PLANNING COMMITTEE MEETING
10-12 April 1985
Norfolk, VA

Tentative Agenda

1. PCOM Minutes - Austin
2. EXCOM Minutes
3. NSF Report
4. JOI Report
5. Science Operator Report
6. Wireline Logging Services Operator Report
7. Reports from Co-chiefs Legs 101 and 102
8. Panel Reports Relevant to Short-range Plans (Legs 104-114)
    a. ARP
    b. CEPAC
    c. SOHP
    d. LITHP
    e. TECP
    f. PPSP
9. Short-range Planning
    a. Legs 104-105
    b. Legs 106-114
10. Panel Reports Relevant to Long-range Plans (Indian Ocean +)
    a. SOP
    b. IOP
    c. WPAC
    d. SOHP
    e. LITHP
    f. TECP
11. Long-range Planning
    a. Indian & Southern Oceans
    b. West Pacific
12. Date of Next Meeting (25-27 June, Hannover)
13. Any Other Business

Addendum to the Minutes of the Planning
Committee Meeting of 8-11 January 1985

1. Please add the following to the Action Items listing which is located at the beginning of the minutes:

Page	Responsibility	Subject
14	TAMU	Logistics for Kerguelen Drilling

2. The following statement also should be added to the end of the 4th paragraph on page 14:

> The PCOM requested that the Science Operator report, at next meeting, on the logistics needed for a 2-leg, 1-summer transect for Kerguelen drilling operations.

3. Finally, the following statement on page 17, paragraph 2 should read:

> LITHP endorsed the establishment of a Red Sea Working Group along with concentrated drilling in the Indian Ocean of a single hot spot trace and the cold spot trace (i.e. the Australian-Antarctic Discordance). Furthermore, the Crozet Basin proposal is of high scientific priority but is technically risky. LITHP suggested that an approach to the problem may be to drill a hole, leave a re-entry cone and attempt wireline re-entry at a later date. The French report that they are working on such a system.

JOIDES Planning Committee Meeting

Stephen F. Austin Hotel

Austin, Texas

8-11 January 1985

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JOIDES Planning Committee Meeting

Stephen F. Austin Hotel

8-11 January 1985

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JOIDES

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TO: PCOM Members

FROM: Roger Larson

In response to queries regarding ship conversion cost overruns at the last PCOM meeting, we are circulating the attached summary of the Science Operator's report from the previous EXCOM meeting (15-16 October 1984) that summarizes the ship conversion financing.

Hayes (LDGO): Since there is no formal committee to deal with proposal rejections, possibly EXCOM could get the USSAC panel to reconsider the proposal.

Clotworthy: The USSAC Field Programs Panel has said that it would not reconsider the rejected proposal.

Lewis (UW): It appears PCOM recommends drill sites before adequate data is available, then needs the data to justify the site. PCOM should only consider those sites with adequate site survey data.

Helsley: The PCOM site selection committee did its job well in that it brought to attention the need of additional site survey data.

Larson (URI): PCOM recommended the Chile Triple Junction site because it provides an opportunity to study the poorly understood process of ridge subduction and thereby provides for an opportunity to do "new" science.

Knauss (URI): This example raises the complicated issue of how to avoid the constraints of the U.S. RFP form of site selection which is done parallel to and is independent of PCOM site selections. Any advice that PCOM can give to EXCOM concerning this matter will be appreciated as the issue will seemingly be raised again.

Consensus: EXCOM will not interfere with panel decisions concerning proposal recommendations. Further, the Chile Triple Junction site survey problems are primarily a U.S. community issue, but the decision to include the Chile Triple Junction in the drilling program is a JOIDES decision.

306 SCIENCE OPERATOR REPORT

P. Rabinowitz reported:

Staffing for the lab officer and marine technician slots has been completed. The science service group, the computer group (both sea and ashore) positions have been filled. All key shipboard positions have been filled. The East and West coast repositories are completely staffed with the Gulf Coast

repository slot remaining to be filled. Almost all engineering positions are filled with B. Harding hired to replace A. McLerran. Publications still remain to be staffed.

The staff scientists are:

R. Kidd - Manager of Science Operations	(U.K.)
A. Meyer - Assistant Manager	(U.S.)
A. Palmer - Micropaleontologist	(U.S.)
E. Taylor - Physical Properties	(U.S.)
C. Auroux - Tectonics	(FRA)
A. Adamson - Alteration Petrology	(U.K.)
B. Clement - Paleomagnetism	(U.S.)
G. Haase - Downhole Measurements	(FRG)
L. Gamboa - Seismic Stratigraphy	(U.S.)

The drillship is at M&M Shipyard, Pascagoula, MS presently undergoing construction of a seven-deck science laboratory. The decks are divided as follows:

1 & 2	- refrigerated core storage
3	- electronics and photo lab
main	- computers and science lounge
5	- chemistry lab
6	- sediments lab and drilling operations
7	- downhole logging

The ship went into the shipyard at the end of August for removal of non-essential equipment. In mid-September, the derrick was removed for strengthening and construction of the library and geophysics lab was begun, with a ready date of late October/early November. Lab furniture will be installed during early November. During mid-November, the long lead time items (e.g. the heave compensator) will be delivered with the shakedown cruise scheduled for early December. Delays in midNovember could delay the shakedown cruise date. Realistically, the science operator sees a midDecember date for the shakedown cruise with a ten day contingency buffer factored in the schedule. If difficulties occur during shakedown, the ship could leave from Ft. Lauderdale instead of Galveston resulting in a 5 January 1985 start-date for ODP. However, the number of operating days would be the same as the 1 January sail date from Galveston.

Consensus: The 01 January 1985 sail date from Galveston, TX should be revised to 05 January 1985 from Ft. Lauderdale, FL.

Discussion:

R. Larson (URI): Is a two-leg shakedown cruise still planned? What is the contingency if the shakedown cruise is only one leg?

P. Rabinowitz (TAMU): A two-leg shakedown is scheduled, however, a final decision will be made 19 October 1984. In the latter case, the remaining bunks would be filled with members of the second drilling crew.

The State Department has made affirmative verbal commitments to clearances from the government of the Bahamas but as of the Rhode Island EXCOM nothing has been sent in writing. The clearance procedures might be more complicated because of the Liberian registration of the drillship.

The costs of conversion, long-lead time item procurement, shakedown and other items were reviewed:

	BID	ACTUAL	CHANGE
A) Design	550	750	+200
B) Procurement	6961	7837*	+876
C) Conversion (shipyard)	2100	4900	+2800
D) Conversion day rates, shakedown, testing	1437	1437	0
E) Other	0	200	+200
	11048	15124	+4076

*includes $375K for lab furnishings

The cost overruns are the product of increased purchases and complexities such as the addition of 50% more lab and storage space than accounted for in the original RFP. This particular item has resulted in $2.8M of the actual $4.8M overrun for shipyard conversion.

Discussion:

Hayes (LDGO): In late May, SEDCO reported that the original estimate for lab design was accurate. Why did they not anticipate the cost overrun and why had EXCOM not been told of the size of the overrun?

Helsley (HIG): The question is not that there were cost increases but why we were not warned earlier of the range of the increase.

Merrell (TAMU): The cost increases had been discussed by the Interface Working Group. The committee did have background information and the RFP evolved with advice from JOI and others.

Rabinowitz (TAMU): The original conversion estimates were with SEDCO, not with the M&M Shipyard.

Subsequent discussion centered on the chronology of events that led to a re-evaluation and increase in the amount of laboratory/storage space. The 20 March PCOM meeting found the originally proposed lab space inadequate. Subsequent changes were approved by EXCOM, based on a budget with 4 non-U.S. member countries. These changes occurred within the guidelines as set by PCOM and EXCOM and within the overall budgetary constraints of the ODP contract. Toye (NSF) indicated that due to time constraints involved, the final decision was to go ahead as planned because the costs of delay necessary to further refine the designs would have been unacceptable. Merrell (TAMU) also added that alternatives were mentioned in the IWG minutes of 28-29 August 1984.

The financial summary (see below) for FY 84 (exclusive of conversion costs) shows that there is a savings of $1.76M. Applying this savings against the $4.1M deficit yields a new total of $2.4M. Applying the anticipated FY 85 savings of $0.6M to $2.4M deficit results in total deficit of $1.8M. Clotworthy (JOI) noted that $1.5M of the $1.8M is from NSF to JOI; $0.3M is from travel and other JOI expenses:

Total Conversion, Long Lead Time Items, Shakedown and Additional Costs	:$ +4.1 M
FY 84 Total Savings*:	-1.7 M
*from operational cost centers and start-up equipment	+2.4 M

TAMU FY 85 Total Savings (anticipated from operational cost centers) : -0.6 M
+1.8

NSF Reprogrammed Funds : -1.5
+0.3

JOI Savings Anticipated FY 85 : -0.3
0

The overall program plan looks like:

FY84 19.1M
FY85 26.9M
46.0M
+ 1.8M (JOI reprogrammed $$)
47.8M

The $47.8M represents an increase in program costs of 4%.

Editor's note: Clarification of above analysis

An inadvertent error has been made in applying the $1.5M "NSF Reprogrammed Funds" as additional funds for FY 84-85. This amount is included in the original NSF ODP funds for FY 84-85. However, NSF has agreed in principle that an upper limit of $1.35M can be contemplated as additional to the FY 85 budget. Therefore, the above bottom line is $150,000 too high and requires an adjustment by JOI in program priorities.

Discussion continued:

Helsley (HIG) expressed cautious optimism that FY 85 budget costs would remain stable. Rabinowitz replied that possible savings could be found in the following items:

a) Insurance (about 100-200K)
b) Salary excesses (about 100K)
c) Other salary deferments (150K)
d) Equipment deferral
e) Ship operations (fuel/day rate escalations, reimbursables, port stays; up to 500K)
f) Bare rock drilling
g) Shakedown cruise
h) Other cost savings
i) Fuel
j) Conversion change orders
k) The purchase of excess CHALLENGER drillpipe (about 200K)

Merrell (TAMU) added that savings in fuel and day rates could reach as high as $10K/day, if the drillship was operated under fuel conservative operations.

Consensus: EXCOM suggests that a summary of the science operator's report be distributed to the scientific community via JOI publications so to relieve concerns that the $4.1M overrun might result in a $4.1M reduction in funds available within the U.S. for ocean science.

Discussion on staffing for Leg 101 focused on the selection procedure of non-U.S. scientists.

Rabinowitz: Do we select non-U.S. participants from a list of all potential scientists or do the non-U.S. JOIDES representatives present us with a list from which we then select participants ?

Mayer (URI): Staffing in the U.K. has been delegated to the PCOM representative who presents a listing of potential selections.

Berman (RSMAS): Are berths available for countries not in JOIDES but in whose territorial waters we are operating?

Rabinowitz: Berths are available.

Larson (URI): With regard to the technical support staff, does the list include the 4 logging people as scientists or technicians? This issue was extensively debated at the Hawaii PCOM meeting as the PCOM is concerned from which group these slots will come from. There is nothing stated in the MOUs concerning this matter, but PCOM does not want the drillship loaded with excess technical support sailing as members of the scientific party.

Rabinowitz: I was not aware that this was a sensitive issue.

Potential names for SEDCO/BP 471 were submitted to the president and vice-president of SEDCO and to the Board of Directors of BP. The legal renaming of the vessel was rejected by these executives. However, they are amenable to placing a logo in a prominent location on the vessel. Through common usage,

this name would eventually become the ship's name. The name submitted was JOIDES RESOLUTION. Subsequent discussion focused on possible communications problems associated because of the two names for the drillship. Many EXCOM members noted that many oil industry drillships have dual names as well as the ships of the U.S. Navy Agor class. It was the consensus of EXCOM that a motion was needed to close the matter.

MOTION: It is moved that EXCOM accept the name JOIDES RESOLUTION as the non-legal name of the drillship, SEDCO/BP 471.

Moved by Knauss, seconded by Berman.

Vote: for 13, against 1, abstain 1.

The JOIDES Safety Panel met at TAMU on 30-31 August 1984. Safety advisors agreed with all the safety panel's recommendations except site BB-3A in Baffin Bay. The panel also informed the State Department that clearances for the Galicia Leg in mid-April are needed by mid-January or alternate drilling plans would be considered.

Discussion:

Knauss (URI): It seems that the State Department might respond sooner to ODP requests for clearances if NSF and JOI could meet with the State Department (possibly the Assistant Secretary).

307 WIRELINE LOGGING SERVICES OPERATOR REPORT

R. Anderson, Director of Wireline Logging Operations, reported.

Contracts with Schlumberger have been signed and Schlumberger is also providing insurance for the logging tools of the program for $5K/yr. The package from Schlumberger consists of 3 nuclear tools that determine lithology, porosity, and bulk density. The tools are scheduled to be calibrated at a U.S.G.S. test hole in Denver. The package further consists of a single component seismic sonic tool (a vertical seismic profiler) that produces a synthetic seismosgram forcomparison with multi-channel seismic data. Within 3 years a 3 component tool will be available for ODP as would a full waveform sonic logging tool. Contracts for speciality tools have been signed with WBK (FRG) for a digital borehole televiewer in FY 86, and with M. Zoback at Stanford University/U.S. Geological Survey. No new tools are scheduled to be purchased in FY 85. Presently, logging services

JOIDES EXECUTIVE COMMITTEE MEETING

Hyatt Regency Hotel
Miami, Florida
March 18-19, 1985

DRAFT MINUTES

Members:
J. Knauss (Chairman) - University of Rhode Island
H. Beiersdorf (for H. Durbaum) - Bundesanstalt fur Geowissenschaften und Rohstoffe (FRG)
A. Berman - University of Miami
B. Biju-Duval - IFREMER (France)
D. Caldwell - Oregon State University
D. Hayes (for B. Raleigh) - Lamont-Doherty Geological Observatory
R. Heath - University of Washington
C. Helsley - University of Hawaii
W. Hutchison - Department of Energy, Mines and Resources (Canada)
A. Maxwell - University of Texas, Austin
W. Merrell - Texas A&M University
J. Steele - Woods Hole Oceanographic Institution
E. Winterer (for W. Nierenberg) - Scripps Institution of Oceanography

Observer:
K. Kobayashi - Ocean Research Institute (Japan)

Liaisons:
R. Anderson - LDGO/Wireline Logging Services Liaison
R. Larson - University of Rhode Island/PCOM Liaison
P. Rabinowitz - TAMU/Science Operator Liaison
S. Toye - National Science Foundation Liaison

Guests:
E. Bloch - Director, National Science Foundation
J. Bowman - Natural Environment Research Council (United Kingdom)
G. Gross - National Science Foundation
M. Keen - Bedford Institute of Oceanography (Canada)
B. Munsch - European Science Foundation
W. Schlager - Leg 101 Co-chief
A. Shinn - National Science Foundation
D. Spearman - European Science Foundation

Others:
C. Auroux - ODP Staff Representative for Leg 102
J. Baker - Joint Oceanographic Institutions Inc.
J. Clotworthy - Joint Oceanographic Institutions Inc.
D. Keith - JOIDES Office
A. McLerran - ODP/Texas A&M University
K. Riedel - ODP/Texas A&M University
D. Rucker - Joint Oceanographic Institutions Inc.

INTRODUCTION AND OPENING REMARKS

J. Knauss, Chairman, convened the 18-19 March, 1985 meeting of the JOIDES Executive Committee. A. Berman (RSMAS) welcomed meeting attendees to the area and encouraged their participation in a variety of activities (including a tour of the JOIDES RESOLUTION and a visit from NSF Director, E. Bloch) that were planned during the meeting period.

The meeting was held under the terms of membership as described by a resolution (Motion 311) passed at the October 1984 EXCOM meeting in Narragansett, RI. The motion, known as the Narragansett Resolution, states that:

> The EXCOM recognizes that the Ocean Drilling Program is scheduled to begin its operational phase on 5 January 1985. At that time, JOIDES membership will consist of those countries which have a regular member MOU agreement with NSF. Further, those countries who have made a commitment to NSF to join ODP in the future will be given observer status on the EXCOM and PCOM.
> Scientists from non-JOIDES countries which were formerly candidate member countries will no longer be members of PCOM and panels after 5 January 1985, but they shall be eligible for reappointment. PCOM should consider at its April meeting the completion of membership of panels, including scientists from all countries.

As a result of this resolution, only those countries with full memberships were seated at the table. Japan was given observer status and was also seated at the table. Full members are France, the Federal Republic of Germany and Canada.

The Chairman congratulated Canada on deciding to join ODP as a full member and welcomed W. Hutchison (Canadian EXCOM representative) and M. Keene to the meeting. Also, Knauss congratulated Japan for their commitment to join ODP as a full member on October 1, 1985 and welcomed K. Kobayashi as an observer to the meeting.

For this occasion, the Chairman also extended special guest invitations to J. Bowman (U.K.), J. Stel, B. Munsch, and D. Spearman (ESF) and K. Crook (Australia). However, K. Crook was unable to attend. The Chairman encouraged the special guests to continue their efforts to achieve full membership in the Ocean Drilling Program.

The Chairman closed the opening remarks section by asking the EXCOM attendees if there were any objections to the use of a tape recorder to aid in recording the meeting minutes. There were no objections.

ADOPTION OF MEETING AGENDA

The Chairman asked for and received a motion to accept the agenda as presented. The motion was seconded by A. Maxwell (UT) and unanimously adopted by the EXCOM with this amendment:

The Science Operator Report would follow the NSF Report.

ADOPTION OF THE MINUTES FROM THE 15-16 OCTOBER 1984 MEETING

A. Berman (RSMAS) moved that they be accepted. The motion was seconded by A. Maxwell. The motion was unanimously adopted by the EXCOM.

NATIONAL SCIENCE FOUNDATION REPORT

S. Toye (NSF) reported that the Director of NSF, the Office of Science Technology and Policy and a number of supporting congressional committees are very pleased that the Ocean Drilling Program has entered into its operational stage. Toye noted that ODP has had the personal support of G. Keyworth in the Office of Science Technology and Policy, and his deputies as well as the support of key members in the U.S. Congress and in non-U.S. governmental agencies. There is also strong support for ODP in the Ocean Sciences Section of the NSF.

The Ocean Sciences Section at NSF has been reorganized into 2 co-equal segments. They are the Ocean Sciences Research Section with Robert Wall as the director and the Oceanographic Facilities Section (OFS) with S. Toye as the director. Toye noted that the ODP was incorporated into the OFS but remains a separate entity from U.S. science funds in terms of staffing and budget. Toye emphasized that ODP will be a separate line item in the budget as will the Oceanographic Facilities Centers Section.

Toye will continue to represent the NSF at the JOIDES EXCOM, and as Section Head, will continue to be responsible for the international aspects of the ODP. Program activities within the ODP will reside with G. Brass. A. Sutherland will be in charge of contractual and technical aspects of the program.

This reorganization is the result of an effort to elevate within the U.S. government the international aspects of ODP and to separate the U.S. activities in drilling from international drilling activities.

The proposed budget for FY 86 is presently in Congress. Approximate contributions are as follows:

$28,850,000	U.S.-ODP (Co-mingled and U.S. Science)
12,500,000	International-ODP (Co-mingled)
$41,350,000	Total for Drilling-related Activities

The U.S. funds are divided into:

$19.00 million	ODP-U.S. (Co-mingled)
2.50 million	DSDP (Co-mingled)
7.35 million	U.S. Science Program
$28.85 million	

Due to the structure of the national budgetary system, this year's NSF appropriation is a section of a larger omnibus bill with the Dept. of Housing and Urban Development, the Battlefield Monument Commission, NASA and a number of other federal agencies. Therefore, the NSF appropriation is vulnerable to attack as a result of problems with other members of the bill. However, NSF was not slated for a budgetary decrease in FY 86 and appears headed for a slight increase in funding.

MEMBERSHIP

Japan

Japan's commitment of full membership in ODP helps to satisfy the budgetary needs of the program. Presently, active negotiations concerning the details of the 10-year agreement are being conducted with the Ministry of Science and Culture. A signing ceremony may occur at the next EXCOM meeting in June.

Canada

The Canadian government's decision to enter ODP as a full member will result in a signing ceremony in Washington, DC around 15 April 1985.

United Kingdom

J. Bowman commented that presently, the U.K. has 50-60% of a contribution and is actively seeking to convert that amount to a full membership. However, the near future does not look promising. Factors such as a 3% annual decrease for the next 10 years in the science budget in combination with the exchange rate situation have made it difficult for the U.K. to purchase a full membership at this time.

European Science Foundation

D. Spearman stated that the ESF sends an enthusiastic message of strong commitment and hope to return to ODP as a full member. Presently, ESF needs one outside partner having 40-50% membership. At this time, that requirement has not been met. However, negotiations are occurring with Australia and a firm decision may occur as early as June or at the latest in August. It also appears that a union with the U.K. may be a possibility. This is an appropriate arrangement as the U.K. is a member of the European Academy of Sciences.

Despite the exchange rate situation, the ESF is confident that 50-60% of a full membership may be obtained. Several members of ESF have expressed a commitment to raise their individual contributions and in one instance, an ESF member has tripled its contribution.

In closing, Spearman stated that the ESF requests additional time to resolve the membership issue and also requests that they be given a status in the program. These requests were made in order to assure ESF of continuity in ODP. It is generally feared throughout ESF that if the continuity is broken, the consortium may be disrupted.

Discussion:

Maxwell (UT): If membership decisions are not made within present fiscal year limitations, will funds appropriated for this time period be lost or will the amount be deducted from the budget of the upcoming FY?

Spearman (ESF): This situation varies from country to country. In some instances, it may be difficult to carry funds from one FY into another FY. The question is additionally difficult to answer as ESF does not actually hold any monies.

Bowman (U.K.): Monies are now available for a candidate membership if this means the U.K. stays in the program. However, the unused funds for FY 84-85 would be returned to the Treasury with new monies becoming available for FY 85-86.

Knauss (URI): Does ESF consider continuity in ODP to be thought as an issue of financial continuity or in terms of panel membership?

Spearman: ESF is specifically referring to the matter of panel membership. The issue of participation must first be solved, then we will settle the financial matter. The future of ESF participation will be set after 1 October. We should like to tell our members that we had participation on panels and on the ship and therefore ESF should make a contribution.

Larson (URI): Presently there are no U.K. or ESF representatives on JOIDES committees and panels. Unless the EXCOM works out a membership arrangement with the U.K. and/or ESF or I am advised to the contrary, those slots will be filled by PCOM.

Toye: What is the impact of the Narragansett Resolution on staffing for upcoming legs?

Rabinowitz (TAMU): Staffing is completed up to Leg 102 and includes participants from the ESF and the U.K.

Winterer (SIO): There are ESF participants on Leg 103, however they are not on in the capacity of ESF representatives.

Consensus: The issue of ESF and U.K. participation needs further discussion at this meeting. The EXCOM should examine opportunities that create an interim membership arrangement for the U.K. and ESF which accomodates the continuity matter, but at the same time deals fairly with those countries that have already made full commitments to ODP.

USSR

The issue of participation by the USSR in ODP raises problems in the areas of licensing and technology transfer. These mainly result from the advanced nature of the drillship. The USSR presently maintains informal contacts with the program through the I.U.G.S. and through scientist to scientist interaction. Although the USSR constitutes a possible member, this membership should not be approached unless there is complete agreement among EXCOM members and inclusion should not occur on less than a full-time basis. Committees in Washington have met on the membership matter but no decision has been reached due to the recent death of the Soviet leader Chernenko. EXCOM should also remember that because of the layout of the ship, there is no way to restrict the use of technology.

Discussion:

Berman (RSMAS): What items are responsible for the technology issue?

Toye: There are no specific items, but possible items are the drilling technology, the onboard navigation and positioning systems, the science lab equipment and the computers.

Berman: Those appear to be licensing issues and not primarily technology transfer issues.

Toye: Before export licensing requests are granted, an interagency committee, COMEX, suggests which issues may be considered as technology transfer issues. The technology transfer issue is a policy that has not been clearly defined, making it difficult to apply to the Soviet matter.

Maxwell (UT): It appears that the issues of technology transfer and export licensing are all being combined.

After the NSF Report, the EXCOM again addressed the issue of international participation. The EXCOM Chairman read to EXCOM a telex from the ESF President which indicated that the ESF is prepared to sign a Memorandum of Understanding (MOU) for full membership if negotiations with Australia are successful. The Chairman then asked EXCOM if they would consider a one-half year of one-half price membership for ESF at this time, providing that the ESF consortium obtain a full membership by 1 October 1985.

Discussion:

Spearman (ESF): The ESF is reluctant to make a short-term arrangement until the long-term is known. It is better to resolve the issue of permanent participation before considering short-term interim arrangements.

Toye: Could the ESF be more specific on present financial commitments?

Munsch (ESF): Presently, ESF has $700K in written commitments and $450K in oral commitments. This totals to $1.150M and does not include the Danish contribution which is scheduled for FY 86. Further, all commitments are made on the basis of long-term involvement. This commitment is understood by the participants to be renewable for a number of years. If a short-term plan was adopted with a termination of membership in October, then the ESF would be placed in a difficult position.

Knauss (URI): The proposal was made in an attempt to develop a realistic scenario that might solve membership problems within the ESF and protect the rights of the full members of JOIDES. If this proposal does not solve ESF's problems, then I withdraw it.

A subcommittee of the EXCOM, composed of the 3 non-U.S. full members and 1 U.S. member met to discuss and develop a resolution concerning ESF and U.K. involvement in ODP. The following is a discussion of the results of that meeting.

Discussion:

Helsley (HIG): To summarize the meeting, there was no single consensus reached. However, there is a feeling that there should be an offer of full membership for less than a full year (i.e. from now to 1 October). After 1 October full memberships would be offered for full year duration only and there would only be one class of membership. There was concern expressed over the ESF including the U.K. as a consortium member. The subcommittee also discussed the issue of a 6-month period of less than full membership with strong participation, however, there was no consensus.

Beiersdorf (FRG): When the FGR signed a full MOU with NSF it was understood that the U.K. would be a full member. If this does not occur, then the FRG may have to re-evaluate its position.

Biju-Duval (France): France also joined ODP with the understanding that the U.K. would be a full member. The short-term solution may solve the present problem but a long-term solution must be found. Also, the creation of a membership class, other than full membership, is not a good idea.

Hutchison (Canada): Canada signed a full MOU with the understanding that the U.K. could also be a full member. If the U.K. joins with the ESF, then Canada may have to re-evaluate its position.

Bowman (U.K.): A membersip for FY 84-85 other than candidate membership is presently out of the the question. Therefore only after October 85 could another class of membership be addressed. Another course of action appears to be to join the ESF, however, opinions expressed here indicate that this is not acceptable.

The following resolution was drafted by the subcomittee and presented to EXCOM where it was moved upon and seconded by Maxwell:

MOTION: The JOIDES Executive Committee expresses its appreciation and admiration for the United Kingdom's long history of oceanographic research and for its active and vital participation as a charter member of the International Program for Ocean Drilling.

The Executive Committee is conscious of and sensitive to the current difficulties faced by the United Kingdom in attempting to join the Ocean Drilling Program, and urges the United Kingdom to increase its efforts to join the program.

It is the position of the Executive Committee, that entry of the United Kingdom to the Ocean Drilling Program other than as a full member would be neither appropriate nor in the best interest of the Program or of the other full members. This position is justified by the size of the United Kingdom's relevant scientific community, its economic stature, and the level of its prior involvement in scientific ocean drilling.

The Ocean Drilling Program has now commenced virtually on schedule, within budget, and with a vastly improved scientific capability. For the Program to proceed and reach its full potential as planned, the Executive Committee urges the United Kingdom to become a full member by October 1985.

Vote: for 14, against 0, abstain 0.

Consensus: Communications must be kept open and ESF should be encouraged to become a full member by appropriate means. EXCOM encourages the Australians to become active and committed to the ODP. If special arrangements are applied to the U.K. membership issue, then those measures should also apply to ESF. EXCOM noted that the previous statements imply that Australia should seek to join ODP in conjunction with ESF.

The EXCOM advised the PCOM Chairman to continue making appropriate panel chairmanship replacements noting that the panels should keep their present size and not grow larger. Panels should keep their present momentum with regard to their functions and objectives. It was also suggested that replacement of panel members be done very cautiously.

Discussion:

Maxwell (UT): What is the present status of panel membership?

Larson (URI): Presently, the panels have been reduced by 2 members with U.K. and ESF members deleted. Action has also taken place at the chairman level with the Tectonics Panel Chairman, J. Leggett, being replaced by D. Cowan. Future chairmanships to be dealt with are the TEDCOM and the Site Survey Panel. I prefer to keep the panels at their 14-member level and have them work a bit understaffed until the possibilities of membership are worked out.

Bowman (U.K.): Arrangements have been made with the JOIDES Office concerning panel memberships. J. Cann has been rotated off the PCOM and will be replaced if the U.K. joins.

Larson: The invited guests for upcoming panel meetings include two scientists from the U.K. and ESF. These people have data that are necessary for future planning considerations.

Anderson (LDGO): Technical representatives from BP have been invited to the next DMP meeting. Are there problems with their attendance?

Knauss: It is probably best if they did not attend.

Spearman (ESF): The PCOM Chairman should not feel pressure from ESF to keep ESF members on JOIDES panels because of the membership issue.

Munsch (ESF): For the April PCOM, the regular delegate from the ESF will be unable to attend. What message should be sent to this person?

Larson: I ask that the EXCOM not become too specific in setting the guidelines for panel invitees.

Consensus: PCOM may continue to invite scientists from the U.K., ESF, and Australia as guests but only when it is absolutely necessary for scientific planning. Panels should be limited to those representatives of member nations except where a specific speciality is needed.

SCIENCE OPERATOR REPORT

P. Rabinowitz reported that the results from the shakedown cruise (Leg 100) were very encouraging as all systems worked well. The purpose of Leg 100 was to conduct tests of the dynamic positioning system, to test the drilling and coring equipment (e.g. rotary, APC, XCB, heave compensator), to test the scientific instruments in the labs and to train the science, technical and drilling crews. Drilling resulted in holes at ODP Site 625 which yielded calcareous ooze of Pliocene-Pleistocene (approximately 1.6 m.y. old) age and at BAH-1, to test the re-entry objectives. In the Florida Straits area Leg 100 made an unsuccessful attempt to gather information for Leg 101. At this site, the drill string could not be used due to a combination of shallow depths and strong current conditions that created strumming problems with the drill pipe.

Discussion:

Larson (URI): Is there any idea of what the upper limits for re-entry and normal drilling are?

Rabinowitz: There appear to be no upper limits for normal operations. The problems that were mentioned were a product of shallow water and strong current conditions.

LEG 101

W.O. Schlager, co-chief of Leg 101, reported that the leg was a success with 80% of the scientific objectives achieved. Drilling problems which occurred were the result of thixotropic sands that plugged the drill strings and other problems were hydrocarbon shows.

The objectives of Sites 626 and 634-636 were to test the megabank hypothesis for the development of the Bahama platforms. Sites 628, 629 and 630-633 were drilled in order to sample the Gulf of Mexico side and Atlantic margin slope of a large carbonate bank that once welded Florida and the Bahamas. Theory has it that this bank was disrupted to yield the megabanks.

Results from drilling indicate support for the megabank hypothesis as shallow water platform carbonates were found under the Straits of Florida, the Blake Plateau and under the NE Providence Channel. Drowning of the megabank appears to coincide with the Cretaceous anoxic events. Drilling results of the slope objectives suggest that carbonate platforms are 180° out of phase with the terrigeneous systems during periods of sea level rise and fall. Drilling also sampled a large contourite deposit. That suggests the Gulf Stream has had the same intensity over the last 30 m.y. Unfortunately, during drilling operations at this site a bottomhole assembly was left in the drill hole.

Discussion:

Larson (URI): What is the initiation of the megabank segmentation?

Schlager: The timing appears to be L. Albian (approximately 100 m.y.) which coincides with the Cretaceous anoxic events. Also, the drowning of the megabank could have occurred in increments during that period.

Maxwell (UT): Seismic data from the area indicate structures that are suggestive of an E-W current flow. Did you sample these?

Schlager: They were drilled and appear to be longitudinal ridges composed of contourite sands.

Heath (UW): How were the shipboard operations?

Schlager: On the whole, the RESOLUTION is more stable than CHALLENGER. The heave compensator worked well and should work better in deeper water. The ship is certainly the equal of CHALLENGER and has the potential to be superior. The drilling crew got better with time and the technical staff proved confident. However, more techs dedicated to particular instruments

or tasks are needed and the power supply is not consistent as brownout and blackouts occurred.

Winterer: How is the scientific cohesiveness on objectives affected by the size of the scientific party?

Schlager: At times drilling results make it harder to reach a consensus as there are many opinions.

Kobayashi (Japan): Have results from Leg 101 been released to the press and are the objectives of future cruises available?

Rabinowitz (TAMU): Press releases were issued after Leg 101 and prior to Leg 102. Every cruise will have a pre-cruise as well as a post-cruise press statement. Copies are available at this meeting (Appendix A).

Heath: Will copies of the press releases be routinely circulated among all the committees?

Rabinowitz: Copies will be circulated as they become available.

LEG 102

C. Auroux, ODP staff representative for Leg 102, reported on the scientific objectives of the cruise.

The principle objective of the leg is to acquire a comprehensive suite of borehole geophysical data on Mesozoic age crust in the Western Atlantic, namely at Sites 417/418. Specific objectives include the determination of in situ velocity structure and permeability in old oceanic crust as well as a determination of the porosity vs. depth function. The cruise will also attempt to determine the thickness of the magnetic layer and the presence of convection is old crust. Finally, the leg will sample and determine the chemistry of water at the bottom of the drill hole and attempt to determine the direction and magnitude of in situ stress.

Logging will consist of the conventional logging package to determine velocity, density, porosity, resistivity, natural gamma radioactivity and equilibrium temperature structure in the hole. Other logging activities include the use of a multichannel sonic logging tool, packers, flowmeter, the borehole televiewer, the 3-axis magnetometer, resistivity, heat flow and magnetic susceptibility logging tools. Finally, a combined VSP/Oblique Seismic Experiment, using a 3-component borehole seismometer, listening to air gun and explosive sources and the R/V FRED MOORE as the shooting ship, will be conducted.

Discussion:

Toye (NSF): The operating costs of the FRED MOORE and the costs of developing equipment for the VSP experiment are among the first items to be

funded by NSF as a result of the new U.S. Science Program for Ocean Drilling.

LEG 103

The Galicia Bank cruise is almost fully staffed and verbal permission to drill has been received from Spain.

LEG 104

The Norwegian Sea leg has had co-chief scientists assigned (J. Thiede, O. Eldholm). Permission to do work is pending on a decision from the Norwegian Petroleum Board.

LEG 105

The Baffin Bay/Labrador Sea leg has had co-chief scientists assigned (M. Arthur, S. Srivastava) and permission to conduct operations is pending a decision from the Canadian and Danish governments.

Discussion:

Anderson (LDGO): Is there any response from SEDCO on the proposed 72-day length of the cruise?

Rabinowitz: I expect to receive comments from SEDCO on the matter and we will approach PCOM with alternate plans. There are, however, a number of reasons for not wanting a 72-day leg at that time period. These reasons are based on scientific as well as logistical points of view.

Larson (URI): A recent meeting at URI between the Science Operator and co-chiefs for 105 yielded a compromise between a regular cruise and the 72-day proposed length. This consensus will be presented at the April PCOM and is subject to their approval.

Rabinowitz: The science operator is not only concerned with the length of the leg but some aspect of the weather windows and the scientific objectives of the cruise. Negotiations are occurring with Canada and NSF for an ice patrol vessel to scout for the low lying icebergs. Costs could approach $10K/day and may total $250K.

Bowman (U.K.): At what time of the year is the leg scheduled?

Rabinowitz: Only approximate dates are available but drilling will start in mid-August.

LEG 106

For the MARK-I Leg, only one of the co-chief slots has been filled at this time (J. Honnorez). Also bare rock drilling is scheduled. The plans for bare rock drilling were presented by A. McLerran.

Bare Rock Drilling

With the successful completion of Leg 101, hard rock drilling is now the thrust of the development program. Meetings with the LITHP Chairman have resulted in the development of a set of criteria for site selection. Contractors have been selected with SEDCO to develop the base structure and Southern International, specialists in drilling holes in hard rock terrain, consulted for planning.

The present target for the delivery of the hardware will be in time for the October cruise date for 106.

Current planning calls for spudding into the bare rock by initiating a pilot hole which is followed by regular drilling. However, in order to start the hole, the drill bit must be stabilized. Stabilization will begin when the structure known as a "gravity base" is planted on the seafloor. The gravity base has dimensions of 20 ft X 7 ft X 5 ft and is equipped with an acoustic telemeter which monitors the tilt of the structure. Once on the seafloor, a frame/cage will be lowered on the outside of the drill pipe with an attached color imaging sonar. The high resolution color imaging system will delineate the bottom morphology and tests of this system proved to be very successful. A black and white TV will also be available for close-up examinations. The box will be pumped full of cement, resulting in a tool weight of approximately 200K pounds.

Actual drilling of the hole will be done using a positive displacement downhole mud motor, developed in the FRG, that will rotate only the drill bit. Presently, this is the best technology available and this technique will solve the problem of rotating/flexing the threaded connections of the drill collar which is a common cause of bottom hole assembly failure. The initial tests will use a conventional mud motor that will not recover the upper 20 m (60 ft) of the hole. Later, the motor will be modified with a hollow shaft that will allow for retrieving a 2-inch diameter core. Once the hole is started, the plan is to revert back to conventional rotary drilling with the retrival of cores in the conventional manner.

The program is on schedule, proposals are out for the TV system and the technique for lowering the camera has been proven by the deep water mining industry. On the Leg 102B, the transit leg, the high resolution downpipe sonar and the cage will be tested. The base structure will be fabricated in Halifax, NS and will be picked up after Leg 105 is completed.

Discussion:

Winterer (SIO): Is there any provision during drilling in the fast spreading areas to set a conductor casing to compensate for fracturing in zero age crust?

McLerran: Will have the capability to set a conductor casing for hot rock drilling. Also with technology from the mining industry combined with the heave compensator, the rate of core recovery will be increased.

Winterer: Do you think the drill bit life will be increased in comparison to DSDP operations?

McLerran: Since most of the work on Leg 101 was HPC work, data are not yet available.

Maxwell (UT): Is logging a problem on the EPR hole?

Anderson (LDGO): A newly designed circulation system will keep the tools cold enough to operate for limited time periods in the hole.

Winterer: Can the temperature be monitored during the drilling operation?

Anderson: We don't have that capability at this time.

At the end of the Science Operator Report, P. Rabinowitz announced that at the end of March, A. McLerran will begin his second retirement. EXCOM proposed the following resolution to express its appreciation and to wish McLerran well.

MOTION: EXCOM recognizes the considerable impact of Mr. Archie McLerran in the successful start of the Ocean Drilling Program and his numerous contributions to ocean drilling technology. We wish him well in his second retirement and thank him for being willing to help us when we needed him the most.

Vote: for 14, against 0, abstain 0.

JOINT OCEANOGRAPHIC INSTITUTIONS REPORT

J. Baker, President of JOI Inc. began his report by congratulating TAMU for readying the ship and sending it to sea within the time constraints. Baker also congratulated LDGO for the development of state-of-the-art logging activities, the JOIDES committee for lab design and equipment, the former EXCOM Chairman A. Berman, and the former PCOM Chairman J. Honnorez, under whose leadership the ODP took shape during the interim period.

Baker stated that the funding problems of the U.K. have resulted in a $2.2 million budget shortfall that must be made up internally (i.e. from JOI funding and the subcontracts to TAMU and LDGO). However, the budget

can be arranged so that the shortfall can be absorbed without major impacts to the program by:

1) The lower than expected day rate charge during the Leg 100 shakedown

2) Deferring a number of items into the FY 86 budget

3) Trimming some internal operations.

By deferring important JOI and high priority JOIDES items into FY 86 and later, the program will have sufficient funds to do the high quality of science proposal and to achieve COSOD objectives. JOI also is attempting to work within the limits of the present budget in order to avoid any major impact to the Program (i.e. eliminating bare rock drilling or deferring it to another year). JOI agreed that the possible elimination or deferral of bare rock drilling would not occur at this time.

JOI strongly suggested that EXCOM find a means with which to accommodate the financial situations of potential member countries because only a limited number of costs can be deferred into the later years without some major impact. The areas that probably will be impacted due to their high costs are the deferral/elimination of bare rock drilling or the deferral of riser drilling, either of which will affect the quality of science in the program.

Discussion:

Knauss (URI): Could you talk specifically on those items that may be deferred?

Baker: I decline to be specific at this time as many are in the negotiating stage.

Merrell (TAMU): Presently the Science Operator is operating with a limited amount of funding. If major problems (e.g. the loss of a couple drill strings) occur, it could bankrupt the program.

Winterer (SIO): It is hoped that the impact of the funding decisions will be relayed to the PCOM, so not to come as a surprise.

Maxwell (UT): Since we are operating on a very tight budget, JOI should develop a number of scenarios so that PCOM will have contingency plans for a given situation before the problem occurs.

Larson (URI): Is there a guarantee that bare rock drilling will occur in FY 86, assumming that only technological and no financial problems exist?

Rabinowitz (TAMU): If no major problems occur between now and Leg 106 then bare rock drilling will occur. However, it must be remembered that there are no contingency funds for major problems.

Further discussion of the ODP budget shortfall centered on the development, by JOI, of a series of scenarios with implications to the program. It was stressed that in order to manage the program on a sound financial basis JOIDES planners must know how much funding is available and that a dialogue must exist between management and the JOIDES community. However, various members of EXCOM disagreed with the idea by indicating that planning will not be improved by such an exercise and usually such exercises are not beneficial. Baker indicated that JOI had already investigated a number of scenarios and their implications and the result was that there were no program reductions planned at this time. It was further noted that the budget shortfall has been an issue at every PCOM and EXCOM meeting and therefore is not a new item.

Consensus: There was a consensus among EXCOM that there be a dialogue between JOI Inc. and the JOIDES community when budgetary matters are being decided. This suggestion is made in order that fiscally sound decisions be reached through negotiation and the rational for those decisions and their impact on planning discussed by all parties.

WIRELINE LOGGING SERVICE OPERATOR REPORT

R. Anderson reported that all the Schlumberger and ODP speciality tools, computers, and other equipment are onboard the RESOLUTION and are fully operational.

LEG 101 SUMMARY

At Site 627, the first open hole logging site, the hole caved in on the nuclear combination tool during routine logging activities . The tool was severed at the rig floor and attempts at fishing for the tool were unsuccessful. The hole was cemented in and abandoned. The Schlumberger commitment to ODP is best exemplified by the rapid response (10 days) with which the array of tools was replaced. These tools were taken off a Shell oil rig that is working in the Gulf of Mexico and transported by boat to the RESOLUTION which at that time was working in Exuma Sound. The remainder of the leg was very successful in spite of difficult drilling conditions, every hole was frequently filled with sand due to cave-ins. One logging run was lost as the core barrel could not be retrieved from the pipe. The logging program proved a success due to the gamma spectroscopy logging tool. This non-commercial tool, a nuclear accelarator (Minitron) is on loan to ODP from Schlumberger and recorded a number of firsts during its operation. It has never been run in pure seawater, in drill pipe, in collars and in a situation where the data was available to the public. This situation provided a better set of logs than were ever produced by CHALLENGER.

Site 634 experienced numerous cave-ins with the drill string becoming stuck when rotation stopped. The problem was solved by placing the drill

string approximately 50 m above the bottom of the hole, heaving a 300 m logging interval, placing a wiper on top of the block which enabled circulating water to be pumped through the tool and routinely rotating the pipe. The logging tool remained in the drill case and the lower portion of the hole (lower 80 m) was logged through 2-inch steel casing. The result proved to be spectacular. The standard set of logging runs measures calcium, iron, chlorine, silicon, hydrogen, sulfur, gamma rays and a quality factor. The data from tool yielded synthetic curves that determined lithology with depth. The chemical logging data was converted to density and velocity curves which were then transformed into impedance data. From the impedance, synthetic VSP seimograms were produced which were compared to actual seismic section at the drill site. Results from this exercise proved very favorable as synthetic reflectors and multiples cross-correlated with actual records. In order to verify the use of this techniqua at other locations, a hole is now needed that has actual sonic and VSP data in order to confirm/calibrate the chemical logs. Also we need to ground-truth the relative percentages of chemical elements in the well with XRF/XRD measurements made on the cores. These results have excited Schlumberger enough that the tool will be again available for Leg 103. The tool which is presently commercially unavailable will probably be on consignment to ODP from Schlumberger at some reduced level beginning in FY 86, beginning with Leg 106. The tool will probably be available on Legs 103, 104, and 105 on a no-cost basis because Schlumberger will also benefit from these field programs. Beginning with Leg 103, every tool must have at least 24 hours of use scheduled before Schlumberger will loan it to ODP at no cost.

The remainder of the downhole logging tools scheduled for use on Leg 101 were not deployed because of the unstable nature of the drill holes.

LEG 102

For Leg 102, Schlumberger has provided three specialty tools that were ordered by the co-chief scientists. They are the Tracer Ejection Tool (TET) which measures flow rates, the tool also includes temperature and pore water samplers. In addition the entire suite of LDGO logging tools is onboard with two 12-channel VSP tools and two borehole televiewers. However due to tight financial constraints within the LDGO bore hole group and the fact that the TET and one VSP are additional items to our contact with Schlumberger, there will be an additional amount charged per day to total program costs. The end result is the TET and the VSP will only be available for this leg and no others because there are presently no funds available to pay for their use on future legs. The other VSP has been borrowed from the U.S. Navy. Two of each tool are required for a standard logging program.

The future financial plan is to reduce the logging program budget by 7%. Presently LDGP has expended a good portion of its FY 85 appropriation. The program can continue to deliver services for the remainder of the fiscal year, even with the loss of downhole tools. The tool loss should not affect the insurance premium; however, another disaster may greatly affect our operating budget. The budget for FY 86 is already very

constricted with items deferred from FY 84. Logging services requires at least 3 of each tool in order to provide a safety net for logging services. The third tool originally scheduled as part of the FY 86 budget has been eliminated and replaced with the second of these tools. Again, Wireline Logging Services is confident that services comparable to any in the world can be delivered.

Discussion:

Winterer (SIO): Which items will be dropped from the present suite of downhole logging tools?

Anderson: Plans call for the elimination of those tools that are part of the Schlumberger specialty tools, the WST (Well Seismic Tool), the Tracer Ejection Tool and the High Resolution Temperature Log. The only tool that presently is not contracted to ODP is the WST, all the others are under contract. In order to save money ODP may end up violating its contract with Schlumberger because of budget difficulties.

Beiersdorf (FRG): Are the non-U.S. tools also covered by the insurance policy?

Anderson: The magnetometer developed by the FRG is not, as an example, covered by the insurance policy. The policy can be amended to include those tools.

Beiersdorf: Can the gamma spectrometry tool work in rough seas without the heave compensator and how do you plan to use it on Leg 103?

Anderson: A heave compensator is presently scheduled from Schlumberger. However, if one is not available, the procedure would be to secure the tool to the drill pipe heave compensator. Bear in mind, that the tool will work much better with the heave compensator aboard.

Keene (Canada): Could a list of tools and charges be published? This would allow a scientist to possibly obtain specific tools through a funding agency.

Anderson: This mechanism presently exists through the Downhole Measurements Panel, which should be contacted concerning particulars on obtaining the tools.

MEMBER COUNTRY REPORTS

Federal Republic of Germany

H. Beiersdorf reported that the exchange rate presents some problems but does not endanger present program participation. The research vessel, SONNE, is now collecting site survey data in Australian waters together with BMR participants. Work has been completed in the Lau Basin in the SW

Pacific. Investigators found evidence of a spreading center with recently extruded basalt and hydrothermal deposits located in the back arc region. A cruise is scheduled to visit the NE edge of the Manahiki Plateau in order to examine volcaniclastic sediments (200 m thickness) that are continuous from the plateau to a distance of 200 km north.

France

B. Biju-Duval reported that in FY 85-86 CNRS increased the amount of funding for scientists. Increases in funding are also expected from the Committee on Petroleum and Mines. Finally, IFREMER has also contributed support by providing funding as well as ship time. The total of French support to ODP will be approximately 5 million francs. Difficulties are expected in FY 86-87 and many programs may be deferred. These problems are the result of the exchange rate and not the quality of the program.

France has scheduled a number of regional site surveys. One ship is scheduled to conduct Tyrrhenian Sea MCS site surveys in the Mediterranean. The CHARCOT recently accomplished a site survey in the China Sea using Seabeam and high resolution seismic surveying. Current plans call for ending the 1985 compaign by conducting regional site surveys in the South Pacific. These surveys will be followed by an MCS survey in 1987. Surveys of the Chile Triple Junction have been proposed but presently there are no definite plans. In 1986, a one-month site survey cruise is planned in the Indian Ocean. The proposal to conduct the survey has been submitted but has not yet been approved.

There will also be an increased submersible activity in the future. France presently has the capability to dive to 6000 m. A program is planned in June-July 1985 in conjunction with Japan and in 1987, there are plans to dive in the Atlantic on the Galicia Bank. The decisions on the dive program for 1986 will occur in June 1985.

IFREMER is working with WHOI and TAMU in the development of the fly-in re-entry system. Plans also include using a submersible to locate a re-entry cone in conjunction with the re-entry system.

The French scientific community is planning a conference to discuss results of the French involvement during the IPOD phase of DSDP.

Discussion:

Beiersdorf (FRG): Will Cyana still be operated?

Biju-Duval: Cyana will be operated at sea and a special program is planned (with the FRG) for diving in the Red Sea.

Toye (NSF): Is it new that CNRS has earmarked funds for involvement in ODP?

Biju-Duval: This is not new but is a continuation of an existing program.

Canada

W. Hutchison reported that the Department of Energy, Mines and Resources together with the Ministry of State for Science and Technology and Environment of Canada have developed a mechanism for funding Canada's involvement in ODP. An ODP-like council has been established to promote government to government interaction. A Canadian national committee for ODP will be put in place which will embody the Canadian Geoscience Council. This will establish the Canadian EXCOM and PCOM representatives and a secretariat. Presently we will continue the ad hoc group that is responsible for Canada's entry into ODP. The group is composed of W. Hutchison as President, M. Keene as Vice-President, and J. Malpas as Secretary.

The only questionable element concerning Canada's involvement in ODP is the possible lack of sufficient numbers of marine geoscientists to fully participate. We would like to address this problem by stimulating interest in marine geosciences in Canada through the involvement of graduate students and cooperation with non-Canadian members of the worldwide scientific community.

Leg 105 (Baffin Bay/Labrador Sea) is of prime interest to Canada and to a lesser extent Leg 106. The only problem foreseen for Leg 105 is locating a scout vessel for iceberg patrol.

In closing, Hutchison thanked all parties in the U.S. for their support during the discussion of membership.

Japan

K. Kobayashi reported that Japan is pleased to be headed for a full membership in ODP. The Japanese government decided to enter ODP for the FY period of April 85-March 86.

Long-term plans call for a joint French/Japanese program using the CHARCOT. Further plans include a site survey/dive program to be conducted in the Japan Sea. Many regional site surveys in the Southern Ocean and Bonin arc areas are also planned. Proposals to conduct these surveys will be submitted to PCOM by late May 85. In the near future, plans call for the development of down hole measuring instruments.

Japan expressed concern over the public relations aspects of ODP. This concern is based on the current ship schedule that has the RESOLUTION visit the NW Pacific in 1989. At that time Japan will have been an ODP member for 4 years before the drill ship is seen by the Japanese public. Japan requested that video programs or other materials be distributed to Japan in order to publicise ODP.

Discussion:

Merrell (TAMU): Video equipment is available on the RESOLUTION to record activities and possibly a video/slide show could be produced to highlight ODP activities.

PLANNING COMMITTEE REPORT

R. Larson, PCOM Chairman, reported that the PCOM's high priority items are the scheduling of the Weddell Sea Leg and the Baffin Bay Leg. PCOM's concern was that the Weddell Sea Leg start no later than 1 January 1987 and that Baffin Bay/Labrador Sea start no later than 15 August 85. To accommodate these dates, Leg 102 was initially shortened by 18 days and later an additional 5 days to get to Baffin Bay/Labrador Sea in August. Leg 103 is now locked in on the schedule with no anticipated changes in length or scientific objectives. Legs 104-106 are still in the preliminary planning stages with Leg 105 being the most difficult to plan. Difficulties for 105 lie in the ice problem in Baffin Bay and the weather problem in Labrador Sea. PCOM has asked the science operator to increase the length of the leg to 70 days. However, a meeting at URI resulted in another plan that will shorten the leg to less than 70 days but keep it longer than the standard 55-day length. The highest scientific objectives are in Baffin Bay where ice presents a problem. The alternative is to go to Labrador Sea for one-half the leg (assuming no weather problems) and spend the other half in Baffin Bay.

Discussion:

Anderson (LDGO): Will the leg be shortened due to ice conditions?

Larson: The time will be adjusted but finalized plans will not be known until the RESOLUTION leaves port in Stavanger, 2 weeks before the start of Baffin Bay drilling. At the April PCOM, those plans will be finalized.

Knauss (URI): Are there backups if bare rock drilling on Leg 106 fails?

Larson: There are contingency plans for Leg 106 such as drilling in the sediment pockets in the Kane Fracture Zone for oceanic Moho. If bare rock drilling totally fails there are 2 fall-back locations in the Atlantic - the Yucatan Basin and a deep site off Northwest Africa.

PACIFIC DRILLING

The future of drilling at the Chile Triple Junction is site survey dependent. Proposals to conduct site surveys have been submitted by the U.S. and France. However, it looks as though the French proposal may fall through. The decision to include Chile TJ will be made at the April PCOM meeting. It should be noted that alternatives exist if Chile TJ is eliminated from the schedule.

Plans presently call for one leg of Weddell Sea Drilling in January/February 1987. Plans then call for 1.5 years of drilling in the Indian Ocean after Weddell Sea drilling and prior to drilling on the Western Pacific active island arcs. The IOP and SOP should provide PCOM with a prioritized listing of objectives for that time period. Again in this region, weather is a problem.

The highest objective is the Kerguelen Plateau area with drilling being planned in the austral summer of 1987-88. This plan contrasts with the objectives in the NW Indian Ocean and the June-September monsoon season. Plans may call for drilling in the Red Sea during that weather period. There is international support from France, Germany, Japan and Australia for drilling in the Red Sea.

Discussion:

Bowman (U.K.): The CHARLES DARWIN will be in the Indian Ocean in mid 1985-85 and this schedule may benefit ODP in producing site survey data. Proposals for the Indian Ocean do exist and perhaps the JOIDES Office could match proponents with interests in the region.

Knauss (URI): The JOIDES Office can maintain those connections through a number of mechanisms (e.g. a wider distribution of the JOIDES Journal).

Larson: The international aspects of site surveys are being overseen in the JOIDES Office by T. Mayer.

Hayes (LDGO): If the Chile TJ site survey cannot be done within the present time frame, then it will not be dropped from the program, but deferred until the next round of drilling.

LONGER-RANGE PLANNING/COSOD OBJECTIVES

The PCOM stated that in regard to the first 2 years of ODP, the objectives found in the COSOD report are indeed being addressed with the exception of the deep hole into Layer 3. LITHP has been asked to respond to the issue with possible trade-offs with shallower objectives. In short, planning to date is in accordance with these objectives.

The PCOM considered riser drilling after the first circumnavigation by the RESOLUTION. The feeling was that this issue needs years of advanced planning with very high priorities in order to make the program viable in terms of objectives that would be sacrificed. Drilling would probably occur after 1991.

PANEL STRUCTURE

All previous Working Groups are presently disbanded with the exception of the Mediterranean Working Group which has requested one more meeting to formulate a drilling program to be presented at the PCOM in Germany.

A Red Sea Working Group was formed at the January 1985 PCOM. This Working Group will report to the IOP on a drilling campaign. The philosophy in the member selection process was that the international rules were suspended and only the most knowledgeable people for the slots were selected.

The rotation of panel members was also changed at the last PCOM. The present procedure is found in the PCOM Motion (518) below:

> The appropriate lines of the 1984 Terms of Reference shall be replaced with "panelists appointed in 1985 and in the future will serve 3 years; one-third of the panelists will be replaced each year."

Discussion:

Winterer (SIO): The final meeting of the Mediterranean Working Group is over-represented by non-JOIDES members. The panel listing indicates that 4 of 10 of the positions are filled with members from the U.K. and ESF. This large number transcends the argument of scientific expertise.

Hayes (LDGO): This meeting should probably be delayed to a time when the site survey data has been fully evaluated and possibly, the ESF membership resolved.

Winterer: I am also concerned with the balance of expertise on the LITHP. The panel is very under-represented in the area of geochemistry and over-represented with respect to hard rock petrologists.

Knauss (URI): This concern should be expressed to your PCOM representative.

PROPOSALS

Proposals received by the JOIDES Office are catagorized in the format that is printed in the JOIDES Journal. This format lists the proposal title, its reference number, the date received in the JOIDES Office, the principal investigators as well as site survey information and the status/distribution of the proposal.

Discussion:

Knauss (URI): Are a significant number of proposals being received from non-JOI institutions?

Larson: From the present listing of proposals received, the number of proposals from U.S. non-JOI institutions is 23. Only 5 proposals have been received from non-JOIDES nations.

Winterer (SIO): This number should increase after USSAC workshops are convened.

It was the consensus of EXCOM that an update list of proposals received be included as part of every EXCOM meeting packet.

Unsuccessful Proposals

The PCOM Chairman asked the advice of EXCOM concerning the old policy of publishing the reason for acceptance or rejection of proposals (EXCOM Motion 268C). This view is asked as PCOM rejected the idea in that proposals have not been rejected but have been given low priority ratings. The PCOM indicated that the PCOM Chairman should write a letter to unsuccessful proponents informing them of the schedule and suggesting that they might wish to resubmit revised proposals prior to the next round of drilling in that particular area.

Discussion:

Helsley (HIG): The old policy was set so that proposals would not be "in limbo" forever and the EXCOM wanted a document which could be referred to when questions arose.

Larson: There is no formal rejection of a proposal. However, a proposal is understood to be rejected if it is not included in planning.

Winterer (SIO): It is unclear what the status of a proposal is in between acceptance into planning and the letter of rejection.

The tone of the EXCOM discussion was that the present format does not adequately illustrate the proposal status if no rejection letter is received. Also, EXCOM suggested the PCOM Chairman structure his letter to include any necessary details concerning the rejection of the proposal. Finally, the EXCOM agreed that the disposition of proposals received be published and not the reasons for rejection.

Consensus: Adopt the treatment of proposals as proposed by the PCOM. Furthermore, the following motion should supercede EXCOM Motion 268C.

MOTION: The EXCOM agrees that EXCOM Motion 268C should be amended to read:

To ensure that all sites are treated fairly, the list of drill

sites and their disposition should be published.

The motion was moved by Winterer and properly seconded.

Vote: for 14, against 0, abstain 0.

PARTICIPATION OF SCIENTISTS FROM DEVELOPING COUNTRIES

R. Larson commented that at the Austin PCOM this issue was raised in response to an EXCOM request. Discussion of the matter focused on two different situations. The PCOM agreed that where possible, scientists from developing countries should be invited on a personal level and ODP-like organizations should be contacted (on a formal and informal basis). Secondly, the ODP application for clearance to drill in non-U.S. waters includes an invitation for scientists of that country to participate in drilling activities scheduled for that particular leg.

Discussion:

Helsley (HIG): Possibly the Science Operator could include a visitor on board when bunks are not completely filled. Also students should be incorporated in the participation process.

Merrell (TAMU): TAMU agrees and will act as the situation arises.

Consensus: The EXCOM agrees with the position taken by PCOM on the participation of scientists from developing countries. Further, in order to fully address the matter the EXCOM would like a variety of different approaches to be investigated.

PUBLIC RELATIONS/PUBLICITY FOR ODP

R. Larson introduced a paper prepared by T. Mayer of the JOIDES Office. Mayer reported that at the end of January 1985, JOI convened a meeting in Miami to specifically discuss port-calls but which also covered other aspects of public relations. With regard to port-calls and visits to the JOIDES RESOLUTION, the principle was established that invitations to tour the drillship should originate from TAMU/ODP only. It was expected that a local institution wishing to host an on-shore activity would be responsible only for the invitations to the on-shore activities.

At the following port-calls, opportunities exist for JOIDES-member countries to stage open days:

Bremerhaven (FRG): approximately 20-25 June 1985
St. John's, Newfoundland (Canada): approximately 12-16 October 1985

Marseilles (France): approximately 2-6 February 1986

An open day is being planned for the Norfolk, Virginia port-call to enable senior officials from NSF and other agencies, Congressional members and staff and embassy officials an opportunity to see the JOIDES RESOLUTION.

Exhibition material is being prepared for a JOI booth at the annual convention of the American Association of Petroleum Geologists to be held in New Orleans at the end of March 1985. This material can be used for subsequent exhibitions and open days on the RESOLUTION.

Copies of the JOI Public Release of Information statement for subcontractors were circulated among EXCOM members at the close of the report.

FUTURE EXCOM MEETINGS

4-5 June 1985 - Washington, DC area (Note subsequent to Miami meeting: In order to accommodate schedule of one non-U.S. members for ODP Council meeting it was agreed to hold the EXCOM meeting on the 5th, EXCOM and ODP Council meeting on the 6th. The JOI Board of Governors will therefore meet on June 4).

16-17 September 1985 - Bonn, FRG

19-20 November 1985 - Location to be announced.

OTHER BUSINESS

As part of his address to EXCOM, Erich Bloch (Director of NSF), encouraged ODP to examine the possibility of including university (graduate and undergraduate) as well as high school students to be a part of the seagoing program. Bloch also encouraged ODP to include high school science teachers in the participation process. It was suggested that JOI investigate these possibilities.

The EXCOM also considered and approved a JOIDES pennant designed at the URI JOIDES Office. The pennant (Appendix B) emphasizes the thematic objectives of the COSOD Report and will be flown on the RESOLUTION.

In closing, the EXCOM expressed its appreciation to A. Berman and the University of Miami's Rosenstiel School of Marine and Atmospheric Science for their hospitality.

EXCOM also expressed its thanks to J. Bowman, D. Spearman, and B. Munsch for their attendance and their efforts on behalf of the U.K. and the ESF.

EXCOM expressed its gratitude to E. Bloch for interrupting his schedule in order to address the Committee.

APPENDIX A

March 14, 1985

Ocean Drilling Program
Texas A&M University
409/845-9322

MIAMI--The JOIDES Resolution arrived in Miami today after six weeks at sea during which time scientists investigated the geological history of the Bahamas, announced Dr. Philip D. Rabinowitz, director of the Ocean Drilling Program at Texas A&M University.

The scientific drillship, whose registered name is SEDCO BP/471, is the research vessel for ODP, a $300-million project funded by the National Science Foundation and participating international countries.

Texas A&M is science operator for the program and is responsible for the ship's staffing and scientific operations, overseeing core collection and analyses, and dissemination of results.

The Bahamas cruise, designated Leg 101, was the first of a decade-long series of geological studies to be conducted throughout the world's ocean basins. The crew comprised 25 invited scientists from the U. S. and abroad, plus 25 ODP technicians, scientists and engineers, and a ship's crew of 65. Co-chief scientists were Dr. Wolfgang Schlager of the Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, and Dr. James A. Austin Jr. Institute of Geophysics, the University of Texas at Austin. Dr. Amanda Palmer was Texas A&M staff scientist representative.

-more-

add one

The cruise's scientific objective was to test models for the development of the Bahamas carbonate platform. The present-day topographic configuration of shallow-water banks and intervening deep-water troughs has particularly interested geologists. One theory contends that until approximately 100 to 110 million years ago, a single, large megabank covered the entire Bahamas region until a rising sea level drowned the bank, leaving only isolated high-standing areas (the present Bahamas Banks). Other scientists maintain that the Bahamas have always existed in a form similar to their present-day appearance, with fault-bounded banks and troughs unchanged through time.

During Leg 101, scientists tested these opposing theories by analyzing sediments from the channels between the banks to determine whether they were of shallow water (megabank) or deep water (trough) origin.

After drilling 19 boreholes at 11 sites throughout the Bahamas, and recovering more than a mile of cored sediments, the scientific crew determined that a large megabank did exist in the northwestern region of the Bahamas, drowned by a rising sea level about 100 million years ago. Similar results have been reported from studies of rocks in other regions of the world, suggesting that whatever caused the disintegration of the Cretaceous Bahamas megabank was a major worldwide event, possibly linked to climatic changes.

The JOIDES Resolution is a 470-foot drillship with a derrick

that towers 200 feet above the waterline. The heart of the research vessel is a seven-story laboratory stack which provides space and equipment for on-board examination of cores including chemical, gas and physical properties, and paleontological, petrological, paleomagnetic and sedimentological studies. Marine geophysics research is conducted while the ship is under way.

The NSF funds the program through the Joint Oceanographic Institutions, Inc. (JOI, Inc.), which manages the project. JOI, Inc., is a not-for-profit consortium of 10 major oceanographic institutions. Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides overall planning and program advice.

Plans for upcoming cruises include drilling off the coast of Spain, in the Norwegian Sea and high latitude drilling in the North Atlantic.

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(Note: JOIDES institutions are: University of California at San Diego, Scripps Institution of Oceanography; Columbia University, Lamont-Doherty Geological Observatory; University of Hawaii, Hawaii Institute of Geophysics; University of Miami, Rosenstiel School of Marine and Atmospheric Science; Oregon State University, College of Oceanography; University of Rhode Island,

add three

Graduate School of Oceanography; Texas A&M University, Department of Oceanography; University of Texas, Institute of Geophysics; University of Washington, College of Ocean and Fishery Science and Woods Hole Oceanographic Institution. Scientific institutions in Canada, France, Japan and West Germany are also members.)

Members of the scientific party aboard JOIDES Resolution for Leg 101 were:

Co-Chief Scientists--
James A. Austin, Jr. (University of Texas at Austin, Institute for Geophysics)
Wolfgang Schlager (University of Miami, Rosenstiel School of Marine and Atmospheric Science)

ODP Staff Representative--
Amanda Palmer, Texas A&M University

Participating Scientists--
Paul Comet (The University, Newcastle-Upon-Tyne, United Kingdom)
Andre Droxler (University of Miami, Rosenstiel School of Marine and Atmospheric Science)
Gregor Eberli (Geologisches Institut, Federal Republic of Germany)
Eric Fourcade (Universite Pierre et Marie Curie, Paris, France)
Raymond Freeman-Lynde (University of Georgia)
Craig Fulthorpe (Northwestern University)
Gill Harwood (The University, Newcastle-Upon-Tyne, United Kingdom)
Gerhard Kuhn (Geologisches Institut, Federal Republic of Germany)
Dawn Lavoi (NORDA--U. S. Navy)
Mark Leckie (Woods Hole Oceanographic Institution)
Allan Melillo (Rutgers University)
Arthur Moore (Marathon Oil Co.)
Henry Mullins (Syracuse University)
Christian Ravenne (Institute Francais du Petrole, France)
Will Sager (Texas A&M University)
Joost Verbeek (Dutch Geological Survey)
David Watkins (University of Nebraska)
Colin Williams (Columbia University, Lamont-Doherty Geological Observatory)

March 15, 1985

This story by Karen Riedel
Ocean Drilling Program
Texas A&M University
409/845-9233

MIAMI--The JOIDES Resolution embarks on the second of a decade-long series of scientific cruises when it leaves Miami Tuesday, announced Dr. Philip D. Rabinowitz, director of the Ocean Drilling Program (ODP) at Texas A&M University.

The scientific drillship, whose registered name is SEDCO BP/471, is the research vessel for the ODP, a $300-million project funded by the National Science Foundation and participating international countries.

Approximately every two months, 50 scientists and technicans plus a ship's crew of 65 embark on a cruise, exploring the world's oceans to retrieve core samples from beneath the sea floor. An international scientific team works together to extract information and analyze the data from samples of the retrieved cores. In the process, they learn more about the evolution of the oceanic crust, long-term changes in the earth's climate, and recently proven concepts such as plate tectonics and continental drift.

Texas A&M University is science operator for the program and is responsible for the ship's staffing and scientific operations, overseeing core collection and analyses, and dissemination of results.

Leg 102 will seek to obtain comprehensive geophysical data from 110-million-year-old crust in the western Atlantic.

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The crew will clean out, deepen and log a previously drilled hole at the southern end of the Bermuda Rise. The project requires using a variety of tools--seismic recorders, magnetometers, and heat flow and logging equipment--to learn more about the geophysical make up of old ocean crust. A two-ship seismic experiment will also be conducted in cooperation with the University of Texas research vessel Fred Moore.

The specific objectives of the cruise are to measure certain physical and chemical properties of the crustal rocks. Measurements include seismic velocity structure, permeability, porosity, in situ stress and paleomagnetic field intensities. These properties will be compared to those previously obtained from younger crustal rocks. Results should yield important information on how crustal rocks evolve as the seafloor spreads from the mid-ocean ridges.

Co-chief scientists for Leg 102 are Dr. Matthew H. Salisbury of the Scripps Institution of Oceanography, the University of California at San Diego, and Dr. James J. Scott of the U. S. Geological Survey in Denver, Colo. Dr. Christian A. Auroux, is Texas A&M staff scientist representative.

The JOIDES Resolution returned Thursday from her first official cruise. During Leg 101, more than a mile of cored sediment was obtained from 11 sites throughout the Bahamas.

The drillship is 470 feet long and 70 feet wide with a

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add two

derrick that towers 200 feet above the waterline. A computer-controlled dynamic positioning system, supported by 12 powerful thrusters and two main shafts, maintains the ship over a specific location.

The heart of the 470-foot long floating scientific research center is a seven-story laboratory stack which provides space and equipment for on-board examination of the cores including chemical, gas and physical properties, and paleontological, petrological, paleomagnetic and sedimentological studies. Marine geophysics research is conducted while the ship is under way.

The NSF funds the program through the Joint Oceanographic Institutions, Inc. (JOI, Inc.) which manages the project. JOI, Inc., is a not-for-profit consortium of 10 major oceanographic institutions. Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides overall planning and program advice.

Plans for upcoming cruises include drilling off the coast of Spain, in the Norwegian Sea and high latitude drilling in the North Atlantic.

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(Note: JOIDES institutions are: University of California at San Diego, Scripps Institution of Oceanography; Columbia University, Lamont-Doherty Geological Observatory; University of Hawaii,

-more-

add three

Hawaii Institute of Geophysics; University of Miami, Rosenstiel School of Marine and Atmospheric Science; Oregon State University, College of Oceanography; University of Rhode Island, Graduate School of Oceanography; Texas A&M University, Department of Oceanography; University of Texas, Institute of Geophysics; University of Washington, College of Ocean and Fishery Science and Woods Hole Oceanographic Institution. Scientific institutions in Canada, France, Japan and West Germany are also members.

OCEAN DRILLING PROGRAM
JOIDES RESOLUTION
OPERATIONS SCHEDULE

Leg 101	ETD Miami	31 Jan.	Bahamas	40 operational
	ETA Miami	14 Mar.		2 transit
Leg 102	ETD Miami	19 Mar.	Western North Atlantic	16 operational
	ETA Norfolk	9 Apr.		6 transit
Leg 102B	ETD Norfolk	16 Apr.	transit (MARK)	1 operational
	ETA Ponta Delgada	25 Apr.		8 transit
Leg 103	ETD Ponta Delgada		Galicia Bank	
	ETA Bremerhaven			
Leg 104	ETD Bremerhaven		Norwegian Sea	
	ETA Stavanger			
Leg 105	ETD Stavanger		Baffin Bay, Labrador Sea	
	ETA St. John's			
Leg 106	ETD St. John's		MARK I	
	ETA Málaga			
Leg 107	ETD Málaga		Tyrrhenian Sea	
	ETA Marseilles			
Leg 108	ETD Marseilles		NW Africa/ Cenozoic	
	ETA Cape Verde			
Leg 109	ETD Cape Verde		MARK II	
	ETA Barbados			
Leg 110	ETD Barbados		Barbados North	
	ETA Panama			
Leg 111	ETD Panama		EPR 13°N	
	ETA Callao			
Leg 112	ETD Callao		Peru Margin	
	ETA Valparaíso			
Leg 113	ETD Valparaíso		Chile Triple Junction	
	ETA Punta Arenas			

MEETING TO DISCUSS LEG 105 PROGRAMMING

held at JOIDES Office, University of Rhode Island, 5 March 1985

Present: R. Larson (PCOM Chairman)
L. Garrison (ODP/TAMU)
S. Srivastava (Leg 105 Co-chief)
M. Arthur (Leg 105 Co-chief)
A. Mayer (JOIDES Office)

1. The meeting was convened to discuss detailed scientific programming for Leg 105 bearing in mind the constraints imposed by ice and weather windows and the views of the ship operator on the length of legs.

2. Garrison reported that SEDCO was concerned at the prospect of a 70-day leg which involved operational problems plus increased costs in overtime payments.

3. The objectives of the main sites for Leg 105 are summarised below:

Priority	Site	Objectives	Details of Site
1	BB-3B 70°27'N 64°39'W	It will provide a high latitude framework for Eocene and Oligocene stratigraphy and the faunal, floral, stable isotopic, and sedimentary responses to the progressive cooling in the late Eocene-Oligocene. Also, it will provide information on the style of early post-rift tectonics in Baffin Bay. It is essential that drilling is carried out beyond the first major unconformity which lies at a depth of 1350 m.	Water Depth 2029 m Total Penetration 2000 m HPC/XCB to 700 m and coring to 2000 m (Sed. only)
2	LA-5 58°3'N 48°24'W	Together with BB-3B it will provide a high latitude framework for Eocene-Oligocene cooling as well as nature and dating of the drift deposits following Eocene hemipelagic sedimenation. Drilling into basement will lead to a first order age calibration of magnetic anomalies in the Labrador Sea.	Water Depth 3350 m Total Penetration 1475 n (1425 m in sediment & 50 m in basement) HPC/XCB to 700 m and coring to 1475 m

3	LA-9 53°19·2'N 45°14·4'W	To establish the seismic stratigraphic framework for the Labrador Sea and margin and its relation to that in the northeast Atlantic. Nature and dating of Gloria drift deposit and its relation to Eirik Ridge in the north. Drilling into the basement is proposed for magnetostratigraphic purpose. Establish the paleoclimatic variations and their relation to similar observations made in the south.	Water Depth 3950 m Total Penetration 850 m (800 m in sediments & 50 m in basement) HPC/XCB to 700 m If no penetration in basement, then HPC/XCB to basement or less, mainly for Neogene section.
4	LA-2A 57°41·8'N 54°12'W	Together with LA-5 it will help to investigate the onset of glaciation as far back as Late Miocene along an E-W transect. Together with LA-9 it will allow to differentiate between the Arctic and North Atlantic glaciation models.	Water Depth 3300 m Total Penetration 700 m (Depth to mid-upper Miocene reflector 700 m) HPC/XCB to the desired depth.

4. The minimum requirements for each site were discussed and a number of options were set up to meet varying weather and ice conditions and to take into account the following priorities:

a. the highest priority site is BB-3B where the main objective is to sample the intra-Eocene reflector and below at a depth of >1400 m.

b. the second priority is LA-5 where objectives are Neogene palaeoclimate and the identification of first ice-rifting, the dating of the onset of drift deposition together with that of the basement age at Anomaly 24. These objectives extend throughout the site to 1475 m.

c. LA-2A high priority objectives are at shallower depths and could be achieved with HPC. Intention is to sample onset of cold water circulation from the North in approximately mid-Miocene.

d. LA-9 requires drilling of pelagic objectives but no substantial basement penetration. Site will serve as a stratigraphic bridge between main Atlantic and Labrador Sea/Baffin Bay.

e. A re-entry cone is essential at BB-3B and desirable at LA-5.

Logging will be carried out at all sites.

5. The following plans were adopted on the basis of a compromise between the co-chiefs and the Science Operator for a 60-day leg. It is realised that all the objectives for both BB-3B and LA-5 are unlikely to be achieved within a 60-day leg.

Plan A envisages setting a re-entry cone at LA-5 en route to BB-3B (with routine coring to 200 m during cone setting). BB-3B will be completed and the vessel will then return to LA-5 to complete drilling. It is assumed that Baffin Bay will be ice-free and LA-5 will be re-occupied in early October when chances of storms are not too high.

Plan B assumes bad weather conditions on the return from Baffin Bay when LA-2A and LA-9 will replace further drilling at LA-5 as weather conditions may be better than at LA-5. Baffin Bay is assumed to be completed.

Plan C becomes operational if Baffin Bay does not become ice-free when Leg 105 would be devoted entirely to Labrador Sea objectives.

Plan D assumes a late opening of Baffin Bay (which requires a drilling and transit time allocation of 31 days). Plan D envisages carrying out drilling at LA-5 until the 31-day time requirement necessitates a move to Baffin Bay.

The executing of these options will be undertaken by the co-chief scientists of Leg 105 in consultation with the Science Operator and the PCOM.

LEG 105 - LABRADOR SEA/BAFFIN BAY

PLAN A

			days	tot. days
dep.	8/24	dep. Stavanger → LA-5	7.5	(7.5)
	9/0.5	LA-5 set cone & core to 200 m	4.5	(12.0)
	9/5	LA-5 → BB-3B	3.5	(15.5)
	9/8.5	BB-3B (maximum)	25.0	(40.5)
	10/3.5	BB-3B → LA-5	3.5	(44.0)
	10/7	LA-5 (+ contingency)	13.0	(57.0)
	10/20	LA-5 → St. John's	3.0	(60.0)
arr.	10/23			

PLAN B

	10/3.5	BB-3B → LA-2A	3.5	(44.0)
	10/7	*LA-2A (HPC)	2.5	(46.5)
	10/9.5	LA-2A → LA-9	2.0	(48.5)
	10/11.5	LA-9	10.0	(58.5)
	10/21.5	LA-9 → St. John's	1.5	(60.0)
arr.	10/23			

*LA-2A drops out if time is spent at LA-5.

PLAN C

	9/0.5	LA-5 set cone	4.5	(12.0)
	9/5	LA-5 drill to basement	20.0	(32.0)
	9/25	LA-5 → LA-2A	1.0	(33.0)
	9/26	LA-2A (HPC + rotary)	10.0	(43.0)
	10/6	LA-2A → LA-9	2.0	(45.0)
	10/8	LA-9 (to basement?)	13.5	(58.5)
	10/21.5	LA-9 → St. John's	1.5	(60.0)
arr.	10/23			

PLAN D

	9/0.5	LA-5 set cone & core to 200 m	4.5	(12.0)
	9/5	LA-5 drill to maximum depth in time allocation	14.0	(26.0)
	9/19	LA-5 → BB-3B	3.5	(29.5)
	9/22.5	BB-3B	25.0	(54.5)
	10/17.5	BB-3B → St. John's	5.5	(60.0)
arr.	10/23			

University of Rhode Island

office memorandum

to: Roger Larson **date:** 3/6/85

from: S. Srivastava and M. Arthur, Co-Chiefs, Leg 105

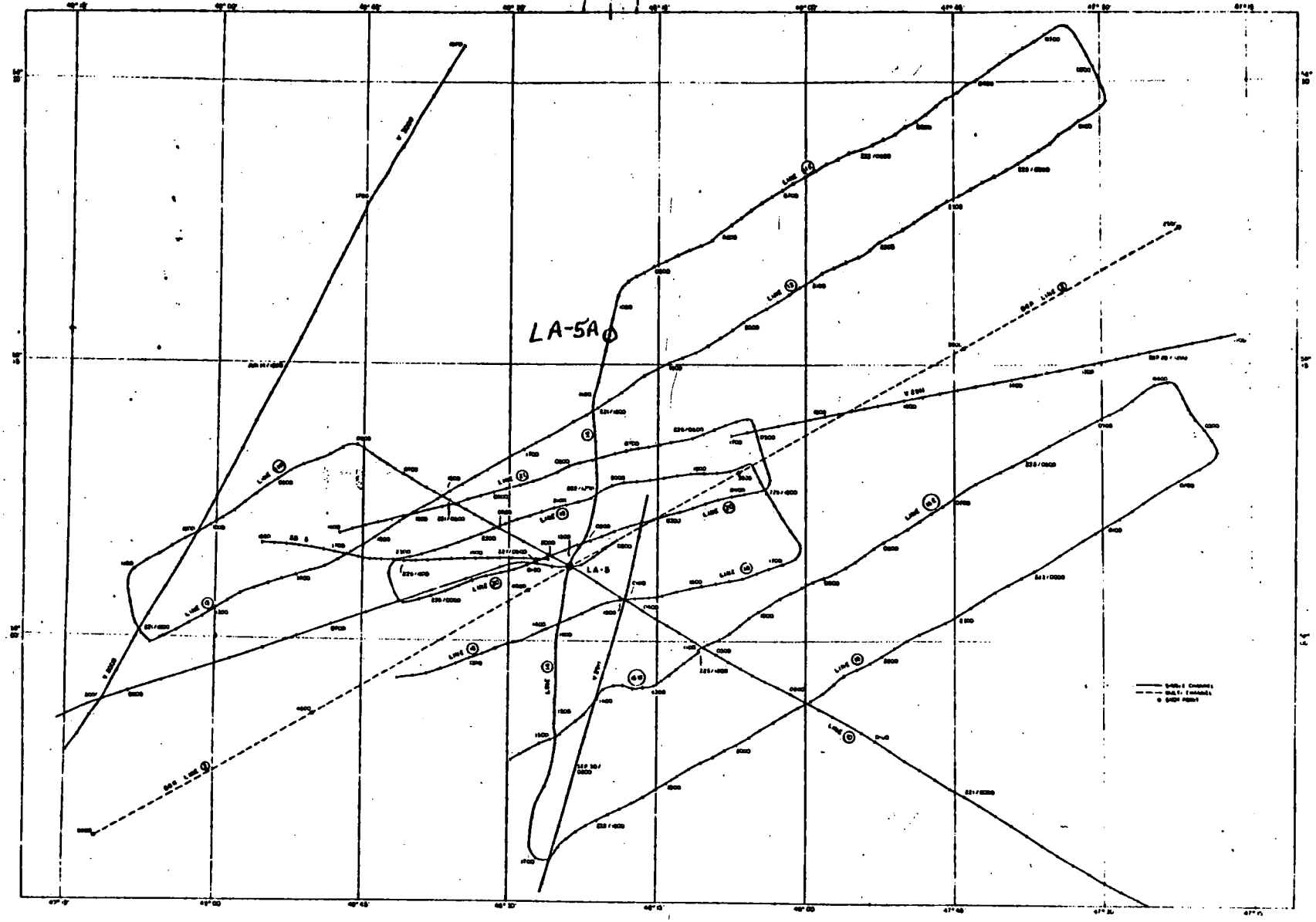
RE: Other Options for Leg 105

We would like to reiterate that, although a compromise 60-day length for Leg 105 was reached during our meeting of 3/5/85, by no means will we be able to meet all of the important objectives for both BB-3B and LA-5 within that time. In particular, the Paleogene paleoclimatic objectives would suffer most because they lie at the deepest depths at both sites. This objective is considered one of the more exciting in Labrador Sea-Baffin Bay drilling. We would therefore encourage PCOM to consider a full 70 day Leg, as previously advised, within which we believe we can nearly fully achieve the multiple objectives of drilling. We understand the logistic considerations, but if at all possible urge that the science not be compromised for such problems.

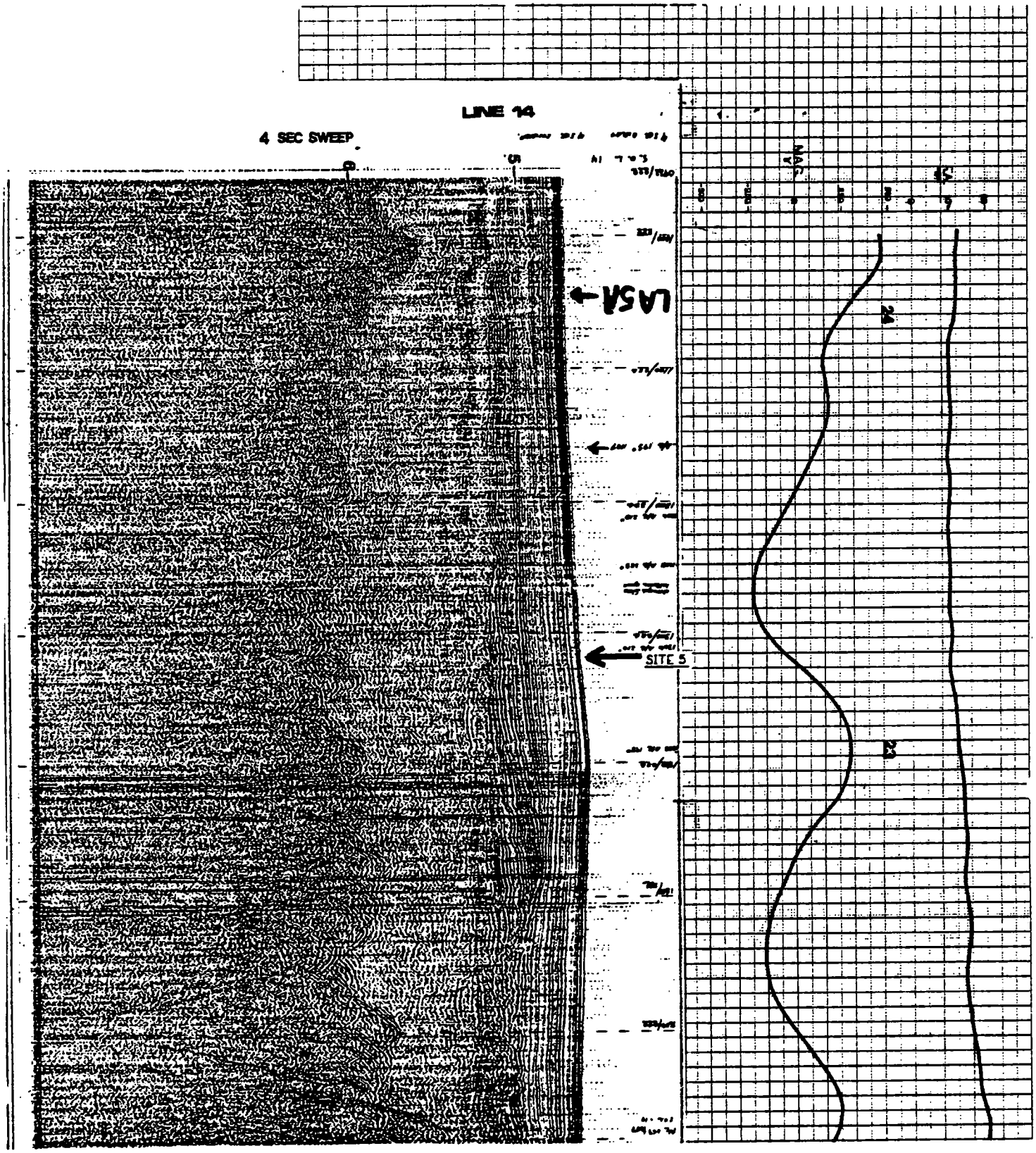
We would also like to add "Option E" to the list that we all previously considered. This option involves a compromise between objectives at LA-5 and LA-9. Attached is a proposed new site, LA-5A, located on line 14 at a water depth of 3450m, approximately 27 km to the northeast of LA-5 (coordinates 58°17.0'N 48°17.5'W). The objectives for this site lie in the upper 650m of the sequence with penetration of reflector R2 (Oligocene) as the deepest objective. We would be able to date the base of several contourite drifts and reach R2 in an estimated 7 days (HPC, Rotary without reentry core), thereby attaining most of the original objectives at LA-5. Because the Paleogene objectives are very important as well. These could be picked up by drilling at Site LA-9 (13 days; see Option C) which is on crust of about the same age as that at LA-5. In this way we would: 1) get nearly all original objectives, 20 eliminate the weather problem at LA-5 on the return trip, and 3) guarantee recovery of Paleogene high latitude sequence at at least one site. 4) An additional benefit is that LA-9 lies in a critical latitude for intercorrelation of North Atlantic and Labrador Sea/Baffin Bay sequences and is in a sensitive latitude to examine paleoclimatic fluctuations during the Paleogene to Quaternary climatic decline.

In summary:	Plan E	Days	Total Days
DEP. 8/24	Stavanger-LA-5A	7.5	(7.5)
9/0.5	LA-5A HPC/Rotary to 650m (no cone)	7.0	(14.5)
9/7.5	LA-5A→BB-3B	3.5	(18.0)
9/11	BB-3B max(/cone)	25.0	(43.0)
10/06	BB-3B→LA-9	5.0	(48.0)
10/11	LA-9 to bsmt (w/o cone)	13.0	(61.0)
10/24	LA-9→St.Johns	1.5	(62.5)
		TOTAL	62.5 days

Therefore, we would need an additional 2 to 3 days over the 60 to complete this package. We both favor Option E over all the others!!!



LA-5A 58° 17.0'N
48° 17.5'W


LINE 14
4 SEC SWEEP
LASA
SITE 5

February 12, 1985

Dr. Roger Larson
Graduate School of Oceanography
University of Rhode Island
Kingston, RI 02881

Dear Roger:

As indicated in our telephone conversation on the subject, I would like to give you some of my thoughts about the problems and options of Leg 105. If you then agree that you, Srivastava, Arthur, and I ought to get together and discuss it, let me know.

When the first ODP drilling schedules were discussed by PCOM early in 1984, Leg 105 was just intended to drill some sites in the Labrador Sea. Although Baffin Bay was mentioned as an exciting sort of thing to do, it wasn't actually made part of the plan until the Paris meeting in May. The original three sites, BB-1, 2, and 3 weren't designated until the Hawaii meeting in September, so Baffin Bay has, you might say, crept in the back door.

Since an excursion to Baffin Bay north of 70°N represents no small problem for the Operator, we asked the JOIDES Safety Panel for an opinion on whether safety problems might exist that would require further site surveying. It was essential at that point that we knew if the BB sites were viable or not. Much to our surprise, the Safety Panel gave <u>final</u> approval to BB-1, disapproved BB-2, and moved BB-3 to two new locations, neither of which addressed the original objective of the site. The program thus ended up with a damn site more than had been bargained for.

Thus a new Leg 105 emerged, one which includes a reentry site to be cored to 2 km in Baffin Bay, as well as the LA-5 site, which is also a reentry site (to basement at 1450 m) in 3350 m of water. Drilling times have been estimated by ODP engineering staff to require at least 53 days to complete these two holes, but their estimates do not include contingencies which will no doubt be a large factor in the high latitudes. The estimated drilling times, plus transits of about 17 days make a total of 70 days. Although the time allotted was increased to 70 days at the January meeting in Austin, this did not solve the problem. At least 15-20% more time would be necessary to handle weather and breakdowns.

Our dilemma thus breaks down into two questions: In order to make the best possible use of this high latitude drilling opportunity should we 1) extend the time allotted to an amount beyond 70 days and go for both deep reentry sites or 2) choose one or the other site as our prime target for this season and provide enough time to ensure its success? The ice window in Baffin Bay and the onset of winter storms in the Labrador Sea are constraining factors. At the moment we have only statistics to estimate when the ice will clear the Baffin Bay

Ocean Drilling Program
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(409) 845-2673

site; those statistics indicate sometime between late August and early September at latest. In June, the Canadian Ice Forecasting Central begins to make predictions which are updated as the summer season progresses, augmented by overflights which map the retreating ice edge, but we probably won't know until early August just when, or even if, BB-3B will be ice free.

The element that will terminate operations in the Labrador Sea is the onset of winter storms. The Chief Meteorologist for COGLA (Canadian Oil and Gas Lands Administration) in Ottawa he said that on the average, we would experience a major storm, with peak winds to 65 kts. or more, two or three times during the month of October. There would be an increasing swell 8 to 12 hours ahead of the central part of the storm, followed by 36 to 48 hours of violent weather, diminishing as the storm moves away. Storm tracks are approximately W or SW to NE across the Labrador Sea. The COGLA people emphasized that planning any work beyond early November would be futile.

If we add a few badly needed days to Leg 104, the schedule we now project (attached) would have us leave Stavanger on August 24. This would start the clock on Leg 105; the winter storms of November would end it. Between Aug. 24 and November 2 there are 70 days. Within this period we have the following options:

1) Use the full 70 days. If we elect to do this, knowing there's no chance of drilling both BB-3B and LA-5 as planned, we can...

   a) give BB-3B first priority, take whatever time is necessary to drill it to 2 km, and use any time left over to a lesser Labrador Sea site, i.e. LA-9, LA-2A or whatever, or

   b) drill BB-3B only to a lesser depth, or give it a time restriction, and take LA-5 to its basement objective.

   Advantages - Some flexibility could be retained and if necessary an at-sea decision made to go for LA-5 or BB-3B when the Baffin Bay ice conditions became known. Moreover, we could essentially guarantee success at one or the other prime site, and also accomplish some science in the downgraded area.

   Disadvantages - A 70-day cruise leg, although technically feasible, would strain our facilities, particularly the distribution of sea duty among the SEDCO people, as well as our own techs. There is also a potential morale problem which, although not enough to prohibit 70* days, should be considered in extra long voyages. Finally, by assigning 70 days to 105 (essentially 1.5 legs) we push the 1986 schedule downward and delay our entry into the Weddell Sea.

2) Elect to attain the objectives at both BB-3B and LA-5 by increasing the time allotment to whatever is necessary. In this case, we would have to add at least 15 or 20% contingency because of extreme weather. For an estimated 53 days drilling time (both sites) about 10 days should be added. The resulting 80-day

voyage would not be acceptable, either to SEDCO or the Science Operator. Therefore, the only solution would be to divide 105 into two separate legs. This could be accomplished by scheduling a 2-day port stop at either St. John, Newfoundland, or at Gothaab, Greenland to change crews. It would add around 3 to 5 days, and bring the total to 85 days for the two legs.

Advantages - The only advantage would be the attaining of original objectives at both BB-3B and LA-5.

Disadvantages - Because this would develop two legs where formerly there was just one, it would replace an existing leg between 105 and 114, and move all legs from 106 to the replaced one to a later time slot. This would require all of the staffing and logistics planning of any other leg. Furthermore, it would extend the Labrador Sea drilling far into or beyond mid-November and put in jeopardy the ultimate success of LA-5.

3) Bring the leg back to one of a more or less normal limit of around 50 days and prioritize the two prime sites, electing to drill either BB-3B or LA-5, but not attempting both. If BB-3B were first priority but sea ice prevented our going there, LA-5 could be the fall back.

Advantages - Enough contingency time could be scheduled into the leg to offer a good chance of success without impinging on the remainder of the 85/86 schedule. A normal cruise length would not throw the crews' sea-duty out of balance, and the ship could clear the area before winter storms became a serious problem.

Disadvantages - One prime site would have to be postponed for several years.

I have discussed all of this with Srivastava and he promised to contact Mike Arthur right away. Although we do need to decide what to do quite soon in order to plan this rather complex operation, I would suggest you not throw it out to PCOM until you have heard the opinions and preferences of the Co-Chiefs and the Science Operator. I need to get our application in to COGLA by the 1st of April.

Sincerely,

Lou

Louis E. Garrison
Deputy Director

LEG:pvs

cc: S. Srivastava
M. Arthur
R. Kidd
B. Clement
E. Taylor

JOIDES Julian Planning Calendar for 1985
January 1 =2,446,055 - - December 31 =2,446,419

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan									1 6055	2 6056	3 6057	4 6058	5 6059	6 6060
	7 6061	8 6062	9 6063	10 6064	11 6065	12 6066	13 6067	14 6068	15 6069	16 6070	17 6071	18 6072	19 6073	20 6074
	21 6075	22 6076	23 6077	24 6078	25 6079	26 6080	27 6081	28 6082	29 6083	30 6084	31 : 6085:	1 6086	2 6087	3 6088
Feb	4 6089	5 6090	6 6091	7 6092	8 6093	9 6094	10 6095	11 6096	12 6097	13 6098	14 6099	15 6100	16 6101	17 6102
	18 6103	19 6104	20 6105	21 6106	22 6107	23 6108	24 6109	25 6110	26 6111	27 6112	28 : 6113:	1 6114	2 6115	3 6116
Mar	4 6117	5 6118	6 6119	7 6120	8 6121	9 6122	10 6123	11 6124	12 6125	13 6126	14 6127	15 6128	16 6129	17 6130
	18 6131	19 6132	20 6133	21 6134	22 6135	23 6136	24 6137	25 6138	26 6139	27 6140	28 6141	29 6142	30 6143	31 : 6144:
Apr	1 6145	2 6146	3 6147	4 6148	5 6149	6 6150	7 6151	8 6152	9 6153	10 6154	11 6155	12 6156	13 6157	14 6158
	15 6159	16 6160	17 6161	18 6162	19 6163	20 6164	21 6165	22 6166	23 6167	24 6168	25 6169	26 6170	27 6171	28 6172
	29 6173	30 : 6174:	1 6175	2 6176	3 6177	4 6178	5 6179	6 6180	7 6181	8 6182	9 6183	10 6184	11 6185	12 6186
May	13 6187	14 6188	15 6189	16 6190	17 6191	18 6192	19 6193	20 6194	21 6195	22 6196	23 6197	24 6198	25 6199	26 6200
	27 6201	28 6202	29 6203	30 6204	31 : 6205:	1 6206	2 6207	3 6208	4 6209	5 6210	6 6211	7 6212	8 6213	9 6214
Jun	10 6215	11 6216	12 6217	13 6218	14 6219	15 6220	16 6221	17 6222	18 6223	19 6224	20 6225	21 6226	22 6227	23 6228
	24 6229	25 6230	26 6231	27 6232	28 6233	29 6234	30 : 6235:	1 6236	2 6237	3 6238	4 6239	5 6240	6 6241	7 6242
Jul	8 6243	9 6244	10 6245	11 6246	12 6247	13 6248	14 6249	15 6250	16 6251	17 6252	18 6253	19 6254	20 6255	21 6256
	22 6257	23 6258	24 6259	25 6260	26 6261	27 6262	28 6263	29 6264	30 6265	31 : 6266:	1 6267	2 6268	3 6269	4 6270
Aug	5 6271	6 6272	7 6273	8 6274	9 6275	10 6276	11 6277	12 6278	13 6279	14 6280	15 6281	16 6282	17 6283	18 6284
	19 6285	20 6286	21 6287	22 6288	23 6289	24 6290	25 6291	26 6292	27 6293	28 6294	29 6295	30 6296	31 : 6297:	1 6298
Sep	2 6299	3 6300	4 6301	5 6302	6 6303	7 6304	8 6305	9 6306	10 6307	11 6308	12 6309	13 6310	14 6311	15 6312
	16 6313	17 6314	18 6315	19 6316	20 6317	21 6318	22 6319	23 6320	24 6321	25 6322	26 6323	27 6324	28 6325	29 6326
	30 : 6327:	1 6328	2 6329	3 6330	4 6331	5 6332	6 6333	7 6334	8 6335	9 6336	10 6337	11 6338	12 6339	13 6340
Oct	14 6341	15 6342	16 6343	17 6344	18 6345	19 6346	20 6347	21 6348	22 6349	23 6350	24 6351	25 6352	26 6353	27 6354
	28 6355	29 6356	30 6357	31 : 6358:	1 6359	2 6360	3 6361	4 6362	5 6363	6 6364	7 6365	8 6366	9 6367	10 6368
Nov	11 6369	12 6370	13 6371	14 6372	15 6373	16 6374	17 6375	18 6376	19 6377	20 6378	21 6379	22 6380	23 6381	24 6382
	25 6383	26 6384	27 6385	28 6386	29 6387	30 6388:	1 6389	2 6390	3 6391	4 6392	5 6393	6 6394	7 6395	8 6396
Dec	9 6397	10 6398	11 6399	12 6400	13 6401	14 6402	15 6403	16 6404	17 6405	18 6406	19 6407	20 6408	21 6409	22 6410
	23 6411	24 6412	25 6413	26 6414	27 6415	28 6416	29 6417	30 6418	31 : 6419:					

Prepared by DSDP Information Handling Group (1/82)

JOIDES-Julian-Planning-Calendar-for-1986
January 1 =2,446,420 - - December 31 =2,446,784

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan										1 6420	2 6421	3 6422	4 6423	5 6424
	6 6425	7 6426	8 6427	9 6428	10 6429	11 6430	12 6431	13 6432	14 6433	15 6434	16 6435	17 6436	18 6437	19 6438
	20 6439	21 6440	22 6441	23 6442	24 6443	25 6444	26 6445	27 6446	28 6447	29 6448	30 6449	31 : 6450:	1 6451	2 6452
Feb	3 6453	4 6454	5 6455	6 6456	7 6457	8 6458	9 6459	10 6460	11 6461	12 6462	13 6463	14 6464	15 6465	16 6466
	17 6467	18 6468	19 6469	20 6470	21 6471	22 6472	23 6473	24 6474	25 6475	26 6476	27 6477	28 : 6478:	1 6479	2 6480
Mar	3 6481	4 6482	5 6483	6 6484	7 6485	8 6486	9 6487	10 6488	11 6489	12 6490	13 6491	14 6492	15 6493	16 6494
	17 6495	18 6496	19 6497	20 6498	21 6499	22 6500	23 6501	24 6502	25 6503	26 6504	27 6505	28 6506	29 6507	30 6508
	31 : 6509:	1 6510	2 6511	3 6512	4 6513	5 6514	6 6515	7 6516	8 6517	9 6518	10 6519	11 6520	12 6521	13 6522
Apr	14 6523	15 6524	16 6525	17 6526	18 6527	19 6528	20 6529	21 6530	22 6531	23 6532	24 6533	25 6534	26 6535	27 6536
	28 6537	29 6538	30 : 6539:	1 6540	2 6541	3 6542	4 6543	5 6544	6 6545	7 6546	8 6547	9 6548	10 6549	11 6550
May	12 6551	13 6552	14 6553	15 6554	16 6555	17 6556	18 6557	19 6558	20 6559	21 6560	22 6561	23 6562	24 6563	25 6564
	26 6565	27 6566	28 6567	29 6568	30 6569	31 : 6570:	1 6571	2 6572	3 6573	4 6574	5 6575	6 6576	7 6577	8 6578
Jun	9 6579	10 6580	11 6581	12 6582	13 6583	14 6584	15 6585	16 6586	17 6587	18 6588	19 6589	20 6590	21 6591	22 6592
	23 6593	24 6594	25 6595	26 6596	27 6597	28 6598	29 6599	30 : 6600:	1 6601	2 6602	3 6603	4 6604	5 6605	6 6606
Jul	7 6607	8 6608	9 6609	10 6610	11 6611	12 6612	13 6613	14 6614	15 6615	16 6616	17 6617	18 6618	19 6619	20 6620
	21 6621	22 6622	23 6623	24 6624	25 6625	26 6626	27 6627	28 6628	29 6629	30 6630	31 : 6631:	1 6632	2 6633	3 6634
Aug	4 6635	5 6636	6 6637	7 6638	8 6639	9 6640	10 6641	11 6642	12 6643	13 6644	14 6645	15 6646	16 6647	17 6648
	18 6649	19 6650	20 6651	21 6652	22 6653	23 6654	24 6655	25 6656	26 6657	27 6658	28 6659	29 6660	30 6661	31 : 6662:
Sep	1 6663	2 6664	3 6665	4 6666	5 6667	6 6668	7 6669	8 6670	9 6671	10 6672	11 6673	12 6674	13 6675	14 6676
	15 6677	16 6678	17 6679	18 6680	19 6681	20 6682	21 6683	22 6684	23 6685	24 6686	25 6687	26 6688	27 6689	28 6690
	29 6691	30 : 6692:	1 6693	2 6694	3 6695	4 6696	5 6697	6 6698	7 6699	8 6700	9 6701	10 6702	11 6703	12 6704
Oct	13 6705	14 6706	15 6707	16 6708	17 6709	18 6710	19 6711	20 6712	21 6713	22 6714	23 6715	24 6716	25 6717	26 6718
	27 6719	28 6720	29 6721	30 6722	31 : 6723:	1 6724	2 6725	3 6726	4 6727	5 6728	6 6729	7 6730	8 6731	9 6732
Nov	10 6733	11 6734	12 6735	13 6736	14 6737	15 6738	16 6739	17 6740	18 6741	19 6742	20 6743	21 6744	22 6745	23 6746
	24 6747	25 6748	26 6749	27 6750	28 6751	29 6752	30 6753:	1 6754	2 6755	3 6756	4 6757	5 6758	6 6759	7 6760
Dec	8 6761	9 6762	10 6763	11 6764	12 6765	13 6766	14 6767	15 6768	16 6769	17 6770	18 6771	19 6772	20 6773	21 6774
	22 6775	23 6776	24 6777	25 6778	26 6779	27 6780	28 6781	29 6782	30 6783	31 : 6784:				

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1987

January 1 =2,446,785 - - December 31 =2,447,149

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan											1 6785	2 6786	3 6787	4 6788
	5 6789	6 6790	7 6791	8 6792	9 6793	10 6794	11 6795	12 6796	13 6797	14 6798	15 6799	16 6800	17 6801	18 6802
	19 6803	20 6804	21 6805	22 6806	23 6807	24 6808	25 6809	26 6810	27 6811	28 6812	29 6813	30 6814	31 : 6815:	1 6816
Feb	2 6817	3 6818	4 6819	5 6820	6 6821	7 6822	8 6823	9 6824	10 6825	11 6826	12 6827	13 6828	14 6829	15 6830
	16 6831	17 6832	18 6833	19 6834	20 6835	21 6836	22 6837	23 6838	24 6839	25 6840	26 6841	27 6842	28 : 6843:	1 6844
Mar	2 6845	3 6846	4 6847	5 6848	6 6849	7 6850	8 6851	9 6852	10 6853	11 6854	12 6855	13 6856	14 6857	15 6858
	16 6859	17 6860	18 6861	19 6862	20 6863	21 6864	22 6865	23 6866	24 6867	25 6868	26 6869	27 6870	28 6871	29 6872
	30 6873	31 : 6874:	1 6875	2 6876	3 6877	4 6878	5 6879	6 6880	7 6881	8 6882	9 6883	10 6884	11 6885	12 6886
Apr	13 6887	14 6888	15 6889	16 6890	17 6891	18 6892	19 6893	20 6894	21 6895	22 6896	23 6897	24 6898	25 6899	26 6900
	27 6901	28 6902	29 6903	30 : 6904:	1 6905	2 6906	3 6907	4 6908	5 6909	6 6910	7 6911	8 6912	9 6913	10 6914
May	11 6915	12 6916	13 6917	14 6918	15 6919	16 6920	17 6921	18 6922	19 6923	20 6924	21 6925	22 6926	23 6927	24 6928
	25 6929	26 6930	27 6931	28 6932	29 6933	30 6934	31 6935:	1 6936	2 6937	3 6938	4 6939	5 6940	6 6941	7 6942
Jun	8 6943	9 6944	10 6945	11 6946	12 6947	13 6948	14 6949	15 6950	16 6951	17 6952	18 6953	19 6954	20 6955	21 6956
	22 6957	23 6958	24 6959	25 6960	26 6961	27 6962	28 6963	29 6964	30 : 6965:	1 6966	2 6967	3 6968	4 6969	5 6970
Jul	6 6971	7 6972	8 6973	9 6974	10 6975	11 6976	12 6977	13 6978	14 6979	15 6980	16 6981	17 6982	18 6983	19 6984
	20 6985	21 6986	22 6987	23 6988	24 6989	25 6990	26 6991	27 6992	28 6993	29 6994	30 6995	31 : 6996:	1 6997	2 6998
Aug	3 6999	4 7000	5 7001	6 7002	7 7003	8 7004	9 7005	10 7006	11 7007	12 7008	13 7009	14 7010	15 7011	16 7012
	17 7013	18 7014	19 7015	20 7016	21 7017	22 7018	23 7019	24 7020	25 7021	26 7022	27 7023	28 7024	29 7025	30 7026
	31 : 7027:	1 7028	2 7029	3 7030	4 7031	5 7032	6 7033	7 7034	8 7035	9 7036	10 7037	11 7038	12 7039	13 7040
Sep	14 7041	15 7042	16 7043	17 7044	18 7045	19 7046	20 7047	21 7048	22 7049	23 7050	24 7051	25 7052	26 7053	27 7054
	28 7055	29 7056	30 : 7057:	1 7058	2 7059	3 7060	4 7061	5 7062	6 7063	7 7064	8 7065	9 7066	10 7067	11 7068
Oct	12 7069	13 7070	14 7071	15 7072	16 7073	17 7074	18 7075	19 7076	20 7077	21 7078	22 7079	23 7080	24 7081	25 7082
	26 7083	27 7084	28 7085	29 7086	30 7087	31 7088:	1 7089	2 7090	3 7091	4 7092	5 7093	6 7094	7 7095	8 7096
Nov	9 7097	10 7098	11 7099	12 7100	13 7101	14 7102	15 7103	16 7104	17 7105	18 7106	19 7107	20 7108	21 7109	22 7110
	23 7111	24 7112	25 7113	26 7114	27 7115	28 7116	29 7117	30 7118:	1 7119	2 7120	3 7121	4 7122	5 7123	6 7124
Dec	7 7125	8 7126	9 7127	10 7128	11 7129	12 7130	13 7131	14 7132	15 7133	16 7134	17 7135	18 7136	19 7137	20 7138
	21 7139	22 7140	23 7141	24 7142	25 7143	26 7144	27 7145	28 7146	29 7147	30 7148	31 : 7149:			

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1988
January 1 =2,447,150 - - December 31 =2,447,515

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan												1 7150	2 7151	3 7152
	4 7153	5 7154	6 7155	7 7156	8 7157	9 7158	10 7159	11 7160	12 7161	13 7162	14 7163	15 7164	16 7165	17 7166
	18 7167	19 7168	20 7169	21 7170	22 7171	23 7172	24 7173	25 7174	26 7175	27 7176	28 7177	29 7178	30 7179	31 : 7180:
Feb	1 7181	2 7182	3 7183	4 7184	5 7185	6 7186	7 7187	8 7188	9 7189	10 7190	11 7191	12 7192	13 7193	14 7194
	15 7195	16 7196	17 7197	18 7198	19 7199	20 7200	21 7201	22 7202	23 7203	24 7204	25 7205	26 7206	27 7207	28 7208
	29 : 7209:	1 7210	2 7211	3 7212	4 7213	5 7214	6 7215	7 7216	8 7217	9 7218	10 7219	11 7220	12 7221	13 7222
Mar	14 7223	15 7224	16 7225	17 7226	18 7227	19 7228	20 7229	21 7230	22 7231	23 7232	24 7233	25 7234	26 7235	27 7236
	28 7237	29 7238	30 7239	31 : 7240:	1 7241	2 7242	3 7243	4 7244	5 7245	6 7246	7 7247	8 7248	9 7249	10 7250
Apr	11 7251	12 7252	13 7253	14 7254	15 7255	16 7256	17 7257	18 7258	19 7259	20 7260	21 7261	22 7262	23 7263	24 7264
	25 7265	26 7266	27 7267	28 7268	29 7269	30 : 7270:	1 7271	2 7272	3 7273	4 7274	5 7275	6 7276	7 7277	8 7278
May	9 7279	10 7280	11 7281	12 7282	13 7283	14 7284	15 7285	16 7286	17 7287	18 7288	19 7289	20 7290	21 7291	22 7292
	23 7293	24 7294	25 7295	26 7296	27 7297	28 7298	29 7299	30 7300	31 : 7301:	1 7302	2 7303	3 7304	4 7305	5 7306
Jun	6 7307	7 7308	8 7309	9 7310	10 7311	11 7312	12 7313	13 7314	14 7315	15 7316	16 7317	17 7318	18 7319	19 7320
	20 7321	21 7322	22 7323	23 7324	24 7325	25 7326	26 7327	27 7328	28 7329	29 7330	30 7331:	1 7332	2 7333	3 7334
Jul	4 7335	5 7336	6 7337	7 7338	8 7339	9 7340	10 7341	11 7342	12 7343	13 7344	14 7345	15 7346	16 7347	17 7348
	18 7349	19 7350	20 7351	21 7352	22 7353	23 7354	24 7355	25 7356	26 7357	27 7358	28 7359	29 7360	30 7361	31 : 7362:
Aug	1 7363	2 7364	3 7365	4 7366	5 7367	6 7368	7 7369	8 7370	9 7371	10 7372	11 7373	12 7374	13 7375	14 7376
	15 7377	16 7378	17 7379	18 7380	19 7381	20 7382	21 7383	22 7384	23 7385	24 7386	25 7387	26 7388	27 7389	28 7390
	29 7391	30 7392	31 : 7393:	1 7394	2 7395	3 7396	4 7397	5 7398	6 7399	7 7400	8 7401	9 7402	10 7403	11 7404
Sep	12 7405	13 7406	14 7407	15 7408	16 7409	17 7410	18 7411	19 7412	20 7413	21 7414	22 7415	23 7416	24 7417	25 7418
	26 7419	27 7420	28 7421	29 7422	30 : 7423:	1 7424	2 7425	3 7426	4 7427	5 7428	6 7429	7 7430	8 7431	9 7432
Oct	10 7433	11 7434	12 7435	13 7436	14 7437	15 7438	16 7439	17 7440	18 7441	19 7442	20 7443	21 7444	22 7445	23 7446
	24 7447	25 7448	26 7449	27 7450	28 7451	29 7452	30 7453	31 : 7454:	1 7455	2 7456	3 7457	4 7458	5 7459	6 7460
Nov	7 7461	8 7462	9 7463	10 7464	11 7465	12 7466	13 7467	14 7468	15 7469	16 7470	17 7471	18 7472	19 7473	20 7474
	21 7475	22 7476	23 7477	24 7478	25 7479	26 7480	27 7481	28 7482	29 7483	30 : 7484:	1 7485	2 7486	3 7487	4 7488
Dec	5 7489	6 7490	7 7491	8 7492	9 7493	10 7494	11 7495	12 7496	13 7497	14 7498	15 7499	16 7500	17 7501	18 7502
	19 7503	20 7504	21 7505	22 7506	23 7507	24 7508	25 7509	26 7510	27 7511	28 7512	29 7513	30 7514	31 : 7515:	

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1989

January 1 =2,447,516 - - December 31 =2,447,880

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan														1 7516
	2 7517	3 7518	4 7519	5 7520	6 7521	7 7522	8 7523	9 7524	10 7525	11 7526	12 7527	13 7528	14 7529	15 7530
	16 7531	17 7532	18 7533	19 7534	20 7535	21 7536	22 7537	23 7538	24 7539	25 7540	26 7541	27 7542	28 7543	29 7544
	30 7545	31 : 7546:	1 7547	2 7548	3 7549	4 7550	5 7551	6 7552	7 7553	8 7554	9 7555	10 7556	11 7557	12 7558
Feb	13 7559	14 7560	15 7561	16 7562	17 7563	18 7564	19 7565	20 7566	21 7567	22 7568	23 7569	24 7570	25 7571	26 7572
	27 7573	28 : 7574:	1 7575	2 7576	3 7577	4 7578	5 7579	6 7580	7 7581	8 7582	9 7583	10 7584	11 7585	12 7586
Mar	13 7587	14 7588	15 7589	16 7590	17 7591	18 7592	19 7593	20 7594	21 7595	22 7596	23 7597	24 7598	25 7599	26 7600
	27 7601	28 7602	29 7603	30 7604	31 : 7605:	1 7606	2 7607	3 7608	4 7609	5 7610	6 7611	7 7612	8 7613	9 7614
Apr	10 7615	11 7616	12 7617	13 7618	14 7619	15 7620	16 7621	17 7622	18 7623	19 7624	20 7625	21 7626	22 7627	23 7628
	24 7629	25 7630	26 7631	27 7632	28 7633	29 7634	30 : 7635:	1 7636	2 7637	3 7638	4 7639	5 7640	6 7641	7 7642
May	8 7643	9 7644	10 7645	11 7646	12 7647	13 7648	14 7649	15 7650	16 7651	17 7652	18 7653	19 7654	20 7655	21 7656
	22 7657	23 7658	24 7659	25 7660	26 7661	27 7662	28 7663	29 7664	30 7665	31 : 7666:	1 7667	2 7668	3 7669	4 7670
Jun	5 7671	6 7672	7 7673	8 7674	9 7675	10 7676	11 7677	12 7678	13 7679	14 7680	15 7681	16 7682	17 7683	18 7684
	19 7685	20 7686	21 7687	22 7688	23 7689	24 7690	25 7691	26 7692	27 7693	28 7694	29 7695	30 : 7696:	1 7697	2 7698
Jul	3 7699	4 7700	5 7701	6 7702	7 7703	8 7704	9 7705	10 7706	11 7707	12 7708	13 7709	14 7710	15 7711	16 7712
	17 7713	18 7714	19 7715	20 7716	21 7717	22 7718	23 7719	24 7720	25 7721	26 7722	27 7723	28 7724	29 7725	30 7726
	31 : 7727:	1 7728	2 7729	3 7730	4 7731	5 7732	6 7733	7 7734	8 7735	9 7736	10 7737	11 7738	12 7739	13 7740
Aug	14 7741	15 7742	16 7743	17 7744	18 7745	19 7746	20 7747	21 7748	22 7749	23 7750	24 7751	25 7752	26 7753	27 7754
	28 7755	29 7756	30 7757	31 : 7758:	1 7759	2 7760	3 7761	4 7762	5 7763	6 7764	7 7765	8 7766	9 7767	10 7768
Sep	11 7769	12 7770	13 7771	14 7772	15 7773	16 7774	17 7775	18 7776	19 7777	20 7778	21 7779	22 7780	23 7781	24 7782
	25 7783	26 7784	27 7785	28 7786	29 7787	30 : 7788:	1 7789	2 7790	3 7791	4 7792	5 7793	6 7794	7 7795	8 7796
Oct	9 7797	10 7798	11 7799	12 7800	13 7801	14 7802	15 7803	16 7804	17 7805	18 7806	19 7807	20 7808	21 7809	22 7810
	23 7811	24 7812	25 7813	26 7814	27 7815	28 7816	29 7817	30 7818	31 : 7819:	1 7820	2 7821	3 7822	4 7823	5 7824
Nov	6 7825	7 7826	8 7827	9 7828	10 7829	11 7830	12 7831	13 7832	14 7833	15 7834	16 7835	17 7836	18 7837	19 7838
	20 7839	21 7840	22 7841	23 7842	24 7843	25 7844	26 7845	27 7846	28 7847	29 7848	30 : 7849:	1 7850	2 7851	3 7852
Dec	4 7853	5 7854	6 7855	7 7856	8 7857	9 7858	10 7859	11 7860	12 7861	13 7862	14 7863	15 7864	16 7865	17 7866
	18 7867	19 7868	20 7869	21 7870	22 7871	23 7872	24 7873	25 7874	26 7875	27 7876	28 7877	29 7878	30 7879	31 : 7880:

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1990
January 1 =2,447,881 - - December 31 =2,448,245

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan	1 7881	2 7882	3 7883	4 7884	5 7885	6 7886	7 7887	8 7888	9 7889	10 7890	11 7891	12 7892	13 7893	14 7894
	15 7895	16 7896	17 7897	18 7898	19 7899	20 7900	21 7901	22 7902	23 7903	24 7904	25 7905	26 7906	27 7907	28 7908
	29 7909	30 7910	31 : 7911:	1 7912	2 7913	3 7914	4 7915	5 7916	6 7917	7 7918	8 7919	9 7920	10 7921	11 7922
Feb	12 7923	13 7924	14 7925	15 7926	16 7927	17 7928	18 7929	19 7930	20 7931	21 7932	22 7933	23 7934	24 7935	25 7936
	26 7937	27 7938	28 : 7939:	1 7940	2 7941	3 7942	4 7943	5 7944	6 7945	7 7946	8 7947	9 7948	10 7949	11 7950
Mar	12 7951	13 7952	14 7953	15 7954	16 7955	17 7956	18 7957	19 7958	20 7959	21 7960	22 7961	23 7962	24 7963	25 7964
	26 7965	27 7966	28 7967	29 7968	30 7969	31 : 7970:	1 7971	2 7972	3 7973	4 7974	5 7975	6 7976	7 7977	8 7978
Apr	9 7979	10 7980	11 7981	12 7982	13 7983	14 7984	15 7985	16 7986	17 7987	18 7988	19 7989	20 7990	21 7991	22 7992
	23 7993	24 7994	25 7995	26 7996	27 7997	28 7998	29 7999	30 : 8000:	1 8001	2 8002	3 8003	4 8004	5 8005	6 8006
May	7 8007	8 8008	9 8009	10 8010	11 8011	12 8012	13 8013	14 8014	15 8015	16 8016	17 8017	18 8018	19 8019	20 8020
	21 8021	22 8022	23 8023	24 8024	25 8025	26 8026	27 8027	28 8028	29 8029	30 8030	31 : 8031:	1 8032	2 8033	3 8034
Jun	4 8035	5 8036	6 8037	7 8038	8 8039	9 8040	10 8041	11 8042	12 8043	13 8044	14 8045	15 8046	16 8047	17 8048
	18 8049	19 8050	20 8051	21 8052	22 8053	23 8054	24 8055	25 8056	26 8057	27 8058	28 8059	29 8060	30 : 8061:	1 8062
Jul	2 8063	3 8064	4 8065	5 8066	6 8067	7 8068	8 8069	9 8070	10 8071	11 8072	12 8073	13 8074	14 8075	15 8076
	16 8077	17 8078	18 8079	19 8080	20 8081	21 8082	22 8083	23 8084	24 8085	25 8086	26 8087	27 8088	28 8089	29 8090
	30 8091	31 : 8092:	1 8093	2 8094	3 8095	4 8096	5 8097	6 8098	7 8099	8 8100	9 8101	10 8102	11 8103	12 8104
Aug	13 8105	14 8106	15 8107	16 8108	17 8109	18 8110	19 8111	20 8112	21 8113	22 8114	23 8115	24 8116	25 8117	26 8118
	27 8119	28 8120	29 8121	30 8122	31 : 8123:	1 8124	2 8125	3 8126	4 8127	5 8128	6 8129	7 8130	8 8131	9 8132
Sep	10 8133	11 8134	12 8135	13 8136	14 8137	15 8138	16 8139	17 8140	18 8141	19 8142	20 8143	21 8144	22 8145	23 8146
	24 8147	25 8148	26 8149	27 8150	28 8151	29 8152	30 : 8153:	1 8154	2 8155	3 8156	4 8157	5 8158	6 8159	7 8160
Oct	8 8161	9 8162	10 8163	11 8164	12 8165	13 8166	14 8167	15 8168	16 8169	17 8170	18 8171	19 8172	20 8173	21 8174
	22 8175	23 8176	24 8177	25 8178	26 8179	27 8180	28 8181	29 8182	30 8183	31 8184:	1 8185	2 8186	3 8187	4 8188
Nov	5 8189	6 8190	7 8191	8 8192	9 8193	10 8194	11 8195	12 8196	13 8197	14 8198	15 8199	16 8200	17 8201	18 8202
	19 8203	20 8204	21 8205	22 8206	23 8207	24 8208	25 8209	26 8210	27 8211	28 8212	29 8213	30 : 8214:	1 8215	2 8216
Dec	3 8217	4 8218	5 8219	6 8220	7 8221	8 8222	9 8223	10 8224	11 8225	12 8226	13 8227	14 8228	15 8229	16 8230
	17 8231	18 8232	19 8233	20 8234	21 8235	22 8236	23 8237	24 8238	25 8239	26 8240	27 8241	28 8242	29 8243	30 8244
	31 : 8245:													

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1991

January 1 =2,448,246 - - December 31 =2,448,610

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan		1 8246	2 8247	3 8248	4 8249	5 8250	6 8251	7 8252	8 8253	9 8254	10 8255	11 8256	12 8257	13 8258
	14 8259	15 8260	16 8261	17 8262	18 8263	19 8264	20 8265	21 8266	22 8267	23 8268	24 8269	25 8270	26 8271	27 8272
	28 8273	29 8274	30 8275	31 : 8276:	1 8277	2 8278	3 8279	4 8280	5 8281	6 8282	7 8283	8 8284	9 8285	10 8286
Feb	11 8287	12 8288	13 8289	14 8290	15 8291	16 8292	17 8293	18 8294	19 8295	20 8296	21 8297	22 8298	23 8299	24 8300
	25 8301	26 8302	27 8303	28 : 8304:	1 8305	2 8306	3 8307	4 8308	5 8309	6 8310	7 8311	8 8312	9 8313	10 8314
Mar	11 8315	12 8316	13 8317	14 8318	15 8319	16 8320	17 8321	18 8322	19 8323	20 8324	21 8325	22 8326	23 8327	24 8328
	25 8329	26 8330	27 8331	28 8332	29 8333	30 8334	31 : 8335:	1 8336	2 8337	3 8338	4 8339	5 8340	6 8341	7 8342
Apr	8 8343	9 8344	10 8345	11 8346	12 8347	13 8348	14 8349	15 8350	16 8351	17 8352	18 8353	19 8354	20 8355	21 8356
	22 8357	23 8358	24 8359	25 8360	26 8361	27 8362	28 8363	29 8364	30 8365:	1 8366	2 8367	3 8368	4 8369	5 8370
May	6 8371	7 8372	8 8373	9 8374	10 8375	11 8376	12 8377	13 8378	14 8379	15 8380	16 8381	17 8382	18 8383	19 8384
	20 8385	21 8386	22 8387	23 8388	24 8389	25 8390	26 8391	27 8392	28 8393	29 8394	30 8395	31 : 8396:	1 8397	2 8398
Jun	3 8399	4 8400	5 8401	6 8402	7 8403	8 8404	9 8405	10 8406	11 8407	12 8408	13 8409	14 8410	15 8411	16 8412
	17 8413	18 8414	19 8415	20 8416	21 8417	22 8418	23 8419	24 8420	25 8421	26 8422	27 8423	28 8424	29 8425	30 : 8426:
Jul	1 8427	2 8428	3 8429	4 8430	5 8431	6 8432	7 8433	8 8434	9 8435	10 8436	11 8437	12 8438	13 8439	14 8440
	15 8441	16 8442	17 8443	18 8444	19 8445	20 8446	21 8447	22 8448	23 8449	24 8450	25 8451	26 8452	27 8453	28 8454
	29 8455	30 8456	31 : 8457:	1 8458	2 8459	3 8460	4 8461	5 8462	6 8463	7 8464	8 8465	9 8466	10 8467	11 8468
Aug	12 8469	13 8470	14 8471	15 8472	16 8473	17 8474	18 8475	19 8476	20 8477	21 8478	22 8479	23 8480	24 8481	25 8482
	26 8483	27 8484	28 8485	29 8486	30 8487	31 : 8488:	1 8489	2 8490	3 8491	4 8492	5 8493	6 8494	7 8495	8 8496
Sep	9 8497	10 8498	11 8499	12 8500	13 8501	14 8502	15 8503	16 8504	17 8505	18 8506	19 8507	20 8508	21 8509	22 8510
	23 8511	24 8512	25 8513	26 8514	27 8515	28 8516	29 8517	30 : 8518:	1 8519	2 8520	3 8521	4 8522	5 8523	6 8524
Oct	7 8525	8 8526	9 8527	10 8528	11 8529	12 8530	13 8531	14 8532	15 8533	16 8534	17 8535	18 8536	19 8537	20 8538
	21 8539	22 8540	23 8541	24 8542	25 8543	26 8544	27 8545	28 8546	29 8547	30 8548	31 : 8549:	1 8550	2 8551	3 8552
Nov	4 8553	5 8554	6 8555	7 8556	8 8557	9 8558	10 8559	11 8560	12 8561	13 8562	14 8563	15 8564	16 8565	17 8566
	18 8567	19 8568	20 8569	21 8570	22 8571	23 8572	24 8573	25 8574	26 8575	27 8576	28 8577	29 8578	30 : 8579:	1 8580
Dec	2 8581	3 8582	4 8583	5 8584	6 8585	7 8586	8 8587	9 8588	10 8589	11 8590	12 8591	13 8592	14 8593	15 8594
	16 8595	17 8596	18 8597	19 8598	20 8599	21 8600	22 8601	23 8602	24 8603	25 8604	26 8605	27 8606	28 8607	29 8608
	30 8609	31 : 8610:												

Prepared by DSDP Information Handling Group (1/82)

JOIDES-Julian Planning Calendar for 1992
January 1 =2,448,611 - - December 31 =2,448,976

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan			1 8611	2 8612	3 8613	4 8614	5 8615	6 8616	7 8617	8 8618	9 8619	10 8620	11 8621	12 8622
	13 8623	14 8624	15 8625	16 8626	17 8627	18 8628	19 8629	20 8630	21 8631	22 8632	23 8633	24 8634	25 8635	26 8636
	27 8637	28 8638	29 8639	30 8640	31 : 8641:	1 8642	2 8643	3 8644	4 8645	5 8646	6 8647	7 8648	8 8649	9 8650
Feb	10 8651	11 8652	12 8653	13 8654	14 8655	15 8656	16 8657	17 8658	18 8659	19 8660	20 8661	21 8662	22 8663	23 8664
	24 8665	25 8666	26 8667	27 8668	28 8669	29 : 8670:	1 8671	2 8672	3 8673	4 8674	5 8675	6 8676	7 8677	8 8678
Mar	9 8679	10 8680	11 8681	12 8682	13 8683	14 8684	15 8685	16 8686	17 8687	18 8688	19 8689	20 8690	21 8691	22 8692
	23 8693	24 8694	25 8695	26 8696	27 8697	28 8698	29 8699	30 8700	31 : 8701:	1 8702	2 8703	3 8704	4 8705	5 8706
Apr	6 8707	7 8708	8 8709	9 8710	10 8711	11 8712	12 8713	13 8714	14 8715	15 8716	16 8717	17 8718	18 8719	19 8720
	20 8721	21 8722	22 8723	23 8724	24 8725	25 8726	26 8727	27 8728	28 8729	29 8730	30 : 8731:	1 8732	2 8733	3 8734
May	4 8735	5 8736	6 8737	7 8738	8 8739	9 8740	10 8741	11 8742	12 8743	13 8744	14 8745	15 8746	16 8747	17 8748
	18 8749	19 8750	20 8751	21 8752	22 8753	23 8754	24 8755	25 8756	26 8757	27 8758	28 8759	29 8760	30 8761	31 : 8762:
Jun	1 8763	2 8764	3 8765	4 8766	5 8767	6 8768	7 8769	8 8770	9 8771	10 8772	11 8773	12 8774	13 8775	14 8776
	15 8777	16 8778	17 8779	18 8780	19 8781	20 8782	21 8783	22 8784	23 8785	24 8786	25 8787	26 8788	27 8789	28 8790
	29 8791	30 : 8792:	1 8793	2 8794	3 8795	4 8796	5 8797	6 8798	7 8799	8 8800	9 8801	10 8802	11 8803	12 8804
Jul	13 8805	14 8806	15 8807	16 8808	17 8809	18 8810	19 8811	20 8812	21 8813	22 8814	23 8815	24 8816	25 8817	26 8818
	27 8819	28 8820	29 8821	30 8822	31 : 8823:	1 8824	2 8825	3 8826	4 8827	5 8828	6 8829	7 8830	8 8831	9 8832
Aug	10 8833	11 8834	12 8835	13 8836	14 8837	15 8838	16 8839	17 8840	18 8841	19 8842	20 8843	21 8844	22 8845	23 8846
	24 8847	25 8848	26 8849	27 8850	28 8851	29 8852	30 8853	31 : 8854:	1 8855	2 8856	3 8857	4 8858	5 8859	6 8860
Sep	7 8861	8 8862	9 8863	10 8864	11 8865	12 8866	13 8867	14 8868	15 8869	16 8870	17 8871	18 8872	19 8873	20 8874
	21 8875	22 8876	23 8877	24 8878	25 8879	26 8880	27 8881	28 8882	29 8883	30 : 8884:	1 8885	2 8886	3 8887	4 8888
Oct	5 8889	6 8890	7 8891	8 8892	9 8893	10 8894	11 8895	12 8896	13 8897	14 8898	15 8899	16 8900	17 8901	18 8902
	19 8903	20 8904	21 8905	22 8906	23 8907	24 8908	25 8909	26 8910	27 8911	28 8912	29 8913	30 8914	31 : 8915:	1 8916
Nov	2 8917	3 8918	4 8919	5 8920	6 8921	7 8922	8 8923	9 8924	10 8925	11 8926	12 8927	13 8928	14 8929	15 8930
	16 8931	17 8932	18 8933	19 8934	20 8935	21 8936	22 8937	23 8938	24 8939	25 8940	26 8941	27 8942	28 8943	29 8944
	30 : 8945:	1 8946	2 8947	3 8948	4 8949	5 8950	6 8951	7 8952	8 8953	9 8954	10 8955	11 8956	12 8957	13 8958
Dec	14 8959	15 8960	16 8961	17 8962	18 8963	19 8964	20 8965	21 8966	22 8967	23 8968	24 8969	25 8970	26 8971	27 8972
	28 8973	29 8974	30 8975	31 : 8976:										

Prepared by DSDP Information Handling Group (1/82)

JOIDES Julian Planning Calendar for 1993
January 1 =2,448,977 - - December 31 =2,449,341

	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
Jan					1 8977	2 8978	3 8979	4 8980	5 8981	6 8982	7 8983	8 8984	9 8985	10 8986
	11 8987	12 8988	13 8989	14 8990	15 8991	16 8992	17 8993	18 8994	19 8995	20 8996	21 8997	22 8998	23 8999	24 9000
	25 9001	26 9002	27 9003	28 9004	29 9005	30 9006	31 : 9007:	1 9008	2 9009	3 9010	4 9011	5 9012	6 9013	7 9014
Feb	8 9015	9 9016	10 9017	11 9018	12 9019	13 9020	14 9021	15 9022	16 9023	17 9024	18 9025	19 9026	20 9027	21 9028
	22 9029	23 9030	24 9031	25 9032	26 9033	27 9034	28 : 9035:	1 9036	2 9037	3 9038	4 9039	5 9040	6 9041	7 9042
Mar	8 9043	9 9044	10 9045	11 9046	12 9047	13 9048	14 9049	15 9050	16 9051	17 9052	18 9053	19 9054	20 9055	21 9056
	22 9057	23 9058	24 9059	25 9060	26 9061	27 9062	28 9063	29 9064	30 9065	31 : 9066:	1 9067	2 9068	3 9069	4 9070
Apr	5 9071	6 9072	7 9073	8 9074	9 9075	10 9076	11 9077	12 9078	13 9079	14 9080	15 9081	16 9082	17 9083	18 9084
	19 9085	20 9086	21 9087	22 9088	23 9089	24 9090	25 9091	26 9092	27 9093	28 9094	29 9095	30 : 9096:	1 9097	2 9098
May	3 9099	4 9100	5 9101	6 9102	7 9103	8 9104	9 9105	10 9106	11 9107	12 9108	13 9109	14 9110	15 9111	16 9112
	17 9113	18 9114	19 9115	20 9116	21 9117	22 9118	23 9119	24 9120	25 9121	26 9122	27 9123	28 9124	29 9125	30 9126
	31 : 9127:	1 9128	2 9129	3 9130	4 9131	5 9132	6 9133	7 9134	8 9135	9 9136	10 9137	11 9138	12 9139	13 9140
Jun	14 9141	15 9142	16 9143	17 9144	18 9145	19 9146	20 9147	21 9148	22 9149	23 9150	24 9151	25 9152	26 9153	27 9154
	28 9155	29 9156	30 : 9157:	1 9158	2 9159	3 9160	4 9161	5 9162	6 9163	7 9164	8 9165	9 9166	10 9167	11 9168
Jul	12 9169	13 9170	14 9171	15 9172	16 9173	17 9174	18 9175	19 9176	20 9177	21 9178	22 9179	23 9180	24 9181	25 9182
	26 9183	27 9184	28 9185	29 9186	30 9187	31 : 9188:	1 9189	2 9190	3 9191	4 9192	5 9193	6 9194	7 9195	8 9196
Aug	9 9197	10 9198	11 9199	12 9200	13 9201	14 9202	15 9203	16 9204	17 9205	18 9206	19 9207	20 9208	21 9209	22 9210
	23 9211	24 9212	25 9213	26 9214	27 9215	28 9216	29 9217	30 9218	31 : 9219:	1 9220	2 9221	3 9222	4 9223	5 9224
Sep	6 9225	7 9226	8 9227	9 9228	10 9229	11 9230	12 9231	13 9232	14 9233	15 9234	16 9235	17 9236	18 9237	19 9238
	20 9239	21 9240	22 9241	23 9242	24 9243	25 9244	26 9245	27 9246	28 9247	29 9248	30 : 9249:	1 9250	2 9251	3 9252
Oct	4 9253	5 9254	6 9255	7 9256	8 9257	9 9258	10 9259	11 9260	12 9261	13 9262	14 9263	15 9264	16 9265	17 9266
	18 9267	19 9268	20 9269	21 9270	22 9271	23 9272	24 9273	25 9274	26 9275	27 9276	28 9277	29 9278	30 9279	31 : 9280:
Nov	1 9281	2 9282	3 9283	4 9284	5 9285	6 9286	7 9287	8 9288	9 9289	10 9290	11 9291	12 9292	13 9293	14 9294
	15 9295	16 9296	17 9297	18 9298	19 9299	20 9300	21 9301	22 9302	23 9303	24 9304	25 9305	26 9306	27 9307	28 9308
	29 9309	30 : 9310:	1 9311	2 9312	3 9313	4 9314	5 9315	6 9316	7 9317	8 9318	9 9319	10 9320	11 9321	12 9322
Dec	13 9323	14 9324	15 9325	16 9326	17 9327	18 9328	19 9329	20 9330	21 9331	22 9332	23 9333	24 9334	25 9335	26 9336
	27 9337	28 9338	29 9339	30 9340	31 : 9341:									

Prepared by DSDP Information Handling Group (1/82)

JOIDES Tectonics Panel Meeting
Lamont-Doherty Geological Observatory, Palisades, NY
18-20 March 1985

Panel members present:	Darrel Cowan (USA), Chairman
	Rene Blanchet (France)
	John Ewing (USA)
	David Howell (USA)
	Kazuaki Nakamura (Japan)
	Robin Riddihough (Canada)
	Peter Vogt (USA)
	Jeff Weissel (USA)
In attendance:	Garrett Brass (NSF)
	Audrey Meyer-Wright (ODP)
	Ralph Moberly (PCOM)
Absent:	Karl Hinz
	Bruce Marsh

AGENDA

1. Minutes of previous meeting
2. Recent membership changes
3. Reports from liaisons, PCOM, ODP, and NSF
4. Review and discussion of Indian Ocean proposals
5. Introduction to Lamont logging program
6. Voting and ranking Indian Ocean proposals
7. States of Chile triple junction leg
8. Recommendations for Co-chief scientists for Leg 110
9. Thematic interests in the Western Pacific
10. Future panel membership
11. Next meeting

EXECUTIVE SUMMARY OF TECTONICS PANEL MEETING
March 18-20, 1985; Lamont-Doherty, NY

I. RECOMMENDATIONS FOR INDIAN OCEAN DRILLING

We ranked targets using the voting system adopted in our September 1984 meeting in London. Eight members voting, awarding each target a score of 0 to 10. Score reported is the average, followed (for top four) by the spread. A very brief justification is provided for the top four:

1) Makran accretionary prism and slope basins (Leggett proposal) 8.75; 6-10.
Excellent opportunity to address: rates of deformation and uplift in clastic-dominated prism, and transition from slope-basin sediments to basement.

2) Intraplate deformation and fluid flow (Weissel et al.) 8.43; 7-10.
Innovative plan to determine timing and rates of deformation of long-wavelength flexures in an intraplate setting, and to address how fluid flow influences high heat flow.

3) (tie) Southwest Indian Ocean fracture zone (Dick & Natland) 7.0; 2-9.
Opportunity to document vertical sequence of rock types and fabrics, in a setting characterized by slow relative plate motions, for comparisons with deformed parts of ophiolites on land.

4) (tie) Bengal-Indus fans (Curray et al.) 7.0; 3-10.
Addresses a fundamental on-land tectonic problem, the uplift history of a collisional orogen, the Himalayas. Distal fan facies may reflect timing and rate of uplift as well as eustatic sea-level changes.

Targets 5-10 were ranked as follows. Comments in the minutes explain that drilling on Kerguelen (#7) and in the Red Sea (#10) would have ranked higher if proposals at hand had included specific tectonic objectives:

5)	Ninetyeast Ridge, Broken Ridge hot-spot targets	6.50
6)	Broken Ridge rifting and uplift (Weissel et al.)	6.43
7)	(tie) Chagos-Laccadive ridges (Duncan; Heirtzler)	6.25
7)	(tie) N. Somali Basin (old Tethyan crust)	6.25
7)	(tie) Kerguelen	6.25
10)	Red Sea (proposal of Red Sea W. G. presented by Cochran)	6.20

II. PANEL MEMBERSHIP

Panel unanimously feels that our present size maximizes efficiency and that important thematic interests are adequately represented. We recommend no additional members at this time.

III. RECOMMENDATIONS FOR CO-CHIEF SCIENTISTS, LEG 110 (BARBADOS RIDGE)

In alphabetical order: J. Ladd, A. Mascle, C. Moore, M. Marlow

IV. NEXT MEETING

Either: a) St. Johns, Newfoundland in October to enable us to visit JOIDES RESOLUTION after Leg 105; b) Tokyo in October to facilitate briefings by Japanese scientists on Western Pacific tectonic problems. Actual dates await firmer ship schedule.

MINUTES

The meeting began at 8:45 a.m.

1. MINUTES OF THE PREVIOUS MEETING

The minutes of the last meeting were approved without changes.

2. RECENT MEMBERSHIP CHANGES

Cowan reminded the panel that, regretfully, Jeremy Leggett and Jan van Hinte were no longer members because the United Kingdom and the European Science Foundation had not yet joined ODP. The panel welcomed two new members, David Howell from the USGS, and Peter Vogt from the Naval Research Laboratories, both of whom gave a short introduction to their research interests. Cowan explained that Marsh was absent due to a long-standing commitment to lecture in Switzerland, and Hinz was at sea. The panel fielded several questions from Howell and Vogt on how we operate, how proposals are processed, and the like.

3. REPORTS FROM LIAISONS, PCOM, ODP, & NSF

3.1 PCOM

Ralph Moberly summarized important aspects of the last PCOM meeting. Legs 102-110 are firm as far as general drilling objectives. Legs 111-113 are not yet firm but as tentatively scheduled include: 1) drilling on E. Pacific Rise; 2) Peru margin; and 3) Chile triple junction. The ship will begin its Weddell Sea leg on January 1, 19887. Because PCOM will work out a preliminary Indian Ocean plan at its April meeting, our primary task now is to rank drilling targets from a thematic standpoint and provide a brief justification for our rankings. We should envision about 1-1/2 years of Indian Ocean drilling--about 10 legs. The ship will enter the Western Pacific about September 1, 1988 (a crude estimate at this stage), be off Japan in Summer of 1989, and in the NE Pacific in the Summer of 1990. Moberly reminded us that we should consider COSOD priorities heavily in our deliverations. As for riser drilling, important targets in less than 4000' of water may be addressed in 1991, after the first circumnavigation by the RESOLUTION.

An important reminder for TECP: Western Pacific will probably be going thru an Indian Ocean-type review and prioritization by PCOM in the Summer of 1986, so they will need our rankings by then. The Western Pacific contains many problems of great tectonic interest. Finally, it may be appropriate, after Indian Ocean drilling, to set up another COSOD-type conference to review whether objectives have been adequately addressed or whether new goals need to be set.

3.2 ODP

Wright-Meyer reviewed the shakedown cruise of the JOIDES RESOLUTION and summarized lab facilities and the accommodations for up to fifty scientists and technicians. Leg 101 sailed on January 31 and just returned to Miami. Eleven sites were drilled--all that were

planned and then some. Some results of interest: Site 98 was redrilled and abandoned at 479m due to hole and recovery problems; this attempt to reach the mid-Cretaceous unconformity failed. Although it was earlier feared that drilling time would be slower than on CHALLENGER, speed has picked up and drilling rates on the new ship are probably comparable.

Leg 102 will be devoted to clearing out fish and to conducting downhole experiments, then on to the Galicia Bank, Leg 103.

Wright-Meyer reviewed requirements and expectations for bare-rock drilling, to be performed on Leg 106 on the Mid-Atlantic ridge near Kane fracture zone. Note: no core from upper 50 to 100' in holes planned for deep penetration; limit for logging took presently about 180°C.

Legs 102 and 103 are staffed; 104 nearly done; invitations sent for 105. We were reminded that PCOM nominates co-chiefs, but actual staffing is done by ODP.

3.3 NSF

Garrett Brass reported that NSF intends to fund the program for five years, but participation by non-USA partners is essential if the program is to continue. Four partners are the bare minimum. European Science Foundation should make a decision by Fall 1985; United Kingdom status is uncertain. Each non-USA member contributed $2.5 million. Brass reviewed the procedures by which JOI and USAC sponsor workshops, field studies, and the like.

3.4 WESTERN PACIFIC PANEL

Nakamura summarized the panel meetings held last Fall at Lamont and more recently in January 1985 in Hawaii. Copies of the preliminary minutes of the January meeting were distributed to the panel together with the updated Executive Summary of major actions and recommendations that Eli Silver had handed to Cowan the week before. Nakamura described how priorities are assigned based on the theme or topic, the regional context, and the current state of knowledge. Important themes concern marginal basins, forearc tectonics, and collision tectonics. The preliminary top 16 priorities for drilling appear in the Executive Summary. The next meeting of WPAC is in August, when only proposals officially logged in with JOIDES will be evaluated and ranked.

Blanchet emphasized that our panel must establish a system for discussing and evaluating Western Pacific proposals, since these will be our major tasks at our next meeting.

3.5 CENTRAL & EASTERN PACIFIC PANEL

Cowan summarized the panel meeting in Menlo Park held the previous week. The panel reviewed and reaffirmed its priorities for sites 111-113 as: Peru margin; 2 legs devoted primarily to hydrothermal processes on EPR; and Chile triple junction. Cowan informed the

panel of tectonic objectives in the North Pacific and NE Pacific that we will have to evaluate in the future, including: Bering Sea (trapped old oceanic crust); Aleutian forearc and accretion; origin of the Emperor trough; displacement history of the Zodiac and Baranof fans; and accretionary processes along the British Columbia-Washington-Oregon subduction zone.

Riddihough summarized the INPAC workshop held in Seattle in February. Participants were divided into 3 groups based on general thematic problems: lithosphere (primarily concerned with ridge processes); tectonics (exclusively concerned with subduction and accretion); and ocean history and paleoenvironments. The first major contribution by the workshop will be a preliminary drilling document containing a proposed drilling program encompassing all the sites of interest to the thematic groups.

4. REVIEW & DISCUSSION OF INDIAN OCEAN PROPOSALS

Our major task for this meeting was to prioritize drilling targets in the Indian Ocean for PCOM. To facilitate the discussion, Cowan had divided the targets geographically and assigned regions to panel members who would be present at the meeting; each member was responsible for summarizing the proposals in his area, fielding questions, and making recommendations. This procedure was used successfully in previous meetings. In the following sections, only points that were especially significant or that precipitated extended discussions are noted.

4.1 RED SEA & GULF OF ADEN

J. Cochran from Lamont kindly agreed to summarize the results and recommendations of the Red Sea Working Group, which had met just prior to our panel. [On March 20, he gave us a copy of the report, which was distributed to all panel members.] The three major problems the W. G. wants to address are: 1) Evolution of basaltic magmas during the rifting process; 2) hydrothermal processes and metallogenesis; and 3) sedimentary history of fresh crust. After Cochran's illuminating presentation, the panel had a long discussion about whether the drilling as proposed by the W. G. will adequately address tectonic problems, or indeed, whether tectonic problems <u>can</u> be addressed in the Red Sea. Proposed drilling will clearly be concentrated in deeps to sample basalt and metalliferous sediments. One of our important global thematic objectives is to determine the nature of "transitional crust" formed where continental crust is rifted and thinned. We had until now viewed the Red Sea as an attractive area for addressing this problem. Judging from the most recent proposal by Pautot et al., however, it seems that possible crust of this type is too deep; concern was also expressed by some panel members that poor-quality seismic data from the region impede definition of the sediment-basement contact.

Nakamura reviewed proposals for drilling in the Gulf of Aden.

4.2 MOZAMBIQUE & SOMALI BASINS

Ewing reviewed several proposals on hand for drilling on Davie Ridge, off Somalia and Madagascar, and in the N. Somali basin.

4.3 Riddihough reviewed diverse proposals, grouping them into series addressing hot spot traces, evolution of the Indian Ocean basin, and how the Bengal and Indus submarine fans may record the evolution of the Himalayas. Weissel summarized his proposal addressing intraplate deformation, and a soon to be submitted proposal for the evolution of Broken Ridge.

4.4 KERGUELEN; SW, S, SE INDIAN OCEAN; ANTARCTIC MARGIN; AGULHAS PLATEAU

Blanchet reviewed a large number of proposals concerning these areas. Our discussion focused on the Kerguelen-Heard plateau. From a thematic standpoint, important objectives are: 1) the nature of basement on the plateau; 2) the age and environment of sediments beneath the probable Eocene unconformity; and 3) a comparison of the rifting history of the NE margin of the plateau with that of its conjugate margin, Broken Ridge. From the proposals at hand, it seems that only objective (2) will be addressed. We would recommend combining this objective with drilling on Broken Ridge through the mid-Eocene unconformity, and drilling one or preferably two deep holes into basement on both the northern and southern parts of the plateau.

Blanchet noted that drilling on the Melville fracture zone (SW Indian Ocean ridge), advocated in a recent proposal by Dick and Natland, could provide tectonically significant results. Our panel agreed that information from oceanic fracture zones would be useful for comparison with on-land ophiolites and could aid in the interpretation of their internal structures and fabrics. Moberly pointed out that drilling in the Kane fracture zone is possible on Leg 106 depending on the outcome of the proposed deep hole in ocean-floor basalt.

As for the Agulhas plateau, Blanchet noted that proposed drilling concerns paleo-oceanographic objectives. Our panel decided not to advocate drilling in the Agulhas region unless it is deep enough to determine basement.

4.5 NORTHWEST & SOUTHERN AUSTRALIAN MARGINS

Weissel summarized a recent proposal by von Rad and others for drilling on Exmouth and Wallaby plateaus and in the Argo abyssal plain. We noted that the region is similar in some respects to the Galicia margin and Voring Plateau in that pre- and syn-rift sediments, and dipping reflectors, respectively, are targets. Weissel reviewed again proposed drilling on the southern margin of Australia.

Vogt suggested that it would be easier to evaluate the tectonic significance of some proposals if they included illustrations of appropriate plate-tectonic reconstructions (e.g. separation of Australia from Antarctica).

4.6 CONVERGENT MARGINS: MAKRAN & SUNDA/BANDA

Cowan reviewed proposals for drilling off the Makran coast, off Sumatra and Java, and Southwest of Timor. We decided to evaluate and rank proposals in the Sunda-Banda forearc at this time even though we may be asked to consider them again along with Western Pacific proposals.

Vogt suggested that, when we evaluate drilling at convergent margins, we consider certain plate-tectonic parameters in addition to our usual concern with the structure and evolution of the accretionary wedge. Parameters he listed include: rate and angle of convergence; age and thickness of the descending plate; thickness of sediments on descending plate; and basement topography, including features such as aseismic ridges and seamounts.

5. INTRODUCTION TO LAMONT LOGGING PROGRAM

After lunch on Tuesday, Dave Goldberg briefly explained programs underway at Lamont to develop downhole instruments Lamont's role in supervising logging operations on-board the ship. Unfortunately, the logging truck was unavailable for inspection.

6. VOTING & RANKING INDIAN OCEAN PROPOSALS

We ranked Indian Ocean drilling targets using the voting system adopted in our September 1984 meeting in London. Eight members voting, awarding each target a score of 0 to 10. Score reported is the average, followed by spread.

The panel agreed to provide some justification for the high priorities we assigned to the top four targets;

1) Makran accretionary prism and trench-slope basins (Leggett) 8.75; 6-10.

   A series (transect) of shallow (~300 m) holes provide an excellent opportunity to document rates of deformation and uplift in a clastic-dominated prism and to address the nature of the transition from slope-basin sediments to their basement of accreted sediments. Major advantages are the opportunity to tie drilling results to onshore geology, and the excellent existing and planned reflection seismic data from the prism.

2) Intraplate deformation and fluid flow (Weissel et al.) 8.43; 7-10.

   Innovative plan to determine the timing and rates of deformation of long-wavelength flexures in an intraplate setting. In addition, drilling will address the possible role that fluid flow plays in producing high heat flow near seismically active faults also documented by reflection data.

3) (tie) Southwest Indian Ocean ridge fracture zone (Dick & Natland) 7.0; 2-9.

High ranking reflects the panel's view that fracture zones are an important tectonic feature of the oceanic crust. It is necessary to document the vertical sequence of rock types and fabrics for comparisons with deformed parts of ophiolites on land. The slow relative plate motion and large fracture zone offset appear to characterize an end-member of plate behavior and are therefore important for models relating crustal structure to rates of plate motion. Sites on the Melville fracture zone are interesting because a high proportion of ultramafic rocks have been dredged up.

4) (tie) Bengal-Indus fans (Curray et al.) 7.0; 3-10.

This program provides an opportunity to address a fundamental on-land tectonic problem, the uplift history of a collisional orogen, the Himalayas. Distal fan facies of the Bengal submarine fan may reflect the timing and rate of Himalayan uplift as well as eustatic sea-level changes.

Remaining targets were ranked as follows:

5) Ninetyeast Ridge, Broken Ridge hot spot targets 6.50;

6) Broken Ridge rifting and uplift (Weissel et al.) 6.43;

7) (tie) Chagos-Laccadive ridges (Duncan; Heirtzler) 6.25;

7) (tie) N. Somali Basin (Tethyan crust) 6.25;

7) (tie) Kerguelen 6.25;

The panel feels that determining the nature of the basement of oceanic plateaus like Kerguelen is an important thematic problem. We would have ranked drilling on the Kerguelen-Heard plateau higher is proposals on hand had included definite plans to sample basement, particularly on the southern part of the plateau and ideally on both the southern and northern parts.

10) Red Sea (proposal of Red Sea Working Group presented to us by Cochran) 6.20;

We would have ranked Red Sea drilling higher is there were some assurance that holes would determine the nature of transitional crust formed during rifting of continental crust. It is unclear to us from existing data whether basement objectives can be realized. Tectonic problems could be better addressed by drilling on saddles between the deeps and in the crust flanking the axial zone, although better reflection data would be required to define objectives. We feel that the hypothesis that initiation of spreading is associated with transitional basalt types should first be tested by dredging in deeps where spreading has just begun, provided basalt outcrops exist.

11) Magnetic quiet zone, S. Australian margin 6.00;

12) Timor collision (Karig & More) (see comment under #14) 5.62;

13) Old ocean crust, S. Aust. margin 5.50;

14) Nias-Java accretionary prism 5.38;

The Sunda-Banda area potentially provides a number of tectonic thematic targets, and we would be pleased to reevaluate drilling plans when further data and/or proposals are available.

15) Exmouth plateau 5.25;

16) (tie) Wallaby plateau 4.62;

16) Agulhas plateau 4.62;

18) (tie) Argo 4.25;

18) (tie) Gulf of Aden (Stein) 4.25;

20) Adelie margin 4.12;

21) (tie) SE Indian Ocean "cold spot" 3.62;

21) (tie) Davieridge 3.62;

23) South Somali Basin/Madagascar 3.25;

24) S. E. Indian Ocean hot spot 2.88;

25) Stress measurements (Forsyth) 2.50;

26) (tie) Monsoon 2.38;

26) (tie) Avery Basin/Davis Sea 2.38;

28) Arabian Sea basalt (Natland) 1.62;

29) Rodriguez triple junction 1.12.

7. STATUS OF CHILE TRIPLE JUNCTION LEG

Cowan announced that proposed drilling in this region had been briefly discussed at the CEPAC meeting the previous week. The general feeling, prompted partly by comments by Buffler, the PCOM representative, is that is appears increasingly unlikely that a full leg of drilling will occur. There are still difficulties in scheduling the required site surveys.

In response to a request by Roger Larson, Cowan asked that we be prepared to offer suggestions for fine-tuning the drilling sites proposed for Legs 110-113 at our next meeting.

8. RECOMMENDATIONS FOR CO-CHIEF SCIENTISTS FOR LEG 110 (BARBADOS RIDGE)

In alphabetical order: John Ladd, Mike Marlow, Alain Mascle, Casey Moore.

9. THEMATIC INTERESTS IN THE WESTERN PACIFIC

Our next major tasks will be to discuss the thematic interests that can be addressed in the Western Pacific region, and to begin evaluating drilling proposals. As Nakamura told us earlier, the Western Pacific panel will begin ranking mature proposals at their next meeting in August. It was suggested that we continue our usual system of dividing the region up geographically and appointing "watchdogs" who will be responsible for reviewing and criticizing proposals at future meetings. We used, for a geographical base, a modified version of a map Moberly had prepared after the last WPAC panel meeting.

Areas of responsibility at this stage are: Japanese Islands and environs, Izu-Bonin arc and vicinity - Nakamura, Riddihough; Okinawa, Taiwan, S. China Sea - Blanchet, Ewing; Sulu Sea, Palawan - Hinz; Sunda-Banda arc, Timor - Cowan; Philippine Sea, Molucca, Palan - Vogt; Mariana arc, W. Mariana - Marsh; Coral Sea - Hinz; Solomons, New Hebrides, Lord Howe, Fiji, Tonga - Howell, Weissel.

Cowan will make copies of officially logged-in proposals that are received from the JOIDES office and send them to each panel member.

10. FUTURE PANEL MEMBERSHIP

We briefly discussed whether we need to expand the panel membership to include thematic specialties that are not represented at present. We are, of course, hopeful that Leggett and van Hinte can rejoin the panel soon. Meanwhile:

The panel unanimously feels that our present size maximizes efficiency and that important thematic interests are adequately represented. We recommend no additional members at this time.

11. NEXT MEETING

We agreed that it would be worthwhile to hold our next meeting in the interval between the forthcoming August and December meetings of WPAC so that we will have their rankings of mature proposals (August) and will be able to inform them of our preliminary thematic priorities in the region. Two possibilities were suggested. First, in St. John's, Newfoundland in October so we can visit the JOIDES RESOLUTION during its port call after Leg 105. Second, in Tokyo, also after October 1st, to take advantage of Japanese experts who could brief us on drilling targets in the Western Pacific. Our choice of venue and time will await a firmer ship schedule for late Autumn which should be established at the April PCOM meeting.

The meeting was adjourned at 12 noon, Wednesday, 20 March.

REPORT OF THE JOIDES POLLUTION PREVENTION AND SAFETY PANEL MEETING

New Orleans, LA
27-28 March, 1985

Present:

JOIDES Panel Members:
- G. Claypool (Chairman)
- M. Ball
- R. Byramjee
- G. Campbell
- A. Green
- G. Stober

ODP/TAMU Safety Advisers:
- K. Burke
- H. Wories

ODP/TAMU:
- L. Garrison

Co-Chief Scientists:
- O. Eldholm (Leg 104)
- S. Srivastava (Leg 105)

JOIDES Office:
- A. Mayer

ODP Databank:
- C. Brenner

Apologies for absence were received from D. MacKenzie (JOIDES Panel), T. Thompson (ODP/TAMU Safety Adviser) and R. Larson (PCOM Chairman).

1. Leg 105 (Baffin Bay and Labrador Sea):

Baffin Bay sites - Approved by the Safety Panel (with conditions) at August 1984 meeting (BB-1, BB-3A, and BB-3B).

LA-5 - Site approved as proposed noting that there may be a need to move around the site in order to avoid boulders (to 1486 m).

LA-5A - Approved on condition of site relocation to the cross-point of lines 12 and 14 (to 650 m). Site was relocated because of poor record quality and lack of crossing line at the proposed location.

LA-9 - Approved with the recommendation that the site be located at the cross-point of lines 8N and 4E (to 850 m). Site was relocated for same reasons as LA-5A.

LA-2A - Approved as proposed to 903 m depth.

LA-2B - Approved as a re-entry site drilling to basement. Relocated 7 kms west to shot-point 6340 on line BGR 17 (to 1835 m).

LA-7 - Not approved because insufficient information was available at this time. If more information becomes available safety review can be obtained by mail.

LA-4 - Approved as proposed (to 600 m).

LA-4A - Approved to a depth of 700 m at shot-point 1186 on line 73 I 13-70164.

2. Leg 104 (Norwegian Sea):

VOR-2A - Approved to 1500 m and to be drilled first.

VOR-2B - Approved on the condition that there are no significant hydrocarbon shows at site 2A (to 1000 m).

VOR-1 - Approved as proposed to 1400 m on the same condition as 2B.
Note: The Panel expressed concern with the general location of sites 2A, 2B, and 1 at a structurally high position with a large potential drainage area. Drilling was approved on the condition that the down dip location (2A) be drilled first to confirm the absence of a drilling hazard.

VOR-3A - Approved to 1500 m.

VOR-3B - Approved to a depth of 1300 m with a recommendation to move the site N (seaward) to shot-point 1400 on line C/194. A further condition is that site 3A must be drilled before 3B. Site was relocated from the top of a structural high.

VOR-4 - Approved as proposed (shot-point 9600 on line NH-1).

VOR-5 - Approved for hydraulic piston coring to sediment refusal or 300 m, whichever comes first.
Note: Previous drilling in the area (DSDP Site 341) has demonstrated shallow biogenic gas and fluoresence suggestive of migrated hydrocarbon. For this reason, rotary drilling was not approved in this area.

3. Leg 106 (MARK):

MARK-1A - This is the bare rock site and was approved as proposed.

MARK-1B - Nodal basin drilling was approved as proposed.
Note: Final sites will be chosen following a SeaMARC survey and using TV and imaging sonar.

4. Drilling in Hot Hydrothermal Areas:

The Panel discussed potential safety considerations from drilling in hydrothermal areas, such as steam flashes. It was agreed that specialist advice should be sought from experts in the area of hot rock drilling such as the Los Alamos Laboratories.

5. Safety Manual and Related Matters:

The Safety Manual is being revised and will need Panel review prior to publication as a special issue of the JOIDES Journal. Early publication is recommended to assist the Science Operator in negotiations for drilling permissions with coastal authorities. It was recommended that guidelines for data to be provided for safety reviews should be included in the "Guidelines" special issue of the JOIDES Journal.

6. Date and Venue of Next Meeting:

The next meeting was fixed for 22-23 October 1985. The first preference for venue is Paris (to be hosted by R. Byramjee, Total) with Houston (to be hosted by A. Green, EXXON) as the alternative site.

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EXECUTIVE SUMMARY OF WESTERN PACIFIC PANEL MTG, JAN 18-20, 1985

Our major accomplishment was to agree on a preliminary list of priorities for drilling in the western Pacific region. Shown below are all regions receiving 20 votes or more (each panelist had 100 votes, but could give no more than 10 votes to each region. (A,B,C: Marginal Basins; D,E: Forearcs; F: Collision Zones). The full vote appears in the complete minutes.

REGION	TABLE #	POINTS	RANK
SOUTH CHINA SEA	B	61	1
NANKAI TROUGH	E	58	2
BANDA SEA	C	55	3
OKINAWA TROUGH	B	54	4
SULU SEA	C	50	5
JAPAN SEA	B	45	6
BONIN TRENCH (TOE)	E	43	7
SUMBA REGION, TRENCH TOE	E	38	8
BONIN TROUGH	A	38	8
CORIOLIS TROUGH	A	37	10
BONIN FOREARC	D	34	11
D'ENTRECASTEAU RIDGE	F	28	12
LAU BASIN	A	25	13
SOUTH OF TAIWAN	E	22	14
PALAWAN TOE	E	22	14
OZBORN SMT/LOUISVILLE RIDGE	F	20	16

The panel expects a firmer ranking to result from the August meeting, because we will restrict our voting from then on to those proposals that have been officially logged-in with JOIDES.

Site surveys needed to better define the high priority regions include: Banda Sea, Seismic reflection and swath mapping; Bonins: MCS lines in forearc basin, sampling of serpentine diapirs; Sumba forearc and South of Taiwan: MCS.

Panel supports workshops on arc systems (Hawkins) planned for June, 1985 in La Jolla, and Western Pacific drilling workshop planned for Singapore (Circum-Pacific Min. Resources conference) in 1986.

The panel has referred the proposal by Davy (New Zealand) to the Southern Ocean panel, because of both regional and topical similarities to their interests, and lack of connectedness to ours.

Next Meetings: Panel recommends meeting in mid-August in Stavanger to view the RESOLUTION (dates subject to vary according to changes in ship schedule), and in December 13-15 in San Francisco.

MINUTES OF THE WESTERN PACIFIC PANEL OF ODP
January 18 to 20, 1985

Sheraton Makaha Resort and Country Club, Hawaii

List of persons present:

Panel Members:

Eli Silver (Chair)
Reinhard Hesse
James Ingle
Marc Langseth
Kazuaki Nakamura (TECP)
Claude Rangin
Jacques Recy
Hans Schluter
Brian Taylor (Rapporteur)

Liason

Ralph Moberly (PCOM)

Invited Observer:

Keith Crook (Australia)

Absent:

Michael Audley-Charles
Margaret Leinen (LITHP)
Derk Jongsma
Audrey Wright-Meyer(TAMU)
Hideo Kagami
James Natland

FRIDAY, 18 January 1985

Correction to last meetings minutes: J. Charcot Cruise '85; D'Entrecasteaux, Coriolis Trough, N. Fiji Basin, Louisville Ridge, Lau Basin

MORNING SESSION I

The chairman introduced the meeting, explaining its scope and proposed agenda. He emphasized the need for making priorities.

Results of PCOM Meeting (Moberly)

JOIDES RESOLUTION currently on shakedown leg.
Due to leave on Leg 101 on January 30 - 1 month late
Germany, France, Canada full partners
Britain committed to join very soon
Japan will join October 1, 1985
ESF has 60% - looking for 40% from Australia

Delayed ship start, a Baffin Bay optimum weather window, required some lowest priority item to be removed from first four legs.

Legs 111-113 still EPR, Peru, Chile. Still require site surveys, and EPR dependent on bare rock drilling.

Tentative schedule:	January 1,	1987	Weddell Sea
	January	1988	Kerguelen
	September	1988	Island Arc Boundary
(dependent on Southern Ocean priorities to be discussed in April)			
	July	1989	off Japan
	July	1990	N. E. Pacific
	January	1991	Panama

It seems reasonable to plan for at least 18 months Western Pacific drilling

* Indian O. P. charged to plan an optimum ship schedule for March 1987 - September 1988 (18 months) - to include January 1988 Kerguelen - from 19 priority areas.

*** In order to plan timely site surveys and to heighten the competition we can expect a similar charge this summer to rank and justify WPP proposals.

* Next PCOM meeting in April, Norfolk Virginia, after Leg 102, followed by June 25 in Hanover.

* Hayes, Kobayashi and Moberly will be replaced in PCOM sometime this year. Therefore our PCOM liasion is uncertain (possibly Kobayashi's replacement).

* Panelists, appointed hereafter, will serve 3 years, with one-third replaced every year.

* Reminder to consider strongly the COSOD priorities in our deliberations.

* (Back-burner consideration): After 1991 there may be a year of riser drilling. Costs high with only 2-3 holes per year:

* Consider workshops, ads in EOS/Geotimes, etc. to solicit more proposals, and get wider input on WP drilling. (There followed discussion on workshops June 1985 Arc/BA Hawkins conference, and August 1986 Circum-Pacific meeting, Singapore - deferred as subsequent agenda item.)

Moberly reminded us of the highest interests of the three thematic panels for the Western Pacific region (These are not their highest priority items)

LITHP,: Long term laboratory in typical, zero age, back-arc spreading

SOHP: Sea of Japan, South China Sea, and Sulu Sea as isolated basins
Philippine Sea: ribbon cherts in open ocean
: Neogene Kuroshio/Oyashio confluence
Sunda/Arafura Shelf: carbonate deposition
Closing of Paleo-tethys

TECP: has not yet considered the western Pacific, though they have stated their potential high interest.

Eli Silver charged to make available (through JOIDES) to the WPP members the following:

"How to compute drilling time booklet" (Sent to panel by A. Meyer, 11 February)
"How to write drilling proposals" (Sent to panel 15 March)
"Minimum site survey requirements" (Sent to panel 5 Feb.)

10AM Break and pass-out proposals

Proposals distributed between panel meetings

1) Banda Sea: Silver et al (UCSC)

JOIDES Proposals distributed at this meeting:

1) Eastern Sunda Arc and N.W. Australia Collision: Reed et al. (UCSC)

2) Australian region: Cook et al (Australia)

3) Bounty Trough: Davey (New Zealand)

4) North of New Zealand: Eade (New Zealand)

(to be modified)

5) Okinawa Trough: Letouzey et al (France) - update of French blue book

6) Active collision off Hokkaido: Seno et al (Japan)

7) Japan T-T-T triple junction: Nakamura (Japan)

MORNING SESSION II

Discussions Concerning the Manner of Setting Priorities for Drilling Proposals

The chairman introduced two questions for discussion:

1) What do we consider a proposal (must it be logged with JOIDES?, must be receive it before the meeting?)

2) How shall we set priorities?

The consensus that resulted from this discussion, which occupied the rest of the morning, was that:

1) We are required to consider all WP proposals logged with JOIDES.

At our discretion, we may or may not consider other proposals. By the next panel meeting we will only consider WP proposals logged with JOIDES!

2) We shall set priorities based on the following factors:

a) the importance of the topic/theme;
b) the regional framework, with some consideration for
c) both the current state of knowledge and the expectation of future data/analysis.

The consensus following extended discussions on regional vs. thematic interests was for a "TOPICAL FOCUS, IN THE BEST REGIONAL FRAMEWORK".

3) We shall develop a matrix of themes vs. areas, the elements of which will be discussed in panel but voted on by secret ballot. The vote will be made at this meeting, allowing time for discussion of its implications. The results will be distributed to panel members not present at the meeting for their comments, which will be summarized for our submission to PCOM.

AFTERNOON SESSION

The afternoon was spent developing the theme vs. area matrix. For the purposes of pigeon-holing and summarizing the wide thematic interests in the WP, three broad categories with 2 to 3 subdivisions were recognized:

1) MARGINAL BASINS

   a) ARC: rifting of oceanic island arcs and back-arc spreading

   b) CONTINENT: rifting of continental crust, followed by spreading; development of passive margins

   c) OTHERS: not fitting into the above categories, or of uncertain origin

2) FOREARC TECTONICS

   a) VERTICAL TECTONICS: forearc basin and basement evolution

   b) TOE PROCESSES: toe kinematics, processes and materials (rock, H_2O, sediment) in the outer forearc

3) COLLISION TECTONICS

   a) WHAT IS COLLIDING: arc, continent, plateau, seamount, ridge

   b) ARC REVERSALL and intra-arc basins

Another theme from the Australian proposals was the post-subduction history of former (i.e. extinct) convergent margins.

Various "enhancers" were also flagged relating to the interests of the LITHP (long-term zero-age lab; ophiolites, hydrothermal) and the SOHP (surface water, deep water, gateways, sediment facies).

Other regional/more encompassing themes such as terrane accretion and the temporal relation between arc/back arc/forearc development were also noted.

SATURDAY, January 19

The day was spent reviewing the proposals represented by the individual elements in the theme vs. area matrix.

To date, no proposals have been logged with JOIDES dealing with drilling in the actively spreading back-arc basins. The panel was unanimous in preferring a number of holes to be drilled 50-100m into basement in a number of basins, rather than just one "natural

laboratory" deep hole to be drilled at a "typical" zero-age back-arc site. It was noted that there is no "typical" site: spreading rates vary from slow to fast (1 to 10 cm/yr) in different basins. The panel expressed the strong desire to drill a number of back-arc sites with the improved hard rock drilling and recovery capabilities predicted for the RESOLUTION, and to use this information to choose the site for the "ultimate hole" to be drilled in the second phase.

Ingle noted the trade-off between some SOHP and TP objectives: SOHP being more interested in the Yamato Bank, while TP may be more interested in the Japan Basin, for example.

The panel recognized the significant difference between the older basins of the northwest and southwest Pacific. This may be of fundamental tectonic significance, but a synthesis of the SW Pacific problem is needed together with better definition as to how it could be best addressed with the drill.

The panel referred the Bounty Trough proposal (Davey, NZ) to the Southern Ocean Panel for two reasons: the area is much farther south and the themes are quite different from other proposals submitted to our panel.

The panel recognized the exciting tectonic regimes surrounding the Solomon Sea (ridge subduction, rift propogation into a continent, arc-continent collision) but noted the need for much better regional surveys before drilling proposals in this region could be properly evaluated.

SUNDAY, January 20

The voting on the theme vs area matrix was collected and collated. The results were presented to the panel (see tables) and discussed.

All areas, and all but one theme, were represented in the highest priority categories. The one exception was the exciting tectonic process of arc reversal. All the panel members gave these boxes low votes because of the absence of proposals clearly outlining how this process could be addressed with the drill.

One page executive summaries of the last meetings of PCOM, IOP, LP, as well as a Site Survey Requirements and LDGO logging activities summary were distributed.

Given the high priority of "toe processes" drilling in the Nankai Trough and Sumba area the panel expressed the need for a workshop to address the scientific and technical aspects of where, why and how to drill such holes.

Site Surveys

Taking due consideration of the known programs in the western Pacific scheduled for this year, the panel reviewed the site survey requirements for the high priority drilling targets. In this regard the panel noted the absolute necessity to the drilling proposals of the J. Charcot program in the SW Pacific next fall (in order to provide seabeam data for the Coriolis Trough and the D'Entrecasteaux Ridge and Ozborne (or Osbourne) Seamount collisions).

Several high priority areas do not need further site surveying beyond the programs to be carried out this year or next. These include the South China Basin, Nankai Trough and Sulu Sea/Palawan. The same is true for the Lau Basin, Manus Basin, and Mariana Trough if drilling in these actively spreading areas involves only shallow exploration. Much more detailed site surveys would be required for a zero-age long-term lab site. Several regions have the multichannel seismic data necessary for site selection but these remain proprietary or otherwise unavailable at this time. Such high priority areas include the Japan Sea, Okinawa Trough and Bonins, as well as the Ryukyu and Kurile forearcs. K. Nakamura was directed by the panel to inquire concerning the possible release of Japanese MCS data in these regions. Data from the USGS in support of drilling proposals in the Lau-Tonga-Osbourne Seamount region and the D'Entrecasteaux region is requested. The French are requested to process AVS 112 and any other MCS lines crossing the Coriolis Trough. All panel members were directed to collate available site survey information and to request relevant data release prior to our next meeting. Detailed site survey priorities will be assigned at the next meeting. Only drilling proposals logged with JOIDES and containing the data sheets will be considered.

Known additional site survey requirements include:

1) Banda Sea: digital single channel, swath mapping of ridges
2) Bonins: crossing MCS lines in rift and forearc basins; dredging and coring of serpentine diapirs
3) Sumba: MCS
4) S. Taiwan: MCS

NEXT MEETING

Because many of our panel members will be at sea this year, finding a mutually acceptable time for our next meetings was difficult. Despite the desirability of meeting before the June 15 PCOM meeting, our panel wanted the chairman to be present, and Silver is at sea from late April through May. The panel also recognized the need to visit the JOIDES RESOLUTION and to invite a representative of TEDCOM and the Down Hole Instruments Panel to our next meeting. Furthermore, as our next meeting will only consider proposals logged with JOIDES, will prioritize site surveys, and would like input from Hawkin's proposed arc-trench-

backarc workshop, a relatively late date for our second (and third) meetings was proposed. The panel noted PCOM's decision to have the RESOLUTION leave Stavanger for Baffin Bay no later than August 15th. The next meeting is proposed for August 14-16 in Stavanger (or Oslo), Norway with a visit to the RESOLUTION in Stavanger on August 13th (or later if schedule changes).

The third meeting this year will be in San Francisco on December 13-15, following AGU.

The preliminary minutes of this meeting will be mailed February 1st to panel members and, following revision, to other panels and PCOM on March 15th.

APPENDIX

RESULTS OF THE VOTING ON PRIORITIES OF DRILLING TARGETS

The list of regions considered for voting at the meeting and their total vote count is shown in Table 1. Each voting member was given this list and 100 points to distribute among the competing regions. No one region could be given more than 10 points per voter. The results should be considered as **PRELIMINARY.** Not all of the regions considered have formal proposals associated with them (e.g. the Lau basin); in some cases, no distinction was made between separate proposals for the same region (e.g. Sulu sea has both tectonic [Schluter, Rangin] and paleoceanographic [Thunnel] proposals); in some cases proposals were broken in a number of separate aspects (e.g. Bonins), while in others numerous proposals and problems were lumped together into one category (e.g. South China Sea).

A ranked listing is given in Table 2. The results of these tabulations can be interpreted in a number of ways, although they should be taken most simply as they appear on Table 2. Moberly has prepared a map (Fig. 2) to depict the regions of strength.

Taylor noted a natural grouping of 10 strong areas which accounted for over 80% of the votes. From north to south these were: Japan Sea, Nankai, Bonins, Okinawa, South China Sea, Sulu-Palawan, Banda, Sumba, New Hebrides, Lau-Tonga. Another five areas of lesser priority accounted for nearly all the remaining votes: the forearcs of Kurile-Japan, Taiwan-Manila, Sunda; the Solomons-PNG, and Coral Sea-Great Barrier Reef).

Silver notes that of the top 20 priority regions, all are either marginal basins or forearcs, with marginal basins showing a somewhat larger total vote.

NOTE:
[Audley-Charles, who was not present and is not now an active member, supports the vote but would rank Tanimbar higher].

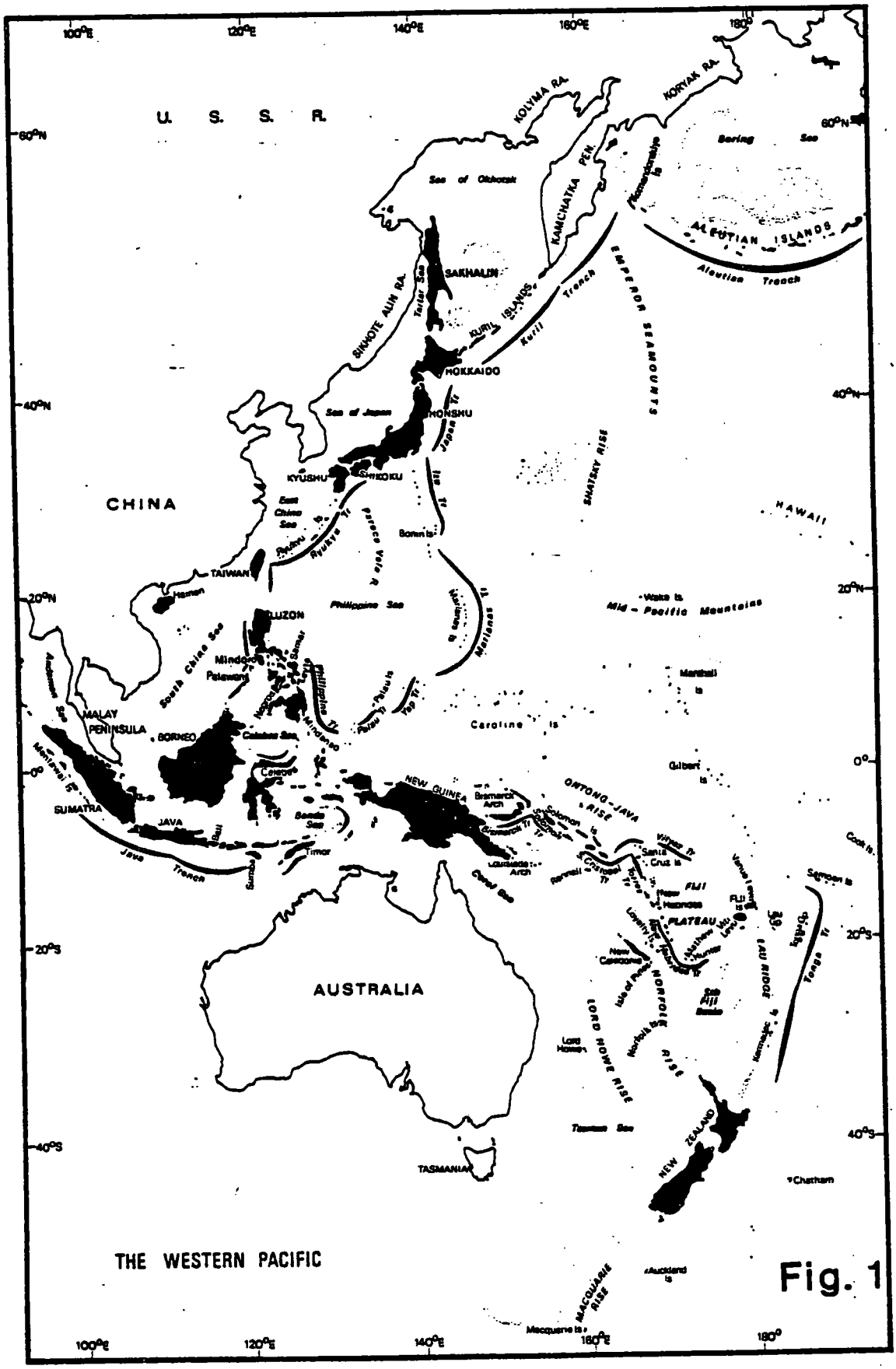
MARGINAL BASINS						FOREARC TECTONICS				COLLISION TECTONICS				OTHER	
(A) ARC		(B) CONTINENT		(C) OTHER		(D) VERT. TECT.		(E) TOE PROCESS		(F) TYPE		(G) ARC REV./FOSSIL		(H)	
Lau	25	Coral	9	Banda	55	Tonga	19	Nankai/Zenisu	58	Tanimbar	9	N.Am-Eur.Bdry	0	Arafura/Sunda	10
Mariana	0	South China	61	Woodlark	10	Mariana	7	Sumba	38	Timor	5	New Hebrides	9	Lord Howe	0
North Fiji	2	Japan	45	Sulu	50	Bonin	34	Sumatra/Java	16	Osbourn	20	New Ireland	0	G.B. Reef	5
Manus	14	Okinawa	54	Solomon	5	Japan	10	Bonin Serp.	43	D'Entrecasteaux	28	Solomon	0	Fryer	5
Bonin	38	Tasman	0	Norfolk	0	Kurile	18	S. Taiwan	22	Ogasawara	0	Cape Vogel B.	0		20
Coriolis	37		169		120	Ryukyu	16	Manila	9	Palawan	0	Loyalty B.	3		
South Fiji	0					Manila	12	Japan Sea	1	NE Japan/Kurile	12		12		
W. Philippine	3					Japan Sea	13	Palawan	22	Solomon-Huon	6				
	119					Palawan	5		209	Ontong-Java P.	2				
						Sunda Strait	8			Philippine-Negros	12				
						Weber	4				94				
						New Hebrides	11								
							157								

Table 1.

TABLE 2

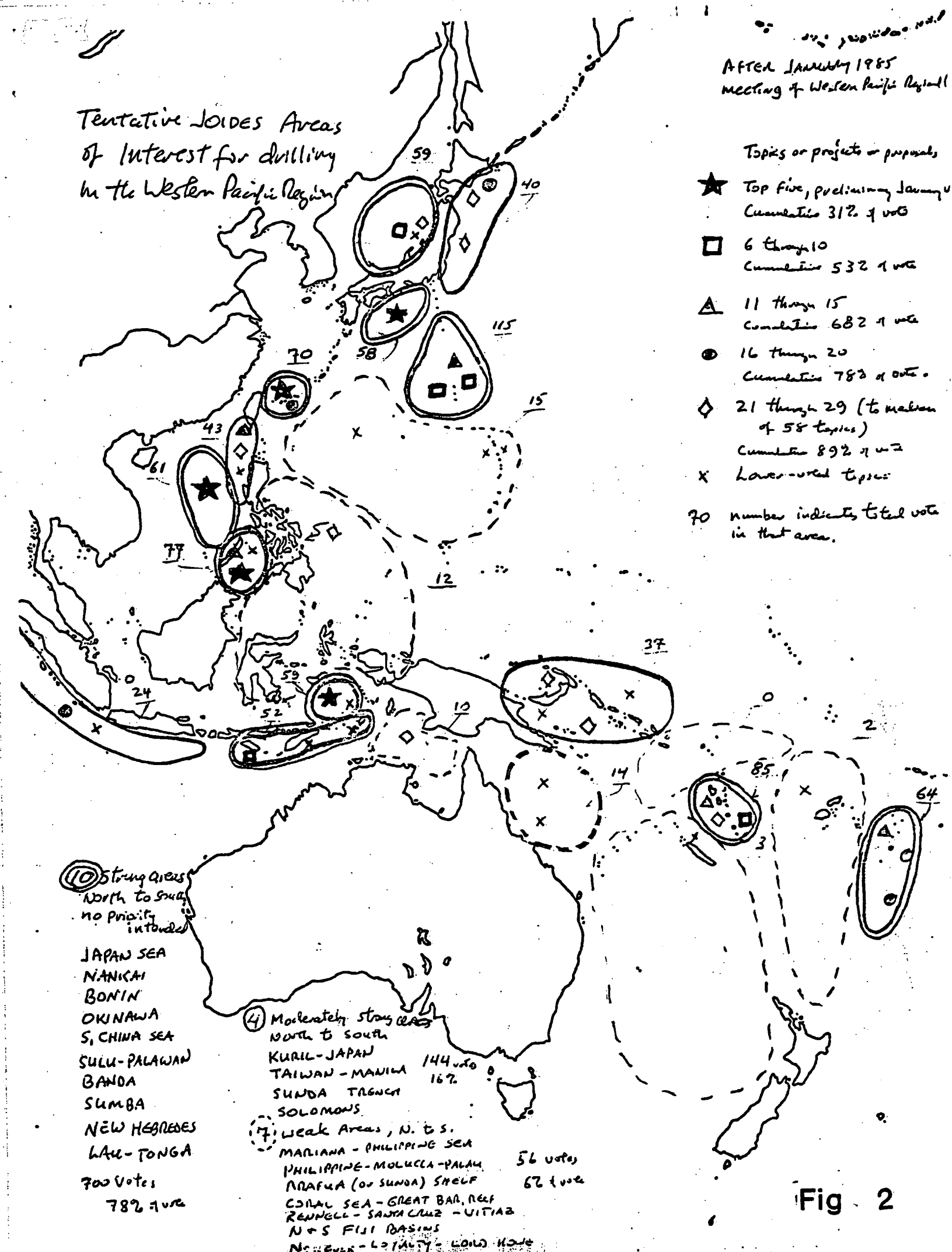
List of regions considered by the panel for Western Pacific Drilling, in order of vote totals. Those with fewer than 9 points were not included, but all regions considered are shown on Table 1.

REGION	TABLE #	POINTS	RANK
SOUTH CHINA SEA	B	61	1
NANKAI TROUGH	E	58	2
BANDA SEA	C	55	3
OKINAWA TROUGH	B	54	4
SULU SEA	C	50	5
JAPAN SEA	B	45	6
BONIN TRENCH (TOE)	E	43	7
SUMBA REGION, TRENCH TOE	E	38	8
BONIN TROUGH	A	38	8
CORIOLIS TROUGH	A	37	10
BONIN FOREARC	D	34	11
D'ENTRECASTEAU RIDGE	F	28	12
LAU BASIN	A	25	13
SOUTH OF TAIWAN	E	22	14
PALAWAN TOE	E	22	14
OZBORN SMT/LOUISVILLE RIDGE	F	20	16
TONGA FOREARC	D	19	17
KURILE FOREARC	D	18	18
RYUKYU FOREARC	D	16	19
SUMATRA/JAVA	E	16	19
MANUS BASIN	A	14	21
JAPAN SEA THRUST	D	13	22
MANILA TRENCH FOREARC	D	13	22
CENTRAL PHILIPPINE COLLAGE	F	12	24
NE JAPAN/KURILES	F	12	24
NEW HEBRIDES FOREARC	D	11	26
JAPAN FOREARC	D	10	27
WOODLARK BASIN	C	10	27
ARAFURA SEA/SUNDA SHELF	H	10	27
CORAL SEA	B	9	30
TANIMBAR	F	9	30
MANILA TRENCH TOE	E	9	30
NEW HEBRIDES ARC REVERSAL	G	9	30



THE WESTERN PACIFIC

Fig. 1


Tentative JOIDES Areas
of Interest for drilling
in the Western Pacific Region
AFTER JANUARY 1985
Meeting of Western Pacific Regional
Topics or projects or proposals
Top Five, preliminary January
Cumulative 31% of vote
6 through 10
Cumulative 53% vote
11 through 15
Cumulative 68% vote
16 through 20
Cumulative 78% of vote.
21 through 29 (to median
of 58 topics)
Cumulative 89% vote
Lower-voted topics
70 number indicates total vote
in that area.
59
40
115
70
58
15
43
61
77
12
37
59
24
52
10
2
85
64
14
3
4
(10) Strong Arcs
North to South
no priority intended
JAPAN SEA
NANKAI
BONIN
OKINAWA
S. CHINA SEA
SULU-PALAWAN
BANDA
SUMBA
NEW HEBRIDES
LAU-TONGA
700 Votes
78% vote
(4) Moderately strong arcs
North to South
KURIL-JAPAN
TAIWAN-MANILA
SUNDA TRENCH
SOLOMONS
144 votes
16%
(7) Weak Areas, N. to S.
MARIANA - PHILIPPINE SEA
PHILIPPINE-MOLUCCA-PALAU
NAFUA (or SUNDA) SHELF
CORAL SEA - GREAT BAR. REEF
RENNELL - SANTA CRUZ - VITIAZ
N + S FIJI BASINS
56 votes
6% vote
Fig 2

Preliminary Report of the Red Sea Working Group

Summary

The Red Sea Working Group met at Lamont-Doherty Geological Observatory on March 11-13, 1985. After reviewing the proposals submitted to O.D.P. for Red Sea drilling and discussing outstanding problems and current research in the Red Sea, three themes emerged which can be uniquely addressed in the Red Sea and which are of broad interest in understanding the Earth. These are:

1. Evolution of the lithosphere as expressed by the nature of the igneous rocks produced through the transition from continental to oceanic rifting.
2. Hydrothermal activity and metallogenesis in a young rifted margin.
3. Sedimentary history of a young rifted margin.

Various strategies for approaching these themes were discussed and an ideal drilling program involving 11 sites was developed. These are:

1. Axial Trough - Basalts erupted shortly past initiation of seafloor spreading.
2. Atlantis II Deep (Natural Laboratory) - Active high temperature hydrothermal sites at newly formed oceanic spreading center.

2a. Thetis Deep (alternative to AII deep). Inactive high temperature hydrothermal site.

3. Nereus Deep (Possible Natural Laboratory) - active low temperature hydrothermal site at a small oceanic spreading center.

4. Kebrit Deep - Active hydrothermal site in small axial deep with no volcanic basement outcrop.
5. Mabahass Deep - Northernmost Red Sea spreading center.
6. Shaban (Jean Charcot) Deep - Northernmost Red Sea brine deep with igneous rocks: Embroyonic oceanic area.
7. Bannock Deep - Embryonic oceanic area (without brine pool).
8. Zabargad Ridge - Mantle section.
9. Coral Seapeak - Off axis igneous activity during rift-drift transition.
10. Northern Red Sea Site - Off-axis igneous activity during continental rifting.
11. Main Trough - "Sudanese Delta" - Influence of climatic changes on circulation, productivity and sedimentation.

The total program outlined here is estimated to require perhaps slightly less than two legs. The precise time cannot be estimated until answers are available to several technical problems, primarily the amount of time required to establish a bare rock drilling site. Estimates that we received range from two to four weeks.

Action items - (Primarily questions and problems)

1. The sites in the large deeps (Atlantis II, Nereus, Thetis) are "near bare rock" sites. The volcanic basement is overlain by only about 10 to 20m of extremely soft, semiliquid sediment. It is too thin to spud into and soft enough that the bare rock apparatus would probably sink into it. The working group asks the T.A.M.U. engineering staff

to work on a solution to this problem. It is particularly important since the Atlantis II site is one of our our highest priority site.

2. The Red Sea Working Group asks that T.A.M.U. investigate the effects of corrosion on the drilling equipment in the hot, salty bottom environment of the Red Sea brine deeps. This probably would not be a problem for the short time involved in drilling, but could be if the Atlantis II and/or Nereus deeps are established as natural laboratories.
3. The Red Sea Working Group requests that high priority be given to development and testing of the wire line packer and of high temperature logging tools.
4. The Red Sea Working Group requests that accurate estimates be developed for the length of time needed to establish a bare rock site.

Since we need the better time estimates before refining this program and that information may not be available until after Leg 106, the next meeting was tentatively scheduled for Brest, France in late November. This fairly long period will also give T.A.M.U. an opportunity to work on the technical problems, particularly that of "near bare rock" drilling which must be addressed in order to drill our highest priority hole.

Introduction

The Red Sea constitutes a natural laboratory where some major problems in Earth Sciences can be tested, particularly those problems related to the transition from a continental to an oceanic rift, the early evolution of an ocean basin and the development of passive margins. A drilling program in the

Red Sea would permit study of several critical questions. These include: (a) the process of initiation of ocean rifting and changes in the nature of the crust and upper mantle during the evolution of a continental into an oceanic rift. (b) the nature of hydrothermal activity and related metallogenesis during the early phases of generation of oceanic crust. (c) sedimentary history of the Red Sea basin from pre-Miocene time to the present.

The geologic setting of the Red Sea has fascinated geologists and geophysicists ever since Wegener's (1924) original description of the shoreline fit between Africa and Arabia. The formation of the Red Sea depression is considered to have developed in response to the separation of the Arabian plate away from the African plate. The first stages of separation probably began in the early Tertiary by incipient crustal extension that produced block faulting and a series of N-S trending morophotectonic depressions. By late Oligocene or early Miocene the main depression consisted of an extensive continental rift valley. Crustal attenuation continued with the development of extensive dikes and subvolcanic intrusive complexes invading the stretched Pre-Cambrian crust. On the flanks of the Red Sea depression thick accumulation of plateau volcanics formed in Saudi Arabia, Yemen and Ethiopia. Throughout the Miocene, a thick evaporite blanket formed as the depression continued to subside and extend. At the beginning of the Pliocene (2-5 m.y.b.p.), sea floor spreading started in the middle portions of the Red Sea axial trough and continues up to the present time.

During the past several years, several elegant models have been proposed to explain new observations on continental margins. However, there are two basic difficulties with this work. First, since they have been primarily interested in describing the post-rift development of the margin, the actual rifting mechanism has only been addressed in very general terms and then only

to the extent necessary to establish an initial average temperature condition for the modeling. The second difficulty is that these models are basically indistinguishable in their behavior after about 20 m.y. post rifting, even though they involve quite different mechanisms for the initial lithospheric rifting. The reason that they are indistinguishable is that, in all models, the process controlling the development of the continental margin following the pre-seafloor spreading rifting stage is the cooling of a heated lithosphere. The details of the initial temperature distribution are rapidly smoothed out by this process and within a very few million years the heat flow and subsidence patterns from the various models take essentially similar forms.

Since several models can satisfy the post-rift behavior of a continental margin, it is data on the nature and duration of the pre-seafloor spreading development of the margin which is important in determining the mechanism and causes of rifting and the development of the ocean-continent transition.

It is, therefore, essential to study the few continental margins which are still early enough in their evolution that the transient thermal effects of rifting can be observed directly rather than inferred from the subsidence. One such area is the Red Sea which is a particularly attractive laboratory in which to study the processes of lithospheric rifting and the early development of a continental margin because the available data suggest that organized seafloor spreading has started about 4-5 m.y.b.p. in the southern Red Sea, but has not yet begun in the northern Red Sea (Cochran, 1983) giving an opportunity to study a continental margin which is still in the pre-seafloor spreading stage of its development, the development of the spreading axis and its evolution as the spreading center becomes well established.

A drilling program in the Red Sea can be organized along the following related themes: (1) evolution of the lithosphere from a continental to oceanic rift, (b) hydrothermal activity and metallogenesis in a young rifted basin, (c) sedimentary history of a young rifted margin. The Red Sea Working Group proposes a program of drilling and a series of drill sites to tackle these objectives.

Drilling themes

a) Evolution of the lithosphere from a continental to oceanic rift.

The axial trough, carpeted by oceanic crust, is more or less continuous in the southern Red Sea where sea floor spreading started about 5 m.y.b.p. In the central Red Sea, it is replaced by discontinuous axial trough segments which become more and more subdued morphologically and magnetically moving from south to north. The axial trough disappears altogether in the northern Red Sea.

The evolution from continental rifting to a stage where well organized seafloor spreading segments are established is probably paralleled by systematic changes in the nature of the basaltic crust. Thus, basalts from the southern Red Sea continuous axial trough are likely to be similar to MORB in composition while basalts from the discontinuous trough segments in the central and northern Red Sea may be more transitional in composition. A drilling program is suggested to monitor changes in composition of the axial basaltic crust from south to north in the Red Sea. These spatial changes are probably related to a time evolutionary progression from continental extension to organized seafloor spreading. The geometry of rifting in the Red Sea allows the sampling of basalts generated 5 m.y. after initiation of spreading (dredging on active ridge), a few m.y. after initiation of drifting, during the transition and during late stage continental rifting.

Understanding the evolution of the crust in an embryonic ocean can be complemented uniquely in the Red Sea by sampling a thick section of upper mantle material near the island of Zabargad (St. John's Island), an uplifted fragment of Red Sea lithosphere where mantle derived peridotites are exposed. These peridotites are unique because they are extremely fresh and include spinel lherzolites similar incomposition to estimated undepleted upper mantle. Drilling a thick (200 m+) section through this body would give a clue to heterogeneity in upper mantle composition and would provide data on the material from which the Red Sea crust is extracted.

b) Hydrothermal activity and metallogenesis in a young rifted basin.

Anomalies in conductive heat flow measured across active spreading centers indicate that hydrothermal circulation of seawater through the mid-ocean ridges is an important process for heat transfer in the oceanic crust. Geochemical studies of altered ocean floor rocks and the experimental interaction of seawater with basalt illustrate the important geochemical reactions involved in hydrothermal circulation through the oceanic crust. Observations of high temperature hydrothermal discharge on the seafloor at 21°N, EPR, confirm the importance of reactions observed experimentally, and provide constraints for estimation of geochemical fluxes to the oceans It is difficult to overemphasize the importance of seafloor hydrothermal circulation in terms of its contribution to global heat flux, control of ocean chemistry, formation of greenstones and base metal sulfide deposits, and perhaps even the origin of life on the planet.

The Atlantis II Deep is a graben flanked by rifted Miocene evaporites the upper 130 meters of which were penetrated by DSDP Hole 227 (Whitmarsh et al., 1974). The floor of the deep is covered by up to 20 meters of metalliferous

sediment, including base metal-rich massive sulfide and is the site of active hydrothermal venting. The graben is presently filled with a hot (~ 62°C), highly saline (~ 25.6% TDS), anoxic brine from which base metal sulfides and iron-rich silicates are precipitating. The brine apparently originates as Red Sea paleowater and has gained high salinity by dissolution of Miocene evaporites. The Atlantis II brine is unique in its high temperature and magnesium and sulfate depletion, which are compatible with basalt-brine interaction. Several lines of evidence indicate that interaction with hot basalt in the rift zone provides the heat necessary to drive the hydrothermal system, and is the most likely source of the metals forming the metalliferous sediments. Isotopic analysis for helium, strontium and lead on metalliferous sediment and brine appear to indicate interaction with basalt.

The metalliferous sediments in the Atlantis II deep have been extensively sampled (over 300 cores have been taken in the deep).. Drilling into the igneous basement will allow investigation of the nature and extent of subseafloor mineralization, the petrology and geochemistry of hydrothermally altered basalts, and composition and hydrography of hydrothermal fluids. An attempt must, therefore, be made to recover not only the basalt underlying the deep, but also the fluids circulating in it using the wire line packer.

Although the primary target is the southwest basin of the Atlantis II deep, there are additional targets that will add additional, complimentary information on hydrothermal circulational and metallogenesis. Nereus Deep is also one of the large, well developed transition zone deeps carpeted by oceanic crust, with a brine deep and metalliferous sediments. However, where the brine temperature at the Atlantis II deep 62°C, it is about 30°C in the Nereus Deep. The temperature difference will result in a different geochemical and mineralization system. Both the Atlantis II deep and Kebrit deep

are excellent sites for the establishment of natural laboratories that could be re-entered at later times to examine the evolution in time of the hydrothermal cell. Kebrit deep, a small oval shaped deep filled with 23°C high salinity, metal rich brine, presents another geochemical system. The hydrothermal systems at the Atlantis II and Nereus deeps results from the presence of hot igneous basement. However, no volcanic basement has been detected at Kebrit Deep. It thus represents yet another geochemical system and raises different questions, including the source of the heat driving the system.

c) Sedimentary history of a young, rifted margin.

One of the most sedimentologically interesting aspects of the Red Sea would be the penetration and recovery of the Miocene evaporite sequence and the underlying syn-rift sediments. Age determination of the sequence would have many paleooceanographic and geological applications such as mass balance studies, understanding the circulation history of the young Red Sea and better resolution of the correlation between Messinian Mediterranean evaporites and those of the Red Sea. Stratigraphy and composition of the evaporites and early-rift sediments would add much to the understanding of the environment, setting and evolution of a young passive margin developing at low latitudes. Since this goal is not at present possible due to there being no riser capability, as is suggested below, objectives of importance that can be obtained simply with "pickup" sites along with the rest of the tectonic and ocean crust program set out in this document as well as by a double H.P.C. hole that penetrates the post-Miocene sediments into the evaporites.

1. It would be valuable to obtain continuous, undisturbed stratigraphic sequences of Pliocene-Holocene sediments in order to study the influence of climatic changes or Red Sea circulation, productivity and sedimentation. Well known periodic or "Milankovitch" cycles are caused by variations in the latitudinal distribution of solar radiation due to orbital periodicities of the earth. The resultant insolation changes are suggested as being important driving mechanisms of climatic charge, most importantly the Monsoonal circulation. The major objective is the so-called Red Sea "sapropels"; relatively organic-carbon enriched layers similar to those which are reported in Units I and II at several DSDP Leg 23 sites, but are poorly know, partly because of core disturbance and poor recovery.

A continuous sequence obtained by double HPC of the top 200-300 meters of Pliocene-Holocene sediments, relatively distal from the margin, would allow us to examine the possible correlation of the organic carbon-rich layers with the East Mediterranean Sea sapropels, and with the monsoonal upwelling record obtained from proposed drilling along the Arabian Sea Margin (summary of minutes I.O.P. Meeting, Dec. 1984). Periodic increases in fresh water runoff from Africa (Nile) is hypothesized as having produced the sapropels in the Mediterranean and the Red Sea sapropels may have a similar origin. The Red Sea record would be an important link in the understanding of evaporation/-precipitation patterns as they vary over latitude and time during the Quaternary.

2. A double HPC on the distal portion of the "Sudanese Delta" (30-40 km west of site 228 Leg 23 DSDP) would monitor charges in the sediment flux and fresh water input in response to charges in monsoon intensity as part of the link in understanding the sapropel record. A continuous sequence through the

Pliocene-Holocene sediments may reveal the interplay between pelagic and hemipelagic processes.

3. A sedimentary objective is closely linked to one of the major themes; A study of somewhat thicker sedimentary cover or "oceanic" crust near active hydrothermal systems (Kebrit Deep for example). Cores of such a sequence would be valuable in understanding sediment diagenesis and metal enrichments in organic carbon-rich beds related to the circulation of hydeothermal fluids.

Previous Dilling in the Red Sea

Leg 23 of the D.S.D.P. project drilled six holes in the southern and central Red Sea in 1973. Three holes (225-227) were in or near the Atlantis II Deep, one (228) was drilled in the main trough near 19°N and the other two (229-230) were in the very southern end of the Red Sea. No drilling has been done north of the Atlantis II deep, and thus the transition area and northern Red Sea have not been investigated. Leg 23 obtained two sections through the post Miocene section into the evaporites which were continuously cored, but with poor to fair recovery. They did allow identification of the "S" reflector as the top of the Miocene evaporites. A few fragments of basalt were recovered from the Atlantis II deep, but technical problems prevented further penetration of the basement. Therefore, the outstanding problems related to the nature and evolution of initial basalts at a young, spreading ocean and associated hydrothermal processes and metallogenesis could not be addressed.

The program presented here is addressed primarily to the central and northern Red Sea and is focused on the transition from continental rifting to seafloor accretion and the associated igneous, hydrothermal and metallogenic processes at the developing spreading centers.

Summary of Proposals Received for Red Sea drilling

At the time of the Working Group meeting, five different proposals had been received (Table A). All the scientific objectives in these proposals fall into four categories, which are to study,

a) The initiation of sea-floor spreading within continental lithosphere.

b) Hydrothermal processes and metallogenesis including alteration of the basalts.

c) The nature of the igneous crust and uppermost mantle beneath the main trough away from the axis.

d) The early sedimentary history.

Objectives a) and b) received more support than objectives c) and d). Objectives c) and d) are also difficult to satisfy, given the very limited time to be spent by the JOIDES RESOLUTION in the Red Sea, due to the depths of the target horizons in the crust beneath an evaporite sequence which everywhere appears to exceed 2 kms in thickness. An exception is the near sea-bed occurrence of ultramafic (mantle) rocks in the main trough which outcrop on Zabargad Island.

Drilling Program

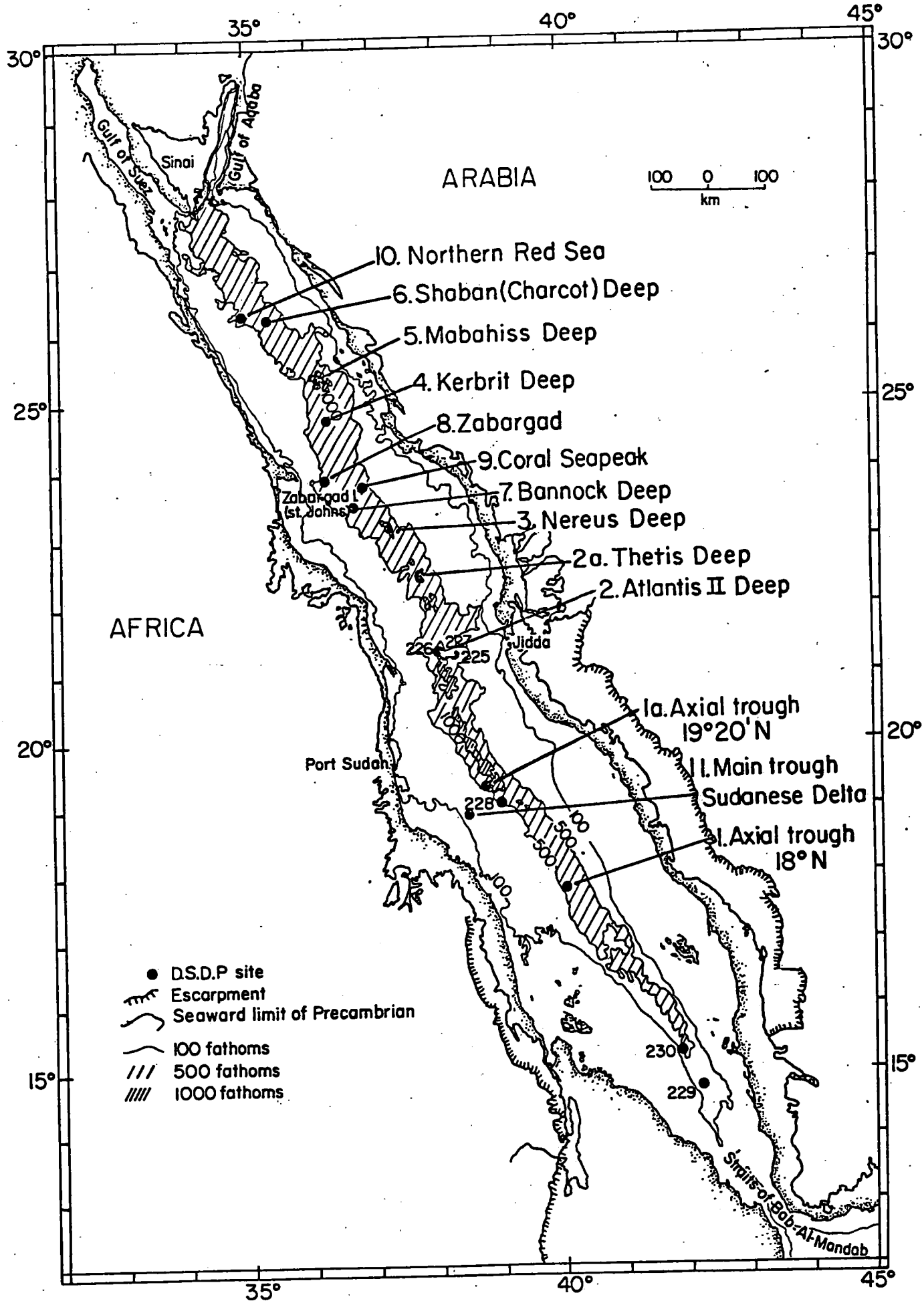
The Red Sea Working Group proposes a program of drilling at eleven sites (two sites may involve more than one hole) in the central and northern Red Sea to address the interrelated problems of the evolution of the lithosphere from continental to oceanic rifting, hydrothermal activity and metallogenesis in a yound rifted basin, and sedimentary history of a young rifted ocean basin. The sites are shown on Figure 1 and are briefly discussed in this section.

TABLE A:

N.G. Proposal	IOP Proposal	Address: Proponents	Objectives	Site Localities
1	23	Bonatti, Ross	Longitudinal variations of axial trough crust Nature of main trough crust Nature of main trough upper mantle Early sedimentary history Hydrothermal activity, metallogenesis	Central and Northern Red Sea Zabargad Island — Atlantis II Deep
2	52	Cochran, Hobart	Nature of earliest basalts, spreading axis development Hydrothermal circulation, metallogenesis Nature of main trough crust	Shaban, Conrad, Bereseau, Kebrit, Vema, Nereus Deeps —
3	56, 7, ?	Pautot, Guennoc	Nature of, and structure of axial slow-spreading oceanic crust Associated hydrothermal processes Initiation of oceanic opening (isolated intrusions → mature deeps)	Atlantis II Deep (alternatives Thetis, Habarba, Hatiba Deeps), Nereus Deep Mabrissa Deep, Shaban Deep, isolated bipolar magnetic anomalies (intrusions) in N. Red Sea
4	?	Puchelt	Longitudinal development (trace elements) of ocean crust basalts Transverse " " " " " " Alteration of basalts by hydrothermal activity	16.1°N [illegible], 40.1°E or 25.0°N, 36.0° 19°–23°N Kebrit/Shaban Deeps
5	76	Zierenberg, Shanks, Van Damm	Nature and extent of sub-seafloor mineralisation; petrology and geochemistry of hydrothermally altered basalt; composition and hydrography of hydrothermal fluids	Atlantis II Deep

The program which we propose amounts to about two legs of work depending on the amount of time required for establishing bare rock sites. Two of our proposed sites, including what is probably one of the highest priority site (Atlantis II deep) should be considered as bare rock. When combined with the Gulf of Aden site recommended by the IOP as part of the "Neogene Package", the work proposed here would constitute two quite full and fruitful legs. If only one leg is allocated to work in the Red Sea, then some very difficult decisions would be necessary and some very worthwhile sites could not be drilled.

We will now give a short summary ofthe drilling sites, giving for each, a short description, the data which has already been acquired at the site and the additional data required. This is followed by Table B which summarizes the sites.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40°
45°
30°
25°
20°
15°
ARABIA
AFRICA
Gulf of Suez
Sinai
Gulf of Aqaba
100 0 100
km
10. Northern Red Sea
6. Shaban(Charcot) Deep
5. Mabahiss Deep
4. Kerbrit Deep
8. Zabargad
9. Coral Seapeak
7. Bannock Deep
3. Nereus Deep
2a. Thetis Deep
2. Atlantis II Deep
Zabargad I. (St. Johns)
Jidda
226
227
225
1a. Axial trough 19°20'N
11. Main trough
Sudanese Delta
1. Axial trough 18°N
Port Sudan
228
230
229
Straits of Bab-Al-Mandab
D.S.D.P site
Escarpment
Seaward limit of Precambrian
100 fathoms
500 fathoms
1000 fathoms

Drilling Sites	Principle Interest	Sedimentary Thickness (optimum)	Minimum Basement Penetration	Time on site[2]	Main Scientific Objectives[1] Igneous Processes	Hydrothermal metallogenesis	Sedimentation Stratigraphy	Comments
Axial Trough (1-3 sites)	Ocean crust evolution in time fossil brine pools	100 m	100-200m	5-7 days each site	***	* (fossil)	*** - 3 hole program (Lithmatin Trough)	1k-2 my. old ocean crust preferred if one hole
Atlantis II Deep	Establish natural laboratory country hole high temperature hydrothermal system - igneous crust	20m	200-300m	? ½ log ?	***	*** Active high Temp.	0	depends on Technology re. soft sediments, corrosion, high temperature
Nereus Deep	Possible Natural laboratory low temperature hydrothermal system - igneous crust	20m	200-300m	? ½ log ?	***	*** active low temp.	0	practicality (along with II) depends on core rate drilling time
Kebrit Deep	Hydrothermal activity below sediments. no? igneous crust	? drill 200-400m	unlikely	5-6 days	* ?	*** active below Sed.	***	similar situation to Guaymas Basin, Baja California?
Mabahiss Deep (1-3 sites)	igneous crust - isolated spreading center	50 m	100 m	5-6 days each site	***	* ?	*	small, isolated basin 5 my? ocean
Shaban (Charcot) Deep	Northernmost brine deep - igneous crust at incipient spreading center	50-100 m	100-200 m	5-6 days	***	** (::	*	Sedimentary thickness not now known in detail
Bannock Deep	igneous crust at incipient spreading center	100m	100-200m	5-6 days	***	* ?	*	Sed. less south of small deeps.
Zabargad Ridge	chance to sample mantle section	100-150m	200-300m	5-6 days	***	0	**	Sparse undisturbed Pleistocene
near Coral Sea-peak	off-axis volcanism just prior to spreading	200m	100m	5-6 days	***	0	*	
Northern Red Sea salutated magnetic anomaly	early stage igneous activity	? <500m	100-150m	5-6 days	***	0	*	Chance to investigate off ridge volcanism much site surveying needed
Main Trough	Pliocene-Holocene sedimentary record - effects of climate variations over cycles	2000+ m drill a 400m	unlikely	5-6 days	0	0	****	Double HPC

[1] Scientific
*** - excel
** - good
* - fair
0 - not imp

[2] time incl
drilling and
steaming tim
estimate

Site 1: Axial Trough

Drilling area at 18°N

a) Description: A well defined axial valley with linear magnetic anomalies and horst and graben structures. Clear seafloor spreading pattern indicates seafloor spreading since 4-5 m.y.b.p. A set of three holes on a line perpendicular to the axis is required to completely investigate the evolution of magmatic activity from onset of rifting until present. Minimum requirement is one hole on 2-3 m.y. old crust. No bare rock drilling is necessary since the axial volcanic zone can be investigated by surface sampling. Expected sediment cover at the drilling sites ranges from 50 to about 300 meters.

b) data acquired:

- 50 meter interval baltymetric map by Backer et al. (1975) with narrow beam echo sounder.
- 100 m interval bathymetric map by Zonenshayn et al. (1981).
- petrographic description and dee sea pholographs from Russian diving operation in the axial valley. (Juteau et al., 1983; Almulahanuelov et al., 1983).
- heat flow measurements (Verzhbetok and Zolotahev, 1980).
- transverse magnetics and gravity profiles (Roeser, 1975).
- one deep-tow profile.

c) data required

- seabeam surveys along scheduled transect together with high resolution single channel seismic profiles.
- additional rock sampling, particularly at the spreading axis.
- Both of these objectives are being proposed by L-DGO for 1986.

Site 1A, Axial Troough (alternative to Site 1)

19° 20'N area Commission Plain

a) Description: This area marks the limit between the southern Red Sea axial valley with closely spaced linear structures and the central Red Sea where structures are wider and less linear, with axial deeps. The morphology is smoother than the 18°N area and only 5 or 6 wide steps are seen in the axial valley. Commission Plain is the SW step where hydrothermally influenced sediments have been found. About 3 holes would have to be drilled on a profile perpendicular to the rift axis where sediments are thick enough for rotary drilling witout bare rock drilling. Again minimal program is one site on 2-3 m.y. old crust.

b) data acquired:

- General bathymetry (50 m. interval) published by Bacher et al. (1975).

- Detailed bathymetry, coring, multichannel seismics, aeromagnetics, gravity available from Saudi-Sudanese Red Sea Commission (Working Group believes data will be made available upon request).

- DSDP. Site 228 from leg 23 is 20 km south of Commission Plain.

c) data required:

- rock sampling at active spreading axis (proposed by L-DGO for 1986).

Site 2: Active high temperature hydrothermal site in oceanic crust

Atlantic II Deep (Natural Laboratory)

a) Description: Atlantis II deep is a well documented recent spreading area with very active hydrothermal processes that have led to the deposition of rich metalliferous muds and the formation of thick (max. 180m), hot (max. 63°C) brines. The main goal of drilling one deep hole into the crust is investigation of high temperature hydrothermal circulation within the oceanic crust with associated metallogenesis. Most favorable site is the brine discharge area in the S.W. Basin.

The main difficulty for bare rock drilling is expected to be the thin (5-15 m) semi-liquid to unconsolidated sediments overlying the basement. Maximum sediment thickness (about 30 m) is found in the W. basin, but is outside the presently active area. Outside the brine pools, the hydrothermal plumbing system in the basement might not be reached.

b) Data acquired: Much data are available. This is one of the most highly studied areas in the oceans.

- about 700 gravity cores (many reached the basement) collected by Preussag, Red Sea Commission and others.

- detailed bathymetric maps (10 meter contours) including Seabeam survey (Backer and Rickter, 1973), Pautot, 1983). Data is published and available.

- detailed processed multichannel seismic surveys run by Red Sea Commission.

- some deep-tow subbottom profiles are available from Scripps and the Red Sea Commission.

- Detailed deep magnetometer survey made in Jan. 1985 by B. Sechler.

c) Data Required: For very precise site selection depending on technical problems that will have to be solved, additional precise work might be required.

Site 2A: Inactive high temperature hydrothermal site (alternative to Atlantis II deep):

Thetid Deep (N.E. Basin).

a) Description: Thetis Deep contains high temperature mineral deposits, but no hot brines at the present time. One bare rock hole required in oceanic crust covered by about 10 meters of metalliferous sediments.

b) data acquired:

- general bathymetry (50 meter contours) by Backer et al. (1975).
- Seabeam bathymetry, presently being processed by Puchlet (Karlsruhe University).
- about 20 cores by Preussag and Karlsruhe University
- MCS Lines (1 longitudinal and 1 transverse) by the Red Sea Commission.

c) data required:

- rock sampling - (proposed by L-DGO for 1986).
- subbottom profiling - (proposed by L-DGO for 1986).
- detailed heatflow - (proposed by L-DGO for 1986).

Site 3: Active low-temprature hydrothermal site at a small, isolated oceanic spreading center: Nereus Deep (Possible Natural Laboratory)

a) Description: Nereus Deep is an elongated axial graben structure carpeted by oceanic basalt and subdivided into partially brine filled basins by a low axial volcanic ridge (near volcanic zone). One bare rock drilling hole is needed outside the thin brines. A thin unconsolidated sediment cover can be anticipated.

b) Data acquired:

- General bathymetry (50 m interval) by Backer et al. (1975).
- Partial Seabeam survey by Pautot (1983).
- Deep tow subbottom profiles by Scripps.
- about 50 cores by Preussag, Imperial College ant I.G.M. Bologna (Bonatti).
- heat flow measurements by Preussag and I.G.M. Bologna, Italy, (Bonatti).
- rock sampling magnetometer and single channel seismic lines by Bonatti.
- Multichannel seismic line by the Red Sea Commission.

c) Data Required:

- Complete Seabeam Survey of southern part. For precise site location detailed data may have to be obtained depending on technical difficulties.

Site 4: Active hydrothermal site in small axial deep with no volcanic basement outcrop.

Kebrit Deep

a) Description

Kebrit Deep is a small depression filled with 23.3°C high salinity, metal rich, brines (107 meters thick) with massive sulfide formations at the margin. Goal of drilling at this site is to know the plumbing of a hydrothermal system in a sedimentary (evaporites and biodetrital sediments) environment. There are possible similarities with Guaymas Basin hydrothermal processes.

b) Data acquired

- general bathymetry (50 m contours) by Backer et al. (1975)
- Seabeam bathymetry (Pautot, 1983) and 3.5 kHz.
- Coring by Preussag.
- Video and grab sampling by Karlsruhe University.
- Heat flow in and around the Deep (Saudi Arabian D.M.M.R.).
- Water samples.
- Single channel seismic lines and magnetics to be collected in April 1985 (Guennoc).

c) Data required

- subbottom P.D.R. profiles for specific site selection.

Site 5: Northernmost Red Sea Spreading Center

Mabahiss Deep

a) Description: Mabahiss Deep is a large deep for which linear magnetic anomalies and volcanic edifaces on the NW margin indicate oceanic spreading that may have begun as early as 4-5 m.y. ago in this localized area. Rock samples indicate magmatic differentiation. Ideally more than one hole (rotary drill without barerock drilling system) would be drilled to study igneous rocks and possible hydrothermal processes under sediment cover.

b) Data acquired:

- general bathymetry by D.M.M.R., Saudi Arabia.
- complete Seabeam bathymetry by IFREMER in 1983.
- single channel seismic, gravity and magnetics by INFREMER and addition S.C.S. and magnetics to be acquired by Guennoc in 1985.
- magnetics, multichannel seismics, heat flow and coring by D.M.M.R, Saudi Arabia.

c) Data required:

- M.C.S. lines, could possibly be released by D.M.M.R. or acquired in 1986.

Site 6: Northern most Red Sea Brine deep with igneous rocks in an embryonic oceanic area

Shaban (Jean Charcot) Deep

a) Description: Shaban (or Jean Charcot) deep is a small (10 km x 6 km) relatively shallow (max. depth 1490 m) deep characterized by an axial ridge separating basins felled with thick, cold, dense brines. Basalt samples show tholeiitic characteristics, but with some transitional affinities. Low temperature hydrothermal activity seems to be occurring.

b) Data acquired

- Seabeam with S.C.S. seismics.
- Magnetics and gravity by IFREMER (some published by Pautot et al., 1983).
- Seabeam from Karlsruhe University.
- genral bathymetry map of area by Saudi D.M.M.R.
- coring by IFREMER, Karlsruhe and D.M.M.R.
- heatflow measurements by D.M.M.R.
- one M.C.S. line by D.M.M.R.
- T.V. survey and dredging by Karlsruhe University.
- additional rock sampling planned for April 1985 by BGRM (France).

c) Required data:

Release from D.M.M.R. or acquisition of M.C.S. line in order to precisely know the sediment thickness over the bottom.

High precision subbottom profiles (3.5 kHz)

Site 7: Embryonic Oceanic Area (without brine pool)

Bannock Deep

a) Description: Bannock deep is an elongated shallow deep in the western side of the central valley showing a volcanic protrusion, but no brine pool. It is the furthest south of the small northern Red Sea type of deeps. One rotary drill hole without bare rock drilling to recover section of igneous rocks under sediment cover.

b) Data acquired:

- general bathymetry published by Backer et al. and Bonatti et al. (1984).
- S.C.S. seismic lines with magnetics (Bonatti)
- Heat flow measurements (published)
- Some rock sampling by Bonatti.

c) Data required:

- Seabeam survey (proposed for 1986 by LDGO).
- Additional heat flow and rock sampling.
- Possibly M.C.S. line to know sedimentary thickness if not determined by S.C.S.

Site 8: Mantle Section in marginal area of Red Sea: near Zabargad Island

a) Description: Zabargad is a unique site where fresh mantle derived ultramafic rocks (lherzolites outcrop. A drill hole near the ridge would allow recovery of a continuous section of fresh mantle rocks and study vertical mantle heterogeneity. One rotary drill hole through thin (about 100 m) sedimentary cover into the basement is needed.

b) Data acquired:

- regional aeromagnetics and gravity by Girdler and Styles.

-General bathymetry of area with some S.C.S. lines and magnetics (Bonatti).

- Field geologic mapping on island (Bonatti).

c) Data required:

- Detailed bathymetric (Seabeam), seismic lines with systematic magnetics and gravity survey (proposed for 1986 by LDGO) to pick best drill site.

- possibly M.C.S. lines.

Site 9: Off-axis Igneous Activity

Coral Seapeak

a) Description: Coral Seapeak is an isolated peak located on the NE side of the Red Sea central valley opposite Zabargad Island. It shows a large magnetic anomaly and is probably volcanic. One rotary drilled hole is needed through sediment cover into the igneous body to identify the nature of off-ridge volcanism during the late stage of rifting before inception of seafloor spreading.

b) Data available:

- general bathymetry (50 m int.) published by Backer et al. (1975).
- S.C.S. lines and magnetics (Bonatti).
- Unsuccessful attempts to recover volcanic rocks.

c) Data required:

- detailed seabeam survey with magnetics, gravity, seismics and 3.5 kHz subbottom profiling.
- further rock sampling attempts.
- heatflow survey of surrounding area
- possibly refraction measurements.

Site 10: Off axis igneous activity

Depolar magnetic anomaly in the northern Red Sea

a) Description: A number of isolated dipolar magnetic anomalies are found on borders of northern Red Sea central valley. One near 26°30'N, 34°56'E is clearly associated with a small topographic high and may be a shallow intrusion.

One hole needed through Plio-Quaternary and possibly into Miocene sediments to sample igneous basement.

b) Data acquired:

- Seabeam and S.C.S. lines with gravity and magnetics by LDGO and IFREMER.

- Addition S.C.S. and magnetics planned for April 1985 by BRGM.

c) Data required:

- M.C.S. profiling needed to identify and know depth to magnetic basement.

- Heatflow measurements and possibly refraction.

Site 11: Main trough Sedimentary Section near "Sudanese delta"

a) Description: One double HPC site to obtain continuous, undistrubed stratigraphic sequences of Pliocene - Holocene sediments to study influence of climatic changes on Red Sea circulation, productivity and sedimentation. Best site for climatic studies is distal portion of "Sudanese delta" on western part of main trough near 19°N.

b) Data acquired: detailed bathymetry, coring, MCS, seismics, gravity available from Saudi Sudan Red Sea Commission.

c) Data required:

- possible Seabeam study to pick precise drill site.

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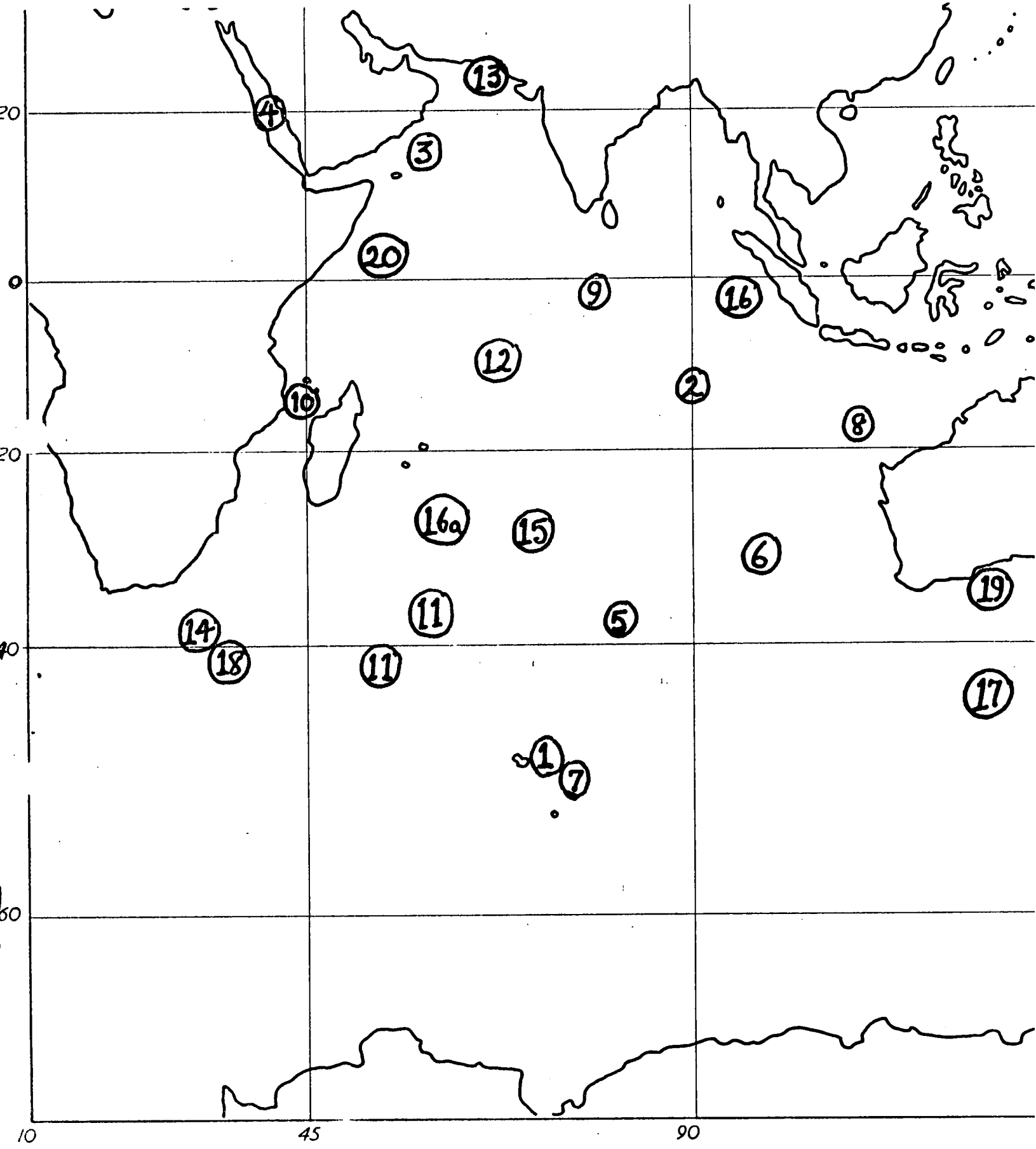
Indian Ocean Panel Voting Results

(100 total points/panel member max of 10 points for each)

	1	Kerguelen	9.5	7-10
	2	90° East Ridge	8.25	6-10
	3	Neogene	8.00	0-10
	4	Red Sea	7.63	2-10
½ leg	5	SE Indian Ridge	7.38	4-10
½ leg	6	Broken Ridge	6.88	4-10
	7	Kerguelen (2nd)	6.75	3-10
	8	Argo	6.75	0-10
½ leg	9	Intraplate Deformation	6.25	3-10
½ leg	10	Davie Ridge	5.00	2-10
	11	SW Indian Ridge F.Z.	4.88	0-7
½ leg	12	Chagos-Laccadive	4.63	2-8
	13	Makran	4.5	0-8
	14	Agulhas (1)	3.5	0-8
	15	Rodriguez T.J.	2.88	0-10
	16	Fossil Ridge	2.25	0-10
	17	Cold Spot	1.75	0-5
	18	Agulhas (2)	1.25	0-8
	19	W. South Australia	1.13	0-5
	20	N. Somali Basin	0.63	0-2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SUMMARY
Central and Eastern Pacific Regional Panel Meeting
11-12 March 1985

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NE Pacific- An INPAC workshop was held in mid-February.

North Pacific- Scholl is organizing a workshop for this fall.

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Guests: L. Garrison
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Liaison Reports

D. Buffler reported on PCOM. Of actions of direct importance to CEPAC, a decision was made to include part of the Arctic in our area responsibilities. Dick also requested that we consider membership additions to replace the UK and ESF representatives.

E. Taylor presented slides which showed the JOIDES RESOLUTION and its labs. We are impressed by the size and capability of the new ship. It was reported that the ship will accommodate 50 non-Sedco people. The exact ratio of technicians to scientists is variable, depending on the cruise complexity and scientific requirements. Weekly summaries of the operations and science status will be available on a Telemail bulletin board.

D. Cowan reported that the Tectonics Panel meets next week, they are presently concentrating on the Indian Ocean.

J. Sinton reported on the Lithopheric Panel. Of particular interest to CEPAC, is the effort to get the major EPR proponents together to determine the best position for hydrothermal drilling in the the 9-13°N area.

B. Embley reviewed the SOPH objectives and passed out an abbreviated list of major SOPH objectives. It appears that the lack of sites in the Pacific for the first 5 year program does not represent lack of interest, just that SOPH has not yet considered the Pacific, except for the short two-year time period.

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Preliminary INPAC Workshop Results

At the request of CEPAC D. Chase, P. Johnson, and D. Rea reviewed the INPAC workshop results. A document is being prepared by the INPAC group and will be distributed later.

North Pacific

H. Okada presented some problems that are of interest to the Japanese. These are:

1. Paleoceanography - particularly the history of the interaction of the Oyashio and Kuroshio surface currents; and the north flowing AABW history. Also of interest is to track the history of arc volcanism recorded on the Pacific plate.

Another paleoceanography problem is the ~60 my hiatus observed on the Pacific plate. What is its origin and extent?

2. Another major interest is in the Shikoku basin, particularly sedimentological and tectonics problem associated with the Nankai Trough. This area is being considered by the Western Pacific panel.

3. Okada reiterated the Japanese interest in the 'old pacific' paleoceanography and indicated that detailed proposals are being developed.

North Pacific Review

D. Rea and J. Mammerickx reviewed the North Pacific plate history and presented different models for the evolution of the N. Pacific. These were first discussed at our meeting in Austin. D. Scholl followed with a discussion of the Aleutian Trench and the state of knowledge in this region. H. Ryan presented several alternate interpretations of the trench structure in an area where major sediment input began perhaps 5 my ago. What effect did this have on the growth of this arc? J. McCarthy illustrated the structures developing farther to the west where the margin is almost pure strike-slip. A. Stevenson presented some interesting problems related to the origin of terrigenous sediment bodies (fans) in the NE Pacific and emphasized that some Neogene paleoceanographic objectives could easily be combined with a few holes which would at the same time penetrate these sedimentary bodies. This would allow for provenance studies and if we get to basement, the latitude at the time of plate generation.

Next Meeting

The next meeting is tentatively scheduled to be at Lake Wilderness, near Seattle, Washington, 25-26 September. It will be hosted by P. Johnson and D. Cowan.

JOIDES LITHOSPHERE PANEL MEETING

February 26-27, 1985

at Scripps Institute of Oceanography

La Jolla, California

SUMMARY

1. MISCELLANEA

a) Strong support for TAMU drill pipe TV acquisition but recognize complexity of problem and urge TAMU take advantage of existing expertise within community.

b) LITHP continues strong support for both 504B drilling and for a higher priority to be set on lithosphere drilling within ODP. Community support will be solicited in an attempt to persuade PCOM of this.

c) LITHP reiterates the need to have Keir Becker appointed as a member.

2. PROPOSAL REVIEW

a) Batiza Volcanoes, Fox-MacDonald EPR (9-10°N), Bougault EPR 13°N and Francheteau-Hekinian EPR 13°N all considered as part of EPR focussed drilling effort.

b) Whitmarsh anelastic strain release: strong support for trials on 106 or 109 to at least determine if orientation problem is manageable with gyro magnetometer.

c) Indian Ocean - see later.

3. EPR DRILLING

a) All efforts focus on choosing best location between 9-13°N: final decision not possible until early 1986 because of crucial summer 1985 seismics acquisition. Request next meeting in France to permit full French participation in planning. Request immediate appointment of co-chiefs to facilitate planning (recommend Bougault and MacDonald).

b) Downhole measurements prospects look good. Panel approved EOS article to further stimulate interest. Yet again wireline reentry capability recognized as vital component of progress here.

4. MARK DRILLING

a) SeaMarc I survey delayed to May so final site selection not practical until summer.

b) Majority of panel preferred using 106-109 to get two holes started rather than concentrating on a single hole.

5. INDIAN OCEAN

Priorities are:

1. RED SEA: L1 (Working Group)
2. AUS-ANT DISCORDANCE: L6 (Langmuir)
3. SW INDIAN RIDGE FRACTURE ZONE: L4 (Dick and Natland
4. CARLSBERG RIDGE: L2 (Natland)

If a good hot spot trace program is formulated we would place that second only to the Red Sea. If Brocher can show reasonable possibility of solving technical problems then Crozet Basin (L7) would be ranked below Dick and Natland but above Natland.

IMPORTANT: These are LITHP's prorities only WITHIN the Indian Ocean. We consider back-arc spreading center drilling in the Western Pacific to be a significantly higher priority than all of the above projects.

6. WESTERN PACIFIC

Major progress planned at next meeting when results of Hawkins' workshop are available.

REPORT OF THE JOIDES POLLUTION PREVENTION AND SAFETY PANEL MEETING

New Orleans, LA
27-28 March, 1985

Present:

JOIDES Panel Members:
- G. Claypool (Chairman)
- M. Ball
- R. Byramjee
- G. Campbell
- A. Green
- G. Stober

ODP/TAMU Safety Advisers:
- K. Burke
- H. Wories

ODP/TAMU:
- L. Garrison

Co-Chief Scientists:
- O. Eldholm (Leg 104)
- S. Srivastava (Leg 105)

JOIDES Office:
- A. Mayer

ODP Databank:
- C. Brenner

Apologies for absence were received from D. MacKenzie (JOIDES Panel), T. Thompson (ODP/TAMU Safety Adviser) and R. Larson (PCOM Chairman).

1. Leg 105 (Baffin Bay and Labrador Sea):

Baffin Bay sites - Approved by the Safety Panel (with conditions) at August 1984 meeting (BB-1, BB-3A, and BB-3B).

LA-5 - Site approved as proposed noting that there may be a need to move around the site in order to avoid boulders (to 1486 m).

LA-5A - Approved on condition of site relocation to the cross-point of lines 12 and 14 (to 650 m). Site was relocated because of poor record quality and lack of crossing line at the proposed location.

LA-9 - Approved with the recommendation that the site be located at the cross-point of lines 8N and 4E (to 850 m). Site was relocated for same reasons as LA-5A.

LA-2A - Approved as proposed to 903 m depth.

LA-2B - Approved as a re-entry site drilling to basement. Relocated 7 kms west to shot-point 6340 on line BGR 17 (to 1835 m).

LA-7 - Not approved because insufficient information was available at this time. If more information becomes available safety review can be obtained by mail.

LA-4 - Approved as proposed (to 600 m).

LA-4A - Approved to a depth of 700 m at shot-point 1186 on line 73 I 13-70164.

2. Leg 104 (Norwegian Sea):

VOR-2A - Approved to 1500 m and to be drilled first.

VOR-2B - Approved on the condition that there are no significant hydrocarbon shows at site 2A (to 1000 m).

VOR-1 - Approved as proposed to 1400 m on the same condition as 2B.
Note: The Panel expressed concern with the general location of sites 2A, 2B, and 1 at a structurally high position with a large potential drainage area. Drilling was approved on the condition that the down dip location (2A) be drilled first to confirm the absence of a drilling hazard.

VOR-3A - Approved to 1500 m.

VOR-3B - Approved to a depth of 1300 m with a recommendation to move the site N (seaward) to shot-point 1400 on line C/194. A further condition is that site 3A must be drilled before 3B. Site was relocated from the top of a structural high.

VOR-4 - Approved as proposed (shot-point 9600 on line NH-1).

VOR-5 - Approved for hydraulic piston coring to sediment refusal or 300 m, whichever comes first.
Note: Previous drilling in the area (DSDP Site 341) has demonstrated shallow biogenic gas and fluoresence suggestive of migrated hydrocarbon. For this reason, rotary drilling was not approved in this area.

3. Leg 106 (MARK):

MARK-1A - This is the bare rock site and was approved as proposed.

MARK-1B - Nodal basin drilling was approved as proposed.
Note: Final sites will be chosen following a SeaMARC survey and using TV and imaging sonar.

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1. TAMU REPORT

Andy Adamson reported on the drilling vessels shakedown cruise and the progress so far on Leg 101. Overall, the drilling vessel is operating well and although the drilling rate currently seems to be less than that of the CHALLENGER, predictions are that by 106 this will have increased to about the CHALLENGER level. Plans for the bare rock guidebase were presented and this triggered much detailed discussion especially with regard to its square four-legged configuration. Why not three-legged triangular? Andy informed us that tests of the TV frame and the Mesotech drill pipe sonar are planned for Leg 102B, 16-25 April in the FAMOUS area. Final decision on acquisition of TV system will be made on March 1st. The panel discussed the mounting and lighting of the TV system as concerns were voiced about the effective field of view. Much experience in deep ocean TV exists both in the oceanographic institutions and in the military and the Panel strongly recommends that TAMU taps into this: to achieve a system that will be effective in precise drill site selection is a non-trival problem.

2. PCOM REPORT

Jose Honnorez reviewed the highlights of the last PCOM meeting.

a) Drilling Plans: The major issues resulting from this were 504B (and the fact that despite the Panel proposal and our strongest recommendation it is not included in the drilling schedule); and secondly the whole problem of the priority of lithosphere drilling within ODP, and the Panel's judgement that unless more drilling time is devoted to lithosphere objectives it will not be possible to realize the primary COSOD goals. Clearly, LITHP is not being effective in persuading PCOM of the priority of lithosphere objectives: the discussion focussed on devising ways of correcting this. The only path that seemed reasonable was to lobby the community and show PCOM the strong, broad-based support that exists both for 504B specifically and more generally for an intensive crustal drilling effort. Several ways of doing this were discussed and much uncertainty was expressed as to whether the 504B and longer term issues should be separated or treated as one. Following tortuous deliberations it was decided that our 504B proposal be distributed to interested colleagues and their opinions solicited in writing. These comments would then be passed on to PCOM as a manifestation of community support. The longer term issue is complex: the Chairman will endeavor to formulate a LITHP policy statement to be reviewed at our next meeting and, if approved, it too could be circulated within the community in a similar manner to the 504B proposal. Unless major changes can be made in the drilling plans, LITHP objectives will not be achieved: this issue is thus a primary concern.

b) Panel Membership: Because UK and ESF are no longer in JOIDES, we have lost Bostrom and Saunders from our panel, both of whom were active members who we are sorry to lose. Discussion was held concerning whether replacements should be sought. Optimism concerning the return of UK and ESF to the fold, combined with a desire not to end up with a large panel caused us not to seek replacements. Our desire to have Keir Becker appointed to LITHP was reiterated. A general review of the panel make-up resulted in the recommendation that if Russ McDuff is our permanent PCOM liaison (and Becker is appointed) then no major gaps in expertise exist. If McDuff is not our permanent liaison then we would request Mike Bender of URI be invited to join.

c) Proposal Review: Some criticism of LITHP had been stimulated by its apparent concentration on the focussed drilling concept to the exclusion of adequate consideration of the lithosphere component of other proposals. The specific example of this was the perceived lack of LITHP input into the Galicia Bank Llerzolite issue. The more organized proposal review procedure now in place should prevent any such reoccurrence.

3. CORRESPONDENCE

The Chairman brought to the attention of the panel letters from the JOIDES office dated January 16, 18, and 22 as well as Jim Natland's letter to the JOIDES office dated November 20, 1984.

Concerning the request for co-chief recommendations in Larson's letter of January 22 the panel endorsed Mascle for 107 and suggests MacDonald and Bougault for EPR (see later these minutes).

4. PROPOSAL REVIEW

Two volumes of LITHP proposals had been distributed to the Panel in early February. The first contained the MARK and Kane proposals along with Indian Ocean proposals not previously reviewed. The second contained the EPR proposals along with Whitmarsh's anelastic strain recovery plans.

1. Central and East Pacific Ocean

JOIDES REFERENCE NO.	TITLE	P.I.(s)
130	Small Non-Hotspot Oceanic Volcanoes	Batiza
	EPR 9-10°N [PRELIM]	Fox MacDonald
14E	Zero Age Drilling: East Pacific Rise 13°N	Bougault
76E	Proposal for Drilling Oceanic Crust at the Axis of the East Pacific Rise	Francheteau Hekinian

2. Technical and Instrumental

66F	Principal Horizontal Stresses in the Ocanic Crust from Anaelastic Strain Recovery	Whitmarsh

1. Atlantic Ocean

122A	Kane Fracture Zone	Karson

125A	Bare Rock Drilling MAR at 22°53'N	Bryan Thompson

2. Indian Ocean

79B	Tethyan Stratigraphy and Ancient Ocean Crust	Coffin
1193B	History of the Early Opening of Aden, Resulting Rifting of Old Oceanic Lithosphere	Stein
120B	Oceanic Drilling in Atlantis II Deep, Red Sea	Zierenberg Shanks von Damm

a) Whitmarsh anelastic strain recovery proposal: strong support was expressed for this idea. Requirement for core orientation is, of course, the key issue. Salisbury suggested that the gyro-oriented downhole magnetometer data might be used for this: the consensus was to try this out on 106 or 109. If the orientation problem can be solved then this idea could yield important results with very limited additional effort. Definitely worth trying. Action: refer to PCOM for approval and to TAMU and DMP for technical and logistics solutions.

b) Batiza volcanoes proposal: clearly a first order problem but viewed by the panel very much as one component of a larger EPR program. Indeed, defined as a 'necessary part' of such a program. Only reservations were concerned with whether drilling was the right tool to address all the many stated objectives. Action: retain plans and Batiza involvement in planning larger EPR strategy.

c) EPR proposals: Juteau informed us that the Francheteau-Hekinian proposal supersedes the original Bougault proposal. The apparent result is then to be left with the MacDonald/Fox idea for 9-10°N competing with the Francheteau/Hekinian proposal at 13°N. It was quickly determined that these should not be considered as competing proposals as their objectives are essentially the same. The only question before us was which location on the EPR was the best for attacking the basic problems of lithospheric accretion at a fast spreading ridge. Phone conversations between Purdy and Francheteau, Fox and MacDonald previous to the meeting obtained their agreement that this was the most productive way to proceed.

5. EPR DRILLING

a) Site Selection. Purdy reported that attempts to have Francheteau attend this LITHP meeting were not successful due to the lack of travel funds. It is the LITHP's intention to involve all the proposers and major holders of data in discussions to arrive at a consensus decision on which is the best location along the EPR. Because of the intensive data collection on the EPR this summer (four cruises, 2 ALVIN, one dredging, one MCS) this final determination will not be possible until early 1986, following work-up of the

MCS data. The LITHP hoped that, because the uncertainty was only where, between 9-13°N, the drilling would take place then staffing and logistics could proceed in a timely manner and not be delayed by decisions on the detailed plans. Indeed, it would be of considerable benefit if the co-chiefs could be appointed as soon as possible so they could take part in the planning with LITHP. The panel proposed Bougault and MacDonald with Francheteau, Langmuir, Batiza, Natland, Becker, Von Herzen and Thompson as alternates. LITHP requests a rcommendation to made to TAMU at the April PCOM.

Detailed presentations by MacDonald, Juteau and Bryan showed the data from around the Clipperton and from 13°N. Simplistically the results of these discussions can be presented as follows. In the southern region around the Clipperton, detailed dredging operations reveal simple, systematic, along-axis changes in basalt chemistry. The OSC's are separated by 50-70 km. However, no submersible coverage is available (one Fornari leg and a Fox leg to take place in May and June '85 though neither has active hydrothermal venting areas as their primary target). The 13°N area has excellent submersible and photo coverage but is on a short ridge segment between two OSC's separated by only 25 km. Surprisingly, sampling control is poor and it is not known if the simple along-axis patterns observed to the south exist here. Langmuir agreed to attempt to spend a couple of days dredging at 13°N during his April '85 New Horizon cruise. Thus, by fall '85 we should have ALVIN dives in the south and petrology at 13°N. By early '86 we should have MCS data perhaps from both regions: this is key data because of its potential for defining magma chamber locations. Any site selection before inspection of these data would be premature. Next meeting proposed for 29th and 30th August in Strasbourg, France hosted by Thierry Juteau to allow full participation by French colleagues in EPR planning.

Need for drill ship TV for collapsed lava lake recognition was emphasized. Attempts to define a specific drilling strategy did not succeed.

b) Downhole Measurements. Matt Salisbury reported on progress concerning availability of high temperature tools. He reported that considerable interest had been expressed by the groups at Los Alamos, Sandia, USGS and Lawrence Berkely. He also introduced the panel to the concept of a tool pusher that would allow fluid flow to cool conventional tools sufficiently that they could be used in hot holes. This appears to be an extremely promising approach that would allow e.g. borehole televiewer, sonic, caliper, 3-axis magnetometer, resistivity to be carried out using conventional equipment. Large scale resistivity or OSE would probably not be practical however and temperature, flow and water sample data would contain no useful information. Matt presented a table showing maximum operating temperatures for flow, water sampling and temperature equipment from the previously mentioned labs:

	Los Alamos	USGS	LBL	Sandia
Flow (impeller)	300°C	300°C	300 (→350°C)	-
Flow (injection)	300°C	-	-	-
Water Sampler	300°C	300°C	250°C	-
Temperature	400ûC	300°C	-	600-800°C

The article for submission to EOS to stimulate interest in the community in carrying out downhole experiments in lithosphere holes was reviewed and

edited by the panel. The version submitted to JOIDES and JOI for approval is attached to these minutes.

Again, the importance of wireline reentry to the progress of downhole experimentation was emphasized.

6. MARK DRILLING

The SeaMarc I survey from the CSS HUDSON has now been delayed until May and thus final site selection must be delayed to the summer. A one-day meeting with the co-chiefs on June 4 in Woods Hole was proposed (postscript: Site Survey Team cannot meet this deadline. Suggest meeting later in summer not involving LITHP but only the 106-109 co-chiefs and the Site Survey Team. GMP)

Bill Bryan discussed the main features of the SEABEAM data and a very active discussion ensured regarding the drilling strategy. Should the two legs, 106 and 109, focus on drilling one hole as deep as possible or should they get two shallower holes started thus doubling experience with bare rock spud in, providing two holes for wireline reentry mode downhole experiments and giving choice in 1990 (or whenever) as to which one should be deepened. Major concern was if two holes are drilled they could both be uninterestingly shallow. View was expressed that minimum useful depth is to the top of the dykes (395 might just have got there). The majority of the panel preferred the two hole option but no depth recommendations were made. The panel hopes to hear details of the co-chiefs' plans at the August meeting.

7. INDIAN OCEAN

As an introduction to our deliberations Sclater reviewed the highlights of the last Indian Ocean Panel meeting. In order to respond to the PCOM's request for specific priorities we first look at the additional proposals and new data, then reviewed our deliberations at our November '84 meeting when the bulk of the detailed review process took place.

a) New proposals:

i) Ancient Ocean Crust: Coffin. Not judged to be a primary lithosphere proposal, but sufficient interest in basement samples to warrant a Grade A. (i.e. highest grade in non-primary lithosphere category).

ii) Gulf of Aden: Stein. Not suitable for LITHP consideration, no grade or priority given. Mostly a regional problem.

iii) Red Sea: Zierenberg et al. Needs to be looked at as part of overall plan being devised by Working Group. No grade or priority given.

iv) Rodriguez Triple Junction: This proposal had not been circulated to the Panel. However, it was clear from Juteau's presentation that without dredging results and basic petrologic analysis from the three ridge segments it was not worthy of consideration. LITHP recommends that until this data is available this proposal not be considered: it is however, potentially a very exciting proposal.

b) Review of our November '84 grades. These discussions focussed on four issues:

i) An expanded version of the Dick fracture zone proposal that won stronger support for this end member effort to sample the upper mantle formed at a very slow (0.86 cm/yr) spreading ridge.

ii) Concern over the lack of a well-thought out hot spot trace program: although we considered 90°E as a very attractive target to look at changes in upper mantle source with time with some deeper holes along the ridge, unless some good plan and proponents emerge we cannot continue support. Sclater agreed to stimulate such an effort.

iii) Red Sea is still our first priority though we would like to see some coordinated program from the Working Group as soon as possible.

iv) Brocher Crozet proposal remains a worry because of technical uncertainties. Jim Hawkins formally objects to this proposal because of its dependence on the continued underground testing of nuclear weapons.

c) The Priorities. We consider we have four primary lthosphere programs in the Indian Ocean that are sufficiently well-defined to warrant prioritization. In order of priority they are:

1. RED SEA: L1 (Working Group)
2. AUS-ANT DISCORDANCE: L6 (Langmuir)
3. SW INDIAN RIDGE FRACTURE ZONE: L4 (Dick and Natland
4. CARLSBERG RIDGE: L2 (Natland)

If a good hot spot trace program is formulated we would place that SECOND only to the Red Sea. If Brocher can show reasonable possibility of solving technical problems then Crozet Basin (L7) would be ranked below Dick and Natland but above Natland.

IMPORTANT: These are LITHP's prorities only WITHIN the Indian Ocean. We consider back-arc spreading center drilling in the Western Pacific to be a significantly higher priority than all of the above projects.

8. WESTERN PACIFIC

Margaret Leinen reported the existence of a fundamental philosophic difference with the W. Pacific Regional Panel who believe the controls are not sufficiently well understood to allow the intelligent planning of a focussed drilling plan in a back-arc region. Hawkins hopes his proposed June workshop (maybe June 25-27 at Scripps) will address this issue: obviously LITHP is open to the possibility that this is not an appropriate strategy in this case. Hawkins expects to be able to report at our August meeting.

9. INPAC

John Delaney presented a brief report on the recent INPAC Workshop.

OPPORTUNITIES FOR IN SITU DOWNHOLE PHYSICAL AND CHEMICAL MEASUREMENTS WITHIN THE DEEP OCEAN CRUST

During the next few years several drill holes planned for deep penetration into the igneous ocean crust will provide an opportunity for the emplacement of instrumentation for short and long term in situ monitoring of many important physical and chemical parameters of the sea floor. The drilling will take place as part of the Ocean Drilling Program (ODP) operated by Texas A&M University under the scientific direction of the Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES). The purpose of this brief announcement is to alert the scientific community to the potential of these innovative measurements and to stimulate the formulation and planning of experiments and proposals to take advantage of this new opportunity.

Deep drill holes (several hundred meters to more than one kilometer) into the igneous ocean crust are a valuable resource that should be tapped beyond the level of sample recovery and conventional wireline logging (the latter being carried out routinely under contract to ODP by Lamont-Doherty Geological Observatory). It is widely recognized that downhole measurements will provide the means by which major advances can be made in our understanding of the processes of accretion and evolution of the ocean lithosphere. This progress will be achieved both by the in situ measurement of parameters that would be impossible without the access provided by the drill hole as well as by long term monitoring of in situ physical and chemical properties (perhaps, but not necessarily, as one component of a larger scale ocean floor observatory) to study and quantify time-dependent processes. Tentative plans exist to greatly simplify the logis- tics of such experiments by the development of a wireline re-entry capability that would allow research vessels other than the drill ship JOIDES RESOLUTION to emplace, service or replace downhole instrument packages.

It is planned to drill a series of holes on zero age crust on the Mid-Atlantic Ridge south of the Kane Fracture Zone and in a region of active hydrothermal venting on the East Pacific Rise (EPR) between latitudes 9°N and 13°N during Legs 106, 109 and 111 starting in November, 1985. Although the precise sites of this intended drilling are still to be chosen, they will clearly provide a unique opportunity for the real time observation of the hydrogeology, geochemistry and petrology of active hydrothermal systems. From previous drilling and submersible studies, it is expected that temperatures in excess of 350°C and perhaps corrosive conditions will be encountered. These problems can be overcome in a timely manner only if early initiatives are taken which will provide the experience, precedent and new discoveries necessary to stimulate growth in what we believe to be an area of fundamental scientific interest. The JOIDES Lithosphere and Downhole Measurements Panels specifically encourage investigators to propose research projects to use these holes and in doing so, pioneer this exciting new field.

Although specific mention of mid-ocean ridge drilling is made in this article, we anticipate that the drilling proposed by the JOIDES Lithosphere Panel (LITHP) throughout the first ten years of ODP will provide numerous excellent sites for a wide range of downhole measurements. Although other crustal objectives will require different drilling strategies, a primary objective of the Lithosphere Panel is to focus crustal drilling in a small number of carefully selected locations in order to study magmatic processes and the creation of ocean lithosphere. Only in

this way can the limited drilling resource be effectively applied to the solution of such difficult problems. Thus the sites chosen for intensive study will be revisited repeatedly, providing many opportunities for new downhole experiments to be carried out. As recommended by COSOD, we plan to use the drill holes as windows into the earth's interior to measure and monitor parameters and processes to which we have never before had access.

Information concerning drilling plans may be obtained from the JOIDES Office at the Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, 02882. The chairman of the JOIDES Lithosphere Panel is G.M. Purdy, Department of Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, MA, 02543. The Chairman of the JOIDES Downhole Measurements Panel is M.H. Salisbury, Department of Geology, Dalhousie University, Halifax, NS, B3H 3J5, Canada.

ATTENDEES:

G.M. Purdy

J. Delaney

K. MacDonald

M. Leinen

R. Emmerman

T. Juteau

T. Fujii

J. Sinton

J. Sclater

J. Hawkins

C. Langmuir

P. Robinson

A. Adamson (TAMU)

J. Honnorez (PCOM)

M. Salisbury (DMP)

K. Becker (DMP)

W.B. Bryan (109 Co-chief)

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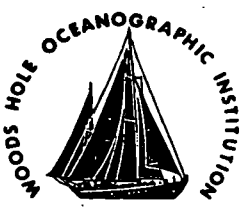

April 1, 1985

Dr. Roger Larson
JOIDES Office
School of Oceanography
University of Rhode Island
Kingston, RI 02881

Dear Roger,

I write in response to your letter of the 18th January 1985.

Your second and third sentences confuse me, as I do not understand the need to relate the drilling of a 3 km basement hole to the capability for bare rock spud in. Many of us would be very happy with 3 km (or more) basement penetration on sedimented crust. In fact, DSDP made significant progress towards achieving this goal at 504B, but with the existing ODP drilling schedule this progress will come to an untimely halt.

This confusion aside, and with the risk of having misunderstood your letter I will attempt to address your three questions:

i) Does LITHP agree with COSOD that drilling a 3 km basement hole is of high scientific interest? Absolutely and unequivocally, YES. LITHP has repeatedly stated in the clearest terms, both in its minutes and via the presentations of its Chairman direct to PCOM, that it strongly endorses the COSOD lithosphere objectives and thus, automatically LITHP endorses the need for Layer 3 penetrations.

ii) Your second question is difficult to answer directly but a restatement of LITHP's policy (which I believe also to represent the spirit of COSOD) should suffice. LITHP does not accept as reasonable the simple choice between a 2-3 km deep hole or a larger number of shallow holes. I believe it to be clear that we need both: the significance of the conclusions drawn from a single deep hole could be questioned, and rightly so if no data on the lateral variability around it was available. Similarly to restrict ourselves to arrays of shallow holes is to ignore the primary capability of the drilling tool: direct sampling in the third dimension. Such a response naturally can be criticized by the 'you can't have everything' philosophy which within the realities of finite research funds is, of course, valid. However, as was clearly stated by COSOD (and I reiterated this at the last PCOM) as well as LITHP's minutes (repeatedly) that what we are willing to sacrifice in order to retain both deep penetration and arrays of shallow holes is global coverage.

One of the keystones of LITHP's policy is this whole notion of 'focussed drilling' or 'natural laboratories' or any other buzz word you prefer, which translates into the statement that satisfacatory progress will be made on many (but not all) of the principal lithosphere objectives only by concentrated efforts at a few carefully chosen locations. By 'concentrated' I mean concentrated in space, not necessarily in time: perhaps the responsible way to drill a 2-3 km hole is over a period of years so the progress, usefulness of results and downhole geophysics can be evaluated before further commitments of drilling time are made. Your emphasis on the singularity of the deep hole I find disquieting: I would like to think that five years from now we would have several good open reentry holes all in well surveyed areas, all with some shallow hole coverage around them and all candidates for deepening to 2-3 km and beyond. Then we can enter healthy scientific argument about <u>which</u> hole should be deepened <u>first</u> to provide maximum enlightenment concerning the processes of formation and evolution of oceanic lithosphere. I do not think it would be a useful exercise to place an X on a globe and mark it as THE ODP deep crustal hole.

iii) As is obvious from the philosophy stated above your third question is also difficult for me to answer because I believe that each time we emplace a reentry cone we our <u>potentially</u> starting a 2-3 km hole. However, my strongest response to your third question is that <u>we already have a deep hole: 504B</u>. And what is more, you already have a LITHP proposal to continue drilling there, so I do not understand the need for the question. That proposal endorses the Mottl proposal for single bit holes around 504B, thus addressing your 'array of shallower holes' issue.

Is 504B absolutely the best place in the world to drill a deep hole? I do not know, and I would challenge anyone to define the one 'best place'. It is not a meaningful or constructive question. It is clear that 504B is not a bad location and the investment in drilling time that exists there simply cannot be ignored given the limited nature of the drilling ship resource. There is a completely reasonable opportunity to reach Layer 3 in as little as two more legs at 504B (see LITHP June '84 minutes). Such an accomplishment would eclipse all previous drilling efforts. As you well know, LITHP cannot comprehend PCOM's decision to place 504B so low in its list of priorities when the assured pay-off is so great and the potential pay-off is probably the single most important earth science discovery of the decade.

Because I am lazy and disorganized, this letter was not written in time for approval by LITHP at its last meeting. I am circulating this to all Panel Members and should anyone of them disagree in any way with its content, I trust they will inform you of that directly.

Yours sincerely,

Mike

G.M. Purdy

cc: LITHP Members

records from both sites are necessary.

C) Northwest Africa (Leg 108): a comprehensive late Paleogene-Quaternary package proposed by Sarnthein/Ruddiman is strongly endorsed.

D) Weddell Sea(Leg 114): Site priority ranking (see detailed minutes for reasoning)

Entire program ranks above proposed Subantarctic traverse

1. W1
2. W2
3. W4
4. W5
5. W10
6. W6
7. W7
8. W8

Operations times suggested by SOP are optomistic and should be recalculated by factor of about 1.5.

Would rank above W5 if it can be demonstrated that objectives can realistically be achieved.

E) Sub-Antarctic Transect;

1. SA8
2. SA2
3. SA3

Remaining sites not ranked-may be possible to pick-up these 3 sites if W6,7,8 not drilled in Weddell Sea program.

V. Long-term Planning (SOEH considered COGS-2 document for both A & B below.

A) Indian Ocean Drilling: rankings as follows:

1. Amery (Antarctic) margin-Southern Kerguelan transect
2. Oman-Owen Ridge-Somali margin-Indus Cone Neogene package
3. Somali Basin deep hole (Mesozoic Tethys)
4. North Kerguelan-Southeast Indian Ridge Transect polar front
5. Exmouth Plateau-Argo Abyssal Plain Transect
6. Chagos-Laccadive Ridge (or 90oEast Ridge)

B) Western Pacific

In addition to areas of interest summarized at last meeting; further discussion (prioritization will await formal liaison with WPAC and CEPAC); has a strong interest in:

1. Great Barrier Reef program
2. Queensland Plateau-Ontong Java Plateau
3. Scott Plateau and environs
4. Pore water chemistry-diagenesis in accretionary (generic) prisms.

5. Volcanic episodicity, eolian transport, tephrochronology (generic).

VI. Riser Targets:

A). With stated limitations (1800 water depth; 1992 start)

1. Penetration of evaporite sequences (Med.; Red Sea; S. Atl.)
2. Penetration of gas hydrates (Sea of Japan, Sea of Okhotsk; Cariaco Trench; Chilean Margin).
3. Continental slopes (Niger Delta; NW Africa Mesozoic)

B) SOHP argues strongly that longer riser (3km) would significantly enchance capabilities and number of attractive targets.

VII. Next Meeting: July 24-26th, 1985; LDGO

"EXECUTIVE SUMMARY" of SOHP Meeting

February 21-23, 1985; Cambridge U.K.

I. Recommend to ODP (Equipment/Techniques for Shipboard Use

A) Development of "sand core-catcher" to enhance recovery in unconsolidated sand-dominated sequences.

B) That continuous "strip" photography (e.g. Tom Chase method) be considered for more routine shipboard use.

C) That palynology be considered as a staffing position on board ship more routinely.

II. Recommendations for Co-chiefs (for Legs in which SOHP has strong interest)

A) Leg 107 (Tyrrhenian Sea): Bob Thunell; Maria Cita; Kim Kastens; Jean Mascle

B) Leg 108 (NW Africa): Michael Sarnthein
William Ruddiman

C) Leg 109 - no suggestions

D) Leg 110 (Barbadoes North): Casey Moore

E) Leg 111: no suggestions

F) Leg 112 (Peru Margin): Erwin Suess; Laverne Kulm

G) Leg 113: no suggestions

H) Leg 114 (Weddell Sea): James Kennett; Dieter Futterer

III. Recommendations for Panel Membership (new members)

A) John Barron (USGS; diatom biostratigraphy-Pacific paleoceanography) (alternate: R.C. Thunell, University of South Carolina; foraminiferal biostrat-paleoceanography).

B) Pierre Biscaye (LDGO: clay mineralogy, sedimentary processes) (alternate: R.E. Garrison, U.C.S.C.; carbonate diagenesis, sed. proc.)

IV. Short-range Planning Recommendations

A) Galicia(Leg 103): advise continuous coring at and below Cenomanian-Turonian boundary.

B) Baffin Bay(Leg 105): request 70 days for BB-3 and LA-5 drilling; emphasize that paleogene

Draft Minutes of the Sediments and Ocean History Panel (SOHP)

Meeting held February 21-23, 1985

Cambridge, U.K.; Godwin Laboratory

In attendance (Panel Members):

M. Arthur

W. Hay

Y. Lancelot

L. Mayer

P. Meyers

W. Ruddiman

R. Sarg

M. Sarnthein

E. Suess

Y. Takayanagi

L. Tauxe

PCOM Liaison
H. Schrader

ODP Liaison
E. Taylor

Guests

N. Schackleton
R. Kidd (ODP)

DRAFT MINUTES

Thursday, February 21, 9:00 a.m.

A. The meeting was called to order; the minutes of the Carmel Meeting approved as read and the tentative agenda for the Cambridge meeting adopted. The problem of non-participation by U.K. and ESF in ODP was noted, and N. Shackleton was welcomed as a guest.

B. Reports

1) NSF-no report available

2) ODP (Kidd, Taylor)

R. Kidd reported on the results of the Shakedown Cruise of the Resolution including the sucessful operation of the core-orientation device, and E. Taylor described and showed pictures of the lab facilities and core processing program aboard ship. The SOHP complimented ODP on having assembled a remarkable array of equipment. Kidd outlined the present schedule through Leg 105 and named co-chiefs and ODP staff scientists for the legs. He noted that some recent scheduling changes necessitated by PCOM decisions had created some problems with staffing and schedules of individual scientists; SOHP was properly sympathetic with both sides.

The SOHP recommended three items to OPD

a) Developement of a"sand core catcher": recovery of unconsolidated sand remains a problem - preservation of original grain size and sedimentary structure relationships is critical for interpretation of the process.

b) Continuous strip photography should be considered as a rountine technique on board ship (similar to T. Chase design used on DSDP Leg 64) - prints from present whole core color slides are not sufficiently clear for reproduction.

c) That a palynologist be considered as a more rountine staffing objective in future ODP legs. Palynological studies can contribute much to understanding paleocurrent and paleowind directions and provide additional stratigraphic control.

d) A question was raised about availability of proposals and especially cruise prospectuses to both panel members and other interested scientists. It is recommended that ODP send copies of each cruise prospectus directly to all panel members, 3 months precruise if possible. A panel "watch dog" will be assigned for future legs. SOHP informed about developments particular to each leg. This should help improve information flow between SOHP, ODP, and leg Co-chiefs.

3. PCOM Report: Due to the delay of H. Schrader's flight, there was no summary, except that given by M. Arthur who attended the January PCOM meeting in Austin. He reviewed the presentation he had made

on behalf of SOHP and provided a summary of the requests by PCOM to provide them with recommendations for co-chiefs on upcoming legs, ranking of sites for the Weddell Sea and sub-Antartic transects, priorities for Leg 105, Indian Ocean program, etc.

C) Recommendations for co-chief scientists

1. Leg 107 (Tyrrhenian Sea): Bob Thunell, Maria Cita; Kim Kastens; Jean Mascle
2. Leg 108 (NW Africa): Michael Sarnthein Both William Ruddiman on leg
3. Leg 109 (Kane F.Z.): no suggestions
4. Leg 110 (Barbadoes North): Casey Moore
5. Leg 111 (EPR, 23oN): no suggestions
6. Leg 112 (Peru margin): Erwin Suess; Laverne Kuln
7. Leg 113 (Chile Triple Junction): no suggestions
8. Leg 114 (Weddell Sea): James Kennett; Dieter Futterer

SOHP is recommending co-chiefs mainly for legs in which it has primary interests.

D) Panel Membership:

SOHP regrets that it has become necessary that the U.K. and ESF representatives can no longer formally be members of our panel. Their expertise will be sorely missed, and we hope that they can participate as guests as the need arises. In the meantime we suggest the following as additional members (and provide alternates in the event that they are not available).

1. John Barron (USGS; diatom biostratigraphy; paleoceanography of Pacific; hiatuses).
   Alternate: Robert C. Thunell, University of South Carolina; planktonic foraminifers, stratigraphy, paleoceanography.

2. Pierre Biscaye (LDGO; clay mineralogy, sedimentary processes).
   Alternate: Robert E. Garrison, U.C. Santa Cruz; carbonte diagenesis; sedimentary processes and basin analysis.

3. Panel liaisons:

L. Tauxe	IOP
Y. Lancelot	CEPAC
*P. Meyers	ARP (needs to be formally named)
E. Suess	SOP
R. Sarg	WPAC (to replace Shackleton)

*was R. Sarg orignially an ARP member? If so, we still see need for liasion and would like P. Meyers formally named as previously requested.

E. Galicia Objectives - Leg 103: (we were asked to make recommendations by PCOM)

SOHP advises continuous coring be done from the Turonian-Cenomanian boundary to basement to provide a record of Mesozoic paleoenvironments and to calibrate subsidence curves. No advantage is seen in spot-coring above this boundary.

F. Baffin Bay Objectives - Leg 105:

In view of time and weather constraints, SOHP advises coring BB-3B at least 1500m if weather permits, then coring LA-5 with remaining time, expecting a total leg time of 70 days. Paleogene sequences from both sites are important for paleoceanography, and older sections provide unique information as well. In the event Batfin Bay is not open, then as a contingency plan, we suggest that the Labrador Sea first priority sites LA5, LA-9, LA-2A be considered for drilling, with reoccupation of site 603 and drilling of NJ6 being reserved for contingency back up.

G. Northwest Africa Objectives - Leg 108:

Logging of all holes is recommended to calibrate seismic stratigraphy and can probably be accomodated in projected time. Sarnthein noted that MAU-1 objectives are not central to overall objective of this leg and might best be deferred to next Atlantic pass. SOHP agrees. We adopt the plan as proposed by the site proponents. (Appendix I) The total Leg proposed will take about

TABLE I (DSDP-ERS & PROPOSED SITES)

APPENDIX I

SITE	PRIORITY	LOCATION	WATER DEPTH (M)	NEAREST LAND MASS (N.MI.)	LOCATION	MAXIMUM PENETRA. (M)	DRILLING TIME (DAYS)	PRIMARY OBJECTIVES
139-R	1	23°22.3'N 18°25.5'W	2887 (Ex. Spanish Sahara)	100	Outer rise off ex-Spanish Sahara	350 (Middle Miocene)	3.5	Reference position for non-upwelling location in Canary Current; Trade wind history; Contour current.
MAU-6	1	20°56.5'N 18°40.0'N	2662	93 (Cape Blanc)	Upper Rise W of Cape Blanc	300 (Middle Miocene)	3.0	Persistent Upwelling Cell; Trade wind history; Fluvial sediment supply from Central Sahara
MAU-5	1	21°20'N 20°45'W	4023	220 (Mauritania)	Outer Rise W of Cape Blanc (close to Site 140)	250 (Early Miocene)	2.5	Reference location for non-upwelling conditions in outer Canary Current. Eolian-sand lenses.
MAU-4	1	18°04.5'N 21°01.5'W	3050	130 (Cape Verde Islands)	Cape Verde Rise (close to Site 368)	300 (Miocene basalt)	2.5	Deepwater paleoceanography; Circulation history of Saharan Air Layer
SLR-1	1	9°58.9'N 19°15.3'W	4300	220 (Guinea-Bissau)	Northeastern Sierra Leone Rise; Kane Gap	300 (Middle Miocene)	3.0	Bottom-water circulation between southern and northern East Atlantic; Trade wind history
EQ-3	1	04°45'N 20°58'W (at DSDP site 366)	2650	480 (Sierra Leone) Sahara)	South Slope of Sierra Leone Rise	400 (Upper Eocene)	4.0	Bottom-water response eolian, and surface-water fluxes.
EQ-4a	1	04°12'N 20°35'W	3900	500 (Sierra Leone)	South slope of Sierra Leone Rise	150 (Late Miocene)	1.5	Bottom-water response
EQ-5	1	03°30'N 20°10'W (at WHOI core 36GG)	4300	520 (Sierra Leone)	South slope of Sierra Leone Rise	150 (Late Miocene)	1.5	Bottom-water response
EQ-6	1	02°45'N 19°04'W (at WHOI core 29GGC)	4800	540 (Sierra Leone)	South slope of Sierra Leone Rise	150 (Late Miocene)	1.5	Bottom-water and surface-water responses
EQ-9	1	00°12'S 23°09'W (at L-DGO core V30-40)	3706	810 (Sierra Leone)	West flank Mid-Atlantic Ridge	180 (Late Miocene)	1.8	Surface-water and eolian responses.
EQ-7	1	01°21'S 11°55'W (at L-DGO core RC24-7)	3899	390 (Sierra Leone)	East flank mid-Atlantic Ridge	150 (Late Miocene)	1.5	Surface-water and eolian responses.

TOTAL: ~ 26.5 DAYS

+ 11.5 DAYS transit between sites

+ 4.0 DAYS logging

42.0 DAYS total

after Sarnthein, Reddaman et al. (2/85)

H. Weddell Sea (Leg 114) and Subantarctic Traverse

Drilling times used in SOP ranking and summary are very optimistic; when more realistic times are used the proposed sites probably cannot be accommodated in a 70 day leg.

Priority	Sites	Objective	(meters) Water Depth	(meters) Depth Penetration	New* Estimate	SOP Time
1.	W1 (Maud Rise)	(Mesoz.-Cenoz.	3000	500	5-1/2	3-1/2
2.	W2 (Maud Rise)	(paleoclimates— (most complete record	3500	500	6	4
3.	W4 (Caird Margin)	Antarctic glacial sedimentation on margin	3040	900	8-1/2	6 (dipping reflectors)
4.	W5 (Weddell Basin)	Onset glacial seds.	4950	1000	13 +	9-1/4 (basalt)
5.	W10 (Bransfield Basin)	Quat. high resolution seq. w/hydrothermal alteration of O.M.	2000	600	4	3-1/2
6.	W6)		3500	500	6	4
7.	W7) (S. Orkney Plat.)		2100	500	5	3
8.	W8) (AABW from history)		700	500	2	2
					50 days	

*Estimates based on new tables supplied by ODP; do not include logging or transit.

W6, W7, W8 are moved to lower priority; we would rank them above W5 (i.e. priority #4) if it can be shown that the objectives can be achieved (using grain size and magnetic fabric in order to monitor AABW production through time and examine water masses at different depths). We consider this an important objective, but are skeptical of the ability of proposed methods to solve the problem. Part of site survey requirement should be to demonstrate method on piston or gravity core samples. Need feedback from SOP. In addition, SOHP recommends that at least one site penetrate base of contourite stack to date onset of current-induced sedimentation. (Note also that W5 should be moved out of local area of faulting and structure exhibited on seismic lines.

I. Subantartic Traverse:

The SOHP considers this set of sites to rank lower in priority than the entire Weddell Sea program as well as below our first 6 priority legs proposed for the Indian Ocean. We have ranked only the top 3 sites within the transect:

	Objective	Water Depth	Penetrations	Operation Days
1) SA-8	(Paleocene-Recent carbonate record)	2500m	(500m)	4
2) SA-2	(Neogene polar front migrations	4100m	(700m)	8
3) SA-3	and AABW history)	4300m	(500m)	6
			TOTAL DAYS	18

J. Indian Ocean Drilling

Priority

1) Amery-margin southern Kerguelen transect
2) Oman-Indus Cone-Owen Ridge-Somali margin (man-mountain-monsoon-Milankovitch-Neogene package)
3) Somali deep hole - Mesozoic history and seismic stratigraphy
4) Northern Kerguelen Plateau-southeast Indian Ridge (polar front)
5) Exmouth Plateau-Argo Abyssal Plain transect (2 sites; EP-5 and AAP-1 from Australian COGS document
6) Chagos-Laccadive Ridge (latitudinal and depth HPC transects on aseismic ridge.)

Specific objectives of these regional interests were discussed at the SOHP meeting in Carmel, November 1984. They will be reviewed after SOP, Indian RP and the other thematic panels again discuss Indian Ocean sites and legs. Some objectives which are presently of great interest include:

A) Amery margin-southern Kerquelen Plateau
Polar front paleoceanography and high latitude carbonates (3 sites);
Mesozoic-Cenoizic history of Amery margin (4 sites)

B) Somali deep hole-single site (similar to Coffin and Channel proposal) for drilling to Mesozoic basement to examine seismic sequences on possible remnant of Tethyan crust, and to constrain paleolocation of Madagascar. Good seismic lines are vital to selecting this site.

A global Mesozoic ocean history proposal will be prepared by a suppanel consisting of Sarg, Hay, Lancelot and Arthur.

K. Western Pacific - (Australian proposals for consideration)

1) Adelaide Coast proposal appears to duplicate SOHP interests in the Amery margin - southern Kerquelen Plateau.

2) Lord Howe Rise and related proposals (Tasman Sea, Bounty Trough) have largely tectonic objectives and little SOHP interest. SOHP would like more information about paleoceangraphic potential of Tasman Sea sites.
3) Great Barrier Reef proposal (Sarg accepts watch-dog status) has many SOHP interests - a young passive prograding carbonate margin which could be a model for seismic stratigraphy. A series of 4 holes (1A, 2, 3 and 4) is attractive. Possibility of calibrating sea level curves exist in this transect, as well as to observe diagenetic alteration of carbonates related to variable fresh water penetration in the shallower sites. SOHP assigns a high priority.
4) Louisville Ridge proposal-little SOHP interest (sed. cover too thin).
5) Queensland Plateau margin-likely that some sites contain records of Oligocene-Eocene and later changes of oceanic circulation related to north movement of Australia which would be provided by double HPC's. Site on Osprey Block might be best for paleoceanographic history. Such a site would provide a record of pelagic carbonate deposition that would compliment the continental margin record from the Great Barrier Reef region. Move QP-1/B to northwest.
6) Coral Sea Basin proposal-little SOHP interest.
7) General comment: Opportunities to look into geochemical changes in sediments and porewaters probably exist in convergent margins in the western Pacific.

Summary

8) Scott Plateau, Exmouth Plateau, Queensland Plateau, and Great Barrier Reef are regions of SOHP interest around Australia.
9) General comment: High latitude paleoceanography objectives are very important, but proposed sites south of Australia and in SW Pacific are not necessarily optimal.
10) General comment: Australian proponents should be invited to appropriate panel meetings to present and discuss proposals for drilling.

L. Western North Pacific

1) Japanese National Drilling Committee will screen and generate proposals. Ongoing Franco-Japanese diving programs to collect supplement site survey information. Next time will summarize.

2) Questions remain about volcanic episodicity, eolian transport of ash, and so on. Many sites in the western Pacific contain information about this and tephrachronology should be part of the objectives at these locations.

3) SOHP will consider in detail and begin to prioritize at next meeting after liaisons with WPAC and CEPAC (see minutes of Carmel meeting).

M. Riser Targets - limited to 1800 water depth (1992)

1) Penetration of salt layers - Mediterranean, for example Red Sea S. Atlantic Margins
2) Penetration of gas hydrates and other gassy sediments
   Sea of Japan
   Black Sea
   Sea of Okhotsk
   Cariaco Trench
3) Penetration of continental slope structures
   Niger Delta
   other margin (NW Africa Mesozoic black shales
4) Deeper capability would expand both the number of riser targets and their scientific attractiveness. If newer technology which might be available by 1992 would allow drilling in 3000m water depth, then attractive locations would include:
   Mediterranean basin evaporites
   Red Sea evaporites
   Sea of Japan
   Baffin Ban
   many oceanic margin locations

N. Problem of acetone contamination of core sections was discussed (cf. Rullkotter's letter). Consensus was that a method using tape or heat-shrink plastic be developed by ODP and employed as needed, but not necessarily routinely.

O. Microref center in Japan should be established and little seems to be going on at present. ODP curator should continue efforts to carry this out.

P. Next meeting scheduled for July 24-26, 1985 at Lamont-Doherty Geolgical Observatory.

Q. Meeting adjourned at 11 a.m., Saturday, February 23. Nick Shackleton was given appreciation for arranging and hosting the meeting in the congenial environment of Cambridge and Godwin Lab.

SCIENCE OPERATOR LIAISON WITH JOIDES PANELS

1. The Science Operator has proposed to assign staff scientists in a liaison capacity to the various JOIDES Panels. A list of Science Operator liaisons is attached.

2. In agreeing to this liaison, the PCOM Chairman has written to the staff scientists in the following terms:

"I would like to make two points to the staff scientists regarding your attendance at various JOIDES panel meetings. I expect that Lou Garrison has covered these items with you in some form, but as Chairman of the JOIDES Planning Committee, I also feel the responsibility to touch these bases. First, your attendance at panel meetings is to facilitate information transfer between ODP/TAMU and the JOIDES panels. That is, we would expect you to provide technical and logistical information about the ship, the instruments and the program so that the panel members have a better idea of what's possible, impossible, and equally importantly, marginal. In return, your attendance at these meetings gives you some insight into possible upcoming scientific programs, plans and policies. I would only ask that you restrict your participation to this information transfer and not to participate actively in the formulation of the science. Second, do not mistake scientific programs, plans and policies made by the panels as the final words on these subjects. All of this information is funneled up to the Planning Committee members who are the final arbiters of the scientific program.

Thank you in advance for your professional cooperation on the above points. Having spent five months at sea on board Glomar Challenger with DSDP, I fully appreciate the vital role that you will play in the overall success of the program. Best of luck."

3. The Planning Committee is asked to note this information paper.

ODP/TAMU STAFF SCIENTISTS LIAISONS TO JOIDES PANELS

Staff Scientist	Speciality	Liaison For
Dr. Andrew Adamson	Igneous Petrology	LITHP
Dr. Christian Auroux	Geodynamics	SSP
Dr. Jack Baldauf	Diatom Micropaleontology	ARP
Dr. Brad Clement	Paleomagnetics	IOP
Dr. Audrey Meyer	Sedimentology	TECP & WPAC
Dr. Amanda Palmer	Radiolarian Micropaleontology	SOHP
Dr. Elliott Taylor	Physical Properties	CEPAC & DMP

Further liaisons will be announced once staffing is completed.

Latest Panel Priorities - 23 March 1985

Indian Ocean	Lithosphere	Tectonics	Sediments and Ocean History
Kerguelen (1st)	Red Sea	Makran	Kerguelen (South)
90° East Ridge	90° East Ridge	Intraplate Def.	Neogene
Neogene	Cold Spot	SW Indian Ridge F.Z.	Somali Basin
Red Sea	SW Indian Ridge F.Z.	Bengal-Indus Fan	Kerguelen (North)
SE Indian Ridge	Arabian Sea	90° East Ridge	Exmouth Plat./Argo
Broken Ridge	Rodriguez T.J.	Broken Ridge	Chagos-Laccadive
Kerguelen (2nd)		Kerguelen	or
Argo		N. Somali	90° East Ridge
Intraplate Def.		Chagos-Laccadive	
Davie Ridge		Red Sea	
SW Indian Ridge F.Z.		S. Australian Q.Z.	
Chagos-Laccadive			
Makran			

*No Kerguelen, Fossil Ridge, or Red Sea proposals for TECP or SOHP.

INFORMATION

PAPERS

85/127

11 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 11, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 626

Latitude:	25°35.95'N
Longitude:	79°32.78'W
Water Depth:	854m

Four holes were drilled at Site 626 (BAH-1C) in the Straits of Florida during the period January 31, 1984 to February 10, 1985. Holes 626C and 626D were scientifically important.

The primary objective of Site BAH-1 was to evaluate the tectonic versus environmental controls on carbonate platform growth, in particular, to determine the nature and age of a velocity discontinuity at 2.1 sec reflection time. Other objectives were to correlate the regional seismic stratigraphjy with that of the Gulf of Mexico and East Coast USA, and to document the history of the Gulf Stream.

Hole 626C was continuously cored with APC-XCB from 0 to 179m below sea floor with 36% recovery. Hole 626D was washed to 179m and continuously rotary cored from 179m to TD at 456m BSF. Recovery was 3.8%. Quicksands in both holes were responsible for the low recovery and for the loss of Hole D. Together, Hole 626C and 626D penetrated the following sequence:

0-112m: Carbonate (contourite) sand made up of planktonic forams and neritic material, Pleistocene to Middle Miocene;

112-170m: Debris flows and turbidites, Middle Miocene;

170-456m: Carbonate sand and calcarenitic limestone (all contourites), Middle Miocene to Late Oligocene.

Even though we did not reach the presumed Cretaceous target, the site produced some significant results:

1) Several hundred meters of winnowed sand indicate that the Gulf Stream has changed little in vigor and position since the Oligocene. Throughout this time interval it was able to winnow almost completely the carbonate mud and rework the turbidites containing neritic material.

2) Middle Miocene debris flows and turbidites are coeval with similar deposits in the Blake Basin (DSDP Sites 391 and 534), suggesting a common tectonic or environmental trigger.

3) Diagenesis in the carbonate deposits is less advanced than in coeval deep sea carbonates. This surprising trend currently remains unexplained.

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4) Borehole stratigraphy provides good ties with the seismic reflectors of the site surveys.

5) Comparison of Site 626 with well Great Isaac-1 on Great Bahama Bank provides strong arguments in favor of the "Megabank" hypothesis, which proposes that Florida and the Bahama Banks formed one large, unsegmented platform until Mid-Cretaceous time. Oligocene-Miocene facies in the two wells are very similar and time lines between them nearly horizontal. The present relief between the two areas apparently developed during the Late Miocene-Pliocene, when the margin of Great Bahama Bank prograded westward to its current position. Mid-Miocene and older rocks at Sites 626 and Great Isaac seem to be connected by layer-cake stratigraphy without offset. The untested target reflector at Site 626 corresponds most probably to the top of Mid-Cretaceous platform carbonates drilled at Great Isaac.

Robert B. Kidd

Robert B. Kidd
Manager of
Science Operations

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85|150

19 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 18, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 627

Latitude:	27°38.1'N
Longitude:	78°17.7'W
Water Depth:	1036 m

Two holes were drilled at Site 627 (BAH-9A) on the southern Blake Plateau during the period February 11, 1985 to February 17, 1985. Hole 627B was scientifically important. Site 627 was drilled to document the record of distal turbidites and sedimentologic response to sealevel fluctuations, and to date and define the nature of the seismic facies change at 1.85 seconds depth. Other objectives included correlating the regional seismic stratigraphic framework with that of the Gulf of Mexico and the east coast of North America, examining the causes of platform drowning and dating the drowning of the southern Blake Plateau.

Hole 627B was continuously cored with APC/XCB from 0 to 536 meters below seafloor, with 65% recovery. The hole was terminated in dolomite and gypsum of Albian age. Hole 627B recovered the following sequence:

0-181 m: Carbonate ooze with turbidites, slumps and debris flows representing the toe of the prograding Little Bahama Bank (Pleistocene to early Miocene);

181-247 m: Condensed sequence of argillaceous carbonate ooze and chalk with some chert (early Miocene-Paleocene);

247-325 m: Nannofossil chalk without platform input and negligible dissolution effects (Campanian);

325-353 m: Condensed sequence of ooze, chalk and chert (Santonian-Middle Cenomanian);

353-468 m: Marl and argillaceous chalk, deepening uphole from inner neritic to outer neritic environments (Early Cenomanian-?Latest Albian);

468-536 m: Shallow-water dolomites, limestones and gypsum of platform interior environment (Late Albian).

This sequence reflects the drowning and disintegration of the Middle Cretaceous carbonate platform (the "Megabank"), its transformation into a terrigenous shelf during the Cenomanian, and later into a marginal plateau of bathyal depth during the Campanian-Oligocene. Since the early Miocene, this part of the Plateau has become part of the advancing flank of the Bahama Carbonate Platform.

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Pore waters show geochemical trends very similar to those of classical deep-sea sites on ocean crust. Seismic stratigraphy of the site survey provides excellent correlation with borehole stratigraphy and physical properties.

Louis E. Garrison
Deputy Director

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85/183

21 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 21, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 628

Latitude:	27°31.85'N
Longitude:	78°18.95'W
Water Depth:	959 m

One hole was drilled at Site 628 (BAH-8A) on the northern slope of Little Bahama Bank during the period February 17, 1985 to February 19, 1985. Site 628 was drilled to evaluate the sedimentary record of the lower slope (=basin margin) in an accretionary setting and to separate diagenetic versus sealevel effects.

Hole 628A was continuously cored with the APC/XCB from 0 to 298 meters below seafloor, with 73% recovery overall. The hole was terminated in nannofossil ooze of late Paleocene age. Hole 628A recovered the following sequence:

0-137 m: Carbonate ooze with turbidites, slumps and debris flows (Pleistocene to middle Miocene);

137-270 m: Carbonate ooze and chalk with slumps and turbidites (late Oligocene to latest Eocene);

270-298 m: Siliceous chalk and limestone with some carbonate ooze (middle Eocene to late Paleocene).

This sequence records the upward transition from a marginal plateau with purely pelagic sedimentation in Paleocene through early Oligocene time to the toe-of-slope of a carbonate platform in late Oligocene through Recent time. Increases in sedimentation rates and in the amount of bank-derived material during the Neogene reflect gradual progradation of the platform slope. Cores and seismic profiles suggest that creep and slumping along curved (listric?) and bedding-parallel shear planes are dominant processes in the toe-of-slope environment between this site and the location of Site 627.

Louis E. Garrison

Louis E. Garrison
Deputy Director

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21 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 21, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 629

Latitude:	27°24.4'N
Longitude:	78°22.1'W
Water Depth:	546 m

One hole was drilled at Site 629 on the upper part of the northern slope of Little Bahama Bank during the period February 19, 1985 to February 20, 1985. This site was drilled to study the sedimentary record and depositional processes of the upper slope and to investigate the diagenesis of periplatform ooze.

Hole 629A represents an unsuccessful attempt to spud in at target site BAH-7A. Approximately 16.5 meters of sediment were penetrated with the APC/XCB before hard layers halted further drilling. The recovered material consists of sandy carbonae ooze, lime sand and rubble, and fragments of friable limestone, all of late Quaternary age.

Louis E. Garrison
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25 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 24, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 630

Latitude:	27°26.9'N
Longitude:	78°20.4'W
Water Depth:	800 m

Three holes were drilled at Site 630 (BAH-7A) on the upper part of the northern slope of Little Bahama Bank during the period February 20, 1985 to February 21, 1985. This site was drilled to study the sedimentary record and depositional processes of the upper slope and to investigate the diagenesis of periplatform ooze.

Hole 630A penetrated 250 m of sediment with the APC/XCB, with 88% recovery. Hole 630B duplicated the upper 80-m section with the hydraulic piston core, with 99% recovery. Hole 630C collected a third mudline core.

Site 630 represents the upper end of the slope transect off Little Bahama Bank. It is located at the crest of an interfluve between gullies. Carbonate ooze accumulates on the interfluve, whereas sand and rubble from the platform bypass this zone via turbidity currents that are confined to the gullies.

Site 630 recovered the following sequence:

0-124 m: Periplatform carbonate ooze with abundant bank-derived aragonite (late Miocene to Recent);

124-250 m: Periplatform ooze and chalk with turbidites (late Miocene).

The recovered sediments suggest that bypassing of sandy turbidity currents persisted for the last 6 million years, while oozes accumulated at a rate of 28 m/m.y. Prior to 6 million years ago, the site formed part of the turbidite apron at the foot of the gullied slope. Site 630 provides an excellent record of the export of fine sediment from the carbonate platform during the last 10 million years.

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Hole 630B duplicated the Pliocene-Pleistocene section recovered at Hole 630A to just below the 3.5 million-year event, the presumed onset of northern hemisphere glaciation. The complete duplicate sections recovered at Holes 630A and 630B facilitate high-resolution stratigraphy studies at this location.

Louis E. Garrison
Deputy Director

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28 February 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received February 26, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 631

Latitude:	23°35.2'N
Longitude:	75°44.6'W
Water Depth:	1081 m

Site 631 (BAH-11A) in Exuma Sound was occupied during the period February 23, 1985 through February 24, 1985. Site 631 represents the upper end of the slope transect in Exuma Sound. It is located on a 1600-meter high slope with a declivity of 10-12° (as compared to 900 m height and 2-3° at Site 630). This site was drilled to study the sedimentary record of a steep bypass slope, to evaluate sediment input from the platform in response to sealevel fluctuations, and to investigate the diagenesis of periplatform ooze.

244 meters of sediment were penetrated using the APC/XCB, with 65% recovery. The following sequence was recovered:

0-97 m: Periplatform carbonate ooze with some chalk, in alternating layers of greenish organic-rich and white organic-poor intervals, with a strong odor of hydrogen sulfide (early Pliocene to Recent);

97-244 m: Chalk with some ooze, rich in bank-derived aragonite, pyrite and hydrogen sulfide odor (Miocene/Oligocene to early Pliocene).

Even though bypassing by sandy turbidity currents is almost complete and no turbidites were observed in the section, sedimentation rates are very high (30-75 m/m.y.). Rapid burial of organic matter leads to sulfate reduction in the subsurface and abundant production of hydrogen sulfide throughout the sequence.

Diagenesis of periplatform ooze is very rapid. 4 m.y.-old sediment with 100 meters of overburden are nearly completely lithified to chalk, with some primary aragonite left to drive the cementation process even further.

Louis E. Garrison
Deputy Director

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3 March 1985----------

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received March 1, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 632

Latitude:	23°50.4'N
Longitude:	75°26.1'W
Water Depth:	1990 m

Two holes were drilled at Site 632 (BAH-11C) in Exuma Sound during the period February 25, 1985 through February 28, 1985. This site represents the basinward end of the Exuma slope transect and is located on flat basin floor just above the axial valley of Exuma Sound. This site was drilled to sample material beneath the velocity discontinuity at 3.65 sec depth, to document the Tertiary and Late Cretaceous history of an interplatform basin, and to study the turbidite apron at the foot of a bypass slope and document variations in platform input in response to sealevel fluctuations.

Hole 632A penetrated to 141.0 m sub-bottom (59% recovery) with the APC/XCB system. Hole 632B was drilled with a rotary bit and terminated earlier than planned at a total depth of 283 m because of minor occurrences of hydrocarbons. Recovery in this hole averaged 21%.

The stratigraphic sequence recovered in these holes consists of the following units:

0-54 m: Periplatform ooze with turbidites of mostly platform material (late Pliocene - Holocene);

54-104 m: Periplatform ooze and chalk with few turbidites and a 7-m thick debris flow (late Miocene - late Pliocene);

104-283 m: Periplatform chalk and limestone with rhythmic intercalations of turbidites (late Miocene). The deepest unit probably includes significant amounts of ooze that were not recovered.

Sediments recovered at Site 632 represent a typical basin-floor facies with graded turbidites, a lithology conspicuously absent on the bypass slopes. Sedimentation rates vary considerably but range up to 120 m/m.y. in the Miocene, a value common in flysch sequences.

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Rapid burial diagenesis is indicated by the abundance of limestones below 100 m (Pliocene) and by steep gradients in the downhole profiles of density, porosity, and sonic velocity. In spite of rapid and extensive lithification, magnesian calcite is present to a depth of 40 m; aragonite percentages exceed 10% throughout the hole, even in the Miocene limestones at the bottom.

Philip D. Rabinowitz
Director

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11 March 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received March 4, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 633

Latitude:	23°41.3'N
Longitude:	75°37.6'W
Water Depth:	1681 m

One hole was drilled at Site 633 at the toe of slope in Exuma Sound (BAH-11B) during the period March 1, 1985 to March 2, 1985, in order to evaluate the basin margin environment and diagenetic versus sea level effects in a bypass setting.

Hole 633A was drilled to a total depth of 227 m with APC and XCB coring achieving 48.7% recovery.

The following stratigraphic sequence was recovered:

0-52 m: Periplatform ooze with thin turbidites (late Pliocene - Holocene);

52-142 m: Soupy periplatform ooze with limestone clasts, stiff ooze/chalk, few turbidites (late Miocene? - Pliocene);

142-227 m: Periplatform chalk and limestone with turbidites (late Miocene).

The turbiditic units at the top and bottom of the hole represent typical basin-floor facies; the very distal facies of turbidites in the top unit probably reflects the position on a local topographic high that formed during deposition of the middle unit, either by progradation of a spur of the slope or by slumping. Sediment facies, seismics and stratigraphic control in the middle unit are compatible with either one of these interpretations.

Both sediments and rocks at the site contain abundant clay-size aragonite, interpreted as bank-derived material ("periplatform ooze and chalk"). Interstitial water chemistry indicates active sulfate reduction throughout the sequence.

Philip D. Rabinowitz
Director

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11 March 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summary was received March 11, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

Site Summary, Site 634

Latitude:	25°23.01'N
Longitude:	77°18.88'W
Water Depth:	2761 m

One hole was drilled at Site 634 in the Northwest Providence Channel at the approximate location of DSDP Site 98 during the period March 3, 1985, through March 8, 1985. This site was occupied to penetrate deeper stratigraphic levels than were recovered at DSDP Site 98, into what is commonly called the "Megabank," the mid-Cretaceous platform thought to underlie both Bahama banks and basins.

Hole 634A penetrated to 479 m with a rotary bit. The interval from 4 to 144 m was washed because the site is located less than 500 m from DSDP Site 98 where that portion of the section had already been sampled. Recovery in the cored intervals averaged 5.8%. The site had to be abandoned above the target horizon because of poor hole conditions.

The following stratigraphic sequence was recovered:

0-4 m: Periplatform ooze with some chalk and hardgrounds (late Pliocene - Pleistocene);

4-144 m: Washed;

144-182 m: Nanno chalk with chert nodules (late Paleocene - early Eocene).

182-479 m: Alternating nannofossil chalks and detrital limestones with some chert (early to late Campanian). Limestones consist of skeletal grainstones and mudstones, interpreted as turbidites, and of breccias with pebble-size clasts of shallow-water limestones in chalk matrix, tentatively interpreted as debris flows. Proportions of these lithologies are poorly known because of low recovery.

The basal unit of chalk and sediment gravity flows probably represents the debris apron of a carbonate platform. This apron grades upward into a carbonate slope that was bypassed by turbidity currents and that accumulated carbonate ooze at a low rate and with several hiatuses. The transition from basin floor to slope may reflect the combined effects of upbuilding of the Cretaceous Bahama Bank and the downward cutting of the nearby Great Bahama Canyon.

Ocean Drilling Program
Texas A&M University
College Station, TX 77843-3469
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The tie between borehole stratigraphy and seismic profiles is good and leads to a revision of the ages of two prominent reflectors. The reflector at 140 m sub-bottom is early Eocene rather than Oligocene; the one at 280 m sub-bottom is late Campanian rather than early Eocene in age.

Compensated neutron and gamma spectroscopy logs run in the pipe provide detailed information on porosity and basic lithologies. Information obtained from these logs largely compensates for poor core recovery.

Philip D. Rabinowitz

Philip D. Rabinowitz
Director

PDR:ag
pc: JOIDES Office
NSF Managers
JOIDES Panel Chairmen
JOI Office
IPOD Offices
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ODP Distribution

85/275

20 March 1985

TO: JOIDES EXECUTIVE AND PLANNING COMMITTEES

The following site summaries were received March 13, 1985 from Drs. James A. Austin and Wolfgang Schlager, Co-Chief Scientists aboard JOIDES RESOLUTION, Leg 101:

		Hole 635A	Hole 635B
Site Summary, Site 635	Latitude:	25°25.1'N	25°25.2'N
	Longitude:	77°19.9'W	77°20.0'W
	Water Depth:	3448 m	3463 m

Two holes were attempted at Site 635 in Northeast Providence Channel (a branch of Great Bahama Canyon) during the period March 10 to March 13, 1985. The site was drilled to identify a prominent seismic discontinuity at around 200 meters sub-bottom.

Hole 635A represents an unsuccessful attempt to spud in. Hole 635B is located further upslope and was drilled to 114 m before run-in sand forced abandonment of the hole.

The stratigraphic sequence recovered in this hole comprises the following units:

0-2.3 m Unit 1: Calcareous ooze and foram-pteropod sand (late Pleistocene - Holocene);

2.3-61 m Unit 2: Calcareous ooze and chalk of Pliocene age with detrital limestones and chalk (debris flows and turbidites?) of Cenomanian/Turonian age; no orderly succession of ages and no undisturbed contacts between different lithologies were observed;

61-118 m Unit 3: Slightly argillaceous chalk and limestone with alternations of dark, organic-rich and light, carbonate-rich intervals; intercalations of muddy debris flows, slump folds (late Albian).

Based on borehole data and seismic profiles, Unit 2 is interpreted as one or several slump masses, probably derived from the northern flank of the canyon and emplaced in the late Tertiary. Unit 3 is in place and consists of bathyal sediments that reflect short-term fluctuations of oxygen levels characteristic of this period. Some of the rocks resemble the Albian marls on top of the shallow-water carbonates and evaporites at Site 627. At Site 635, the target seismic reflector, with a velocity jump from 2.9 to 4.9 km/sec, lies 70-90 m below TD of Hole 635B. As at Site 627, this reflector may indicate the top of a Cretaceous shallow-water platform.

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Site Summary, Site 636

Latitude: 25°25.1'N
Longitude: 77°18.3'W
Water Depth: 3573 m

One hole, 636A, was attempted at Site 636, also in Northeast Providence Channel but at a somewhat deeper location. Seafloor lithologies were such that this hole could not be spudded in.

Robert B. Kidd
Robert B. Kidd
Manager of Science Operations

RBK:ag
pc: JOIDES Office
NSF Managers
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The following is a summary report from the JOIDES RESOLUTION for the week of February 3-9, 1985.

DRILLING OPERATIONS

Hole 626C terminated 5 February.

Started Hole 626C. Cored 179 m with APC and XCB systems; recovered 66.5 m; TD 179 m BSF in 855 m water. Core recovery and quality were poor due to predominance of loose calcareous sand in penetrated section. Hole 629D terminated 9 February.

Started Hole 626D. Cored 265.6 m with standard RCB system; recovered 9.0 m; drilled 179.4 m; TD 445 m BSF in 855 m water. Uncemented sand again caused poor core recovery and hole trouble. Hole was lost when sand flowed down around drill string and up between inner and outer core barrels. One thru-pipe log run from 345 m BSF. Cable head problems caused multiple runs with severing system before BHA and 16 joints pipe cut loose. Deep site objectives determined to be undrillable.

POOH and terminated site 626. Transit 173 N.M. to site BAH-9; begin APC coring operations at Site 627 on 10 February.

The following is a summary report from the JOIDES RESOLUTION for the week of February 11-15, 1985

OPERATIONS REPORT

Occupied Site 627 for entire week. Latitude 27 degrees 37.6' degrees, Longitude 78 degrees 16.4' West; Water depth 1036m.

Hole 627A (11 Feb) Cored 9.5 m, reacovered 9.5, with HPC System. Failed to recover seafloor interface; pulled clear to respud.

Hold 627B (11 Feb - 17 Feb) HPC and XCB Systems cored 535m, recovered 344m, none drilled. No significant drilling/coring problems; Good reports on performance of HPC/XCB System; Coring terminated on 15 FEB. when scientific coring objectives reached; On first logging attempt with Neutron-GR Tool, cable was apparently overrun, preventing normal recovery of tool. Attempts to recover tool by stripping over and by fishing failed. Tool was left in hole and hole was plugged with cement. Traces of hydrocarbon gas were detected near T.D.

The following is a summary report from the JOIDES RESOLUTION for the week of February 18 - 24, 1985.

DRILLING OPERATIONS

Hole 628A (BAH-8A): (Spud 18 Feb, Finish 19 Feb) 27 degrees 31.8'N, 78 degrees 19.0'W; water depth 976 m; total penetration 298 m; cored 293 m with APC/XCB systems; recovered 216 m.

Hole 629A (BAH-7A): (20 Feb) 27 degrees 24.4'N, 78 degrees 22.1'W; water depth 561 m; total penetration 16.5 m; cored 16.5 m with APC system; recovered 4 m unable to spud satisfactorily due presence of sand at sea floor.

Hole 630A (BAH-9A relocation): (Spud 20 Feb, Finish 21 Feb) 27

degrees 46.9'N, 78 degrees 20.4'W; water depth 814 m; total penetration 250.3 m; cored 250.3 m with APC/XCB systems; recovered 220 m.

Hole 630B: (21 Feb) 27 degrees 46.9'N, 78 degrees 20.3'W water depth 814 m; total penetration 80.4 m; cored 80.4 m with APC system; recovered 79.5 m.

Hole 630C: (21 Feb) 27 degrees 46.9'N, 78 degrees 20.3'w water depth 814 m; total penetration 9.3 m; took one mudline APC core for repeat section

22 Feb under way for Site 631

Hole 631A (BAH-11A): (Spud 23 Feb, Finish 24 Feb) 23 degrees 35'N, 75 degrees 44.7'W; water depth 1102 m; total penetration 244.8 m with APC/XCB systems, recovered 160.5 m
vessel presently under way for site 632 (BAH-11C) All holes with exception of 629A terminated upon attainment of scientific objectives No important operational problems experienced.

The following is a summary report from the JOIDES RESOLUTION for the week of February 25 - March 3, 1985.

OPERATIONS REPORT

Hole 632A (BAH - 11B); Spud 25 Feb, Finish 26 Feb. 23 degrees 41.2'N, 75 degrees 37.6'W; Water Depth 2006 M; total penetration 141 M; cored 141m with APC/XCB systems, recovered 83.5 M; terminated coring to switch to RCB BAH for deep penetration.

Hole 632B; Spud 27 Feb, Finish 28 Feb; water depth 2006 M; total penetration 282.6; cored 162.5 M with RCB system recovered 34.7 M, drilled 120 M low core recovery due to unconsolidated turbidites in section; terminated operations and plugged hole because of shows of heavier hydrocarbons in cores.

Hole 633A (BAH - 11B); Spud 1 Mar, Finish 2 Mar; Water depth 1690 M; 23 degrees 41.3'N, 75 degrees 37.6'W total penetration 228 M; cored 228M with APC/XCB systems recovered 110.8 M; terminated coring when objectives achieved; hole plugged with heavy mud as precaution.

Hole 634A (DSDP - 93); spud 2400 hr. 3 Mar; 25 degrees 23.0'N, 77 degrees 18.9'W; water depth 2863 M; deep RCB penetration planned.

The following is a summary report from the JOIDES RESOLUTION for the week of March 3 - 9.

OPERATIONS REPORT

Hole 634 (Old DSDP Site 98) 25 Degrees 23'N: 77 Degrees 18.9'W Establish mudline by D/P @ 2863 M. PDR reading in error. Wash with center bit to 3007 M. Coring at 3103 M with core #10 at 2400 hrs.

Hole 634 cored from 3218 to 3266 M, using 40 bbls mud to control sloughing. Recovery down to 2%. Washed core from 3266 to 3304 M. While retrieving core #28, hole sloughed in, sticking the drillpipe. Pipe unstuck, core #28 retrieved, and hole conditioned.

Hole 634 drill with center bit to 3334 M. Condition hole, retrieve center bit. Core #32 to 3343 M pipe stuck again. Free drillpipe with 100k overpull. Condition hole, short trip to condition hole prior to logging. Displace hole with gel. Begin logging inside D/P at 1330 hrs.

Hole 634 Run GST/CNT/NGT logs to 1700 hrs. POOH to 2297 M. Begin to move ship in D/P mode at 1830 hrs. to site 635, 3 miles north of 634.

Hole 635 25 degrees 25'N; 77 degrees 19.9'W Hole 635A (3484 M water) spudded at 0830 hrs. Cored 19 M and abandoned due to hard boulder type rubble encountered which could not be penetrated. Spud hole 635B at 1930 hrs. Cored 12 M with RCB.

Hole 635B Cored 86 M in 24 hours with RCB. Start flushing hole with mud at 3544 M to condition.

The following is a summary report from the JOIDES RESOLUTION for the week of March 11 - 17, 1985.

DRILLING OPERATIONS

Hole 635B core from 3581 to 3600 m stuck. After two runs with overshot lost circulation and pulled drill pipe to 60 meters above bottom, could not recover core barrel after 2 more overshot runs and one run with a core barrel for fishing tool. Dropped beacon for Site 636 at2100 hours. Plan to drill Site 636 one mile from 635. Abandoned hole.

Hole 636 25 degrees 25.07' N, 77 degrees 18.4'W. Cleaned out 10 meters of sand packed above core barrel. Spud hole at 1515 hours (3581 M water depth) Washed 5 meters of soft sediment and encountered very hard limestone at 3586 meters. Recovery .05 meters on each core. Suspended operation due to lack of time and sediment.

Depart from Site 636 on 3/13 at 1230 hours. ETA pilot station Miami 0500 hours 14 March.

In port, Miami, Florida, 14 - 17 March.

The following is a summary report from the JOIDES RESOLUTION for the week of March 17 - 23.

DRILLING REPORT

Vessel underway for site 418 at 0815 hrs on March 19 with 37 Scientific and technical personnel. ETA site 418 is 1600 hrs 21, March.
Lost Propulsion motor no. 13B with open circuit in field coil. Probably can repair on site. Run with 5 motors each shaft until repaired.
Hole 418A beacon drop at 1633 hrs abrupt loss of beacon signal 20 minutes after launch. Moved two miles to SE after good SATNAV fix. Made up lower BHA. Let go second beacon. Rapid signal level drop. Positioned on Marginal beacon while awaiting SATNAV fixes. Loss of acoustics frequent due to low signal/noise level.

Hole 418A 25 deg. 02.25 N, 68 degrees 03.37 W, on site offset 4000' west, took station, no further loss of signal, signal

adequate. Finished making up BHA. Laid out 6 joints of drill pipe not passing rabbit at box end. Repairs to elevator latch, pipe racker hose and skate hose. Ran in hole to 5166 M. Finish running new 5 1/2" pipe. Clean pipe I.D. with wiper plug. Rig up for re-entry with Mesotech Sonar. Run Sonar to 5473 M. Apparently stopped in bumper sub, could not work down or pull above 5 1/2" BHA transition. Pulled out cable head weak point and recover logging line. recover sonar tool with overshot. Tool showed damage from sharp shoulder. Pump down go-devil to test pipe pressure integrity. Pipe held pressure. Rig and run EDO sonar. Close target and maneuver for stab. Lost rotation, recover and lay dOn; sonar tool. Rug and run second sonar. Lost 45 degree transducer function. Heave comp greatly reduce vertical motion at bit. Stab into cone and verified. Run temperature/water sampler at 5600 M. Results good.

April 2, 1985

TO: JOIDES.URI - LARSON
HAWAII.INST - MOBERLY
LAMONT - HAYES
OREGON.STATE - SCHRADER
RSMAS - HONNOREZ
NSF.OCE.ODP - BRASS
J.CLOTWORTHY - CLOTWORTHY
R. MCDUFF - MCDUFF
W.NIERENBERG - NIERENBERG

FROM: TAMU/ODP

The following is a summary report from the JOIDES RESOLUTION for the week of March 25 - 31, 1985.

DRILLING OPERATIONS

The JOIDES RESOLUTION continued operations at Site 418A. The hole was cleaned to a subbottom depth of 5863 m and then washed to 6232 m where solid contact was encountered. The magnetic susceptibility log was used to a depth of 5850 m where the hole was obstructed. An attempt was made to run the Schlumberger suite of logs but these also would not pass below 5850 meters. The following logs were run:

-Schlumberger sonic/induction/caliper/gamma ray log was run from 6300 - 5975 meters.
-Density neutron/NST logs was run from 6300 - 5975 m to the seafloor.
-3D magnetometer was run from 6300 - 5980 m.
-Gyro orientation and dual laterolog tools.
-Multichannel sonic tool was run from 6310 - 5875 m.
-USGS magnetic a tool was run from 6309 - 5974 m.

The hole was then filled to 6309 meters and the downhole geophones were positioned in the hole at a depth of 6265 m. Test shots from the R/V Fred Moore were recorded, and first seismic live run.

SCIENCE REPORT

The JOIDES RESOLUTION continued geophysical studies at DSDP Site 418A. After reentry, water samples and temperature measurements were collected at depths of 45-75 and 620-645 meters subbottom. Following this the hole was logged from 816 meters to 285 meters subbottom. The logged interval transects all of the basalt except the lower dike transition zone and continues upsection to a point 42 meters above the sediment-basalt contact. The magnetic susceptibility log (from 477 to 290 meters subbottom), the Schlumberger sonic-induction - caliper-natural gamma combination log (from 780 to 290 meters) and the 3-axis magnetometer (from 780 to 290 Meters?) were also run this week. The 3-axis magnetometer showed a very strong

magnetic anaomaly at 500m.

LG/wj

OCEAN DRILLING PROGRAM
TEXAS A AND M UNIVERSITY

SN 109 RECEIVED--- MARCH 31, 1985

TO: JOIDES OFFICE

FROM: LOU GARRISON, DEPUTY DIRECTOR, ODP

TELEX RECEIVED FROM M.SALISBURY AND J.SCOTT, JOIDES RESOLUTION

TO DATE WE HAVE (1) RE-ENTERED AND CLEANED HOLE 418A TO TOP OF FISH AT 492 METERS SUBBASEMENT, 2) COLLECTED TEMPERATURE AND WATER CHEMISTRY DATA IN SEDIMENTS AND BASEMENT, 3) LOGGED ENTIRE BASEMENT SECTION WITH NEW USGS MAGNETIC SUSCEPTIBILITY TOOL AND SONIC INDUCTION/SFL/CALIPER/SPECTRAL GAMMA RAY TOOL, 4) LOGGED BOTTOM 2/3 OF BASEMENT SECTION WITH DENSITY/POROSITY TOOL, DUAL LATEROLOG, LDGO MULTICHANNEL SONIC TOOL AND NEW GERMAN MAGNETOMETER. NOW COMMENCING WITH OBLIQUE SEISMIC EXPERIMENT. ALL TOOLS HAVE FUNCTIONED FLAWLESSLY AND RESULTS ARE SPECTACULAR. OLD CRUST PROFOUNDLY DIFFERENT FROM YOUNG CRUST: VP IS 5 TO 6 KM/S THROUGHOUT MOST OF SECTION. 2A ABSENT. RESISTIVITY AND POROSITY SIMULTANEOUSLY HIGH SUGGESTING INTERPILLOW VOIDS AND PALEOAQUIFERS SEALED BY ALTERATION PRODUCTS.

BAD NEWS IS THAT WE ARE RUNNING AT LEAST THREE DAYS BEHIND SCHEDULE BECAUSE OF BEACON AND EDO FAILURES, UNEXPECTEDLY LONG PIPE TRIP TO CLEAR HOLE AND BRIDGE 1/3 OF WAY INTO BASEMENT. WHICH REQUIRES LOGGING HOLE IN 2 STAGES. MOST OPTIMISTIC PROJECTION PRECLUDES: COMPLETION OF LOGGING IN TOP THIRD OF BASEMENT= VSP AND LARGE SCALE RESISTIVITY EXPERIMENTS= ALL LOGGING WITH BHTV/DBMI COMBINATION TOOL= FISHING AND CASING FOR FUTURE DRILLING. IF PIPE TRIP AND RE-ENTRY TO DEPLOY PACKER TAKES THREE DAYS AS IT DID THE FIRST TIME, SCRATCH PERMEABILITY/PORE PRESSURE/HYDROFAC TESTS AS WELL.

LEG 102 PARTY THEREFORE URGENTLY REQUESTS RESTORATION OF AT LEAST TWO OF SIX DAYS CUT FROM LEG PRIOR TO DEPARTURE IN ORDER TO COMPLETE LOGGING AND MOST CRITICAL OF REMAINING EXPERIMENTS. RECOGNIZE PORT CALL CONSTRAINTS AND REQUESTS OF NEBULOUS FUTURE LEGS TO USE OUR TIME, BUT WE'RE IN PLACE, WE'RE ON A ROLL, AND WE NEED IT NOW. WE ALSO FEEL THAT SPECTACULAR RESULTS EARLY IN ODP WILL ULTIMATELY BE YOUR BEST PR.

ENDS

ODP TAMU
TELEX 792779

JOIDES URI UD

ODP TAMU

MMM

READ REQUEST COMPLETED
EASYLINK

7900105A 2APR85 08:58 EST
PTS

ANALYSIS OF PROPOSALS RECEIVED BY THE JOIDES OFFICE (AS OF 14 MAR 1985)

Total number of proposals received		128
a. Atlantic Ocean		36 proposals
comprising:	General	22
	Mediterranean Sea	8
	Caribbean Sea	5
	Norwegian Sea	1
from:	U.S./JOIDES institutions	11
	U.S./non-JOIDES institutions	3
	France	11
	ESF nations	2
	U.K.	4
	FRG	3
	Canada	2
b. Indian Ocean		43 proposals
comprising:	General	39
	Red Sea	4
from:	U.S./JOIDES institutions	24
	U.S./non-JOIDES institutions	12
	France	3
	ESF nations	2
	U.K.	1
	FRG	1
c. Southern Oceans		8 proposals
from:	U.S./JOIDES institutions	6
	New Zealand	1
	France	1
d. West Pacific Ocean		23 proposals
from:	U.S./JOIDES institutions	2
	U.S./non-JOIDES institutions	4
	France	6
	Japan	4
	FRG	2
	U.K.	1
	Australia	3
	New Zealand	1

e. Central and Eastern Pacific Ocean — 12 proposals

from:	U.S./JOIDES institutions	8
	U.S./non-JOIDES institutions	2
	France	2

f. General/Instrumental — 6 proposals

from:	U.S./JOIDES institutions	3
	U.S./non-JOIDES institutions	1
	U.K.	1
	ESF nations	1

Total (by country) — 128 proposals

U.S./JOIDES institutions		54	76
U.S./non-JOIDES institutions		22	
France			23
U.K.			7
ESF nations			5
FRG			6
Japan			4
Canada			2
Non-JOIDES nations	(Australia)		3
	(New Zealand)		2

In addition, 48 ideas or suggestions for drilling have been received. These range from brief letters of intent to immature proposals. Several of the items listed have now been re-submitted as full proposals. There are also a small number of proposals for workshops.

A.E.S.M.
March 1985

ADDENDUM TO PROPOSALS LISTING SINCE 14 MARCH 1985

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
30/B	1/10/84	Proposals for oceanic drilling on the Davie Ridge and Malagasy Margin (Mozambique Channel)	Clocchiatti,M. Leclaire,L. Segoufin,J.	Mus.Natn. d'Hist. Naturelle, Univ.P&M Curie Paris,Fr.	Some	Yes	TECP 1/84 IOP 4/85 SOHP 4/85 TECP 4/85		French Blue Book Revised proposal received 03/25/85
97/B	10/1/84	Variation of Neogene surface fertility & carbonate compensation in the Equatorial Indian Ocean	Peterson, L.C.	RSMAS	Some	Yes	SOHP 3/85 IOP 3/85		US Indian Ocean Workshop; related to Prop.97/B. Revised 3/85
133/B	03/21/85	In situ sampling of pore fluids during ODP	McDuff, R.E. Barnes, R.O.	U. Washington	N/A	N/A	DMP 3/85 LITHP 3/85		
134/B	03/25/85	Ocean drilling in the Gulf of Aden	Girdler,R.W.	Univ. Newcastle, U.K.	Yes	Yes	IOP 4/85 TECP 4/85 SOHP 4/85		
135/B	03/25/85	Drilling on Broken Ridge to evaluate thermo-mechanical models of rifting	Weisssel,J.K. Karner,G.D.	LDGO U.Durham, U.K.	Some	Yes	IOP 4/85 TECP 4/85 SOHP 4/85		
136/C	03/25/85	Oceanic drilling on the Kerguelen-Heard Plateau	Schlich,R. Munschy,M Leclaire,L. Proelich,F.	I.de Phys. d.Globe Strasb'g Mus.Natn. d'Hist.Nat France	Yes	No	IOP 4/85 SOP 4/85 TECP 4/85 SOHP 4/85		
137/B	03/25/85	Oceanic drilling on the fossil ridges in the Indian Ocean	Schlich,R. Royer,J.Y. Whitechurch,H. Clocchiatti,M.	I.de Phys. d.Globe Strasb'g I.de Geol. Strasb'g Mus.Natn. d'Hist.Nat France	No	Yes	IOP 4/85 TECP 4/85 LITHP 4/85 SOHP 4/85		
138/B	03/25/85	Oceanic drilling at the Rodriguez Triple Junction Indian Ocean	Schlich,R. Munschy,M. Royer,J.Y. Montigny,R. Whitechurch,H.	I.de Phys. d. Globe Strasb'g I.de Geol Strasb'g France	Yes	No	IOP 4/85 LITHP 4/85 TECP 4/85		
139/B	03/25/85	Oceanic drilling on the Agulhas Plateau,S.W.Indian Ocean	Jacquart,G. Vincent,E.	CEPM-IFP, Rueil Univ.P&M Curie, France	Some	Yes	IOP 4/85 SOP 4/85 SOHP 4/85 TECP 4/85		
140/B	04/01/85	Deep drilling in the Central and Northern Red Sea axial areas	Pautot,G. Guennoc,P.	IFREMER, Brest BRGM,Brest France	Some	Yes	IOP 4/85 SOHP 4/85 TECP 4/85 LITHP 4/85		
141/B	04/02/85	Drilling proposal for the Indus deep sea fan	Jacquart,G. Leclaire,L.	CEPM-IFP, Rueil Mus.Natn. d'Hist.Nat France	Some	Yes	IOP 4/85 SOHP 4/85		See props. 78/B & 96/B
142/B	04/02/85	Equatorial Pacific depth transect: Ontong Java Plateau	Mayer,L. Berger,W.H.	Dalhousie U.Canada SIO	Some	Yes	CEPAC 4/85 SOHP 4/85		

The analysis of proposals received should be amended as follows:

Indian Ocean - 50 proposals
from: U.S./JOIDES institutions - 25
France - 8
U.K. - 2
Southern Oceans - 9 proposals
from: France - 2
Central & Eastern Pacific Ocean - 13 proposals
from: Canada - 1
General/Instrumental - 7 proposals
from: U.S./JOIDES institutions - 4
Total (by country) - 138 proposals
from: U.S./JOIDES institutions - 56 (78 total from U.S.)
France - 29
U.K. - 8
Canada - 3

ATLANTIC OCEAN PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
1/A	12/16/82	Pre-middle Cretaceous geologic history of the deep S.E. Gulf of Mexico	Phair,R.L. Buffler,R.T.	U.T.Austin	Some		SOHP 2/84 CAR-WG (P) ARP (P) PMP (P)		Reference to DSDP Panels
5/A	7/13/83	Structural & sedimentological development of carbonate platforms(Blake-Bahamas area)	Mullins, H.T. Sheridan,R.E. Schlager, W.	RSMAS	No	Ref'd to JOI SSP 7/25/83	SOHP 2/84 ARP (P)	Approved 3/84	Leg 101
6/A	8/-/83	Ocean crust and high latitude paleoceanography in the Labrador Sea	Gradstein,F.M. et al.	Atlantic Geoscience Centre, Canada	Some	SS needed (11/83)	SOHP 2/84 TECP 1/84 SOHP 10/84 (for added 14 days drilling)	Approved 3/84	Proposal revised 3/84 and 5/84 Leg 105 To incld Baffin Bay drilling (Proposal 58/A)
7/A	8/1/83	Future drilling sites in the Gulf of Mexico & Yucatan	Buffler,R.T. Bryant, W. R.	U.T.Austin	Some	Yes	CAR-WG 1/84 ARP 7/84	Approved 9/84	Approved as back--up leg.See Props. 23/A & 12/A
9/A	1/-/84	Pre-Messinian history of the Mediterranean	Hsu,K.J. (on behalf of the Swiss Working Group)	ETH,Zurich Switz. (ESF)	Yes		MED-WG (P) SOHP (P)		
10/A	1/-/84	Cenozoic events in oceanic and atmospheric circulation off N.W. Africa	Sarnthein,M., et al.	Univ. Kiel FRG	Yes		SOHP 5/84 ARP 4/84	Approved 5/84	Revised 3/84 Leg 108
12/A	1/-/84	A transect across the Tyrrhenian Back-arc Basin	Cita,M.B. Malinverno,A.	Milan Univ Italy(ESF)	Some		MED-WG 3/84 ARP 7/84	Approved 9/84	See Tyrrhenian Sea revised Proposal 21/A
15/A	1/10/84	Paleocommunication between the North and South Atlantic seas during the Cretaceous: Formation of the Atlantic Ocean	Herbin,J.P.	IFP,France			TECP ARP		French Blue Book
16/A	1/10/84	Atlantic-Mediterranean relationship(Gulf of Cadiz, Alboran Sea); Paleoceanographic and paleohydrological evolution since the Miocene	Faugeres, J.C.	Univ. of Bordeaux 1, France	Some	Yes	TECP ARP		French Blue Book

17/A	1/10/84	Deep oceanic crust and upper mantle proposal for deep sea drilling in the Gorringe Bank	Mevel,C.	Univ. P & M Curie, Paris,Fr. (CYAGOR G)	Some	Yes	LITHP 2/84 TECP ARP		French Blue Book
18/A	1/10/84	DSDP Proposal off Galicia Bank	Mauffret,A. Boillot, G. Montadert,L.	Univ. P&M Curie, Paris, Fr IFP;	Yes	No	TECP ARP	Approved 5/84	French Blue Book Revised 6/84 Leg 103
19/A	1/10/84	Proposal for drilling on the Eleuthera Fan (Bahamas)	Ravenne, C. Le Quellec,P.	IFP France CFP France	Yes	No	TECP 1/84 ARP SOHP		French Blue Book Leg 101
20/A	1/10/84	Subduction Collision: the outer Hellenic Arc	Mascle, J.	Univ. P&M Curie, Paris, Fr.	Some	Yes	TECP 1/84 ARP		French Blue Book
21/A	1/10/84	Rifting, stretching and oceanic accretion in the Tyrrhenian Marginal Basin	Rehault, J.P. Fabbri, A.	Univ. P&M Curie, Fr. Instituto di Geolog. Marina, CNR,Italy	Some	Yes	TECP 1/84 & 10/84 ARP MED-WG 10/84 SOHP	Approved 9/84	French Blue Book Revised by MED-WG Sept.1984 see Prop. 12/A Leg 107
22/A	1/10/84	The Rhone deep sea fan site: Proposal for deep sea drilling	Bellaiche,G. Droz, L. Got, H. Orsolini, P.	Lab. de Geodynam. sous marin Villefran. France CRSM, Perpignan,Fr. SNEA,Paris	Yes		TECP 1/84 ARP		French Blue Book
23/A	1/10/84	Caribbean Basins	Mascle, A. Biju-Duval,B.	IFP,France CNEXO, France	Yes		CAR-WG 2/84 TECP 1/84 ARP		French Blue Book (Partly related to Props 7/A and 32/A)
24/A	1/10/84	New drilling along Barbados transects	Mascle,A. Biju-Duval,B.	IFP,France CNEXO, France	Some		CAR-WG 2/84 SOHP 2/84 TECP 1/84	Approved 3/84	Incorporates prop. by Biju-Duval,Moore & DSDP Leg 78A science staff on drilling of the Barbados Forearc. Relate to Props. 35/A & 41/A;now inc in Prop.72/A.Leg 110 & back-up leg
32/A	1/26/84	Primary drilling sites for AODP (Yucatan Basin)	Rosencrantz,E. Bowland,C.	U.T.Austin	Some	Yes	ARP (P) CAR-WG 2/84	Approved 9/84	Agreed as back-up prop.Relate to Props. 7/A & 23/A
35/A	2/-/84	Additional proposed sites for drilling on the Barbados Ridge accretionary complex	Westbrook,G.K.	Durham Univ.,U.K.			TECP (P) CAR-WG	Approved 3/84	Related to Prop. 24/A & 41/A. Now incorporated in Prop.72/A.Part of back-up

36/A	2/-/84	Drilling in the Norwegia a during the IPOD-extension drilling	Hinz,K. and Norwegian Sea Working Group	BGR, FRG	Yes	Nk	NOR-WG ARP (P) TECP 2/84	Approved 3/84	Revised 4/84 & 5/84 (incorporates NOR W views) Leg 104
38/A	2/15/84	Proposal for drilling in N.E. Gulf of Mexico (DeSoto Canyon)	Kennett, J. Moore, T.	URI	Yes	Yes	SOHP 4/84		
39/A	2/27/84	IPOD drilling in Cape Verde	Hill, I.	Leicester Univ.,U.K.					Previously submitted in 1982
40/A	2/27/84	Re-entry for logging of Site 534 (Blake-Bahamas Basin)	Sheridan, R. Shipley, T. Stoffa, P.	U.T.Austin	Yes		ARP (P) SOHP (P)	Approved 1/84	Part of Leg 101
41/A	3/-/84	Northern Barbados Forearc: structural and hydrological processes	Moore, C.	UCSC	Some		TECP 4/84 ARP SOHP 8/84	Approved 3/84	Related to Props. 24/A & 35/A;see also Prop. 72/A. Leg 109
45/A	3/5/84	Paleoenvironmental drilling in the Equatorial Atlantic	Ruddiman, W.F.	LDGO	No		SOHP 4/84 ARP 4/84 TECP		
58/A	3/21/84	West Baffin Bay	Grant, A.C. Jansen, et al.	Atlantic Geoscience Centre		Yes	SOHP 10/84 TECP 10/84	Approved 3/84	Incorporated within Proposal 6/A Leg 105
59/A	3/27/84	Continental margin sediment instability investigated by drilling adjacent turbidite sequences	Weaver,P.P.E. Kidd, R.B. et al.	IOS, UK	Yes		SOHP 4/84 ARP 4/84 TECP 3/84		Revised proposal 8/84 resubmitted to Panels
60/A	4/20/84	Newfoundland Basin: Eastern Canadian Margin	Masson, D.G.	IOS, UK	Yes	Yes	SOHP 4/84 ARP (P) TECP 4/84		
64/A	6/25/84	To drill at Site NJ-6	Poag, C.W.	USGS,WHOI	Yes		ARP 7/84 SOHP 7/84		
68/A	7/6/84	Deep basins of the Mediterranean	Montadert, L.	IFP, France			TECP 1/84		
72/A	7/30/84	Proposal for a two-leg transect of the Lesser Antilles forearc	Speed, R.C. Westbrook,G.K. Mascle, A. Moore. J.C.	Northwest-ern Univ. Durham,UK IFP,France UCSC	Yes		ARP (P) TECP 8/84 SOHP 8/84		CAR W/G proposal; incorp. Leg 110 See Props. 24/A. 35/A and 41/A

74/A	8/2/84	ODP drilling along the continental margin of Morocco, N.W. Africa	Winterer,E.L. Hinz, K.	SIO BGR, FRG	Yes		TECP 8/84 ARP(P) LITHP(P) SOHP(P)	Approved 9/84	Related to Prop. 85/A. Approved for back-up leg.
81/A	9/4/84	Proposal for an Ionian Sea transect	Hieke, W. Makris, J.	Univ. of Hamburg, FRG			ARP 9/84 MED-WG 9/84 SOHP 10/84 TECP 10/84		Revised by MED-WG 9/84
85/A	9/20/84	Preliminary proposal for ODP drilling along the continental margin of Morocco,N.W. Africa	Hayes, D.E. Mountain, G. Rabinowitz,P.	LDGO TAMU			ARP (P) SOHP (P) TECP (P) 10/84	Approved 9/84	Related to Prop.74/A Approved as part of back-up proposal.
122/A	12/28/84	Basement drilling at the Kane Fracture Zone	Karson, J.A.	WHOI	Yes	Yes	LITHP 1/85 ARP 1/85	Approved 3/84	Legs 106 & 109
125/A	01/14/85	Bare-rock drilling at the Mid-Atlantic Ridge ($22^{o}53'$N)	Bryan,W.B Purdy,G.M. Thompson,G.	W.H.O.I.	Yes	No	LITHP 1/85 ARP 1/85	Approved 3/84	Legs 106 & 109

INDIAN OCEAN PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
30/B	1/10/84	Deep sea drilling proposals for the Indian Ocean	Clocchiatti,M.	Mus.Natn. d'Hist. Naturelle, Paris, Fr.	Some	Yes	TECP 1/84		French Blue Book
31/B	1/10/84	Paleoenvironmental history of the Red Sea	Guennoc, P.	BRGM, Fr.	Yes	Yes	TECP IOP (P)		French Blue Book
44/B	3/-/84	Tectonic evolution of the Andaman Sea in relation with the relative displacement of Indochina with respect to India	Peltzer, G. Tapponier, P. Jacquart, G.	Univ. P&M Curie, Fr.			WPAC TECP 4/84 IOP (P)		
55/B	3/21/84	The Makran Forearc, Pakistan	Leggett, J.K.	Imperial College, U.K.	Some	Yes	TECP 4/84 IOP 4/84		
56/B	3/21/84	Drilling to constrain the history of deformation and relationship between fault surfaces and upward flow of water in the region of inter-plate deformation, Central Indian Ocean	Weissel, J.K. Forsyth, D.W. Stein, C.A. Anderson, R.N.	LDGO Brown U. North-western U LDGO	None	Yes	DMP 4/84 TECP 4/84 IOP 4/84 LITHP 10/84 TECP 10/84 SOHP 10/84		Revised following Indian Ocean Workshop 10/84
57/B	3/21/84	Determine the history of the formation of the African-Arabian margin and adjacent oceanic lithosphere	Stein, C.A.	North-western University	Yes		IOP (P) SOHP 10/84 TECP 10/84		Revised 10/84 following US Indian Ocean Workshop See Prop.119/B
61/B	6/18/84	Conjugate passive rifted margins of Madagascar, East Africa and the Western Somali Basin	Coffin, M.F. Matthias, P.	LDGO TAMU	Some		IOP 7/84 TECP 7/84 SOHP 10/84 TECP 10/84		Revised following US Indian Ocean Workshop 10/84 See Prop.102/B
62/B	6/18/84	The Davie Fracture Zone: reactivating zone of weakness?	Coffin, M.F. Matthias, P. Bernoulli, D. Scrutton, R.A. Channell, J.T.	LDGO TAMU U.Basel Switz.ESF U.Edin.UK U. Florida	No		IOP (P) SOHP 10/84 TECP 10/84 IOP 12/84		Revised 10/84 following US Indian Ocean Workshop. Further revisions received 12/84 (mature proposal)
65/B	7/5/84	Magnetic quiet zone: Australia's southern margin	Mutter, J.C. Cande, S.C.	LDGO	Some		TECP 10/84 LITHP 10/84 SOHP 10/84 SOP (P) IOP(P)		Revised 10/84 following US Indian Ocean Workshop

77/B	8/20/84	The Seychelles Bank and the Amirante Trough	Mart,Y.	TAMU	Some	Yes	IOP 8/84		
78/B	8/23/84	Indus Fan - a proposal for drilling	Kolla, V.	Superior Oil Co.USA			IOP (P) SOHP 9/84		See Prop.96/B
79/B	8/28/84	Tethyan stratigraphy and ancient oceanic crust	Coffin, M.F. Chanell,J.E.T.	LDGO	Some		LITHP 9/84 SOHP 9/84 IOP 9/84		
86/B	10/1/84	Red Sea drilling	Bonatti, J. Ross, D.A.	LDGO WHOI	Yes	Some needed	LITHP 10/84 SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop
87/B	10/1/84	Basalt drilling objectives in the Arabian Sea - Carlsberg Ridge	Natland, J.	SIO	Yes		SOHP 10/84 TECP 10/84 IOP (P) LITHP 10/84		US Indian Ocean Workshop
88/B	10/1/84	Mascarene Plateau-Chagos--Laccadive volcanic lineament	Duncan, R.A.	OSU	Yes		LITHP 10/84 SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop; Related to Proposal 97/B
89/B	10/1/84	Mantle heterogeneity leg-drilling on S.W.Indian Ridge Fracture Zones	Dick, H.J.B. Natland, J.	WHOI SIO	Some		LITHP 3/85 SOP 3/85 IOP 3/85 TECP 3/85		US Indian Ocean Workshop:Related to Prop.112/B. Revised proposal 3/1/95
90/B	10/1/84	S.E. Indian Ocean Ridge transect(mantle heterogeneity)	Duncan, R.	OSU	Yes		LITHP 10/84 SOHP 10/84 IOP (P)		US Indian Ocean Workshop; Related to Prop. 100/B and 111/C
91/B	10/1/84	Nature of chemical discon--tinuity in oceanic crust as a function of time (S.E.Indian Ocean)	Langmuir, C.	LDGO	Yes		LITHP 10/84 IOP (P)		US Indian Ocean Workshop; related to Prop. 112/B
92/B	10/1/84	Seismic observatory in the Crozet Basin	Brocher, T.M.	WHOI	No	OBS exp planned in 1985	LITHP 10/84 SOHP 10/84 IOP (P)		US Indian Ocean Workshop
93/B	10/1/84	History of anoxic sediments associated with monsoonal upwelling, salinity stratification and oxygen minima in the Western Arabian Sea	Prell, W.L.	Brown Univ.	Little	Yes	SOHP 10/84 IOP (P)		US Indian Ocean Workshop
94/B	10/1/84	History of monsoonal upwelling Owen Ridge, Arabian Sea	Prell, W.L.	Brown Univ.	Some	Yes	SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop
95/B	10/1/84	History of the Asian monsoon (Bay of Bengal)	Cullen, J.L. Prell, W.L.	Salem St. Brown Univ.	Yes		SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop

96/B	10/1/84	Surveying and drilling in the Bengal Fan (Distal Indus and Ganges Fans)	Klein, G.deV.	Illinois Univ.	Some	Yes	SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop See Prop.78/B
97/B	10/1/84	High resolution drilling transect in the Equatorial Indian Ocean (90 E/Chagos)	Peterson, L.C.	RSMAS	Yes poor to fair		SOHP 10/84 IOP (P)		US Indian Ocean Workshop; related to Prop. 88/B
98/B	10/1/84	Determination of the geologic history of southern hemi--sphere atmospheric circu--lation and climatic evolution of the Australian Desert (S.E. Indian Ocean)	Rea, D.K.	Univ. of Michigan	Yes		SOHP 10/84 IOP (P)		US Indian Ocean Workshop
99/B	10/1/84	Palaeo-oceanography climate dynamics (Agulhas Basin)	Coulbourn, W.	Univ. of Hawaii	Yes		SOHP 10/84 TECP 10/84 IOP (P)		US Indian Ocean Workshop
100/B	10/1/84	Stratigraphic sections - S.E. Indian Ridge transect	Hays, J.D. Lazarus, D.B.	LDGO WHOI	Some		SOHP 10/84 IOP (P)		US Indian Ocean Workshop; related to Prop. 90/B and 111/C
101/B	10/1/84	Determination of geologic history of ridge crest hydro--thermal activity	Owen, R.M. Rea, D.K.	Univ. of Michigan	Some		SOHP 10/84 LITHP 10/84 IOP (P)		US Indian Ocean Workshop
102/B	10/1/84	Somali Basin	Matthias, P.	TAMU			IOP (P) SOHP 10/84 TECP 10/84		US Indian Ocean Workshop See Prop.61/B
103/B	10/1/84	Nature of Laxmi Ridge (N.W. Indian Ocean)	Heirtzler, J.	WHOI	Little		IOP (P) SOHP 10/84 TECP 10/84 LITHP 10/84		US Indian Ocean Workshop
104/B	10/1/84	Transect of 90°East Ridge	Curray, J. Duncan, R.	SIO OSU	Some	Yes	IOP (P) LITHP 10/84 TECP 10/84 SOHP 10/84		US Indian Ocean Workshop
105/B	10/1/84	Arc-continent collision,Timor	Karig, D.E.	Cornell Univ.	Yes		IOP (P) TECP 10/84 SOHP 10/84		US Indian Ocean Workshop
106/B	10/1/84	Broken Ridge, Indian Ocean	Curray, J. Thierstein,H. Mackenzie, Mahoney	SIO	Poss--ibly		IOP (P) TECP 10/84 SOHP 10/84 LITHP 10/84		US Indian Ocean Workshop

107/B	10/1/84	State of stress in ocean lithosphere plate: S.E. Indian Ridge	Forsyth, D.	Brown Univ	Yes		IOP (P) TECP 10/84 LITHP 10/84 SOHP 10/84		US Indian Ocean Workshop
112/B	10/2/84	Lithosphere Targets	Kennett, J. (on behalf of SOP)	URI	Some		SOP (P) LITHP 10/84 TECP 10/84		SOP Proposal, link to Prop. 89/B and 91/B
113/B	10/2/84	Agulhas Plateau	Kennett, J. (on behalf of SOP)	URI	Yes		SOP (P) SOHP 10/84 TECP 10/84		SOP Proposal
115/B	10/10/84	Agulhas Plateau: paleocean--ography, nature of basement, and tectonics	Herb,R. Oberhansli,H.	Univ. Bern Switz. ESE	Some	Yes	IOP 10/84 SOHP 10/84 TECP 10/84		
116/B	10/10/84	Palaeo-oceanog. of the Indian Ocean (transect of 90°E Ridge)	Oberhansli, H. Herb,R.	Univ. Bern Switz. ESE	Some	Yes	IOP 10/84 SOHP 10/84		
117/B	10/22/84	Proposal for drilling in the northern Red Sea	Cochran, J.B.	LDGO	Yes	Some	SOHP 9/84 TECP 9/84 IOP 9/84		Immature proposal rec'd 9/84;revised 10/84
118/B	11/2/84	Middle-late Cenozoic strati--graphy, chronology, paleo--environmental history off East Africa: correlation with hominoid sites	Kennett, J. Brown, F.H. Howell, C., et al	URI Univ.Utah UCBerkeley	Yes	No	SOHP 10/84 IOP 10/84		Includes views of LDGO Paleoclimates and Evolution Workshop
119/B	12/3/84	History of the early opening of the Gulf of Aden resulting rifting of old oceanic lithosphere	Stein, C.A.	Northwest. Univ.	Some	Yes	IOP 12/84 SOHP 12/84 TECP 12/84 LITHP 12/84		See Proposal 57/B
120/B	12/10/84	Oceanic drilling in Atlantis II Deep, Red Sea	Zierenberg,R.A Shanks, W.C. Von Damm, K.L.	U.S.G.S.	Yes		IOP 12/84 LITHP 12/84 TECP 12/84		
121/B	12/10/84	Ocean drilling in the Exmouth & Wallaby Plateaus & Argo Abyssal Plain, E.Indian Ocean	von Rad,U. Exon, N.F. Symonds,P.A. Willcox,J.B.	BGR, FRG BMR, Australia	Yes	Yes	IOP 12/84 SOHP 12/84 TECP 12/84		Australian COGS-2 proposal

SOUTHERN OCEANS PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
54/C	3/20/84	Southern Ocean Drilling: a. Sub-Antartic sites b. Weddell sites	Kennett, J.P.	URI	Some	Yes	TECP SOP (P)	Approved 3/84	Leg 114
73/C	08/02/84	Drilling proposal on the Antarctic margin off the Adelie Coast	Wannesson,J.	IFP,France	Some	Yes	TECP 2/85 SOP 2/85 SOHP 2/85		Site summary forms submitted.Revised proposal rec'd 02/25/85.
108/C	10/2/84	East Antarctic continental margin	Kennett, J. (on behalf of SOP)	URI	Some		SOP (P) SOHP 10/84 TECP 10/84		Southern Ocean Panel Proposal
109/C	10/2/84	Kerguelen - Heard Plateau	Kennett, J. (on behalf of SOP)	URI	Some	Yes	SOP (P) SOHP 10/84 TECP 10/84		Southern Ocean Panel Proposal
110/C	10/2/84	Wilkesland- Adelie continental margin	Kennett, J. (on behalf of SOP)	URI	Yes	No	SOP (P) SOHP 10/84 TECP 10/84		Southern Ocean Panel Proposal
111/C	10/2/84	Southeast Indian Ocean Ridge transect (subantarctic)	Kennett, J. (on behalf of SOP)	URI			SOP (P) SOHP 10/84 LITHP 10/84		SOP Proposal, link to Prop. 90/B and 100/B
114/C	10/2/84	Crozet Plateau	Kennett, J. (on behalf of SOP)	URI	Yes		SOP (P) SOHP 10/84		SOP Proposal
129/C	01/21/85	ODP opportunities in the Bounty Trough	Davy, B.W.	D.S.I.R. N.Zealand	Some	Yes	WPAC 1/85 SOHP 1/85 TECP 1/85 SOP 1/85		

WEST PACIFIC OCEAN PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
25/D	1/10/84	Deep sea drilling proposal on the New Hebrides arc	ORSTOM team	Centre ORSTOM, New Caledonia, Fr.			TECP 1/84		French Blue Book
26/D	1/10/84	Succinct proposals for deep sea drilling sites on the Tonga-Kermadec Arc	NOUMEA team	ORSTOM Centre de Noumea, New Caledonia, France			TECP 1/84		French Blue Book
27/D	1/10/84	Proposal for drilling in the Sulu Sea Marginal Basin and Sulu-Negros Troughs	Rangin, C.	IFP, France	Some		TECP 1/84		French Blue Book
28/D	1/10/84	Tectonic evolution of the South China Sea:marginal basin drilling proposal	Letouzey, J. Fricaud, L. Rangin, C.	IFP, France CFP, France	Some		TECP 1/84		French Blue Book
29/D	1/10/84	Transect across Ryukyu Island Arc and Okinawa Backarc Basin	Letouzey, J.	IFP, France	Yes	No	TECP 1/84		French Blue Book
42/D	3/-/84	Preliminary deep sea drilling proposal in Sunda Straits area	Huchon, P.	Univ. P&M Curie, Fr.	Yes	Yes	WPAC TECP 4/84 IOP (P)		
43/D	3/-/84	Outline of suggested ocean drilling program in the S.W. Pacific	Falvey, D.A.	BMR, Australia	Yes	Yes	WPAC (P) IOP (P) TECP 3/84		
46/D	3/5/84	An informal proposal for future ODP drilling in the South China Sea Basin	Hayes, D.E. Lewis, S.D. Ladd, J. Leyden, B.	LDGO	No		WPAC (P) TECP (P) 3/84		
47/D	3/5/84	Proposal for scientific ocean drilling along the Manila Trench subduction zone, South China Sea	Lewis, S.D. Hayes, D.E.	LDGO	Some	Yes	WPAC (P) TECP (P) 3/84		
48/D	3/5/84	Drilling proposal for the South China Sea Basin	Schluter, H.U.	BGR, FRG			WPAC (P)		
49/D	3/5/84	Drilling proposal for the Eastern Banda Arc/Arafura Sea	Schluter, H.U. Fritsch, J.	BGR, FRG	Yes		WPAC (P)		
50/D	3/5/84	ODP proposal for scientific drilling in the Nankai Trough	Kagami, H. Taira, A.	ORI Tokyo Japan	Yes		WPAC (P)		

51/D	3/5/84	ODP proposal for scientific drilling in the Sea of Japan	Kagami, H. Tamaki, K. Kobayashi, K.	ORI Tokyo Japan	Yes		WPAC (P)		
52/D	3/12/84	The Solomon Sea - a suggested drilling target	Milsom, J.	Univ. College, London, UK			WPAC 4/84		
67/D	7/6/84	ODP drilling on Tonga-Lord Howe Rise transect	Falvey, D.A. Exon, N.F. Willcox, B. Symonds, P.	BMR, Australia	Yes		TECP (P) WPAC (P)		
80/D	8/30/84	Sunda and Banda Arc drilling: a study of convergent margin processes	Karig, D.E. Moore, G.F.	Cornell U. Tulsa U.	Yes		IOP (P) TECP 10/84 SOHP 10/84		Revised 10/84 following US Indian Ocean Workshop
82/D	9/4/84	Drilling in the Sulu Sea, Western Equatorial Pacific	Thunell, R.	Univ. S. Carolina	Some		WPAC (P) SOHP (P) TECP 9/84		
83/D	9/5/84	Izu-Ogasawara(Bonin) Arc transect:preliminary sites proposal	Okada, H. Takayanagi, Y.	Shizuoka Univ.Japan Tohuku U., Japan	Yes		WPAC 9/84 TECP 9/84 LITHP 9/84		
126/D	01/14/85	Site proposals for scientific ocean drilling in the Australasian region (composite proposal)	Crook, K.A.W. Falvey, D.A. Packham, G.H.	ANU, Canberra BMR, Canberra U. Sydney Australia	Yes	Yes	SOHP 1/85 LITHP 1/85 TECP 1/85 IOP 1/85 SOP 1/85 WPAC 1/85		Composite proposal from Australian community. COGS-2 super-proposal.
127/D	01/18/85	Eastern Sunda Arc & N.W. Australian Collision: accretionary processes in a sharp transition zone of arc--continent collision	Reed, D.L. Silver, E.A. Meyer, A.W.	U.Calif., Santa Cruz ODP/TAMU	Some	Yes	SOHP 1/85 TECP 1/85 IOP 1/85 WPAC 1/85		
130/D	01/21/85	Evolution of the SW Pacific: drilling proposal for the area north of New Zealand	Eade, J.V.	N.Z.Ocean. Institute N.Zealand	Some	Yes	TECP 1/85 WPAC 1/85 LITH 1/85 SOHP 1/85		
131/D	03/11/85	Banda Sea Marginal Basin: trapped ocean crust & displaced continental borderland	Silver, E.A.	U.Calif., Santa Cruz	Some	Yes	WPAC 3/85 TECP 3/85 LITHP 3/85 SOHP 3/85		
132/D	03/11/85	ODP Proposal on drilling the TTT-type Triple Junction area off Boso, Japan	Ogawa, Y. Fujioka, K. Nakamura, K.	Kyushu U. ORI, Tokyo ERI, Tokyo Japan	Yes	No	WPAC 3/85 TECP 3/85 SOHP 3/85		

CENTRAL & EAST PACIFIC OCEAN PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
2/E	12/16/82	Regional seismic reflection profiles across the Middle America Trench and convergent margin of Costa Rica	Crowe, J.C. Buffler, R.T.	U.T.Austin	Yes	No	AMP (P) Middle America WG (P)		Reference to DSDP Panels
3/E	6/27/83	Drilling in the vicinity of the Hawaiian Islands	Watts, A.B.	LDGO	Some	Yes	CEPAC 2/84 LITHP 2/84		
4/E	undated	Drilling in the Tuamoto Archipelago(French Polynesia)	Okal, E.A.	Yale Univ.	Some		CEPAC 2/84 LITHP 2/84		
8/E	9/18/83	Ridge crest subducton along the Southern Chile Trench	Cande,S.C.	LDGO	Some	Ref'd to JOI SSP8/84	TECP 7/84	Approved 9/84	Leg 113
14/E	1/10/84	Zero age drilling: East Pacific Rise 13° N.	Bougault, H.	COB,France	Yes		CEPAC 2/84 LITHP 2/84 TECP	Approved 9/84	Related to Prop. 76/E. Leg 111 French Blue Book
34/E	2/-/84	Pacific-Aleutian-Bering Sea (PAC-A-BERS) proposal	Scholl, D. Vallier. T.	USGS,Menlo Park					
37/E	2/25/84	Costa Rica drilling - a test of the duplex model	Shipley, T. Moore, G. Buffler, R. Silver, E. Lundberg, N.	U.T.Austin UCSC Princeton	Some		CEPAC (P) TECP (P) 8/84 SOHP 8/84		Revised 8/84
75/E	8/13/84	Gulf of California drilling	Becker, K. et al	SIO	Some	Yes	LITHP (P) TECP (P) SOHP (P) CEPAC (P)		
76/E	8/17/84	Proposal for drilling oceanic crust at the axis of the East Pacific Rise	Francheteau,J. Hekinian, R.	Univ.Paris IFREMER, Brest			CEPAC (P) CEPAC 11/84 LITHP 11/84	Approved 9/84	Revised 11/84.Rel. to Prop.14/E.Leg 111
84/E	9/10/84	Peru Margin drilling proposal	Kulm, L. Hussong,D	HIG		Needed	TECP 9/84 CEPAC (P) SOHP 9/84	Approved 9/84	Leg 112
123/E	12/28/84	Regional drilling studies at IPOD Site 501/504	Mottl,M.J.	WHOI	Yes	No	LITHP 1/85 CEPAC 1/85		Related to Prop. 124/E
124/E	01/02/85	Proposal to deepen Hole 504B	Becker,K. (on behalf of LITHP)	S.I.O.	Yes	No	LITHP 1/85 CEPAC 1/85	Approved 9/84	Approved as back-up Leg

TECHNICAL & INSTRUMENTAL PROPOSALS

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
13/F	1/5/84	Setting-up of a water column research laboratory	Wiebe,P.H.	WHOI	N/A	N/A			
53/F	3/19/84	Vertical seismic profiling for AODP	Phillips, J.D. Stoffa, P.L.	U.T.Austin			DMP 4/84	Approved 9/84	Part of Leg 102
66/F	7/5/84	Laboratory studies of basalt rock cores on SEDCO/BP 471- Principal horizontal stresses in the oceanic crust from anelastic strain recovery and other rock studies	Whitmarsh,R.B.	IOS, UK	Some		DMP (P) LITHP (P)		
69/F	7/23/84	Rock stress measurement in the southern part of the Norwegian Sea	Stephansson,O.	Univ. of Lulea Sweden,ESF			TECP 7/84 DMP 9/84		Revised 7/84
70/F	7/23/84	Borehole seismic experiment at DSDP sites 417 and 603	Stephen, R. Mayer, L. Shaw. P.	LDGO	Some		DMP (P) LITHP (P)	Approved 9/84	Part of Leg 102
128/F	01/21/85	Proposal for an ODP hole dedicated to the physical properties, mechanical state, and structural fabric of deforming sediments in accretionary prisms	Karig, D.E.	Cornell Univ.	Yes	No	SOHP 1/85 TECP 1/85 DMP 1/85 WPAC 1/85		

IDEAS, SUGGESTIONS FOR DRILLING (RECEIVED BY JOIDES OFFICE)

Ref.#	Title	Proponent	Institution	Date Recd	Refer. to Panel	Comments
1	Objectives/suggestions for Mediterranean Leg	Hsu, K	ETH Zurich, Switzerland (ESF)	7/13/83	DSDP/PMP and OPP	
2	Study of sedimentation patterns on the Barbados Ridge and in the Tobago and Grenada Basins	Saunders, J.B.	Naturhistorisches Museum, Basel Switzerland (ESF)	7/19/83		Formal proposal requested
3	Future potential sites in the Gulf of Mexico	Bouma, A.H. Coleman, J.	Gulf Research	1/4/84	TECP (P)	Reference to this in letter on othe subject. Memo never received by JOIDES Office.
4	Outline of multi-topical program of Ocean drilling: NE Pacific Ocean	INPAC Group (Rea, D.K.)	Univ. of Michigan	1/6/84	TECP (P) CEPAC 2/84 LITHP	Workshop convened for Feb. 1985
5	Proposed objectives for ODP: Gulf of Mexico	King, J.	Univ. of Rhode Island	1/6/84		
6	Suggested drill sites in the NE Pacific Ocean	Malpas, J.	Memorial University, Canada	1/11/84	CEPAC 2/84 LITHP	
7	Some geological problems and areas of regional interest (Central and Eastern Pacific)	Okada, H.	Shizuoka University, Japan	2/15/84	CEPAC (P)	
8	Peru-Columbia Trench: provisional proposal	Aubouin, J.	Univ. P. & M. Curie Paris, France	2/-/84		Formal proposal requested
9	New Jersey Site 1A	Miller, K.G. Mountain, G.S.	LDGO	3/-/84		
10	General drill sites off Cuba	Case, J.E.	USGS, Menlo Park	3/19/84		
11	Suggestions for drilling on young seamounts in the Eastern Pacific	Batiza, R.	Washington Univ. Missouri	4/9/84	LITHP (P)	
12	Heterogeneity of the mantle	Schilling, J-G. O'Nions, R.K. White, R.M. Frey, F.A. Albarede, F.	URI Cambridge Univ., UK Max-Planck.Inst., FRG MIT CNRS Nancy, France	5/21/84	LITHP 6/84	
13	Gulf of Aden drilling 1987	Girdler, R.W.	Newcastle Univ., UK	6/25/84	IOP 7/84	
14	Potential coring objectives and site locations for future deep sea drilling in the Mediterranean Sea	Thunell, R.	Univ. of S. Carolina	7/6/84	TECP (P)	Formal proposal requested.

15	South Atlantic palaeo-circulation	Robert, C.	IPOD Cttee, France	7/6/84	ARP SOHP	
16	ODP drilling in the tectonic area of Japan	Klein, G. deV.	Univ. of Illinois (Urbana)	7/6/84	TECP (P)	
17	Ocean margin drilling project around Japan	Ogawa, Y.	Kyushu Univ., Japan	7/6/84	TECP (P) 12/83	Formal proposal requested.
18	Some drill sites in the Indian Ocean	Luyendyk, B.P.	Univ. of California, Santa Barbara	8/22/84	IOP (P) TECP 10/84	
19	Suggestions for drilling in the Indian Ocean - Indus Fan	Kidd, R.B.	IOS, UK	9/4/84	IOP 9/84 TECP 9/84	
20	Drilling in the Indus Fan	Haq, B.U.	Exxon	9/8/84	IOP (P)	Formal proposal requested.
21	Drilling in the SW Somali Basin	Scrutton, R.A.	Edinburgh Univ., UK	9/8/84	IOP (P)	Formal proposal requested. Withdraw No further action.
22	Drilling in the Atlantis-II Deep, Red Sea	Zierenberg, R.A	USGS, Menlo Park	9/8/84	IOP LITHP TECP	Proposal 120/B received 12/10/84.
23	Transect: Northern Exmouth Plateau to Argo Abyssal Plain	Willcox, J.B. Symonds, P.A. (supported by Gradstein, F.)	BMR, Australia (Atlantic Geoscience Centre-Canada)	9/8/84	IOP SOHP 12/84 TECP	Proposal 121/B received 12/10/84.
24	Drilling stratigraphic bore-hole off the coast of East Africa	Burckle, L.H.	LDGO	10/16/84		Formal proposal requested. Advisec to liaise with Kennett (see pro-posal 117/B)
25	Investigation of hydrothermal processes and basalt dia-genesis in the Gorda Ridge	Hart, R. Fisk, M.	OSU	10/16/84		Formal proposal requested.
	Deep sea drilling targets near loci of arc volcanism in Marianna back-arc basin	Fryer, P.	HIG	10/19/84	TECP LITHP 10/84 WPAC	
27	Philippines Workshop	Wolfe, J.A.	Taysan Copper Inc., Philippines	11/14/84		Copied to Chairman, WPAC
28	Transect of upwelling zone sedimentation and palae-oceanography of cold cir-culation 15°-30°S	Kelts, K.	ETH-Zurich, Switzer-land (ESF)	11/16/84	CEPAC (P)	Formal proposal requested.
29	504B Drilling	Purdy, G.M. (LITHP)	WHOI	12/10/84	LITHP	Proposal 124/E received 1/2/85
30	Drilling non-hotspot sea-mounts	Batiza, R.	Washington Univ., Missouri	12/19/84		
31	Physical and mechanical properties of core material	Karig, D.E.	Cornell University	12/19/84		Proposal 128/F received 1/21/85

32	Banda Sea Marginal Basin: trapped ocean crust & displaced continental borderland	Silver, E.A. Jongsma,D. Audley-Charles, M.G. von der Borch, C.C.	Univ. California,S. Cruz Vrije Univ,Amsterdam Netherlands (ESF) Univ.Coll.London (U.K.) Flinders Univ., Adelaide (Australia)	12/28/84	WPAC (P) TECP 12/84	Formal proposal in the name of Silver only received 03/11/85. See Proposal 131/D
33	Workshop on Western Pacific drilling (proposal to USSAC)	Hawkins,J.W.	S.I.O.	01/02/85	WPAC(P)	
34	Drilling in the East Pacific Rise (N. & S. of Clipperton F.Z.)	Fox, P.J. Macdonald,K.C.	U.R.I. Univ. California,S. Barbara	01/02/85	LITHP(P)	No formal proposal likely until at least late 1985.
35	Oceanic plateaus (Kerguelen-Heard)	Schlich,R.	Inst.de Phys.d.Globe Strasbourg (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
36	Upper Mesozoic & Cenozoic palaeoenvironments of S.Indian Ocean (Kerguelen-Gaussberg Plateau)	Le Clerc	Mus.Nat.d'Histoire Naturelle, Paris (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
37	South Antarctic Ocean palaeooceanography (Crozet & Enderby Basins)	Le Clerc	Mus.Nat.d'Histoire Naturelle, Paris (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
38	Sedimentary record of Indonesian volcanic activity	Le Clerc	Mus.Nat.d'Histoire Naturelle, Paris (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
39	Palaeoenvironment and geodynamics of Central Indian Basin	Le Clerc	Mus.Nat.d'Histoire Naturelle, Paris (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
40	Study of shear margin and fault (Davie Ridge)	Le Clerc	Mus.Nat.d'Histoire Naturelle, Paris (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
	Carbonate, clastic and other deposits in the Indian Ocean	Jaquet,J.M.	Univ. of Geneva Switzerland (ESF)	01/03/85	IOP(P)	Rec'd from IOP Chairman
42	Tectonics of the Red Sea	Pautot,G	Centre de Brest IFREMER (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
43	Magma generation & mantle heterogeneities, Indian Ocean (Rodriguez T.J.,S.E.,S.W., Central Indian Ocean Ridges)	Schlich,R.	Inst.de Phys.d.Globe Strasbourg (France)	01/03/85	IOP(P)	Rec'd from IOP Chairman
44	Suggested drilling in the East Indian Ocean	Falvey,D.A.	BMR,Canberra Australia	01/03/85	IOP(P)	Rec'd from IOP Chairman
45	Drilling on the Shaka Rise	Sclater,J.G.	UT Austin	07/20/84		Paperwork not available Previously classified as Prop. 71/C

46	Drilling proposal on the Antarctic margin off the Adelie Coast	Wannesson,J.	IFP,France	08/02/84	IOP(P)	Only site summary forms received Previously classified as Prop. 73/C Full proposal received 02/25/85(73/
47	Madeira Abyssal Plain	Duin,E.J.T. Kuijpers,A. Schuttenhelm, R.T.E.	Geol.Survey of Netherlands (ESF)	06/21/84		Not full proposal. Previously classified as Prop.63/A
48	Bare-rock drilling for hydrothermal objectives:Leg 106	Rona,P.A.	NOAA,Miami	02/25/85	LITHP(P)	Full proposal requested

(P) = Referred directly to the indicated Panel by the proponent.

OCEAN DRILLING PROGRAM

GUIDELINES FOR THE SUBMISSION OF PROPOSALS/IDEAS

A. General Information

JOIDES accepts input by individuals or groups into the Ocean Drilling Program as:

1. Preliminary Proposals (ideas/suggestions) for scientific ocean drilling. Examples are objectives (a specific process), drilling targets, downhole and other experiments, etc. Such input generally lacks either geographic specificity, site survey data, or both.

2. Mature Drilling Proposals (Minimum requirements are detailed in Section C.)

Preliminary and mature proposals will be reviewed and prioritized by one or more JOIDES advisory panels. Only mature proposals are ultimately considered and prioritized by the Planning Committee, which plans the actual drilling. Thus ideas which become part of the drilling program do so either by evolving into a mature proposal, or by incorporation into an existing proposal with multiple objectives. Proposals are considered mature when accompanied by a specific set of minimum data listed in Section C and provided by the proponents or JOIDES (certain technical data may not be readily available to proponents). It follows that the time required for an idea or proposal to be processed by the JOIDES science advisory structure and become part of the drilling plan will depend on the completeness of the required data at the time of submission. Proponents are therefore urged to submit as complete a package as possible. Lead time requirements are given in section D. Preliminary proposals should be sent in triplicate to the JOIDES Office. Five copies of mature proposals should be submitted to the JOIDES Office.

B. Review Process

Proposals should be submitted to the JOIDES Office which forwards the material to the appropriate advisory panel(s) for review. The JOIDES panels review and prioritize the proposals and advise the Planning Committee of their recommendations. The panels may request additional information from the proponents and may suggest that the proposal be modified to enhance its scientific merit. Some proposals of limited scope may be incorporated by the advisory panels into a proposal of broader scope.

Thematic Panels are primarily concerned with the process aspects of the science. Regional Panels and Working Groups review the proposal within the context of a particular geographic regions (e.g. additional "sites of opportunity" may be recommended for drilling, to maximize the scientific payoff of drilling in that particular region). As the proposal

matures and proceeds through the advisory system, service panels make recommendations regarding technical aspects of the proposed drilling (e.g. site survey review, safety review, engineering and technology review, downhole measurements review, etc.).

The Planning Committee monitors and directs the proposal review process, reviews the recommendations of the advisory panels, decides the fate of proposals, and ultimately integrates the approved proposals into a detailed drilling plan and ship track. Figure 1 is a diagrammatic representation of the review process.

C. Minimum Requirements

1. Minimum Requirements for Mature Proposals (5 copies):

The following items should be discussed in the proposal:

a) Specific scientific objectives with priorities

b) Proposed site locations and alternative sites

c) Background information, including regional and local geological setting and identification of existing geophysical/geological data base

d) Drilling requirements for each objective (e.g. estimated drilling time, steaming time, water depth, drill string length, reentry, etc.)

e) Logging, downhole experiments and other supplementary programs (estimated time, specialized tools and requirements, etc.)

f) Known deficiencies in data required for:
   1) location of drill sites (site surveys)
   2) interpretation and extrapolation of drilling results (regional geophysics)

ODP has established standards for site survey data which are given in Annex A. This outlines the techniques to be used in the various environments which may be encountered.

g) Statement of potential safety problems in implementing proposed drilling.

h) Other potential problems (weather window, territorial jurisdiction, etc.).

i) The name and address of an individual assigned as a proponent for each site who will serve as a contact for JOIDES when additional information is required.

Proponents are also required to submit a Site Proposal Summary Form for each proposed drilling site.

2. Data Availability and Deposition:

Proponents are asked to identify available data in three categories:

a) Data ~~freely~~ from proponent available for deposition at the ODP Databank with proposals and open access

b) Other Data relevant to the proposal which may be obtained from publicly accessible databases in the U.S. and elsewhere

c) Reserved data which will eventually be on public access but has release clauses imposed by the data holder (proponent).

It is emphasized that supporting data for a proposal in the above categories must be deposited with the ODP Databank to ensure that a proposal is considered mature. Please categorize data with a, b, or c in the site summary form. Annex B summarizes the guidelines for submission of data to the ODP Databank.

3. Submission of Preliminary Proposals (Ideas/Suggestions)-3 copies:

Preliminary proposals (ideas and suggestions) for ocean drilling should be submitted to the JOIDES Office in triplicate letter form, preferably with as much background information as possible.

4. Letters of Intent to Submit may be sent to the JOIDES Office at any time.

D. Lead Time

As a general rule a minimum of at least ~~24~~ 36 months lead time is required from the time of proposal submission to actual drilling. Exceptionally, less lead time may be acceptable in some cases where site surveys are not required.

E. All submissions should be sent (with the appropriate number of copies) to the JOIDES Office.

The JOIDES Office is always available to discuss and advise proponents of proposal requirements.

JOIDES Office
Graduate School of Oceanography
University of Rhode Island
Narragansett, Rhode Island 02882-1197
USA
Telephone: (401) 792-6725 or 6726
Telex: 9103802848 (JOIDES URI UD)
Telemail: JOIDES.URI

ODP SITE PROPOSAL SUMMARY FORM

(Submit 5 copies of mature proposals, 3 copies of preliminary proposals)

Proposed Site:	General Objective:
General Area: Position: Alternate Site:	Thematic Panel interest: Regional Panel interest:

Specific Objectives:

Background Information (indicate status of data as outlines in the Guidelines):

Regional Geophysical Data:

Seismic profiles:

Other data:

Site Specific Survey Data:

Seismic profiles:

Other Data:

Operational Considerations:

Water Depth: (m)_____ Sed. Thickness: (m)_____ Tot. penetration: (m)_____

HPC _____ Double HPC _____ Rotary Drill _____ Single Bit _____ Reentry _____

Nature of sediments/rock anticipated:

Weather conditions/window:

Territorial jurisdiction:

Other:

Special Requirements (staffing, instrumentation, etc.):

Proponent: Address & phone number:	FOR OFFICE USE: Date received: Classification no.: Panel allocation:

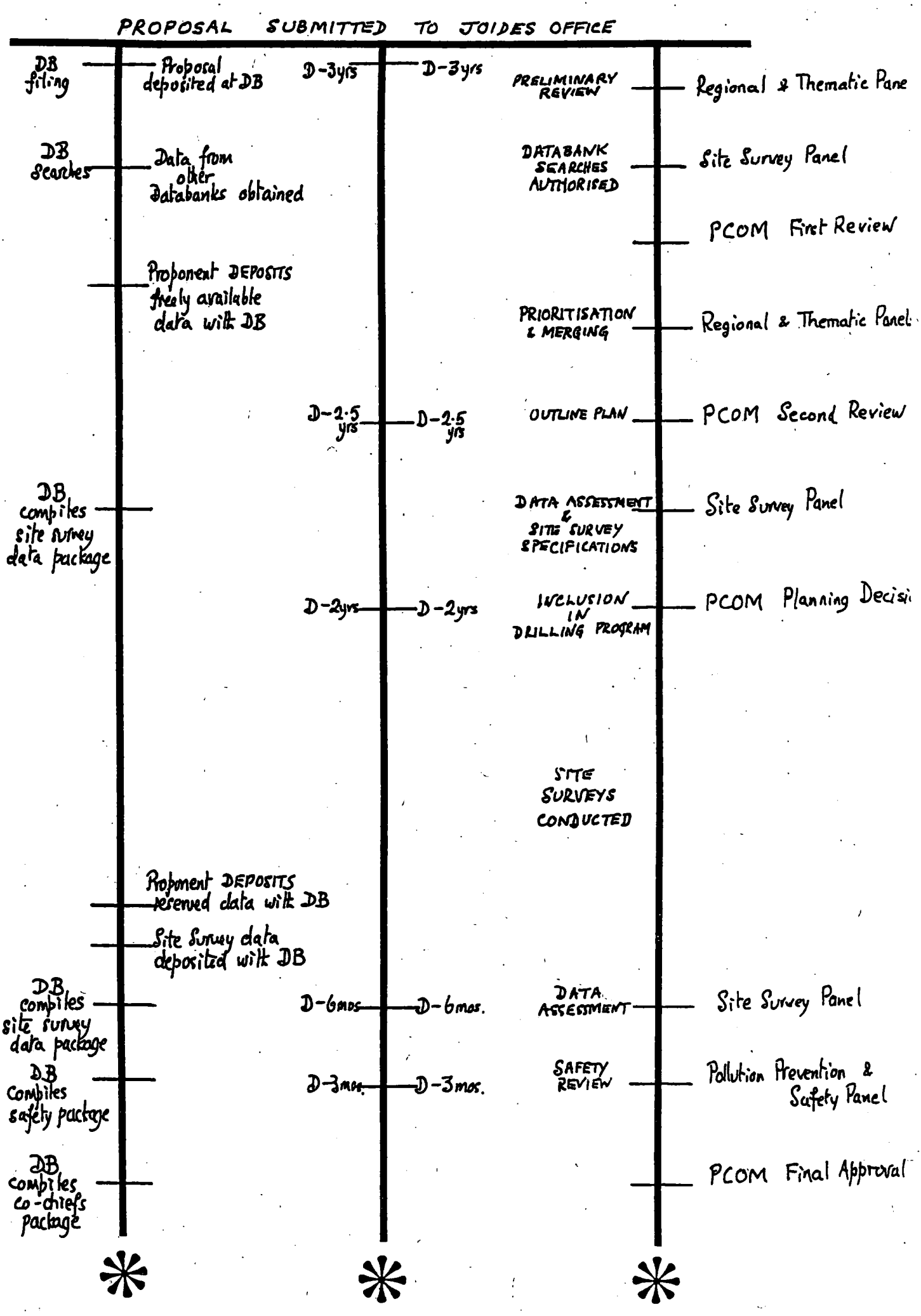


Figure 1: Proposed flowchart for drilling proposals (showing the involvement of JOIDES Panels and the Databank)

ANNEX A

ODP SITE SURVEY STANDARDS

X = vital
(X) = desirable
(X)* = desirable, but may be required in some cases (e.g. bottom simulating reflectors)

ENVIRONMENTS	A PELAGIC (shallow penetration)	B SMALL BASIN/OPEN OCEAN (shallow penetration) subject to debris flow	C PASSIVE MARGIN single bit	D reentry	E FORE-ARC WEDGE	F SPREADING RIDGE zero or thin sediment cover	G OCEAN CRUST thick sediment cover	H HIGH TEMPERATURE ENVIRONMENT
TECHNIQUES								
1. Air Gun SCS	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
2. Water Gun SCS (or other high resolution system)	X	X	X	(X)	X		X or 5	X or 5
3. 3.5 KHz.	X	X	X	(X)	(X)		(X)	
4. Chirp Sonar	(X)					(X)		
5. MCS		(X)	X	X	X		X or 2	X or 2
6. Seismic Velocity Determinations			X	X	X	X	X	
7. Side Scan Sonar	(X)	X	(X)or (8)	(X)or (8)	(X)or(8)			
8. Seabeam Bathymetry	(X)		(X)or (7)	(X)or (7)	(X)or(7)	X		
9. Piston Cores	X	X	(X)*	(X)	(X)	(X)	(X)	X
10. Heat Flow			(X)*	(X)*	(X)*	(X)*	(X)	X
11. Magnetics/Gravity			(X)	(X)		X	X	X
12. Dredging and/or Bare Rock Drilling						X		
13. Photography (e.g. ANGUS)						X		(X)*
14. Submersible						(X)		(X)*
15. Current Meter (for bottom shear)			(X)*	(X)*	(X)			

ANNEX B

ODP DATABANK GUIDELINES FOR THE SUBMISSION OF REGIONAL GEOPHYSICAL AND SITE SPECIFIC SURVEY DATA

Data should be submitted in the following forms:

1) Digital magnetic tapes of underway geophysical data values (topography, magnetics, gravity) merged with smoothed final navigation. The preferred format is MGD77, which expects a "header" record as well as data records.

2) Cruise report describing in detail the results of surveys.

3) Large copies, suitable for xeroxing, of single-channel seismic reflection profiles. The preferred format for 3.5 kHz records is on 35 mm film negative.

4) Large sepia copies (suitable for ozalid reproduction) of processed multi-channel seismic reflection profiles.

5) Large (page sized) photographic negatives of any side scan sonar data (GLORIA, SeaMARC I or II) collected.

6) Large sepia copies (suitable for ozalid reproduction) of any SEABEAM data, presented at a contour interval deemed appropriate.

7) Large sepia copies (suitable for ozalid reproduction) of any "specialized" data sets (such as sediment thickness maps, bathymetry/magnetic contour charts, velocity analyses, etc.) that have been developed in the course of a cruise report. The format and nature of the presentation of these data will be variable and will be dependent upon the nature of specific interest at each site.

Data should be deposited at:

ODP Databank
Lamont-Doherty Geological Observatory
Palisades, New York 10964
USA
Telephone: (914) 359-2900

Revised Terms of Reference (January 1985)

TERMS OF REFERENCE
Science Advisory Structure of JOIDES for the Ocean Drilling Program (ODP)

The purpose of the Terms of Reference for the ODP Science Advisory Structure of JOIDES is to formulate the most productive scientific plan for the program. Thus the SAS is open to suggestions and proposals from the entire scientific community, and its plans shall be open to continued review and revision.

1. The Science Advisory Structure of JOIDES will consist of a Planning Committee, a Technology and Engineering Development Committee, three thematic panels, five regional panels, and five service panels. Ad hoc working groups and task groups may be created by the Planning Committee as requested by the panels or by the Planning Committee itself.

2. Each committee, panel and working group will operate under a mandate, along with guidelines as to membership and frequency of meetings. Mandates, guidelines, and their amendments shall be proposed by the Planning Committee for approval by the Executive Committee.

3. Planning Committee

3.1 General Purpose. The Planning Committee recommends to the Executive Committee and to the Science Operator plans designated to optimize the scientific productivity and operational efficiency of the drilling program, normally by coordinating, consolidating, and setting into priority the advice received from the panels. More specifically, the Planning Committee is responsible (a) to plan the general track of the drilling vessel about 3 years in advance of drilling; (b) to foster communications among and between the general community, the panels, the Science Operator, and itself: (c) to solicit, monitor and coordinate the advancement of drilling proposals; and (d) to establish a scientific drilling program by about one year in advance of drilling.

3.2 Mandate. The Planning Committee drafts the mandates of the various panels and working groups and names their members. It approves their meetings and agendas and may assign special tasks to them. The Planning Committee sponsors and convenes COSOD-type conferences about every three years. It identifies the proponents of proposals and assigns to thematic and regional panels proposals for review. It sets the scientific objectives of the proposals into final priority after they are reviewed by the Thematic Panels and Regional Panels. The Planning Committee nominates the chief scientists to the

Science Operator. It periodically reviews this advisory structure in the light of developments in science and technology and recommends amendment of its panel structure and mandates. Much of the working of the Planning Committee will be by the commissioning of reports from the panels, the working groups, task groups and ad hoc subcommittees of its own membership, and by its chairman at the JOIDES Office.

3.3 Structure. The Planning Committee is empowered to establish an infrastructure appropriate to the definition and accomplishment of tasks described in its annual program plan as approved by the Executive Committee and the National Science Foundation. Communication with its panels is maintained by having their chairmen meet with the Committee annually, and by assigning committee members as non-voting liaison members to its panels and working groups. Where counsel and communication are deemed important, other individuals may be asked ad hoc to meet with the Committee or a panel.

3.4 Membership. Each member of the Executive Committee shall designate one member of the Planning Committee and an alternate to serve in the absence of the designated member. Commencing January 1, 1984, one quarter of the Planning Committee members shall rotate off the Committee annually, so that its membership is replaced every four years. Reappointment shall be made only in exceptional circumstances. All appointees to the Planning Committee shall satisfy the fundamental criteria of having the ability and commitment to provide mature and expert scientific direction to the program. Balance of fields of specialization on the Planning Committee shall be maintained as far as possible, by informed consultation amongst the U.S. member institutions prior to selection of their appointees. The chief scientists of the Science Operator and Wireline Logging Services Contractor and an appointee of the NSF are non-voting, liaison observers.

3.5 Organization. The planning Committee meets at least three times a year, normally in January, May, and September. Robert's Rule of Order govern its meetings.

3.6 Vote and Quorum. Within the framework of the Memoranda of Understanding with each non-U.S. participating country (or consortium designee), it is intended that the U.S. members shall at all times constitute at least a majority of members. Substantive issues decided by formal vote require the vote of a majority of all members. A quorum shall consist of at least two-thirds of the non-U.S. members and at least two-thirds of the U.S. members.

3.7 Chairmanship. The Chair of PCOM shall rotate with the JOIDES Office among the U.S. JOIDES institutions, excluding the Science Operator institution. The term of office is normally two years.

4. Thematic Panels are mainly, but not exclusively, process oriented. They are established by the Planning Committee to redefine as scientific drilling objectives scientific problems identified by

COSOD (16-18 November 1981) and by the JOIDES 8-year program for drilling (April 1982). They are responsible for reviewing any other scientific objectives proposed by the pre- and post-1983 reports and white papers, the national science structures of the various non-U.S. participants, and the scientific community at large. Thematic Panels maintain a constant review of science in their discipline. [Thematic Panels are composed of a number of members from U.S. institutions and one member from each non-U.S. participant.] PCOM approves the panel membership. [Panelists appointed in 1985 and future years will serve 3 years, with one-third of the panelists to be replaced each year. The chairman will be appointed by PCOM.] Thematic panels meet at least twice a year, but may meet more frequently as requested by PCOM. PCOM convenes the panel meetings and approves their meeting dates, locations, and agendas. The mandates are guidelines and do not restrict panels. Considerable overlap in thematic coverage is expected to evolve. The Planning Committee may ask Panels to take up topics not in their original mandates.

4.1.1. Ocean Lithosphere Panel: Mandate

The Ocean Lithosphere Panel is concerned with the origin and evolution of oceanic crust, and more particularly with volcanic, metamorphic, hydrothermal and diagenetic processes occurring in the ocean crust:

(a) Processes of submarine and volcanology, intrusion and plutonism; crustal construction at spreading axes; petrology, geochemistry, mineralogy, and magnetic and other physical properties of igneous and metamorphic rocks from the ocean floor, from seamounts, from oceanic plateaus, from volcanic arcs and from basins adjacent to volcanic arcs.

(b) Processes of submarine hydrothermal circulation; petrology, geochemistry and mineralogy of hydrothermally altered rocks and hydrothermal deposits from the ocean floor; geochemistry and physical properties of hydrothermal solutions.

(c) Processes of submarine diagenesis; geochemistry of pore waters from sediments and hard rocks; petrology geochemistry and mineralogy of diagenetically altered sediments and hard rocks.

4.1.2. The Ocean Lithosphere Panel will be responsible for planning the drilling of sites concerned with these problem areas at the following levels:

(a) Long-range identification of objectives and review of research proposals for future drilling operations.

(b) Selection of target areas within which these objectives can be met.

(c) Helping the site survey organization to plan surveys of the target areas.

(d) Identification of proponents or working groups for particular target areas.

(e) Selection of sites for location of drill holes within the target areas, so that objectives can be reached.

(f) Advice to the Planning Committee and the project chief scientist on the selection of co-chief scientists and other scientists.

(g) Encouragement of specific shore-based laboratory work on the samples recovered by drilling.

(h) Advice to the project curator on the handling of recovered samples.

(i) Advice to the Planning Committee and the project chief scientist on provision of equipment for use on the drilling ship and in shore-laboratories run by the Science Operator.

(j) Coordination of plans for downhole experiments in projected holes.

4.1.3. In the course of the work specified in paragraph 4.1.2., the Ocean Lithosphere Panel will maintain the closest contact with the appropriate Regional Panels and other specialists.

4.1.4. The Ocean Lithosphere Panel is responsible to the Planning Committee, and will respond directly to request from it, as well as reporting to it on a regular basis.

4.1.5. The Ocean Lithosphere Panel will act as a means of disseminating and correlating information in the appropriate problem areas by:

(a) Receiving reports from co-chief scientists on the progress with shorebased research on samples.

(b) Encouraging and sponsoring symposia at which the results of drilling will be discussed.

(c) Publishing progress reports in the open literature to inform and encourage participation in the project.

(d) Generating White Papers as requested by PCOM.

4.2 Tectonics Panel: Mandate

The Tectonics Panel is concerned with the standard history of ocean margins and plates, especially studies in critical transects and along-strike by coordinated geological, geophysical, and drilling programs:

(a) Special emphasis is placed on the early rifting history of passive continental margins, on the dynamics of forearc evolution, and on the structural sedimentological and volcanic history of island arcs, back-arc basins, and marginal seas.

(b) Additional problems under the purview of this panel include the development of continental slopes and rises; detailed histories of vertical movements at margins; thermal and mechanical evolution of passive margins; structural variability along-strike; sheared margins; post-rifting tectonism of passive margins; the study of stress fields at active margins; global relations among arc systems; collision tectonics; the development of passive margins in back-arc basins; studies of transform faults at fracture zones; the origin, structure and tectonic evolution of oceanic plateaus and aseismic ridges; and the determination of plate-kinematic models.

(c) Of interest to this panel as well as to other panels are the composition, structure and formation of the oceanic crust and upper mantle, tephrochronology, and the study of "global" unconformities and the synchroneity of tectonics and sea level events along margins as well as coral atolls and guyots.

4.3 Sediments and Ocean History Panel: Mandate

The Sediments and Ocean History Panel is concerned with investigations of marine stratigraphy, marine sedimentology and paleoceanography. Areas specifically include:

(a) Stratigraphy including the subdivision, correlation and dating of marine sediments. Examples are refinement of magnetostratigraphy, radiometric dating, chemostratigraphy, biostratigraphy, tephrochonology, and seismic stratigraphy.

(b) Processes of formation of marine sediments, diagenesis, organic and inorganic sedimentary geochemistry and global mass balancing of oceanic sediments.

(c) Long-term history and driving mechanisms of the oceanic atmosphere and biosphere. Central to this theme are relations among plate tectonics and ocean paleocirculation, sedimentation patterns, global paleoclimates, glacial and ice-sheet evolution, sea level change and its effects on marine sedimentation and evolution of marine life.

5. Regional Panels: Mandate

The Regional Panels are responsible for:

(a) Helping Thematic Panels to translate their broad thematic programs into concrete regional drilling plans.

(b) Identifying regional problems not covered by Thematic Panels.

(c) Recommending integrated drilling programs in their regions.

(d) Monitoring the status of knowledge on regional geology and geophysics.

(e) Advising on regional and site surveys needed for future drilling.

PCOM chooses panel members for their expertise and experience in a region. [PCOM will name a number of members from the U.S. and from non-member countries as appropriate and each non-U.S. JOIDES member can nominate one member to each Regional Panel. Panelists appointed in 1985 and future years will serve 3 years, with one-third of the panelists to be replaced each year. The chairman will be appointed by PCOM.]

Regional panels meet at the request of PCOM as frequently as required by ship scheduling and routing.

PCOM will establish liaison between Regional and Thematic Panels by overlapping memberships.

The map (Appendix 1) shows the general areas of prime responsibility for the Regional Panels, but the boundaries are not fixed limits. Panels should view their responsibility as including all areas relevant to their regional problems. The Regional Panels are:

A. Atlantic Ocean
B. Central and Eastern Pacific Ocean
C. Western Pacific Ocean
D. Indian Ocean
E. Southern Oceans

6. Ad Hoc Working Groups: Mandate

Ad hoc Working Groups have the responsibility of assessing and integrating drilling proposals in areas of particular geological and organizational complextiy. Ad hoc Working Groups must consider the merits of drilling targets with respect to both geophysical processes and regional geology.

Whilst taking cognizance of the recommendations of Thematic Panels, the ad hoc Working Groups will be primarily responsible to and report to the appropriate Regional Panel(s).

The ad hoc Working Groups are chosen by PCOM which also determines their objectives and their term. Normally, the ad hoc Working Group will be disbanded after finalization of drilling proposals for its specific area. The Chairman of an ad hoc Working Group will be a member of the appropriate Regional Panel.

7. Technology & Engineering Development Committee: Mandate

The Technology and Engineering Development Committee is responsible for ensuring that the proper drilling tools/techniques are avialable to meet the objectives of targets to be drilled according to the planned schedule. The TEDCOM will identify within a proper time frame the new drilling tools/techniques to be developed, help JOI/Science Operator write RFPs for engineering firms leading to the development of the tools/techniques, and will monitor the progress of their development. The members of the TEDCOM are engineers nominated by PCOM. One of the functions of the TEDCOM will be to collaborate with the Downhole Measurements Panel.

8. Service Panels provide advice, services and products to the JOIDES Advisory Structure, to the Science Operator, and to the various entities responsible for the processing, curation and distribution of samples, data and information (including publications) to the scientific community. The Service Panels, beyond their help to the JOIDES Advisory Structure, are not directly involved with selection of drilling targets or definition of cruise objectives. Service Panels have specific mandates. Service panels meet at least once a year or as requested by PCOM. [PCOM appoints the chairman and panelists and keeps membership under review.]

8.1 Site Survey Panel: Mandate

8.1.1. The general purpose of the Site Survey Panel is to provide information and advice to the Planning Committee on the adequacy of and need for site surveys in relation to proposed drilling targets.

8.1.2. The Site Survey Panel is mandated to:

(a) Receive mature proposals from regional and thematic panels, to review site survey data packages prepared by the ODP Data Bank and to make recommendations as to their adequacy to the Planning Committee.

(b) Identify data gaps in proposed future drilling areas and to recommend appropriate action to ensure that sufficient site survey information is available for pinpointing specific drilling targets and for interpretation of drilling results.

(c) Provide guidelines for proponents and panels as to required site survey data and to examine the opportunities and requirements for the use of new technologies for surveying potential drill sites.

(d) Promote international cooperation and coordination of site surveys for the benefit of the Ocean Drilling Program, particularly between participating ODP nations' survey activities.

(e) Promote the lodging of all data used for planning drilling targets with the ODP Data Bank.

8.2 Pollution Prevention and Safety Panel: Mandate

8.2.1. The general purpose of the Pollution Prevention and Safety Panel is to provide independent advice to the Planning Committee and to the Ocean Drilling Program with regard to safety and pollution hazards that may exist because of general and specific geologic circumstances of proposed drill sties.

8.2.2. Mandate: All drilling operations involve the chance of accident or pollution. The principal geologic safety and pollution hazard in ocean drilling is the possible release of substantial quantities of hydrocarbons from subsurface reservoir strata. In most deep sea regions, the risk of hydrocarbon release can be reduced or elimated by careful planning and proper site surveys. Additionally, safety problems may arise in drilling hot hydrothermal systems for lithosphere targets. Those who plan each Ocean Drilling Program cruise and select its drilling sites are initially responsible to propose only sites that are considered reasonably safe. The JOIDES Pollution Prevention and Safety Panel independently reviews each site to determine if drilling operations can be conducted safely.

The preliminary site survey information and the operational plan are reviewed for each site. Advice is communicated in the form of site approval, lack of approval, or approval on condition of minor site relocation or amendment of the operational plan. Approval is based on the judgment of the Panel that a proposed site can be safely drilled in light of the available information and planning.

8.3 Information Handling Panel: Mandate

8.3.1 The general purpose of the Information Handling Panel is to provide information and advice to the Planning Committee, the Ocean Drilling Program and the Deep Sea Drilling Project (DSDP) with regard to satisfying the needs of the scientific community for timely access to data, samples and publication and to assist program managers in setting priorities.

8.3.2. The Information Handling Panel is mandated to:

(a) Advise on (1) types of publications to be produced; (2) publication formats; (3) schedules and deadlines: (4) publications policy and goals of the publications program. (Both ODP and DSDP publications are included.)

(b) Advise on (1) the operation of the core repositories; (2) curatorial policy; (3) filling of sample requests; (4) curatorial data management; (5) long-term goals for the preservation of the core materials and other physical samples obtained by ODP and DSDP; and (6)

establishment and operation of the various micropaleontology reference centers.

(c) Advise on (1) the types and contents of the data bases to be maintained by ODP and DSDP; (2) the treatment of raw data; (3) the establishment of uniform procedures and standards for data handling and processing; (4) the structure, philosophy and goals of the information systems produced by the program; and (5) the management of data bases, information systems and data centers. This last topic also includes coordination between various data centers established by ODP and DSDP.

(d) Advise on the minimum standards of quality and completeness necessary for data to be included in the various data bases and information systems, including data recording, transcribing and checking procedures.

(e) Advise on (1) shipboard and shore-based computer facilities, equipment and procedures; (2) software development; (3) data collection techniques; and (4) meeting the computational needs of shipboard and shore-based scientists, as well as providing access to data bases for all interested parties.

(f) Advise on (1) long-term preservation of the raw data generated by ODP and DSDP; (2) preservation of all past records bearing on sample history; and (3) preservation of any other records of the program which might benefit future workers.

(g) Advise on the relationship between the ODP and DSDP data centers and national depositories such as the National Geophysical Data Center, World Data Center A for Marine Geology and Geophysics, etc., and the fulfillment of statutory obligations for data transfer. It also includes transfer of data to data centers established by ODP member countries, such as the one in France, and to the Micropaleo Reference Centers.

8.4 Downhole Measurements Panel: Mandate

8.4.1. The general purpose of the Downhole Measurements Panel is to determine the physical state, chemical composition, and dynamic processes in ocean crust and its sediment cover from downhole measurements and experiments. Areas of responsibility include: routine logging (including industry standard and special tools widely used in ODP); routine data processing and interpretation; new and adapted logging tools, techniques, and data processing; downhole experiments and data acquisition (including downhole recording).

8.4.2. The Downhole Measurements Panel is mandated to:

(a) Report to and advise PCOM on logging and downhole measurement programs of ODP.

(b) Advise on and recommend to the ODP Wireline Service Contractor the required logging facilities.

(c) Advise the ODP Science Operator on the scientific desirability, technical feasibility, scheduling and operational requirements of proposed programs.

(d) Interface and coordinate with Woods Hole Oceanographic Institute (U.S.) and other national downhole instrumentation development groups.

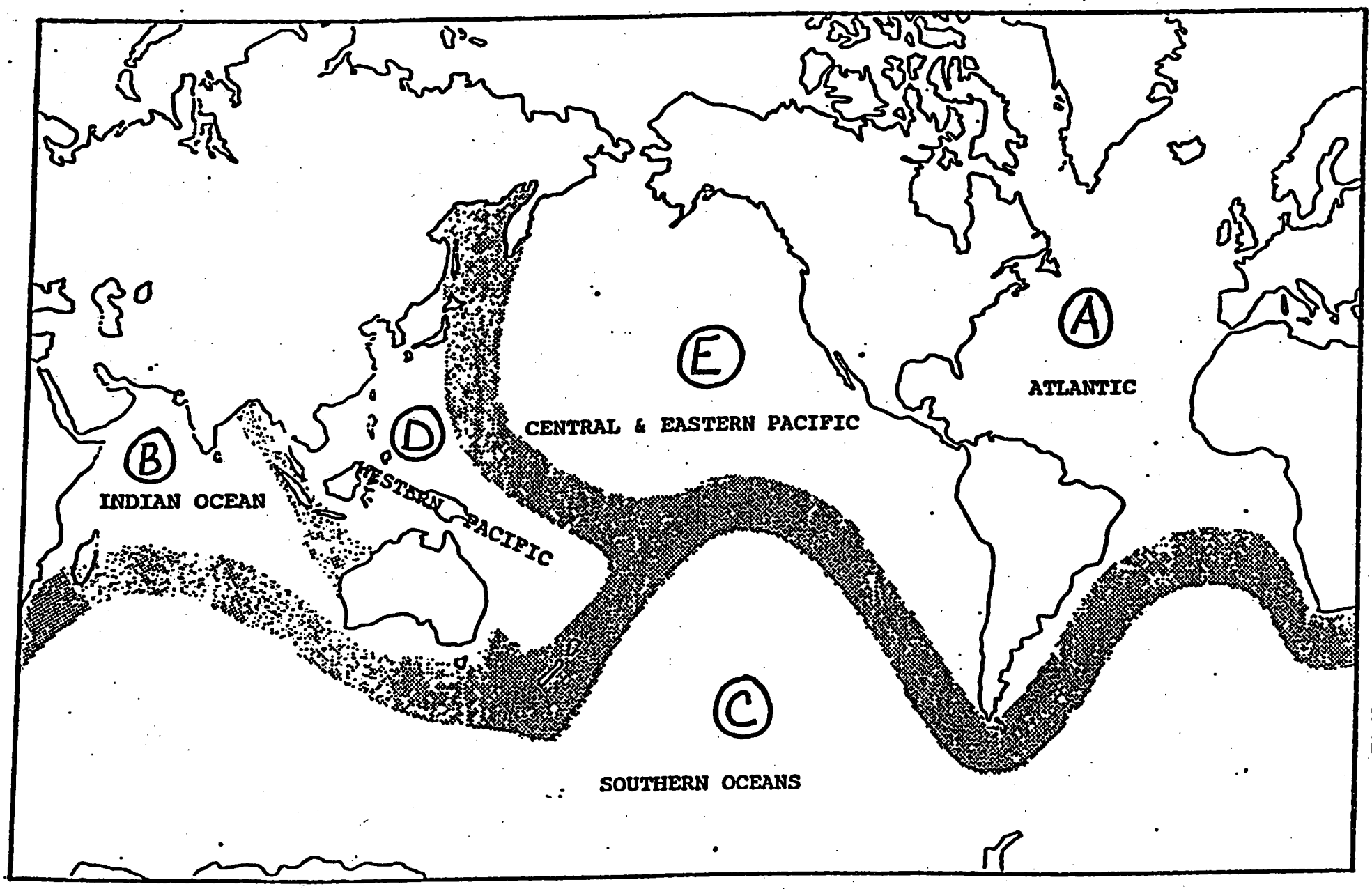
(e) Solicit and expedite new logging capabilities and experiments.

(f) Evaluate new technology and recommend future measurement directions.

8.4.3. Membership consists of well-balanced representation, with approximately half logging and other downhole technologists and half with scientific backgrounds and interests. The Wireline Services Operator and Science Operator of ODP shall each be represented by non-voting members on the Panel.

9. Working Task Groups

The Planning Committee ~~and its panels~~ may set up ad hoc task groups for more intensive study of certain aspects that may arise. Post-1983 working ~~and task~~ groups will follow the general ODP rules as to minimum membership, ~~no~~ travel expenses, chairmanship held by a member of the parent committee or panel, and dissolution when work is completed.



Regional Panels and geographic areas of interest. Boundaries are approximate and intentionally overlap.

DEVELOPMENT OF PCOM PLANNING POLICY (SINCE JULY 1982) FOR THE OCEAN DRILLING PROGRAM

July 1982

Minute 376: PCOM discussed a tentative and incomplete list of ODP drilling objectives and considered that the ship will most likely traverse the world twice within an 8-year period. (At this time PCOM was considering Explorer as the preferred platform).

Motion 376E: In order to start efficient planning for the post-1983 drilling program, in terms of site surveys, requisite engineering and technical developments, logistics, and weather, the Planning Committee has considered areas and purposes in the Atlantic, Pacific and Antarctic Oceans listed in the COSOD report and JOIDES 8-year Program Plan. We recommend to the EXCOM that an initial year or two of drilling include both (a) work in areas for the purposes shown in Table 1 and (b) certain additional regional work not yet identified, so that the areas in Table 1 may be connected by a ship's track that is reasonable in terms of scientific balance, weather and logistics. Proposal of a specific initial ship track will await advice from participants in future drilling and a decision as to whether the ship will start from an Atlantic or a Pacific port.

January 1983

Minute 415: PCOM expanded the initial list of work areas identified in Table 2 but did not view the list as exhaustive with additional work areas to be added where justified. The primary criteria for inclusion were:

1. Broad consensus regarding the importance of the scientific problems to be addressed.

2. Availability of suitable data synthesis, regional and site specific surveys.

3. Availability of required drilling technology.

Consideration of the relative priorities of these candidate drilling targets (and of others to be identified by the future ODP advisory structure) as well as proposals of specific initial ship tracks and schedules remains open pending constraints on a starting port and advice from all ODP participants.

PCOM agreed the additional list of ODP work areas shown in Table 2 to be added to Table 1.

PCOM received from the Australian and New Zealand observers a status list of future drilling targets in the Australasian region, based on COGS Publication No. 1 (Table 3).

June 1983

Minute 426: PCOM agreed to plan on legs of approximately 60 days duration with all potential drilling platforms able to transit the Panama Canal. Juan de Fica was added to the list of possible work areas (see Table 4).

Consensus: The first two legs should be relatively free of technological problems and be close to U.S. ports and that the third leg should test the ship on a technologically more demanding site whilst still near a U.S. port.

The Gulf of Mexico and the Bahamas should be the first two legs of the ODP, the Yucatan Basin may be included as part of the Gulf of Mexico leg if permission is obtained from Mexico and Cuba. Barbados will be the third leg.

Discussion continued leading to selection of a general ship track after drilling Barbados. Particular attention was given to weather windows, technology required, and priority sites. Sites considered for early (after Barbados) drilling included Labrador, Norwegian Sea, Weddell Sea, and Mid-Atlantic Ridge (22°N or FAMOUS).

Consensus: Proceed to the North Atlantic after Barbados. Postpone drilling the Weddell Sea until January 1987. After N. Atlantic drilling, proceed to the eastern Pacific.

Motion 426A: The PCOM adopts the ship route indicated in Table 5, which shows Gulf of Mexico start, a clockwise transit of the North Atlantic, the Mediterranean Sea, passage through the Panama Canal, and a southward transit along the west coast of South America to the Weddell Sea.

Motion 426B: The PCOM adopts the first six legs of Table 5 as a basis for planning the first year of the ODP, assuming an October 1984 start.

Motion 426C: The list of targets between the Norwegian Sea and the Weddell Sea of Table 4 and a bare rock East Pacific Rise target are the areas for which site surveys will be required in the near future.

September 1983

Minute 439: At this meeting the PCOM considered planning proposals and recommendations from the existing DSDP Panels.

Consensus on OCP report: The Planning Committee favored early development of bare rock drilling, and felt that an axial ridge site near the Kane Fracture Zone would cover the OCP recommended objectives.

Motion 439A: The Planning Committee adopts the area in the vicinity of 23°N and the Kane Fracture Zone as the location of an axial drilling leg and a test of bare rock drilling.

The PCOM discussed a number of drilling objectives which should be tackled as recommended by the various panels as follows:

-Gulf of Mexico - In considering the drilling ojectives and priorities of sites in the Gulf of Mexico, PMP identifies and emphasizes the importance of a concentrated and dedicated effort to address the birth and closure of the Eastern Gulf of Mexico area. This can be addressed by drilling focused on the Jurassic stratigraphy of the Eastern Gulf for the birth, and on the Cretaceous-Tertiary stratigraphy of the S.W. Straits of Florida and the Yucatan Basin (CAR-7) to document the closure by Cuba. It is considered that the results will provide an outstanding contribution of wide interest to the earth science community at large.

OPP also endorsed the Yucatan proposal.

-Bahamas and Straits of Florida - PMP suggested the following priorities:

Priority 1. The nature and origin of the Cretaceous event initiating channel development and Tertiary unconformities in the channels (deep drilling):
- -improved regional MCS coverage is essential
- -seismic lines should be directly linked to onshore wells/dive sites
- -inspect/purchase commercial well data logs and seismic data
- -prepare structure contour maps on red, pink and blue horizons. These will advise depths to the key horizon and thus identify areas for site specific survey for sites at red level; they will also enhance understanding of regional geology/tectonics.

Priority 2. Slope/channel facies distribution (HPC): High resolution digital single channel seismic data are needed to document the transition from bank to channel. The seismic grid should be of 1 km spacing and the survey carried out on the windward and leeward sides of the banks.

Priority 3. Origin of escarpment erosion/retreat: a regional MCS line plus a local grid if necessary.

Priority 4. S.W. Bahamas/Cuban tectonics: It was evident to the PMP that the problems of the S.W. Bahamas and their relation to Cuban tectonics are not well understood, not least because of difficulties in seismic interpretation. The PMP therefore recommended preparation of good structure maps and examination of commercial MCS to assess the difference between carbonate buildups, folds and diapirs.

OPP Considered the "slope transect" to be of highest priority.

-Labrador Sea - PMP recommended to PCOM that a drilling program be developed in the Labrador Sea to compare the west margin of Greenland with that of Labrador and to address the 60 my volcanic event. To achieve the drilling program, regional and site specific MCS will be necessary to see through the lava flows. It was recognized that it may not be possible to identify windows in the lavas that will facilitate penetration of the pre-60 my, post and syn-rift section. It was recommended that there should be development of an alternate drilling program in the outer Orphan Basin to provide a comparison with the conjugate margin drilled during Leg 80. In this area, open file MCS and well data are available and only site specific data may be needed. It was noted that the Newfoundland Basin, considered as a second alternate, will be surveyed. Site ENA-3 near Newfoundland is also a viable target.

The Labrador Sea is considered by OPP to be an important leg for paleoceanographic studies. Important objectives include:

1. late Neogene ice initiation in the Northern Hemisphere
2. Paleogene climate
3. Arctic and Atlantic gateway

-Norwegian Sea - It was recommended to PCOM by the PMP as follows:

1. The highest priority in the Norwegian Sea is to address the problem of dipping reflectors and margin subsidence by a drilling transect of the Voring-Lofoten area. The Jan Mayen Ridge is a secondary objective.

2. PMP recommends in the first instance a comprehensive synthesis of the available ESP, MCS data should be nade to identify sites where drilling to the sublava reflector (K) is feasible and to provide initial input at an early stage to the PPSP and Norwegian authorities. Commercial well data should be used if available as input to the synthesis and leg. Second packages should be developed for the Jan Mayen Ridge and Lofoten Basin to provide alternate sites in the event that logistic, safety considerations prevent drilling of the Voring Plateau-Lofoten prime transect.

Motion 439B: The Planning Committee accepts the PMP motions with respect to Norwegian Sea drilling.

-Galicia - Consensus: In view of the availability of site survey data for Galicia, and potential weather problems in the Norwegian Sea, Galicia is a good alternate leg for the Norwegian Sea leg. Permission from Spain will be required.

-N.W. Africa - PMP passed the following motions relating to a N.W. Africa leg:

1. PMP recommends that drilling off N.W. Africa fully utilize the regional and site specific surveys synthesized for OMD and recently made by LDGO and the BGR to identify candidate sites to document the age of the first ocean crust and to examine the

period of transition from rifting to spreading. Reentry to deepen and log 547 is also of high priority and exploits a unique opportunity to recover pre-Rhaetian sediments on an Atlantic margin.

2. PMP conceptually supports the OPP proposal for N.W. African drilling but considers that the objectives defined in the first motion are of higher priority requiring deeper drilling.

OPP strongly endorsed the concept of a Circumsahara Transect.

-Mediterranean Sea - PMP discussion of the Mediterranean Sea resulted in the following PMP motions:

1. PMP recognizes the importance of many proposed sites in the Mediterranean in both the regional as well as the thematic context. PMP recommends that the Mediterranean provides a natural laboratory to test the thematic problem of back arc basin development and therefore recommends a focused transect of holes through the Tyrrheanian Sea as a well documented example of a back arc basin. In addition, the ability to apply high resolution biostratigraphic techniques not subject to dissolution, ash layers and well documented regional geology optimizes the value of the transect. The transect would also contribute important data on post Messinian paleogeography.

2. Notwithstanding recommendation 1 above, PMP endorses, given adequate drilling time, proposals to address tectonic problems such as rate of convergence, vertical uplift across the Hellenic Arc and the opening of the Arabian Sea also relevant to paleoceanography.

3. PMP believes that the Rhone Fan is a superbly well documented example of a deep sea fan and therefore recommends that the Rhone Fan be fully evaluated against other fan studies and the results of Leg 96 and then prioritized in terms of fan drilling in the ODP program.

OPP has a high level of interest in this region and identified two broad types of objectives:

1. deeper objectives (Miocene-Jurassic) aimed at the history of Tethyan circulation.

2. shallower objectives (Tertiary); an E-W traverse across the Mediterranean basin.

Also considered were a reoccupation of Site 374 (4000 m depth), and a transect across the Ionian basin slope.

PCOM attempted to determine the status of the initial ODP legs and forwarded these recommendations to the new ODP Panels for their assessment. The PCOM compilation forms Table 6.

January 1984

Minute 459: Gulf of Mexico - PCOM considered the first priority to be the Yucatan Basin with the Mississippi and DeSoto Canyon as backup sites for Leg 101. PCOM asked that Cuban sites be reviewed by the Caribbean Working Group as they may be drilled later in the Program.

-Bahamas - PCOM asked for further reviews of proposals including the following scientific objectives:

1. carbonate bank development (topography) from Cretaceous to Recent.
2. young sediment objectives (downslope transport, early diagenesis, etc.).
3. Sheridan et al. vs. Dilion et al. controversy on origin of escarpments.

-Barbados - The TECP had considered that the number of sites proposed were too numerous for one leg with anticlines to be drilled. It was suggested that HPC should be used to a few hundred metres depth with coring through the slump sheets on the Tiburon Rise.

PCOM then established the following consensus:

Priority 1. Deepen Hole 541 to basement and do downhole experiments (Downhole Measurements Panel will suggest experiments), then proceed to priority 2.

Priority 2. Hole 543, washdown, log (original logs are inadequate), do downhole experiments.

Backup plan: To be determined by Caribbean W.G. and Tectonics Panel.

-Mid-Atlantic Ridge - PCOM consensus:

Bare rock drilling is the prime objective for the MAR leg. TAMU must move quickly on development of the required technology. The RFP for site survey should identify bare rock drilling on the MAR at about 22 $^{1}/_{2}$°N as the objective; bottom photography is required.

About 30 days will be utilized in attempting bare rock drilling. Then proceed to other objectives, e.g. Kane Fracture Zone. The DMP is encouraged to formulate a proposal.

Bermuda Rise (Hole 417A) will be considered by PCOM as part of N. Atlantic planning.

-Labrador Sea - Two sets of objectives were presented:

1. early opening and spreading
2. paleoceanographic problems.

Drilling is proposed for the Greenland margin, the Labrador margin and on the plateau. More northern locations would be better but were avoided because of logistic and other problems.

-Norwegian Sea - PCOM consensus:

TAMU should determine the weather window for the Norwegian Sea. NOR-WG should be advised that the Voring Plateau (including the Lofoten area) is the site to be considered. The Jan Mayen Ridge or other areas are not part of the Norwegian Sea leg. If the ship does not drill the Voring Plateau, then an alternate leg (Galicia) will be scheduled.

-Galicia - Galicia will be considered by the ARP and the SOHP. After panel recommendations are made, PCOM will plan the leg.

-Mediterranean Sea - Objectives recommended by the DSDP Passive Margin Panel were:

1. Tyrrhenian Sea transect, back arc basin
2. Hellenic Arc uplift
3. Ionian Basin
4. Rhone Fan.

PCOM established a consensus that drilling time in the Mediterranean is to be limited to two legs.

-General Planning - Only the first four legs (Gulf of Mexico, Bahamas, Barbados and the Mid-Atlantic Ridge) are considered by PCOM to be firm, assuming a 1 October 1984 start. All subsequent legs are in competition for drilling time. If the drilling program is delayed beyond October 1984, all legs will be reconsidered.

March 1984

Minutes 464 and 465: Short-range planning (Minute 464) - At this meeting it was announced that drilling would commence in January 1985 and PCOM reviewed its drilling plans in the light of this information.

PCOM considered that the 3-month delay could be accommodated in two basic ways:

1. Add nine months of drilling to the existing schedule, drill more legs, and reach the Weddell Sea one year later than planned.
2. Subtract three months of drilling from the existing program, eliminate some legs, and maintain the Weddell Sea target date of Dec/Jan 1987.

PCOM considered both options and clearly favored removing three months drilling from the existing plan and maintaining the Weddell Sea target date of Jan. 1987. The consensus was based on the following consideratons:

-the new program is based on new science objectives, e.g. bare rock drilling, Indian Ocean drilling, Weddell Sea, etc.

-the overall plan is to circumnavigate the earth twice over 8 or 10 years. If the general schedule is to be maintained, the Weddell Sea drilling should not be delayed beyond 1987.

-development of bare rock drilling and other required new technology can be accommodated in the compressed schedule.

Tentative drilling schedule for January 1985 start: The PCOM considered modifying the drilling schedule to accommodate the three month delay, within the following constraints:

1. 1 Jan. 1985 start date
2. maintain highest priority "new type" drilling (high latitude paleoenvironments, bare rock Mid Atlantic Ridge, Barbados fore are)
3. reach the Southern Ocean in the austral summer of 1986/87

The Committee then considered removing legs from the schedule, recognizing that high priority drilling with important scientific objectives would have to be delayed. Proposals especially considered were the Gulf of Mexico (Yucatan Basin), Bahamas and N.W. Africa.

Consensus: Delay Gulf of Mexico/Yucatan Basin drilling. The Bahamas leg is the preferred first leg of ODP. If possible, some Gulf of Mexico objectives may be accommodated during shakedown cruise.

Motion 464: Assuming a 1 January 1985 start date, the Planning Committee adopts the schedule shown in Table 7. The first 5 legs are considered firm, except for the Norwegian Sea which requires further consideration. The last 3 or 4 legs are firm, subject to site surveys, safety reviews, etc. The in-between legs are not firm and require consideration at the next PCOM meeting.

Minute 465 - Long-range planning: The Planning Committee considered drilling after the Weddell Sea leg (1987). The drillship would be in a position to drill in the East Pacific, West Pacific, Indian Ocean or South Atlantic.

Motion 465: Move that for the purpose of long-range planning the Planning Committee adopt the following general track of the drilling vessel after the Weddell Sea drilling of early 1987: Into the Indian Ocean, to the Kerguelen region in early 1988, thence to the northwest Pacific Ocean in mid-1989 and the northeast Pacific Ocean in mid-1990, arriving in the vicinity of Panama on about 1 January 1991.

The PCOM then agreed that the East Pacific Rise, an example of a fast spreading ridge, should be drilled in 1986 en route to the Weddell Sea.

May 1984

Minute 480: PCOM considered the effect on Table 7 of the unavailability of bare rock drilling for Leg 103 (MARK-1) and the lack of a packer for Leg 102 (Barbados-1).

Differences of opinion existed among the PCOM members as to the extent to which drilling established at previous PCOM meetings should be changed. After discussion, a general consensus was reached that all early legs should be reconsidered but that changes should be minimal.

The PCOM then considered the merits of various legs:

-Barbados North - (North of Tiburon Rise). Redrill 78A; de-collement zone, overpressure, pore waters, temperature, etc. Priority = high.

-Barbados South - inner deformation front, thicker sediments (Orinoco fan), less overpressure. No site surveys, no proposal. Priority = medium.

-Yucatan - +7000m hole would stretch technical capability of ship.

-NW Africa and Galicia - high priority legs. Galicia has good surveys, high priority from ARP; if this is Leg 103 then Leg 102 would be close to U.S.; potential weather problems.

-ENA-3 - high priority for Downhole Measurements Panel.

Motion: Move that the drill site priorities for the Bahamas as presented by the ARP (15-17 May meeting) be approved for the first ODP leg.

PCOM then established an initial drilling schedule (Table 8).

September 1984

Minute 501: After reviewing the advisory panel reports, the PCOM attempted to rank each panel's recommendations of priority drilling in order to select sites for Legs 111-113. Panel recommendations were summarized:

ARP
1-Caribbean, YB2A, CAR 5, or YB2C
2-Barbados S.
3-NW Africa (Mesozoic)

LITHP
EPR 10°-13°N
504B
EPR or 504B

SOHP
1a-NW Africa deep hole
1b-Peru Trench
2-Ionian Sea

CEPAC
1-Peru Trench, EPR 13°N
2-EPR (another leg)

TECP
1-Peru
2-Chile TJ
3-Barbados S.
4-NW Africa
5-Venezuela
6-Ionian Sea
7-Costa Rick
8-Yucatan

After a lengthy discussion, PCOM decided as follows:

Motion: The Peru Margin and the EPR 13°N are adopted as two of the three sites for Legs 111, 112, and 113.

The remaining alternatives for Leg 113 were the NW African margin and the Chile Triple Junction. Several PCOM members considered that drilling on the NW African margin, although interesting science, had potential technical difficulties. Subsequent discussion indicated that a Chile TJ leg would be very important from the standpoint of "new and exciting science" and such a leg would be logistically beneficial to ship scheduling as Leg 114 would be drilling in the Weddell Sea. However, several members felt strongly that earlier PCOM recommendations were not followed, and that insufficient time may remain to get additional surveys of the Chile TJ.

Motion: Move that for planning purposes, Legs 111-113 shall consist of the Peru margin, EPR 10°-13°N and Chile TJ.

A further consensus was reached among PCOM members which stated that if any leg (Leg 101-111) was unsuccessful in a particular ocean (e.g. Atlantic) then its alternate could occur in another ocean (e.g. Pacific).

With that guideline in mind, the relative importance of Yucatan, 504B and NW Africa (Mesozoic) as alternates for Atlantic and Pacific drilling was then discussed.

Results: 1st priority - Yucatan
2nd priority - NW Africa
3rd priority - 504B

The results did not become a formal motion pending further comments from SOHP on Yucatan and NW Africa (Mesozoic) and from LITHP on 504B.

January 1985

Minutes 519/520/521:

-Short-term planning: After extensive discussion of priorities for Leg 103 (Galicia Bank) PCOM decided only to give guidance concerning priorities and not to present so much detail that the flexibility of the co-chiefs is obstructed. The consensus of PCOM was to extend a 7-day time limit for drilling one single bit hole on the lherzolite ridge. The ship would then proceed to set a cone at site 4B and drill to 1300 m into post-rift and syn-rift sediments. The program would then drill a single bit hole (until destruction) in the post-rift sediments and pre-rift basement near site 4A. With the remaining time, the co-chiefs will decide to either go back to the ridge or to site 3A on a tilted continental block, or to return to 4B.

PCOM then discussed the remainder of the short-term drilling plan up to and including Leg 114.

Consensus: Leg 114 (Weddell Sea) should commence no later than 1 January 1987.

Consensus: The departure date from Stavanger for Leg 105 should be set no later than 15 August 1985.

Consensus: It is agreed that Leg 102 should be shortened by 18 days to accommodate the above changes.

Consensus: Retain 417/418 programs and that portion of Site 603 (single hole with logging) minus the Mesozoic objectives that can be done without setting a re-entry cone. The program will wash down to 1 km and take a couple of days to do logging experiments.

Consensus: Leg 101 will contain 41 operating days, Leg 103 will contain 42 operating days and Leg 104 will contain 41 operating days. Leg 105 will be extended to 70 total days if the ship's operator will allow it, and LA9 will be drilled as a contingency (single-bit) hole rather than LA5 as a re-entry hole.

Motion 519: Moved that the consensus listed above should constitute formal PCOM advice to the Science Operator.

-Problems associated with Pacific drilling: Discussion regarding Leg 113 (Chile Triple Junction/Margin) centered on the need for additional site survey data.

Consensus: It is agreed to leave the Chile Triple Junction in the program; all options for site survey should be vigorously pursued and discussed again in mid-April at the regular PCOM meeting.

It was suggested that hydrothermal drilling probably has the flexibility needed to be incorporated into a sliding schedule. Further discussion indicated that 1 or 2 drill holes could maximize the hydrothermal environment and the development of high temperature drilling tools will probably not take place without the pressures to do so.

Discussion also took place on the need for logging during the Weddell Sea leg and PCOM arrived at the following consensus:

Consensus: Logging in the Weddell Sea will follow present policy of logging all sites and requests to suspend logging operations will be handled on a case-by-case basis.

-Longer-term Planning: A summary of Indian Ocean objectives based on panel priorities was discussed (Table 9).

The PCOM grouped those objectives that were commonly rated by the various panels. Due to the number of candidates involved there was a feeling that all proponents should be given a chance to compete with each other and the results would constitute proposed objectives. PCOM indicated that it should be noted that 1 leg will be dedicated to drilling in the Kerguelen area.

Consensus: The thematic and regional panels are to be advised that approximately 1.5 years of scientific drilling in and proximal to the Indian Ocean will occur after drilling in the Weddell Sea and prior to drilling in the island arcs of the west Pacific.

-Publicity for Longer-range Planning: It was agreed that the general outline of drilling as presented by PCOM should be publicized as widely as possible in order to encourage proposals and also to indicate to proponents the planning time scale adopted by PCOM.

-Riser Drilling: In reviewing the current drilling plans in the light of COSOD objectives, PCOM discussion focused on the possible need for at least one deep hole to study lower Layer 2/upper Layer 3 ocean crust problems.

Riser drilling was also considered with the following consensus reached:

Consensus: It was agreed to ask the Panels to consider riser drilling in terms of scientific possibilities and priorities. Panels should consider a year of riser drilling (possibly 1992) in which only 3-4 holes will be drilled in water depths of less than 6000 ft. and preferably less than 4000 ft.

TABLE 1 (June 1982)

	Location	Weather	Site Survey	Regional Synthesis	Eng. Tech. Dev.	Panel/Working Groups	Primary Panel
ATLANTIC	Barbados	-	Yes?	Yes	+	AMP-TECT	AMP
	N.W. Africa	-	Report	"	OK	PMP-OPP-TECT-SED-HIST	PMP-OPP
	New Jersey	N. Summer	Yes .	"	OK	PMP-HIST-SED	PMP
	Nenez Columbia	-	Yes?	"	OK	PMP-REG.W.G.	PMP
	Norwegian Sea	N. Summer	Yes	"	OK	OPP-PMP-HIST-TECT	OPP
	Mid-Atlantic Ridge	?	No	"	+++	OCP-TECT	OCP
	Weddell Sea	S. Summer	?	"	OK	OPP-PMP-HIST-SED	OPP
	Scotia Sea	S. Summer	?	"	OK	OPP-AMP-HIST-TECT-SED?	AMP
PACIFIC	Hole 504B	-	Yes	"	+	OCP-ICP	OCP
	Peru Chile Trench	-	RFP Out.	"	?	AMP-OPP-TECT-SED	AMP
	Japan Sea	N. Summer	No	"	OK	AMP-TECT	AMP
	Bering Sea/ Gulf of Alaska	N. Summer	No	"	OK	OPP-HIST	OPP
	EPR Crust	-	No	"	+++	OCP-TECT	OCP

TABLE 2 (January 1983)

List of Additional ODP Work Areas

AREA	WEATHER	SURVEYS	REGIONAL SYNTHESIS	ENGR. TECHNOLOGY
East Coast fans (N. America)	-	?	Yes	OK
Costa Rica	-	Site specific	Yes	OK
Equatorial Atlantic Fracture Zone (includes Sierra Leone Rise)	-	Some needed	No	Drill string length?
Amazon Cone (incl. Demarra Rise)	-	OK	Yes	Safety
Bahamas (carbonates + sea level history)	-	(OK)?	Yes	OK
Gulf of Mexico	-	High resol. Site specific	Yes	OK
Labrador	N. Summer	Site specific	Yes	OK
N. Atlantic Drift	N. Summer	High resol. Site specific	Yes	OK
Galicia	N. Summer	OK	Yes	OK
W. Mediterranean (Rhone fan, Tyrrhenian Sea)	-	OK	Yes	OK
Hellenic Trench	-	Site specific	Yes	OK

TABLE 3 (January 1983)

Australian-New Zealand Status List of Australasian Targets

Location	Weather	Site Survey	Regional Synthesis	Engrg. Tech.Dev.	Panel
Antarctic Margin (Ross Sea Prydz Bay)	S. Summer	?	OK	Safety?	OPP-PMP
Tonga/Kermadec /Kikurangi/ Fiordland Transects	-	OK (in part)	OK	-	AMP-OCP
Southern Australian Margin	-	NO	OK?	-	PMP-SP4
Kerguelen	S. Summer	NO	NO	-	OPP-PMP
Western Australian Margin	-	OK	OK	-	OPP-PMP
Banda Collision Zone	-	?	OK	-	AMP
Woodlark/ Solomons	-	Prob.OK	OK	-	AMP-OCP
Lord Howe Rise Margins	-	OK?	OK	-	PMP
Campbell Plateau Margins	-	OK?	OK	-	PMP

TABLE 4 (June 1984)

Revised ODP Work Areas

Location	Site Survey	Regional Synthesis	Technical Problems
Barbados	+	Yes	x
N.W. Africa	Report	"	
New Jersey	+	"	
Venezuela/Columbia	+	"	x
Norwegian Sea	+	"	
Mid Atlantic Ridge	-	"	xxx
Weddell Sea	?	"	
Scotia Sea	?	"	
Hole 504B	+	"	x
Peru/Chile Trench	RFP	"	?
Japan Sea	-	"	
Bering Sea	-	"	
EPR Crust	-	"	xxx
W. Coast Fans (N. America)	?	"	x
Costa Rica	Site specific	"	?
Eq. Alt. Fracture Zone	Some needed	No	?
Amazon Cone	+	Yes	
Bahamas	+	"	
Gulf of Mexico	+	"	
Labrador	Site Specific	"	
N. Atlantic Drift	Hi resol. Site specific	"	
Galicia	+	"	
W. Mediterranean	+	"	
Hellenic Trench	Site specific	"	
Juan de Fuca	?	"	

TABLE 5 (June 1983)

Ship Track 1984-87

1984	Oct	Gulf of Mexico	1985	Dec	Mediterranean Sea (or
	Nov	"	1986	Jan	Equa. Fracture Zone, Amazon Fan)
	Dec	Bahamas		Feb	NW Africa
1985	Jan	"		Mar	"
	Feb	Barbados (T)		Apr	Costa Rica/Venezuela
	Mar	"		May	/Colombia (T)
	Apr	Mid Atl. Ridge (T+)		Jun	Hole 504B
	May	"		Jul	"
	Jun	Labrador Sea		Aug	Peru Trench (T)
	Jul	"		Sep	"
	Aug	Norwegian Sea		Oct	Chile (triple junction)
	Sep	"		Nov	"
	Oct	Mediterannean Sea		Dec	Weddell Sea
	Nov	"	1987	Jan	"

Note: First 6 legs are definite. First 18 months require consideration.

(T = technically difficult)

TABLE 6 (September 1983)

Initial Drilling Phase, ODP

(E) = Essential
(D) = Desirable

L = Lithosphere Panel
T = Tectonics Panel
S = Sed. & Ocean History Panel

Area	General Objective	Panels	Needs (Surveys, tech./engeer., panel coord; permits, etc.)	Proponents
Gulf of Mexico	Early opening of east Gulf (PMP) 2 holes, 1500 m.	T	(E) Site sp. surveys (Cuba/Mex. auth.); RFP	D. Roberts
	Cuban closing (wedge & Neogene history)		(E) Site sp. survey (Cuba auth.); RFP	
	Yucatan basin (CAR-7) (1000 m+)		(D) Site sp. (Mex. auth.)	
	W. Gulf tephrochrono. (1 site)	S	(D) Site sp. (Mex. auth.)	J. Kennett
	DeSoto Canyon (2 sites, double HPC)		(D) Site sp.	"
Bahamas	Cretaceous channels, 2 holes, 1000 m+ (PMP)	T, S	Bahamas auth.	R. Sheridan W. Schlager
	Facies, HPC, 3-4 cores (OPP)	T, S	Bahamas auth.	
	Blake escarpment	T,S,L		
Barbados	Active thrusting processes	T(L,S)	Barbados auth. Drill in casing = engeer. problem	
Mid. Atl. Ridge	Ridge Crest processes 23°N (Crest + Kane Frac. Zone)	L	(D) One SEABEAM across ridge Test barerock drilling + reentry	P. Robinson (select proponent from new OL panel)
Labrador Sea	W. margin, Greenland/Labrador (PMP) a) 60 my volcanic event b) Outer Orphan basin Compare Goban Spur - Orphan Basin	T(S)	Can./Denmark/Greenland auth.	M. & C. Keen
	Onset N.Am. glaciation (OPP) Paleogene climates Gateway problem	S	Logistics (Baffin Bay)	L. Jansa Kratska
Norwegian Sea	Voring-Lofoten		Norway auth.	Olaf
	Jan Mayen Ridge		Coordination among proponents	
Galicia	Listric faulting		Spain auth.	Boillot
	Early rifting, 4 holes			

TABLE 7 (March 1984)

Initial ODP Drilling Schedule

1985	J	
	F	Bahamas
	M	Barbados-1
	A	
	M	MARK-1 (Mid-Atlantic Ridge/Kane FZ)
	J	
	J	Norwegian Sea
	A	
	S	Laborador Sea
	O	
	N	MED
	D	
1984	J	?
	F	
	M	NW Africa
	A	
	M	MARK-2
	J	Barbados-2
	J	
	A	504-B
	S	
	O	Peru Trench
	N	
	D	Chile Trip Junction
1987	J	
	F	Weddell Sea
	M	

TABLE 8 (May 1984)

Initial ODP Drilling Schedule

Start date : 1 January 1985

Legs : 56 day cycle

Leg 101 - Bahamas
Leg 102 - ENA-3/417D, 418A, 395A
Leg 103 - Galicia
Leg 104 - Norwegian Sea
Leg 105 - Baffin Bay/Labrador Sea
Leg 106 - MARK-1
Leg 107 - Tyrrhenian Sea
Leg 108 - N.W. Africa (Cenozoic)
Leg 109 - Barbados North
Leg 110 - MARK-2
Leg 111 - ?
Leg 112 - ?
Leg 113 - ?
Leg 114 - Weddell Sea

Note: Legs 108, 109 and 110 may be delayed 1 leg if N.W. Africa (Mesozoic) is selected for drilling; it would then be Leg 108.

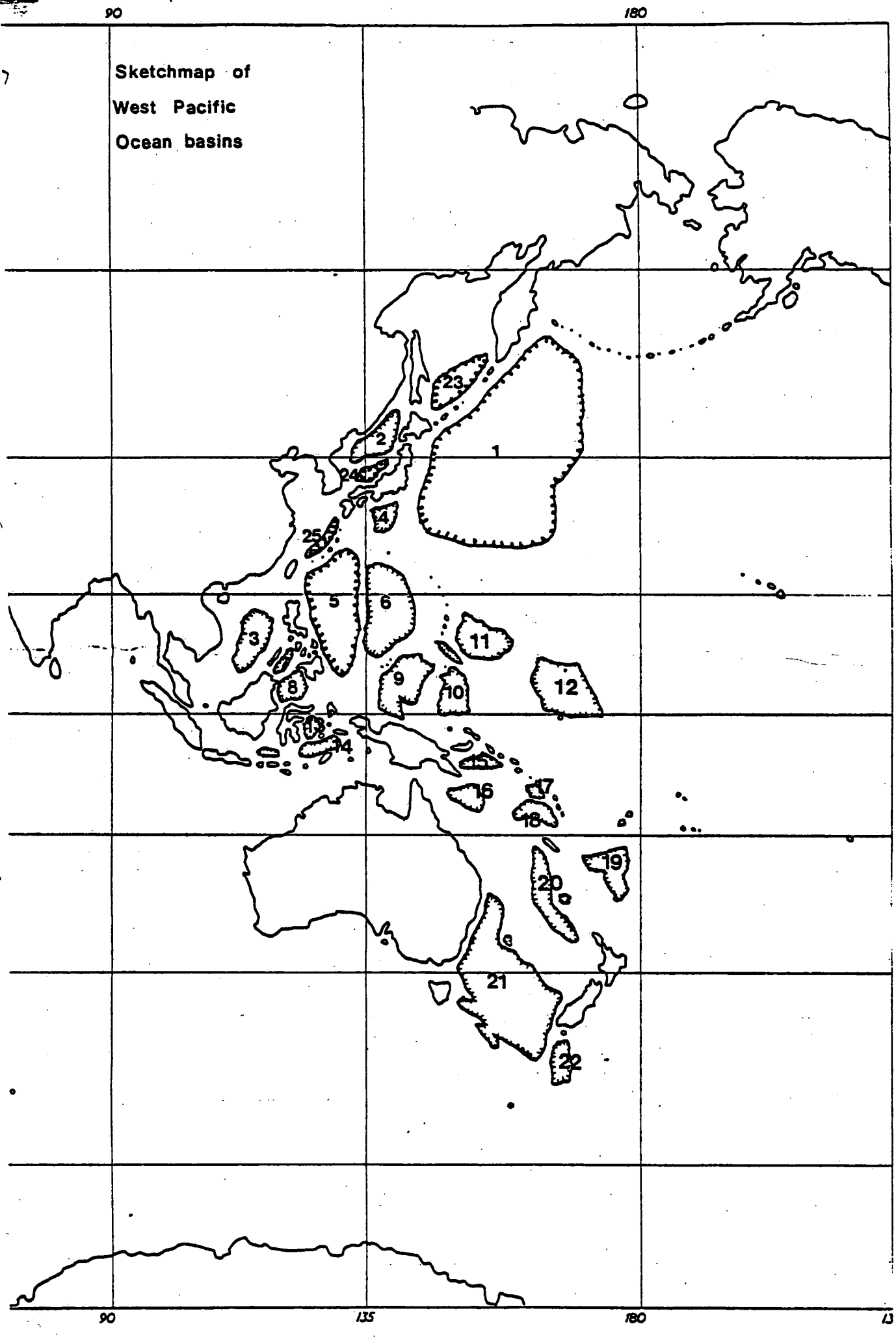
Potential legs under consideration for Legs 111-113:

Ionian Sea
N.W. Africa (Mesozoic)
Barbados South
Yucatan Basin
Venezuela Basin
Hole 504-B
Costa Rica
EPR-1 (13^{o}N)
Peru Trench
Chile Triple Junction

TABLE 9 (January 1985)

Summary of Indian Objectives Based on Panel Priorities

IOP	LITHP	TECP	SOHP	SOP
Kerguelen	Red Sea	Makran	Kerguelen	Kerguelen
Neogene	90 E. Ridge	Red Sea	Oman/Owen FZ	E. Australia
Argo	Cold Spot	Kerguelen	Somali Basin	Indian Ocean
Red Sea	Fracture Zones	Somali	SE Indian Ridge	Sub-antarctic
Broken Ridge		S. Australia	Chagos-Lac-Masc	
Makran		Intraplate	NW Aust-Argo Basin	
Chagos-Lac-Masc				
SE Indian Basin				Crozet (opportunity drilling)


Sketchmap of
West Pacific
Ocean basins
90
180
90
135
180
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10
11
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WEST PACIFIC OCEAN BASINS

1. North West Pacific basin
2. Japan basin
3. South China basin
4. Shikoku basin
5. Philippine basin
6. West Mariana basin
7. Sulu Trough
8. Celebes basin
9. West Caroline basin
10. East Caroline basin
11. East Mariana basin
12. Melanesian basin
13. North Banda basin
14. South Banda basin
15. Solomon basin
16. Coral Sea basin
17. Santa Cruz basin
18. Loyalty basin
19. South Fiji basin
20. New Caledonia basin
21. Tasman basin
22. Emerald basin
23. Kuril basin
24. Yamato basin
25. Okinawa Trough