Volume production, data handling, and core curation must continue, thus funds sufficient to maintain these science service operations at full levels would be necessary through 1985.

314 OCEAN MARGIN DRILLING

I. SAC REPORT

E. Winterer reported on recent Scientific Advisory Committee (SAC) meetings.

A. New Members

During its meeting at Woods Hole, 16-17 September 1980, the OMD Scientific Advisory Committee added three new members: Charles Drake (Dartmouth), Alfred Fischer (Princeton), and N. Terence Edgar (USGS).

B. Proposal Review - Regional Syntheses

The SAC reviewed the recommendations of its Planning Advisory Committee's proposals which had studied syntheses of geological and geophysical data in the candidate areas for ocean margin drilling (see EXCOM minutes, July 1980 for list of areas). SAC then asked JOI, Inc. to negotiate contracts with the successful proposers. Twenty eight per cent ($2.8 million) of the money available for FY 81 has been allocated to the regional syntheses. JOI expects work on the syntheses to begin immediately and to be finished within a year.

C. Shipboard Versus Shore-based Laboratory

The SAC formed a committee to make recommendations on shipboard (Explorer) laboratory design. An alternative to the Challenger-type operation to limit the shipboard party to only a skeleton crew. The scientific party would include only those needed to conduct safety-related scientific and technical procedures and to make operational scientific decisions. Most science would be done in a fully equipped shore laboratory. The laboratory would be an "extension" of the ship where scientists, before and after participation on a cruise, could work -- perhaps for as long as a year -- to complete their results.

D. Questions

Bryant: What is the relationship between JOI and SAC?

Winterer: One member from each JOI institution and one member from each participating oil company sits on the Science Advisory Committee along with three "public" members. The NSF funds for managing the planning the program (JOI administration, meetings, etc.) are disbursed through JOI. An Industrial Oversight Group

deals directly with NSF on matters pertaining to OMD policy.

Schlager: How does the COST B-4 drilling correspond to the OMD program? Will its drilling reduce the incentive to drill the same sequence by Explorer inasmuch as it would be drilled well before the Explorer program could be started? (Rhetorical inasmuch as no one from industry was present to answer it.)

Ewing: Perhaps we should view the COST B-4 well as a chance to get an extra hole.

Beiersdorf: What companies are supporting the COST B-4 drilling?

Haq: Texaco leads in the COST-4 planning.

Winterer: SAC considered the possibility of OMD becoming a partner in the COST B-4 well, but they deemed the late-entry penalty too high, the timing poor, the likelihood of OMD being an acceptable partner low. The B-4 data would not be available in time for the regional synthesis, but would ultimately become public.

315 NORTH ATLANTIC CHALLENGER PLANS

I. DRILLING PRIORITIES

During its 8-10 September 1980 meeting in Barbados, the Ocean Margin Passive Panel (PMP) made several recommendations regarding drilling priorities during Legs 76-79. The Planning Committee acted upon the recommendations as follows:

1. Leg 76 (Blake-Bahama Basin)

J. Ewing moved (W. Schlager seconded) that the drilling sequence at ENA-1 (oldest sediments, Blake-Bahama Basin) be as follows:

a. set re-entry cone and casing without drilling a pilot hole (inasmuch as the previously drilled Site 391 is nearby,)

b. continuously core the lower part of the hole -- below 500 meters,

c. continuously core the upper 500 meters,

d. log the hole.

Vote: 12 for, 0 opposed, 0 abstain. The motion passed unanimously.

2. Leg 77 (Florida Straits)

W. Schlager moved (J. Ewing seconded) that the general drilling priorities be as follows:

a. drill ENA-12E (a new hole to replace ENA-12A) and ENA-12B

to sample the upper Mesozoic including the mid-Cretaceous seismic discontinuity and the discontinuity below.

b. drill ENA-14C and -14B to sample basement (possibly continental crust) where the presence of high horst blocks with only a thin sediment cover have placed it within reach of Challenger's drill string.

c. if time remains, drill CAR-7 (Yucatan Basin), and/or ENA-13 (to sample the Cenozoic and upper Cretaceous to the middle Cretaceous unconformity), and/or ENA-14A. Selection of site to be made on the basis of time available (CAR-7 requires the most drilling time; ENA-14A the least.)

Vote: 12 for, 0 opposed, 0 abstain. The motion passed unanimously.

W. Schlager moved (seconded by J. Ewing) that the sequence of coring operations at CAR-7 be:

a. spot core the upper half of the sedimentary column,

b. continuously core the lower half of the section to basement,

c. continuously core the by-passed upper part of the section.

Vote: 12 for, 0 opposed, 0 abstain. The motion passed unanimously.

The PCOM approves drilling CAR-7 "upside down" to increase the chance of attaining the prime objective at that site (resolving the origin and age of the Yucatan Basin crust), but reiterates its position that the standard drilling procedure is to continuously core all holes.

The PCOM understands the need for flexibility in planning the Leg 77 drilling and recognizes that the co-chief scientists will need to make certain on-the-spot decisions regarding drilling priorities.

3. Leg 78

In view of the shortened drilling time for Leg 78, the Caribbean Working Group (letter from L. Montadert, 6 October 1980, App. II) emphasized the need to drill a reference hole on the oceanic floor to provide a comparison with CAR-1 and a hole on top of the Aves Ridge to collect data on Neogene paleoenvironments in relatively shallow water.

During discussion of the Leg 78 drilling, the PCOM addressed questions pertaining to Safety Panel approval of CAR-1. Although the PPSP approved CAR-1 at their 28 August 1980 meeting, it may reconsider the site should the sediments be interpreted as a tectonically

transported proximal (oil-bearing) formation rather than a fine-grained distal (non-oil-bearing) deposit.

Following considerable discussion, T. Moore moved (W. Bryant seconded) the Leg 78 drilling priorities be as follows:

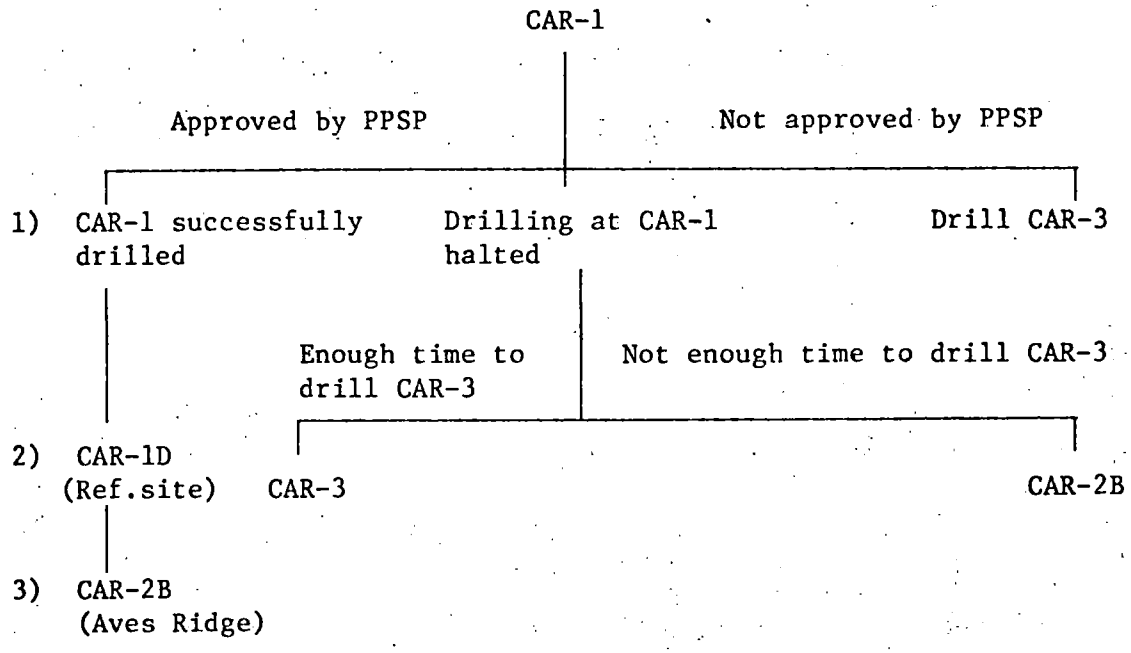
Drill CAR-1 if PPSP approves.

Drill CAR-3 if PPSP does not approve CAR-1.

If CAR-1 drilled successfully, then drill CAR-1D or -1E (reference site), then (if time remains) drill CAR-2B.

If drilling at CAR-1 not completed (safety problem), and adequate time remains, drill CAR-3.

If drilling at CAR-1 is not completed, but insufficient time to drill CAR-1 remains, drill CAR-2B.



Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

4. Leg 79 (Mazagan)

K. Hinz presented data to the Passive Margin Panel (PMP) which showed that although granites have been dredged from the Mazagan block, it might be a salt diapir. The PMP proposed drilling a series of holes -- MAZ-3, MAZ-2, MAZ-4 (itself a series of short holes), or MAZ-4 and MAZ-8 (if MAZ-3 and -2 cannot be drilled) -- on the Mazagan Plateau.

The PCOM deferred discussion of the Mazagan sites until after the Safety Panel review on 5-6 November 1981.

II. CO-CHIEF SCIENTISTS STATUS

A. Named and Accepted

1. Leg 77 (Florida Straits) - R. Buffler and W. Schlager

2. Leg 78A[1] (Barbados Ridge) - B. Biju-Duval and C. Moore

3. Leg 78B[2] (North Atlantic - Downhole Experiments) - R. Hyndman
(One co-chief scientist to be named.)

4. Leg 79 (Mazagan) - K. Hinz
(One co-chief scientist to be named.)

B. Revisions

1. Leg 79 (Mazagan)

E. L. Winterer withdrew his name from consideration as co-chief scientist for Leg 79 (Mazagan) in response to the Planning Committee's concern that its chairman should be available (on-shore) during critical future planning for Challenger drilling. DSDP will try to keep a berth (sedimentologist) open should the PCOM at that time (April-May 1981) not require the full availability of its chairman.

The Planning Committee recommended the following revised list of nominees for second co-chief scientist, Leg 79: R. Garrison, S. Schlanger, or J. Schlee (in that order of preference).

C. New Nominations

1. Leg 78B (North Atlantic downhole experiments)

R. Moberly moved (J. Cann seconded) that M. Langseth, M. Salisbury, or M. Purdy be asked (in that order of preference) to be the second co-chief scientist on Leg 78B.

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

2. Leg 82 (North Atlantic)

W. Schlager moved (seconded by J. Ewing) that B. Tucholke and J. van Hinte be nominated co-chief scientists for Leg 82, and that P. Enos, J. Grow, and P. Jansa be considered alternative choices, should either B. Tucholke and/or J. van Hinte decline the invitation.

[1] Previously called Leg 78.

[2] Called Leg 78A in PCOM minutes 2-4 July 1980. The PCOM yields to DSDP's preference that it be called Leg 78B. Leg 78A now denotes the earlier scientific drilling part of the leg.

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

(Nominations for Legs 79 (Galicia), 81, and 82 were made during the 2-4 July 1980 PCOM meeting.)

316 COMMITTEE, PANEL, AND WORKING GROUP REPORTS

I. EXECUTIVE COMMITTEE (EXCOM)

The Executive Committee met 17-18 July 1980 in Bordeaux, France. E. Winterer reported the following.

1. Membership

The Committee discussed means to encourage other nations to join JOIDES. The EXCOM discussed three possible classes of membership:

a. Full membership - entitled to full participation in all phases of planning, shipboard science, and access to data.

b. Affiliate membership - formal participation at reduced costs and reduced privileges.

c. Joint membership - consortia joining as full members with privileges divided among members.

The EXCOM agreed that additional non-US countries should join as full or joint members, but how and if affiliate membership could be handled was not resolved.

A subcommittee of the EXCOM, the committee on Expanding International Participation in the Drilling Program, will meet in Toronto, 23 October 1980 to address questions of affiliate and joint membership and to discuss possible membership with the Canadians.

Countries which have indicated an interest in joining JOIDES include Canada, the Netherlands, Australia, New Zealand, Italy (possibly as joint members), Mexico, and the People's Republic of China.

Some conversations regarding JOIDES membership have been initiated by national governments rather than by JOIDES. The USA has initiated conversations with Mexico; the FRG is communicating with the Peoples Republic of China.

PCOM Comment

The Planning Committee was very interested in the US Government's conversations with non-US countries, but asks that NSF keep JOIDES informed of any conversations concerning JOIDES membership.

2. PCOM - Quick-Action Committee

The Executive Committee gave the PCOM Chairman the authority to appoint a "quick-action" subcommittee of the PCOM, to make decisions, as necessary, between PCOM meetings. The quick-action subcommittee was originally conceived to expedite action on site-survey plans and its effectiveness was to be reviewed during the upcoming EXCOM meeting. (In fact, the PCOM Chairman did not need to use this device in the interim.)

3. Planning Committee Report

The Executive Committee accepted the Planning Committee report (from the meeting of 2-4 July 1980).

One EXCOM member questioned expanding downhole experiments and operations on Leg 78A (now called 78B) at the expense of the Caribbean drilling. Winterer explained that although some time to do previously planned science was indeed been lost, it did not all come from the planned Caribbean drilling.

The EXCOM also questioned the precedent of designating entire cores to destructive study (PCOM Item 307 III). Winterer explained that the duplicate coring operations effectively provided archive cores.

II. PASSIVE MARGIN PANEL (PMP)

E. Winterer reported for R. Sheridan who is at sea on Leg 76.

A. Membership

J. Curray has resigned from the Passive Margin Panel.

W. Schlager moved (seconded by R. Moberly) that Brian Tucholke (WHOI) be added to the Passive Margin Panel.

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

ACTION: Bryant — The PCOM Chairman asked W. Bryant to review the membership rotation to ensure that the Passive Margin Panel has not increased its total membership.

B. Other Business

The North Atlantic drilling priorities recommended by the PMP are discussed under Item 315 (North Atlantic Challenger Plans). The PMP's drilling priorities for the 1981-83 are discussed under Item 319-IV (1981-83 Challenger Program).

The Passive Margin Panel recommended that the scientific community convene a conference to reassess and coordinate scientific goals in marine goelogy and geophysics. This is discussed under a separate heading, Item-321, Conference on the Future Course of Ocean Drilling.

III. ACTIVE MARGIN PANEL (AMP)

R. von Huene reported for the Active Margin Panel.

A. Membership

ACTION: von Huene

Roland von Huene will retire as Chairman of the Active Margin Panel following that Panel's next meeting. The PCOM asked von Huene to poll his panel and submit at least three nominees for chairman, upon which the PCOM will act during its February 1981 meeting.

B. PAC-A-BERS

Von Huene alerted the Planning Committee to a proposal being prepared by a group of researchers led by D. Scholl and T. Vallier. The proposed program in the North Pacific, Aleutian and Bering Seas (PAC-A-BERS) is an integrated package serving many objectives. Encompassing a regional, rather than topical orientation, the proposal includes aspects normally addressed by the Active Margin, Ocean Paleoenvironment, and Ocean Crust panels. Thus it does not easily fall within the scope of any one panel. Planned to unravel the evolving tectonic, oceanographic and climatic history of the area, the proposal addresses many objectives, but because the selected sites may not be the best possible place to solve specific problems, it also enbodies some compromises.

The PAC-A-BERS group thinks that most of its objectives could be accomplished on a 2-month transect from Adak to Kodiak. Drilling would include the:

1. Zodiac fan to establish where the fan was formed and how it reached its present position.

2. Sounder Ridge to sample the Bering Sea basement and establish the existence of the Kula plate in the Gulf of Alaska and the Bering Sea, and to clarify the absolute (relative to spin axis) and relative motions of Pacific Plate during the past 60-70 million years.

3. Meiji sediment body to determine the origin of this thick accumulation of fine-grained sediments so far from a continental source.

4. Shirshov Ridge to study the age and stratigraphic evolution of buried basement knolls and seamounts in the Aleutian Basin.

5. Amlia Corrider to investigate a region of highly oblique subduction.

6. East Aleutian Trench and Slope (Astoria, Navy fans) to better understand the sequences and associations of sediment facies associated with deep sea fans.

The PAC-A-BERS proposal has not been reviewed by the full Active Margin Panel.

Following discussion concerning the appropriate way to handle the PAC-A-BERS proposal, R. Moberly moved (seconded by T. Moore) that the Active Margin Panel establish a North Pacific-Bering Sea Working Group to develop drilling programs in that area. The Working Group should include members from both the Active Margin and Ocean Paleoenvironment panels, with its chairman coming from the AMP.

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

The PCOM further recommended that in addition to some PAC-A-BERS proposers, members outside that group be invited to join the working group.

IV. OCEAN CRUST PANEL (OCP)

J. Fox reported for the Ocean Crust Panel.

A. Membership

Several members are rotating out of the Ocean Crust Panel.

Following discussion, J. Cann moved (seconded by W. Schlager) that H. Shouten (WHOI) replace R. Larson; R. Anderson replace J. Francheteau and M. Bender replace R. Coleman.

Vote: 12 for, 0 against, 0 abstained. The motion passed unanimously.

Membership to the Hydrogeology Working Group which involves Ocean Crust, Downhole Measurements and Inorganic Geochemistry panels is discussed as a separate item below (Item 316-XII).

B. PAC-A-BERS

The Ocean Crust Panel reviewed the PAC-A-BERS proposal (outlined above) during its recent meeting (8-10 October at University of Washington). The OCP considered the proposal very interesting, but not as fundamental to the OCP objectives as the other, already defined projects.

The OCP defined priorities for the 1981-83 drilling which are discussed under Item 319.

V. OCEAN PALEOENVIRONMENT PANEL (OPP)

The Ocean Paleoenvironment Panel met 28 July 1980 in Paris. R. Douglas reported some items from that meeting as follows:

A. Sampling Policy

Complaints directed to the OPP about "over enthusiastic" sampling of the hydraulic piston cores by shipboard scientists, and concern that the high-resolution potential of the cores is being compromised, prompted the OPP to recommend that either the hydraulic piston cores

remain unsplit on board ship or that DSDP establish a policy to limit shipboard sampling. It also asked DSDP to ensure sufficient staff to properly curate the cores.

B. Discussion

During its Paris meeting (2-4 July) the PCOM discussed splitting the hydraulic piston cores on board ship (Item 306-V) and recommended that except in special circumstances, the HP cores continue to be split in the standard manner.

At its present meeting, the PCOM recognized the need for more conservative hydraulic piston core handling and sampling procedures, but made no specific recommendations.

C. Alternative North Atlantic Sites

R. Douglas alerted the PCOM to a document prepared by W. Ruddiman, J. Hays, and J. Kennett suggesting several alternative sites which could usefully be cored by the hydraulic piston corer during the late-phases of the current North Atlantic program.

The PCOM recommended that Douglas consider moving the alternative sites even closer to the Challenger track.

A. The OPP's 1981-83 drilling programs discussed at that meeting are outlined under Item 319.

VI. ORGANIC GEOCHEMISTRY PANEL (OGP)

D. Hayes reported for the Organic Geochemistry Panel which met 22-24 August at Durham, New Hampshire.

A. Membership

K. Kvenvolden has retired from chairmanship of the Organic Geochemistry Panel. The PCOM recognizes his extraordinary contribution in galvanizing that Panel and in leading it during these past seven years. The PCOM directed its chairman to write Kvenvolden a special letter of commendation and thanks.

ACTION: Winterer

R. Moberly moved (seconded by Cann) that Berndt Simoneit (UCLA) be asked to chair the Organic Geochemistry Panel.

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

The OGP also requested that certain other members be added.

Following discussion, J. Cann moved (J. Ewing seconded) that Summerhays be added to the Organic Geochemistry Panel immediately, but that no additional person be added until a present member leaves.

Vote: 10 for, 1 against, 1 abstain. The motion passed.

D. Hayes moved (Ewing seconded) that Demaison be added to the OGP only after a current member leaves the panel

Vote: 8 for, 3 against, 1 abstained. The motion passed.

B. Other Business

D. Hayes reported (for M. Langseth) some other results from the meeting.

1. OGP members are preparing a manual of organic geochemistry for shipboard use. It should be completed by January 1981.

2. The OGP recommends that DSDP consider buying an inexpensive chromatograph to measure H_2 on board ship.

3. The panel recommended that DSDP consider assigning additional curatorial staff to expedite the OGP sampling. The time between sample receipt and report deadlines is too short for geochemists to satisfactorily analyze the samples and prepare their contributions.

In response to the recommendation, Y. Lancelot reported that DSDP has recently hired an additional curatorial assistant and has asked NSF to increase DSDP's full-time-equivalent number by one to allow for his employment.

Since its last meeting, and in order to focus on future planning, the OGP decided to postpone its next meeting, previously scheduled for late January in Boca Raton, to a later as yet undetermined date.

VII. INORGANIC GEOCHEMISTRY PANEL (IGP)

The Inorganic Geochemistry Panel met 4-5 August at Scripps Institution of Oceanography.

A. Membership

Action: Winterer

The IGP had proposed Li (L-DGO) as a new member in the July 1980 Planning Committee meeting. The PCOM had deferred judgement until the IGP could provide more bibliographical information about Dr. Li. The IGP, however, did not reiterate its request at the present meeting.

The PCOM also noted that chairmanship of the IGP has not rotated for several years. The PCOM asked it's chairman to contact J. Gieskes, Chairman of the IGP, regarding potential new members and possible rotation of its chairman.

B. Other Business

J. Dymond reported the following.

1. Because the shipboard organic geochemitry and inorganic geochemitry programs have been growing steadily, the IGP recommends that DSDP place two well-trained geochemistry technicians onboard Challenger.

Y. Lancelot reported that DSDP routinely uses its marine technicians to perform geochemical analyses and will be able to increase the geochemistry technician staff on those cruises which require it.

2. The IGP recommends that the interstitial waters from the HPC core-catcher sample be compared with the regular undisturbed 10-cm sections to test the validity of using the core-catcher samples. In the future, samples will be taken from the core-catcher if comparisons show that the data are valid.

Y. Lancelot reported that he was arranging for the tests.

VIII. DOWNHOLE MEASUREMENTS PANEL (DMP)

The Downhole Measurement Panel has not met since the last Planning Committee meeting.

Following a recommendation from the DMP, (via letter from R. Hyndman to E. Winterer) W. Bryant moved (seconded by T. Moore) that J. Severns be replaced by Mark Mathews (Univ. of Calif. at Los Alamos, N. Mexico).

Vote: 12 for, 0 against, 0 abstain. The motion passed unanimously.

IX. SEDIMENTARY PETROLOGY AND PHYSICAL PROPERTIES PANEL (SP^4)

The Sedimentary Petrology and Physical Properties Panel met in Denver, 2-4 October. R. Moberly reported on some items from that meeting.

1. Needle penetrometer - The SP^4 asks that the needle penetrometer be taken off Challenger. Better tools are available which can accomplish the same purpose.

ACTION: Lancelot — Lancelot agreed to have the needle penetrometer removed from the ship.

2. Calibration of GRAPE - The SP^4 inquired about the status of the GRAPE calibration tests. (The GRAPE is being tested to determine whether valid data are obtainable by a faster scan.)

ACTION: Lancelot — Lancelot said that tests are being conducted. He will check on their status and will send the results of the GRAPE tests to A. Richards (SP^4 Chairman).

3. Liaison with subject panels - The SP^4's mandate has changed somewhat to include a greater focus on science. The SP^4 suggests that it have representatives on the subject panels to maintain liaison and ensure an adequate information flow.

Members of the PCOM noted that in the past it has been the

subject panels which have requested representation by discipline panels, and not vice versa. Increased participation in subject panel meetings could become unwieldy and increase travel expenses beyond budgeted amounts.

E. Winterer noted that if subject panels required additional liaison from other panels solution would be to add liaison people as necessary but to reduce the panel's regular membership by that number of people.

ACTION: Winterer

The PCOM asked E. Winterer to write the chairmen of the subject panels (AMP, PMP, OCP, OPP), asking them to justify, in full, increasing their panel by an additional SP^4 person (provided that they are inclined to do so). The PCOM will consider the chairmen's recommendations at a later meeting.

4. SP^4 suggestions for co-chef scientists beyond Leg 81 will be addressed in a later meeting.

5. Technical Manual -- The SP^4 asks that the technical manual dealing with shipboard procedures be published no later than December 1981.

Y. Lancelot said that publishing the manual would cost $35 thousand in hard cover or $19 thousand in soft cover. DSDP has no funds in the FY 81 budget to cover production and printing costs. Lancelot also noted that only about 1/3 of the papers for the manual have been received by DSDP.

6. A. Richards (SP^4 Chairman) suggests replacing an academic member of the SP^4 with a person from industry.

ACTION: Winterer

E. Winterer will discuss panel rotation with Richards.

X. INFORMATION HANDLING PANEL (IHP)

A. Membership

Mel Rosenfeld resigned as chairman of the Information Handling Panel. The PCOM did not recommend a replacement for him during its Paris (2-4 July) meeting following the meeting, but E. Winterer appointed Dan Appleman the Panel's acting chairman so that routine panel business could progress.

The PCOM is disappointed that Rosenfeld has decided to resign and recognizes his trememdous contribution to the program. Following further discussion, T. Moore moved (seconded by D. Hayes) that Daniel Appleman (Smithsonian Institute) be nominated to chair the Information Handling Panel.

Vote: 10 for, 0 against, 1 abstained. The motion passed.

XI. POLLUTION PREVENTION AND SAFETY PANEL (PPSP)

The Pollution Prevention and Safety Panel met 19 June and 28 August to review the Legs 76, 77, and 78 sites. The PCOM addresses

review of specific sites during its discussion of the North Atlantic drilling (Item 315). The Panel will next meet 5-6 November to review proposed Leg 79 (Mazagan and Galicia) sites.

A. Membership

In response to a telephone communique from L. Garrison to the JOIDES office, W. Schlager moved (seconded by W. Bryant) that John Harms (Marathon Oil Co.) be designated the alternate to D. MacKenzie.

Vote: 9 for, 0 against, 0 abstain. The motion passed unanimously.

XII. HYDRAULIC PISTON CORER WORKING GROUP

The Hydraulic Piston Corer Working Group has not met since the last PCOM meeting.

The PCOM authorizes the HPCWG to have another meeting, perhaps in conjunction with the Hydraulic Piston Corer symposium at the Geological Society of America convention in Atlanta during November.

T. Moore noted that PCOM asked the working group to investigate the possibility of other ships to deploy the hydraulic piston corer. Moore suggests that that could better be done by DSDP.

Lancelot agreed that DSDP could probably provide technical liaison, but noted that it could not spend much time on the problem.

XIII. HYDROGEOLOGY WORKING GROUP

During it July 1980 meeting, the Planning Committee encouraged the formation of a Hydrogeology Working Group (Item 307-VI, then called the Submarine Hydrology Working Group), and asked the chairman of interested panels to submit nominations to the working group at the October PCOM meeting.

The PCOM considered nominees to the Hydrogeology Working Group from the Ocean Crust, Downhole Measurements, and Inorganic Geochemistry panels. In selecting members the PCOM attempted to include at least one nominee from each interested panel, and to obtain a balance between members with "hands on" and theoretical experience. It also attempted to attain a balance of representatives among institutions.

T. Moore moved (seconded by L. Nikitin) that the following people be asked to form a Hydrogeology Working Group: R. N. Anderson (L-DGO), L. Cathless, R. McDuff (MIT), R. von Herzen (WHOI), M. Zoback (USGS).

Vote: 12 for, 0 against, 0 abstain. Motion passed unanimously.

The PCOM designated R. Anderson, the only Working Group member potentially on a JOIDES Panel (nominated to OCP), to chair the Hydrogeology Working Group. E. Winterer will notify R. Anderson of the selection of the working group members.

ACTION: Winterer

317 MEMBERSHIP - ALL PANELS

E. Winterer reiterated his intent, as Chairman of the PCOM, to encourage rotation of membership on all JOIDES Panels. U.S. members are generally expected to step down after serving about two years on a panel. (The rotation of non-US members is controlled by their respective IPOD agencies.) Rotation of membership ensures participation by a broad segment of the scientific community and also provides the mechanism by which panels may adapt and respond to new programs.

The PCOM also reiterated its own responsibility in recommending new panel members to the EXCOM. Although the PCOM is usually responsive to nominations and suggestions from the JOIDES Panels the PCOM noted that it does not simply endorse nominees recommended by panels or individual panel members, but actively selects them.

318 OUTSIDE INTEREST IN 1981-83 DRILLING

I. DEFENSE ADVANCED RESEARCH AGENCY (DARPA)

During its 2-4 July meeting in Paris, the Planning Committee reviewed and considered favorably a proposal by DARPA to deploy a marine seismic system in the northwest Pacific, and to test the emplacement procedure during the transit between Legs 78 and 79 (PCOM Item 305).

During the present meeting E. Winterer reported on the contents of a draft memorandum (9 September 1980, Memorandum of Agreement between National Science Foundation and Defense Advanced Research Projects Agency) which recently came to his attention in conjunction with JOIDES/DSDP planning. The Planning Committee members noted that certain items reported by winterer to be in the memo appear inconsistent with PCOM's original intent and understanding of the DARPA project.

The Planning Committee is very concerned that the DARPA program may be diverging from what the PCOM had originally understood it to be, and upon which it based its support. Some items of concern are, complete and open availability of <u>all</u> data, responsibility for prorated costs of the DARPA operations, safety of the drill string, and provisions for timely site surveys.

The PCOM reiterates its understanding that ALL data obtained would be available to the scientific community. It also noted that the PCOM is both responsible and obligated to advise DSDP about site selection and nominations of co-chief scientists.

The Planning Committee emphasized that better and more timely communication among PCOM, DARPA, NSF, and DSDP are required if PCOM is to carry out its planning and advisory roles properly.

II. UNITED STATES GEOLOGICAL SURVEY (USGS)

The U.S. Geological Survey is interested in cooperating with

JOIDES/DSDP in a drilling program using Glomar Challenger in the western North Atlantic and Gulf of Mexico. N. T. Edgar (Deputy Chief of Marine Geology, USGS) presented the proposed USGS drilling program. The program contains elements addressing both basic science and geotechnical problems. The geotechnical studies, planned partly in conjunction with JOI, Inv., would serve those designing the Explorer's sea-floor well-control system, as well as provide data needed by the USGS to foresee conditions that bear on commercial wells on the deeper parts of the continental margin.

The USGS objectives are to:

1. Define clearly the stratigraphy and geological history along the North Atlantic continental slope and rise, and study the processes of mass wasting. USGS proposes a series of three transects along the

a. Georges Bank Slope and Rise - to determine the age, environments and history during key intervals of slope and rise construction: Late Cretaceous-early Tertiary and late Tertiary-Quaternary intervals.

b. Mid-Atlantic (States) Slope and Rise - to reconstruct the depositional changes between, and climatic history during, the shelf to basin transition.

c. Carolina Trough - to sample the Tertiary-Cretaceous stratigraphic and environmental records to complement the mid- and north Atlantic data.

The drilling would also help identify major slump(?) blocks in the upper 200 meters of the lower slope and upper rise. Some of the so-called slumps may be remnant erosional blocks surrounded by canyons. In this case they would pose no special geologic hazard to (oil) drilling operations, and thus the study is important to the future of offshore drilling.

2. Study gas hydrates on the Carolina Slope to establish why gas hydrates occur? Are they a potential gas resource? Are they a serious geologic hazard to exploration drilling?

3. Study the geochemical properties of some 21 salt diapir structures along the East coast magnetic anomaly off North Carolina.

4. Study the depositional processes associated with the channeled unconformity (Horizon A^u) on the continental rise off Georgia.

5. Gulf of Mexico

a. Mississippi Fan - to determine depositional and stratigraphic characteristics of a large fan that is receiving sediments in an environment with low sand/clay ratios.

b. Gyre/Orca Basins - to study (with the HPC) different types of basins influenced by vertical movements of diapirs and

details of anoxic accumulations, including the rate of formation and geochemical processes acting in highly saline waters (with the hydraulic piston corer).

c) Sigsbee Escarpment - to verify the existence of an extended salt wedge thought to form the Sigsbee Escarpment and to study the processes which extruded it.

4. Geotechnical drilling related to the Ocean Marging Drilling

The Ocean Margin Drilling Program calls for drilling an open hole to about 2000 meters sub-bottom to reach the uppermost competent level (level at which sediments can support the riser and blow-out preventer).

Because of various regulations, the USGS cannot easily provide the geotechnical data about the seafloor and the upper ±2000 meters sub-bottom required to design Explorer's riser system.

The Glomar Challenger is the only vessel which can readily establish depths to the "levels of competency" (using the HPC to limit of penetration, the pressure core barrel, in situ penetrometer and other techniques). OMD planners also envision some ongoing program of geotechnical study associated with each planned site.

RECOMMENDATION

The PCOM recognizes that several areas of overlapping interests exist between USGS and the JOIDES partners -- especially within the purview of the Passive Margin Panel.

The Planning Committee recommended that T. Edgar establish USGS priorities within the proposed program in the western North Atlantic and present the program to the Passive Margin Panel at its January 1981 meeting.

ACTION: Winterer — E. Winterer will ask R. Sheridan to invite Edgar to the next PMP meeting.

A. Richards (Chairman, SP[4]) should also designate a member of the Sedimentary Petrology and Physical Properties Panel, which contributed significantly to the planning for the passive-margin program, to participate in the discussion.

The PCOM will review the PMP's recommendations during its February 1981 meeting (at SIO).

319 1981-83 DRILLING PROGRAM

I. 1981-83 PROPOSAL UPDATE

E. Winterer reviewed the status of the 1981-83 drilling proposal.

At its first meeting in August, the NSF ad hoc Review Panel, chaired by John van Couvering, unanimously recommended full support of the 1981-83 drilling program. The Panel directed most of its recommendations toward improving the proposal by more detailed treatments of certain aspects (e.g. convergent margins, and studying organic carbon budgets). The NSF Climate Panel's review was somewhat less enthusiastic but primarily questioned the relevancy of the drilling plans to the U.S. Climate Program.

DSDP and JOI with help and advice from JOIDES (T. Moore, E. Winterer, J. Hays, K. Kvenvolden, J. Gieskes, and others) submitted detailed responses to the points raised by the reviewers to NSF during the first week of September. The NSF ad hoc review panel then met 26 September to complete the review and issue its final recommendation. The final recommendation strongly urged funding for the full 2-years. NSF will present its recommendations to the National Science Board on 20 November 1980.

II. EXCOM CHARGE TO PCOM

E. Winterer reported that the Chairman of the Executive Committee asked the Planning Committee to develop revised 1981-83 drilling programs assuming the availability of only about 75% of the $52 million required for the 24-month program. (Memo 25 September, Nierenberg to members of JOIDES Executive Committee, Appendix III).

The request came as a result of a September 18-20 meeting at WHOI of IPOD representatives from the Federal Republic of Germany, France, Japan, United Kingdom, and United States. During the meeting, the non-US representatives indicated that their respective governments strongly supported the proposed scientific work and continuation of the drilling program through September 1983. The Germans have committed $2 million; the Japanese are expected to do so shortly. The French and United Kingdom are exploring ways to bring their contribution up to the full amount. The NSF, however, estimated that of the $52 million required only about $39 million is "in sight." The president of JOI (W. Hay) asked the JOIDES EXCOM Chairman to develop alternative programs requiring less than $52 million and showing additional scientific tasks and returns at incremental budget levels.

III. DISCUSSION

PCOM: What monies does NSF include in the 39 million (= 18 months) "in sight?"

Haq: The exact figures aren't available.[1]

Winterer: We do not know where the "in-sight" $39 million comes from. NSF has not told us whether this includes the present (and/or anticipated) non-US contributions, DARPA funds, or potential USGS funds.

[1] Assuming, according to information from P. Wilkniss to E. Winterer on 20 October, 1980, each of the non-U.S. IPOD countries contributes $4 million for the 2-year period, and if DARPA contributes $0.75 million.

Cann: The 1/8 short full from certain non-US members is results from the lack of commitment from the NSF. The non-US countries are enthusiastic about the drilling program; but they ask the US (NSF) to commit itself.

LePichon: The French clearly intend to participate in a two-year program. But they are asked to increase their yearly contribution from $1.25 to $2 million. If the program is reduced to 18 months, then the same amount of science costs three times as much as before. I would encourage the French to withdraw support from a truncated version of the present two-year program. If funds for only 18 months of drilling are available, the French would want to see an entirely new program developed.

Beiersdorf: The Germans have committed $2 million per year to a 2-year (1981-83) drilling program. If the program is curtailed I will have to explain what drilling can be done and what is left out. The Germans will then decide whether or not the program is still worthwhile.

Lancelot: Do not equate dollars directly to months. Because of fixed costs of operating Glomar Challenger and the Deep Sea Drilling support facilities, and because of contractual agreements with Global Marine, a 25% cut in the 1981-83 budget could result in a 50% cut in drilling time. This is assuming continuation of standard operations -- not operating with a phase-out budget calling for large staff lay-offs.

The DSDP contract with Global Marine requires a two-year commitment with yearly options. DSDP must plan on a year to year basis; a 9-month term is too short. DSDP may not be able to re-contract Challenger at the current rate, or perhaps may not be able to contract it at all, if there is an interruption in drilling.

Hays: What factors determine the level of funding?

Haq: The entire budget; the availability of funds.

Winterer: To what extent has NSF explored the possibility of industry contributing to Challenger drilling?

Haq: It hasn't. The question has never been asked.

Winterer: I cannot anticipate how the Regents of the University of California will react to a shortened drilling program. They approved the 1981-83 proposal and are prepared to execute the contract. If NSF requires more than a 20% change in the proposal, I believe that the University of California must resubmit it.

Ewing: The success and the availability of the hydraulic piston corer has caused us to push the 1981-83 program. It would be criminal

for us to kill the program now. Even a shortened program is better than no program. Give us a chance, and we can show what can be done.

IV. ALTERNATIVE DRILLING PROGRAMS

The Planning Committee agreed to develop 24-month, 18-month, and 15-month drilling programs in response to the Executive Committee's request.

The PCOM felt that most of the currently defined, highest priority scientific objectives could be accomplished within a 2-year, 13-leg program.

The 1981-83 proposal presents a coherent, well thought out plan, agreed to in principle by the non-US participants. The PCOM is very reluctant to propose shortened programs because of many problems including (1) uncertainty about the source of the funds ($39 million) noted in the IPOD statement (18-20 September meeting), (2) possibly that non-US countries will reconsider commitments, should the program be truncated, (3) nonlinear relationship between dollars and potential science owing to fixed costs of Challenger and DSDP operations, (reducing scientific party on board would not allow a substantial increase in drilling time either, as scientific costs are small relative to operational costs), (4) seasonal weather constraints (any drilling program with less than 22 months would allow only one summer of drilling in high latitudes. This means abandoning drilling in either the North Atlantic or in the North Pacific.) (5) a shortened program would not allow full utilization of the hydraulic piston corer and (6) the present coherent 24-month plan cannot simply be truncated; a new program would have to be developed. The PCOM also noted that no unanimous support for a shortened program was possible because either the North Atlantic or Japanese drilling program would be lost.

In order to develop the incremented programs the PCOM asked the subject panels to submit drilling priorities.

A. Ocean Crust Panel

P. J. Fox presented the Ocean Crust Panel's priorities, which are:

1. North Atlantic - (Geochemical heterogeneity of the mantle). Basalts recovered from below the North Atlantic appear to be depleted in light rare earths; the basalts south of the Hayes transform fault, however, are not depleted in those elements. The OCP proposes to drill six holes to establish the nature of the boundary and how (if) the depletion progressed through time. Drilling would help resolve the first-order question of whether the geochemical heterogeneity results from mixing chemical signatures of magmas from different sources or whether a wide spectrum of source exists and the patterns reflect broad regional differences in the composition of the earth's mantle.

2. Costa Rica Ridge - deepen old Hole 504B to penetrate a level of major velocity change. The velocity change may reflect a fundamental change in the crust and be (1) extruded "fresh" dikes, (2) a sharp change in the State of the metamorphic facies, (3) a change in porosity, or a combination of all three. The OCP gives an equal priority to deepening Hole 504B and the crustal heterogeneity transect. "We have here a golden opportunity to sample below seismic Layer 2 in the ocean crust," says Fox.

3. Pacific Ocean - 15°S to document crustal geochemical evolution and chemical exchange between oceanic crust and sea water in an area of a fast-accreting plate-edge. The OCP sees the holes as part of a program to study the properties of basalts as plate-tectonic end members: slow-, intermediate-, and fast-accreting crust.

4. Fracture zones in the North and Equatorial Atlantic. Geologic and geophysical surveys have shown that the relief seen in the transform faults which offset the mid-Atlantic Ridge system is formed by numerous faults of small throw. The deep troughs of the fractures are the sum of many smaller faults and the trough topography persists across older and older lithosphere. The fault blocks in the fracture zones are believed to consist of much-thinned ocean crust (including gabbros and ultramafic rocks). Challenger could drill through the thinned crust (± 2000 m) into the uppermost mantle in such areas.

B. Ocean Paleoenvironment Panel

R. Douglas presented the Ocean Paleoenvironment Panel programs, divided into large-scale and small-scale experiments.

Large-Scale Experiments

1. Pacific

   a. Equatorial Pacific (west of the East Pacific Rise) - zone of pelagic sedimentation to study the highly amplified stratigraphic record, especially fluctuation of carbonate solution levels in the Neogene.

   b. Southwest Pacific (New Zealand-Ontong-Java transect) - to sample good carbonate sections (with all planktonic fossil groups preserved) which have been deposited at different latitudes. Here it would be possible to study the evolution of oceanographic climatic changes in an area where the relations between the Southern Ocean and the Pacific could be understood.

   (These two programs are interlocked and deal with major oceanographic problems, thus are of prime importance to the Ocean Paleoenvironment Panel.)

2. Atlantic

   a. North Atlantic - ten sites to study the origin and

development of the deep-water part of the mid-Atlantic. The transect crosses the most sensitive parts of the paleoceanographic and paleoclimatic fronts and is designed to document the history of changes in the region.

Small-Scale Experiments

1. Pacific

a. Northwest Pacific - to sample Cenozoic sediments in order to monitor change in currents and oceanographic regimes in the region of the Kuroshio current and its extension, as well as to refine the stratigraphy by capitalizing on overlapping occurrences of siliceous and carbonaceous faunas.

b. Northeast Pacific (Gulf of Alaska to Borderland off California) - to sample Cenozoic sediments across the North Pacific and down the California current system, to document the evolution of planktonic communities and changes which have occurred in a region of strong contrasts.

c. Western ("old") Pacific - to sample the lower Cretaceous and Jurassic pelagic sediments from what is probably the world's only surviving area of genuinely oceanic facies deposited during the Jurassic.

2. Caribbean/Gulf of Mexico - to study evolution of the oceanographic connection between the Caribbean and the Gulf of Mexico. The top of the Neogene has been sampled, but stratigraphers need to sample the rest of the Tertiary to better understand the sequence of events that led to the development of the modern-day Gulf Stream.

3. Circum-Sahara (Includes Bay of Biscay) - to study eolian transport from the Sahara to the Atlantic and, if possible, back into the Mediterranean. The history of regional dessication is recorded here.

4. Peruvian Transect - to study laminated (varved) sediments in an area of exceptional fertility. The long-term history of El Nino productivity changes in the Humbolt Current system are targets.

C. Active Margin Panel

R. von Huene listed the Active Margin Panel's priorities as follows:

1. Japan Trench (including Nankai Trough) to study the structure and evolution of a forearc region. Geophysical properties show that the margin opposite the Nankai trough is an accretionary margin. Maintaining a net sediment balance, however, requires that some subduction of sediment has also occurred. In addition, seismic evidence shows that tectonic erosion (slumping) has also shaped the margin. By

contrast, the IPOD drilling results across the Japan Trench margin show little evidence of accretion. Several more drill sites are needed to document the nature of processes in the two contrasting regimes represented by the Nankai and Japan Trenches.

2. Middle America Trench - to drill more deeply into the complex explored, in a preliminary way, during Leg 66 and 67 to provide information on the dynamics and volumetric importance of accretion along this instructive margin.

(Priorities 1 and 2 are very high and almost equal.)

3. Aleutian Trench - a series of short holes to study sedimentary facies in a modern trench to establish realistic models for trench sedimentation. The overprint from the high latitude climate, however, might distort what otherwise would be typical trench facies.

The AMP would prefer to drill a second leg off Japan rather than drill the Aleutian trench.

4. Peru-Chile - This is a very high priority area, because of the extensive geological and geophysical work done on the nearby land areas. Unfortunately, it probably could not be surveyed in time to drill during the 81-83 program.

Although the full Active Margin Panel has not reviewed the PAC-A-BERS proposal, probably would support many of the PAC-A-BERS objectives and proposed sites.

D. Passive Margin Panel

E. Winterer presented the Passive Margin Panel drilling priorities for R. Sheridan who was at sea.

1. Fans - to study the clastic accumulations along the continental margins, especially those along the east coast of the US and in the Mississippi cone. Other fans meriting study include those in the Bay of Biscay and those off California such as Navy Fan and Astoria Fan. Drill data would carry the modelling beyond where geophysical methods have taken it, and help geologists make valid compasirons with sections exposed on the land.

2. Seismic discontinuities - to establish the nature, age, and processes forming seismic discontinuities and nature of the sediments between the disconformities. These are most clearly developed -- and theories about their origin and significance are most testable -- along the East and Gulf Coasts of the United States.

The highest priority Passive Margin Panel objectives bearing on deeper structures and stratigraphy are being addressed by the current (79-81) drilling program. If goals are not accomplished during the present program the PMP will doubtless want to return to these sites rather than focus on new objectives.

E. Other Panels

Various discipline panels have indicated special interests in the 1981-83 drilling.

1. Inorganic Geochemistry Panel - Large ^3He anomalies in the area of 15°S (Pacific) indicates that the region has been subjected to hydrothermal activity. The IGP proposes a transect to study the hydrothermal sediments, their diagenesis and the mechanics of their pore water circulation. The transect is along same line as the Ocean Crust Panel transect.

2. Organic Geochemistry Panel - Cariaco trench (Orca Basin?) to sample an anoxic basin with the hydraulic piston corer.

3. Sedimentary Petrology and Physical Properties Panel

a) Slide complexes on the continental slope off Wilmington area,

b) Submarine fan complexes

c) Anoxic sediments on the continental slope (O_2 minimum)

d) Carbonate erosion.

e) Contourites

The JOIDES, USGS, and DARPA drilling priorities are graphically summarized in Table 1. See also App. IV for explanation and maps of drilling areas.

Following extensive discussion, the PCOM developed, in additiion to the 24-month plan, an 18-month and two 15-month plans summarized on Table II. The PCOM judged that more science per time available could be accomplished in the North Pacific than in the North Atlantic and thus opted to cut the North Atlantic drilling in the truncated schemes.

An 18-month (or less) program would not address the following objectives.

1. North Atlantic - Cenozoic climatic history

Atlantic margin of U.S. - sediment dynamics-slope stability, gas hydrates, seismic discontinuities (potential USGS objectives).

3. Northeast Pacific and Offshore California

4. Gulf of California

5. Mediterranean climatic history.

The North Atlantic mantle heterogeneity drilling would be forced

TABLE 1. SUMMARIZED 1981-83 DRILLING PRIORITIES

OCP	OPP	AMP	PMP	IGP	OGP	SP[4]	USGS	DARPA
	Old (Mesozoic) Pacific (Lower Cretaceous and Jurassic pelagic seds.)							
N. Atl. Crust (Mantle heterogeneity)	Equat. Pac. (Pelagic strat. record)	Japan Trench (Active margin tectonics)	W. N. Atl. Miss. Cone (Fans)	15°S Pac. (Hydrothermal seds.)	Cariaco Trouch (Organic geochem. of anoxic basins)	W. N. Atl. (Submarine slides)	N. Atl. Cont. Slope & Rise	N. W. Pac.
Costa Rica Rift (Deepen 504B)	SW Pac. (Paleoenv. HPC transect)	Middle America Trench (Active margin tectonics)	W. N. Atl. (Seismic strat./ slope stability)			(Submarine fans)	• Cretaceous & Cenozoic history	
15°S Pacific (Geochem./ crustal transect)	NE Atl. (Cenozoic climate history)	Aleutian Trench (Sedimentary facies)				(Anoxic sediments on continental slope)	• Sed. dynamics/ slope stability	
Equat. Atl. (Fracture zone crust)	NW Pac. (Cenozoic paleocean.)	Peru-Chile Trench (Active margin tectonics)				Caribbean (Erosion)	• Gas hydrates	
	NE Pac. (Cenozoic paleocean.)					(Contourites)	• Salt diapirs	
	Carib/Gulf of Mexico (Panama connection)						• Geotechnical properties	
	Circum-Sahara (Eolian transport)						Gulf of Mexico	
	Peruvian transect (Laminated seds.)						• Miss. Fan	
							• Anoxic accum.	
							• Diapirs	

TABLE II

TYPICAL PROGRAMS

Leg (8 weeks)	Dates	24-month	18-month (One Northern Summer)	15-month (Pac) (One Northern Summer)	15-month (Atl)
83	Oct 15 - Dec 10, 1981	SE-U.S./Gulf	Costa Rica	Costa Rica	Costa Rica
84	Dec 10 - Feb 4, 1982	Hydrogeology	Hydrogeology	Equat. Pacific	Mid America
85	Feb 4 - Apr 1, 1982	SW Pacific	SW Pacific	SW Pacific	Caribbean
86	Apr 1 - May 27, 1982	Old Pacific	Japan	Old Pacific	NW Africa
87	May 27 - Jul 22, 1982	Japan	NW Pacific	Japan	N. Atl. Crust
88	Jul 22 - Sep 16, 1982	NW Pacific	Equat. Pacific	NW Pacific	N. Atl. Paleoclim.
89	Sep 16 - Nov 11, 1982	Equat. Pacific	Mid America	Mid America	East US
90	Nov 11 - Jan 6, 1983	Mid America	Caribbean/Gulf	Caribbean/Gulf	SE US/Gulf
91	Jan 6 - Mar 3, 1983	Costa Rica	NW Africa		
92	Mar 3 - Apr 28, 1982	Caribbean/Gulf	N. Atl. Crust		
93	Apr 28 - Jun 23, 1983	NW Africa	N.B.: PCOM favors Pacific, rather than Atlantic, summer		
94	Jun 23 - Aug 18, 1983	N.Atl. Paleoclim.			
95	Aug 18 - Oct 13, 1983	N. Atl. Crust			

into a season of marginal weather conditions. At the suggestion of the PCOM, J. Cann drafted a letter to move explicitly discuss Challenger's potential beyond 1981. T. Moore moved (seconded by H. Beiersdorf) that the PCOM forward the letter to F. Johnson at NSF.

ACTION: Winterer

Vote: 9 for, 1 opposed, 1 abstain. The motion passed.[1]

320 SITE SURVEY PLANS

I. PROBLEM

D. Hayes reported that several areas in the proposed 18-month and 24-month schedules have not been adequately surveyed. Because of long lead times required to plan the survey ship's schedules and acquire and disseminate information, the survey work for the program must be organized immediately. Otherwise certain objectives will be sacrificed simply because inadequate survey data is available.

The problem is three-fold: (1) Firm planning for future drilling has been impossible because of uncertainties surrounding the funding for 1981-83. (2) the Site Survey Panel needs more specific information about location requirements for certain of the proposed sites from site proponents, (3) requests for site survey proposals have not yet been issued by JOI (US site survey managers).

D. Hayes reiterated the need for better communications and earliest possible designation of survey areas.

II. SOLUTION - SURVEY LIAISON RESPONSIBILITY

The Planning Committee, to ensure adequate flow of information between site proponents and the Site Survey Panel, assigned specific liaison responsibilities.

ACTION: Winterer

It also asked E. Winterer to contact E.W.J. Jones and L. Dorman (JOI Site Survey Panel Chairman) to arrange a Site Survey Panel meeting at L-DGO as soon as possible after the NAS 1981-83 proposal review. Site proponents should be asked to attend to help establish the flexibility in site selection.

On the basis of the generalized 18- and 24-month schedules the PCOM assigned the following subject panel/Site Survey Panel liaison responsibilities.

ACTION: Winterer/ Douglas/ von Huene/ Beiersdorf/ Larson

Area/Action

NW Pacific - Winterer will ask JOI when the RFP for site survey may be solicited.

Japan Trench and Margin - Douglas/von Huene

[1]The letter, sent following the PCOM meeting to F. Johnson, Glomar Challenger beyond 1981 is given in App. VI.

Douglas will talk to J. Damuth at L-DGO to determine what records are available and what are needed betwern 25° - 45°N.

Equatorial ("old") Pacific - Douglas to contact Schlanger and Larson.

Equatorial Pacific - Douglas

Mid-America Trench - von Huene (or new AMP Chairman)
Probably only additional processing of existing lines is needed.

Costa Rica Rise - Already surveyed (504B).

Gulf of Mexico - Winterer will contact J. Grow, USGS, to determine what is available and what is needed.

NW Africa - Beiersdorf
The Germans have completed all necessary survey work.

North Atlantic - Douglas
The survey is completed for the OPP transect. Douglas will evaluate.

North Atlantic - Larson/Ruddiman

Pacific Transect along 15°S - Winterer will ask M. Leinen to determine what is available and what is required for the IGP transect.

321 CONFERENCE ON THE FUTURE COURSE OF OCEAN DRILLING

I. BACKGROUND

E. Winterer reported that during its September 1980 meeting in Barbados, the Passive Margin Panel asked the JOIDES Planning Committee to initiate organization and funding of a conference to review and reassess scientific goals of marine geological and geophysical research. (Letter of 19 September 1980, Sheridan to Winterer, App. VI).

T. Moore in a separate letter (30 September 1980, App. VII) proposed that JOI and JOIDES sponsor a conference to develop an integrated program and that it address both Challenger and Explorer potentials and involve both members of industry and of the scientific community.

II. DISCUSSION

Other PCOM members reported conversations suggesting that many scientists involved in ocean drilling are interested in convening such a panel.

During the ensuing discussion PCOM members noted that

a. The 1977 Future of Scientific Ocean Drilling (FUSOD) report is, in part, out of date because of recent advances in the earth sciences and drilling technology. The actual plans for Challenger and Explorer which take into account new technical capabilities, have rendered parts of the report obsolete and has resulted in its being misused or quoted out of its context.

b. On the basis of advances since 1977, earth scientists have refocused scientific objectives and research needs in the onceans and on their margins. The conference needs to assess these broad research goals and address how to realize objectives over the coming years, and to establish what role drilling should play in this effort.

c. New tools and technology have been developed. Some tools could be deployed from ships other than Challenger and Explorer. These aspects should also be explored.

d. Improved coordination among major research projects that overlap with Ocean drilling, e.g., TRANSECTS and COCORP, would produce better integrated results.

III. RECOMMENDATION

The Planning Committee strongly supports the concept of a conference to review and reassess the goals and direction of scientific ocean drilling. It particularly emphasizes the need to integrate ocean and other related scientific drilling programs, to most effectively utilize available tools, and to develop a coherent plan for the decade ahead.

The PCOM further suggested that such a conference be sponsored by an organization outside of JOI or JOIDES. This would ensure representation of the broadest possible scientific community, and allow the conference to assess the impact ocean drilling has on the entire scientific community and thus enhance the possibility for proper coordination of ocean drilling with related projects. The National Academy of Science would be a possible sponsor.

The PCOM asked E. Winterer to direct a memorandum to the JOIDES Executive Committee asking their endorsement of such a conference. The memorandum should outline the PCOM's views on the need for, timeliness of, and potential sponsorship of the conference.[1]

D. Hayes and R. von Huene (AMP) will informally contact members of the Ocean Science Board and Geodynamics Committee of the National Research Council and National Academy of Science to evaluate their interest in sponsoring the conference.

[1] The memo prepared after the PCOM meeting is attached as App. VIII.

322 FUTURE MEETINGS

The Planning Committee's future meeting schedule is as follows:

24-27 February 1981

Scripps Institution of Oceanography
E. Winterer - Coordinator

8-10 July 1981

Bundesanstalt für Geowissenschaften und
Rohstoffe, Hannover, FRG
H. Beiersdorf - Coordinator

11-13 November 1981

Oregon State University
Salishan Meeting Center
Oregon
J. Corliss - Coordinator

(The PCOM agreed to have its fall meeting in November rather than in October to take advantage of considerably reduced costs at the Salishan Meeting Center.)

W. Schlager invited the Planning Committee to the Fisher Island Station, University of Miami, to meet in February 1982.

The Planning Committee traditionally holds its summer meeting in a non-US IPOD country. Either Japan or the United Kingdom might host the summer 1982 meeting.

* * *

E. Winterer adjourned the Planning Committee meeting at 14:30, 19 October 1980.