JOIDES PLANNING COMMITTEE MEETING
August 11-15, 1986
Corner Brook, Newfoundland

AGENDA

Commencing at 09:00

A. Welcome, Introduction, and Adoption of Agenda

B. Minutes of PCOM Meeting, 28-30 May 1986 (LDGO)

C. NSF Report

D. JOI Inc. Report
   1. FY87 Budget and Program Plan

E. Science Operator Report
   1. Leg 109 Report

F. Wireline Logging Services Report

G. JOI Performance Evaluation Committee Report - PCOM Comments

H. Ratification of New ODP Sediment Classification

I. General Issues Arising from Panel Reports
   1. LITHP
   2. TECP
   3. IOP
   4. WPAC
   5. CEPAC
   6. DMP
   7. IHP
   8. PPSP

J. Short-term Planning
   1. Leg 112 (safety considerations)
   2. Legs 113/114

K. Medium-term Planning (Legs 115-123 including co-chief nominations)
   1. Leg 115 (planning status and co-chiefs)
   2. Red Sea (decision on inclusion)
   3. Red Sea, Neogene Package, Makran, Intra-plate Deformation (planning status and co-chiefs)
   4. Kerguelen I and II (planning status, port-call, and co-chiefs)
   5. Broken Ridge, 90°E Ridge (planning status and co-chiefs)
   6. Argo/Exmouth (safety considerations, planning status, possible extension of drilling, and co-chiefs)

L. Long-term Planning
   1. West Pacific (9-leg drilling plan)
   2. Western Central Pacific (CEPAC plans to interweave with WPAC drilling)
   3. Central and Eastern Pacific (remainder)

M. ODP Sampling Policy (IHP review)

N. COSOD-II Steering Committee - Progress Report

O. Panel Membership and PCOM Liaisons
   1. Appointment of Chairmen for IHP, PPSP, CEPAC, and SOP
   2. Residual Panel Membership Issues
   3. Red Sea Working Group (disbandment)
   4. Lau Basin Working Group (status and approval)
   5. PCOM Liaisons as from 1 October 1986

P. Future Meeting Schedule

Q. Any Other Business

JOIDES PLANNING COMMITTEE MEETING
Lamont-Doherty Geological Observatory
28-30 May 1986

ERRATA SHEET

Please note the following change on page 11, pararaph 3:

Status of Leg 109

Garrison reported that Leg 109 departed Dakar on 23 April 1986, arrived on station on 29 April and were in the drillhole on 30 April. It took from 30 April to 12 May to recover the first core due to a series of accidents. First, the mandrill broke and was fished from the hole. A new bottomhole assembly was constructed, however a jar mandrill broke again, this time above the re-entry cone, leaving part of the assembly protruding 5 m out of the re-entry cone. The fish was recovered using the TV camera to control the latching operation. The hole was re-entered and drilling began (Appendix A). Coring has recovered several intervals of cement and rubble. Operations have 14 m of new hole and drilling has been stopped to set casing. An examination of the cores suggests that drilling has sampled a new unit of massive basalt of olivine-plagioclase composition which is mixed with rubble. Operations are now 49 m below the seafloor on Serocki volcano and the shipboard party believes that they have drilled into either the top of the frozen magma chamber beneath the volcano or into a ponded basalt unit. To date, Leg 109 has cased down to a depth 3369 m below sea level (Appendix A). Garrison indicated that decisions will have to be made by 8 June whether to continue drilling or go to Site 395 on 16 June and then onto Barbados. If drilling continues at the present rate of 7 m/day, then the present hole should be deepened to a depth of 100 m with 15 m of material recovered (at a 15% recovery rate). However, Garrison indicated that there are other problems to be considered such has excessive wear on the shirt tails and wear pads of the drill bits.

JOIDES PLANNING COMMITTEE

## FY 87 BUDGET AND PROGRAM PLAN

1. Following discussions of the draft FY 87 Budget and Program Plan by EXCOM at the end of April, JOI was instructed to revise the document in order to create a base budget of $34.25m for FY 87 and to re-cast the document in terms of tasks rather than by cost center. The status of the budget preparation was reported to PCOM at its May meeting. The FY 87 budget was revised to meet the base budget target figure and also included "enhancements" should additional funds become available.

2. EXCOM appointed a Budget Subcommittee (Durbaum, Heath, and Keen) to review the revised budget and to comment accordingly. The Subcommittee has completed this review, by correspondence, and has accepted the base budget as a document which "takes into account all recommendations of EXCOM and does not delay any important development for future legs."

3. The EXCOM Budget Subcommittee considered that it would be difficult for the Subcommittee to prioritise the budget enhancements and recommended that these should be discussed at the forthcoming PCOM and EXCOM meetings and the EXCOM Chairman has concurred.

4. **PCOM is asked to review the FY 87 base budget and the proposed "enhancements" and to make recommendations to EXCOM on priorities, noting that the enhancements include items from three categories: i) improvements which are known, desirable, and feasible; ii) planning for anticipated future developments; and iii) allowances for unanticipated future developments.**

# JOINT OCEANOGRAPHIC INSTITUTIONS for DEEP EARTH SAMPLING (JOIDES)

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8/6/602

M E M O R A N D U M

July 22, 1986

TO: Roger Larson

In the absence of Don Heinrichs who was away from the office on travel, I told Garry Brass about the reports the JOIDES office had received from Hans Durbaum, Ross Heath and Mike Keane concerning the JOI program plan proposal and budget. Garry agreed with me that the program plan should be distributed to Planning Committee members so that it can be discussed at the August PCOM meeting.

John A. Knauss
Chairman, EXCOM

JAK:abb

OCEAN DRILLING PROGRAM

NOTE FOR FILE:

FY87 Budget and Program Plan

Responses from members of the EXCOM Budget Sub-Committee:

The following telex was received 16th July 1986
from Dr.Durbaum, Chairman EXCOM Budget Sub-Committee.

"From studying Tom Pyles budget overview I see that a Budget FY87 has been proposed which takes into account all recommendations of EXCOM and does not delay any important development for future legs.
The priorities to be followed in case that larger funds are available than the base budget should be discussed during the forthcoming PCOM and EXCOM meetings.
Therefore, I think that no further comment can be made from my side.
Please pass this information to JOI Inc, to Ross Heath and Mike Keen.

Regards
Hans-J Duerbaum, BGR."

Dr.R.Heath concurred with this view in a telephone conversation on 17th July 1986.

Dr.M.Keen also concurred in a telephone conversation on 17th July 1986. Keen also said that he considered that the new presentation of the Budget, by task rather than by cost center, was a major improvement. He considered that the base budget for FY87 was "spare" and also felt that it would be a difficult task for the EXCOM Budget Sub-Committee to prioritise the proposed budget enhancements and accepted that this could be done at the next PCOM & EXCOM meetings.

A.E.S.Mayer
17th July 1986

OCEAN DRILLING PROGRAM
FY 87 PROGRAM PLAN
DRAFT BUDGET OVERVIEW

General

The proposed Base Budget for FY 87 is $34.255M, an increase of $1.745M compared to FY 86. The increased costs are primarily due to three factors: 1) increased emphasis on engineering and logging; 2) the start up of publications; 3) increased costs associated with more remote deployment of the drillship. These program changes are a direct response to recommendations and ship scheduling actions of the JOIDES Executive Committee (EXCOM) and Planning Committee (PCOM) and the ODP Council.

The FY 87 Base Budget represents a conservative, minimum approach to meeting the objectives of the Ocean Drilling Program and the recommendations of the JOIDES advisory structure. To the best of our knowledge, the programmatic and budgetary decisions made in developing this Program Plan can be lived with over the long-term, under the assumption that funding and international participation have reached a nearly "steady state."

Although a conservative, minimum approach can be taken in constructing a plan and budget for any program, good management principles, scientific objectives and hard-won experience usually suggest ways in which a program might be improved by: 1) doing it "better" 2) anticipating and preparing for future developments; and 3) making allowance for unexpected developments that require fast response. In this spirit, a number of FY 87 Enhancements are proposed for consideration should additional funds become available. The Science Operator, Texas A&M University, proposes $3.213M of Enhancements which cover all three categories (e.g., computer equipment to provide better support; increased engineering effort to explore the potential of riser drilling; a contingency fund for unanticipated problems); the Wireline Logging Operator, Lamont-Doherty Geological Observatory, proposes $0.184M of Enhancements in categories 1 and 3 (i.e., backup logging tools aboard the drillship). The JOI budget includes $0.119M of Enhancements in category 1 (e.g., small increases in personnel and travel at the ODP Data Bank and hiring of an international project specialist at the Washington office) Proposed Enhancements total $3.516M, which when added to the $34.255M Base Budget, bring the total request to $37.771M (see Table 1).

In allocating resources between the Base Budget and Enhancements and among the program contractors, the following procedure was used. Subcontractors were asked by JOI to prepare their FY 87 budget proposals with knowledge of the total project budget (the "conservative, minimum" target of $34.250M suggested by NSF) but without initially being constrained by it and without being assigned a priori a budget ceiling of their own. When the component budgets were assembled and found to exceed $34.250M, decisions on priorities and budgets were made by the prime contractor (JOI) in consultation with the subcontractors. These discussions led to items being: 1) included in the Base Budget to conduct

TABLE 1. FY 87 BASE BUDGET SUMMARY
(x U.S. $M)

| | FY 86 Program Plan | FY 87 Base | Enhancements | Total |
|---|---|---|---|---|
| TAMU | 28.580 | 30.100 | 3.213 | 33.313 |
| LDGO | 2.500 | 2.750 | 0.184 | 2.934 |
| JOI | 1.430 | 1.405 | 0.119 | 1.524 |
| | 32.510 | 34.255 | 3.516 | 37.771 |

the science program designed and approved by JOIDES; 2) included as an Enhancement in one of the 3 categories discussed above; or 3) dropped entirely.

Budgets may be portrayed in a number of ways depending on state and federal requirements, standards of accounting vs. standards of scientific proposals, size of program, etc. In this Budget Overview of the FY 87 Program Plan we have adopted a task-oriented approach aimed at the scientific reviewers of the program and have tried to keep it brief by condensing and summarizing to what we hope is the appropriate level of detail. More detailed budgets as well as budget formats developed for federal accounting purposes will be found in the appendices of the final draft Program Plan to be submitted to the U.S. National Science Foundation on August 1, 1986.

Highlights of Base Budget

For convenience and for purposes of discussion, the budget of the Ocean Drilling Program may be divided into three main parts: TAMU, LDGO and JOI. In this context, the "TAMU" budget includes the Science Operator (Ocean Drilling Program at TAMU) and its subcontracted costs, the largest of which is drillship operations. The "LDGO" budget includes the Wireline Logging Services Operator (Borehole Research Group at LDGO) and its subcontractors. Also in this context, what is referred to as the "JOI" budget includes not only the Washington office of JOI, Inc. but also the JOIDES Office (now at URI, next year at OSU), the ODP Data Bank (at LDGO), the expenses of panel chairmen, publication of the JOIDES Journal and, in FY 87, the COSOD-II conference.

TAMU. Table 2 shows the TAMU FY 87 Base Budget by Task and provides comparison to the FY 86 Program Plan. The proposed FY 87 Base Budget of $30.100M reflects a $1.520M increase compared to the FY 86 Program Plan. Although most of the increase is devoted to engineering and publication tasks, other areas (notably computer support and logistical support) increased as well due to scientific requirements and drillship deployment. In order to accommodate these increased costs, a number of economies had to be taken. The most important of these is a proposed reduction in the daily cost of the drillship by reduction in the size of its crew (see Table 3).

It is anticipated that the proposed reduction in crew size will not have drastic, immediate impact upon scientific operations. However, it may lead to long-term reductions in equipment maintenance and operating efficiency. Among the reductions, the most important may be the reduction of 2 shipboard drilling engineers (1 per leg) who coordinate with TAMU engineers on the implementation and maintenance of new technical developments.

It should be noted that this decrease is relative to an expense which was initiated by the drillship operator in early 1986 and therefore not shown in the FY 86 Program Plan. Although these crew members had been aboard JOIDES RESOLUTION since the beginning of the program (with their costs borne by the drillship operator), the ODP only began paying for them in

## TABLE 2. TAMU FY 87 BASE BUDGET BY TASK

The summary FY 87 budget presented below reflects estimates of costs to accomplish the shorebased and shipboard operational, scientific, and technical objectives, as determined by JOIDES.

| | | FY 87 | Compare P.P. FY 86 |
|---|---|---|---|
| ADMINISTRATION | | $ 1,703 | $ 1,703 |
| Directs office; overall scientific and technical guidance; liaison with JOIDES EXCOM and PCOM; public information, fiscal, purchasing, insurance, personnel, payroll, contractual and other services. Includes fixed administration cost of $200K | | | |
| CURATION OF CORES | | $ 751 | $ 902 |
| --Curator and Assistant Curator office including post cruise support | 85 | | |
| --East Coast Repository | 235 | | |
| --West Coast Repository | 217 | | |
| --Gulf Coast Repository | 214 | | |
| ENGINEERING DEVELOPMENT | | $ 1,123 | $ 870 |
| --Material & other non-salary costs for special projects: | | | |
| Hi Temp Drilling | 135 | | |
| Drill String Analysis | 25 | | |
| Core Bit Development | 200 | | |
| Misc. Coring Upgrades | 59 | | |
| --Base salary support for the above, and for all other routine, ongoing engineering development (including continued work on drill-in casing, Navidrill development and pressure core barrel); travel; office supplies, etc. | 704 | | |
| COMPUTER SERVICES | | $ 914 | $ 767 |
| In support of shipboard equipment and operations, and shorebased publications, data bases, curation, science, engineering, drilling operations, administration and technical support. | | | |
| DISSEMINATION AND CURATION OF DATA BASES (including technical oversight) | | $ 219 | $ 183 |

(All Figures x $1000)

TABLE 2 - Continued

| | | FY 87 | Compare P.P FY 86 |
|---|---|---|---|
| DRILLING OPERATIONS | | $ 2,106 | $ 2,340 |
| --Consumables (bits, beacons, casing) | 1,275 | | |
| --Other (salaries for operations mgrs., drilling engineers, weather observers, travel, etc.) | 831 | | |
| TECHNICAL AND LOGISTIC SUPPORT FOR SHIP | | $ 3,068 | $ 2,803 |
| --Technical oversight, port call reconnaissance, and port call liaison | 139 | | |
| --Marine technical support (salaries) | 1,337 | | |
| --Lab consumables | 349 | | |
| --Maintenance/repair of shipboard equipment | 239 | | |
| --Other (travel to and from vessel, training, communication, etc. | 336 | | |
| --Logistics (movement of material to and from vessel) | 668 | | |
| PUBLICATIONS | | $ 1,327 | $ 304 |
| --Preparation of manuscripts (materials and labor contracts, etc.) | 541 | | |
| --Technical oversight; post cruise support; Proceeding volumes (typesetting, etc.) | 658 | | |
| --Photo Lab | 128 | | |
| SCIENCE SUPPORT | | $ 938 | $ 773 |
| Operational science plan implementation, oversight of scientific laboratories, shipboard staffing, coordination of pre- and post-cruise meetings, editing of scientific results of cruises. | | | |
| SHIP OPERATIONS | | $17,951 | $17,935 |
| --Dayrates | 12,356 | | |
| --Insurance | 1,000 | | |
| --Port calls SEDCO | 600 | | |
| --Per Diem | 383 | | |
| --Fuel | 2,482 | | |
| --Travel | 880 | | |
| --Ice Boat (remainder to be encumbered in FY 86) | 250 | | |
| TOTAL TAMU | | $30,100 | $28,580 |

## TABLE 3. IMPACT OF REDUCED SEDCO SHIPBOARD PERSONNEL

The impacts of twelve reduced personnel (six per leg) are summarized below:

2 Oilers - Oilers maintain the lab stack. The addition of one more per cruise would allow for more preventative maintenance. in the long run, absence of maintenance of this kind will likely result in laboratories operating with interruptions due to breakdowns. (Savings = $69/day and travel).

4 Floormen (Roughnecks) - The addition of 2 floormen per cruise will increase trip speed of deployment and retrieval of the drillstring thereby increasing core recovery. Drilling operatins would run more efficiently and smoothly. (Savings = $538/day and travel.)

2 Drilling Engineers - The drilling engineers work on special ODP projects on board the ship such as solving problems associated with using crane(s) for over-the-side-gear. Perhaps more importantly, every new ODP engineering/drilling development involves the drilling engineers for studies of compatibility with existing equipment, designing and implementing preventative maintenance fr the new developments, etc. Without this addition, support for further developments will likely not be posible and preventative maintenance on developments to date will not be possible. (Savings = $429/day and travel.)

2 Electronic Technicians - The added complexity of operations (i.e., the addition of the new TV sysem, reentry, etc.) directly effects the work of electronics technicians as they are responsible for running the equipment as well as maintaining it. Without this addition, it will become increasingly difficult for SEDCO to maintain any new developments. Preventative maintenance and increased downtime will also become a problem. (Savings = $401/day and travel.)

2 Electricians - Electricians are responsible for the general maintenace of switch gear and electrical systems (i.e., coring winch, top drive). The addition of 1 electrician per cruise will increase efficiency. In the long run, preventative maintenance will mean reduced downtime and smoother running operations. (Savings = $395/day and travel.)

These personnel may be added in whole or in part and thereafter may be terminated at any time in whole or in part.

February, 1986. So, this is not, strictly speaking, a reduction vs. the FY 86 Program Plan, but it is a reduction compared to the shipboard standards of the past 18 months.

The Engineering Development Base Budget for FY 87, (as shown in Table 2) will allow expanded efforts in all areas recommended by JOIDES. These include improvements of "standard" items relevant to all or many legs (e.g., core bits, drill-in casing, Navidrill or other motors), certain items driven by specific drilling plans (e.g., high temperature drilling in the Red Sea and elsewhere) and items required for advanced scientific planning. In this last category, the prime example is potential riser drilling. A preliminary analysis of riser drilling options, including impacts on the drillship and impacts on scheduling, will be started in FY 86 and continued at a very modest level with FY 87 Base funding. An Enhancement is proposed to this task to provide a more thorough analysis and provide better information for the deliberations of the COSOD-II conference in July, 1987.

In Publications, the FY 87 Base Budget will allow full staffing of this unit and the publication of eight Part A volumes by the end of the year. Although the first Part B volume is not due until Feb/March 1988, pre-publication work on Part B's will begin in FY 87 so that there should be no delays in starting this series. All recommendations of JOIDES regarding frequency and time lag of publications should be met by the end of FY 87.

Other highlights of the TAMU FY 87 Base Budget include an increase in the Computer Services task, resulting from the addition of programming support for all the other areas (especially needed in curation), and an increase in the Technical and Logistics Support task, resulting from increased travel, shipping and communications costs for more remote port calls (e.g., Falkland Islands).

LDGO. Table 4 shows the LDGO FY 87 Base Budget in standard scientific proposal format and provides comparisons to the FY 86 program plan. The proposed FY 87 Base Budget of $2.750M reflects an increase of $250K versus the FY 86 Program Plan. While all other budget categories have increased to some extent (for the reasons shown), the Permanent Equipment item represents the major change in the program for FY 87. The sum of $133,900 includes a commitment of $100K for the Wireline Packer given highest priority for downhole tools by PCOM. As of this writing, there are questions about the method of procurement of the packer. However, it is assumed that these will be resolved and that one way or another funds will be required in FY 87.

The FY 87 Base Budget will allow provision of standard wireline logging services and development of the PCOM's highest priority new tool, the wireline packer, in the next year. However, it will not provide for back-ups (12-channel sonic and borehole televiewer tools) that are an important aspect of successful management and operation of an expensive field operation. Acquisition of these important spares is proposed as an Enhancement to the FY 87 Base Budget.

TABLE 4. LDGO FY 87 BASE BUDGET

| ITEM | FY 87 | Compare P.P. FY 86 |
|---|---|---|
| PERSONNEL<br>--increase of 0.5 FTE + raises | $ 405,385 | $ 361,002 |
| PERMANENT EQUIPMENT<br>--$100K to Wireline Packer | 133,900 | 150,371 |
| MATERIALS & SUPPLIES | 59,000 | 51,000 |
| DOMESTIC TRAVEL<br>--increased participation in pre-cruise and panel meetings | 43,800 | 27,000 |
| FOREIGN TRAVEL<br>--foreign logging schools<br>--more distant port stops | 30,083 | 18,770 |
| OTHER COSTS<br>--increased distance shipping<br>--increased maintenance contracts | 137,488 | 123,000 |
| SUBCONTRACTS | | |
| STANFORD<br>--Wireline Packer Supervision | 94,000 | 46,786 |
| SCHLUMBERGER<br>--increased day rates & travel | 1,510,004 | 1,429,060 |
| MASSCOMP | 52,522 | 49,086 |
| ADMIN. | 155,424 | 133,578 |
| OVERHEAD | 128,394 | 110,347 |
| Total LDGO | 2,750,000 | 2,500,000 |

JOI. Table 5 shows the JOI FY 87 Base Budget by standard budget categories and provides comparison to the FY 86 Program Plan. Overall, the JOI budget has been reduced by $25,000 vs. the FY 86 Program Plan (primarily by means of efficiencies at JOI, Inc.) while accommodating an increase in funding of the ODP Data Bank and the requested level of funding of the JOIDES Office, soon to be transferred to Oregon State University.

At JOI, Inc. (Washington Office in Table 5) the Base Budget has been reduced by $36,000 vs the FY 86 Program Plan. This reflects a reduction in administrative costs and an increase in science support. The former has been accomplished by more efficient use of personnel through shared use with other JOI projects and with the Continental Drilling Program. The latter has been accomplished by 1) reorganization and creation of the position of Director, Ocean Drilling Programs responsible for both major contracts, ocean drilling per se and U.S. science support; and 2) the planned hiring of a Staff Science Associate, an M.S. level marine geologist.

The budget for JOIDES Advisory Services has increased by $43,000 compared to FY 86. This reflects 1) a small decrease in the cost of the JOIDES office at OSU vs. its cost at URI; offset by 2) an increase in funding of the ODP Data Bank at L-DGO; and 3) a new commitment, the COSOD-II conference.

The JOIDES office will be moved from URI to OSU in September, 1986. The costs of the move, an extra month's salary for the International Coordinator (to allow overlap and improved transition) and capital equipment costs will be covered by the FY 86 JOI budget. The full request of the new JOIDES office is accommodated in the FY 87 Base Budget and no Enhancements are proposed.

At the ODP Data Bank, the FY 87 Base Budget holds on-board personnel to the level of previous years but adds a quarter-time person to help digitize files and implement dial-up access to data, as recommended by the "Klitgord Committee".

The JOIDES Advisory Services budget includes a new commitment, $25,000 to help support preparations for the COSOD-II conference. The conference will re-examine the objectives and progress of the ODP and will be held in Strasbourg, France in July, 1987; initial planning will be under a Steering Group chaired by X. LePichon of France.

As the final item under the JOI FY 87 Base Budget, the "corporate indirect" (overhead) charges of JOI, Inc. have been reduced by $34,000 compared to FY 86.

TABLE 5. JOI FY 87 BASE BUDGET

| ITEM | FY 87 | Compare P.P FY 86 |
|---|---|---|
| WASHINGTON OFFICE | | |
| Personnel | $ 325,317 | $ 363,275 |
| Materials, Supplies & Communications | 18,000 | 16,000 |
| Travel | 79,320 | 79,320 |
| Other Costs | 9,000 | 9,000 |
| | 431,637 | 467,595 |
| JOIDES ADVISORY SERVICES | | |
| JOIDES Office | 198,197 | 208,000 |
| JOIDES Journal | 15,000 | 15,000 |
| ODP Data Bank | 195,298 | 166,500 |
| Panel Chairmen | 10,000 | 10,000 |
| COSOD-II | 25,000 | 0 |
| | 443,495 | 399,500 |
| CORPORATE INDIRECT | | |
| Personnel | 264,632 | 314,094 |
| Duplication & Communications | 45,644 | 42,823 |
| Office & Rent | 169,270 | 148,156 |
| Other Professional | 44,388 | 50,620 |
| Depreciation | 5,444 | 6,817 |
| | 529,378 | 562,510 |
| Total JOI | $1,404,510 | $1,429,605 |

## Highlights of FY 87 Enhancements

It is anticipated that a high quality, scientifically fruitful Ocean Drilling Program can be conducted in FY 87 at the "conservative, minimum" Base Budget level. However, there are a number of Enhancements to the program which should be considered if additional funds are available. As discussed above, such Enhancements can be rather roughly divided into three categories, with some proposals fitting more than one category:

Category 1: Improvements which are known, desirable and feasible.
Category 2: Planning for anticipated future developments
Category 3: Allowance for unanticipated future developments

Category 3 is the most difficult to deal with properly. It is meant to cover potential problems, short of major disaster, which can be dealt with effectively only by means of rapid responses (and not long approval chains). Category 3 Enhancements are a valid and proper management technique and must not be confused with "blank checks". If necessary, they can be carefully and specifically compartmented in accounting and specially audited.

Tables 6, 7 and 8 show Enhancements proposed by TAMU, LDGO and JOI, respectively, and identify the appropriate category along with a brief description of the Enhancement and its cost.

TABLE 6. TAMU FY 86 ENHANCEMENTS BY TASK

| Cat. | Task | Amount | Description |
|---|---|---|---|
| 1 | Publications | $ 71 | Miscellaneous Start Up Costs (To allow for training and thus increased efficiency levels, to allow for travel and relocation costs for new hires. |
| 1 | Computer Services | $ 189 | Equipment Acquisition (Disk drives, additional memory, tape drives, interface, controller, etc.) needed to maintain level of services due to increased computer usage and applications. |
| 1 | Dissemination & Curation of Data Bases | $ 23 | Disk Drive (to allow access to outside users via dial-up vs. written request) |
| 1 | Curation of Cores | $ 11 | General Upgrade/Repairs (computer communications link with repository and curator: repairs of "old" equipment) |
| 2 | Drilling Operations | $ 215 | Inventory of Drilling Supplies (coring systems, outer core barrels casing/cement, re-entry supplies, beacons, drill pipe replacement) |
| 2 | | $ 65 | Drilling Engineer (This Engineer would work on future projects such as drilling an ultra-deephole riser drilling, etc.) |

TABLE 6. Continued

| Cat. | Task | Amount | Description |
|---|---|---|---|
| 1 | Technical & Logistic Support | $ 25 | Marine Technician Training (cross training to allow for redundancy) |
| 1 | | $ 30 | Marine Technician (addition of one Marine Technician for shipboard support and to allow for stand-down.) |
| 1 | | $ 42 | Consumables (to allow for less restrictive uses of various items in ship labs--glassware, paper towels, etc.) |
| 1,2 | | $ 18 | Maintenance/Repair (to allow for more leeway in having service repair calls in port for various equipment breakdown, e.g., copier) |
| 1 | | $ 70 | Shipping of Cores and Frozen Samples (to allow shipment of cores and frozen samples after every leg vs. every other leg) |
| 1 | | $ 100 | Shipboard Laboratory Equipment Upgrades [this would allow the purchase of shipboard equipment requested by Co-chiefs (i.e., Schonstedt Magnetometer, color logger) and/or general upgrades to maintain state-of-the-art equipment (i.e., thermal demagnetizer, GRAPE improvements)] |
| 1 | | $ 80 | General Shipboard Equipment Upgrades (for upgrading or improving existing shipboard equipment) |

TABLE 6. Continued

| Cat. | Task | Amount | Description |
|---|---|---|---|
| 2 | Ship Operations | $ 250 | Day Rate Increase (to cover 2% increase in escalator) |
| 2 | | $ 450 | Fuel Increase (to cover fuel increase from $.85 to $1.00 per gallon) |
| 2 | | $ 200 | Port Calls (to cover possible increased costs for Falkland Island port call, and other remote-area port calls) |
| 3 | | $ 600 | Contingency [Approximately 2% of the target budget as management reserve to cover unbudgeted/unanticipated events (drill string losses, unplanned workshops, major repairs of drilling equipment, etc.)] |
| 1 | | $ 774 | Increase in Number of SEDCO Personnel Aboard The RESOLUTION (see Table 3) |
| TOTAL TAMU ENHANCEMENTS | | $ 3,213 | |

(All Figures x $1000)

TABLE 7. LDGO FY 87 ENHANCEMENTS

| Cat. | Task | Amount |
|---|---|---|
| 1,3 | Backup Borehole Televiewer for Ship | $ 14,000 |

This tool is the highest priority of our needed "second tool capability" because the Simplec analog televiewer is mechanically difficult to operationally maintain. Our main budget includes $16,000 for backup parts for a borehole televiewer. If this enhancement item is approved, we will have all of the parts required for WBK in Germany to produce a complete backup digital televiewer, as described in the next enhancement.

| | | |
|---|---|---|
| 1,3 | Digital Conversion of Borehole Televiewer (Stanford University Subcontract) | $ 79,838 |

The speciality tool use of the borehole televiewer will never be realiable under the current Simplec patent-controlled analog tool design. The German WBK system converts that tool to a microprocessor-controlled downhole digital design. Reliability and downhole tool performance become the best available in the world today. Los Alamos, for example, has converted its televiewer tools to the WBK design. In addition to $49,994 for reviving of the 3-year contract with WBK, three man months are needed for Dan Moos to develop digital televiewer software, and two round trips from Stanford to WBK are needed for training and field testing prior to tool delivery.

We note that enhancement items 1 and 2 take advantage of the fact that purchase of a complete analog televiewer from Simplec ($50,000) is not required for digital conversion. If available funds are too limited for digital conversion but sufficient for purchase of a complete analog televiewer, then the first enhancement item would need to be increased from $14,000 to $34,000. This amount, when coupled with the $16,000 in our basic budget for backup televiewer parts, would permit the fielding of a backup analog televiewer.

| | | |
|---|---|---|
| 1,3 | Backup 12-Channel Sonic Tool for Ship | $ 90,000 |

The multichannel sonic logging tool, also from Simplec, is more reliable electronically than the BHTV. We also have an Office of Naval Research tool at Lamont to provide temporary back-up when the one ODP tool fails. This mode of operation with only one tool available at sea lowers the statistical success rate downhole from 91% to 68% (data from Schlumberger for their tools). Purchase of a backup 12-channel sonic tool would at last make the speciality logging program an integral part of ODP operations capabilities.

| | |
|---|---|
| TOTAL LDGO ENHANCEMENTS | $ 183,838 |

TABLE 8. JOI FY 87 ENHANCEMENTS

| Cat. | Task | Amount | Description |
|---|---|---|---|
| WASHINGTON OFFICE | | | |
| 1 | International Project Specialist (I.P.S.) | $ 48,125 | Improve coordination with foreign partners of plans, programs, and public relations. |
| 1 | Materials, Supplies and Communications | $ 3,000 | For I.P.S. |
| 1 | Travel | $ 12,400 | For I.P.S. |
| Other Costs | | | |
| 1 | ADP Equipment | $ 15,000 | To improve reports and presentations to NSF and JOIDES. |
| 1 | Portable | $ 23,000 | Build portable ODP displays for national and international meetings & other start-up costs for public relations. |
| TOTAL WASHINGTON OFFICE ENHANCEMENTS | | $ 101,525 | |
| JOIDES ADVISORY SERVICES | | | |
| 1 | ODP Data Bank | $ 9,571 | Small additions of personnel, time, computer usage and travel. |
| CORPORATE INDIRECT | | | |
| | | $ 8,204 | Overhead |
| TOTAL JOI ENHANCEMENTS | | $ 119,300 | |

## Implications for FY 88

TAMU. The FY 87 Budget of TAMU presented herein represents a level of funding ($30.1M) that allows for all JOIDES directives to be met. Following is a discussion of implications or impacts for FY 87 and FY 88 based upon the $30.1M level budget, and a discussion of enhancements and long-term effects, where applicable. We note that no cost-centers have funds budgeted for contingencies. Additionally, while the FY 87 budget does allow for the accomplishment of all JOIDES directives, the short-and long-term implications cited below indicate a less than optimum funding level.

### Headquarters

The FY 87 budget represents steady-state. There are no long-term impacts associated with this budget level.

### Science Services

The Office, Photo lab, East and Gulf Coast Repositories are funded at a level where there are no anticipated impacts for FY 88.

The enhancement of a disk drive for the Data Base would allow in the short- and long-term, increased efficiency in disseminating data to outside users.

The Computer Services budget does not allow for new equipment acquisition. The short- and long-term effects will be significant as more memory, tape drives and interfaces are needed to maintain services due to increased computer usage and applications. Increased usage is due to engineering developments, increased memory storage requirements, additional applications requested by shipboard and shore based users, etc. Without additional equiment, the ship-shore system will become more and more stressed.

The FY 87 budget does not fund upgrade and repairs needed at the West Coast Repository. The absence of repairs will impact operations of the WCR in the short- and long-term.

Publications has not yet reached a steady state. At this time there appear to be no long-term impacts based on the FY 87 budget. However, short-term and long-term effects include possibly having difficulty in hiring optimum people and in providing outside training as both the relocation/travel and training budgets have been cut.

### Technical and Logistics Support

The FY 87 budget for this area has short and long term implications. The budget does not include the addition of a marine technician, which makes arranging stand-down time extremely difficult. We anticipate the possibility of reduced morale due to the inability to provide stand-down time on a more predictable and regular basis (once a year). The budget cut in training will severely impact our ability to train technicians in

multiple areas. This combined with the above, will likely cause problems in the shipboard laboratory operations.

The reduced funds for consumables in the labs will directly affect shipboard participants. It is difficult to assess the effects of the reduced maintenance and repair -- these are funds needed for in-port service calls for equipment breakdown such as the copier.

Finally, the budget allows for shipment of cores and frozen samples after every other leg (versus after every leg). The short-term impact will be extended waiting times for sample requests.

Engineering and Drilling

The FY 87 Base Budget does not allow for the purchase of inventory of drilling supplies. In the short-term, unanticipated losses will not be covered, in the long-term, inventory replacement will very likely be more costly.

FY 87 Base does not fund a requested drilling engineer. This engineer would work on future developments such as riser drilling, an ultra-deep hole, etc. While some work is currently being done on these projects, it it will be increasingly difficult to "catch-up" at a later time. Overall, the drilling and engineering budget is enjoying the benefit of the oil crisis through reduced costs of supplies and hardware. This will likely change in the future.

Science Operations

There are no funds for shipboard equipment upgrades. The short- and long-term result will be difficulty in keeping equipment state-of-the-art, and no additional equipment purchases in response to shipboard participants. In the long-term it will be increasingly expensive to "catch-up" and upgrade these labs.

Shipboard Operations

There are no contingency funds in the FY 87 budget. Our ability to respond to unanticipated costs will decrease in the short term. The reduced shipboard personnel will very definitely have a long-term impact on efficiency and general operations.

LDGO. If the FY 87 Base Budget is adopted, LDGO will again have to defer purchase of backup shipboard tools (borehole televiewer and 12-channel sonic log). This increases the risk that data will be lost and time wasted during field operations during current and future years.

Available FY 86 and proposed FY 87 funding of the Wireline Packer will probably enable the purchase of two tools. This implies the purchase of one more packer in FY 88, if we hold to the principle that the shipboard tool should have a backup and that the third tool should be at the shorebased laboratory for software development, hardware modification and repairs.

JOI. There are no foreseen long-term impacts of the FY 87 Base Budget. The Enhancements (primarily the International Specialist) obviously imply a commitment to these activities in FY 88 and future years.

## Conclusion

A conservative, minimum budget for the FY 87 operations of the Ocean Drilling Program has been proposed. It makes allowance for some contingencies and provides high quality support for the scientific objectives of JOIDES. It maintains the enthusiastic support and high morale level characteristic of the operators' initial efforts, improves the level of engineering, publications and logging efforts and provides a sound base for next year's remote operations of the JOIDES RESOLUTION. The cost of these and other improvements is primarily a reduction in size of the drillship crew and assignment of contingency planning reserves to the Enhancement column of the budget. The impact of these decisions is hard to predict; for the crew reduction it is likely to be a long-term reduction in efficiency that may or may not be bearable; for the reduction in contingency reserves, should the Enhancements not be funded and a problem arises, it may mean significant delays or disruptions of one or more Legs.

Since a conservative, minimum budget is not necessarily an optimum budget, a number of Enhancements are also proposed for consideration by JOIDES and NSF. Should additional funding become available, it will require considerable judgment and consultation to determine which of these are most important.

JOIDES PLANNING COMMITTEE MEETING
Lamont-Doherty Geological Observatory
28-30 May 1986

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JOIDES Planning Committee Meeting
28-30 May 1986
Lamont-Doherty Geological Observatory
Palisades, N.Y.

ACTION ITEMS

| Page | Item | Responsibility |
|---|---|---|
| 7 | Distribution of the budget for FY87 with a draft statement of highlights and impacts. | JOI |
| 15 | Distribution to PCOM of the report on the effects of nuclear radiation on drilling pipe. | L-DGO |
| 16 | Discussion with the EXCOM Chairman of the developmental scheme proposed for wireline packer development. | PCOM Chairman |
| 19 | Notification to Panel Chairmen concerning possible conflict-of-interests within ODP. | PCOM Chairman |
| 21 | Presentation of a report on the status of the casing program proposed for Leg 110. | TAMU |
| 34 | Reinvestigation of the crew change plans proposed between Kerguelen 1 and Kerguelen 2. | TAMU (with NSF) |
| 34 | Establishment of a Kerguelen Working Group and appointment of a chairman. | JOIDES Office |
| 37 | Request the Western Pacific Regional Panel to devise a 9 leg drilling plan for the western Pacific. | PCOM Chairman |
| 38 | Request the Central and Eastern Pacific Regional Panel to construct watchdog summaries for the central and eastern Pacific. | PCOM Chairman |
| 38 | Distribution of the list of COSOD-II Steering Committee members to EXCOM for comment. | JOIDES Office |
| 44 | Polling of each PCOM member and Panel Chairman concerning the proposed change of meeting date for the January Annual Meeting to December 2-5, 1986. | JOIDES Office |

DRAFT

TO: John Knauss, EXCOM Chairman

FROM: Roger Larson, PCOM Chairman

RE: PEC Report

The portions of the draft report of the JOI Performance Evaluation Committee (PEC) relevant to the JOIDES scientific advisory structure were distributed to all members of PCOM at our most recent meeting on May 28-30 at Lamont for their information and comment. Below is a point by point reply, numbered in the same fashion as the draft report, that is the consensus of PCOM's positions and opinions regarding the points raised by the PEC. Before describing those specifics, however, PCOM makes the following statement that is perhaps our most important comment on this review.

## PEC TERMS OF REFERENCE

Although the PEC conducted a detailed and often insightful investigation, this investigation is basically flawed and incomplete. The PEC focused only on evaluating how the various ODP subcontractors carry out their functions, and reported these findings to JOI Inc. who is the prime contractor. PCOM believes that the PEC Terms of Reference should have also directed the PEC to include a complete review of all of JOI's functions as the prime contractor for ODP, and the PEC should have reported directly to EXCOM. It is only possible to have a complete and impartial review of the entire ODP structure if the prime contractor is included in that review, and if the report is made directly to EXCOM as the principal oversight body. Indeed it would seem that the conduct and analysis of such a review should become one of the prime functions of EXCOM, now that ODP is on a firm membership footing. PCOM believes that this change in the Terms of Reference in the future will answer the lurking question of "who watches the watchers" and assuage any possible accusations of "whitewash."

## SPECIFIC PCOM COMMENTS ON THE PEC DRAFT REPORT

2. Science Operator

2.2 Science Operations - PCOM generally agrees that it may be unnecessary for TAMU staff scientists to attend all JOIDES panel meetings, although it is often useful.

2.3 Engineering and Drilling Operations

2.3.3 PCOM agrees that TEDCOM is a useful element in the JOIDES advisory structure and re-activated the Committee under Chairman Jean Jarry of France who convened their most recent meeting in February 1986 in Marseilles. We point out that it is unlikely that TEDCOM will serve as an engineering link to TAMU similar to that of DMP to Wireline Services because DMP is composed mainly of users of ODP while TEDCOM is composed mainly of advisors outside of ODP.

2.4 Science Services

2.4.4.8 Sampling policy - PCOM agrees that sampling policy should be reviewed and have directed our Information Handling Panel to do so. We have also asked that new member suggestions for IHP come from the sample user community rather than from the data base community.

3. JOIDES RESOLUTION

3.10 PCOM has no specific plans for an early test of full drillstring length (30,000' = 9150m) or maximum depth of setting conventional re-entry cones (20,000' = 6100m). Such tests will probably be conducted in late 1988 in the western Pacific when we encounter water depths in excess of 6300m for the first time.

4. Wireline Logging Services

4.3 PCOM agrees completely that the main thrust of the logging program should be towards a petrophysics description of the borehole. Furthermore, we are convinced that the Wireline Services Contractor shares this view and is capable of implementing it as described in the PEC report. Logging and lithological data will indeed be juxtaposed in the Volume A ODP reports although the format has not yet been finalized.

6. JOIDES Scientific Advisory Structure

6.1 PCOM agrees that the present advisory structure is complex and considered directly the question of revising it at their January 1986 meeting. The outcome of that discussion was in accord with a previous EXCOM opinion that stability of the present structure is more important at this time. PCOM instead redirected the regional and thematic panels to different specific tasks as described below in the PCOM Chairman's letter to panel chairman dated 4 February 1986:

"Instead of changing the JOIDES panel structure or hierarchy at this time, PCOM decided that the duplication of effort between regional and thematic panels could be eliminated, and yet the checks and balances of the present system could be preserved by re-directing the regional and thematic panels to different specific tasks in the planning procedure. Ideally, we see this as a sequential, three-step process for each geographic area of planning as follows. First, we request the thematic panels to specify the overall thematic objectives that can best be achieved in this geographic area, placing this area in the world-wide view of their subject that lies within their panel's mandate. Second, this information is then communicated to the regional panel(s) responsible for this area, and the regional panels are asked to define a specific drilling program within the thematic constraints set down by the thematic panels. Finally, this proposed drilling program is reviewed by the thematic panels who comment on its adequacy in meeting the thematic objectives. This advice is then communicated to the PCOM who are the final arbiters of

the drilling program. We do not see that the regional panel function will be changed drastically from its present function, except that drilling programs should be created within the specific thematic framework, rather than the present "carte blanche" method of planning. Thematic panels, however, should seriously de-emphasize the review of all specific drilling proposals that are forwarded to them, and concentrate on long-term world-wide planning. The JOIDES Office will continue to forward specific drilling proposals to thematic panels in the present manner so that proposed drilling programs created by the regional panels can be intelligently reviewed. However, we hope that the regional panels' prioritization of specific proposals, and their subsequent proposed drilling programs will serve as initial screening processes for thematic panel review."

As of this writing, this new system seems to be working very well for Pacific planning.

6.2 PCOM disagrees that "often the prime target sites tend to run out of drilling and logging time (due to too many diverse scientific objectives)." This can probably only be argued for Leg 104, and there it is debatable. Furthermore, 20/20 hindsight in that case suggests that both the basement and paleoenvironment objectives are very important scientific results and the only planning error was not to allocate more drilling time to Leg 104. PCOM tries to avoid multiple objective legs if possible, but when this is unavoidable, such as the upcoming Leg 112 on the Peru margin, we now attempt to optimize the situation by scheduling additional drilling time for those situations.

6.3 PCOM commented on their review of the advisory structure in 6.1 above. We agree that the thematic objectives of COSOD should be the focus of this program, but point out that different oceans are in a different state of exploration, and that it is more appropriate to plan long-term thematic experiments in well-explored regions (the Atlantic/eastern Pacific) than in poorly-explored ones (Indian Ocean).

6.4 PCOM does not believe that greater flexibility is possible, or even desirable, in the present phase of ODP. This is because we have chosen to utilize to the fullest JOIDES RESOLUTION's station keeping/drilling capabilities to investigate both the northern and southern high latitude oceans in the first three years of ODP. This is basically a different strategy from DSDP planning because we are forced to meet very narrow weather windows in various remote parts of the world. In DSDP the flexibility of including additional legs to complete priority targets was done by simply deferring the subsequent program by the amount of additional time required. This is not possible in ODP because of the high latitude weather window constraints, and the only recourse would be to eliminate other upcoming legs. Given the high degree of

scientific coordination necessary to organize each program, this would be very unfair to a leg's personnel who were eliminated on short notice, and PCOM has not yet found an uncompleted target of sufficient priority to justify this procedure. PCOM points out that the upcoming Antarctic campaigns, first in the Weddell Sea/South Atlantic sub-Antarctic and second in the Kerguelen/Prydz Bay area are both planned to a certain extent as interlocking, multiple leg programs. PCOM further points out that JOIDES RESOLUTION will not encounter a water depth that even approaches the maximum drillstring length until 1988 and that we see no a priori reason to seek out very deep water drill sites prior to that time.

6.5 PCOM agrees, especially at the level of subcontractor representation at PCOM meetings, that relations between JOIDES and the subcontractors are good and that the subcontractors are responsive to the JOIDES science plan.

6.6 PCOM liaisons and JOIDES panel chairmen have been re-advised on policy related to conflict of interest. The text of that most recent statement from the PCOM Chairman dated 3 June 1986 follows:

"This letter is to reaffirm PCOM's position regarding conflicts of interest in the consideration of drilling proposals for ODP. Basically this position is that proposal proponents should not be involved in panel discussions relevant to the potential inclusion of their proposal in drilling plans, and panel members who are proponents should not participate in votes related to their proposals. In asking you to implement this position in the conduct of your panel meetings, I am well aware that many panel members, as well as some PCOM members, are proposal proponents, and that it is this personal interest in the evolution of the drilling program that, in large part, encourages them to contribute their time and expertise to the JOIDES advisory structure. Thus, the issue of potential conflicts of interest is a sensitive and personal one that requires everyone's cooperation. I urge you to use good judgement but firm guidance in continuing to provide the PCOM with the best possible set of scientific plans for ODP."

6.7 PCOM is aware of its collective inexperience and requested EXCOM to permit two long standing members, Dennis Hayes and Jose Honnorez, to stay on the Committee one additional year in order to provide additional "corporate memory." We also view our "collective inexperience" as an asset that brings new leadership blood into the program and prefer that to the stagnant situation during DSDP when some PCOM members were allowed to remain on the Committee in excess of a decade. PCOM believes that its past, present, and upcoming chairmen have been, are, and will be the best people for the job, given

the manpower and other commitment constraints facing American oceanographic institutions.

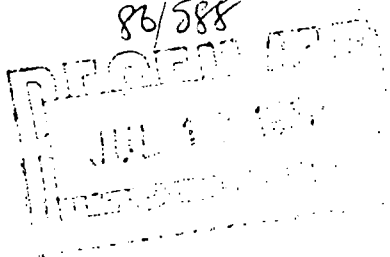
6.8 PCOM agrees that the JOIDES Office should continue to rotate among U.S. oceanographic institutions, but feels that the two-year rotation period is about right. Extending the rotation period beyond two years would make it impossible to continue to find the best person for the job of PCOM Chairman, because the best people are reluctant, even now, to abandon as much as two years of prime research time. Rather, funding should be approved for a short (several months) overlap of PCOM Chairmen and JOIDES Office personnel during transitions. PCOM fully supports the appointment of a non-U.S. representative to the JOIDES Office.

6.9 PCOM will continue to reserve the right to review the upcoming fiscal plan in accord with their motion passed at the May 1984 meeting:

"Motion 473A: The Planning Committee requests that it receive each year a draft of the proposed ODP budget at a sufficient level of detail so that it may have full information for future scientific recommendations.
Vote: 14 for; 0 against; 1 abstain"

6.10 PCOM agrees that logging and lithological information should be juxtaposed and plans to have this done in the Volume A ODP Reports. The format for this presentation has not yet been finalized.

86/588



Command? read 1

Posted: Thu Jul 17, 1986 12:49 PM EDT Msg: OGIG-2565-7557
From: R.MCDUFF
To: JOIDES.URI
Subj: PCOM Action Items

Re: PCOM Action Items.

1) draft minutes fine.

3) I agree for the most part with the PEC commentary, especially regarding the Terms of Reference. I'm not comfortable with the language on 6.3 as going to the Indian Ocean early in the program was a PCOM decision and that decision has kept us from actively pursuing a number of long-term experimental programs. With respect to 6.6, I am still uncomfortable with conflict of interest at the PCOM level in the form of regional scenarios incorporating legs for which PCOM members are proponents being voted on by those proponents.

4) I don't see the urgency in CEPAC's request that it cannot be done in the normal way. Two months between our meeting and theirs should be sufficient.

6) If the next PCOM meeting is the Dec 2-5 date, Darrel Cowan will represent UW (So I hope he said he could make it!). I have no conflicts after December 15.

Russ

PCOM response to JOI Performance Evaluation Committee Report

Comment from P.Robinson

Received 17th July 1986

"Looks O.K. to me but see comments on para. 6.7

I am not sure what is meant by the phrase "collective inexperience". Individual members of PCOM have had extensive experience in IPOD and DSDP and have been involved in JOIDES Panels."




86/567

7 July 1986

Dr. Roger Larson
PCOM Chairman
University of Rhode Island
School of Oceanography
Kingston, R.I. 02881

Dear Roger:

Regarding your draft response to the PEC report presented to PCOM, with 2 exceptions I believe that it is quite appropriate. Particularly I appreciate your comments on the PEC Terms of Reference being inadequate; I expect that the community outside of ODP will view this first report as flawed because of these inadequacies.

The exceptions to your comments I have are:

1) 4.3. I do not particularly agree with the PEC comments on borehole geophysics vs. petrophysics. As far as I am aware, almost all logging and special downhole experiments in ODP have petrophysical objectives. This includes more exotic experiments such as the OSE (R. Stephen), long-spaced electrical and packer. The particular borehole geophysical measurements cited by the PEC (gravimetry, electromagnetics, neutron activation analysis) are also utilized primarily for petrophysical descriptions - in fact, I really wonder what other objectives they would satisfy. Temperature and heat flow might also be considered geophysics vs. petrophysics, but I consider that such measurements have produced important scientific results in DSDP and ODP, and should be continued. The PEC statement probably reflects the bias of one of its members. I suggest that you send sec. 4.3 to the DMP for comment.

2) 6.4. Although I agree with your response, it is not quite correct that "...PCOM has not yet found an uncompleted target of sufficient priority to justify this procedure." (i.e., cancellation). You may recall that you and a small sub-committee of PCOM decided to transfer time from Leg 102 to 103 shortly before Leg 102, causing cancellation of drilling at previous site 603 in the NW Atlantic. This caused elimination of some of Leg 102 personnel, including one of the Leg 102 co-chiefs. I did not agree with that decision, but I fully agree with your statement here that the time window constraints of high-latitude drilling preclude such flexibility in ODP planning.

Woods Hole, Massachusetts 02543—Phone 617-548-1400—Telex 951679

As a comment on information to PCOM, I read the complete PEC report (rather than the highly edited one distributed to PCOM) and saw little in it of an overly sensitive nature for which discussion would be harmful to ODP. Besides, I consider that any organization (JOI) which cannot discuss its "dirty linen" within its own community may be headed for problems. I hope not.

Sincerely,

Dick

R. P. Von Herzen

RVH:at

60TH JUBILEE

יובלה־60

האוניברסיטה העברית בירושלים

THE HEBREW UNIVERSITY OF JERUSALEM

INSTITUTE OF EARTH SCIENCES
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June 24, 1986

Dr. Roger Larson
Graduate School of Oceanography
University of Rhode Island
NARRAGANSETT, RI 02882-1197
U.S.A.



Dear Roger:

Hope the rest of PCOM went well. I read the advance copy of the report of the JOI performance evaluation committee. It is disappointing, mainly because of its incompleteness which makes it difficult to evaluate; it jumps in subchapter 4 "Wireline Logging Services" to point 4.3, and then to subchapter 6 on the "JOIDES Scientific Advisory Structure". Is it possible to request that prior to our meeting in Canada the planning committee members should receive the complete version, or at least a version which should include the chapter "Recommendations" and the appendices, especially i and iv?

The last paragraph of point 4.3 (and point 6.1) on "Wireline Logging Services", and point 6.4 of "JOIDES Scientific Advisory Structure" should be seriously discussed at our next meeting.

At the end of this month I will be back at Scripps.

With best wishes.

Sincerely,

Miriam

Miriam Kastner

BUNDESANSTALT FÜR
GEOWISSENSCHAFTEN UND ROHSTOFFE

FEDERAL INSTITUTE FOR GEOSCIENCES
AND NATURAL RESOURCES

Hannover, June 26, 1986

Ref.: B 2.3-222/04-Bei/Pa
(Please include in reply)

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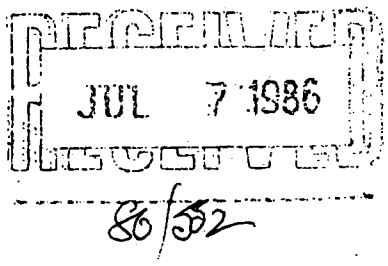


Dr. R.L. L a r s o n
JOIDES Office
Graduate School of Oceanography
University of Rhode Island

Narragansett RI 02882-1197

U S A

Dear Roger,

this is to inform you that I fully agree with your statements regarding PCom's position towards the Report of the Performance Evaluation Committee.

You may be surprised that I also agree to what you said in paragraph 6.7 though my term lasted already a decade. I regret that due to our limited manpower at BGR it was impossible to find a person to replace me as German ODP coordinator, and in this capacity as PCom member.

We will try to solve this problem by letting my alternate, Ulrich von R a d , bring fresh ideas to the PCom more frequently. But as soon as we see ourselves fit we will turn to a complete replacement. Though agreeing to your PEC reply I see already a conflict with our own policy in your letter to all PCom members regarding CEPAC membership. I see no reason why a regional panel needs a particular specialist (in this case a petrologist). What they need is regional expertise. If Martin F l o w e r and the others are those experts, o.k., if not, why not looking for a regional expert with petrological background ? I would also prefer Sy S c h l a n g e r as chairman of this panel.

This is all for the moment.

Sincerely yours,

(H. Beiersdorf)

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July 1, 1986

Dr. Roger Larsen
JOIDES Office
Graduate School of Oceanography
University of Rhode Island
Varrangansett, RI 02882

Dear Roger,

Thank you for your kind letter. I am looking forward to join PCOM, but needless to say I might be eaten alive by more than one Consortium member. By the way, I am sorry I hear you were not invited to Oslo. You would have a most welcome guest as far as I am concerned.

With respect to your memo of June 17 - my comments are:

Item 1: Ken Hsü will, if needed, respond on behalf of ESF.

Item 3: As a general rule I am reluctant to discuss the terms of references when responding to a case like this. On the other hand, I do agree with your general thinking. Perhaps, this point should be pursued as a separate matter?

I read the PEC report in favorable terms. Therefore, you may shorten and generalize the comments even more. This is a small point as I would not suggest to cramp your visionary style (cfr. p. 6.2)!

Item 4: I am not in position to offer suggestions at the present time, except pointing out that ESF has nominated an experienced panel member, Hans Schrader.

Item 6: I can attend a meeting in the San Francisco Bay Area Dec. 2-5.

Best regards

Olav Eldholm

Encl.

July 1, 1986



Dr. Roger Larson
Chairman, JOIDES Planning Commission
Graduate School of Oceanography
University of Rhode Island
Narraganset, RI 02882-1197

PROPOSED NEW ODP SEDIMENT CLASSIFICATION

Dear Roger,

Please find the enclosed copies of a new sediment classification proposed for use on JOIDES Resolution and in subsequent ODP literature. I trust that you will ensure its distribution to thematic panel members, and others as you see fit, and that you will present it for discussion and endorsement by the Planning Committee.

As you will know, the incursions of DSDP into environments other than deep water pelagic regimes has continually forced modification of the classification scheme that has been in use by JOIDES since 1974. Already in ODP difficulties have been experienced, on legs 101, 103, 107, and 108 in particular, which drilled non-pelagic sediments. This classification is not a major move in concept away from either the original or that proposed by Dean et al. in 1985 (Jour. Sed. Petrol. 55:250-256) as a result of the DSDP experience.

We believe the proposed classification has considerable advantages over either. It has been tested successfully already in parallel with both previous schemes on Leg 108.

Routine use aboard ship obviously requires PCOM approval and I trust that you can give it your earliest consideration.

Please note that a similar document on igneous and metamorphic rock description and classification begun during Leg 106, has been finalized on Leg 109 and its classification will be thoroughly tested on Leg 111.

I trust that PCOM will bear with us while we improve our shipboard methodology to match ODP's much increased laboratory capability!

Yours sincerely,

Robert B. Kidd

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# PROPOSED SEDIMENT CLASSIFICATION SCHEME FOR THE OCEAN DRILLING PROGRAM

by

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## INTRODUCTION

The Deep Sea Drilling Program (DSDP) employed a sediment classification scheme that was devised by the JOIDES Panel on Sedimentary Petrology and Physical Properties and adopted for use by the JOIDES Planning Committee in March of 1974. This JOIDES classification scheme has been employed since Leg 38 of the DSDP, and is also used by the Ocean Drilling Program (ODP); it is fully described in the Initial Reports of the Deep Sea Drilling Program, Volume 42, Part 2 (Ross et al., 1978).

The DSDP concentrated its early drilling effort in deep marine sedimentary environments for various scientific and technical reasons, and thus the JOIDES sediment classification scheme evolved with strong emphasis upon the proper classification of pelagic sediments. However, the weakness of the JOIDES classification scheme--its lesser emphasis upon the classification of coarse-grained carbonate ("neritic"), terrigeneous, and mixed ("marly") sediments--became apparent as DSDP and ODP expanded the ocean-drilling effort to continental margins and marginal seas, resulting in its modification in a variety of ways by the shipboard scientists on 30 of 70 DSDP and ODP legs. For example, the Leg 101 shipboard scientists found that the JOIDES classification scheme did not precisely classify coarse-grained carbonates, which were a major component in their cores; thus they amended the Dunham (1962) classification scheme for such sediments to the JOIDES classification scheme to meet their needs.

The purpose of this paper is to propose a comprehensive sediment classification scheme for the Ocean Drilling Program which places equal emphasis upon pelagic, neritic, terrigeneous, and mixed sediments, and thereby responds to the growing need for the precise description of sediments from continental-margin and marginal-sea environments. This sediment classification scheme is a revision of the original JOIDES sediment classification scheme, but also adopts some modifications to the same that were proposed by Dean et al. (1985). It is a descriptive rather than genetic classification, for it classifies sediments on the basis of their textures and compositions rather than their assumed or postulated genesis. Lastly, it provides a consistency of classification and nomenclature that will allow for easier communication between scientists and greater efficiency in the acquisition, storage, and retrieval of sedimentological data from the ODP computerized data-storage system.

## BASIC SEDIMENT TYPES

The proposed sediment classification scheme defines two basic sediment types: (1) granular sediment and (2) chemical sediment. Granular sediment is composed of discrete grains of organic

(e.g., foram tests, mollusc shells) or inorganic (e.g., quartz grains, rock fragments, volcanic ash) origins that were deposited by physical or organic processes. Some examples of granular sediment are foraminiferal chalk, quartz sandstone, vitric ash, and oolitic grainstone. Chemical sediment is composed of minerals that formed by inorganic processes such as precipitation from solution or colloidal suspension, deposition of insoluble precipitates, or recrystallization of detrital evaporites and siliceous, calcareous, or carbonaceous (plant) biogenic debris, and generally has a crystalline (i.e., non-granular) texture. Some examples of chemical sediment are coal, halite, pyrite, and gypsum.

Separate sediment classification schemes have been devised for granular and chemical sediments, for there are great differences in the lithologies, fabrics and depositional histories of these two basic sediment types even when they are present together in the same sediment sample. Therefore, when a granular sediment contains inclusions of chemical sediment (e.g., pyrite nodules in shale), or when a chemical sediment contains inclusions of granular sediment (e.g., wind-blown quartz silt in gypsum), these two basic sediment types should be described and classified separately.

## CLASSIFICATION OF GRANULAR SEDIMENTS

### Classes of Granular Sediments

There are three types of grains that can be found in granular sediments: pelagic, neritic, and terrigenous grains. Pelagic grains are composed of the fine-grained organic debris of open-marine siliceous and calcareous microfauna and microflora and associated organisms (e.g., nannofossils, radiolarians). Neritic grains are composed of coarse-grained calcareous skeletal debris (e.g., shell fragments), coarse-grained calcareous non-skeletal debris (e.g. ooids, intraclasts), and fine-grained calcareous grains of non-pelagic origin (e.g., micrite). Terrigenous grains are composed of mineral and rock fragments that were eroded from igneous, sedimentary and metamorphic rocks (e.g., quartz grains, volcanic ash).

Variations in the relative proportions of these three grain types define four classes of granular sediments: pelagic, neritic, terrigenous, and mixed sediments (Figure 1).

**Pelagic sediments** are composed of greater than 50% pelagic grains, and lesser amounts of neritic and terrigenous grains (Appendix, Examples 1-8).

**Neritic sediments** are composed of greater than 50% neritic grains, and lesser amounts of pelagic and terrigenous grains (Appendix, Examples 9-12).

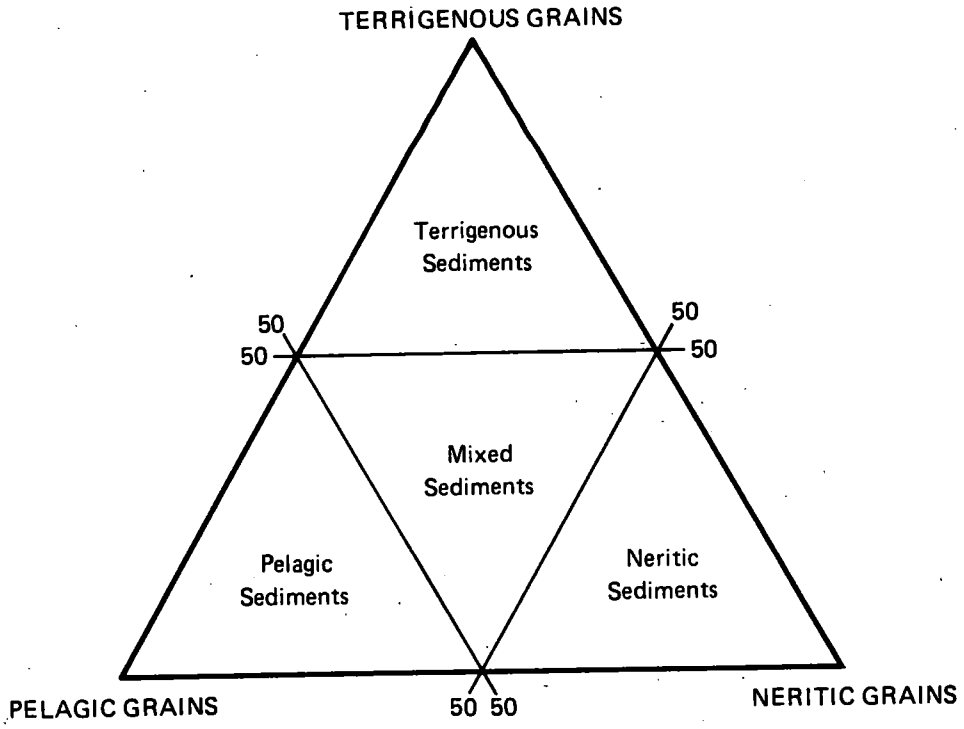


Figure 1. Ternary diagram showing classes of granular sediments.

Terrigenous sediments are composed of greater than 50% terrigenous grains, and lesser amounts of pelagic and neritic grains (Appendix, Examples 13-21).

Mixed sediments are composed of less than 50% each of pelagic, neritic, and terrigenous grains (Appendix, Example 22).

In addition, two varieties of terrigenous sediments can be defined on the basis of the origins of the terrigenous grains: terrigenous clastic and terrigenous pyroclastic sediments. In terrigenous clastic sediments, greater than 50% of the terrigenous grains are rock and mineral fragments eroded by normal (i.e., non-volcanic) sedimentary processes from pre-existing igneous, sedimentary, and metamorphic rocks. In terrigenous pyroclastic sediments, greater than 50% of the terrigenous grains are pyroclasts - rock and mineral fragments that are explosively ejected from volcanic vents.

## Classification of Granular Sediment

A granular sediment can be classified by designating its principal name and its major and minor modifiers. The principal name of a granular sediment defines its granular-sediment class; the major and minor modifiers describe the texture, composition, fabric and/or roundness of the grains themselves (Table 1).

Each granular-sediment class has a unique set of principal names:

For pelagic sediment...the principal name describes the degree of consolidation, using the following terms (Appendix, Examples 1-8)

1. ooze: unconsolidated calcareous and siliceous pelagic sediments
2. chalk: firm pelagic sediment composed predominantly of calcareous pelagic grains
3. radiolarite, diatomite, and spiculite: firm pelagic sediment composed predominantly of siliceous radiolarians, diatoms, and sponge spicules, respectively

For neritic sediment...the principal name describes the texture and fabric, using the following terms (from Dunham, 1962; Appendix, Examples 9-12):

1. boundstone: components organically bound during deposition
2. grainstone: grain-supported fabric, no mud
3. packstone: grain-supported fabric, with intergranular mud
4. wackestone: mud-supported fabric, with greater than 10% grains
5. mudstone: mud-supported fabric, with less than 10% grains

For terrigenous clastic sediment...the principal name describes the texture, and is assigned according to the following guidelines (Appendix, Examples 13-18):

TABLE 1
OUTLINE OF GRANULAR-SEDIMENT CLASSIFICATION SCHEME

| SEDIMENT CLASS | MAJOR MODIFIERS | PRINCIPAL NAMES | MINOR MODIFIERS |
|---|---|---|---|
| PELAGIC SEDIMENT | 1. composition of pelagic and neritic grains present in major amounts<br>2. texture of terrigenous grains present in major amounts | 1. ooze<br>2. chalk<br>3. radiolarite<br>4. diatomite<br>5. spiculite | 1. composition of pelagic and neritic grains present in minor amounts<br>2. texture of terrigenous grains present in minor amounts |
| NERITIC SEDIMENT | 1. composition of neritic and pelagic grains present in major amounts<br>2. texture of terrigenous grains present in major amounts | 1. boundstone<br>2. grainstone<br>3. packstone<br>4. wackestone<br>5. mudstone | 1. composition of neritic and pelagic grains present in minor amounts<br>2. texture of terrigenous grains present in minor amounts |
| TERRIGENOUS CLASTIC SEDIMENT | 1. composition of all grains present in major amounts<br>2. grain fabric (gravel)<br>3. grain shape (sand)<br>4. sediment color (silt, clay, shale) | 1. gravel<br>2. sand<br>3. silt<br>4. clay<br>(etc.) | 1. composition of all grains present in minor amounts<br>2. texture and composition of terrigenous clastic grains present as matrix (for coarse-grained clastic sediments) |
| EPYROCLASTIC SEDIMENT | 1. composition of all pyroclasts present in major amounts<br>2. composition of all pelagic and neritic grains present in major amounts<br>3. texture of terrigenous clastic grains present in major amounts | 1. breccia<br>2. lapilli<br>3. ash/tuff | 1. composition of all pyroclasts present in minor amounts<br>2. composition of all neritic and pelagic grains present in minor amounts<br>3. texture of terrigenous clastic grains present in minor amounts |

1. The Udden-Wentworth grain-size scale (Wentworth, 1922; Table 2) defines the grain-size ranges and the names of the textural groups (gravel, sand, silt and clay) and sub-groups (fine sand, coarse silt, etc.) that are used as the principal names of terrigenous clastic sediment.
2. When two or more textural groups or sub-groups are present in a terrigenous clastic sediment, they are listed as principal names in order of increasing abundance (Shepard, 1954; Figure 2).
3. The suffix -stone can be affixed to the principal names sand, silt, and clay when the sediment is lithified; shale can be used as a principal name for a lithified and fissile siltstone or claystone; and conglomerate and breccia are used as principal names of gravels with well-rounded and angular clasts, respectively.
4. The terms mud and mudstone should not be used to describe mixtures of silt and clay. The distinction between silt and clay-sized particles is an important part of determining their transport history (e.g., Dean et al., 1985, p. 251), and thus the relative proportions of these two textural groups should be estimated as best as possible.

For terrigenous pyroclastic sediment...the principal name describes the texture. The Wentworth-William grain-size scale (Wentworth and Williams, 1932) defines the names and ranges of three textural groups (Appendix, Examples 19-21):
1. volcanic breccia: pyroclasts greater than 32 mm in diameter
2. volcanic lapilli: pyroclasts between 4 and 32 mm in diameter
3. volcanic ash: pyroclasts less than 4 mm in diameter. When lithified, use the name tuff.

For mixed or transitional sediment...the principal name describes the degree of consolidation, using the term marl for unlithified mixed sediments or marlstone for lithified mixed sediments (Appendix, Example 22).

The principal name of a granular-sediment class is preceded by major modifiers and followed by minor modifiers (preceded by the suffix -with) that describe the lithology of the granular sediment in greater detail (Table 1).

The most common use of major and minor modifiers is to describe the composition and textures of grain types that are present in major (greater than 25%) and minor (10-25%) proportions. In addition, major modifiers can be used to describe grain fabric, grain shape, and sediment color. The nomenclature for the major and minor modifiers is outlined as follows:

The composition of pelagic grains can be described with the major and minor modifiers diatom(-aceous), radiolarian, spicules(-ar), siliceous, nannofossil, foraminifer(-al), and calcareous. Siliceous and calcareous are used, however, to describe (a) sediments that are composed of siliceous or calcareous pelagic grains, or (b) sediments that are composed

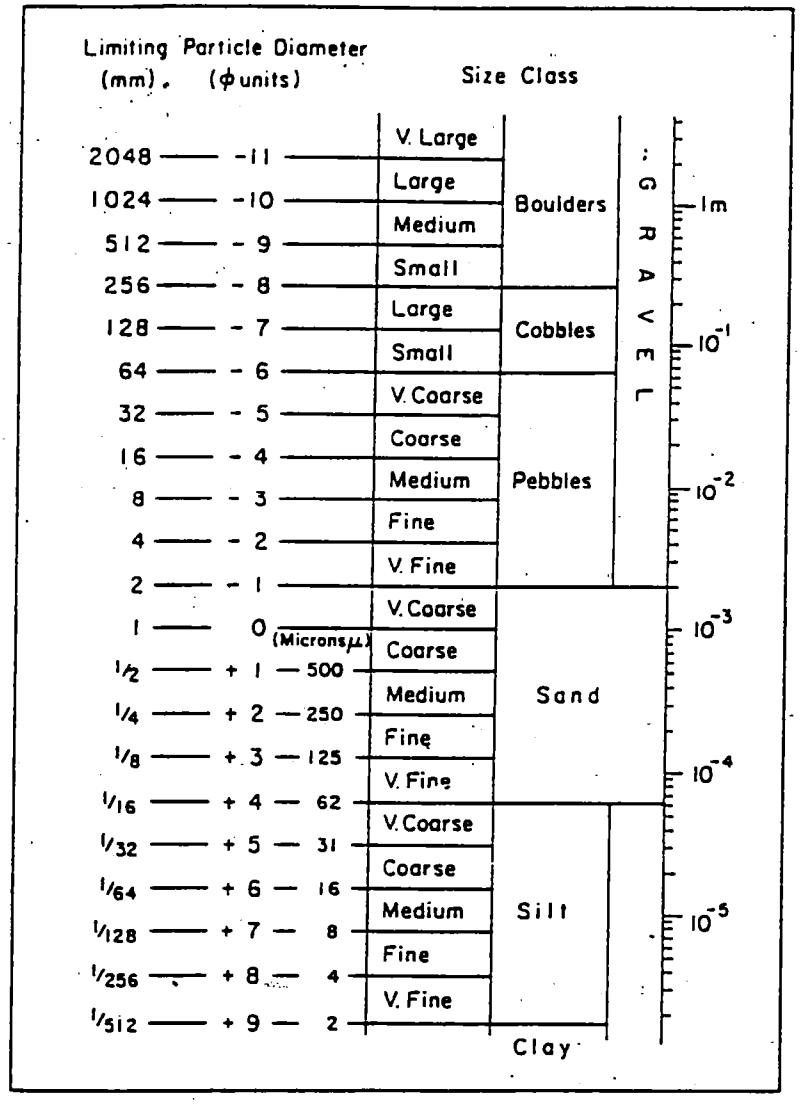


Table 2. Udden-Wentworth grain-size scale. From Wentworth, 1922.

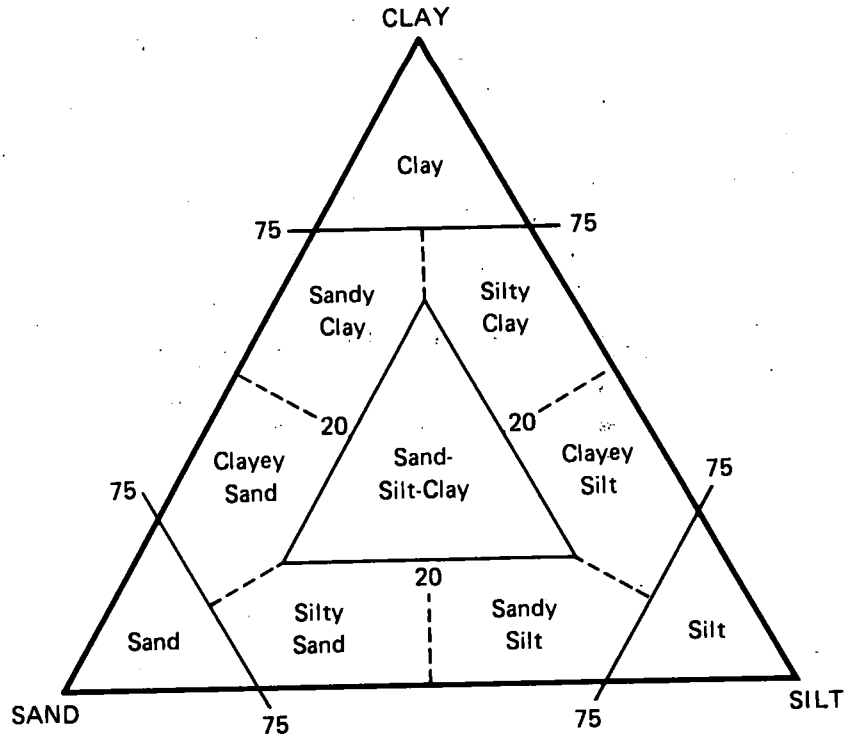


Figure 2. Ternary diagram showing principal names for terrigenous clastic sediments.

of siliceous or calcareous pelagic grains of unspecified origins.

The composition of neritic grains can be described with the following major and minor modifiers:

1. ooid (or oolite): spherical or elliptical non-skeletal particles smaller than 2 mm in diameter, having a central nucleus surrounded by a rim with concentric or radial fabric;
2. bioclast (or bio): fragment of skeletal remains. Specific names such as molluscan or algal can also be used;
3. pellet (-al): non-skeletal particles of excreta from deposit-feeding organisms;
4. intraclast: reworked carbonate-rock fragment or rip-up clast;
5. pisolite: spherical or elliposidal non-skeletal particle, commonly greater than 2 mm in diameter, with or without a central nucleus but displaying two or more concentric layers of carbonate;
6. peloid (pel): micritized carbonate particle of unknown origin; and
7. calcareous, dolomitic, aragonitic: these modifiers should be used to describe the composition of carbonate muds or mudstones (micrite) of non-pelagic origins.

The texture of terrigenous clastic grains is described by the major and minor modifiers gravel, sand, silt, and clay.

The composition of terrigenous clastic grains can be described by:

1. mineralogy: using modifiers such as quartz, feldspar, glauconite, mica, kaolinite, lithic and rock-fragment (for polyminerallic species), calcareous, gypsiferous, or sapropelic (for detrital clasts of calcium carbonate, gypsum, and organic matter, respectively); and
2. provenance: the source of rock fragments (particularly in gravels, conglomerates, and breccias) can be described by modifiers such as volcanic, sed-lithic, meta-lithic, gneissic, basaltic, etc.

The composition of terrigenous pyroclastic grains is described by the major and minor modifiers lithic (rock fragments), vitric (glass and pumice), and crystal (mineral crystals), or by modifiers that describe the compositions of the liths and crystals (e.g., feldspar or basaltic).

The fabric of the sediment can be described by the major modifiers grain-supported, matrix-supported, and imbricated. Generally, fabric descriptors are applied only to gravels, conglomerates, and breccias, for they provide useful information on their transport history. However, they must be used with extreme caution, for drilling and fluid-flow through a core barrel will often alter grain-fabric.

The shapes of grains can be visually estimated with a comparitor (Figure 3) and described by the major modifiers

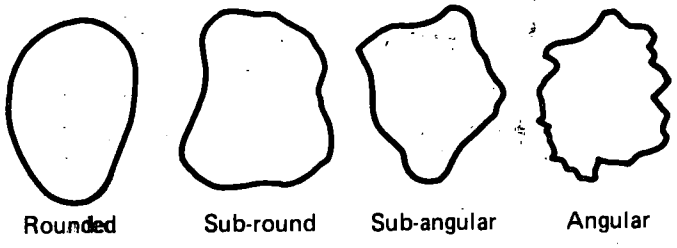


Figure 3. Grain-shape comparitor.

rounded, sub-rounded, sub-angular, and angular. Generally, shape descriptors are applied only to sand (and perhaps coarse silt), for they provide useful information on their transport history.

The color of sediment can be determined with a standard color-comparitor such as the Munsell Chart and employed as a major modifier. Generally, color descriptors are applied only to silt, clay, and shale, for they provide useful information on their depositional environment and organic content.

## Steps in Using the Granular-Sediment Classification

The first step in the use of the granular-sediment classification scheme is to estimate the relative proportions of pelagic, neritic, and terrigenous grains within a sample. This can be achieved by a variety of methods, most usually by visual examination of smear slides or thin sections, but also aided by "carbonate-bomb" analysis, X-ray diffractometry, SEM imagery, and other available techniques. The relative proportions of the three grain-types should total 100%, but may total to less than 100% if non-granular components (e.g., cements) have also been estimated. In the latter case, the relative proportions of the three grain-types should be normalized to 100% to allow for direct comparison of the data to the sediment classification scheme.

The second step is to plot the relative proportions of pelagic, neritic, and terrigenous grains on the ternary diagram shown in Figure 1, and thereby to determine the granular-sediment class of the sample and its appropriate principal name.

The third step is to attach major and minor modifiers to describe the lithology of the sample in greater detail. Generally, different sets of major and minor modifiers are used for the four sediment classes, according to the following guidelines (Table 1):

For pelagic and neritic sediment, major and minor modifiers that describe the composition of pelagic and neritic grains are listed in order of increasing abundance. In addition, the texture (but not the composition) of associated terrigenous grains are also listed in order of increasing abundance (Appendix, Examples 1-12).

For terrigenous sediment, major and minor modifiers that describe the composition of terrigenous grains are listed in order of increasing abundance. In addition, the composition of associated neritic and pelagic grains are also listed in order of increasing abundance. Lastly, major modifiers that describe grain fabric, grain shape, and sediment color can also be listed before the compositional modifiers. Grain-fabric modifiers are commonly listed for gravels, while grain-shape modifiers are

commonly listed for gravels and sand. Sediment-color modifiers are commonly listed for silt and clay (Appendix, Examples 13-21).

For mixed sediment, major and minor modifiers that describe the composition of neritic and pelagic grains and the texture (but not the composition) of terrigenous grains are listed in order of increasing abundance (Appendix, Example 22).

There are some terms that are used in the JOIDES classification of granular sediment (or modifications of the JOIDES classification) that are not used in this proposed classification scheme, such as pelagic clay, chert, and porcellanite. The term pelagic clay is not employed because we prefer to modify the texture of a terrigenous clastic sediment with terms that describe composition, not depositional environment. The terms chert and porcellanite are commonly employed to describe massive siliceous rocks with no recognizable grain components. Although these rocks may represent recrystallized siliceous chalks, the absence of recognizable granular components and their massive natures require that such rocks be classified as chemical rocks.

## Examples and Comparison with other Classification Schemes

Examples of the classification of granular sediments with this proposed scheme are shown in the Appendix. In this appendix, each sample is classified by means of the proposed classification scheme, the JOIDES classification scheme, and the classification scheme recently proposed by Dean et al. (1985) for deep-sea sediments.

The proposed classification is very similar to the JOIDES classification scheme, for (1) we classify the sediment with a principal name to describe its class and modifiers (qualifiers) to describe their petrographic characteristics in greater detail, (2) we employ the same terms for principal names and modifiers (for pelagic and terrigenous sediments) that were used in the JOIDES scheme, and (3) we also list the major and minor modifiers in order of increasing abundance.

Our sediment classification scheme differs from the JOIDES scheme is three minor ways. First, we distinguish major from minor modifiers, and place the former before the principal name and the latter after the principal name, while the JOIDES classification scheme places all modifiers (qualifiers) regardless of their proportions before the principal name in order of increasing abundance. Second, we do not allow the use of genetic terms such as pelagic clay, for our sediment classification is descriptive in nature. Third, we allow for the description of other characteristics of granular sediments, in particular grain shape, grain fabric, and sediment color.

The classification scheme proposed here is also very similar to the sediment classification scheme for deep-sea sediment proposed by Dean et al. (1985), for we use a principal name to describe the sediment class and major and minor modifiers to describe their petrographic characteristics. We differ from Dean et al. (1985) in one minor regard, the location relative to the principal name of the minor modifiers--we place them after the principal name (with the prefix with), but Dean et al. (1985) places them before the principal name (with the suffix -bearing).

Our sediment classification scheme does differ from both the JOIDES and the Dean classification scheme in one major way: the classification of neritic sediments. Neither the JOIDES nor the Dean classification scheme includes a formal classification scheme for coarse-grained carbonates, and this has often led to confusion and disagreement among shipboard parties as they sought to improvise such a classification scheme when coarse-grained carbonate rocks were encountered, and discontinuity in sediment classification between legs.

## CLASSIFICATION OF CHEMICAL SEDIMENTS

There are five classes of chemical sediments: carbonaceous sediments, evaporites, silicates, carbonates, and metalstones. Each class of chemical sediment has its own distinctive classification scheme.

Carbonaceous sediments are composed of organic debris, principally plant debris, that has been altered (either carbonized or bituminized) from its original form. The most common carbonaceous sediments are the coal series, which are classified according to their rank. Four ranks are recognized:

1. peat: soft, earthy organic debris with recognizable plant fragments;
2. brown coal: few recognizable plant fragments, but coal is soft, dull and brown;
3. bituminous coal: black and hard, with bright layers, and breaks into cuboidal fragments, along cleats; and
4. anthracite coal: bright and lustrous, with conchoidal fractures.

These ranks can serve as the principal names for the coal series, and can be modified by terms that describe non-carbonaceous components such as terrigenous detritus (e.g., muddy peat). Sapropels, which generally contain less than 50% organic material, are classified as terrigeneous granular sediments with the term sapropelic as a modifier.

Oil shales, asphalt sands, and tar sands are best classified as terrigenous clastic sediments, for we consider the oil, asphalt, and tar to be cements (albeit poor ones).

**Evaporites** are composed of minerals produced from a saline solution that became concentrated by evaporation of the solvent. The evaporites are classified according to their mineralogy using terms such as **halite, gypsum,** and **anhydrite.** They may be modified by terms that describe their structure or fabric, such as **massive, nodular, nodular-mosaic** (or **chicken-wire**), and the like.

**Silicates** and **carbonates** are defined as sedimentary rocks that are non-granular in appearance and composed of silica and carbonate minerals. Silicates and carbonate may have formed from the recrystallization of siliceous and calcareous grains, but are distinguished by the absence of granular components. They may also form as primary precipitates, as in the case of dolomite or proto-dolomite. They are classified according to their mineralogy, using terms such as **chert** (microcrystalline quartz), **porcellanite** (a softer, less dense variety of chert), **calcite,** and **dolomite.**

**Metalstones** is a general term for a broad category of non-granular sedimentary rocks that includes **pyrite, goethite, manganese, chamosite, glauconite,** and other metal-bearing minerals. They are classified according to their mineralogy.

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# APPENDIX

## EXAMPLES OF GRANULAR-SEDIMENT CLASSIFICATION

### PELAGIC SEDIMENTS

Example 1. Firm, fine-grained sediment composed of 100% nannofossils.

Proposed classification: nannofossil chalk
JOIDES classification: nannofossil chalk
Dean et al. (1985) classification: nannofossil chalk

Example 2. Firm, fine-grained sediment composed of 100% diatoms.

Proposed classification: diatomite
JOIDES classification: diatomite
Dean et al. (1985) classification: diatomite

Example 3. Soft, fine-grained sediment composed of 60% nannofossils and 40% diatoms.

Proposed classification: diatom nannofossil ooze
JOIDES classification: diatom nannofossil ooze
Dean et al. (1985) classification: diatom nannofossil ooze

Note that the composition of the pelagic grains are listed in order of increasing abundance.

Example 4. Firm, fine-grained sediment composed of 40% diatoms, 40% radiolarians, and 20% mollusc shells.

Proposed classification: diatom radiolarite w/bioclasts
JOIDES classification: diatom radiolaria chalk
Dean et al. (1985) classification: bioclast-bearing diatom radiolaria chalk

Example 5. Hard, fine-grained sediment composed of 60% forams, 5% diatoms, and 35% quartz-silt.

Proposed classification: silty foram chalk
JOIDES classification: silty foram limestone
Dean et al. (1985) classification: silty foram chalk

The JOIDES classification distinguished between firm (chalk) and hard (limestone) pelagic rocks. The proposed classification does not split hairs over subjective judgements on sediment hardness. In

addition, note that diatoms, present in proportions of 5%, are not noted in the proposed classification. Lastly, note that the texture but not the composition of the terrigenous grains is noted.

Example 6. Soft, fine-grained sediment composed of 100% unspecified carbonate grains.

Proposed classification: calcareous ooze
JOIDES classification: calcareous ooze
Dean et al. (1985) classification: calcareous ooze

Example 7. Soft, fine-grained sediment composed of 95% unspecified siliceous grains and 5% diatoms.

Proposed classification: siliceous ooze
JOIDES classification: siliceous ooze
Dean et al. (1985) classification: siliceous ooze

Note that the terms porcellanite and chert are not appropriate. These terms are used to describe massive siliceous rocks; the sample described above is clearly granular, although the origins of the grains are not known.

Example 8. Firm, fine-grained sediment composed of 65% forams, 20% ash, and 15% radiolarians.

Proposed classification: foram chalk w/radiolarians and ash
JOIDES classification: ashy radiolarian foram chalk
Dean et al. (1985) classification: rad-bearing, ash-bearing foram chalk

Note that ash and radiolarians are not clearly distinguished as minor components in the JOIDES classification.

NERITIC SEDIMENTS

Example 9. Grain-supported carbonate rock with intergranular mud; grains are composed of 60% ooids and 40% bioclasts.

Proposed classification: bioclast ooid packstone
JOIDES classification: no formal classification
Dean et al. (1985) classification: no formal classification

Example 10. Matrix-supported carbonate rock with 30% intraclasts.

Proposed classification: intraclast wackestone
JOIDES classification: no formal classification
Dean et al. (1985) classification: no formal classification

Example 11. Grain-supported carbonate rock with no mud; grains are composed of 40% peloids, 30% pellets, 20% bioclasts, and 10% quartz-sand.

Proposed classification: pellet peloid grainstone w/sand and bioclasts
JOIDES classification: no formal classification
Dean et al. (1985) classification: no formal classification

Note that the composition of the sand grains is not noted.

Example 12. Carbonate rock with 60% micrite (low-Mg calcite), 30% quartz-silt, and 10% forams.

Proposed classification: silty calcareous mudstone w/forams
JOIDES classification: no formal classification
Dean et al. (1985) classification: no formal classification

Note that the term mudstone is modified to distinguish it from terrigenous mudstone.

TERRIGENOUS CLASTIC SEDIMENTS

Example 13. Sediment with 100% sand, composed of well-rounded quartz-grains.

Proposed classification: rounded quartz sand
JOIDES classification: quartz sand
Dean et al. (1985) classification: quartz sand

The term rounded is optional to the proposed classification scheme. Note also that the composition of terrigenous grains is only used as a modifier in the classification of terrigenous clastic sediments.

Example 14. Sediment with 70% medium and 30% fine sandstone, composed of quartz (60%), feldspar (30%) and mica (10%).

Proposed classification: feldspar quartz fine-medium sandstone w/mica
JOIDES classification: mica feldspar quartz sandstone
Dean et al. (1985) classification: mica-bearing feldspar quartz sandstone

Again, note that mica is not clearly distinguished as a minor component in the JOIDES classification.

Example 15. Sediment with 80% gravel composed of gneissic rock fragments, and 20% intergranular sand composed of quartz.

Proposed classification: grain-supported gneissic gravel w/quartz-sand
JOIDES classification: sandy gneissic gravel
Dean et al. (1985) classification: sand-bearing gneissic gravel

Generally, both the composition and texture of the matrix in coarse-grained terrigenous clastic sediments are noted.

Example 16. Hard sediment with 50% clay, 35% quartz-silt, and 15% forams, red in color.

Proposed classification: red silty claystone w/forams
JOIDES classification: foram silty claystone
Dean et al. (1985) classification: foram-bearing silty claystone

Example 17. Hard sediment with 60% sand-sized volcanic rock fragments (non-pyroclastic in origin) and 40% bioclasts.

Proposed classification: bioclast volcanic sandstone
JOIDES classification: bioclast volcanic sandstone
Dean et al. (1985) classification: bioclast volcanic sandstone

Example 18. Sediment with 60% quartz-silt and 40% ash.

Proposed classification: ashy quartz silt
JOIDES classification: ashy quartz silt
Dean et al. (1985) classification: ashy quartz silt

TERRIGENOUS PYROCLASTIC SEDIMENT

Example 19. Sediment with 100% basaltic rock fragments of pyroclastic origin and greater than 32 mm in diameter.

Proposed classification: lithic breccia or basaltic breccia
JOIDES classification: lithic breccia
Dean et al. (1985) classification: no formal classification

Example 20. Sediment with 80% fine-grained volcanic glass and 20% nannofossils.

Proposed classification: vitric ash w/nannofossils
JOIDES classification: nannofossil vitric ash
Dean et al. (1985) classification: nannofossil-bearing vitric ash

Example 21. Sediment with 40% fine-grained volcanic glass, 35% sand, and 25% smectite clay.

Proposed classification: sandy vitric ash w/smectite clay
JOIDES classification: clayey sandy vitric ash
Dean et al. (1985) classification: no formal classification

Note that the total proportion of terrigenous debris is 75%, but that pyroclastic debris (glass) exceeds non-pyroclastic debris (sand) in abundance.

MIXED SEDIMENTS

Example 22. Soft sediment with 45% nannofossils, 35% quartz-sand, and 20% shell debris.

Proposed classification: sandy nannofossil marl w/bioclasts
JOIDES classification: marly nannofossil ooze
Dean et al. (1985) classification: no formal classification

# JOIDES Tectonics Panel Meeting

University of Washington
Seattle, Washington
5-6 June 1986

| | |
|---|---|
| Panel members present: | Darrel Cowan (USA), Chairman<br>Karl Hinz (FRG)<br>David Howell (USA)<br>Jeremy Leggett (UK)<br>Kazuaki Nakamura (Japan)<br>Robin Riddihough (Canada)<br>Francois Roure (France)<br>Peter Vogt (USA)<br>Jeff Weissel (USA) |
| In attendance: | Christian Auroux (ODP)<br>Tony Mayer (JOIDES)<br>Paul Robinson (PCOM)<br>Eli Silver (afternoon of 5 June; WPAC) |
| Absent: | K. Becker<br>B. Marsh |

## AGENDA

1. Minutes of previous meeting
2. Reports from liaisons and guests
3. Western Pacific drilling plan
4. Nominations of Co-chief scientists
5. TECP membership and liaisons
6. SW Indian Ocean fracture zone proposal
7. Thematic objectives in the Pacific (CEPAC area)
8. COSOD-II
9. Next meeting

EXECUTIVE SUMMARY
TECTONICS PANEL MEETING
5-6 June 1986
University of Washington, Seattle
**********

## 1) TECP EVALUATION OF WESTERN PACIFIC DRILLING PLAN

The nine-leg program as it stands partially addresses TECP's key thematic interests in the region. The Bonin-Mariana and Vanuatu legs especially are well designed and relevant to arc, back-arc, forearc, and collisional problems. Three less satisfactory aspects of the plan are: First, it does not sufficiently attack the general problem of collision. Second, the drilling in Lau Basin is chiefly devoted to petrological and geochemical questions and doesn't address tectonic issues such as extension, the nature and evolution of arc foundations, and collision. Third, a better case needs to be made for how proposed drilling in the South China Sea relates to the kinematics and mechanics of extension.

In response to a request by WPAC, we reconsidered four proposed legs: Japan Sea, Nankai, Zenisu, and S. China Sea. Of these four, Japan Sea and Nankai have the highest priority from a thematic standpoint; S. China Sea has the lowest.

TECP requests that WPAC re-evaluate existing proposals that treat collisional processes and consider expanding existing legs or adding new legs to fully address the problem. Specifically we ask WPAC to reconsider or evaluate: Louisville Ridge or Ogasawara Plateau, and Ontong-Java Plateau. Ontong-Java should be considered as a place to identify the basement of a plateau, and possibly, with better documentation, as a place to study a major collision.

## 2) THEMATIC OBJECTIVES IN THE PACIFIC (CEPAC AREA)

We view the following tectonic issues as a global thematic interest. They have a high priority in addition because they can be better addressed by drilling in the Pacific than in any other region:

- Dating the oceanic crust for models of relative plate motion
- Hot spots and guyots for constraining absolute plate motions
- Lithospheric flexure (Hawaiian moat)
- Oceanic plateaus (nature and age of basement.

The Ontong-Java plateau is an obvious target to consider in Melanesia.

## 3) NOMINATIONS OF CO-CHIEF SCIENTISTS

SWIRFZ: von Herzen
MAKRAN: Leggett, Cowan
RED SEA: Cochran, Baecker, Pautot, Bonatti
KERGUELEN I: Schlich, Falvey
KERGUELEN II: John Anderson
INTRAPLATE/90°E(N): Curray, J. Peirce, Sclater
BROKEN RIDGE/90°E(S): Weissel, Duncan, Gradstein
ARGO-EXMOUTH: von Rad, Gradstein, Exon

# MINUTES

The meeting began at 8:45 a.m.

Cowan welcomed the new member from France, Francois Roure, and guests from PCOM and JOIDES.

## 1. MINUTES OF THE PREVIOUS MEETING

The minutes of the last meeting were approved without changes.

## 2. REPORTS FROM LIAISONS AND GUESTS

### 2.1 PCOM

Paul Robinson and Tony Mayer reviewed the meeting held at Lamont the previous week. Following are items of particular interest to TECP. Bill Coulbourn has replaced Hussong as one of our two liaisons from PCOM. COSOD-II will be held in Strasbourg in July 1987 and sponsored by ESF. The JOIDES office will move to Oregon State University in October and be headed by N. Pisias. R. Kidd is leaving ODP and he will be replaced by Audrey Meyer.

Mayer summarized the science plan for Leg 112 (Peru forearc). An expanded schedule of 52 drilling days is planned; 36 devoted primarily to tectonics and 12 to paleoenvironmental issues. There are possible safety problems with a deep hole at site #3.

Mayer also reported the drilling plan in the Indian Ocean. For each leg, the prime target is listed first, followed by an alternative: 115 (SWIRFZ; SWIRFZ); 116 (Red Sea; Intraplate deformation/ 90°E); 117 (Neogene I; Makran); 118 (Makran; Neogene I); 119 (Kerguelen I); 120 (Kerguelen II); 121 (Broken Ridge/90°E-south); 122 (Intraplate; Argo/Exmouth); 123 (Argo/Exmouth; ?). The Somali deep hole is not in the drilling plan.

PCOM appointed non-voting liaisons from regional panels to TECP. This decision differs slightly from the recommendation of the panel chairmen's meeting to appoint voting liaisons. They are: ARP -Sibouet; CEPAC - Scholl; SOP - LaBrecque; WPAC - Silver; IOP - none as yet. PCOM also appointed TECP members as non-voting liaisons to regional panels: Vogt to ARP; Hinz to SOP; Leggett to IOP; Nakamura to WPAC; Riddihough to CEPAC. Further changes: Becker is moving from TECP to lithosphere; Ian Delziel was named to replace John Ewing, and Tony Watts will replace Jeff Weissel, effective October 1986. PCOM also expressed concern that TECP is not paying enough attention to the problems of plate kinematics and historical reconstruction of oceanic plates; we may consider supplementing our membership in this area.

Robinson emphasized several times what PCOM wants from TECP: our assessment of outstanding global tectonic problems that can be addressed by drilling and our recommendations as to the regions where this can best be accomplished.

### 2.2 ODP

Auroux gave an illustrated review of Leg 107 drilling in the Tyrrhenian Sea. Key results bearing on the origin of marginal basins and evolution of passive margins are: The opening of the Sea has been diachronous; there apparently has been no organized single spreading center; there is some evidence for the diapiric rise of serpentinized ultramafic rocks; and Messinian deposits in this area accumulated in shallow water.

### 2.3 ARP

Howell represented TECP at the April meeting in Barbados. They will propose a series of workshops to define future drilling targets in the South Atlantic, Caribbean, N. Atlantic, Mediterranean, and C. Atlantic. ARP requests TECP to discuss tectonic objectives in the Atlantic and offer our recommendations for a general drilling strategy.

### 2.4 WPAC

Nakamura reviewed the WPAC recommendations for drilling plans in the Western Pacific, using the tabulation provided in the minutes of the WPAC Miami meeting and the "First Prospectus for Western Pacific Drilling" which Cowan distributed at this meeting. He asked us to address specifically the questions posed to TECP in the minutes concerning drilling proposals for Nankai, Japan Sea, S. China Sea, and Zenisu.

## 3. WESTERN PACIFIC DRILLING PLAN

Both PCOM and WPAC want our reaction to the 9-leg drilling plan proposed by WPAC and adopted by PCOM subject to evaluation by the thematic panels. In addition, WPAC asked in their minutes that we reconsider Japan Sea, S. China Sea, proposals concerning arc-continent collisions, Zenisu, and Nankai, and by implication, give a thematic blessing or explain why we do not. Cowan proposed that each target or proposal as listed above be discussed in turn in the context of a general thematic issue (back-arc basins, collision, clastic-dominated accretionary prisms). In each case, relevant proposals were summarized and reviewed at length. Below is a brief summary of key points raised about each target, followed by a synopsis of our general views and recommendations on the entire science plan.

### 3.1 Japan Sea

The key proposal by Tamaki et al. was reviewed, and Nakamura presented recently acquired detailed magnetic data. They reveal coherent magnetic anomalies that will undoubtedly prove useful for tectonic reconstructions if they can be dated. There is still controversy about when and how fast the Japan Sea opened, and about the significance of peculiar crustal thicknesses in oceanic basins.

3.2 South China Sea

Two proposals were summarized and discussed extensively: one by Hayes et al. dealing with the general problem of evolution of passive margins, and a French proposal for dating oceanic crust in the central part of the Sea to elucidate its kinematic history. There was widespread concern that the Hayes proposal is not specific enough about which models for extension or for the thermomechanical evolution of passive margins will be tested by drilling. Moreover, it was not clear how data from only the northern margin of the basin could be used to evaluate models. More information on the conjugate margin and its possible bearing on the problem is required. Substantial interest in the kinematic history of spreading in a "dead" basin was expressed.

3.3 Collisions

Howell first reviewed our rationale for endorsing this general issue. Although we suggested some possible drilling targets at our Miami meeting, we hoped (and still do) that proposals concerning a variety of possible examples will be continuously evaluated. Cowan asked Silver to summarize another example of a collision-related process in the eastern Sunda system involving backthrusting of accreted material and backarc thrusting. He plans to revise his existing Sunda proposal to focus on these more explicitly collision-related problems. Other examples of collisions that were discussed include the Ogasawara Plateau, Louisville Ridge, Taiwan/Manila trench, and Palawan-Sulu Sea.

We discussed the Kroenke et al. proposal (received after the February Miami meeting) for the Ontong-Java plateau. Most of the sites are devoted to establishing the nature and origin of the basement - questions definitely worth pursuing. Only one site, OJ-6, is supposed to address the effects of collision by drilling through a thrust along which part of the plateau was emplaced onto the arc massif. The panel felt that the seismic data in the proposal do not adequately define either the overall tectonic setting of OJ-6 or the putative thrust.

3.4 Zenisu Ridge

On Friday morning, we continued with a thorough review of this target. Although there was a general acceptance of Zenisu Ridge as an example of intraplate shortening of oceanic crust and of possible incipient subduction (in front of an active trench), a couple of panel members felt that the available seismic records, as presented in the drilling proposals, do not convincingly document that shortening has occurred. Further discussion centered on whether drilling the tilted sediments on the west (back) side of the ridge could successfully date the history of uplift.

3.5 Nankai trough

It was pointed out that the Nankai accretionary prism is an example of the general category of "clastic-dominated prisms" which form where thick (about 2 km or greater) sections of hemipelagites and turbidites are partly scraped off along a decollement. There was extensive discussion about where the origin and evolution of such prisms rank in our overall thematic priorities. Nankai is exceptionally well surveyed and can be tied into an on-land subduction complex. We debated whether drilling should be focused near the toe and aimed at reaching the decollement at all costs, or whether an upslope transect should be included. It was repeatedly mentioned that Nankai is one of several clastic prisms in the entire Pacific region and must be compared with Manila, Aleutians, and Cascadia.

After the review summarized above, Cowan asked each panel member in turn to comment on: (1) Whether the nine-leg science plan, as adopted by WPAC and PCOM, satisfactorily addresses the three key thematic objectives outlined in our recent position paper; and (2) His views on the thematic interest and priority of the specific targets discussed above.

Below is the Chairman's distillation of these individual comments.

* * * * * * * * * * * * * *

**TECP EVALUATION OF SPECIFIC LEGS (AS REQUESTED BY WPAC):**

a. JAPAN SEA: Our consensus is that the drilling as outlined in the prospectus will contribute important information on the evolution of marginal basins in general, and further insight into obduction. Drilling results can be usefully compared to those from another marginal sea formed by fast, diachronous rifting of continental crust, the Tyrrhenian Sea. It is still unclear how recently acquired magnetic data may modify models for fast opening in concert with rotation of the Japanese Islands.

b. SOUTH CHINA SEA: In our opinion, the Hayes proposal does not explicitly state which models of lithospheric extension or of thermomechanical evolution of passive margins can be tested, nor does it sufficiently describe how data acquired from the proposed transect can uniquely test such models. We do feel, however, that drilling in the South China Sea may profitably address thematic issues (e.g. lithospheric extension) if more data from the Southern conjugate margin are integrated into the proposal. It is arguable whether the continent-ocean boundary is definable or accessible to the drill in the region. If it is, its nature (composition, structure, physical properties) is of interest. A minority feels that drilling ocean crust in the center of the basin is of interest from a kinematic standpoint.

c. NANKAI: The panel feels that drilling on this well-surveyed margin may contribute important insights into the development of clastic-dominated accretionary prisms. In this regard, it is essential that every effort be expended to penetrate through the decollement into the sediments being subducted. Remaining drilling time might then be apportioned among the fore-arc basin sites. Pending the results of the upcoming workshop on physical properties, a minority feel that the main thrust of the leg

should be downhole measurements in a lower-slope site. The panel recognizes that Nankai is very similar to the clastic-dominated Cascadia prism, on which deep decollement-penetrating holes have been recommended. At this point, TECP strongly endorses such deep holes in prisms, and for this reason we downgrade the proposed conventional transect of shallow holes along the Manila trench.

d. ZENISU: An opportunity to document a possible example of ocean-plate shortening seaward of an active trench. Seismic reflection data in the proposal do not substantiate the shortening hypothesis; better records imaging the underthrust oceanic crust are required. Dating the uplift, using tilted sediments on its western flank, is the most important objective.

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**TECP EVALUATION OF GENERAL SCIENCE PLAN:**

The nine-leg program as it stands partially addresses TECP's key thematic interests in the region. The Bonin-Mariana and Vanuatu legs especially are well designed and relevant to arc, back-arc, forearc, and collisional problems. There are three less satisfactory aspects of the plan. First, it does not sufficiently attack the general problem of collision. Collision-related objectives are included in only the Vanuatu and Japan Sea legs (D'Entrecasteaux and Okushiri targets, respectively). Second, the drilling in Lau Basin is chiefly devoted to petrological and geochemical questions and doesn't address tectonic issues such as extension, the nature and evolution of arc foundations, and collision (Louisville Ridge). Third, a better case needs to be made for how proposed drilling in the South China Sea relates to the kinematics and mechanics of extension. Of the four legs discussed above, this one has the lowest priority from a thematic standpoint; Japan Sea and Nankai the highest.

TECP requests that WPAC re-evaluate existing proposals that treat collisional processes and consider expanding existing legs or adding new legs to fully address the problem. Specifically we ask WPAC to reconsider the Louisville Ridge or Ogasawara plateau collisions. Also, the forthcoming proposal by Silver for the E. Sunda area will need to be considered for addition. Most important, TECP views Ontong-Java as an attractive place to identify the basement of an important oceanic plateau and possibly to study a major collision. We ask WPAC to evaluate Ontong-Java on both accounts, although the existing proposal needs to be revised to include better documentation of collisional structures that are accessible to the drill.

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**4. NOMINATIONS OF CO-CHIEF SCIENTISTS**

SWIRFZ: von Herzen
MAKRAN: Leggett, Cowan
RED SEA: Cochran, Baecker, Pautot, Bonatti
KERGUELEN I: Schlich, Falvey
KERGUELEN II: John Anderson
INTRAPLATE/90°E(N): Curray, J. Peirce, Sclater
BROKEN RIDGE/90°E(S): Weissel, Duncan, Gradstein
ARGO-EXMOUTH: von Rad, Gradstein, Exon

## 5. TECP MEMBERSHIPS AND LIAISONS

### 5.1 Instrumentation, Downhole Measurements, Physical Properties

Keir Becker has moved off TECP to LITHP. S. Bell will attend one of our meetings per year as a non-voting liaison from DMP.

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**RECOMMENDATION TO PCOM:**

As a replacement for Becker, we nominate either of two experts in physical properties: Dan Davis (SUNY Stony Brook), or Chi-Yuen Wang (Berkeley).

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### 5.2 Liaisons

Cowan asked all of the TECP members that PCOM named as non-voting liaisons to regional panels if they were willing to serve. Vogt, Hinz, Nakamura, and Riddihough said yes; Leggett is considering it.

We discussed whether all of the liaisons from regional panels should attend our meetings, and how frequently. We prefer to invite them individually on an ad hoc basis depending on our upcoming agenda (i.e. no need for an ARP representative if all we're going to discuss is the Pacific).

### 5.3 ESF

Cowan received a letter on 5 June from van Hinte asking us to specify what kind of person (i.e. specialty) we would like to have ESF appoint at their Oslo meeting 16-17 June. Our first choice is a global stratigrapher-geohistorian, preferably van Hinte himself or someone like him. Second choice is a modeller of intraplate stress, like R. Wortel. Cowan will telex this information to van Hinte.

### 5.4 Kinematics

Robinson mentioned that PCOM is concerned that plate kinematics (plate reconstructions, history of oceanic plates) isn't receiving enough attention, and they ask us to consider nominating a new member in this area. TECP feels that kinematics are more than adequately represented by two existing members, Riddihough and Vogt.

## 6. SW INDIAN OCEAN RIDGE FRACTURE ZONE

Robinson and Mayer asked us to consider whether tectonic issues are adequately addressed in a revised drilling proposal (89/B) by Dick et al. for the fracture zones. Cowan had distributed copies the day before. There was expectably a general concern about the potential rubble problem and the lack of site surveys. It is mandatory before drilling to know where spreading centers intersect the fracture zone and to know the distribution and thickness of sediment. Hinz offered to try to include an

MCS line or two across candidate fracture zones on his next trip across the Indian Ocean. The panel agreed that any data, in addition to that provided by the site survey, will be useful. If the site survey is successful and drilling is conducted as proposed, the consensus of TECP is that potentially useful information, relevant to the tectonic evolution of fracture zones, will be obtained.

## 7. THEMATIC OBJECTIVES IN THE PACIFIC (CEPAC AREA)

Another important goal of this meeting was to refine the preliminary list of thematic objectives formulated at our last meeting in Miami. In addition, PCOM is particularly interested at this time in thematic issues that can be addressed in Melanesia, because this region is sort of an overlap between WPAC and CEPAC. Mayer presented a summary of 6, 9, and 12 leg drilling campaigns formulated at CEPAC's last meeting, although all recognized that proposals are flooding in and the lists will undoubtedly change.

| | 6-leg | 9-leg | 12-leg |
|---|---|---|---|
| EPR | 3 legs | 3 | 3 |
| Bering paleoenv | 1 | 1 | 1 |
| Atolls/guyots | 1 | 1 | 1 |
| Old Pacific | 1 | 1 | 1 |
| N Pacific paleoenv/ paleoplates | - | 2 | 2 |
| J de Fuca sed. ridge crest | - | 1 | 1 |
| Chile TJ/paleooc | - | - | 2 |
| Hawaiian moat | - | - | 1 |

Mayer noted that the EPR drilling should be thought of as its own special program of oceanic-lithosphere drilling.

Cowan asked members absent in Miami and new members to state what they saw as key general objectives in the region. Vogt emphasized the problems of absolute and relative plate motions that can be attacked by dating anomalies and crust in quiet zones and by drilling and dating hotspot traces and guyots. Roure and Leggett found the Hawaiian moat intriguing as a study of lithospheric flexure. Hinz is interested in the S. Pacific as a place to study the stages of Gondwana breakup.

After further discussion we generated a new statement of thematic objectives, presented below. The first four are clearly defined and have our highest priority at present. The others need further discussion and evaluation.

* * * * * * * * * * * * *

## IMPORTANT THEMATIC OBJECTIVES IN THE PACIFIC

We view the following tectonic issues as of global thematic interest. They have a high priority in addition because we feel they can be better addressed by drilling in the Pacific than in any other region:

1. Dating the oceanic crust, especially where characterized by M-series anomalies or magnetically quiet zones. These data are critical for establishing and testing models of relative plate motion and calibrating the magnetic time scale.

2. Hot spots and guyots: new information, which can only be provided by drilling, is essential for constraining absolute plate motions.

3. Lithospheric flexure: A unique experiment concerning the flexural rigidity of the crust can be conducted by drilling in the Hawaiian moat.

4. Oceanic plateaus: The nature and age of the basement of plateaus are still outstanding tectonic problems.

Items 1, 2, and 3 collectively bear on the general problem of eustacy.

Several other thematic issues also appear interesting at this time, but we are still considering whether they can be adequately addressed by drilling and, if so, how the Pacific compares with other regions:

- Clastic-dominated accretionary prisms
- Transcurrent continental margins
- Structures in oceanic crust (volcanotectonic features, ridge crests, fracture zones, propagating rifts, fossil ridges)
- Ridge-trench interactions and collisions
- Geochemistry of descending sediments and superjacent volcanoes

With regard to Melanesia, item 4, and the Ontong-Java Plateau in particular, is an obvious issue for consideration at this time. CEPAC may find other attractive targets in Melanesia bearing on objectives 1 and 2.

* * * * * * * * * * * * *

Our next major goal is to produce a white paper giving our rationale for emphasizing these objectives. Cowan assigned each item in the above lists to a panel member, who will prepare a draft for distribution prior to our next meeting in October or November. At that meeting we will finalize a list of objectives and a white paper for PCOM.

**8. COSOD-II**

This conference is scheduled for 6-10 July 1987 in Strasbourg. Mayer and Cowan reminded panel members that prior to COSOD-II, TECP may be asked to prepare another white paper identifying our prime thematic interests on a truly global scale.

**9. NEXT MEETING**

Our major constraint is to finalize our position paper on the Pacific before the Winter PCOM meeting, which may be held in early December. We will hold our next meeting either during the last two weeks of October, or the week of November 3. Riddihough invited us to meet in Ottawa, and Hinz in Hanover.

The meeting adjourned at 5:30 p.m. on 6 June.

EXECUTIVE SUMMARY

INDIAN OCEAN PANEL MEETING

Strasbourg (France), 4-8 July 1986

1. IOP noted with disappointment the absence of liaison members of the Lithosphere and Tectonics Panels at this most critical meeting.

2. IOP considered the status of recent and planned Indian Ocean site surveys, reviewed new and revised drilling proposals and finally discussed a two-option drilling program for the first six legs in the Indian Ocean :

| | | |
|---|---|---|
| Leg 115 | SWIR-FZ | SWIR-FZ |
| Leg 116 | Red Sea | Intraplate Def.-N 90ER |
| Leg 117 | Neogene | Makran/Carb.Sat./Masc. |
| Leg 118 | Makran/Carb.Sat./Masc. | Neogene |
| Leg 119 | Kerguelen North | Kerguelen North |
| Leg 120 | Kerguelen South | Kerguelen South |

SWIR-FZ : Site survey funded (October 1986). IOP concur with SSP requirements and also urge that a camera survey be run in the selected fracture zone.

Red Sea : IOP strongly supports the Red Sea program. The Bannock Deep will not be surveyed, this reduces the Red Sea program by at least one site.

Intraplate Deformation - N 90ER : Site survey funded and almost completed.

Neogene : Site survey completed ; no major changes.

Makran : Main objectives can be adressed by a minimum of 4 to 5 sites (20 days). Processed MCS data will not be available prior to drilling.

Carbonate Saturated Profile : Depth transect of 4 sites north from Seychelles-Mascarene Plateau (12 days).

Mascarene Plateau : no changes in proposed sites (16 days).

Kerguelen North : no changes in proposed sites.

Kerguelen South : Site survey completed. Final revisions of the Kerguelen South program will be made by the French and Australians and discussed by the IOP-SOP Kerguelen Working Group.

3. Leg 118 in the first option (including Red Sea) and 117 in the second option is a combination of shorter programs : Makran (20 days), Carbonate Saturated Profile (12 days), Mascarene Plateau (16 days). Only two of these programs can be undertaken. The priorities have been defined by IOP : 1st Carbonate Saturated Profile (23 points), 2nd Mascarene Plateau (21 points), 3rd Makran (13 points).

4. Leg 119 should start as early as possible (∿ December 1, 1987) to allow maximum drilling time on the Kerguelen-Gaussberg Ridge. ** IOP strongly recommends that PCOM schedule the crew change between Leg 119 and 120 at Kerguelen rather than

Mauritius. Such action will save two weeks of critical drilling time in the short good weather window of this remote region **.

5. IOP strongly supports the Intraplate Deformation, 90ER, Broken Ridge, Exmouth Plateau and Argo Abyssal Plain programs as previously scheduled and recommends as first alternative plan, if the Red Sea is not drilled, an extension of the Argo Abyssal Plain program. The Otway Basin Passive Margin is the next alternate if scheduled programs cannot be drilled.

6. IOP membership changes have been proposed to PCOM. Liaison members from IOP to other panels will be appointed, according to geographical proximity and expertise : R. Duncan for LITHP in Corvallis, W. Prell for SOHP in Ann Arbor.

7. IOP proposes R. Schlich, D. Falvey and W. Prell as their representatives at the IOP-SOP Kerguelen Workshop (October, 1986).

8. Nominees for co-chief scientists for Indian Ocean Legs are included in the minutes.

10. Next meeting between Nov. 1 and Dec. 15, in Miami or College Station.

LET'S FLY TO THE INDIAN OCEAN PANEL !

# MINUTES OF THE INDIAN OCEAN PANEL MEETING

4-8 July 1986

Strasbourg, France



Members Present :

Dr. J. Backman
Dr. J. Cochran
Dr. J. Curray (7,8 July)
Dr. R. Duncan, secretary
Dr. D. Falvey
Dr. F. Gradstein
Dr. W. Prell
Dr. U. von Rad
Dr. R. Schlich, chairman
Dr. J. Segawa (4,5,6 July)
Dr. R. White (7,8 July)

Attending Guests :

Dr. G. Brass, NSF
Dr. W. Hay, SOHP
Dr. R. Larson, PCOM (4,7 July)
Dr. A. Mauffret, SSP
Dr. L. Mayer, SOHP (4,5 July)

Absent :

Dr. J. Sclater
Dr. J. Leggett, TECP
Dr. C. Langmuir, LITHP

The IOP opened its meeting on July 4 with a warm welcome by the chairman and host, Dr. Roland Schlich. A special welcome was extended to Dr. Jan Backman, representing the ESF membership, and to Dr. Bob White, returning to represent the United Kingdom.

The IOP noted with extreme disappointment the absence of liaison members of the Lithosphere and Tectonics Panels at this most critical meeting. We have lacked the important input of information from these thematic panels. This subject arose later during discussion of ODP panel membership.

The agenda for our meeting comprised :

1. General information, local logistics ;
2. Minutes of the IOP Meeting at San Francisco (12-14 December 1985) ;
3. PCOM Meeting at La Jolla (20-24 January 1986) ;
4. Thematic Panel Reports
   . Tectonic Panel (Miami, 19-21 February and Seattle 5-6 June 1986)
   . Lithosphere Panel (Seattle, 10-11 April 1986)
   . Sediments and Ocean History Panel (La Jolla, 6-7 January and Boulder, 21-22 April 1986) ;

5. Site Survey Panel Report and status of recent and planned Indian Ocean site surveys ;
6. Panel Chairmen Meeting at Corvallis (3-4 April 1986) ;
7. Indian Ocean Panel Membership ;
8. Indian Ocean Panel Liason Members ;
9. PCOM Meeting at Lamont (28-30 May 1986) ;
10. Review of new and revised drilling proposals ;
11. Indian Ocean Drilling Program ;
12. Drilling Plan for leg 115 to 118 ;
13. Indian Ocean co-chief scientists for leg 115 to 118 ;
14. Ad'hoc IOP-SOP working group for Kerguelen I and Kerguelen II drilling plan.

The minutes of the 12-14 December, 1985 meeting were adopted.

Roger Larson remarked on the concise and effective executive summaries on Indian Ocean drilling legs produced by us for PCOM at our last meeting.

## REPORTS FROM PCOM AND PANEL MEETINGS

### Planning Committee

Roger Larson reviewed the conclusions of two PCOM meetings held since the last IOP meeting :

1. In January, 1986 meeting three Indian Ocean drilling programs (SWIR, 90ER and Red Sea) were in jeopardy because of site survey problems. Site surveys for SWIR and 90ER will be done. The Red Sea is still a sensitive political issue. The French and Germans have not been able to complete site surveys. The Saudis are developing a policy on ODP drilling in their waters but this is not expected until August or later. PCOM still supports the Red Sea drilling plan but has devised an alternative plan should the political situation fail to improve. The dual schedules will be considered again at the August PCOM meeting.

2. PCOM reviewed the panel structure and performance and decided to keep the present order of thematic and regional panels, with the following direction : that the 3 thematic panels define the global themes of drilling ; that the regional panels then construct a plan to meet those objectives in their regions,

with possible critique and revision of the themes ; that drilling programs be returned to the thematic panels for review and consensus. We discussed this new strategy and agreed that it potentially produced greater interaction between the panels than currently existed and could insure that programs that passed the final consensus would not be dismissed by PCOM without sound scientific, safety, or logistical reasons. It was noted that several programs endorsed by IOP in its last report to PCOM (Mascarene Fossil Ridge, Mascarene Plateau and Otway Basin) were not adequately discussed in the PCOM minutes.

3. Summarizing the May, 1986 PCOM meeting R. Larson noted that ESF has joined the ODP, bringing the total number of participating countries to 17. This has provided a sound financial base for the program. The USSR seems very interested but a very high level of approval is needed within that country and some positive action is expected in early 1987. Australia is currently negotiating with Canada at the ministerial level for a shared membership. The ODP budget for FY87 will be around $ 35 million. Strengthening of engineering development and ODP publications are high priorities. COSOD II will be hosted by the ESF in Strasbourg during 6-10 July, 1987. Long-range goals of ODP after 1991 will be the subject of this meeting to be planned by a steering committee chaired by X. Le Pichon.

4. On the subject of panel membership, PCOM policy now is that individuals may serve on one panel and liaison members will not be voting members of panels. L. Mayer noted his objections in a letter to R. Larson.

5. Current operations were reviewed for Legs 107, 108 and 109. Of special interest was Leg 109 drilling into a serpentinite body within the MAR rift valley. The drill spudded in and cut well for 40 m, then was removed. Re-entry was achieved using only the drill-string TV camera and ship positioning and another 50 m were drilled.

6. R. Larson presented the two PCOM drilling schedules for the Indian Ocean up through Leg 120 (the second Kerguelen program). The prime option included Red Sea drilling, along with SWIR, Neogene, and Makran programs before the Kerguelen legs ; the second option substitutes Intraplate Deformation and Northern 90ER drilling for the Red Sea and reverses the order of Neogene and Makran drilling. PCOM has created a 6 member Kerguelen working group, composed of 3 IOP and 3 SOP members, to discuss and present a consensus drilling plan for the 2 Kerguelen legs.

Tectonics Panel

No representative from the TECP attended so we had only the minutes from their last meeting. We noted their recommendations that if the Red Sea is not drilled, then the Makran should be, if SWIR is not drilled then an alternative Central Indian Ridge Fracture Zone (proposal 223/B) should be. The IOP again emphasized the importance of liaison member attendance at panel meetings.

Lithosphere Panel

No representative from the LITHP attended so again we has to rely on the minutes of their last meeting. We noted that LITHP recommends the SWIR leg now that the site survey will occur ; the 90ER is a high priority ; the Kerguelen Plateau basement sites must be drilled into basement ; the LITHP strongly supports the Red Sea Program. If the Red Sea is not drilled, LITHP suggests that the ship leave the Indian Ocean early for Western Pacific sites.

In response to this last comment, IOP is totally opposed to the *Resolution* leaving the Indian Ocean early regardless of the Red Sea decision.

Sediment and Ocean History Panel

Fortunately we has two representatives of the SOHP to present their latest recommendations on the Indian Ocean drilling program. W. Hay first reviewed the global themes of the SOHP. The April, 1986 meeting strongly endorsed the Kerguelen program. A deep, full recovery hole to basement in the Somali Basin was the next priority in the Indian Ocean. It was recognized that there did not appear to be adequate site survey information in the area of interest, and $1^{1/2}$-2 legs would be necessary under optimum conditions. If the deep stratigraphic hole could not be drilled in the Somali Basin then extra time should be added to the Argo Abyssal Plain drilling for full recovery and deepening of that hole. After the deep stratigraphic hole the highest SOHP priority is the Neogene II (Carbonate Saturation Profile) program. These paleoceanographic objectives are best met on a depth transect off the northern Mascarene Plateau. The 90ER transect does not meet SOHP objectives because sites are too deep (i.e. poor carbonate presevation), the slope are too steep, and HPC was not proposed for all sites.

Southern Oceans Panel

No liaison member attended but we had some written information from L. Leclaire. Our interaction with this panel focuses entirely on the second Kerguelen Leg which will be the job of the Kerguelen Working Group noted above.
We then discussed the logistical problem of crew change at Kerguelen using the *Marion Dufresne*. F. Gradstein and U. von Rad proposed a motion, carried unanimously, that :
** The IOP strongly recommends that PCOM schedule the crew change between leg 119 and 120 at Kerguelen rather than Mauritius. Such action will save two weeks of critical drilling time in the short good weather window of this remote region **

SITE SURVEY PANEL REPORT AND STATUS OF RECENT AND PLANNED INDIAN OCEAN SITE SURVEYS

A. Mauffret presented the comments and recommendations of the SSP from their last meeting at Sidney B.C. (22-25 April 1986). He noted that some efforts were being made to improve the underway geophysics data on *Resolution* but that these were constrained by the ship's noise.
Specific IOP program recommendations were :
115 SWIR - The H. Dick site survey has been funded and will occur October, 1986. The SSP has requested deep towed 3.5 Khz pinger for better definition of ponded sediment, and piston cores for geotechnical information.

116 Red Sea - C.A. Williams on *Darwin* is scheduled to complete site surveys for a few specific sites but permission to do this work has been denied by the Saudis. Only the site in Sudanese water (Sudan delta) could be surveyed now, reported R. White. These sites may alternatively be surveyed by Makris.

117 Neogene I - W. Prell has completed site survey work and will submit additional information to the ODP data bank for SSP. Additional work by *Darwin* and *Marion Dufresne* on the Indus Fan will be completed early 1987.

118 Makran - *Darwin* cruise scheduled for November-December, 1986 by R. White. Shallow drilling objectives may not need more than SCS. According to A. Mauffret SSP cannot, however, assure safety or good geological control without processed MCS. Alternative Western Indian Ocean programs have been discussed :

. Mascarene Fossil Ridge - no longer scheduled.

. Somali Basin - needs site survey, including good velocity determination, sediment thickness, and piston core for geotechnical properties. This appears unlikely.

. Neogene II (Carbonate Saturation Profile) - some site survey data in hand, additional required can be obtained by *Darwin* (March, 1987) cruise. All are shallow, HPC holes, with one single bit core to basement on the Seychelles-Mascarene Plateau.

. Mascarene Plateau - site surveys grids will be done by the *Darwin* (March, 1987), including SCS, 3.5 Khz, gravity and magnetics. Basement definition and sediment thickness are required, slumping and steep slopes to be avoided.

119, 120 Kerguelen North and South - two French cruises have been completed : Schlich (Jan., 1986) and Leclaire (Feb. 1986). The new MCS records (4500 km) will be processed and will provide several crossings of existing BMR lines for final site selection. The French and Australians will meet in Strasbourg in August for this purpose.

Prydz Bay MCS lines have not been processed and are not likely to be in the near future as Southern Kerguelen lines have higher priority with BMR. A previously planned Japanese cruise to this area in late 1986 is now uncertain.

121 Intraplate Deformation and N90ER - J. Curray has just returned from surveying the northernmost (90ER-1) site. J. Weissel is currently doing surveys in the Intraplate Deformation area, and J. Sclater will finish this and survey the central 90ER sites.

122 Broken Ridge - J. Weissel will survey the Broken Ridge sites and the southern 90ER site. All work for legs 121 and 122 will be completed by September, 1986.

123 Argo Basin and Exmouth Plateau - site survey data are very satisfactory and await final processing.

D. Falvey reviewed the status of Otway Basin rifted margin sites. PCOM had instructed that previous sites lay too close to a transform fault so an MCS line further west was processed by BMR. A scheduled cruise (BMR) in Jan-Feb, 1987 could conduct additional site surveys if required.

PANEL CHAIRMEN MEETING

R. Schlich presented the minutes of the 3-4 April Panel Chairmen meeting in Corvallis. The most important points for us were the conclusion that better communication between panels is necessary, specifically in the liaison system. The chairmen felt that PCOM decision-making was sometimes obscure, with unsatisfactory reasoning given for elimination of programs. Also requests for new members to panels were sometimes ignored. The 3-step process for panel evaluation of programs to be sent to PCOM was applauded.

INDIAN OCEAN PANEL MEMBERSHIP

R. Schlich informed us of PCOM policy to have one-third rotation of panel membership each year, with individuals serving 3-year terms. In 1986 L. Tauxe, F. Gradstein (C), R. Herb (ESF), will have resigned. To comply with the rule a fourth member should be rotated in 1986. Replacements are J. Ludden (C), and A. Bossellini, J. Backman, alt. (ESF). Nominees for the remaining vacancies will be forwarded to PCOM.

Liaison members from IOP to other panels will be appointed by R. Schlich, determined by geographical proximity to the meeting and expertise. R. Duncan will attend the July LITHP meeting in Corvallis and W. Prell will attend the SOHP meeting in Ann Arbor.

KERGUELEN WORKING GROUP MEMBERSHIP

The IOP proposes that their representatives be R. Schlich, D. Falvey and W. Prell. The workshop will meet sometime following the August PCOM meeting, probably October. IOP suggests San Diego or Hawaii.

REVIEW OF NEW AND REVISED DRILLING PROPOSALS

1. Transform Fault Zone drilling. Proposal 223/B from J. Natland and R. Fisher to drill a fracture zone on the Central Indian Ridge was submitted as a backup to the SWIR program. Now that the site survey for SWIR is to be done the CIR program should not be considered further. Proposal 208/B by J. Natland et al. to

drill Oligocene crust to investigate petrochemical discontinuities was deemed premature, lacking adequate detail about present triple junction geochemical variability.

SWIR - We reviewed the H. Dick et al. site survey and drilling proposals (89/B revised) and make the following recommendations. Leave the seismic experiment out of the drilling program owing to time limitations and lack of second ship, but leave a re-entry cone at the deep mantle hole for a subsequent experiment which we agree is important. We expect that basalt rubble in the floor of the fracture zone will be the greatest obstacle to successful drilling. We concur with SSP that 3.5 Khz pinger be towed near the bottom to increase resolution in the sediment ponds and that piston cores be taken. We also urge that a camera survey be run in the selected fracture zone to determine the distribution of rubble, clean hard-rock surface, and sediments on the floor. We feel that this program is highly imaginative but also has high risk, so site surveys should be designated to reduce this risk as much as possible. We request that IOP chairman be informed of the results of the site survey as soon as possible.

2. Red Sea and Gulf of Aden. The difficulty of *Darwin* in obtaining permission from the Saudis means that only the Sudan delta site could be surveyed. This reduces the Red Sea program by at least one site (Bannock Deep, for which existing site survey data are inadequate). J. Cochran will contact Makris who has previously raised the possibility of Red Sea site surveys on *Meteor* in Jan, 1987. The M. Richardson and M. Arthur proposal (215/B) formalizes the paleoenvironmental sites. The R. Girdler (134/B) and P. Simpson (219/B) proposals for basement drilling in the Gulf of Aden were thought to be poorly sited, requiring drilling through very thick sections (2-3 km) with the sole purpose of checking a basement age. Such an objective could be combined with the Hominid ash layer stratigraphy objective if existing seismic lines showed a much thinner section. We feel the ash stratigraphy is the more important objective and should be the main objective in locating this site.

3. Somali Basin Deep Hole. We reviewed the rationale for SOHP deep stratigraphic holes (211/B) and looked at all existing MCS records of the Somali Basin, including unpublished section at IPGS. None were deemed adequate.

We fully endorse the importance of the Somali Basin deep hole objectives but also recognize the present problems in lack of site survey work and magnitude of drilling time required. We urge SOHP to develop the drilling rationale for incorporation in the COSOD II document and to encourage proponents to design and carry out the necessary geophysical and geological surveys for drilling.

4. Carbonate Saturation Profile (Neogene II). The L. Peterson and W. Prell proposal (97/B, 226/B) to examine Neogene productivity and circulation via a depth transect of 4 sites north from the Seychelles-Mascarene Plateau. All sites would be double HPC and the shallowest drilled to basement. We believe this is the optimum place to perform this experiment (the 90ER does not satisfy the requirements of depth range and shallow slopes). This program of 12 days could be combined with either Makran or Mascarene Plateau to form a complete leg.

5. Mascarene Plateau. No changes in 3 proposed sites ; awaiting site survey in March, 1987 by Baxter on *Darwin*.

6. Makran. The Nov-Dec 1986 Darwin site survey by R. White will conduct a land-sea refraction experiment, MCS lines, high-resolution seismic reflection profiles and collect piston cores. Existing SCS data show that gas hydrates are common in the upper 500 m of sediment, with a strong bottom simulating reflector at the underlying free-gas contact : this produces a strong safety constraint. Proposed drilling does not exceed 400 m. There is also evidence of localized shale diapirism and slumping. The Leggett & White proposal (55/B) could be shortened to a minimum of 4 or 5 sites which address the main objectives of drilling through the hypothesised thrust faults, determining pore pressures in the dewatered section, and investigating the processes of uplift and sedimentation. Based on W. Prell's calculations for the time required for double HPC holes for the Neogene proposal, the holes could be cored more quickly than allowed for in the original proposal, reducing the operation to about half a leg (20 days).

7. Neogene I. W. Prell suggested reducing the Indus Fan drilling from two sites to one and using the time gained to deepen one or two of the Owen Ridge holes. The Gulf of Aden hominid ash layer site is still planned as part of this program.

8. Exmouth Plateau. Proposal 121/B was revised by U. von Rad according to Safety Panel concerns with two previous sites near gas fields. The present program includes EP2, EP7, EP9B, EP10A, and AAP-1B.

9. Argo Abyssal Plain extension. F. Gradstein reviewed new proposal 240/B for a stragigraphic hole to basement on Jurassic crust in the Argo Abyssal Plain. The prime objective will be recovery of a Thethyan stratigraphic section. Recovery has been notoriously poor in previous Mesozoic drilling, so siting near AAP-1B will provide "double-coring" to improve recovery for high resolution paleoenvironment and stratigraphy. This site (AAP-2) is located on the Jurassic anomaly M25 and on a clear, processed MCS line, allowing age calibration of the magnetostratigraphic timescale for this period. It is also proposed that a vertical seismic profile (VSP) experiment be conducted at this site to identify stratigraphic reflectors. Finally, the two holes allow evaluation of microfossil distribution in 3-D in a quantitative sense (water depth : 5000 m ; hole depth : 1000 m ; drilling time estimation : 9 + 1/2 day transit = 9.5 days).

10. Kerguelen. Final revisions of the Kerguelen South program will be made by the French-Australian meeting at Strasbourg in August, using the processed BMR data and crossing lines from the Jan, 1986 French cruise (R. Schlich). New dredging and piston cores (L. Leclaire) provide additional information. The Kerguelen Working Group should produce a prognosis for each site and site-specific objectives.

11. Otway Basin Passive Margin. Informal advice was received in early 1986 fr PCOM that the proposal for drilling on the Otway Passive Margin submitted by Willcox et al. (197/B) and reviewed and recommended by IOP at its meeting in San Francisco (12-14 December, 1985) was considered to be too close to the West Tasmania Transform. New seismic data were presented to IOP for consideration (BMR line 48.043 - along 140°E). This fully processed and migrated multichannel section extends from an open-file continental shelf exploration well to the continent/ocean boundary and shows that an essentially complete pre-breakup and post-breakup Cretaceous section crops-out or is close to the seafloor on the lower continental slope, within practical drilling depth. Volcanics are

largely absent. An extensive dredging (with possible add-on site survey) program is firmly scheduled for January, 1987. IOP considers this an excellent and well prepared passive margin proposal and strongly recommends this program as a first alternate during the 1988 Indian Ocean drilling if scheduled programs cannot be drilled or as a scheduled program during a later period, if the Southern Pacific and/or Antarctica is being drilled after the SW and NE Pacific drilling program.

INDIAN OCEAN DRILLING PROGRAM

We have discussed the two drilling plan options received from PCOM with regard to scientific objectives, specific site drilling times, and logistics. We make the following recommendations on the two plans :

The Red Sea Option (Table I)

| | Transit Time | Est. Drill Times | Available Time | Schedule Total | Port Time |
|---|---|---|---|---|---|
| 113 Weddell Sea Falklands | 24 | 44 | 41 | 65 | 5 |
| 114 SubAntarctic Mauritius | 24 | ? | 32 | 56 | 5 |
| 115 SWIRFZ Djibouti | 14 | 33 | 33 | 47 | 5 |
| 116 Red Sea Mina Qaboos | 11 | 39 | 39 | 50 | 5 |
| 117 Neogene Pkg. Karachi | 5 | 40 | 39 | 45 | 5 |
| * 118 Makran/Carb.Sat./Masc. Mauritius | 10 | 32 | 34 | 42 | 5 |
| 119 No. Kerguelen Mauritius | 14 | 35 | 47 | 61 | 5 |
| 120 So. Kerguelen Fremantle | 21 | 35 | 39 | 60 | 5 |

* *Shortened Makran program or Carbonate Saturation Profile or Mascarene Plateau, with drilling times of 20, 12, 16 days, respectively.*

The Intraplate/N90ER Option (Table 2)

| | Transit Time | Est. Drill Times | Available Time | Schedule Total | Port Time |
|---|---|---|---|---|---|
| 113 Weddell Sea Falklands | 24 | 44 | 41 | 65 | 5 |
| 114 SubAntarctic Mauritius | 24 | ? | 32 | 56 | 5 |
| 115 SWIRFZ Colombo | 9 | 33 | 38 | 42 | 5 |
| 116 Intraplate/N90E Karachi | 14 | 36 | 36 | 50 | 5 |
| * 117 Makran/Carb.Sat./Masc. Mina Qaboos | 2 | 40 | 42 | 42 | 5 |
| 118 Neogene Pkg. Mauritius | 10 | 45 | 34 | 50 | 5 |
| 119 No. Kerguelen Mauritius | 14 | 35 | 47 | 61 | 5 |
| 120 So. Kerguelen Fremantle | 21 | 35 | 39 | 60 | 5 |

* *Shortened Makran program or Carbonate Saturation Profile or Mascarene Plateau, with drilling times of 20, 12, 16 days, respectively.*

The leg numbered 118 in the Red Sea Option (Table 1) and 117 in the second option (Table 2) is a combination of shorter programs. We calculate that there are 32 days for operations in the Red Sea plan and 40 days in the second plan for this leg, and consequently only two of the proposed programs can be undertaken.

We have voted on the priority of these programs in constructing a drilling leg :
first priority : Carbonate Saturation Profile (23 points)
second priority : Mascarene Plateau (21 points)
third priority : Makran (13 points).

Leg 119 should start as early as possible (December 1, 1987) to allow maximum drilling time on the Kerguelen-Gaussberg Ridge.

NOMINATIONS FOR CO-CHIEF SCIENTISTS FOR INDIAN OCEAN LEGS

| | U.S. | non-U.S. |
|---|---|---|
| 115 SWIR | R.von Herzen; H.Dick; J. Natland | R.Robinson(Can.); J.Malpas(Can.); K.Bostrom(ESF). |
| 116 Red Sea | J. Cochran; E. Bonatti | H.Bäcker(D); P.Guennoc(F); G.Pautot(F). |
| 117 Neogene | W.Prell; J.Cochran | N.Kenyon(UK); R.Kidd(UK). |
| 118 Makran/Carb.Sat./Masc. | | |
| . Makran | | J.Leggett(UK); R.White(UK); R.Hesse(Can.). |
| . Carb.Sat. | L.Peterson; W.Curray | H.Thirstein(ESF); A.Baxter(UK). |
| . Mascarene | R.Duncan; R.Fisher | A.Baxter(UK). |
| 119/120 Kerguelen(N&S) | W.Berggren; R.Wise | R.Schlich(F); D.Falvey(Aust.); K.Perch-Nielsen(ESF); L.Leclaire(F); H.Schrader(ESF). |
| 121 Broken R/S 90ER | J.Sclater; J.Weissel; R.Duncan | J.Pierce(Can.); R.Herb(ESF); |
| 122 Intraplate/N 90ER | J.Weissel; J.Curray | J.Pierce(Can.); R.Scrutton(UK); R.Herb(ESF). |
| 123 Exmouth/Argo | J.Mutter; R.Larson | U.von Rad(D); N.Exon(Aust.); F.Gradstein(Can.); P.Williamson(Aust.). |

NEXT IOP MEETING

The next meeting will be sometime between Nov 1 and Dec 15, in Miami or College Station. A representative of the Downhole Measurements Panel should attend this meeting.

86/575



Western Pacific Panel Meeting
June 19-21, 1986
Summary

PCOM's charge to the meeting was to devise a nine-leg drilling program, with alternates, for the western Pacific region. Input from the three thematic panels, together with 14 new/revised proposals, was presented and reviewed. The panel jointly revised the first WPAC drilling prospectus and agreed on 10 1/2 legs that can be strongly defended at this time. These legs were ranked by vote, and the resulting priority list is presented below (the maximum vote was 11):

| | | |
|---|---|---|
| 1. | Bonin-1 | 9.8 |
| 2. | Japan Sea | 8.6 |
| 3. | Sunda Backthrusting | 7.6 |
| 4. | Banda-Sulu-South China | 7.2 |
| 5. | Bonin-Mariana-2 | 6.1 |
| 5. | Great Barrier Reef | 6.1 |
| 7. | Nankai | 6.0 |
| 8. | Lau Basin | 5.8 |
| 9. | Vanuatu | 5.7 |
| 10. | Zenisu Ridge (1/2 leg) | 5.1 |
| 11. | Sulu Transect | 2.6 |

These results are VERY consistent with WPAC's previous rankings, even though the panel membership changed considerably, with only two exceptions:

a) the priority for drilling in the Sunda region rose considerably (10th to 3rd) following requested refocusing of proposal on collision tectonics rather than toe processes.
b) passive margin drilling in the South China Sea was removed from the priority list following specific criticisms by TECP (with which WPAC agrees), and pending significant revision (data and model updates) by proponents.

## ACTION LIST

1. Revised WPAC drilling prospectus to be distributed by Taylor in August.
2. WPAC requests PCOM to establish a Lau Basin Working Group (see 4.11 for membership and mandate).
3. WPAC requests SOHP to clarify objectives and their priority in the Bonins — see 3.3.
4. WPAC notifies ODP-TAMU that the prime objective of Nankai Trough drilling is a 1700 m hole in 4600 m water which penetrates through a major decollement at 1400 m. WPAC requests evaluation of drilling problems following Leg 110 Barbados experience.
5. WPAC requests ODP-TAMU to provide their best estimates for drilling and standard logging times of holes specified in our revised prospectus.
6. WPAC requests proponents of Vanuatu drilling to migrate their MCS profiles over the priority sites and to provide these and velocity data to our next meeting.

DRAFT

JOIDES Western Pacific Panel Meeting
Universite de Savoie
Chambery, France
19-21 June, 1986

DRAFT

| | | |
|---|---|---|
| Members Present: | Brian Taylor, HIG, Chairman | Claude Rangin (France) |
| | Mike Audley-Charles (UK) | Jacques Recy (ORSTOM) |
| | Roy Hyndman (PGC) | Steve Scott (Canada) |
| | Derk Jongsma (ESF) | Hans Schluter (Germany) |
| | Margaret Leinen (LITHP) | Eli Silver (UCSC) |
| | Kazu Nakamura (TECP) | Kensaku Tamaki (Japan) |
| In Attendance: | Christian Auroux (ODP) | Alain Mauffret (SSP) |
| | Roger Larson (PCOM) | Erwin Suess (SCHP) |
| Absent: | Jim Ingle (Stanford), Jim Natland (SIO), Rick Sarg (SCHP) | |

## AGENDA

1. Minutes of the previous meeting
2. Reports from liasons and guests
3. Discussion of new and revised proposals
4. Review of WPAC drilling prospectus
5. Vote on WPAC drilling program
6. Review of site survey status
7. Circum-Pacific Conference
8. Next meeting

## MINUTES

Taylor welcomed the new members from Canada (Scott), ESF (Jongsma), Japan (Tamaki), and "at large" (Hyndman), as well as the guests from ODP, PCOM, SCHP, and SSP.

### 1. MINUTES OF THE PREVIOUS MEETING

The minutes of the last meeting were approved with the following minor changes: a) p. 9, #6, Replace "Moreover, . . . SULU-1" with "While WPAC considered the Palawan region to be of interest for collisional processes, there was not unanimity concerning the interpretation of the deep carbonate reflection. No one voted in favor of the 2-km deep hole proposed at SULU-1."

b) p. 11, last sentence, add "Sulu/Celebes (French MCS)" to the list of proposals.

c) p. 15, #10, add J. Daniel (ORSTOM) to list of potential replacements for J. Recy.

The action list resulting from the last meeting was reviewed. Items 1, 7, and 11 were left to this meeting. All other actions were initiated. Revised proposals for the Great Barrier Reef and Sunda-Sumba were received,

but not for Manila-Taiwan and Japan Downhole Measurements. Individual proposals for the Lau Basin were received, but the recent results of all five institutions were not integrated.

## 2. REPORTS FROM LIAISONS AND GUESTS

The minutes of the Panel Chairmen's Meeting, and the WPAC sections of the most recent LITHP, SOHP, and TECP meetings (see Appendix 1), were distributed and discussed. WPAC thanks the thematic panels for their specific input and guidance.

### 2.1 PANCHM

Taylor highlighted three points of the PANCHM review of ODP results to date, that have particular relevance to WPAC: (a) Primary objectives have often been incompletely realized because of compromises between disparate objectives and/or too many objectives for a leg. (b) Achieving some objectives is still limited by significant problems in drilling and recovery of carbonates and sands, and by logging difficulties associated with the collapse of open holes. (c) ODP planning by incremental regional time blocks undermines our ability to meet COSOD objectives. The longer the overview, the better the chance of doing the best science. "Slow down (globetrotting) and do things right." Taylor noted the recent PCOM decision to potentially increase the time in the Indian Ocean and hoped that this trend would continue into the Pacific.

### 2.2 PCOM

Larson reviewed the results of the May PCOM meeting.

a) ODP Membership: ESF joined June 1; Derk Jongsma is the ESF WPAC member. Australia is negotiating with Canada for partial membership (~30%). U.S.S.R. is still considering full membership.

b) COSOD II: Palais du Congress, Strasbourg, 6-10 July 1987, hosted by ESF. Conceived primarily to address ODP program post 1991. Proposed steering committee: X. Le Pichon (Chairman), J. Cann, J. Fox, M. Kastner, H. Kinoshita, C. Moore, J. Morgan, N. Petersen, R. Price, W. Ryan, S. Schlanger, J. van Hinte.

c) Panel Membership: PCOM adopted a scheme of double liason between regional and thematic panels in which members vote in their home panel but are <u>non-voting</u> liaisons. In addition, DMP representatives will attend one meeting per year of each thematic and regional panel, and SSP will establish ad hoc liaisons with regional panels as appropriate. PCOM assigned Hawkins (LITHP), Sarg (SOHP), and Nakamura (TECP) as liasons from the thematic panels to WPAC. PCOM chose James Gill to replace M. Leinen, reconfirmed Roy Hyndman's appointment as member-at-large, and assigned Silver, Gill, and Ingle to liaise with TECP, LITHP, and SOHP respectively.

d) Conflict of Interest: "Proposal proponents should not be involved in panel discussions relevant to the potential inclusion of their proposal in drilling plans, and panel members who are proponents should not participate in votes related to their proposals." WPAC paraphrase: members who are proponents should participate on an information basis (i.e., answer

questions), but not lobby (or vote). Continued violators will be reported to PCOM.

e) Indian Ocean: PCOM adopted a 17/15 month schedule, starting with SWIR and ending with Argo-Exmouth, dependent on the inclusion/exclusion of Red Sea drilling, and with the possible one-month expansion of Argo-Exmouth sites for SOHP objectives (given that the Somali basin deep hole was excluded). The impact for WPAC drilling is later start dates if Red Sea (Oct. 88) and extra Exmouth (Nov. 88) drilling is included.

f) WPAC: PCOM Motion: The Planning Committee commends the Western Pacific Regional Panel on the procedure used in planning and moves to accept the nine-leg proposal as the basis for planning. PCOM expects this proposal to be modified by additions and further iterations of the schedule. Vote: 12 for, 0 against, 2 abstain.

In additional discussion, several PCOM members urged that the program be flexible enough to accomodate an increase in time spent in the region as additional proposals are received into the planning process.

PCOM Consensus: The PCOM requests that WPAC devise a nine-leg drilling plan with a strawman schedule by August 1986. This schedule should also include potential alternatives to be taken from the full twelve-leg program or other high priority objectives and should be cognisant of drilling proposals in adjacent areas (CEPAC).

2.3 TECP

Nakamura reported on the June TECP meeting which included a major review of the WPAC prospectus — see TECP draft minutes (Appendix 1) for important statements concerning Japan Sea, Nankai, Zenisu, and South China Sea (which they ranked in that order), and collision tectonics. TECP deferred to outcome of Barbados drilling and Physical Properties workshop before evaluating Nankai transect vs. deep toe of slope hole. Turbidite-dominated trench fill in Nankai is comparable to Aleutians and Cascadia. WPAC noted 1.7-km hole proposed at Nankai, compared to 2.8-km hole at Cascadia.

2.4 SOHP

Suess reported that SOHP's drilling priorities in the WPAC region are 1) Great Barrier Reef, 2) Sea of Japan, 3) South China Sea, 4) Ogasawara Plateau, and 5) Banda-Sulu. He reviewed these areas in terms of SOHP's major global themes — see SOHP minutes (Appendix 1) for specifics. Larson questioned SOHP's reasons for drilling South China Sea if Japan Sea is also drilled. Leinen responded that SCS will have better record of onset of northern hemisphere glaciation (controlled by uplift of Himalayas and effect on monsoons) due to Red River drainage of Himalayas into SCS.

2.5 LITHP

Leinen reviewed LITHP evaluation of WPAC prospectus. Nine legs are not sufficient in WPAC as LITHP objectives require minimum of five legs: Bonin-Mariana (2), arc-backarc transition, nature of forearc, diapirism; Lau Basin (1), backarc/MORB transition, 0-age crust; geochemical reference holes (1), mass balance, sediment influence on arcs, volcanic history; Japan Sea (1), continental marginal basin. See LITHP minutes (Appendix 1) for more details. LITHP expressed desire that drilling into basement penetrate at least 200 m. LITHP (and WPAC) concerned by present lack of integration of extensive Lau Basin data.

Reply by Larson to the question, "How should regional panels treat thematic panels' input?"
"Consider their guidance when devising your drilling program, but don't be held 100% hostage to the whims of thematic panels." A conflict of advice to PCOM is o.k. Although PCOM would prefer priority resolution at the panel level, they are still willing to decide between conflicting input.

2.6 ODP Operations

Auroux reported on the results of Leg 108-109 and on ODP operations:

a) Leg 108: NW Africa — Deep and shallow water circulation in the equatorial region. 27 HPC holes at 12 sites recovered record 3850 m. Sedimentation rate increased at 3 m.y. due to Sahara input, Canary current, increased upwelling. Problems due to turbidites, slumping, and biogenic gas. Equatorial currents have very rapid response to polar influences.

b) Leg 109: Return to 648B — deepened bare rock hole from 33.4 to 50.5 m. Lots of operational problems with hole instability and bottom hole assembly. Four-meter unsupported hole at Kane Fracture Zone. Cleaned and logged hole 395B. Drilled 90 m into serpentine diapir in axial valley directly west of Snake Pit region. Recovery 15-20%. At 40 m, reentered hole (without cone) with rotary bit (following initial mud motor drilling).

c) Operations: TAMU — two positions open at ODP, petrologist and Meyer replacement. Review of drilling time estimates: subtract 10%.
Leg 108 successfully deployed the mini-reentry cone (six feet diameter with 7 feet casing). Should be routinely available for short-term reentry.

3. DISCUSSION OF NEW AND REVISED PROPOSALS

3.1 Japan Sea (51/D): Tamaki presented results of recent magnetic, MCS, and OBS surveys. Detailed magnetic data in the east Japan Basin reveal coherent magnetic anomalies offset by numerous apparent pseudofaults (frequent ridge reorganizations?). Drilling in this area is not proposed due to presence of gas-charged layer, but similar surveys in the proposed drilling areas to the southeast will be conducted next year. Seismic studies of the Yamoto Basin reveal thicknesses of 2 and 10 km for crustal units with the velocities of Layer 2 and 3 respectively (i.e. twice the crustal thickness of that in the Japan Basin and normal oceanic crust). No dipping reflectors. Thinned continental or thick oceanic crust?

3.2 Ryukyu/Okinawa (145/D Revised) not considered (see minutes of last meeting).

3.3 Bonins: Taylor proposal (171/D) revised to include geochemical reference hole at crest of trench outer rise on Conrad MCS line. Okada-Takayanagi proposal (83/D) revised: 31° N transect based on single-channel data. Arc tectonics objectives similar to Taylor proposal, but also include two eastern Shikoku Basin/western Bonin Arc holes to study effect of meridonal ridge on Tertiary circulation.

Action to SCHP: Clarify objectives in Bonins: history of Kuroshio/Oyahio confluence to be addressed at Ogasawara Plateau (no proposal) OR sites E/F of Okada. Priority of Okada Sites E/F with respect to other Bonin sites and other SCHP objectives in WPAC?

3.4 Sulu Sea (27/D):

A French MCS cruise in Sulu and Celebes seas is planned for early 1987. Two additional sites were proposed by Rangin: C1 in northwest Celebes Sea to date basin formation (Weissel vs. Hilde magnetic correlations) and test Sulu Arc reversal model; P1 in Panay forearc to study initial accretion of Cagayan ridge crust onto Visayan Arc (slivers of Cagayan material are exposed on Panay). The Philippines may be the best place to study collage tectonics.

3.4 Australia-Sunda Arc Collision (242/D): Silver/Reed Proposal. This collision often is used as type for arc-continent collision. Proposal focuses on backthrusting of accretionary ridge over forearc basin in the Sumba and East Timor forearcs, and initiation of backarc thrusting behind (north of) Flores (the volcanic arc). Seismic and modeling evidence were presented supporting these processes. Proposed ODP drilling includes: a) Transect of 3 sites across the back thrust zone (Sawu thrust) east of Sumba island (S1,S2, S3), b) 2 sites in the backarc (F1-F2), c) 2 sites in transition zone between forearc basin and accretionary wedge east of Timor (T1, T2). This may be a back thrust also.
Sites S1-3 have as objectives:
1) Estimates of timing of initiation and cessation of activity along the Sawu thrust. The cessation can be clearly constrained with seismic control and drilling -initiation is more approximate.
2) The incorporation of forearc material into rear of accretionary wedge, and implications for thrust timing.
3) Vertical history of Sumba ridge, which is forearc basement. Two processes are envisaged: a) subsidence due to loading of forearc crust by back thrusting of accretionary wedge. b) Uplift due to (i) underplating or (ii) subduction of marginal plateau. For i) we expect rapid uplift if underplating consists of large crustal duplexes; slow uplift if it is through small sediment packages. For ii), we expect rapid uplift followed soon after by subsidence. If Sumba is a microcontinent, its vertical history may be less pronounced.
4) Sites T1-T2 have similar objectives to S1-S3, but this area is less affected by uplift of forearc basin crust and may show effect of thrust loading more clearly. These sites will also give estimates of timing of Timor uplift and history of arc volcanism in the stratigraphic record.
5) Sites F1 and F2 look at onset of backarc thrusting. Does this process follow, lead, or act simultaneously with back thrusting in the forearc wedge? F1 looks at possible rapid subsidence of lower plate as thrusting

initiates, and stratigraphy of the lower plate as reference section for F2. F2 examines oldest accreted material in the rear of the small backarc wedge as a measure of thrust initiation. A geophysical program using large source 96-channel seismic reflection has been proposed for this region through these sites.

MAC: Prefer sites T1-T2 over S1-3 because of ability to see thrust loading more clearly, as well as the history of Timor uplift/unroofing.
EAS: Existing seismic data are poorer here, but proposed MCS work may change that situation.
MAC: Maybe Sumba is uplifted because of uniform shortening in the crust.
EAS: You should see that reflected in surface geology. Sumba shows only very gentle deformation.
AM: Site survey panel will require cross lines for safety considerations, also heat flow.
EAS: Extensive seismic data (mostly shallow penetration systems) already exist, including some BGR MCS lines east of Sumba.
AM: May still present a problem.
SS: Tectonic story seems very well presented already, so why drill?
EAS: Drilling is necessary to answer questions of timing and sequence of collapse mechanisms in the forearc and backarc zones. These mechanisms appear to be well-developed in collision zones (e.g. Sunda, Mediterranean ridge), but much less developed in non-collisional settings. The timing and magnitude of vertical motions can quantitatively constrain processes of thrust loading (T1-T2 may be best) and abnormally large underplating events (Sumba Ridge uplift - sites S1-S3). Drilling at S2 may give age of initiation of Timor Trough (Miocene?) and F2, the initiation of Flores backarc thrust.

3.5 Ontong-Java Plateau (222/E) proposal: Kroenke et al.
Three elements to proposal:
1) Age and geochemistry of basement and late stage volcanism; how such plateaus form (LITHP objective)
2) Paleoceanography: deep water carbonate response to Neogene changes in sealevel (SOHP objective)
3) Collision tectonics (TECP objective): reference sites on Ontong-Java Plateau necessary for collision tectonics, interpret Malaita Anticlinorium as a flake thrust up onto Solomon Arc because Malaita matches what has been drilled already on the OJ Plateau.

Rangin: Island geology is not well integrated into proposal. Age of collision/obduction process? How was this determined?
Jongsma: Why put sites on inferred fracture zone? Interpretation of MCS not accepted by panel.
Schluter: Need better MCS date to determine whether the plateau is continental crust or oceanic crust.
Silver: Need more information about deep structure; the collision process in this area is fundamental, but this proposal does not address the large-scale problem.
Taylor: The existing and proposed site survey data base necessary to address the collision problem is not adequate.

CONSENSUS:
1) This is a fundamental problem with major implications for SW Pacific, but
2) The data base is not sufficient to address the collision aspect of the problem and the proposal is not well focused on this aspect.
4) It is not clear how drilling will solve the problem with the sites proposed.
If we broaden our view to include USGS proposal on Solomons and Vanuatu, then all things considered above, we prefer the Vanuatu proposals.

3.6 Solomon Sea Proposal (235/D), Honza et al. Three objectives:
1) Sediment accretion along New Britain trench to north
2) Accretion along south subduction zone that has very slow subduction
3) Age of Solomon microplate

Tamaki: Accretion of sediment can be addressed by other subduction zone drilling. The subduction at southern margin is not well constrained. The age of the Solomon microplate is a local problem.
Silver: A fascinating problem is the transition from the collision on New Guinea to the Solomons. The Solomon Sea is being closed, and that problem is not addressed in the proposal.
CONSENSUS: Data base insufficient to look at the primary problem: arc-continent collision.

3.7 Great Barrier Reef (206/D) Davies et al., revised.
Themes (see also SOHP minutes):
1) Carbonate ramp ideally situated to record response to paleoenvironment
2) Sedimentation as a function of sea level
3) Basin/shelf sediment fractionation
4) Diagenesis in an undersaturated ocean
5) Local problems: basin fill, building of reef

Silver: What is different about this from the Bahamas?
(Panel: It's epiclastic, reef has come and gone through time, carbonate undersaturated, ramp instead of steep scarp.)
Schluter; The tectonic influence is very great and should be considered more in choice of sites.
Leinen: Time allocation seems unrealistic in view of the fact that these will be cemented carbonates, not soft sediment. Will probably have to drop sites or shorten holes.
CONSENSUS:
Proponents should re-evaluate drilling times to determine whether all sites can be drilled to the depths indicated. If not, we favor shorter holes, not fewer holes.
Proponents should re-evaluate sites to consider tectonic problems (e.g., effect of differential subsidence on isolating sea-level effects)

3.8 Vanuatu (190/D) Fisher et al., revised. Major themes:
1) D'Entrecasteaux Fracture Zone collision
2) Arc reversal recorded in Aoba Basin development
3) Back-arc rifting and its relation to collision

Silver: The justification for specific sites in the proposal in terms of the geologic problems that they will solve is not strong.
Leinen: What differences are there between the Bonins and the Coriolis trough that justify drilling both?

Scott: The ore generation component of the proposal needs to be strengthened.
Larson: Is arc reversal a common enough process to devote a leg to drill it? (Answer from panel is "yes.")
Larson: Need to do more comparisons between areas; e.g. collision in Sunda vs. collision in Vanuatu.
Schluter: Quality of seismic profiles is not good (note: there are 27 days of MCS surveying funded next year).
NO CONSENSUS developed at this point.

3.9 Lau Basin: a) (220/D) Hawkins et al. (presented by Leinen).

Proposal based on Hawkin's view of how the basin formed - Miocene forearc rifting caused by retreat of trench. Now, spreading is back-arc to active Tonga arc (Lau ridge is a remnant), but young volcanoes built on initial "backarc" crust. Initially, get BAB/MTB basalts and with further widening of basin get LBB (Lau Basin basalt). Proposing 3 drill sites: L7 at transition between MTB and LBB; L11 at active spreading axis; L12 at inferred propagating rift where massive sulfides occur.
Comments from LITHP: (1) distribution of basalt types not well constrained by existing dredging - 25 hauls; (2) lack of understanding of nature of transition (intercalated? sharp?); (3) L11 near methane anomaly but disagreement as to whether crust really is zero age here, (4) L12 site is on inferred propagator which adds a complexity which is not well understood. LITHP encourages all proponents of Lau drilling to get together. LITHP likes Lau drilling because of (1) petrological problem of basalt types, (2) value for magma chamber.

Panel Concerns: There are several different interpretations of Lau tectonics and the time-space variation in BAB basalt chemistry. Proposals need to evaluate all the models. Bare rock hole proposed for spreading ridges near hydrothermal site. WPAC recommends that all the players get all data and syntheses together in a single proposal for presentation at our next meeting. A Lau-Tonga working group is needed.

Lau Basin: b) Cronan proposal (239/D) presented by Audley-Charles.

Proposes to relate chemistry and tectonics via (1) tracers in sediments to locate spreading center and (2) dating clastic components. Needs 2 holes. Good analog for lithogeochemical exploration.
CONSENSUS: Concepts good. Any Lau transect will undoubtedly provide the sediments to answer the questions posed, i.e. compatible piggyback proposal.

3.10 Tongan Forearc
Bloomer and Fisher proposal (243/D) presented by Brian Taylor.

Two holes on trench-slope break. Motivation is to test current model of forearc evolution as established in Marianas/Bonins. Is the model universal? Holes could also test competing models re continuity of arc volcanism in relation to episodes of backarc spreading, as recorded in the forearc sediments. Two holes (5 days each) could be done as part of a Lau leg. Really needs only one hole, not two.

Pelletier and Dupont proposal. (261/D revised) presented by Recy.
Oblique convergence of Louisville Ridge and Tonga Trench. Probable accretion of Louisville Ridge under Tonga arc giving localized 2000 m uplift of arc. Seven holes to test hypothesis.
Objectives: (1) tectonic effect of subducting Louisville Ridge; (2) accretion on inner slope; history obtained from microfossils in sediments.
Four holes located on MCS but three on SCS.
Is the proposal a better example of arc-ridge collision than Manilo Trench? Yes, plate reconstructions are better known.
Biostratigraphy is possible in 0-3 m.y. time period, but a) it requires pelagic sediments (which may be diluted in the forearc clastics) and b) unless six sites are drilled the proponents say that they will have insufficient biostratigraphic resolution to solve the problem.
To distinguish along strike (ridge sweeping) from across strike vertical tectonics will require three transects of holes, linked by seismic stratigraphy (and there is no continuous forearc sedimentary cover).
CONSENSUS: Not clear how much drilling is necessary to solve the problem.

## 4. REVIEW OF WPAC DRILLING PROSPECTUS

PCOM is happy with the length and type of information provided in WPAC's first drilling prospectus. They request that we revise it in light of the thematic panels' comments and additional proposals received, and that we provide them with a nine-leg drilling program with potential alternatives.

This was our first opportunity as a panel to jointly review the first prospectus, each section of which was largely written by individual proponents. The review proceeded semi-topically, dealing first with the marginal basins (Japan Sea, South China Sea, Sulu/Banda Sea), then Great Barrier Reef, then collision/accretion processes (Sunda, Zenisu, Nankai, Vanuatu, Louisville), then intra-oceanic arcs/back-arcs (Lau-Tonga, Bonin-Mariana), and finally with the Sulu transect.

### 4.1 Japan Sea

New summary distributed. Too many sites and days. Panel supports:

1. Age and nature of basement J1b, J1d, JS3a (east of JS-3)
2. Multi-rift opening (11.5, 7 and 7 days)
3. Obduction and its timing — J3a (9 days)
4. Sediment history (silled basin) — JS-2 (4.5 days)
5. Metallogeny and Yamato Rift — J2a (13 days)

(Proposed holes for fresh water diatoms and deep sea fans are not supported). Plan 6 holes, 52 days on site, in areas with no gas problem. Tamaki to revise summary accordingly.

### 4.2 South China Sea - Part I, Rifted Margin

TECP criticizes proposal as relying too heavily on McKenzie model (symetric thinning) to the exclusion of the Werniche model (assymetric detachment); no reference to conjugate margins. May be a good place to study ocean continental boundary and (conjugate) passive margin evolution — but we need to see well-processed MCS data. The proposal, as currently written, is out of date in terms of rifting models. There is nothing special about 30 my drift onset if Werniche rather than McKenzie model is appropriate. Proponents need to identify how propsed sites will distinguish

between different models, not just details within one model. Return to proponents for significant revision.

South China Sea - Part II, Deep Basin

Need to know sediment history and age of basin. Propose to combine hole(s) in S. China Sea Basin, Sulu Basin, and Banda Basin in one leg.

4.3 Banda-Sulu-South China Sea

The interaction of the mosaic of microplates in SE Asia is the basis for many models of collage tectonics and terrain accretion. Better reconstructions provide new insights/ideas re processes.
Sulu-Celebes-Banda area is one of the two (proposed) 'trapped' basins best known in the world (other is Bering Sea). Important problem is geodynamics, for which we need basement ages, histories of volcanism and collisions (from sediments), etc. leading to an understanding of accretion of terrains, entrapment of marginal basins, relation to ophiolites on land. Drilling is the only way of solving the problem. A Banda-SCS transect of holes would also meet important SOHP objectives: record of northern hemisphere glaciation onset (SCS), oxygen minimum and silled basin sedimentation (Sulu), and interaction/closure of Indian-Pacific circulation (Banda). Sediments are very thick in Celebes (>1500 m) and water is very deep (5000 m), so drilling one hole would take most of a leg. Decision: No Celebes hole.
Plan: One hole each in Banda south, Banda ridges, Banda north, Sulu Basin, S. China Basin; 56 days on site. Preferred S. China Sea hole is #SCS7 (on magnetic anomaly 6). Silver and Rangin to revise summary emphasizing geodynamic aspects.

4.4 Great Barrier Reef

Revised summary distributed. Basically O.K., but panel concerned by drill time estimates (too low). Taylor to make minor revisions: add figures, note preference for less penetration rather than fewer sites (don't sacrifice transect).

4.5 COLLISION Objectives

Ontong Java - Solomons not further considered for reasons stated above.

Manila - Taiwan proposal/prospectus not acceptable in its present form (three transects each requiring approximately one leg to drill, focus on toe/forearc processes). As stated at our last meeting, the panel is interested in considering a revised proposal focusing on the collisional processes — as an alternate (addition?) to the Sunda-Timor area.

4.6 Sunda Backthrusting

New prospectus distributed, addressing three processes:
a) backarc thrusting (F sites) - panel agreement
b) thrusting of the forearc wedge back onto the arc (S sites, perhaps T sites)
c) mountain-building and unroofing (T sites)
Extensive discussion of S vs. T sites. Backarc thrusting and forearc backthrusting are considered global collision processes, which happen to be best imaged currently along the Savu-Flores transect. Backarc thrusting occurs north of Wetar and forearc backthrusting MAY occur east of Timor, but these areas are not seismically well imaged at present. Audley-Charles suggests that mountain-building as a result of arc-continent collision is

better studied at the T sites which would not only provide a forearc vertical motion history but also a history of the uplift and erosion of Timor. The panel would like to see all three processes addressed, but the seven proposed holes would require 60 days on site, with minimal downhole measurements. An MCS site survey is proposed and the panel is prepared to forward the prospectus pending that information, but will ultimately have to reduce to five sites. Panel notes MCS cross lines will be required before drilling. Audley-Charles to send Silver and Taylor prospectus modifications dealing with Timor.

4.7 Zenisu Ridge

Existing seismic reflection data insufficient (for TECP and several WPAC members) to substantiate ocean-plate shortening, but MCS survey by Taira is scheduled for this year. Potentially exciting area re models of ophiolite emplacement.

Panel recommends Z1: local reference site (7 days)
Z2/3: dewatering, physical prop. (7 days) — NB. clams found at 23.
Z4: nature of basement (3 days) - for ophiolite emplacement models
Z5: date uplift/tilting history (8 days)

25 days total drilling = 1/2 leg. Rangin to revise prospectus accordingly.

4.8 Nankai

Most exciting aspect is excellent seismic imaging of lower slope/toe processes (Sites 1-4). The rest of the forearc transect is no better imaged than many other areas. Drilling conditions at Nankai are not difficult says Coulbourn/Karig/Taira; Leg 87 problems due to typhoon. Pending evaluation of Barbados drilling (Leg 110) and Physical Properties Workshop, the panels priorities are: NKT1 — reference site and layer parallel shortening of trench sequence
NKT2 — 1700 m hole through decollement to oceanic basement

Drilling and logging these two holes could require one whole leg.

ALTERT TO TAMU: Decollement to be penetrated is at ~6 km (in 4.6 km water)
NKT3 — imbricate thrust
NKT4 — lower slope basin backtilting above thrust

Taira/Tamaki to revise prospectus

4.9 Vanuatu

Leinen: LITHP prefers simple setting of Bonin transact to address backarc rifting and would deemphasize this aspect in Vanuatu unless significant differences (e.g. in geochemistry, structural and volcanic style, etc.) can be shown.

Panel chose Vanuatu region (Aoba Basin sites 1 and 2) to adress arc reversal (due to OJP collision?) rather than Solomons, but wants to see better MCS processing (velocity analysis, migration) to evaluate drilling the volcanoclastic wedges.

Primary focus of this area is DFZ collision. Two issues: (i) material transfer/structure evolution of forearc and (ii) coupling between collision and backarc extension. After extensive discussion, it was the panel's consensus that the time of initial collision was unlikely to be uniquely determined and therefore that issue (ii) be downplayed. Because the north DFZ causes little apparent disruption of the forearc, the panel preferred DFZ sites 4 and 5 over 1-3 to address issue (i).

CONSENSUS: Recy to revise prospectus to one leg, to include 2-3 forearc collision holes, IABl and 2, and two backarc holes. Panel requests to see migrated MCS lines and velocity data crossing all key sites.

4.10 Louisville Ridge/Tonga Forearc

See previous discussion of revised Pelletier and Dupont proposal.
CONSENSUS: Area insufficiently surveyed (needs extensive MCS grid linking at least three widely-spaced transects), and too many legs required to solve problem.

4.11 Lau-Tonga

See previous discussion of Hawkins, Cronan, and Bloomer-Fisher proposals.
Significant panel interest in Lau Basin but, like LITHP, consider data and models presented by existing proposals to be inadequate to define/evaluate specific sites. Given the extensive data sets recently (or about to be) collected by six geographically isolated institutes, we
REQUEST POOM TO ESTABLISH A LAU BASIN WORKING GROUP.
Membership: Chairman should be WPAC panel member, not proponent but with local knowledge.
Members should be P.I.'s of the respective British, French, German, Japanese, Scripps and USGS data sets.

| | | |
|---|---|---|
| Suggested membership: | J. Gill (WPAC, UCSC, petrologist) | - Chair |
| | J. Hawkins (SIO, petrologist) | - or H. Craig |
| | Foucher (France, heat flow) | - or Sibuet or Maury |
| | J. Morton (USGS, MCS) | - or T. Vallier |
| | V. von Stackelberg (BGR, hydrothermal deposits | |
| | D. Cronan (U.K., metalliferous sediments) | - or R. White |
| | E. Honza (GSJ, geophysics ) | - or T. Eguchi |

Charges:

1) to integrate all the existing data, particularly petrology, bathymetry, magnetics, reflection seismics and heat flow.

2) to come back to us with a proposal for sites to address the problems of:

a) petrologic development of the Lau Basin, including transitions between lava types,

b) initial rifting

c) geothermal processes, and possibly

d) arc volcanic history (forearc site)

keeping in mind that we are not thinking of this as a leg for a bare rock hole

3) to do this in the context of one leg of drilling including downhole measurements, etc.

It is desireable for the first report of this group to be presented at our next (Nov/Dec?) meeting.

Leinen to revise existing Lau basin prospectus.

4.12 Bonin-Marianas

Four major objectives:
1) Backarc rifting (BON 1 & 2)
2) Forearc development (BON 3-6)
3) Serpentinite diapirs (BON 7, MAR 2 & 3)
4) Geochem. & SOHP reference site (BON 8)

Larson: Likely problems with drilling volcanoclastics? Tamaki: GSJ has had good experience with piston coring in Sumisu Rift. Taylor: Leg 60 had good drilling at sites 458 and 459 in Mariana forearc; BON 2 is isolated by rift edge uplift isolated from recent course arc volcanoclastics.
Panel: Are Mariana diapir holes really necessary? Taylor: Yes. Major omission (as unknown) from Leg 60 transect. Mariana diapirs bigger, more serpentinized (?), best studied, and in different position (near trench slope break) than Bonin lower slope diapirs.
Panel: Are all four Bonin forearc sites necessary; how can we meet essential goals while minimizing drilling time? Taylor: Lowest priority hole is Site 3 on the frontal arc high; next lowest is one of the two Mariana diapir holes, and third lowest is Site 4 on the upper forearc. Proposed MCS site survey is designed to define sites where objectives can be met in shorter drilling time. However, there is no way that all four objectives (or even three, if one of those is forearc developemtn) can be met in one leg. LITHP and TECP support two legs.
COMPROMISE: For voting on WPAC drilling priorities consider two legs:

Bonin Leg 1 = rifting and forearc objectives (sites 1, 2, 5A, 5B, 6 essential)

Bonin/Mariana Leg 2 = diapirs, reference site (and remaining forearc sites as time permits).

Taylor to modify prospectus to mention priorities and voting procedure. Pending SOHP reappraisal, Okada sites E and F are not a high priority and will not be included in prospectus.

4.13 Sulu Transect

For logistics reasons (imminent departure of 25% panel), the revision of this last prospectus was postponed until after the vote on the WPAC drilling program. It is included here for organizational simplicity.

Panel recommends refocussing of this prospectus on collision of Cagayan Ridge with Panay and, secondarily, Sulu Basin subduction at Negros Trench, with downplay of sites 6-8 looking at Sulu Arc and its possible reversal. Put in context of Philippine land geology and collage tectonics. Rangin to rewrite prospectus with input from Schluter.

5. VOTE ON WPAC DRILLING PROGRAM

Having reviewed the drilling prospectus for all areas (with the exception of the Sulu Transect noted above), and having agreed as a panel on the content of the drilling program in each area which we would support at this time, the 12 members of the panel then voted on their drilling priorities by ranking the 10 1/2 legs 1 through 11. Proponents of any leg, or portion thereof, could not vote for that leg, so each member's votes were reordered 11 through n + 1 (n = no. of non votes). The votes for each leg were first summed and then divided by the number who voted for that leg.

The resulting priority ranking was:

| | | |
|---|---|---|
| 1. | Bonin - 1 | 9.8 |
| 2. | Japan Sea | 8.6 |
| 3. | Sunda Backthrusting | 7.6 |
| 4. | Banda-Sulu-South China | 7.2 |
| 5. | Bonin-Mariana - 2 | 6.1 |
| 5. | Great Barrier Reef | 6.1 |
| 7. | Nankai | 6.0 |
| 8. | Lau Basin | 5.8 |
| 9. | Vanuatu | 5.7 |
| 10. | Zenisu (1/2 leg) | 5.1 |
| 11. | Sulu Transect | 2.6 |

Taylor notes that, these results are VERY consistent with WPACs previous rankings, even though the panel membership changed considerably, with only two exceptions:

a) the priority for drilling in the Sunda region rose considerbly (10th to 3rd) following requested refocusing of proposal on collision tectonics rather than toe processes.

b) passive margin drilling in the South China Sea was removed from the priority list following specific criticisms by TECP (with which WPAC agrees), and pending significant revision (data and model updates) by proponents.

6. REVIEW OF SITE SURVEY STATUS

Site survey requirements remain unchanged from last meeting.

Update on funded (and proposed) cruises in western Pacific:

France: 1987 MCS cruises to Sulu Sea and Vanuatu ($\geq$ 45 days total)

Germany: Feb.-April 1987 Sonne Seabeam and sampling in Lau Basin.
1987 MCS cruise to Sulu-southern South China Sea.

Japan: 1986 ORI:MCS Nankai
1987 ORI:MGG Mariana Trough (40 days), Japan Sea (14 + 60 days)

U.K.: Spring 1987: Washington Seabeam and sampling in Lau Basin.
Darwin cruise not yet scheduled.

U.S.: May-August ALVIN dives in Mariana-Bonins (Mariana: Trough axis and off axis, forearc diapirs, volcanic cross chains; Bonin:Sumisu Rift)
Proposals to NSF for Banda digital single-channel/Seabeam, Sunda MCS, Bonin MCS, Nankai two-ship MCS, Lau basin Seabeam/sampling/deep tow, Ontong Java Plateau SeaMARC/digital single channel. Funding decisions will be made before our next meeting.

At the request of SSP, WPAC assigns the following panel members as site survey watchdogs: Bonins - Taylor, Japan Sea - Tamaki, Sunda - Silver, Banda/Sulu/South China - Silver/Rangin, Great Barrier Reef - Sarg, Nankai - Taira, Lau - Gill, Vanuatu - Recy, Zenisu - Rangin/Taira, Sulu Transect - Rangin/Schluter.

7. CIRCUM PACIFIC CONFERENCE

The panel discussed the potential content of the WPAC poster session at the August meeting in Singapore. Suggested a regional map with arrows joining priority drilling areas to select color graphics/summary objectives. Taylor to contact individual proponents for input, e.g.:

Nankai - MCS from Taira
Sunda - model from Silver
Great Barrier Reef - seismics from BMR
Vanuatu - 3D bathymetry from Recy
- MCS from USGS?
Japan Sea - 3D bathymetry and cartoon with sites from Tamaki
Lau - bottom photos from von Stackelberg
- Valu Fa MCS?
Banda/Sulu/South China - geodynamics from Silver

8. NEXT MEETING

The next meeting is scheduled for December 13-15 in San Francisco. Taylor to request J. Ingle to host at Stanford. However Larson notes possible rescheduling of PCOM meeting to first week in December. In this event PCOM would request WPAC to meet in November. There was no period when all members could meet. Best compromise: 17-19 November in Tokyo following KAIKO conference and overlapping with TECP. This is definitely an undesirable alternative to many members, including chairman, and would place a significant burden on our Japanese hosts. Larson to sound out PCOM and get back to Taylor.

WPAC meeting concluded at 1700 on 21st June.

DRAFT

86/602

July 2, 1986



CEPAC MINUTES, PACIFIC GEOSCIENCE CENTRE, JUNE 9-10, 1986

CEPAC'S early summer meeting was held at the Pacific Geoscience Centre, (Energy, Mines, and Resources, Earth Sciences, Canada), Sidney British Columbia, on June 9 and 10, 1986.

Voting members attending were:

Earl Davis
Jean Francheteau
Hugh Jenkyns
Paul Johnson
Hakuyu Okada
Jacqueline Mammerickx
David Rea
David Scholl (acting chair)
John Sinton
Ulrich von Stackleberg

Non-voting participants were:

John Peirce (SSP)
Tom Shipley (PCOM)
Elliot Taylor (ODP)

## OPENING COMMENTS

Scholl opened the meeting with comments concerning the rapidly progressing plans for WestPac drilling, the implications for the needed pace of CEPAC planning, the circumstance that Dave Rea's temporary appointment as an NSF officer requires that he leave CEPAC, and that better guidelines and definitions of CEPAC's role and responsibilities had appeared--and will continue to appear--since our last meeting at SIO in February (24-25). Earl Davis of PGC, our host and newest CEPAC member (replacing Dick Chase), was introduce to all hands.

Dave Rea was asked to succinctly outlined the results of the recent (3-4 April) meeting of JOIDES Panel Chairmen (PANCHM) at OSU that affect CEPAC. At PANCHM it was determined that thematic panels should concentrate on defining important problems addressable by drilling, and regional panels on ranking and assembling thematically relevant drilling proposals into viable drilling legs.

## LIAISON AND WORKSHOP REPORTS RELEVANT TO CEPAC

### PCOM--Tom Shipley

Tom reported information about the coming COSOD-II meeting set for July, 1978, Strasbourg, France, and outlined some of the important topics that will be considered (e.g. potential changes in focus, riser drilling, etc). COSOD meeting

are held roughly every five years.

JOIDES policies concerning conflict of interest were explained, specifically that proposers who are members of an advisory panel must not participate in the discussion of drilling proposal for which they are a proponent, nor take part in voting on its merits.

Changes in CEPAC membership requested by CEPAC at our SIO meeting in February would be acted upon soon (many have been by this writing). PCOM also agreed with PANCHM that better liaison between thematic and regional panels was desirable. Tom explained that liaison members would not be voting members of the panels they visit.

Shipley emphasized that planning for the overall drilling program in the western Pacific is progressing rapidly, and in the near future recommended legs from WPAC would be approved. No decision about how much time will be devoted to CEPAC drilling has been reached. Uncertainty continues as to how the delayed EPR ($13^{o}$N) legs (3 of them--see minutes of our SIO meeting), originally scheduled for 1986, should be counted or infolded into the time to be devoted to Pacific drilling toward the end of this decade. PCOM also requested through Tom that CEPAC consider which of its high-priority drilling proposals could be interleaved with the WPAC drilling program.

ODP--Elliot Taylor

Elliot reviewed the successes of Leg 108, and the disappointment of bare-rock drilling on 109. On this latter leg only a few tens of meters of penetration was achieved, with about 13 percent recovery. The principal problem seemed to be the occurence of open fissures, which consumed cement in prodigious gulps. The baseplate functioned okay. It is presently not clear if bark-rock drilling problems will affect high-priority CEPAC drilling proposed at the EPR. More efforts are obviously needed.

Elliot explained that at Site 504B, 30 days are scheduled for hole deepening, 14 for logging, and 5 days for DHPC coring. The program of drilling along the Peru margin has been divided into 36 days for TECP objectives, 12 days for SOPH studies, and 4 common days. CEPAC seemed to be content with this division, and the fact that additional site survey would soon be underway from the Charcot. If Red Sea problems continue, drilling time originally scheduled for this area will be devoted to IO drilling somewhere--no chance that drilling time would be passed along to WPAC or CEPAC programs.

WPAC drilling is presently scheduled to start September 1988 (Leg 124); CEPAC drilling March 1990 (Leg 133).

SOPH--Dave Rea

Based on the minutes of SOPH's April meeting, CEPAC-related drilling objectives include:

1) High-latitude, complete section (e.g. Bering Sea)
2) Low-latitude plateaus (e.g. Ontong Java)
3) Old Pacific Mesozoic section
4) Atolls and guyots
5) Low-latitude Paleogene section

SOPH is scheduled to meet jointly with CEPAC in October (20-21-22), at Ann Harbor, Michigan. At this time CEPAC will be provide with a more specific lists of prioritized objectives from SOPH.

LITH--John Sinton

John noted that at LITH's last meeting the panel recommended the formation of a joint working group with CEPAC to better coordinate LITH-type drilling in the Pacific. If trouble develops at 504B (coming Leg 111), perhaps bare-rock drilling should be tried at the Galapagos Ridge. CEPAC drilling programs were only briefly discussed, but the following guidance was provided CEPAC concerning LITH's interests:

1) Magmatic processes and their temporal and spatial variation at mid-ocean ridges.
2) Hydrothermal processes at both sedimented and sediment-free ridges.
3) Deeper structure of the oceanic crust including pillow lava-dike and layer 2-3 boundary.
4) Mid-plate volcanism, seamount formation, and plate flexure.
5) Origin of oceanic plateaus.
6) Origin of Jurassic Quite Zone and vertical distribution of magnetization in ocean crust.
7) Mantle heterogeneity.

TECP--Dave Rea, and letter from Darrel Cowan

At their February meeting, TECP listed the following general themes as important ones for ODP to address:

1) Arc and forearcs--structure and evolution, fluid movements, dynamics of seamount offscraping and diapirism, etc.
2) Processes of collision and accretion--how occurs, timing, physical changes, deformation, etc.
3) Marginal basins--processes of rifting arcs and continental crust, how does early-stage rifting begin, etc.

More specifically directed at CEPAC, the following topics were listed as of interest to TECP:

1) Age and origin of crust in Aleutian Basin of Bering Sea.
2) Evolution of spreading systems and transforms in northcentral Pacific.
3) Thermomechanical behavior of oceanic plates; evolution of the Hawaiian moat.
4) Fracture zones; E Pacific and Nova Canton Trough.
5) Comparing geochemistry of sediments on descending plate with that of related arc; e.g. Aleutian.
6) Ridge-trench interactions; Chile triple junction.
7) Factors causing seaward or landward verging structures in accretionary prisms; Cascadia (BC-Wash-Ore).

Just prior to the PGC meeting, Darrel Cowan, Chairman of TECP, contribute a letter providing the following additional guidance for CEPAC's ranking of received proposals:

1) Dating of oceanic crust M-series anomalies and magnetic quite zones to test models of relative plate motions and calibrate anomalies.
2) Guyots and atolls to constrain plate motions
3) Lithospheric flexure, specifically the experiment that can be conducted adjacent to the Hawaiian Ridge.
4) Oceanic plateaus, the nature and age of basement rocks.

Other topics discussed in Darrel's letter that the TECP felt important but unsure about whether they could be addressed by drilling included: clastic dominated prisms, transcurrent margins, structures in oceanic crust (FZ, propogating rifts, fossil ridges, etc), ridge-trench interactions and collisions, and geochemistry of descending sediment and superjacent volcanoes. At their meeting in late October or November, TECP plans to finalize a white paper for PCOM summarizing their thematic recommendations for the Pacific.

NSF--Dave Rea

Dave Rea, who is temporarily at the NSF, noted that the ESF will become the sixth JOIDES partner. The 12 ESF member nations include Finland, Sweden, Norway, Denmark, Belgium, The Netherlands, Switzerland, Spain, Italy, Turkey, Greece, and Iceland. In the coming months ESF will select their representative for CEPAC, who, presumably, will attend our next meeting scheduled for October in Ann Arbor. The USSR may be a 7th partner by January, 1987. Australia may join with Canada.

Rea noted that funds to conduct all essential IO site surveys will be available.

John Peirce--SSP

John presented a table of site-survey data standards, and discussed problems related to receiving site survey information in a timely--and also useable--fashion. Concern was expressed about the problem of Navy-classified Seabeam data. For example, Kulm needs to advised SSP (this request was passed on) about what can or cannot be placed in SSP files. Similar problems exists for the western Pacific.

The JOIDES Resolution is acoustically noisy, and good-quality reflection profiles cannot be gathered at speeds much about 5 knots. CEPAC members were strongly united in recommending that something be done about this matter, which seems to be more related to technique than equipment limitations or ship-generated noise.

John advised CEPAC to be alert to obvious safty problems, and consider them when reviewing drilling proposals. John strongly recommended that CEPAC appoint a panel member to track drilling proposal selected for drilling for the purpose of being sure that site survey information is submitted timely and in proper form.

David Rea--PANCHM

Dave reviewed the essential deliberations and recommendations of the PANCHM meeting at OSU in April. Unfortunately, not all key people could attend or reach the meeting. Communication between the panels, their hierarchy and focus of responsibilities, and their effectiveness in working with PCOM and feeding information back to the earthscience community were major points of discussion. Abbreviated minutes had been previously distributed by Dave. Outcomes particularly affecting CEPAC included agreements that:

1) "thematic panels should identify important global themes and objectives and that regional panels should, using submitted proposals and their knowledge of major regional problems and the thematic guidelines, attempt to construct a drilling program that would best meet the combined set of objective";

2) thematic panels are to prepare a prioritize lists of objectives to be passed on to regional panels to guide their ranking procedures of received proposals;

3) regional panels consolidate proposals that can be logistically combined, and also identify "region-specific problems that may have been overlooked by the thematic panels";

4) regional panels will generated a strawman list of prioritized drilling objectives and locations for evaluation by the thematic panels in terms of meeting their objectives--after joint deliberations the list is passed on to PCOM for further action;

5) a timetable for ODP proposal submission was recommended that would require for CEPAC consideration:

| | BEFORE |
|---|---|
| i) receipt of drilling idea | 3/87 |
| ii) receipt of preliminary drilling proposal back by in-hand or funded site-survey work | 3/88 |
| iii) receipt of mature proposal | 9/89 |
| iv) start of regional drilling | 3/90? |

6) to effect communications and cooperation between thematic and regional panels, that regional members be added as liaison members to thematic panels, and that CEPAC and thematic panels hold joint meetings well in advance of on-coming drilling programs.

Dave concluded his presentation by noting that the panel chairmen felt that dual-objective legs are troublesome--for many obvious reasons--and should be avoided.

Jacqueline Mammerickx, South Pacific Workshop

Jacqueline reported that the SOPAC Workshop ranged widely in subject matter and areal interest. Scientific drilling was proposed for regions and objectives as different as the Ontong Java Plateau, the "old Pacific", and the Ross Sea. Evidently, drilling proposals for the SOPAC region will be stimulated and submitted for CEPAC's considerations.

John Sinton--Seamount Workshop

Good consciences was reached at the Seamount Workshop on the importance of investigating by drilling:

1) flexural loading and thermal rejuvenation--e.g. Hawaiian Ridge.
2) Volcano anatomy and hydrothermal processes--e.g. at a young volcano near the Hawaiian Ridge (Loihi)
3) Post volcanic history--e.g. guyot subsidence, etc

Old Pacific Workshop

It seemed to CEPAC members that an OLDPAC workshop (M-series crust) was a worthy idea, but little resolute action to organize one had been taken. To be effective in terms of focusing thinking and generating drilling proposals, an OLDPAC workshop would have to be held soon.

## EFFECTS OF BETTER DEFINED CEPAC RESPONSIBILITIES, RANKING CRITERIA, PANEL WORK LOAD, AND CHANGING MEMBERSHIP AND CHAIRMAN

Scholl opened for discussion three issues facing CEPAC that effect how it functions and carries out its responsibilities in a timely manner.

(1) Issue one concerns the recommendations and agreements reached at the PANCHM meeting, and subsequent instructions from PCOM, that require the thematic panels to provide CEPAC with a prioritized lists of scientific objectives. How well a particular drilling proposal meets these objectives is to be the major basis for its ranking by CEPAC. Lists of generalized objectives--extracted mainly from the minutes of the thematic panels--were circulated for reading. Although useful, CEPAC members expressed frustration about the generalness of the guidance. But, it was realized, the thematic panels have not had ample time completed their lists of prioritized objectives pertinent to the CEPAC area. Thus, for at least the coming two meetings, CEPAC will not have full guidance in matters of scoring and ranking proposals.

(2) Issue two concerns the fact that as CEPAC gears up for important work at its next meeting, significant panel rotation is taking place and a new chairman will have just been appointed to guide our actions. Compounding this circumstance is the loss of Dave Rea from any official panel function. Five new members will join the panel at Ann Arbor--roughly 45 percent of the

panel. Efficient work at our October meeting will be hindered by leaning-curve climbing. The panel agreed that the Ann Arbor meeting would be an interesting time.

Scholl agreed to do what he could to speedily communicate essential matters to the new members--especially while a chairman is being selected (done--by phone--as of this writing). He also agreed to contact the chairmen of the thematic panels and talk about specific high-priority objectives (in part completed). Roger Larson will also be contacted (done) for the purpose of urging him to (1) speed up the appointment process for both the chairman to replace Dave Rea and the petrologist to replace John Sinton, and (2) consider other ways to assist CEPAC manage its responsibilities; perhaps, most importantly, by heeding the recommendation of PANCHM to "slow down and do things right".

(3) Issue three concerns how the changing role of the regional panels translates into work for CEPAC-especially in terms of proposal reading, discussion, scoring and ranking, and the assembly of drilling legs. The new guidelines mean that our past rankings, which were based on meeting COSOD objectives and our subjective views of the scientific importance and soundness of a drilling theme or drilling packages, will have to be reconsidered (see Table 2, attached)

The panel reviewed the fact that at our Roche Harbor meeting (Sept 25-26/85), CEPAC's first attempt at ranking was a ranking based on the concept of drilling themes--ranking was not based on received proposals. At our subsequent Scripps meeting (Feb 24-25/86), two ranking processes took place. The first ranking was by drilling packages, which were constructed around the thematic concepts and related proposals (received to date) that fell within broadly defined operational regions (Table 2). Individual proposals were not scored or ranked.

The second ranking was carried out in response to a request from PCOM to define 2-, 1.5, and 1-year drilling programs. Drilling legs based on a combination of ranked drilling packages and ranked drilling themes (whether or not pertinent proposals had yet been received for them) were assembled and prioritized.

It was explained to CEPAC members that all proposals should now be scored individually in terms of the prioritized objectives listed for CEPAC by the thematic panels. Highly-ranked proposals (i.e. those that receive high, panel-averaged scores) will thereafter serve as the basis for designing drilling legs, which, after consultation and conferences with the thematic panels, will be recommended to PCOM for action.

Discussions continued concerning the fact that--for the purpose of scoring proposals in a fashion consistent with evolving guidance--CEPAC's must retrace some of its steps and reexamine the 14 proposals considered initially at our February meeting at Scripps (Table 2). Proposals at the Scripps meeting were not individually scored in terms of criteria supplied by the thematic panels. These same procedures will be carried out for all proposals since received, and evidently as far into the future as March 1988 (based on PANCHM's timetable).

Completion of these discussions was announced by the crunching sound of 10 sets of 12 drilling proposals deposited on the conference table for discussion, scoring, and ranking. Nine

of these proposals had not been seen by panel members. Because of the work in front of us, it was announced that reexamination and scoring of the 14 proposals initially discussed at Scripps would be delayed until CEPAC's October meeting in Ann Arbor.

Considerable frustration was aired by panel members for the sudden appearance of 9 new proposals. With apologize offered, the acting chair explained that confusion attending the loss of Dave Rea as chairman, appointment of Dave Scholl as an acting chairman without portfolio while a permanent one was sought, attendant miscommunications concerning who receives, copies, and distributes drilling proposals to CEPAC members, and the late arrival of several drilling proposals, conspired to produce this circumstance. To compound matters, insufficient time had obviously been planned to deal fully with CEPAC's new proposal ranking and leg-assembly responsibilities. More apologies were offered, and the same explanations were offered to account for the circumstance. It was agreed by all members that the Ann Arbor meeting should be planned for three days, which ought to be sufficient time to adequately discuss, score, and rank the Scripps proposals as well as all those received during the coming summer months.

## PROPOSAL DISCUSSIONS SCORING AND RANKING

Because many of the proposals had not been previously read by panel members, panel members were allow 15-20 min to privately read each proposal. After the reading, the proposal was open for discussion before the full panel for an additional 15-20 min.

Three proposals arrived without having passed through PCOM for log-in, number assignment, and official distribution to the advisory panels. Rather than delaying their consideration until the Ann Arbor meeting, which promises to provide opportunities to consider the merits of 10-15 newly submitted proposals, the acting chair directed the panel to read and discuss them for the purpose of providing an initial scoring and ranking.

A 4-point scoring system was used, as in golf, the lower the score the higher the rating. The panel-average score, and relative rank, of the 12 proposals are listed below:

| | | SCORE | RANK |
|---|---|---|---|
| 1) | 221E: Pisias; late Ceno equatorial paleoenvir. | 2.5 | 5 |
| 2) | 222E: Kroenke; Ontong Java, origin, sed, tect hist. | 1.5 | 2 |
| 3) | 224E: Lyle; Escanaba Trough, sedimented zero-age crust. | 2.8 | 7 |
| 4) | 225E: Cooper; Aleutian Basin, Sounder Ridge, Tect hist. | 2.7 | 6 |
| 5) | 227E: Vallier; Aleutian Ridge, sinking-frag hist | 3.4 | 10 |
| 6) | 229E: Cooper; Beringian margin, tech + strat hist. | 3.2 | 9 |
| 7) | 231E: Mammerickx; North Pac quite zone hist reconstr. | 1.9 | 3 |
| 8) | 232E: Davis; High temp zero age sedimented JDF ridge. | 1.1 | 1 |
| 9) | 233E: Kulm; Oregon accret. wedge fluids & struct. evol. | 1.9 | 3 |
| 10) | 237E: Brandon; Struct. evol. decollement, Vancouver margin | 2.2 | 4 |
| 11) | ---Y: Heller; Yakutat, Zodiak Paleogene ss geochemistry | 3.9 | 11 |
| 12) | ---Z: Pisias; Northeast Pac (INPAC) paleocean-paleoenvir. | 2.9 | 8 |

Discussions began as to the implications of a very low (high number) score. Should, for example, a proposal with a score greater than 3 be removed from all further considerations, should the proponents be alerted to this fact and told why their proposals was low rated, should they be encouraged to submit a revised one? Who provides feedback to proponents? What is said or done when a low-rated proposal will likely be drilled because its objectives will be met at no-cost because a more highly ranked proposal will lead the way?

## STRAW VOTE FOR CEPAC DRILLING LEGS

Discussions were engaged concerning the fact that at each of the last two CEPAC meetings balloting was carried out to determine the panel's currently favored drilling themes or drilling packages. Because these rankings were carried out with little benefit of guiding criteria from either the thematic panels or PCOM, some CEPAC members expressed apprehension over matters of fairness and the potential misapplication of the results--not wanting to discourage the submission of proposals or in any way imply that we had completed our deliberations. Despite these anxieties, for the purpose of provide ourselves, the thematic panels, and PCOM a view of our collective thinking, panel members agreed to take a straw vote on drilling packages they currently most favored.

The voting concept was to select, by listing, the most favored drilling packages, which are closely related to drilling legs. A drilling package either isolates a thematic objective or groups operationally related proposals that are at least somewhat thematically aligned. The straw vote also considered scientific objectives or themes that, as yet, are not backed by a relevant proposal. The results of the straw vote are tabulated below:

| Drilling Package | Number of times listed on ballots (10 voting members) | Rank |
|---|---|---|
| 1) EPR 13° fast spreading | 10 | 1 |
| 2) Ontong Java Plateau (excluding collision) | 10 | 1 |
| 3) North Pacific Paleoplate reconstructions | 10 | 1 |
| 4) Atolls and guyots | 9 | 2 |
| 5) Northeast Pacific (INPAC) convergence | 9 | 2 |
| 6) Juan de Fuca Ridge system sedimented rift | 9 | 2 |
| 7) North Pacific paleocean-envir-climate | 8 | 3 |
| 8) Bering Sea paleocean-envir and tectonics | 7 | 4 |
| 9) Equatorial Pac paleocean-envir | 7 | 4 |
| 10) Crustal flexure--Hawaiian moat | 6 | 6 |
| 11) Old Pacific crust and seds | 5 | 5 |
| 12) Gulf of California | 5 | 5 |
| 13) Northeast Pacific (INPAC) paleocean-envir | 5 | 5 |
| 14) Aleutian convergence | 5 | 5 |
| 15) Chile triple junction | 3 | 6 |
| 16) Costa Rica convergence | 1 | 7 |
| 17) California margin | 1 | 7 |
| 18) Gulf of Alaska sed and tectonics | 1 | 7 |

At the PGC meeting CEPAC recognized 19 drilling packages (see attached Table 1). The above straw-vote ranking combined two of them (Bering Sea paleocean-envir. with Bering Sea tectonics) in one drilling package. Thus, effectively, all packages received at least one vote.

General discussion of the results implied that only those packages receiving at least 5 out of a potential 10 votes (meaning that 50 percent of the voting members listed the drilling package as an important or vital part of a CEPAC drilling program, see attached Table 2)) ought to be considered in the formulation of a drilling leg. Also, only the most highly ranked proposals within these packages would be recommended for drilling. It was recognized that the objectives of low-ranked proposals might be achieved at drilling sites designated by more highly favored proposals, which thematically and operationally dominate the highly rated drilling packages.

The straw vote shows that at least 14 drilling packages are identified as favored for further consideration. Because the EPR bare-rock drilling package will require 3 legs to complete (see minutes of SIO meeting, 2/86), the number of drilling legs identified is actually 16. This translates to 2.7 years of drilling in the CEPAC region.

Discussions arose concerning the original multileg commitment to start EPR drilling, drilling that was to have been initiated this year. No vote was taken about how to instruct PCOM on this matter, but the consensus feeling of the panel seemed to be that the highly-ranked EPR zero-age drilling should be done, but not as a heavy compromise to the 13 other (as identified above) packages that received more than 50 percent of the votes cast.

If the two drilling legs originally recommend (see minutes of Menlo Park meeting, 3/85) for initiation of EPR drilling are carried forward and not counted against future Pacific drilling, then CEPAC's straw vote has identified the needed addition of 14 new legs (including a third EPR leg identified at our Scripps meeting, 2/86) to carry out a scientifically sound and exciting scientific drilling program in the central and eastern Pacific region.

## INTERLEAVING OF WPAC AND CEPAC DRILLING

Discussions held to advise PCOM about highly-rated drilling proposals that might be operationally interleaved with WPAC drilling identified Ontong Java proposals 142E and 222E, and atoll and guyot proposals 202E and 203E (see Table 1). It was recommended that the collision aspect of proposal 222E not be attempted, but rather that Ontong Java drilling be devoted to SOPH-type studies and the clarification of the origin of the plateau's igneous crustal rocks.

The panel noted with regret that we have received few proposals for CEPAC's south Pacific region. Hopefully, the South Pacific workshop will spawn a number of them for our consideration.

## FUTURE MEETINGS

The next meeting is scheduled for October 20, 21, and 22, at the University of Michigan, Ann Arbor. In the spirit of Halloween, Dave Rea will be our ghostly host. Adhering to the recommendations of PANCHM, SOPH also plans to assemble at Ann Arbor; a joint meeting with them is tentatively planned for the afternoon of the 21st.

Final discussions at the PGC meeting concerned the general CEPAC agenda for the Ann Arbor meeting and the budgeting of sufficient time to complete it. The agenda will roughly be:

| | | |
|---|---|---|
| Monday, Oct 20: | morning---- | general business and liaison reports. |
| | : afternoon-- | discussion of scoring criteria, discussion and scoring of previously unscored proposals |
| Tuesday, Oct 21: | morning---- | discussion and scoring of new proposals |
| | : afternoon-- | joint meeting with SOPH |
| Wednesday, Oct 22: | morning---- | continuation of proposal discussions and scoring; ranking of all proposals |
| | : afternoon-- | ranking of drilling packages, formulation of drilling legs |
| | : evening---- | earliest departure home |

TABLE 1
CEPAC DRILLING PACKAGES (UNRANKED ORDER)

| Package No. | Descriptive Title | Involved Proposals | Proponent and Description |
|---|---|---|---|
| 1 | EPR 13°N zero-age crust | 76E: | Francheteau; barerock drilling, several L-shaped drilling patterns |
| 2 | Bering paleoenvironment | 182E: | Taira; Kula plate stratigraphy, Sounder Ridge |
| | | 195E: | Sancetta; Paleoenvir-climate, BS Cenozoic stratigraphy. |
| | | 229E: | Cooper; stratigraphic record, Beringian margin |
| | | 211B: | SOPH; deep stratigraphic test, Sounder Ridge. |
| 3 | Atolls and Guyots | 202E: | Schlanger; carbonate banks, paleocean, tectonics; Marshals. |
| | | 203E: | Winterer; guyot drowning problems, central Pacific. |
| | | 4E: | Okal:Tuamotos, constrain models of origin. |
| 4 | Old Pacific, Jurassic and young volcanism and strat. | 211B: | SOPH; deep stratigraphic test, Nauru, Mariana Basin, central Pacific |
| 5 | North Pac paleoenvironment | 199E: | Janecek; pelagic seds subarctic gyre |
| 6 | Hawaii moat & flexure | 3E: | Watts; loading of lith study |
| 7 | Chile 3-juncture & paleocean. | 8E: | Cande; effects of collision Chile Ridge and margin |
| | | 153E: | Hayes; Neog. hist. seaward of trench |
| 8 | Ontong-Java carbonates | 142E: | Mayer; depth transect, CCD studies |
| | | 222E: | Kroenke;tectonics, petrology, geochem |
| 9 | Gulf of California | 75E: | Becker; complete transects, & hydrothermal studies Guayamas Basin |
| 10 | Bering tectonic evolution | 207E: | Rubenstone; Aleutian-Bering Sea evolution |
| | | 229E: | Cooper; Tectonic history Beringian margin |
| | | 225E: | Origin Bering Sea, Sounder Ridge |
| 11 | Aleutian convergence | 213E: | McCarthy; Accretionary processes, high underthrust rates & sedimentation |
| | | 214E: | Ryan; Attachment accretionary wedge, how, when, and why |
| | | 227E: | Vallier; sinking & fragmentation of Aleutian Arc, when and causes. |

TABLE 1 (cont)
CEPAC DRILLING PACKAGES (UNRANKED)

| Package No. | Descriptive Title | Involved Proposals | Proponent and Description |
|---|---|---|---|
| 12 | Costa Rica convergence | 37E: | Shipley; accretionary processes test of duplex model |
| 13 | California margin | 212E: | Greene; evolution margin, when change subduction to transform, & fan evol. |
| 14 | Gulf of Alaska | 210E: | Lagoe; moveement and emplacement hist. of Yakutat block, time of outbreak of glaciation, Gulf of Alaska drainages |
| | | 192E: | Stevenson; Baranof Fan, regional tect and sed implications |
| | | ----: | Heller; Yakutat block, Zodiak Fan geochem of Paleogene sources |
| 15 | Equatorial Paleoenvironment | 221E: | Pisias; Late Cenozoic equatorial paleoenvironment |
| 16 | Sedimented Juan da Fuca Ridge system | 224E: | Lyle; Escanaba Trough, volanic hist. sediment alteration studies |
| | | 232E: | Davis: Zero-age age high-temp alteration studies |
| 17 | North Pacific reconstructions | 231E: | Mammerickx; age determination superchron crust |
| 18 | Northeast Pacific convergent margins (INPAC) | 233E: | Kulm; fluid processes and structural evolution, Oregon margin |
| | | ----: | Brandon; structural evolution of decollement at thickly sedimented margin |
| 19 | Northeast Pacific (INPAC) paleocean-environment | ----: | Pisias; regional NE Pac paleocean-environ and boundary current hist. |

TABLE 2
HISTORY OF PROPOSAL REVIEWING AND SCORING
(Exclusive of those to be drilled in 1986)

| Proposal No. | Lead Proponent and Description | Where Reviewed | | Score[1] | Score, Rank, or Straw vote power[2] of Including Drillin; Theme (DT) or Package (DP);& Commen |
|---|---|---|---|---|---|
| 3E | Watts: Hawaii lith flex & loading | SIO | 2/86 | 1.7 | 1.7 (1 prop in DT) |
| | | PGC | 6/86 | ---- | 60% Straw vote DP (1 prop in DP) |
| 4E | Okal: Tuamotos, model constraints | Oxford | 9/84? | ---- | Not rated highly. |
| | | Roche Harbor | 9/85 | 2.7 | 2.7 (1 prop in DT) |
| | | SIO | 2/86 | ---- | 1.5 (3 props in DP) |
| | | PGC | 6/86 | ---- | 90% straw vote (3 props in DP) |
| 8E | Cande: Chile Triple junc. | Oxford | 9/84 | ---- | Liked, but no recommended |
| | | Menlo Park | 3/85 | ---- | " " " " |
| | | Roche Harbor | 9/85 | 1.9 | 1.9 (1 prop in DT) |
| | | SIO | 2/86 | ---- | 1.8 (2 props in DP) |
| | | PGC | 6/86 | | 30% straw vote DP (2 props in DP) |
| 37E | Shipley: Costa Rica convergence--duplex | Oxford | 9/84 | ---- | Not ranked high for first Pac drilling |
| | | Roche Harbor | 9/85 | 2.8 | 2.8 (1 prop in DT) |
| | | SIO | 2/86 | 3.2 | 3.2 (1 prop in DP) |
| | | PGC | 6/86 | ---- | 10% straw vote DP (1 prop in DP) |
| 75E | Becker: Gulf of Calif., Guayamas Basin | Menlo Park | 3/85 | ---- | Recommended as important future Pac drilling |
| | | Roche Harbor | 9/85 | 1.8 | 1.8 (1 prop in DT) |
| | | SIO | 2/86 | 2.3 | 2.3 (1 prop in DP) |
| | | PGC | 6/86 | ---- | 50% straw vote DP (1 prop in DP) |
| 76E | Francheteau: Zero-age crust, EPR 13°N | Oxford | 9/84 | ----- | Highly ranked for first Pac drilling |
| | | Menlo Park | 3/85 | ----- | Two drilling legs highly ranked |
| | | Roche Harbor | 9/85 | 1.2 | 1.2 (1 prop in DT) |
| | | SIO | 2/86 | 1.1 | 1.1 (1 prop in DP) |
| | | PGC | 6/86 | ----- | 100% straw vote DP (1 prop in DP) |

1/ Panel average score, scoring from 1 to 4; 1 = most favored, 4= least favored.
2/ Reflects percent of panel members (10 ) listing a drilling package, which includes one or more drilling proposals, as one of their most favored packages for assembling one or more drilling legs.

TABLE 2 (cont)
HISTORY OF PROPOSAL REVIEWING AND SCORING
(Exclusive of those to be drilled in 1986)

| Proposal No. | Lead Proponent and Description | Where Reviewed | | Score[1] | Score, Rank, or Straw vote power[2] of Including Drillin; Theme (DT) or Package (DP);& Commen |
|---|---|---|---|---|---|
| 142E | Mayer: CCD depth transect, Ontong Java P. | Roche Harbor | 9/85 | 2.2 | 2.2 (1 prop in DT) |
| | | SIO | 2/86 | 2.0 | 2.0 (1 prop in DP) |
| | | PGC | 6/86 | ----- | 100% straw vote DP (2 props in DP) |
| 15?E | Hayes: Neogene strat record, east of Chile Trench | Roche Harbor | 9/85 | 2.8 | 2.8 (1 prop in DT) |
| | | SIO | 2/86 | 1.8 | 1.8 (2 Props in DP) |
| | | PGC | 6/86 | | 30% straw vote DP (2 props in DP) |
| 182E | Taira: Kula plate strat. Bering Sea Sounder Ridge | SIO | 2/86 | ---- | 1.4 (3 props in DP) |
| | | PGC | 6/86 | ---- | 70% straw vote DP (7 props in DP) |
| 192E | Stevenson: Baranof Fan tect and sed. | SIO | 2/86 | ---- | 3.5 (3 props in DP) |
| | | PGC | 6/86 | ---- | 10% straw vote |
| 195E | Sancetta: Bering Sea Ceno paleocean-envir | SIO | 2/86 | ---- | 1.4 (3 props in DP) |
| | | PGC | 6/86 | ---- | 70% straw vote DP (7 props in DP) |
| 199E | Janecek: pelagic seds subarctic gyre | SIO | 2/86 | 1.7 | 1.7 (1 prop in DP) |
| | | PGC | 6/86 | ---- | 80% straw vote (1 prop in DP) |
| 202E | Schlanger: Atoll & guyots evol. northern Marshals | SIO | 2/86 | ---- | 1.5 (3 props in DP) |
| | | PGC | 6/86 | ---- | 90% straw vote (3 props in DP) |
| 203E | Winterer: Atolls & guyots, central Pacific | SIO | 2/86 | ---- | 1.5 (3 props in DP) |
| | | PGC | 6/86 | ---- | 90% straw vote (3 props in DP) |
| 207 | Rubenstone: Tect Evol. Aleutian-Bering Sea region | SIO | 2/86 | 2.9 | 2.9 (1 prop in DP) |
| | | PGC | 6/86 | ---- | 70% straw vote (7 props in DP) |
| 210 | Lagoe: Yakutat blocks, movement hist, GOA glac. | SIO | 2/86 | ---- | 3.5 (2 props in DP) |
| | | PGC | 6/86 | ---- | 10% straw vote (3 props in DP) |

TABLE 2 (cont)
HISTORY OF PROPOSAL REVIEWING AND SCORING
(Exclusive of those to be drilled in 1986)

| Proposal No. | Lead Proponent and Description | Where Reviewed | Score[1] | Score, Rank, or Straw vote power[2] of Including Drillin; Theme (DT) or Package (DP);& Commen |
|---|---|---|---|---|
| 211B | SOPH: Deep Strat. Test Bering, Mariana, Naru Basins | SIO 2/86<br>PGC 6/86 | 1.5<br>---- | 1.5 (1 prop in DP)<br>50% straw vote (3 props in DP for "old Pacific", Bering site--Sounder Ridge--folded into DP for total Bering Sea, which includes 6 other proposals; BS DP received 70% straw vote support) |
| 212E | Greene: North & central Calif. margin subduc -transform, & fan hist. | SIO 2/86<br>PGC 6/86 | 3.4<br>---- | 3.4 (1 prop in DP)<br>10% straw vote (1 prop in DP) |
| 213E | McCarthy: Aleutian subduct. fast-rates accretion processes | SIO 2/86<br>PGC 6/86 | ----<br>---- | 3.0 (2 props in DP)<br>50% straw vote (3 props in DP) |
| 214E | Ryan: Aleutian forearc evol | SIO 2/86<br>PGC 6/86 | ----<br>---- | 3.0 (2 props in DP)<br>50% straw vote (3 props in DP) |
| 221E | Pisias: Late Cenoz equat. paleocean-environ. | PGC 6/86 | 2.5 | 70% straw vote (1 prop in DP) |
| 222E | Kroenke: Ontong Java Plat. strat, crust, collision | PGC 6/86 | 1.5 | 100% straw vot- (2 props in DP) |
| 224E | Lyle: Escanaba Trough, zero-age sediment rift | PGC 6/86 | 2.8 | 90% straw vote (2 props in DP) |
| 225E | Cooper: Aleutian Basin origin--Sounder Ridge | PGC 6/86 | 2.7 | 70% straw vote (7 props in DP) |
| 227E | Vallier: Aleutian Arc, Sinking and fragmentation, time and cause | PGC 6/86 | 3.4 | 50% straw vote (3 props in DP) |
| 229E | Cooper: Beringian margin tectonic evol and strat | PGC 6/86 | 3.2 | 70% straw vote (7 props in DP) |
| 231E | Mammerickx: North Pac quite zone plate reconstr. | PGC 6/86 | 1.9 | 100% straw vote (1 prop in DP) |

TABLE 2 (cont)
HISTORY OF PROPOSAL REVIEWING AND SCORING
(Exclusive of those to be drilled in 1986)

| Proposal No. | Lead Proponent and Description | Where Reviewed | Score[1] | Score, Rank, or Straw vote power of Including Drilling Theme (DT) or Package (DP);& Comment[2] |
|---|---|---|---|---|
| 232E | Davis: Jan de Fuca Ridge, zero-age sedimented Middle Valley | PGC 6/86 | 1.1 | 100% straw vote (2 prop in DP) |
| 233E | Kulm: Oregon accretion, fluid movements and struct. growth | PGC 6/86 | 1.9 | 90% straw vote (2 prop in DP) |
| 237E | Brandon: Vancouver convergent margin, decollement | PGC 6/86 | 2.2 | 90% straw vote (2 prop in DP) |
| ---? | Heller: Yakutat block, Zodiac fan, source terranes of Paleog ss, geochem study | PGC 6/86 | 3.9 | 10% straw vote (3 props in DP) |
| ---? | Pisias: Northeast Pac paleo-cean-environ, boundary currents | PGC 6/86 | 2.9 | 50% straw vote (1 prop in DP) |

JOIDES PLANNING COMMITTEE

## SHORT-TERM PLANNING
## (up to Leg 114)

A. Leg 112

1. It should be noted that PPSP will meet on 6-7 August to review Leg 112 sites. Some doubts as to the safety of the deeper objectives at Site 3 has been expressed by the Site Survey Panel. Also, additional alternative sites may be necessary if the very shallow SOHP holes are technologically undrillable.

2. **PCOM is asked to note that revisions to the Leg 112 drilling plan may be necessary dependent on the PPSP review and the drillability of the shallow water SOHP holes.**

B. Leg 113

3. At its May meeting, PCOM adopted the priorities for Leg 113 as set out by SOP and SOHP. This was W1, W2, and W4 as the first priority. In determining the second priority sites PCOM adopted the SOP recommendations of W5, W6, W7, W8, and W10 (in preference order). PCOM further asked that W5 be re-located to an area of thinner turbiditic beds and asked SOP to re-examine the relative priority of W5 and W5A against W6-W8.

4. SOP will not meet to discuss this issue until late November although the SOP chairman is in contact with the SOHP chairman on the matter of W5 and W5A.

5. On the matter of Weddell Sea priorities, the SOHP chairman writes:

> "I am pleased with PCOM's action on the Weddell Sea program and agree with you that it will prove to be an exciting leg. The SOHP shared your concerns about Site W5 and therefore rated it lower in its prioritization. We also were concerned about sites W6, W7, and W8 because of the paucity of carbonate in material covered from this region and site survey results that indicate incomplete sections. Of the W6-W8 transit we felt that W7 had the best chance of yielding a fairly complete record and thus prioritized these sites as W7, W5, W6, W8. We were intrigued by the recent POLAR STERN site survey results in the area of W10 (indicating potentially high temperatures and therefore a chance to look at the thermal alteration of young sediment) and thus raised its priority above that of W7. Our highest priority sites remain identical to those of the SOP: W1, W2, and W4. While I do not have the material necessary to select alternate sites for W5, I will be in contact with Jim Kennett and hopefully we can present a uniform front."

6. **In the light of the above, PCOM is asked to reconsider or reaffirm the relative priority of sites W5, W6, W7, W8, and W10.**

C. Leg 114

7. At its previous meeting PCOM confirmed that sites SA8, SA2, SA3, and SA5W are the primary scientific objectives for Leg 114.

8. It should be noted that site surveys of the western basin sites will be carried out on POLAR DUKE in Fall 1986. Surveys of the eastern basin sites will be carried out from CONRAD between 10-24 November. The lateness of this survey severely compresses JOIDES reviews and pre-cruise planning in that data will not be available until early December when it will be necessary to schedule SOP, SSP, and PPSP reviews as well as co-chiefs' planning meetings.

9. **PCOM is asked to note the situation with regard to Leg 114.**

**A.E.S.M.**

# 1986
# ODP OPERATIONS SCHEDULE
# OCEAN DRILLING PROGRAM
# Legs 107-113

| LEG | DEPARTS LOCATION | DATE | ARRIVES AT DESTINATION | DATE | IN PORT |
|---|---|---|---|---|---|
| 107 | Malaga, Spain | 1 Jan 1986 | Marseilles, France | 18 Feb | Feb 18-22 |
| 108 | Marseilles, France | 23 Feb | Dakar, Senegal | 21 April | April 21-25 |
| 109 | Dakar, Senegal | 26 April | Barbados, West Indies | 20 June | June 20-26 |
| 110 | Barbados, West Indies | 26 June | Barbados, West Indies | 16 Aug | Aug 16 |
| 111T | Barbados, West Indies | 17 Aug | Panama, Panama | 23 Aug | Aug 23-27 |
| 111 | Panama, Panama | 28 Aug | Callao, Peru | 21 Oct | Oct 21-25 |
| 112 | Callao, Peru | 26 Oct | Callao, Peru | 19 Dec | Dec 19-21 |
| 112T | Callao, Peru | 22 Dec | Punta Arenas, Chile | 2 Jan 1987 | Jan 02-03 |
| 113 | Punta Arenas, Chile | 04 Jan | Falkland Islands | 10 Mar | Mar 10-14 |
| 114 | Falkland Islands | 15 Mar | Mauritius | 10 May | May 10-14 |

Revised 7/2/86
LEG

## MEDIUM-TERM PLANNING
## (Legs 115-123: Indian Ocean)

### A. General

1. At its May meeting, PCOM proposed the following options for Indian Ocean Drilling:

| | | Prime Option | Alternate |
|---|---|---|---|
| May/June 1987 | 115 | SWIR | SWIR |
| Jul/Aug | 116 | Red Sea | Intraplate Def.& N.90°E Ridge |
| 90 days division to be determined | 117 | Neogene I | Makran |
| | 118 | Makran | Neogene I |
| Dec/Jan 1988 | 119 | Kerg. I | Kerg. I |
| Feb/Mar | 120 | Kerg. II | Kerg. II |
| Apr/May | 121 | Broken Ridg/ S.90°E | Broken Ridg/ S.90°E |
| June/July | 122 | Intraplate Def. & N. 90°E | Argo/Exmouth |
| Aug/Sept | 123 | Argo/Exmouth | ? |

These schedules have been referred to the thematic panels, IOP, and SOP for detailed planning. IOP and SOP were asked to establish a joint ad hoc working group for detailed planning of the Kerguelen legs and SOHP was asked to consider the need for a possible extension of Argo/Exmouth drilling and its priority relevant to other proposed deep holes such as the Great Barrier Reef proposal.

2. In addition to comments on the scientific planning, panels were asked to nominate co-chief scientists for Indian Ocean drilling. At the time of writing, the only co-chief nominations received have been from TECP and IOP. At this time, the only reports received are from TECP and IOP.

### B. SWIR

3. Site surveys for Leg 115 will be undertaken from CONRAD between 2 October-6 November 1986. Hinz offered to run 2/3 days MCS surveys in

the area in summer 1986 (see TECP minutes). DMP will consider the downhole experiments program at its late July meeting.

4. IOP concurs with the revised H. Dick et al. site survey and drilling proposals. They also concur that the seismic experiment should be planned for with a re-entry cone but deferred to a later time. They expect basalt rubble to be the worst drilling problem and concur with SSP in recommending a deep-towed pinger survey of the sediment ponds, as well as selected camera runs.

5. IOP recommends Von Herzen, Dick, Natland, Robinson, Malpas, and Bostrom as potential co-chiefs for SWIR.

   TECP recommends Von Herzen.

6. **PCOM is asked to note the site survey status for Leg 115 and recommendations expected from DMP and LITHP, and to make co-chief recommendations for SWIR.**

C. Red Sea

7. Although included in the prime option, the Red Sea drilling was considered dropped due to political uncertainties over clearance and the site survey status of drilling.

8. Since the May meeting, the UK has failed to obtain clearance for site surveys from Saudi Arabia by DARWIN and this adds to the list of difficulties experienced by ships from France and FRG. Furthermore, it throws in doubt the viability of certain sites (such as the Bannock Deep) for which SSP considered DARWIN surveys essential.

9. An update of the Red Sea site survey situation (by Brenner and Cochran) is appended. Cochran has said that he considers that there is sufficient site survey data to sustain a full leg of Red Sea drilling and IOP has endorsed this and recommends that PCOM confirm the prime option for inclusion of the Red Sea in the Program. Other views have been put forward suggesting that there are only 25 days drilling based on current site survey data. It is hoped that a statement from the SSP chairman will be available for the meeting.

10. TECP suggests Cochran, Bäcker, Pautot, and Bonatti as co-chiefs for the Red Sea.

    IOP Suggests Cochran, Bonatti, Bäcker, Guennoc, and Pautot as co-chiefs for the Red Sea.

11. **PCOM is asked to consider the current site survey situation and political clearance difficulties for Red Sea drilling and to decide whether to include Red Sea drilling in the Indian Ocean Program. If included, co-chiefs should be recommended.**

D. Neogene I

12. Neogene I was included in both the prime and the alternate programs for Indian Ocean drilling. The Indian Ocean Panel strongly endorses the Neogene I package but suggests reducing the Indus Fan drilling from two sites to one and using the time gained to deepen one or two of the Owen Ridge holes.

The SOHP Chairman writes as follows:

I appreciate the political uncertainties involved with the Red Sea program and thus the need for two plans. I am concerned, however, with your statement that should the Red Sea program go ahead, the Neogene I program prime objective would be compromised. We have, as a panel, consistently tried to be objective about our enthusiasm and endorsement for drilling programs. We have tried to view the programs put before us in a global sense and with the knowledge that there are many other equally important scientific objectives outside the realm of Sediments and Ocean History. It was this attempt at objectivity and fairness that led our panel to somewhat downplay the priority of the Neogene II program. It now appears that this honesty may cost us some of the Neogene I objectives -- objectives that we have consistently rated at the top of our priority list. This is extremely dangerous, for it will inevitably lead each panel to rank all of their objectives higher than those of the other panels' and totally undermine attempts at a balanced drilling program. I urge the PCOM to seriously consider how important we hold the Neogene I objectives before any decision is made to compromise them. If some modifications to the Neogene I objectives prove absolutely necessary, I would hope that they would be made in consultation with our panel."

13. IOP recommends Prell, Cochran, Kenyon, and Kidd as co-chiefs for Neogene I.

14. **PCOM is asked to note the above comments and endorsements regarding Neogene I and to note that Prell conducted site surveys in May and June from CONRAD; work was carried out on SONNE and M. DUFRESNE and Kidd/Kenyon will carry out further work from DARWIN in January 1987. Co-chiefs should be recommended.**

E. Makran

15. PCOM included this leg in the Indian Ocean program following the recommendations of TECP. It was noted that site surveys will be conducted from DARWIN in late summer 1986. SSP considered that there is need for high resolution SCS but did not consider it essential to have MCS in advance of drilling as the proposed penetrations are shallow and thin data will be available post-cruise. PCOM, in May, strongly urged the UK to fund the processing of MCS prior to drilling.

It is now clear that MCS data will not be processed prior to drilling.

16. IOP has questioned the validity of the Makran in view of the complex structural features, BSR, and gaseous nature of much of the sediments in Makran. IOP points out that the hypothesized thrusts are not imaged by the SCS data and may still be invisible or processed MCS data that will not be available prior to the cruise in any event. They also

suspect gas is present above the BSRs. IOP and one of the proponents (White) recommend limiting the Makran program to four sites (probably MAK 3, 4, 5 & 6) and that this leg should include drilling on the Seychelles to study the carbonate dissolution problem (Neogene II) and should also include drilling on the Mascarene Plateau. IOP would put the emphasis on these latter programs rather than the Makran.

17. IOP's recommendations for the rest of the Makran leg include a carbonate saturation profile (Neogene II) to examine Neogene productivity and circulation in a 4-site, depth transect down the north side of the Seychelles-Mascarene Plateau. IOP and SOHP believe this is the transect down 90°E Ridge because there are a larger depth range, shallower slopes and less dissolution. IOP also recommends three sites into basement on the Mascarene Plateau to document age progression from the Reunion hotspot and investigate the subsidence history of the Plateau. The geochemical variations in the presumed basalts of the plateau basement are of major interest for comparison with Deccan trap flood basalts.

18. TECP endorsed the Makran program and nominated Leggett and Cowan as co-chief scientists.

    IOP recommends Leggett, White, and Hesse as Makran co-chiefs; Petersen, Curray, Theirstein, and Baxter as Neogene II co-chiefs; and Duncan, Fisher, and Baxter as Mascarene Plateau co-chiefs.

19. **PCOM is asked to consider the Makran program especially considering the situation with regard to MCS data and possible safety problems and the IOP recommendations for the inclusion of Neogene II and Mascarene Plateau drilling and to recommend co-chiefs.**

F. Intraplate Deformation; 90°E Ridge; and Broken Ridge

20. Site surveys of these areas have been and will be conducted by Curray and Weissel (with Sclater) from CONRAD for the intraplate deformation and 90°E Ridge programs. Weissel will also conduct site surveys for Broken Ridge from CONRAD in September 1986. The schedule for drilling these targets (in both PCOM options) and the site surveys is such that no problems are anticipated.

21. The IOP co-chief nominations from TECP and IOP are as follows:

    Intraplate Deformation & N 90°E Ridge:
    TECP - Curray, Peirce, Sclater
    IOP - Weissel, Curray, Peirce, Scrutton, Herb

    Broken Ridge & S 90°E Ridge:
    TECP - Weissel, Duncan, Gradstein
    IOP - Sclater, Weissel, Duncan, Peirce, Herb

22. **PCOM is asked to note the situation regarding the above drilling plans and nominate co-chiefs if either leg is scheduled for 1987 drilling.**

G. Kerguelen I & II

23. PCOM has recommended the establishment of a joint ad hoc working group of IOP and SOP to provide a detailed drilling program and priorities for these two legs. This will consist of Schlich, Falvey, and Prell from IOP and Anderson, Ciesielski, and Elliot from SOP. This group will not meet until October. PCOM also asked for a re-evaluation to be made of a possible port call at Kerguelen. This will be provided by the Science Operator.

24. TECP has nominated Schlich and Falvey for Kerguelen I and J. Anderson for Kerguelen II as co-chiefs.

France has nominated Schlich and Leclaire for Kerguelen I and Leclaire for Kerguelen II.

IOP has nominated Berggren, Wise, Schlich, Falvey, Perch-Nielsen, Leclaire, and Schrader for co-chiefs on either Kerguelen leg.

25. **PCOM is asked to note the above.**

H. Argo/Exmouth

26. Following the May PCOM, SOHP was asked to consider the desirability of extending Argo/Exmouth drilling by deepening holes to meet some of the requirements of the Deep Stratigraphic Tests proposal made by SOHP.

27. The SOHP Chairman writes:

"I would also like to make clear our feelings about the Somali Basin Deep stratigraphic test. We, of course, are extremely disappointed about the loss of this site, but understand the difficulties in obtaining reasonable site survey data. We also appreciate the potential addition of time for a deep hole in the Exmouth/Argo region, but would like to make it clear that the Exmouth/Argo deep hole(s) cannot be considered as a replacement for the Somali Basin deep hole. The fundamental concept behind the Deep Stratigraphic Tests Program put forth by SOHP is that a series of basins with very different environments be drilled. The Somali Basin site represents a thickly sedimented margin while Exmouth/Argo is a starved passive margin. In addition, the Somali site also contains a unique record of the exchange of water masses between the high latitude S. Atlantic and the equatorial Tethys. While I'm on the subject I should also mention that Michael Arthur and Rick Sarg visited the TAMU engineers and report that the engineers are extremely enthusiastic about these deep tests. We will be preparing a statement of objectives and drilling times for a deep stratigraphic test off northwest Australia and forward it to you shortly."

28. IOP recommends a second stratigraphic hole to basement on Jurassic crust in the Argo Abyssal Plain for the purpose of recovering a Tethyan stratigraphic section.

29. Following informal advice from the PPSP Chairman, it was clear that several of the proposed sites would not pass safety review. von Rad

has now conducted additional surveys and has proposed new sites (as reported at the May PCOM). Any further advice on these sites from PPSP will be reported at the meeting.

30. TECP made co-chief nominations and has proposed von Rad, Gradstein, and Exon.

IOP has nominated Mutter, Larson, von Rad, Exon, Gradstein, and Williamson.

31. **PCOM is asked to note the above and to decide whether to extend Argo/Exmouth drilling or to exit the Indian Ocean as originally proposed after one leg of Argo/Exmouth drilling.**

A.E.S.M./R.L.L.

# RED SEA - SITE SURVEY STATUS

| Northward Leg Sites | Water Depth | Site Days | Penetration (m) Sed. | Bsm't | Hole Type |
|---|---|---|---|---|---|
| 1. 17.5°N 1st hole 4-5 m.y. seafloor | 1800 m | 7 | 100-300 | 50-100 | Pot. Core |
| 2. Nereus Deep "Natural Lab." | 2300 | 8(+) | 30-50 | 200 | Rot. Core Re-entry site |
| 3. Bannock Deep | 1500 | 5 | 100 | 100 | Rot. Core |
| 4. Main Trough 24°21'N | 1125 | 5 | 200-300 | --- | Double HPC |
| 5. Mahabiss - SW | 1000-1100 | 4 | 200 | 150 | Rot. Core |
| 6. Mahabiss - NE | 1500 | 5 | 400 | 100 | Rot. Core |
| 7. Shaban Deep | 1500 | 5 | 100 | 100 | Rot. Core |
| **Southward Leg Sites** | | | | | |
| 8. Zabargad Mantle Site | 500 | 4 | 200 | 150-200 | Rot. Core |
| 9. Near Zabargad off axis basement site (lowest priority site) | 500 | 4 | 200 | 150-200 | Rot. Core |
| 10. Sudanese Delta | 500 | 5 | 200-300 | --- | Double HPC |
| 11. 17.5° 2nd Hole 2-3 m.y. seafloor | 1800 | 7 | 100-300 | 100 | Rot. Core |

86/519



Update of the Red Sea Site Survey Status

On June 11, Jim Cochran (Chairman of the Red Sea Working Group) and Carl Brenner (ODP Data Bank) met to examine the recently received shipment of Red Sea data from France and assess further needs to compile a complete package for SSP evaluation of all of the Red Sea sites.

The following are their conclusions, on a site by site basis:

1) $17^{o}$-$18^{o}$ North

Exact site location will be decided after DARWIN survey, but likely locations are as follows:

Site 1: near $17^{o}40'$N, $40^{o}30'$E

Site 2: near $17^{o}38'$N, $40^{o}24'$E

Data in hand: Some regional underway geophysics on the LDGO computer system. Single channel seismics (CHALLENGER, CHAIN, WILKES) of varying quality (from fairly poor to quite good) exist 4-10 km from the tentative site location. They are inadequate from a site-specific perspective.

Need: German narrow beam echo sounder map
Scripps deep tow (3.5 kHz and magnetics) package
GLORIA data in area
Site specific SCS data
Cores ?

Coming: Underway geophysics and SCS to be collected on the DARWIN survey
Crane will bring back Scripps deep tow and SCS data when she returns to LDGO from California in late July.

Action: a) Cochran to write to Harold Bäcker to request German geophysical maps of the area. (done)
b) Cochran to write to Searle to request GLORIA data (done; Searle has called Brenner for discussion of format. Data expected fairly soon)
c) Brenner to synthesize existing data to send to British in support of their DARWIN survey.
d) Brenner to ask British to collect piston cores, if possible, on DARWIN cruise

2) Nereus Deep

Exact site not yet chosen. Likely location will be at $23^{o}11.8'N$, $37^{o}14.4'E$

Data in hand: French seabeam map, just received. Underway gravity and magnetics on the LDGO computer system. Published heat flow results. Single channel seismics collected by Bonatti are available (he has them in hand at LDGO), but are not yet in reproducible form. Other single channel seismics of mediocre quality (CHAIN) are quite near site as it is presently proposed.

Need: GLORIA data
Italian 3.5 kHz records
German cores in area?
French 3.5 kHz?

Action: a) Cochran write for GLORIA data. (done)
b) Brenner write for reproducible copies of Italian SCS and 3.5 kHz data now in Bologna (done). Bonatti's copies of SCS are available immediately if necessary.
c) Cochran inquire about existence of German cores (done)
d) Cochran request French 3.5 kHz (done). These data are probably not crucial given the availability of the Italian data. It is also recognized that the French 3.5 kHz data is not of the highest quality.

3) Bannock Deep - site is near $23^{o}29'N$, $36^{o}44'E$

Data in hand: Underway geophysics on LDGO computer system. Italian SCS available (not yet in reproducible form). Other seismic data (WILKES) nearby. Italian core descriptions are published. Heatflow published.

Need: German bathymetry map
Italian 3.5 kHz data
GLORIA data, if it exists

Coming: Underway geophysics & SCS to be collected by DARWIN

Action: a) Cochran request German map (done)
b) Brenner request Italian SCS and 3.5 kHz records (done)
c) Cochran write for GLORIA data (done)
d) Brenner assemble existing data set for the British in support of DARWIN survey

4) Shaban (Jean Charcot Deep)

Site at ≈ 26°12.4'N, 35°21.1'E

Data in hand: French seabeam, SCS and core descriptions received in "French package". Cochran has xeroxes of French 3.5 kHz data.

Needed: Nothing, really. MCS would be nice but is not absolutely required.

Coming: French MCS may be collected in the fall

Action: Cochran try to obtain reproducible copies of the French 3.5 data (done).

5) Mabahiss Deep

Site Ma 1 is no longer being considered.

Site Ma 3a is at 25°16.4'N, 36°01.8'E

Ma 3b is at 25°17.7'N, 36°12.12'E

Data in hand: French seabeam & magnetics maps, core descriptions and 6 SCS lines with navigation. Both Ma 3a and Ma 3b have crossing lines. The Ma 3b alternate site does not have a cross line and may not be approved by the SSP.

Needed: French 3.5 kHz data
GLORIA, if it exists

Coming: French MCS may be collected in the fall

Action: Cochran to ask for French 3.5 kHz data and to ask Searle if GLORIA data is available in the area (done)

6) Sudanese Delta

Site will be near 18°50'N, 38°45'E

Data in hand: Very little. Existing data at LDGO is all too far to the east to be of much use.

Needed: Good SCS with underway geophysics. 3.5 kHz desirable. Piston cores desirable.

Coming: DARWIN survey, which will do SCS and underway geophysics. 3.5 kHz are apparently not forthcoming, as DARWIN will not be collecting it.

Action: Brenner assemble what little data there is to help guide the British for their DARWIN survey, and to ask if piston cores can be obtained during the survey.

7) Main Trough

Site PQ 2 is near 24°37.5'N, 36°30'E

Site PQ 3 is near 24°45'N, 36°10'E

Data in hand: French bathymetry map (not seabeam). Regional geophysics on LDGO computer. French SCS lines define the sites. Other U.S. and Italian SCS of varying quality are nearby.

Needed: Core descriptions (if they exist) and French 3.5 kHz
German narrow beam echo sounder map
GLORIA data

Action: Cochran to write for all the above (done)

cc: John Peirce, SSP
Alain Mauffret, SSP
Robb Kidd, ODP/TAMU
Jim Cochran, RSWG
Tony Mayer, JOIDES
Roger Larson, PCOM

**Site 1A - 17°N - 18°N Axial Trough**

Objectives - To sample crust created in oldest spreading cell in Red Sea, ideally at 2 locations about 3 m.y.b.p. and 5 m.y.b.p.

Water depth - 1350m in axial trough, ~100m sediments

Data:

Bathymetry - No seabeam, German narrow beam echo sounder map (max line spacing 5 n.m.) exists (Bäcker et al., 1975).

Gravity, Magnetics - collected on same German survey - maps available - possibly original data

Deep Tow - A traverse with standard Scripps deep tow instrument has been made (results published in Miller et al., 1985). I have contacted Steve Miller at U. Cal., Santa Barbara who has offered to make data available. I have to write to him with details of form we would like data, which will be done this week.

Data is standard Scripps deep tow package and includes magnetometer, side scan sonar, and 3.5 kHz which gave about 80m penetration.

Gloria - A Gloria side scan profile was made up the axis. I have a medium grade (usable) copy of data. A good copy could be obtained from Roger Searle (He has already given me good quality photos of data from my field area in the northern Red Sea - so he is demonstrably willing). If SSP wishes, I will contact him.

Seismic Reflection - All that I am aware of now from this region are a number of old (Chain 100) WHOI lines and a GL23 line, none of which are exactly at site we wish to drill, which is along the Scripps profile. Bob White, from Cambridge University, contacted me concerning possibility of short surveys during passage of Darwin in August. See attached letter for my response. I have just talked to White and he said suggestions were well received and, if it appears that there will be Red Sea drilling, the surveys will be run. This will provide 3 closely spaced SCS lines over the Scripps line. I have also been in contact with J. Makris from University of Hamburg who will be working off of Sudan in February 1987 (he has clearances) and has offered to run MCS lines. I also believe that Seabeam is available on the German ship.

Comments

According to Miller, deep tow data shows that the sediment thickness increases beyond 80m near Anomaly 2A on east side so that conditions seem favorable for 3 m.y. site.

The 5 m.y. site has had salt flow over it, so that the water depth is about 500m with perhaps 1000-1300m of sediments above basement. I do not know whether it is a viable site. Seismic data is needed to determine.

**Site 1B - Nereus Deep**

Objectives - Drill into basement to study plumbing of hydrothermal cell, rock-water interactions, metallogenesis.

Water depth - 2300m, approximately 50m sediment

Data:

Bathymetry - French Seabeam map of deep. German narrow beam echo sounder survey of surrounding area. Seabeam map should be in French data package.

Gravity, Magnetics - Number of crossings, including Italian survey and data along Seabeam survey. Italian data is at Lamont.

Gloria - A Gloria side scan profile crosses over Nereus Deep. Data is at IOS, England. Fair quality copy at Lamont. Good copies can be obtained if desired.

SCS - Sparker profiles from Italian cruises, Bonatti has them at Lamont. There is also some French data, but I do not know whether they plan to send it.

3.5 kHz - Italian Data is available. Bonatti is presently making arrangements to obtain this data from Bologna. He says that data shows several areas of considerable sediment which could be drilling sites. Report from Mauffret states that French data is not high quality due to speed of ship.

Heat Flow - Roughly 20 measurements from Italian work (data published). Also German measurements for Saudi's, but not likely to obtain them.

Submersible - Submersible and photography work planned by French. I am waiting to hear from them whether it will take place.

Comments - Depending on what is observed on 3.5 kHz, which should be at LDGO shortly, it seems in good shape. Final target would be picked from 3.5 kHz and SCS data.

**Site 1-C - Bannock Deep**

Objective - To recover basaltic section from southernmost of the non-seafloor spreading "northern" deeps

Water Depth - 1500m, 100m sediment

Data:

Bathymetry - German narrow beam echo sounder survey (published) at 5 nm spacing and additional Italian lines (at LDGO). A grid of bathymetry and SCS lines is planned for August on Darwin (See note in discussion of Site 1A)

Gravity, Magnetics - A number of Italian magnetics lines across deep are at LDGO. I am not aware of gravity data.

Seismic Reflection Data - Several Italian sparker lines across the Deep are at LDGO. Additional crossings and longitudinal line are planned on Darwin in August. Guennoc has offered to run 1 or 2 transverse and a longitudinal MCS line on NORMEROU cruise if it is rescheduled. I am trying to find out status of cruise from Guennoc. Also J. Makris has offered to run lines in February, 1987.

3.5 kHz - Number of Italian records. Bonatti is arranging to obtain them from Bologna.

Heat Flow - 2 Italian measurements (published)

Coring - Several cores taken by Italians

Comments - With data from Darwin, site seems in good shape if 3.5 kHz shows suitable target

**Site 1D - Shaban (Jean Charcot Deep)**

Objectives - To obtain basaltic section from northernmost Red Sea Deep clearly associated with basement rocks

Water Depth - 1500m, 100m sediment.

Data:

Bathymetry - Seabeam map should be included in French data package

Gravity, Magnetics - French data acquired during Seabeam survey

Seismic Reflection - Single channel watergun data obtained during Seabeam survey should be in French data package. Also, French plan MCS survey during "Nord Merou" cruise, if it occurs. Saudis have at least one MCS line acquired by Germans for them, but doubt it is available.

3.5 kHz - French data acquired during Seabeam survey, but is reported to be low quality

Coring - Several cores taken by French

Comments - French are not completely satisfied with SCS data, but should be enough available to pick exact site, particularly if French MCS lines are run this year

**Site 1E - Mahabiss Deep**

Objectives - Sample basaltic section from small localized sea-floor spreading cell. Two sites are proposed. One is on the southwest flank (Site MA3a - French Red Book). The other is on the northeast flank (Site MA3b - French Red Book)

Water Depth - SW site 1000m, ~200m sediment
NE site 1550m, 300-400m sediment

Data:

Bathymetry - Seabeam map - should be included in French data package

Gravity and Magnetics - Collected during Seabeam survey

Seismic Reflection Data - Single channel air gun data collected during Seabeam survey. NE site is on crossing lines, SW on one line. Data should be in French data package. French also plan MCS survey on "Nord Merou" cruise if it occurs.

3.5 kHz - Collected during Seabeam survey, reported to be of poor quality because of ship speed

Coring - An unspecified number of piston cores have been obtained by French

Comments - Sites seem in good shape although MCS would be useful to define basement under evaporites

**Site 2A Sudanese "delta"**

Objectives - Double HPC extended to top of evaporites to obtain high resolution biostratigraphy/sedimentology through Pliocene - Holocene sequence

Water Depth - ~500m, core approximately 200-300m of sediment

Data:

A number of random geophysical tracks in the general data are available at LDGO. Saudi-Sudan Joint Commission holds a great deal of data including detailed bathymetry, 3.5 kHz, SCS and MCS seismics and gravity data. Most of this data was collected by BGRM. BGRM requested in November 1985 that this data be made available to O.D.P. No answer had been obtained by February 12, 1986. This is not unexpected since the bureaucracy moves slowly. I do not know what has happened since then.

A grid survey of the proposed area will be run on Darwin in August 1986. Since the area is tectonically simple, the site could be located on crossing lines of that survey. In addition J. Makris (University of Hamburg) has offered to run lines in February 1987 if needed.

Comments - Existing, available data are certainly insufficient. However, if Darwin survey is run, the proposed site is straight forward and in a simple setting so that the survey should allow exact site to be picked

**Site 2B - Main Trough 24°N**

Objectives - Double HPC extended to evaporite/post evaporite contact to obtain high resolution biostratigraphy and sedimentology through Pliocene - Holocene sequence to study effects of climatic changes

Water Depth - Approximately 1100m, penetrate about 250m sediments

Pol Guennoc wrote suggesting that the original site at 24°21'N, 36°36'E be abandoned. He pointed out that it is on a cable route. (The Seabeam survey we used to pick the site was run for the cable). Also, he included a seismic section showing that the subsurface is somewhat disturbed at the original site. He suggested two alternative sites) PQ2 and PQ3 on attached map) near the original site. I prefer PQ2 at the moment because the post-evaporitic section is a more convenient thickness. Both are viable and following applies to both

Data:

Bathymetry - German narrow beam echo sounder map (published) numerous other random tracks in region. Sites are located at crossing of two French lines. No Seabeam

Gravity, Magnetics - along German tracks (magnetics, possibly gravity). Also along French lines over sites

Gloria - A Gloria side scan line passes over area. Data can be obtained from IOS if desired

Seismic Reflection - Sites are on crossings of two French lines with S.C.S. data. Guennoc sent me xerox of records. Quality appears excellent. Good quality photographs are available from INFREMER and are probably in French data package

3.5 kHz - Data along crossing French lines. Xerox copies sent to me by Guennoc appear to be low quality

Comments - Main drawback is lack of Seabeam data. If Seabeam is considered essential, then tracks from northern Red Sea with Seabeam would have to be examined. These two sites were chosen on the basis of seismic sections which best meet criteria for site objectives at crossing of lines. The setting of sites is simple and undisturbed

**Site 3 - Zabargad Mantle Section**

I believe that, since Enrico Bonatti's survey was not funded, this site will have to be abandoned for lack of necessary site survey data

**Site 4 - Off Axis Basement Site Near Zabargad**

I believe that, since Enrico Bonatti's survey was not funded, this site will have to be abandoned for lack of necessary site survey data.

JOIDES PLANNING COMMITTEE

## LONG-TERM PLANNING

### A. West Pacific

1. In May, PCOM accepted the outline WPAC proposals as a basis for planning, including a nine-leg drilling program which it expects to be modified by additions and further iterations of the schedule. PCOM requested WPAC (taking the advice of the thematic panels) to prepare a strawman drilling program by August 1986.

2. TECP considered that the Bonin-Mariana and Vanuatu legs are well designed and especially relevant to arc, backarc, forearc, and collisional problems. TECP wished to see more collisional-related objectives in the program and asked WPAC to consider the inclusion of Louisville Ridge or Ogasawara collisions and the Sumba proposal in the program. Of the specific legs referred back to TECP, the panel rated Japan Sea and Nankai trough highest, followed by Zenisu Ridge. The South China Sea passive margin proposal did not receive a high priority.

3. WPAC has now revised the outline schedule, taking into account the TECP comments above and the earlier SOHP priority (for a Great Barrier Reef leg) and LITHP priority (for a study of back-arc lithospheric problems). The resulting priority list is given below:

| | Vote (maximum of 11) |
|---|---|
| 1. Bonin-1 | 9.8 |
| 2. Japan Sea | 8.6 |
| 3. Sunda Backthrusting | 7.6 |
| 4. Banda-Sulu-South China | 7.2 |
| 5. Bonin-Mariana-2 | 6.1 |
| 5. Great Barrier Reef | 6.1 |
| 7. Nankai | 6.0 |
| 8. Lau Basin | 5.8 |
| 9. Vanuatu | 5.7 |
| 10. Zenisu Ridge (1/2 leg) | 5.1 |
| 11. Sulu Transect | 2.6 |

This amounts to 10 1/2 legs drilling which WPAC considers can be defended strongly. A very abbreviated summary of the objectives on each of these legs is given below.

1. Bonin-1: Rifting and forearc evolution of Bonins.
2. Japan Sea: Age and nature of basement; multi-rift opening; obduction and its timing; sediment history; metallogeny in the Yamato Rift.
3. Sunda Backthrusting: Backarc thrusting; forearc wedge thrusting; mountain building and unroofing.

4. Banda-Sulu-South China: Age and nature of basement in each basin; history of volcanism and collision; glaciation and $O_2$ minimum in Banda and South China.
5. Bonin-Mariana-2: Mariana diapirs; reference site on Pacific plate; remaining Bonin forearc objectives.
5. Great Barrier Reef: Carbonate ramp; sedimentation as a function of sea level changes; basin/shelf sediment fractionation; diagenesis in an unsaturated ocean; basin fill and reef building.
7. Nankai: Outboard reference site; layer parallel shortening of trench sequence; 1700 m hole through decollement to basement.
8. Lau Basin: Petrologic development; initial rifting; geothermal processes; arc-volcanic history.
9. Vanuatu: Material transfer during collision; structural evolution during arc reversal; backarc extension.
10. Zenisu Ridge (1/2 leg): Outboard reference site; dewatering and physical properties; nature of basement; uplift/tilting history.
11. Sulu Transect: Collision of Cagayan Ridge with Panay Sulu Basin subduction at Negros Trench.

4. **PCOM is asked to note and approve the proposed 9-leg WPAC drilling program with 1 1/2 legs of alternates, which can form the basis for site survey assessment and data acquisition. PCOM should note that this plan will still be subject to further iteration.**

B. Western Central Pacific

5. This item refers to proposals from the CEPAC area which could be logistically integrated with West Pacific drilling.

6. Of the thematic panels only TECP had considered this issue at the time of writing. TECP has identified priority themes for the CEPAC area of which three issues fall into the category of logistic compatability with West Pacific drilling. These are the Ontong-Java Plateau which TECP considers important in order to study the nature and age of oceanic plateaus. Ontong-Java is viewed as an attractive place to identify the basement of an important plateau and possibly to study a major collision. The other topics identified by TECP are for dating the oceanic crust and for a study of hot spots and guyots, some of which could be considered reasonably adjacent to the West Pacific.

7. CEPAC supports the SOHP-type studies and basement age and nature of the Ontong-Java Plateau. They specifically exclude studying collisions here. They also support western Pacific (esp. Marshall Is.) atoll and guyot studies as potential programs to integrate with WPAC drilling.

8. It should be noted that there is no proposal as yet for drilling to date the Mesozoic oceanic crust or study the W. Pacific Cretaceous volcanic complex, and these topics cannot be included in the schedule until proposals are received and reviewed by the Panels.

9. **PCOM is asked to note the development of drilling proposals for the western central Pacific which could be logistically included in the West Pacific drilling schedules.**

C. Rest of the Pacific

10. Since the May PCOM meeting, the only thematic panel input to hand is from TECP. Revised views from LITHP should be available for the August meeting. SOHP has already identified, in a preliminary way, some possible high priority themes but will not meet until October.

11. TECP identified the following four general themes:
    a. Dating the oceanic crust, especially where characterized by M-series anomalies or magnetically quiet zones. These data are critical for establishing and testing models of relative plate motion and calibrating the magnetic time scale.
    b. Hot spots and guyots: new information, which can only be provided by drilling, is essential for constraining absolute plate motions.
    c. Lithospheric flexure: a unique experiment concerning the flexural rigidity of the crust can be conducted by drilling in the Hawaiian moat.
    d. Oceanic plateaus: the nature and age of the basement of plateaus are still outstanding tectonic problems.

12. SOHP priorities are listed below:
    a. High latitude vs. low latitude comparison (Jurassic to Neogene) (e.g. Bering Sea and Ontong-Java)
    b. Sea level influence on sedimentation processes (guyots and atolls)

    SOHP ranked packages as follows:
    a. Bering Sea (high latitude section and deep stratigraphic test with a complete section)
    b. Ontong-Java and Bonin (low-latitude sections especially early Eocene and younger)
    c. Old Pacific
    d. Guyots and atolls

13. LITHP interests in the central/eastern Pacific include:
    a. Magmatic processes and their temporal and spatial variation at mid-ocean ridges.
    b. Hydrothermal processes at both sedimented and sediment-free and mid-ocean ridges.
    c. Deeper structure of the oceanic crust including pillow lava-dike and layer 2/3 boundaries.
    d. Mid-plate volcanism seamount formation and plate flexure.
    e. Origin of oceanic plateaus.
    f. Origin of Jurassic Quiet Zone and vertical distribution of magnetization in oceanic crust.
    g. Mantle heterogeneity.

    These thematic interests have not been prioritized and until that is done LITHP considers that it is premature to construct detailed drilling scenarios for this area.

    Some LITHP objectives in the central/eastern Pacific (e.g. ridge crest drilling) will require a substantial commitment of drilling time

including multiple legs to the same area if they are to be adequately addressed.

LITHP also proposes a joint LITHP/CEPAC ad hoc group to establish drilling strategies for rise axis and hydrothermal drilling.

14. In light of this thematic panel advice, and with the existing but rapidly increasing number of proposals in hand, CEPAC has reprioritized drilling packages at their present meeting as shown below. A drilling package "either isolates a thematic objective or groups operationally related proposals that are at least somewhat thematically aligned."

| Drilling Package | Number of times listed on ballots (10 voting members) | Rank |
|---|---|---|
| 1) EPR 13° fast spreading | 10 | 1 |
| 2) Ontong Java Plateau (excluding collision) | 10 | 1 |
| 3) North Pacific Paleoplate reconstructions | 10 | |
| 4) Atolls and guyots | 9 | 2 |
| 5) Northeast Pacific (INPAC) convergence | 9 | 2 |
| 6) Juan de Fuca Ridge system sedimented rift | 9 | 2 |
| 7) North Pacific paleocean-envir-climate | 8 | 3 |
| 8) Bering Sea paleocean-envir and tectonics | 7 | 4 |
| 9) Equatorial Pac paleocean-envir | 7 | 4 |
| 10) Crustal flexure--Hawaiian moat | 6 | 5 |
| 11) Old Pacific crust and seds | 5 | 6 |
| 12) Gulf of California | 5 | 6 |
| 13) Northeast Pacific (INPAC) paleocean-envir | 5 | 6 |
| 14) Aleutian convergence | 5 | 6 |
| 15) Chile triple junction | 3 | 7 |
| 16) Costa Rica convergence | 1 | 8 |
| 17) California margin | 1 | 8 |
| 18) Gulf of Alaska sed and tectonics | 1 | 8 |

A listing of how drilling proposals are grouped into drilling packages is found in the latest CEPAC minutes.

15. CEPAC feels that only those packages that scored 5 or better should continue to be considered in the formulation of a drilling leg. Each of the first 14 packages constitutes about one leg except for the first one (EPR 13°N) that constitutes 3 legs as it has in past recommendations.

16. Thus, a total of 16 legs or approximately 2.7 years of drilling (including work that might be integrated with WPAC) is still under consideration for the total CEPAC program.

17. PCOM is asked to note the above views of the thematic panels and CEPAC and to provide further advice for the development of the Pacific drilling program.

AESM/RLL

JOIDES PLANNING COMMITTEE

## ODP SAMPLING POLICY

1. At the April EXCOM meeting, B. Biju-Duval requested that the current ODP sampling policy should be reviewed, especially the impact of the policy on the long-term scientific goals of the Program.

   Biju-Duval has raised the following queries:

   A) How is the regulation of requests organized and what kind of general review can be done by the JOIDES structure? Presently requests are reviewed by the TAMU staff representatives, co-chief scientists and (?) by the curator. This is done leg by leg. Co-chiefs are "urged to limit shipboard sampling to the minimum necessary to accomplish the cruise objectives." They may invite special investigators to perform special studies. Other distribution of samples can be done for research leading to publication outside of the ODP reports. In order to achieve the scientific objectives of the main goals of the Program, one can imagine that in the scope of JOIDES structures (thematic panels and PCOM) something would be introduced to ask JOIDES members to consider also a real strategy for laboratories' studies to encourage groups to collaborate with one another especially those having experience in a special domain to correct eventual anomalies or duplications, etc. Respective roles of co-chiefs and science operator must be precisely defined for staffing (onboard scientists have priority for sampling) and sampling decisions. Has the JOIDES structure any possibility of "regard" about the efficiency of sample distribution?

   So we would like to see (in order to answer this kind of question) a review of the guidelines for sampling and of the scientific priorities to achieve ODP goals by onshore studies.

   B) How is the logging data distribution performed and how can individual scientists send possible requests? The answer to these questions is also given in the policy but what is the procedure of decision for providing positive answers? Is it only under the LDGO responsibility? What are the roles of co-chief scientists and of JOIDES structure? Information concerning this new important domain of investigation is probably badly known.

   Finally, as for normal sampling, we would support a review of the role of co-chiefs and JOIDES structure in the attribution procedure to be sure to achieve the goals of ODP.

2. This matter (and Biju-Duval's comments) has been referred to the Information Handling Panel for consideration. D. Appleman (IHP Chairman) was already concerned about sampling policy. In his letter to the PCOM Chairman of 20 May concerning membership of IHP, Appleman says:

"The Panel has recently received two requests (one from the physical properties community and from the organic geochemists) for revisions to the routine shipboard sampling procedures, and has heard rumors that other special interest groups may be submitting additional requests. In addition to computer data base experts and people experienced in publishing, we now need biostratigraphers and sedimentologists on the Panel in order to ensure that the overall goals of the Program do not suffer in our efforts to meet the needs of the special interest groups. The current Panel is more heavily weighted towards data base expertise than it needs to be, perhaps because data base problems were hot topics a few years ago. I would like to encourage our partner nations to appoint active marine scientists to this Panel who are interested in sample distribution and curation and/or publications, because these will be the principal areas of operation for the next few years. I hope that Japan and the ESF will bear these needs in mind as they consider possible appointees."

3. The report of the IHP should be available for the meeting and PCOM is asked to consider the issues raised by Biju-Duval and the IHP response and to make recommendations concerning any changes to the current policy.

A.E.S.M.

# DATA DISTRIBUTION POLICY

## Samples and Geophysical Data

Distribution of Ocean Drilling Program and of Deep Sea Drilling Project samples is undertaken in order to (1) provide support to shipboard scientists in achieving the scientific objectives of their cruise and to support shorebased investigators who are preparing contributions to ODP reports; (2) provide individual investigators with materials to conduct detailed studies beyond the scope of ODP reports; (3) provide paleontological reference centers with samples for reference and comparison purposes; and (4) provide educators with samples for teaching purposes.

Funding for sample-related activities must be secured by the investigator independently of requesting the samples.

The Ocean Drilling Program Curator is responsible for distributing samples and for preserving and conserving core material. The Curator, who may accept advice from chairmen of the appropriate JOIDES advisory panels, is responsible for enforcing the provisions of this sample distribution policy. He is responsible for maintaining a record of all samples that have been distributed, both onboard ship and subsequently from the repositories, indicating the recipients and the nature of investigations proposed. This information is available to interested investigators on request.

Every sample distributed from the ship or from a repository is labeled with a standard identifier, which includes leg number, hole number, core and section numbers, and interval within the section from which the sample was removed. It is imperative that this standard identifier be associated with all data reported in the literature, and that residues of the sample remain labeled throughout their lives, so that later workers can relate the data to the cores.

Distribution of sample materials is made directly from the repositories (Lamont-Doherty Geological Observatory, Scripps Institution of Oceanography, or Texas A&M University) by the Curator or his designated representative.

### 1. Distribution of Samples for Research Leading to Contributions to ODP Reports

Any investigator who wishes to contribute to the reports of a scheduled cruise may write to the Curator, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA, in order to request samples from that cruise. Requests for a specific cruise must be received by the Curator at least TWO MONTHS in advance of the departure of that cruise, in order to allow time for review of the request in conjunction with other requests, so that a suitable shipboard sampling program can be assembled. The request should include a statement of the nature of the proposed research, size and approximate number of samples required to complete the study, and any particular sampling technique or equipment which may be required. Requests will be reviewed by the staff representative and co-chief scientists of the cruise and by the Curator. Approval/disapproval will be based upon the scientific requirements of the cruise as determined by the appropriate JOIDES advisory panel(s). The scope of a request must be such that samples can be processed, that proposed research can be completed, and that the paper can be written in time for submission to the relevant ODP cruise report.

Except for rare, specific instances involving ephemeral proper-

ties, the total volume of samples removed during a cruise-related sampling program will not exceed one-quarter of the volume of core recovered, and no coring interval will be completely depleted. One-half of all recovered materials will be retained in the archives in as pristine a condition as is practicable. Investigators requesting shipboard samples of igneous materials may receive a maximum of 100 igneous samples per cruise.

Because many sample requests are received for shipboard work and because the time of the shipboard party is at a premium, co-chief scientists are strongly urged to limit shipboard sampling to the minimum necessary to accomplish the cruise objectives. Shorebased investigators whose requests for cruise-related samples are approved should expect that they will receive the samples after the cores are returned to the repository, and should schedule research activities accordingly.

Co-chief scientists may invite investigators who are not cruise participants to perform special studies of selected core samples in direct support of shipboard activities. If this occurs, the names and addresses of these investigators and details of all samples loaned or distributed to them must be forwarded to the Curator, via the ODP Staff Representative to that cruise, immediately after the cruise. These investigators are expected to contribute to the cruise reports as though they had been cruise participants. All requirements of the Sample Distribution Policy apply.

Any publication of results other than in ODP reports within twelve (12) months of completion of the cruise must be approved and authored by the whole shipboard party and, where appropriate, shorebased investigators. After twelve months, individual investigators may submit related papers for open publication provided they have already submitted and had accepted their contributions to the ODP reports. Investigations which are not completed in time for inclusion in the ODP reports for a specific cruise may be published in a later edition of the ODP reports; however, they may not appear in another journal until the report for which they were intended has been published.

2. Distribution of Samples for Research Leading to Publication Outside of the ODP Reports

A. Researchers who wish to use samples for studies beyond the scope of the ODP reports should obtain sample request forms from the Curator, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA. Requestors are required to specify the quantities and intervals of core required, to make a clear statement of the nature of the proposed research, to state the time which will be required to complete the work and to submit results for publication, and to specify funding status and the availability of equipment and space for the research.

Additionally, if the requestor has received samples from ODP or from DSDP previously, he/she will be required to account for the disposition of those samples by citing published works, six (6) copies of which must be sent to the Curator. If no report has been published, this requirement can be fulfilled by sending a brief (two or three page) report of the status of the research. Unused and residual samples should be returned and data should be sent to the Curator if the project has terminated. Paleontological materials may be returned either to the Curator at ODP or to one of the designated paleontological reference centers. If material is returned to a reference center, notify the Curator when it is sent.

Requests for samples from researchers in industrial laboratories will be honored in the same manner as those from academic organizations. Industrial investigators have the same obligations as other investigators to publish all results promptly in the open literature and to provide the Curator with copies of all reports published and of all data acquired in their research.

In order to ensure that all requests for highly desirable but

limited samples can be considered together, approval of requests and distribution of samples will be delayed until twelve (12) months after completion of the cruise or two (2) months after official publication of the core descriptions, whichever occurs earlier. The only exceptions to this policy will be made for specific requests involving ephemeral properties. Requests for samples may be based on core descriptions published in ODP reports produced by the shipboard party, copies of which are on file at various institutions throughout the world. Copies of original core logs and data are kept on open file at ODP, and at the repositories at Lamont-Doherty Geological Observatory and at Scripps Institution of Oceanography.

B. Most investigations can be accomplished handily with sample volumes of 10 ml or less. Investigators must provide explicit justification of requests for larger sample sizes or for frequent intervals within a core. Requests which exceed reasonable size or frequency limits will require more time to process, and are unlikely to be granted in their entirety.

Requests for samples from thin layers, from stratigraphically-important boundaries or from sections which are badly depleted or in unusually high demand may be delayed in order to coordinate requests from several investigators or while the Curator seeks advice from the community. Investigators who submit such requests may expect to receive suggestions for alternative sampling programs or that they join a research consortium which will share the samples. In any event, such exceptional requests will require more time for processing than will more routine requests.

Investigators who wish to study ephemeral properties may request a waiver of the twelve-month waiting period; however, such requests will be referred automatically to the relevant co-chiefs. If approved, the investigator will join the shore-based contributors to the shipboard science effort, and will incur the obligations thereof (see Section 1).

C. Samples will not be provided until the requestor assures the Curator that funding for the proposed research is available or unnecessary. If a sample request is dependent in any way upon proposed funding, the Curator is prepared to provide the proposed funding organization with information on the availability (or potential availability) of suitable samples.

D. Investigators who receive samples incur the following obligations:

1) To publish significant results promptly: however, no contribution may be submitted for publication prior to twelve (12) months following the termination of the relevant leg unless it is approved and authored by the entire shipboard party.

2) To acknowledge in all publications that the samples were supplied through the assistance of the International Ocean Drilling Program and others as appropriate.

3) To submit six (6) copies of reprints of all published works to the Curator, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA. These reprints will be distributed to the repositories, to the ship, to the National Science Foundation, and to the Curator's reprint file. All reprints received will be logged in an on-line bibliographic data base.

4) To submit all final analytical data obtained from the samples to Data Base Manager, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA. Please consult announcements in the JOIDES Journal or call (409)845-2673 for information on acceptable data formats. Investigators should be aware that they may have other data obligations under NSF's Ocean Science Data Policy or under relevant policies of other funding agencies which require submission of data to national data centers.

5) To return all unused or residual samples, in good conditions and with a detailed explanation of

any processing they may have experienced, upon termination of the proposed research. In particular, all thin sections and smear slides manufactured onboard the vessel or in the repositories are to be returned to the Curator. Paleontological materials may be returned either to the Curator at ODP or to one of the designated paleontological reference centers.
Failure to honor these obligations will prejudice future applications for samples.

E. Cores are available for examination by interested parties at the repositories. Investigators are welcome to visit the repositories in order to inspect cores and to specify sample locations when that is required for their research; however, time and space in the workrooms are limited, so advance appointments are required. Occasionally, the space may be fully booked several weeks in advance, so investigators are urged to call for appointments well ahead in order to avoid disappointment. Only the Curator or his delegate may actually remove samples from the cores.

F. A reference library of thin sections, smear slides and archive photographs is maintained in the repositories for the use of visiting investigators. All thin sections and smear slides produced onboard the ship or in the repositories belong to this library.

## 3. Distribution of Samples to Paleontological Reference Centers

As a separate and special category of repository activity, selected samples are being distributed to paleontological reference centers, where the prepared material may be studied by visitors. Foraminifera and calcareous nannofossils can be viewed; radiolaria and diatoms will be prepared in the future. The present centers are Scripps Institution of Oceanography, La Jolla, CA (W.R. Riedel, tel: 619-452-4386); Basel Natural History Museum, Switzerland (J.B. Saunders, tel: 061-25.82.82); and New Zealand Geological Survey, Lower Hutt, New Zealand (A.R. Edwards, tel: 699.059). Future centers are likely to include Texas A&M University, College Station, TX (S. Gartner, tel: 409-845-8479); Smithsonian Institution, Washington, DC; Lamont-Doherty Geological Observatory, Palisades, NY; and an as yet undesignated center in Japan.

Further details concerning the paleontological reference centers are reported periodically in the JOIDES Journal.

## 4. Distribution of Samples for Educational Purposes

Samples may be available in limited quantities to college-level educators for teaching purposes. Interested educators should request application forms from the Curator, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA. Requestors are required to specify preferred sample size and location, to make a very clear statement of the nature of the coursework in which the samples will be used, to explain how the samples will be prepared and how they will be used in the classroom, to explain in detail why they cannot use similar materials derived from outcrops or dredge hauls (It is NOT acceptable to argue that it requires less effort for the requestor to obtain samples from ODP than to assemble them from other sources!), and to certify that funds are available to prepare the materials for classroom use. In general, only samples of materials which are abundant in the collection and which are in little demand for research purposes should be requested for educational purposes. The Curator will not approve requests for materials which are limited in supply or for which demand (real or potential) is great, including most paleontological materials.

## 5. Distribution of Data

The Deep Sea Drilling Project and the Ocean Drilling Program routinely capture much of the data generated onboard ship and published in Program reports. Additionally, data supplied by investigators who have received samples are incorporated

into the data bases, so data sets which are larger than can be published are available to investigators. Magnetics, downhole logging, seismic reflection, bathymetric data, and other data collected by the drilling vessel become available for distribution to investigators at the same time as core samples.

Requests for ODP data should be addressed to the Data Base Manager, Ocean Drilling Program, P.O. Drawer GK, College Station, TX 77841, USA. Many varieties of DSDP data will be included in ODP data bases. Information on sources of DSDP data will be available from the ODP Data Base Manager.

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# Logging Data

1. All logging data acquired on each leg of the Ocean Drilling Program is available to each member of the scientific party onboard ship. Practical limits to data distribution onboard ship are such that some time is required to process, correct, and display the data in a form appropriate for preliminary science. Contractually, Schlumberger supplies six copies of each run. These go to:

1. L-DGO logging representative
2. Logging scientists
3. Co-chiefs (2)
4. TAMU staff (for TAMU Prime Data Copy)
5. Permanent archives at L-DGO (logging database)

These copies are made on a simple-to-use ozalid machine onboard ship and Schlumberger will provide for interested scientists to make copies themselves. This copying procedure is coordinated through the L-DGO logging representative. It is anticipated that no interested scientist will leave the ship without copies of the logs.

2. All field-edit tapes and archive copies of the logs are hand-carried by the L-DGO logging representative to L-DGO where further processing produces corrected logs within approximately one month. Paper copies of these corrected logs are mailed by the L-DGO log analyst to individuals on a list compiled by the L-DGO logging representative onboard the ship. Tapes are supplied to members of the shipboard party (if requested in writing) in either LIS or ANSI format as soon as they can be duplicated back at L-DGO.

3. Schlumberger full waveform tapes must be processed by Schlumberger back on shore before they are sent to Lamont. This takes between one and two months, after which time an SEG-Y format data tape and paper records are available upon request.

4. L-DGO multichannel sonic tapes are returned to L-DGO for processing. A data tape in SEG-Y format plus paper copies are available about one month after the leg.

5. As per ODP data distribution policy the rest of the scientific community has access to the logging data from each leg beginning one year from the sailing date of that leg.

6. Certain other data distributions occur after one year. United States Geological Survey receives data tapes from each leg; ODP/L-DGO in return receives tapes of logs of all offshore wells archived by the U.S.G.S. Logging tapes are deposited with the appropriate agencies in JOIDES non-U.S. member countries upon request.

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JOIDES PLANNING COMMITTEE

## COSOD-II STEERING COMMITTEE: PROGRESS REPORT

1. Following the May PCOM meeting, invitations were issued to the nominees for chairman and members of the COSOD-II Steering Committee. Xavier Le Pichon agreed to chair the committee, and affirmative responses have been received from all first choice nominees except one (who is away in the field). EXCOM has been informed of the PCOM nominations.

   The Steering Committee will comprise:

   X. Le Pichon, Chairman (Ecole Normale Superieure, Paris)
   J.R. Cann (Univ. of Newcastle-on-Tyne, U.K.)
   J. Fox (URI)
   M. Kastner (SIO)
   H. Kinoshita (Chiba Univ., Japan)
   J.C. Moore (Univ. of California, Santa Cruz)
   *J. Morgan (Princeton Univ.)
   N. Petersen (Univ. Munchen, FRG)
   R.A. Price (Geol. Survey of Canada)
   W. Ryan (LDGO)
   S.O. Schlanger (Northwestern Univ.)
   J. van Hinte (Vrije Univ. Amsterdam, Netherlands)

   *Only non-response to date on July 25

2. Discussions are currently underway between the Steering Committee Chairman, JOI, and ESF regarding support for the chairman, the steering committee, and the conference itself. R. Larson (COSOD-I and PCOM Chairman) has met with X. Le Pichon in Paris to brief him on the COSOD-II terms of reference and PCOM's general expectations for the conference.

3. X. Le Pichon proposes to hold the first meeting of the Steering Committee in Strasbourg towards the end of September.

A.E.S.M.

JOIDES PLANNING COMMITTEE

# PANEL MEMBERSHIP ISSUES

## A. General

1. Following the decisions taken at the May PCOM meeting, the JOIDES Office has notified all panels of the changes in panel membership rules (full membership of only one panel; ineligibility of NSF personnel; and non-voting inter-panel liaisons). The JOIDES Office has also invited all nominations arising from the May meeting.

2. SOHP has commented that "the inability to vote on panel issues greatly weakens a liaison's position and makes him a 'second class' member of the panel."

   TECP has commented that it prefers to invite regional panel liaisons on an ad hoc basis, depending on the agenda (e.g. no need for ARP liaison if the agenda is solely concerned with the Pacific).

   At this time, no other general comments have been received.

3. **PCOM is asked to note these comments and to advise whether the TECP view should be generally endorsed for all thematic panels.**

## B. Panel Chairmanships

4. At this time, PCOM should consider the vacancy of CEPAC chairman and the impending retirement of other panel chairmen.

5. CEPAC made the following recommendation following H. Jenkyn's declining the chairmanship:
   S. Schlanger, W. Sliter, E. Davis (in order of preference noting that Davis is only willing to serve as a "last resort")

   At this time, 9 PCOM members have responded, voting as follows:
   Schlanger 7 votes; Sliter 1 vote; Davies 1 vote.

   **PCOM is asked to decide on the appointment of a new CEPAC chairman.**

6. The SOP chairman (Kennett) intends to retire after the next panel meeting (Nov. 1986). The SOP recommends either P. Barker (British Antarctic Survey, UK) or D. Elliott (Ohio State Univ.).

   **PCOM is asked to decide on the appointment of a new SOP chairman.**

7. The IHP chairman (Appleman) has indicated that he wishes to retire at the end of 1986. As of this time, the only advice received by the JOIDES Office comes from the panel chairman who recommends the

appointment of one of the new U.S. panelists as chairman. The report of IHP with panel nominations is not yet available.

**PCOM is asked to decide on the appointment of a new IHP chairman.**

8. G. Claypool has indicated that he wishes to retire as PPSP chairman and has suggested M. Ball (USGS, Woods Hole), who is an experienced panel member, as his successor.

**PCOM is asked to decide on the appointment of a new PPSP chairman.**

9. M. Salisbury (DMP) has announced his intention to retire in Nov. 1986. Suggestions for a new chairman will be contained in the DMP report.

**PCOM is asked to decide on the appointment of a new DMP chairman.**

C. Panel Membership

10. All nominees (apart from L. Cathles) have responsed positively to the membership invitations and the JOIDES Office and JOI have implemented the new panel memberships. The issues listed below were left unresolved following the May meeting of PCOM.

In completing panel memberships, PCOM is asked to note the Canadian view that there should be an increased emphasis on the appointment of scientists from industry to thematic and regional panels.

11. LITHP - The panel was asked to reduce its membership by two positions to 15 (assuming that the Cathles vacancy is filled). At this time, LITHP has not met to consider this issue. The panel currently consists of 16 members plus a vacancy for an ore petrologist.

12. SOHP - This panel comments that the PCOM instruction to rotate off two more members in order to accommodate an inorganic geochemist and a clastic sedimentologist is unreasonable as the panel has already experienced a rotation of four people this year, consists of only 14 members (including an ESF representative), and is responding to the PCOM instruction to add inorganic geochemical and clastic sedimentological expertise to the panel.

SOHP requests PCOM to approve the appointment of Bob Garrison (UC Santa Cruz) to the panel as the inorganic geochemist and to choose a clastic sedimentologist from the names previously suggested (Normark, USGS Menlo Pk.; Shor, LDGO; Bottjer, U. Southern Cal.; Nelson, USGS Menlo Pk.).

13. TECP - The panel was asked to propose a new replacement for K. Becker. TECP has proposed D. Davis (SUNY, Stony Brook) or Chi-Yuen Wang (UC Berkeley). TECP has also responded to PCOM comments on the lack of plate reconstruction expertise by saying that this is more than adequately represented by two existing members, Riddihough and Vogt.

14. CEPAC - PCOM should note that the ESF nominee (H. Schrader) is ineligible until 1 Jan. 1987 as he is a serving NSF official until

that date. CEPAC was asked to propose a petrologist to replace J. Sinton and recommended M. Flower, D. Clague, M. Mottl, M. Garcia, and R. Duncan. Duncan in ineligible as he is a member of IOP; CEPAC prefers Flower or Clague. PCOM members' responses are 2 votes for CEPAC preference in order (Flower 1st choice; Clague 2nd choice); 2 votes for Flower; 3 for Mottl, and 1 for Garcia (at the time of writing).

15. IOP - F. Gradstein, R. Herb, and L. Tauxe have all resigned from IOP and Canada and the ESF have provided replacements for the first two. A replacement is needed for Tauxe, but there are no suggestions from IOP at this time. We hope to receive suggestions for Tauxe's replacement and the panel's long-term rotation scheme by meeting time in Corner Brook.

16. IHP - Replacements for Hathaway and Loeblich were considered at the July panel meeting, the report of which is not yet available.

17. TEDCOM - The chairman of TEDCOM has suggested a major restructuring of the panel to which the PCOM Chairman has replied. This correspondence is attached.

18. ARP - Mutter has resigned from the panel. Within the proposed rotation scheme he would have been rotated off ARP in 1987.

19. General - Replacement of panelists who have resigned will normally be dealt with at the annual PCOM meeting with Panel Chairmen when the panel rotation schemes and new nominations are considered.

20. **PCOM is asked to decide on the following issues:**
    - i) **ore petrologist for LITHP and confirmation of reduction of panel size by two positions**
    - ii) **appointment of R. Garrison and clastic sedimentologist to SOHP**
    - iii) **appointment of D. Davis or C-Y. Wang to TECP**
    - iv) **choice of petrologist for CEPAC**
    - v) **approval of IOP rotation scheme and Tauxe replacement**
    - vi) **approval of IHP membership changes**
    - vii) **appointment of new TEDCOM members**

D. Inter-panel Liaisons

21. The only comments received on the subject of inter-panel liaisons are given below:
    - i) C. Sancetta (CEPAC) has declined to be liaison to SOHP
    - ii) The WPAC Chairman has queried whether Hawkins is the appropriate LITHP liaison to WPAC as Hawkins is a major proponent of western Pacific lithospheric drilling. The WPAC Chairman prefers M. Leinen to continue as liaison.
      J. Gill (WPAC) has declined to be liaison to LITHP. The WPAC Chairman suggests S. Scott or J. Natland as this liaison.
    - iii) IOP proposed a system of "floating" liaisons to thematic panels depending on the thematic panel venue and the nearest associated IOP expertise (i.e., R. Duncan will liaise to LITHP

at Corvallis and W. Prell to SOHP at Ann Arbor). (PCOM Chair. note: Curray or White might be TECP liaisons.)

22. **PCOM is asked to:**
    i) **resolve the issue of CEPAC liaison to SOHP and LITHP (LITHP position unresolved at May PCOM meeting)**
    ii) **agree on IOP liaisons to thematic panels either with permanent or "floating" status**
    iii) **reconsider the LITHP liaison to WPAC and appoint another WPAC liaison to LITHP**

E. Working Groups

23. Currently there is only one formal working group for the Red Sea. Other groups have been ad hoc, meeting to discuss a specific issue such as the Kerguelen group made up of IOP and SOP members or the SWIR group. At this stage in Indian Ocean planning **PCOM is asked to consider whether to put a finite limit on the life of the Red Sea Working Group.**

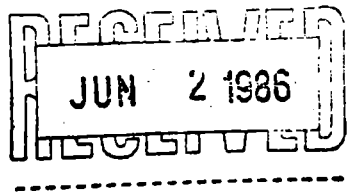
24. WPAC has proposed a working group for the Lau Basin and Tonga to be charged with coordinating existing data sets and to develop integrated proposals for one leg of drilling. WPAC proposes that the working group should consist of J. Gill (WPAC member, Chairman), Hawkins (SIO), Foucher (France), Morton (USGS), von Stackelberg (FRG), Cronan (UK), and Honza (Japan).

    **PCOM is asked to decide whether to agree to the WPAC recommendations for a Lau Basin/Tonga working group and its membership and to decide on its status (i.e., is this a formal working group cf. Red Sea or Mediterranean or an ad hoc group cf. Kerguelen).**

F. PCOM Liaisons

25. The changes in PCOM membership necessitate a review of PCOM liaisons to panels. In addition, it should be borne in mind that with the change of PCOM chairman as from 1 October 1986, there is a need to review the current PCOM liaison assignments noting that the PCOM Chairman attends the PPSP meetings in an ex-officio capacity.

A.E.S.M.




Mr Roger LARSON
CHAIRMAN
Joides Planning Committee
Graduate School of Oceanography
University of Rhode Island
NARRAGANSETT R.I. 02882
U.S.A.

DIT/ISM7 N° 86.56

Paris, May 21, 1986

Dear Roger,

It is not easy to propose to PLACOM a membership list for TEDCOM, as it is done for the other panels.

Indeed TEDCOM members belong to industry and have quite often schedule conflicts which prevent them, at the last moment to participate. It was true for the first meeting and it was still true for the Marseilles meeting. MM. Bingman, Gardner and Newson did not come although they said they could.

However none of them wants to resign and it is the wish of the other members, as it was expressed at the closed session, to have a representative of each major oil company.

Mr Bingman is from SHELL, Mr Gardner from EXXON, and it would be good to have someone from AMOCO. This company, contacted by TAMU, proposes to present Mr Keith Millheim.

On the other hand, Mr Silcox, from CHEVRON, has resigned last fall and proposed Mr Wilson as his successor. TEDCOM has approved that choice, as it has approved my proposal to have Mr Sparks from IFP.

Mr Hocott (University of Texas) has resigned at the last meeting and has proposed Mr Chenevert who would be enthusiastic to participate although I did not get any direct news from this gentleman.

In Great Britain, Mr Lamb, newly appointed in february, has been particularly active, but he wrote recently that he would have no time any more for TEDCOM. We do not know yet who will represent U.K. at the next meeting.

From all the preceding, it is sure that it is quite impossible to have industry experts individually available at all times, and it is also clear for me that it is better to have a diversity of opinions and experiences on all the difficult technical problems we deal with.

To be sure to have 10 or 12 members present in the U.S. meetings and 8 to 10 members in the meetings held elsewhere in the world, the TEDCOM total membership must be extended to 14 or 15 (schedule conflicts will prevent JOI to pay too many travel fees for TEDCOM !)

So my proposal is that PLACOM adopts the following statements :

1 - Apart from the chairman (who is not necessarily an industry expert) and from the national representatives, TEDCOM will have, if possible, representatives from EXXON, SHELL, ARCO, AMOCO, CHEVRON, University and National laboratories (may be Los Alamos and Sandia are redundant).

2 - A member who cannot attend three successive meetings will be considered as automatically resigning.

3 - Membership will be reconsidered every 3 years for each member.

The membership list I propose now is as follows :

| Name | Affiliation | 1st year in TEDCOM |
|---|---|---|
| J. JARRY | CHAIRMAN | 1985 |
| W. BINGMAN | SHELL | 1984 |
| M. CHENEVERT | UNIVERSITY OF TEXAS | 1986 |
| B. DENNIS | LOS ALAMOS | 1984 |
| T. GARDNER | EXXON | 1984 |
| K. MILLHEIM | AMOCO | 1986 |
| M. NEWSON | SANDIA | 1984 |
| F. SCHUH | ARCO | 1984 |
| D. WILSON | CHEVRON | 1986 |
| K. MANCHESTER | CANADA | 1984 |
| C. SPARKS | FRANCE | 1986 |
| C. MARX | F.R.G. | 1984 |
| X... | G.B. | .... |
| J. KASAHARA | JAPAN | 1985 |

I remember you that the next TEDCOM meeting will take place at College station on September 17-18, 1986.

Sincerely,

Jean JARRY

# JOINT OCEANOGRAPHIC INSTITUTIONS for DEEP EARTH SAMPLING (JOIDES)

JOIDES Office
Graduate School of Oceanography
University of Rhode Island
Narragansett, RI 02882

Telephone: (401) 792-6725, 6726
Telex: 9103802848 (JOIDES URI UD)
Telemail: JOIDES.URI

16 June 1986


Dr. Jean Jarry
IFREMER
66, avenue d'Iena
75116 Paris
France

Dear Jean:

Your letter of 21 May concerning TEDCOM membership was not received in time for consideration by PCOM at our 28-30 May meeting, but we shall do so at our August meeting. I personally doubt your argument that TEDCOM members as industrial scientists are liable to have more schedule conflicts than academic scientists, however, the total membership of TEDCOM that you propose is about the same as other JOIDES panels and the "national mixture" is about the same, so I do not believe that your general request is extraordinary. However, there will probably be some discussion at PCOM of the expertise represented, and I doubt that PCOM would feel that both Los Alamos and Sandia representation are redundant, given our future emphasis on high temperature drilling. Furthermore, it might be good to have some explicit expertise in logging on TEDCOM, so I would welcome a suggestion of a member from the oil field services industry. Lou Garrison of TAMU has also told me that Arch McLerran, formerly the chief engineer for DSDP would like to be a member of TEDCOM, and I believe that he would be excellent. If you would like to revise your potential list to include Arch and an industrial logging scientist at the expense of two of your proposed oil company scientists, I think that PCOM would feel that the TEDCOM membership was very well balanced.

As I said at TEDCOM in Marseilles, I believe that one of your primary goals in the next year is to provide PCOM with advice on feasible technology, including its costs and benefits for drilling and logging in high temperatures above 300°C and for deep riser drilling, probably with only a minimum of blowout prevention capabilities. Furthermore, the recent experiences of Leg 109 demonstrate that ODP has not yet developed a successful technology for drilling and coring the fractured, unconsolidated basalt sequences at spreading centers. PCOM would be grateful if you could also advise us on that problem.

All of the above advice is required by about Spring 1987, well in advance of the COSOD-II conference planned for July 6-10, 1987 in Strasbourg, France that will be chaired by Xavier LePichon.

I have advised Xavier that he can expect to have this as background information so that COSOD-II will have a firmer cost/benetif basis for scientific discussions requiring all of these advanced technologies.

With all of the above in mind, PCOM will revise the TEDCOM membership on August 11-15 and would appreciate any additional input you have prior to that meeting. Also regarding TEDCOM membership I have copies of two letters from Barry Harding at TAMU dated May 22 that contain invitations to two industrial scientists to become members of TEDCOM. These are, as I am sure you are well aware, completely invalid invitations as only the JOIDES Planning Committee can alter the membership of the international JOIDES advisory structure. I have asked that Barry withdraw these invitations with apologies for exceeding the authority of a subcontractor employee.

Regarding your request to hold the next TEDCOM meeting on September 17-18 in College Station, I am pleased to approve this request if you still want to hold the meeting at that place and time. We should probably wait with the official list of attendees until we have the TEDCOM membership stabilized. I would not be too concerned if it is impossible to have TEDCOM coincident with the Symposium on the History of Ocean Drilling Technology scheduled for September 26 in Washington, DC. This symposium is a response to a request from somewhere (I'm not sure where) in the U.S. Government to hold a meeting commemorating 25 years of scientific ocean drilling on the assumption that Project Mohole was the start of all this (which is debatable, in my opinion). Neither the PCOM or the TAMU engineering group expect this to be a significant "learning experience" in terms of new technology. Rather, it will probably be a retrospective on the evolution of the exisitng technology. Since I would rather have TEDCOM looking forwards than backwards, I do not consider it of great interest to your committee.

Sincerely yours,

Roger L. Larson
Chairman, JOIDES
Planning Committee

cc: Barry Harding, TAMU

JOIDES PANEL/WORKING GROUP MEMBERSHIP AND LIAISONS
(as of July 1986)

## THEMATIC PANELS

### LITHOSPHERE PANEL

1. Detrick, R., Chairman (URI)
2. Batiza, R. (Northwestern)
3. Becker, K. (RSMAS)
4. Bostrom, K. (ESF)
   Alt.: Piccardo, G.
5. Delaney, J. (UW)
6. Fujii, T. (Japan)
7. Hawkins, J. (SIO)
8. Juteau, T. (France)
9. Langmuir, C. (LDGO)
10. Leinen, M. (URI) + WPAC
11. Malpas, J. (Canada)
    Alt.: Robinson, P.
12. McNutt, M. (MIT)
13. Petersen, N. (FRG)
14. Purdy, M. (WHOI)
15. Saunders, A. (U.K.)
    Alt.: Pearce, J.
16. Sinton, J. (HIG) + CEPAC
17. vacancy ore petrologist

Liaisons

Honnorez (PCOM)
McDuff (PCOM)
vacancy (WPAC)
Klitgord (ARP)
TBA (CEPAC)
TBA (IOP)

### SEDIMENTS & OCEAN HISTORY PANEL

1. Mayer, L., Chairman (Canada)
   Alt. Canadian Rep: Gradstein, F.
2. Arthur, M. (URI)
3. Droxler, A. (U. So. Carolina)
4. Embley, R. (NOAA/MRRD)
5. Goldhaber, M. (USGS, Denver)
6. Hay, W. (U. Colo.)
7. Meyers, P. (U. Mich.)
8. Premoli-Silva, I. (ESF)
   Alt.: Vorren, T.
9. Saito, T. (Japan)
   Alt.: Okada, Hisatake
10. Sarg, R. (Exxon)
11. Sarnthein, M. (FRG)
12. Schaaf, A. (France)
13. Shackleton, N. (U.K.)
    Alt.: Summerhayes, C.
14. Tauxe, L. (SIO)
15. vacancy inorganic geochemist

Liaisons

Gartner (PCOM)
Kastner (PCOM)
Okada (ARP)
Ciesielski (SOP)
Ingle (WPAC)
vacancy (CEPAC)
TBA (IOP)

**TECTONICS PANEL**

1. Cowan, D., Chairman, (UW)
2. Dalziel, I. (UTA)
3. Hinz, K. (FRG)
4. Howell, D. (USGS, Menlo Pk.)
5. Hsu, K. (ESF)
   Alt.: Wortel, R.
6. Leggett, J. (U.K.)
   Alt.: Westbrook, G.
7. Marsh, B. (Johns-Hopkins)
8. Nakamura, K. (Japan) + WPAC
9. Riddihough, R. (Canada)
   Alt.: Srivastava, S.
10. Roure, F. (France)
11. Vogt, P. (Naval Res. Lab.)
12. Weissel, J. (LDGO) (Watts from Oct. 86)
13. vacancy

Liaisons

Coulbourn (PCOM)
Robinson (PCOM)
Sibuet (ARP)
Scholl (CEPAC)
LaBrecque (SOP)
Silver (WPAC)
Bell (DMP)
TBA (IOP)

## REGIONAL PANELS

**ATLANTIC REGIONAL PANEL**

1. Austin, J., Chairman (UTA)
2. Hemleben, C. (FRG)
3. Jansa, L. (Canada)
   Alt.: Keen, C.
4. Klitgord, K. (USGS, WHOI)
5. Larsen, H. (ESF)
   Alt.: Maldonado, A.
6. Mascle, J. (France/member-at-large)
7. Okada, Hisatake (Japan) + SOHP
8. Sibuet, J-C. (France)
9. Speed, R. (Northwestern)
10. Tucholke, B. (WHOI)
11. Whitmarsh, R. (U.K.)
    Alt.: Smythe, D.
12. vacancy

Liaisons

Cadet (PCOM)
Shipley (PCOM)
Juteau (LITHP)
Meyers (SOHP)
Vogt (TECP)

**CENTRAL & EASTERN PACIFIC REGIONAL PANEL**

1. chairman to be appointed
2. Davis, E. (Canada)
   Alt.: Chase, R.
3. Francheteau, J. (France)
   Alt.: Bourgois, J.
4. Jenkyns, H. (U.K.)
   Alt.: Floyd, P.
5. Johnson, P. (UW)
6. Mammerickx, J. (SIO)
7. Okada, Hakuyu (Japan)
8. Sancetta, C. (LDGO)
9. Schlanger, S. (Northwestern)
10. Scholl, D. (USGS, Menlo Pk.)
11. Sinton, J. (HIG)
12. Sliter, W. (USGS, Menlo Pk.)
13. von Stackelberg, U. (FRG)
14. TBA ESF Representative
    Alt.: Sengor, A.
15. vacancy petrologist

Liaisons

Coulbourn (PCOM)
Shipley (PCOM)
Batiza (LITHP)
Saito (SOHP)
Riddihough (TECP)

**INDIAN OCEAN PANEL**

1. Schlich, R., Chairman (France)
2. Bosellini, A. (ESF)
   Alt.: Backman, J.
3. Cochran, J. (LDGO)
4. Curray, J. (SIO)
5. Duncan, R. (OSU)
6. Falvey, D. (Australia/member-at-large)
7. Ludden, J. (Canada)
8. Prell, W. (Brown)
9. Sclater, J. (UTA)
10. Segawa, J. (Japan)
11. von Rad, U. (FRG)
12. White, R. (U.K.)
    Alt.: Scrutton, R.
13. vacancy

Liaisons

Kastner (PCOM)
Larson (PCOM)
Langmuir (LITHP)
Hay (SOHP)
Leggett (TECP)

**SOUTHERN OCEANS REGIONAL PANEL**

1. Kennett, J., Chairman (URI)
2. Anderson, J. (Rice)
3. Barker, P. (U.K.)
   Alt.: Jenkins, G.
4. Bornhold, B. (Canada)
5. Ciesielski, P. (Univ. Fla.)
6. DeMaster, D. (U. No. Carolina)
7. Dick, H. (WHOI)
8. Elliot, D. (Ohio S.U.)
9. Fisk, M. (OSU)
10. Fuetterer, D. (FRG)
11. Kaminuma, K. (Japan)
12. Kristoffersen, Y. (ESF)
    Alt.: Herb, R.
13. LaBrecque, J. (LDGO)
14. Leclaire, L. (France)
15. Weissel, J. (LDGO)

Liaisons

Beiersdorf (PCOM)
Hayes (PCOM)
Saunders (LITHP)
Shackleton (SOHP)
Hinz (TECP)

**WESTERN PACIFIC REGIONAL PANEL**

1. Taylor, B., Chairman (HIG)
2. Audley-Charles, M. (U.K.)
   Alt.: Cronan, D.
3. Gill, J. (UC, Santa Cruz)
4. Hyndman, R. (Canada/member-at-large)
5. Ingle, J. (Stanford)
6. Jongsma, D. (ESF)
   Alt.: Brooks, K.
7. Natland, J. (SIO)
8. Rangin, C. (France)
9. Recy, J. (France/member-at-large)
10. Schluter, H. (FRG)
11. Scott, S. (Canada)
12. Silver, E., (UCSC)
13. Tamaki, K. (Japan)

Liaisons

Hayes (PCOM)
Taira (PCOM)
Hawkins (LITHP)
Sarg (SOHP)
Nakamura (TECP)

# SERVICE PANELS

## DOWNHOLE MEASUREMENTS PANEL

1. Salisbury, M., Chairman (Canada)
2. Bell, S. (Canada/member-at-large)
3. Goodman, R. (U. CA, Berkeley)
4. Howell, E. (Arco)
5. Jageler, A. (Amoco)
6. Jung, R. (FRG)
7. Kinoshita, H. (Japan)
8. Olhoeft, G. (USGS, Denver)
9. Pozzi, J-P. (France)
   Alt.: Pascal, G.
10. Sayles, F. (WHOI)
11. Stephen, R. (WHOI)
12. Timur, T. (Chevron)
13. Traeger, R. (Sandia Labs)
14. Worthington, P. (U.K.)
    Alt.: Peveraro, R.
15. TBA ESF Representative
16. vacancy
17. vacancy

Liaisons
- Von Herzen (PCOM)
- McDuff (PCOM)
- Anderson (LDGO/Logging)
- Becker (LITHP)

## INFORMATION HANDLING PANEL

1. Appleman, D., Chairman (Smithsonian)
2. Gibson, I. (Canada)
3. Hathaway, J. (WHOI)
4. Hertogen, J. (ESF)
   Alt.: Saunders, J.
5. Jones, M. (U.K.)
6. Latremouille, M. (Canada/member-at-large)
7. Loeblich, A. (UCLA)
8. Loughridge, M. (NOAA-Boulder)
9. Moussat, E. (France)
10. Nowak, J. (FRG)
11. TBA Japanese Representative

Liaisons
- Cadet (PCOM)
- Gartner (PCOM)
- Merrill (ODP/TAMU)
- Broglia (LDGO/Logging)

## POLLUTION PREVENTION & SAFETY PANEL

1. Claypool, G., Chairman (USGS, Denver)
2. Ball, M. (USGS, WHOI)
3. Byramjee, R. (France)
4. Campbell, G. (Canada)
5. Green, A. (EXXON)
6. MacKenzie, D. (Marathon)
7. Roberts, D. (U.K.)
8. Stober, G. (FRG)
9. Ziegler, P. (ESF)
10. TBA Japanese Representative

Liaisons
- Larson (PCOM)
- Garrison (ODP/TAMU)

## SITE SURVEY PANEL

1. Peirce, J., Chairman (Canada)
   Alt. Canadian Rep.: Louden, K.
2. Duennebier, F. (HIG)
   Alt.: TBA
3. Jones, J. (U.K.)
   Alt.: Kidd, R.
4. Langseth, M. (LDGO)
   Alt.: TBA
5. Mauffret, A. (France)
   Alt.: Renard, V.
6. Suyehiro, K. (Japan)
   Alt.: Tamaki, K.
7. Wong, H. (FRG)
   Alt.: Weigel, W.
8. TBA ESF Representative
   Alt.: Sartori, R.

Liaisons

Francis (PCOM)
Pisias (PCOM)
Brenner (LDGO/Databank)
Kidd (ODP/TAMU)

## TECHNOLOGY AND ENGINEERING DEVELOPMENT COMMITTEE

1. Jarry, Jean, Chairman (France)
2. Abeger, S. (ESF)
3. Bingman, W. (Shell)
4. Dennis, B. (Los Alamos Nat'l. Labs.)
5. Gardner, T. (Exxon)
6. Grassick, D. (U.K.)
7. Kasahara, J. (Japan)
8. Manchester, K. (Canada)
9. Marx, C. (FRG)
10. Newsom, M. (Sandia Nat'l. Labs.)
11. Schuh, F. (Arco)
12. vacancy
13. vacancy

Liaisons

Von Herzen (PCOM)
Francis (PCOM)
Harding (ODP/TAMU)

## RED SEA WORKING GROUP

1. Cochran, J., Chairman (LDGO)
2. Arthur, M. (URI) + SOHP
3. Backer, H. (FRG)
4. Bonatti, E. (LDGO)
5. Coleman, R. (Stanford)
6. Juteau, T. (France) + LITHP
7. Miller, P. (ESSO)
8. Pautot, G. (France)
9. Whitmarsh, R. (U.K.) + ARP

# 1986/1987 MEETINGS SCHEDULE

| Date | Place | Committee/Panel |
|---|---|---|
| 6-7 August | Denver | PPSP |
| 11-15 August | Cornerbrook, Newfoundland | PCOM |
| 17-18 September | College Station | TEDCOM |
| 15-16 October | Sidney, British Columbia | EXCOM |
| 20-21 October* | Ann Arbor | CEPAC & SOHP |
| late October* | | TECP |
| late October* | | SOP |
| 4-6 November* | Villefranche | SSP |
| 7-8 November* | Tokyo | DMP |
| 19-21 November* | Houston | SOP |
| November* | | IOP |
| early December* | San Francisco | WPAC |
| 2-5 December* | San Francisco | PCOM (Annual Mtg. with Panel Chm.) |
| 8-10 January* | U.K. | LITHP |
| 28-30 April | Washington, DC | EXCOM (& ODP Council) |

*Meeting dates are tentative.

# INFORMATION

# PAPERS

ANALYSIS OF PROPOSALS RECEIVED BY THE JOIDES OFFICE (AS OF 21 JULY 1986)

| | | |
|---|---|---|
| Total number of proposals received | | 243 |
| a. Atlantic Ocean | | 38 proposals |
| comprising: | General | 24 |
| | Mediterranean Sea | 8 |
| | Caribbean Sea | 5 |
| | Norwegian Sea | 1 |
| from: | U.S./JOIDES institutions | 12 |
| | U.S./non-JOIDES institutions | 3 |
| | France | 11 |
| | U.K. | 4 |
| | FRG | 3 |
| | ESF Consortium | 3 |
| | Canada | 2 |
| b. Indian Ocean | | 63 proposals |
| comprising: | General | 57 |
| | Red Sea | 5 |
| from: | U.S./JOIDES institutions | 29 |
| | U.S./non-JOIDES institutions | 15 |
| | France | 9 |
| | U.K. | 3 |
| | Canada | 3 |
| | ESF Consortium | 2 |
| | FRG | 1 |
| | (Australia) | 1 |
| c. Southern Oceans | | 15 proposals |
| from: | U.S./JOIDES institutions | 6 |
| | U.S./non-JOIDES institutions | 3 |
| | France | 2 |
| | FRG | 2 |
| | (Australia) | 1 |
| | (New Zealand) | 1 |
| d. West Pacific Ocean | | 67 proposals |
| from: | U.S./JOIDES institutions | 8 |
| | U.S./non-JOIDES institutions | 11 |
| | Japan | 24 |
| | France | 11 |
| | FRG | 2 |
| | U.K. | 2 |

| | | |
|---|---|---|
| | (Australia) | 5 |
| | (Peoples Republic of China) | 2 |
| | (New Zealand) | 1 |
| | (Korea) | 1 |

e. Central and Eastern Pacific Ocean — 40 proposals

| | | |
|---|---|---|
| from: | U.S./JOIDES institutions | 20 |
| | U.S./non-JOIDES institutions | 14 |
| | Canada | 3 |
| | France | 2 |
| | Japan | 1 |

f. General/Instrumental — 20 proposals

| | | |
|---|---|---|
| from: | U.S./JOIDES institutions | 7 |
| | U.S./non-JOIDES institutions | 2 |
| | Japan | 4 |
| | FRG | 3 |
| | Canada | 1 |
| | France | 1 |
| | U.K. | 1 |
| | ESF Consortium | 1 |

Total (by country) — 243

| | | | |
|---|---|---|---|
| | U.S./JOIDES institutions | 83 | 130 |
| | U.S./non-JOIDES institutions | 47 | |
| | France | | 36 |
| | Japan | | 29 |
| | FRG | | 11 |
| | U.K. | | 10 |
| | Canada | | 9 |
| | ESF Consortium | | 6 |
| | Non-JOIDES nations (Australia) | | 7 |
| | (New Zealand) | | 2 |
| | (PRC) | | 2 |
| | (Korea) | | 1 |

In addition, 67 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 several proposals for workshops.

A.E.S.Mayer
July 1986

# PROPOSALS

## CLASSIFIED BY OCEANS

## 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<br>CAR-WG (P)<br>ARP (P)<br>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<br>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<br>TECP 1/84<br>SOHP 10/84 (for added 14 days drilling) | Approved 3/84 | Proposal revised 3/84 and 5/84<br>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<br>ARP 7/84 | Approved 9/84 | Approved as back--up leg.See Props. 23/A & 32/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)<br>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 | No | SOHP 5/84<br>ARP 4/84<br>SOHP 4/85<br>ARP 4/85 | Approved 5/84 | Leg 108<br>Revised 3/84 & further revised 4/85 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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<br>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<br>ARP | | French Blue Book |
| 16/A | 1/10/84 | Atlantic-Mediterranean relationship(Gulf of Cadiz, Alboran Sea); Paleoceano-graphic and paleohydrological evolution since the Miocene | Faugeres, J.C. | Univ. of Bordeaux 1, France | Some | Yes | TECP<br>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<br>TECP<br>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<br>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<br>ARP<br>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<br>ARP | | French Blue Book |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21/A | 1/10/84 | Rifting, stretching and oceanic accretion in the Tyrrhenian Marginal Basin | Rehault, J.P.<br>Fabbri, A. | Univ. P&M Curie, Fr.<br>Instituto di Geolog. Marina, CNR, Italy | Some | Yes | TECP 1/84 & 10/84<br>ARP<br>MED-WG 10/84<br>SOHP | Approved 9/84 | French Blue Book<br>Revised by MED-WG Sept.1984. Further revised June 1985.<br>Leg 107<br>see Prop 12/A |
| 22/A | 1/10/84 | The Rhone deep sea fan site: Proposal for deep sea drilling | Bellaiche,G.<br>Droz, L.<br>Got, H.<br>Orsolini, P. | Lab. de Geodynam. sous marin Villefran. France<br>CRSM, Perpignan,Fr.<br>SNEA,Paris | Yes | | TECP 1/84<br>ARP | | French Blue Book |
| 23/A | 1/10/84 | Caribbean Basins | Mascle, A.<br>Biju-Duval,B. | IFP,France<br>CNEXO, France | Yes | | CAR-WG 2/84<br>TECP 1/84<br>ARP | | French Blue Book<br>Partly related to Props.7/A & 32/A<br>Rel. to 211/B |
| 24/A | 1/10/84 | New drilling along Barbados transects | Mascle,A.<br>Biju-Duval,B. | IFP,France<br>CNEXO, France | Some | | CAR-WG 2/84<br>SOHP 2/84<br>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.<br>Bowland,C. | U.T.Austin | Some | Yes | ARP (P)<br>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)<br>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 Norwegian Sea during the IPOD-extension drilling | Hinz,K. and Norwegian Sea Working Group | BGR, FRG | Yes | No | NOR-WG<br>ARP (P)<br>TECP 2/84 | Approved 3/84 | Revised 4/84 & 5/84 (incorporates NOR-WG views)<br>Leg 104 |
| 38/A | 2/15/84 | Proposal for drilling in N.E. Gulf of Mexico (DeSoto Canyon) | Kennett, J.<br>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.<br>Shipley, T.<br>Stoffa, P. | U.T.Austin | Yes | | ARP (P)<br>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<br>ARP<br>SOHP 8/84 | Approved 3/84 | Related to Props. 24/A & 35/A;see also Prop. 72/A.<br>Leg 110 |
| 45/A | 3/5/84 | Paleoenvironmental drilling in the Equatorial Atlantic | Ruddiman, W.F. | LDGO | No | | SOHP 4/84<br>ARP 4/84<br>TECP | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 58/A | 3/21/84 | West Baffin Bay | Grant, A.C.<br>Jansen, et al. | Atlantic Geoscience Centre | | Yes | SOHP 10/84<br>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.<br>Kidd, R.B.<br>et al. | IOS, UK | Yes | | SOHP 4/84<br>ARP 4/84<br>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<br>ARP (P)<br>TECP 4/84 | | |
| 64/A | 6/25/84 | To drill at Site NJ-6 | Poag, C.W. | USGS,WHOI | Yes | | ARP 7/84<br>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.<br>Westbrook,G.K.<br>Mascle, A.<br>Moore. J.C. | Northwest-ern Univ.<br>Durham,UK<br>IFP,France<br>UCSC | Yes | | ARP (P)<br>TECP 8/84<br>SOHP 8/84 | | CAR W/G proposal; incorp. Leg 110<br>See Props. 24/A. 35/A and 41/A |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 85/A | 9/20/84 | Preliminary proposal for ODP drilling along the continental margin of Morocco,N.W. Africa | Hayes, D.E.<br>Mountain, G.<br>Rabinowitz,P. | LDGO<br><br>TAMU | | | ARP (P)<br>SOHP (P)<br>TECP (P) 10/84 | Approved 9/84 | Related to Prop.74/A Approved as part of back-up proposal. Rel. to 211/B |
| 122/A | 12/28/84 | Basement drilling at the Kane Fracture Zone | Karson, J.A. | WHOI | Yes | Yes | LITHP 1/85<br>ARP 1/85 | Approved 3/84 | Legs 106 & 109 |
| 125/A | 01/14/85 | Bare-rock drilling at the Mid-Atlantic Ridge (22°53'N) | Bryan,W.B<br>Purdy,G.M.<br>Thompson,G. | W.H.O.I. | Yes | No | LITHP 1/85<br>ARP 1/85 | Approved 3/84 | Legs 106 & 109 |
| 204/A | 12/30/85 | Proposed Florida escarpment drilling transect | Paull,C.<br>Kastner,M.<br>Neumann,A.C. | SIO<br><br>U.North Carolina | Yes | Yes | SOHP 12/85<br>ARP 12/85<br>TECP 1/86 | | USSAC Carbonate Platforms Workshop |
| 205/A | 12/30/85 | Drilling in the Bahamas: carbonate fans,escarpment erosion & roots of carbonate banks | Schlager,W.<br><br><br>Sheridan,R.E.<br>Ladd,J.<br>Ravenne,C<br><br>Neumann,A.C.<br><br>Austin,J. | Vrije Univ Amsterdam (ESF)<br>U.Delaware<br>LDGO<br>IFP Paris France<br>U.North Carolina<br>UT Austin | Yes | Some | SOHP 12/85<br>ARP 12/85<br>TECP 1/86 | | USSAC Carbonate Platforms Workshop |

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 | Proposals for oceanic drilling on the Davie Ridge and Malagasy Margin (Mozambique Channel) | Clocchiatti,M.<br>Leclaire,L.<br><br>Segoufin,J. | Mus.Natn. d'Hist. Naturelle, Univ.P&M Curie Paris,Fr. | Some | Yes | TECP 1/84<br>IOP 4/85<br>SOHP 4/85<br>TECP 4/85 | | French Blue Book<br>Revised proposal received 03/25/85<br>Further rev.8/85<br>French I.O.Book |
| 31/B | 1/10/84 | Paleoenvironmental history of the Red Sea | Guennoc, P. | BRGM, Fr. | Yes | Yes | TECP<br>IOP (P) | Approved 6/85 | 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.<br>Tapponier, P.<br>Jacquart, G. | Univ. P&M Curie, Fr. | | | WPAC<br>TECP 4/84<br>IOP (P) | | |
| 55/B | 3/21/84 | The Makran Forearc, Pakistan | Leggett, J.K. | Imperial College, U.K. | Some | Yes | TECP 4/84<br>IOP 4/84<br>SOHP 4/85 | Approved 5/86 | Revised 04/08/85<br>Rel. to 238/F |
| 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.<br>Forsyth, D.W.<br>Stein, C.A.<br><br>Anderson, R.N. | LDGO<br>Brown U.<br>North-western U<br>LDGO | None | Yes | DMP 4/84<br>TECP 4/84<br>IOP 4/84<br>LITHP 10/84<br>TECP 10/84<br>SOHP 10/84 | Approved 6/85 | 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)<br>SOHP 10/84<br>TECP 10/84 | | Revised 10/84 following US Indian Ocean Workshop<br>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.<br>Matthias, P. | LDGO<br>TAMU | Some | | IOP 7/84<br>TECP 7/84<br>SOHP 10/84<br>TECP 10/84 | | Revised following US Indian Ocean W'shop 10/84.See 102/B.Inc. in 211/B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 62/B | 6/18/84 | The Davie Fracture Zone: reactivating zone of weakness? | Coffin, M.F.<br>Matthias, P.<br>Bernoulli, D.<br><br>Scrutton, R.A.<br>Channell, J.T. | LDGO<br>TAMU<br>U.Basel<br>Switz.ESF<br>U.Edin.UK<br>U. Florida | No | | IOP (P)<br>SOHP 10/84<br>TECP 10/84<br>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.<br>Cande, S.C. | LDGO | Same | | TECP 10/84<br>LITHP 10/84<br>SOHP 10/84<br>SOP (P)<br>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 | Same | Yes | IOP 8/84 | | Rel. to 97/B & 226/B |
| 78/B | 8/23/84 | Indus Fan - a proposal for drilling | Kolla, V. | Superior Oil Co.USA | | | IOP (P)<br>SOHP 9/84 | | See Prop.96/B |
| 79/B | 8/28/84 | Tethyan stratigraphy and ancient oceanic crust | Coffin, M.F.<br>Chanell,J.E.T. | LDGO | Same | | LITHP 9/84<br>SOHP 9/84<br>IOP 9/84 | | |
| 86/B | 10/1/84 | Red Sea drilling | Bonatti, J. | LDGO | Yes | S.S. pro--posed | LITHP 10/84<br>SOHP 10/84<br>TECP 10/84<br>IOP 10/84 | Approved 6/85 | US Indian Ocean Workshop<br>Revised 9/85 |
| 87/B | 10/1/84 | Basalt drilling objectives in the Arabian Sea - Carlsberg Ridge | Natland, J. | SIO | Yes | | SOHP 10/84<br>TECP 10/84<br>IOP (P)<br>LITHP 10/84 | | US Indian Ocean Workshop |
| 88/B | 10/1/84 | Origin & evolution of the Chagos-Laccadive-Mascarene volcanic lineament,Central Indian Ocean | Duncan, R.A.<br>Fisk,M.R.<br>White, W.M. | OSU | Yes | | LITHP 5/85<br>SOHP 5/85<br>TECP 5/85<br>IOP 5/85 | | US Indian Ocean Workshop;<br>Related to Proposal 97/B; Revised 5/85 |

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| 89/B | 10/1/84 | Mantle heterogeneity leg-drilling on S.W.Indian Ridge Fracture Zones | Dick, H.J.B.<br>Natland, J. | WHOI<br>SIO | Some | | SOP 3/85<br>LITHP;IOP; &<br>TECP 3/85<br>& 5/86<br>DMP 5/86 | Approved 5/86 | US Indian Ocean W'shop:1st rev.3/85 Further rev'd 5/86 incorp.162/F,186/F & 208/B. Also see 112/B & 223/B |
| 90/B | 10/1/84 | S.E. Indian Ocean Ridge transect(mantle heterogeneity) | Duncan, R. | OSU | Yes | | LITHP 10/84<br>SOHP 10/84<br>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<br>IOP (P) | | US Indian Ocean Workshop; related to Prop. 112/B |
| 92/B | 10/1/84 | Seismic observatory in the Crozet Basin | Butler,R.<br>Brocher,T.M. | HIG<br>WHOI | No | Yes | LITHP 10/84<br>SOHP 10/84<br>TECP 8/85<br>IOP 8/85 | | US Indian Ocean Workshop Revised 8/85 |
| 93/B | 10/1/84 | History of anoxic sediments associated with monsoonal upwelling, salinity strat-ification and oxygen minima in the Western Arabian Sea | Prell, W.L. | Brown Univ. | Little | Yes | SOHP 10/84<br>IOP (P) | Approved 6/85 | US Indian Ocean Workshop Rel. to 94/B & 246/B |
| 94/B | 10/1/84 | History of monsoonal upwelling Owen Ridge, Arabian Sea | Prell, W.L. | Brown Univ. | Some | Yes | SOHP 10/84<br>TECP 10/84<br>IOP (P) | Approved 6/85 | US Indian Ocean Workshop Rel.to 93/B & 246/B |
| 95/B | 10/1/84 | History of the Asian monsoon (Bay of Bengal) | Cullen, J.L.<br>Prell, W.L. | Salem St.<br>Brown Univ. | Yes | | SOHP 10/84<br>TECP 10/84<br>IOP (P) | Approved 6/85 | 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<br>TECP 10/84<br>IOP (P) | Approved 6/85 | US Indian Ocean Workshop See Prop.78/B |

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|---|---|---|---|---|---|---|---|---|---|
| 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<br>IOP 3/85 | | US Indian Ocean Workshop; rel. to 88/B,183/B & 226/B. Revised 3/85 |
| 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<br>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<br>TECP 10/84<br>IOP (P) | | US Indian Ocean Workshop |
| 100/B | 10/1/84 | Stratigraphic sections - S.E. Indian Ridge transect | Hays, J.D.<br>Lazarus, D.B. | LDGO<br>WHOI | Some | | SOHP 10/84<br>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.<br>Rea, D.K. | Univ. of Michigan | Some | | SOHP 10/84<br>LITHP 10/84<br>IOP (P) | | US Indian Ocean Workshop |
| 102/B | 10/1/84 | Somali Basin | Matthias, P. | TAMU | | | IOP (P)<br>SOHP 10/84<br>TECP 10/84 | | US Indian Ocean Workshop<br>See Prop.61/B |
| 103/B | 10/1/84 | Nature of Laxmi Ridge (N.W. Indian Ocean) | Heirtzler, J. | WHOI | Little | | IOP (P)<br>SOHP 10/84<br>TECP 10/84<br>LITHP 10/84 | | US Indian Ocean Workshop |
| 104/B | 10/1/84 | Transect of 90°East Ridge | Curray, J.<br>Duncan, R. | SIO<br>OSU | Some | Yes | IOP (P)<br>LITHP 10/84<br>TECP 10/84<br>SOHP 10/84 | Approved 6/85 | US Indian Ocean Workshop |
| 105/B | 10/1/84 | Arc-continent collision,Timor | Karig, D.E. | Cornell Univ. | Yes | | IOP (P)<br>TECP 10/84<br>SOHP 10/84 | | US Indian Ocean Workshop |

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| 106/B | 10/1/84 | Broken Ridge, Indian Ocean | Curray, J. Thierstein,H. Mackenzie, Mahoney | SIO | Poss--ibly | | IOP (P)<br>TECP 10/84<br>SOHP 10/84<br>LITHP 10/84 | Approved 6/85 | 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)<br>TECP 10/84<br>LITHP 10/84<br>SOHP 10/84 | | US Indian Ocean Workshop |
| 112/B | 10/2/84 | Lithosphere Targets | Kennett, J. (on behalf of SOP) | URI | Some | | SOP (P)<br>LITHP 10/84<br>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)<br>SOHP 10/84<br>TECP 10/84 | | SOP Proposal<br>See props.116/B & 139/B |
| 115/B | 10/10/84 | Deep sea drilling on the Agulhas Plateau and adjacent basins | Herb,R. Oberhansli,H. | Univ. Bern Switz. ESF | Some | Yes | IOP 10/84<br>SOHP 10/84<br>TECP 10/84 | | Revised 4/85<br>See props.114/B & 139/B |
| 116/B | 10/10/84 | Comparative data on deep sea drilling on 90°E & Chagos-Laccadive Ridges for palaeo-oceanog.purposes;evaluation of advantages & disadvantages | Oberhansli, H. Herb,R. | Univ. Bern Switz. ESF | Some | Yes | IOP 10/84<br>SOHP 10/84 | Approved 6/85 | Revised 4/85 |
| 117/B | 10/22/84 | Proposal for drilling in the northern Red Sea | Cochran, J.B. | LDGO | Yes | Some | SOHP 9/84<br>TECP 9/84<br>IOP 9/84 | Approved 6/85 | 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<br>IOP 10/84 | Approved 6/85 | Includes views of LDGO Paleoclimates and Evolution Workshop |

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| 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<br>SOHP 12/84<br>TECP 12/84<br>LITHP 12/84 | | See Props.57/B, 134/B & 219/B |
| 120/B | 12/10/84 | Oceanic drilling in Atlantis II Deep, Red Sea | Zierenberg,R.A<br>Shanks, W.C.<br>Von Damm, K.L. | U.S.G.S. | Yes | | IOP 12/84<br>LITHP 12/84<br>TECP 12/84 | Approved 6/85 | |
| 121/B | 12/10/84 | Ocean drilling in the Exmouth & Wallaby Plateaus & Argo Abyssal Plain, E.Indian Ocean | von Rad,U.<br>Exon, N.F.<br>Symonds,P.A.<br>Willcox,J.B. | BGR, FRG<br>BMR, Australia | Yes | Yes | IOP 12/84<br>SOHP 12/84<br>TECP 12/84<br>LITHP 6/86 | Approved 6/85 | Australian COGS-2 proposal.Rev'd 12/85 & 6/86 Rel. to 211/B & 240/B |
| 134/B | 03/25/85 | Ocean drilling in the Gulf of Aden | Girdler,R.W. | Univ. Newcastle, U.K. | Yes | Yes | IOP 4/85<br>TECP 4/85<br>SOHP 4/85<br>LITHP 3/86 | | See Props.119/B & 219/B. Revised 2/86 & 4/86 |
| 135/B | 03/25/85 | Drilling on Broken Ridge to evaluate thermo-mechanical models of rifting | Weisssel,J.K.<br>Karner,G.D. | LDGO<br>U.Durham, U.K. | Some | Yes | IOP 4/85<br>TECP 4/85<br>SOHP 4/85 | Approved 6/85 | |
| 137/B | 03/25/85 | Oceanic drilling on the fossil ridges in the Indian Ocean | Schlich,R.<br>Royer,J.Y.<br><br>Whitechurch,H.<br><br>Clocchiatti,M. | I.de Phys. d.Globe Strasb'g<br>I.de Geol. Strasb'g<br>Mus.Natn. d'Hist.Nat France | No | Yes | IOP 4/85<br>TECP 4/85<br>LITHP 4/85<br>SOHP 4/85 | | Revised 8/85 French I.O.Book |
| 138/B | 03/25/85 | Oceanic drilling at the Rodriguez Triple Junction Indian Ocean | Schlich,R.<br>Munschy,M.<br>Royer,J.Y.<br>Montigny,R.<br>Whitechurch,H. | I.de Phys. d. Globe Strasb'g<br><br>I.de Geol Strasb'g France | Yes | No | IOP 4/85<br>LITHP 4/85<br>TECP 4/85 | | Revised 8/85 French I.O.Book |

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| 139/B | 03/25/85 | Oceanic drilling on the Agulhas Plateau,S.W.Indian Ocean | Jacquart,G.<br>Vincent,E. | CEPM-IFP, Rueil<br>Univ.P&M Curie, France | Some | Yes | IOP 4/85<br>SOP 4/85<br>SOHP 4/85<br>TECP 4/85 | | See props.114/B & 115/B<br>Revised 8/85<br>French I.O.Book |
| 140/B | 04/01/85 | Deep drilling in the Central and Northern Red Sea axial areas | Pautot,G.<br>Guennoc,P. | IFREMER, Brest<br>BRGM,Brest France | Some | Yes | IOP 4/85<br>SOHP 4/85<br>TECP 4/85<br>LITHP 4/85 | Approved 6/85 | Revised 8/85<br>French I.O.Book |
| 141/B | 04/02/85 | Drilling proposal for the Indus deep sea fan | Jacquart,G.<br>Ravenne,C.<br>Leclaire,L.<br>Clocchiatti,M. | CEPM-IFP, Rueil<br>Mus.Natn. d'Hist.Nat France | Some | Yes | IOP 4/85<br>SOHP 4/85 | | See props. 78/B & 96/B<br>Revised 8/85<br>French I.O.Book |
| 150/B | 07/01/85 | Hard rock drilling in the S.E. Indian Ocean: 90°E ridge & Kerguelen-Gaussberg ridge | Frey, F.A.<br>Sclater,J.G. | MIT<br>U.Texas Austin | Little | Yes | IOP 7/85<br>LITHP 7/85<br>TECP 12/85 | Approved 6/85 | See Props. 109/C, 136/C & 196/B |
| 173/B | 08/19/85 | Drilling in the Seychelles-Mascarene Plateau,N.W.Indian Ocean | Patriat,P.<br>Vincent,E.<br>Jacquart,G. | I.de Phys. d.Globe Paris<br>U.P&MCurie Paris<br>IFP France | Yes | Yes | SOHP 8/85<br>IOP 8/85<br>TECP 8/85 | | French I.O.Book |
| 183/B | 08/20/85 | Periplatform ooze in the Indian Ocean (Maldives) | Droxler,A.<br>Williams,D.F.<br>Baker,P.A. | U.South Carolina<br>Duke U. | Some | Yes | SOHP 8/85<br>IOP 8/85 | | See Prop.97/B<br>USSAC Carbonate Platforms Workshop<br>Revised 9/85 |
| 196/B | 12/09/85 | Impact of India on Asia:90°E ridge drilling to define northward motion | Peirce,J. | Petro--canada Canada | Some | Yes | IOP 12/85<br>TECP 12/85<br>LITHP 12/85 | Approved 1/86 | Related to Prop. 150/B |

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| 197/E | 12/16/85 | Drilling on the Australian Continental Margin:Otway Basin/West Tasmanian Region | Wilcox,J.B.<br>Branson, J.C.<br>Exon, N.F. | BMR, Australia | Yes | Some | IOP 12/85<br>SOP 12/85<br>LITHP 12/85<br>SOHP 12/85<br>TECP 12/85 | | Formerly included in Prop.126/D: COGS-2 super--proposal |
| 208/E | 1/10/86 | Petrological discontinuities at the ancestral triple junction in the Indian Ocean | Natland,J.H.<br>Fisher,R.L.<br>Mahoney,J.J. | SIO<br>HIG | Some | Yes | LITHP 1/86<br>TECP 1/86<br>IOP 1/86 | | Related to Props. 89/B & 223/B |
| 211/E | 1/17/86 | Deep stratigraphic tests | Arthur,M. (on behalf of SOHP) | URI | Some | Yes | SOHP 1/86<br>LITHP 1/86<br>TECP 1/86<br>IOP 1/86<br>ARP 1/86<br>CEPAC 1/86 | | Sediment & Ocean History Panel proposal. Rel. to 23/A,85/A,121/B, 182/E,195/E,207/E, & 225/E |
| 215/E | 2/10/86 | Pliocene-Holocene sedimentary & palaeoceanographic history of a young rifted margin, Red Sea | Richardson, M.<br>Arthur, M.A. | URI | Some | Yes | IOP 2/86<br>SOHP 2/86<br>TECP 2/86 | | |
| 219/E | 3/03/86 | Evolution of the Gulf of Aden | Simpson,P.R.K. | Newcastle U. U.K. | No | Yes | LITHP 3/86<br>IOP 3/86<br>TECP 3/86 | | Related to Props. 119/B & 134/B |
| 223/E | 4/14/86 | Drilling a fracture zone in the Central Indian Ocean | Natland,J.<br>Fisher,R.L. | SIO | Yes | No | IOP 4/86<br>LITHP 4/86<br>TECP 4/86 | | See props. 89/B & 208/B. Part inc. in rev'd(5/86) 89/B |
| 226/E | 5/1/86 | Neogene evolution of the pelagic carbonate system & deep circulation of the equatorial Indian Ocean | Prell,W. | Brown U. | Some | Yes | IOP 5/86<br>SOHP 5/86 | | Rel. to 77/B & 97/B |
| 240/E | 6/10/86 | Extended drilling in the Argo Abyssal Plain | Gradstein,F. | Geol.Surv. Canada | Yes | No | IOP 6/86<br>TECP 6/86<br>SOHP 6/86 | | Rel.to 121/B |

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| 246/B | 7/7/86 | Mesozoic upwelling off the S.Arabian Margin | Jansa,L. | Geol.Surv. Canada | Yes | Yes | SOHP<br>IOP | 7/86<br>7/86 | | Rel. to 93/B & 94/B |

## 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:<br>a. Sub-Antarctic sites<br>b. Weddell sites | Kennett, J.P. | URI | Some | Yes | TECP<br>SOP (P) | Approved 3/84 & 6/85 | Legs 113 & 114<br>See proposal 160/F & 228/C |
| 73/C | 08/02/84 | Drilling proposal on the Antarctic margin off the Adelie Coast | Wannesson,J. et al | IFP,France | Some | Yes | TECP 2/85<br>SOP 2/85<br>SOHP 2/85 | | Site summary forms submitted.Revised prop. rec'd 2/85 Further rev. 8/85 French I.O.Book |
| 108/C | 10/2/84 | East Antarctic continental margin | Kennett, J. (on behalf of SOP) | URI | Some | | SOP (P)<br>SOHP 10/84<br>TECP 10/84 | Approved 6/85 | Southern Ocean Panel Proposal |
| 109/C | 10/2/84 | Kerguelen - Heard Plateau | Kennett, J. (on behalf of SOP) | URI | Some | Yes | SOP (P)<br>SOHP 10/84<br>TECP 10/84 | Approved 6/85 | Southern Ocean Panel Prop.See Prop 136/C,150/B & 185/C |
| 110/C | 10/2/84 | Wilkesland- Adelie continental margin | Kennett, J. (on behalf of SOP) | URI | Yes | No | SOP (P)<br>SOHP 10/84<br>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)<br>SOHP 10/84<br>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)<br>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<br>SOHP 1/85<br>TECP 1/85<br>SOP 1/85<br>CEPAC 5/86 | | Revised 5/86 |

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| 136/C | 03/25/85 | Oceanic drilling on the Kerguelen-Heard Plateau | Schlich,R.<br>Munschy,M<br><br>Leclaire,L.<br>Froelich,F. | I.de Phys. d.Globe Strasb'g<br>Mus.Natn. d'Hist.Nat France | Yes | No | IOP 4/85<br>SOP 4/85<br>TECP 4/85<br>SOHP 4/85 | Approved 6/85 | Revised 7/85<br>See Props.109/C 150/B & 185/C<br>French I.O.Book |
| 169/C | 07/30/85 | Drilling on the South Tasman Rise | Hinz,K.<br>Dostmann,H. | BGR, FRG | Yes | No | SOHP 7/85<br>TECP 7/85<br>IOP 7/85<br>SOP 7/85 | | |
| 185/C | 08/23/85 | Origin,evolution & palaeo-oceanography of Kerguelen Plateau | Coffin,M.F.<br>Colwell,J.B.<br>et al | BMR Australia | Yes | No | SOP 8/85<br>IOP 8/85<br>SOHP 8/85<br>TECP 8/85<br>LITHP 8/85 | Approved 10/85 | See Props. 109/C & 136/C.Expansion of part of Prop.126/D: COGS-2 super-prop. |
| 209/C | 1/10/86 | Eltanin Fracture Zone drilling | Dunn,D. | U.Southern Mississ--ippi | No | Yes | LITHP 1/86<br>SOHP 1/86<br>TECP 1/86<br>SOP 1/86 | | USSAC South Pacific Workshop |
| 228/C | 5/5/86 | Drilling in the Weddell Sea (East Antarctic continental margin) | Hinz,K.<br>Dostmann,H.<br>Fuetterer,D. | BGR,FRG<br><br>AWI,FRG | Yes | No | SOP 5/86<br>TECP 5/86<br>SOHP 5/86 | | Rel. to 54/C<br>Leg 113 |
| 230/C | 5/8/86 | Drilling the Wilkes Land margin, Eastern Antarctica | Eittreim,S.<br>Hampton, M.A.<br>Tanahashi,M. | USGS<br><br>Geol.Surv. Japan | Some | Yes | SOP 5/86<br>TECP 5/86 | | USSAC South Pacific Workshop |
| 244/C | 7/7/86 | Drilling in the western Ross Sea | Cooper,A.K.<br>Webb,P.N.<br>Davey,F.J.<br>Barrett,P.J. | USGS<br>Ohio S.U.<br>DSIR,N.Z. Wellington<br>U.N.Zeal'd | Some | Yes | TECP 7/86<br>SOHP 7/86<br>SOP 7/86 | | |

WES ACIFIC OCEAN PROPOSALS

| Ref. No. | Date Rec'd. | Title | Investigator(s) | Inst. | Site Survey Avail' Data | Site Survey Future Need | Panel Reference | POOM 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 See Props. 184/D & 187/D |
| 26/D | 1/10/84 | Succinct proposals for deep sea drilling sites on the Tonga-Kermadec Arc | Pelletier,B. Dupont,J. | ORSTOM Centre de Noumea,New Caledonia, France | | | TECP 1/84 & 6/86<br>WPAC 6/86<br>LITHP 6/86<br>SOHP 6/86 | | French Blue Book Rev'd 6/86 Incorporates 189/D |
| 27/D | 1/10/84 | Drilling in the Sulu Sea Marginal Basin | Rangin,C. | Univ. P&M Curie Paris France | Some | Yes | TECP 7/85<br>WPAC 7/85<br>SOHP 7/85<br>LITHP 7/85 | | French Blue Book see Props.82/D & 154/D.Revised 7/85 |
| 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 See Prop.145/D |
| 42/D | 3/-/84 | Preliminary deep sea drilling proposal in Sunda Straits area | Huchon, P. | Univ. P&M Curie, Fr. | Yes | Yes | WPAC<br>TECP 4/84<br>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)<br>IOP (P)<br>TECP 3/84 | | |
| 46/D | 3/5/84 | Processes of continental rifting & evolution of passive continental margins; South China Sea | Hayes, D.E. Lewis, S.D. Ladd, J. Diebold,J. | LDGO | Yes | Some | WPAC 2/86<br>TECP 2/86<br>SOHP 2/86<br>LITHP 2/86 | | Related to Props. 147/D ,194/D,216/D, & 218/D.Revised 2/86. |

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| 47/D | 3/5/84 | Proposal for scientific ocean drilling along the Manila Trench subduction zone, South China Sea | Lewis, S.D.<br>Hayes, D.E. | LDGO | Some | Yes | WPAC (P)<br>TECP (P) 3/84 | | |
| 48/D | 3/5/84 | Drilling in the Sulu Sea & the South China Sea | Hinz,K.<br>Schluter,H.U. | BGR, FRG | Yes | Some | WPAC 12/85<br>TECP 12/85<br>SOHP 12/85 | | Revised 12/85<br>Mature proposal |
| 49/D | 3/5/84 | Drilling proposal for the Eastern Banda Arc/Arafura Sea | Schluter, H.U.<br>Fritsch, J. | BGR, FRG | Yes | | WPAC (P) | | |
| 50/D | 3/5/84 | Nankai Trough and Shikoku Forearc | Kagami, H.<br>Taira,A.<br>et al | ORI Tokyo Japan | Yes | | WPAC 8/85<br>TECP 8/85<br>LITHP 8/85 | | Rev.8/85<br>Japanese Workshop |
| 51/D | 3/5/84 | ODP proposal for scientific drilling in the Sea of Japan | Tamaki,K.<br>Honza,E.<br>Kagami,H.<br>Kobayashi,K. | Geol.Surv.<br>ORI Tokyo Japan | Yes | | WPAC 7/85<br>LITHP 7/85<br>TECP 7/85 | | See Props. 149/D & 151/D.Revised 7/85.Mature prop. Rel.to 168/D &198/D Supp.rec'd 6/86 Japanese Workshop |
| 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.<br>Exon, N.F.<br>Willcox,B.<br>Symonds, P. | BMR, Australia | Yes | | TECP (P)<br>WPAC (P) | | See Prop.217/D |
| 80/D | 8/30/84 | Sunda and Banda Arc drilling: a study of convergent margin processes | Karig, D.E.<br>Moore, G.F. | Cornell U.<br>Tulsa U. | Yes | | IOP (P)<br>TECP 10/84<br>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)<br>SOHP (P)<br>TECP 9/84 | | See Props.27/D & 154/D |

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| 83/D | 9/5/84 | Izu-Ogasawara(Bonin) Arc transect | Okada, H.<br>Takayanagi,Y. | Shizuoka Univ.Japan<br>Tohuku U., Japan | Yes | | WPAC 9/84<br>TECP 9/84<br>LITHP 9/84 | | Revised 7/85 & 4/86 Japanese Workshop Rel.to Prop.171/D |
| 126/D | 01/14/85 | Site proposals for scientific ocean drilling in the Australasian region (composite proposal) | Crook,K.A.W.<br>Falvey,D.A.<br>Packham,G.H. | ANU, Canberra<br>BMR, Canberra<br>U. Sydney Australia | Yes | Yes | SOHP 1/85<br>LITHP 1/85<br>TECP 1/85<br>IOP 1/85<br>SOP 1/85<br>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.<br>Silver,E.A.<br>Meyer,A.W. | U.Calif., Santa Cruz<br>ODP/TAMU | Some | Yes | SOHP 1/85<br>TECP 1/85<br>IOP 1/85<br>WPAC 1/85 | | Superseded by 242/D |
| 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<br>WPAC 1/85<br>LITHP 1/85<br>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<br>TECP 3/85<br>LITHP 3/85<br>SOHP 3/85 | | see Prop.154/D |
| 132/D | 03/11/85 | ODP Proposal on drilling the TTT-type Triple Junction area off Boso,Japan | Ogawa,Y.<br>Fujioka,K. | Kyushu U.<br>ORI,Tokyo Japan | Yes | No | WPAC 3/85<br>TECP 3/85<br>SOHP 3/85 | | Rel.to Prop.148/D Rev.6/85 Japanese Workshop |

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| 144/D | 05/28/85 | Arc-arc collision in the southernmost Kuril forearc off Hokkaido | Seno,T.<br>Kimura,G.<br>Tamaki,K. | Int.Inst. Seism. & Earthquake Eng.<br>Kagawa U.<br>Geol.Surv. Japan | Yes | No | WPAC 5/85<br>TECP 5/85 | | | Japanese Workshop |
| 145/D | 05/29/85 | Left-lateral dislocation of the Ryukyu Arc system | Ujiie,H. | U. of the Ryukyus Japan | Some | No | WPAC 5/85<br>TECP 5/85<br>LITHP 6/86 | | | Japanese W'shop.Rev 6/86 inc.167/D & 179/D. Rel. to 29/D |
| 146/D | 05/30/85 | Toyama Submarine Fan,eastern Japan Sea | Klein,G.deV. | U.Illinois (Urbana) | Some | Yes | WPAC 5/85<br>TECP 5/85<br>SOHP 5/85 | | | Revised 7/85 |
| 147/D | 06/06/85 | Preliminary proposal for scientific drilling in the South China Sea | Wang,P.<br>Zhu,X. et al | Tongji U., PRC | Some | Yes | WPAC 6/85<br>TECP 6/85<br>SOHP 11/85 | | | Related to Props. 46/D ,194/D,216/D & 218/D |
| 148/D | 06/07/85 | Drilling the oblique subduction zone near the TTT-type triple junction area,off central Japan (Sagami Basin) | Ogawa,Y.<br>Fujioka,K.<br>Takeuchi,A.<br>Tanahashi,M. | Kyushu Univ. Japan | Yes | No | WPAC 6/85<br>TECP 6/85 | | | Related to Prop.132/D<br>Japanese Workshop |
| 149/D | 07/01/85 | Active spreading centre of the Sea of Japan:Yamoto Basin | Kimura,M.<br>Kato,Y.<br>Yamamoto,S. | U. of the Ryukyus, Japan | Some | Yes | WPAC 7/85<br>LITHP 7/85<br>TECP 7/85 | | | Rel.to 51/D & 151/D<br>Rev'd 6/86<br>Japanese Workshop |
| 151/D | 07/01/85 | Opening of the Japan Sea: mantle plume origin | Wakita,H. | U.Tokyo Japan | Some | Yes | WPAC 7/85<br>TECP 7/85<br>LITHP 7/85 | | | See Props. 51/D & 149/D<br>Japanese Workshop |
| 154/D | 07/01/85 | Entrapment of Banda-Celebes--Sulu Basin | Hilde.T.W.C. | TAMU | Some | Yes | WPAC 7/85<br>LITHP 7/85<br>TECP 7/85<br>SOHP 7/85 | | | See Props.27/D,82/D & 131/D |

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| 156/D | 07/08/85 | Potential massive sulfide in Kita-Yamamoto Trough,Japan Sea | Urabe,T. | Geol.Surv. Japan | Yes | No | WPAC 7/85<br>SOHP 7/85<br>LITHP 7/85<br>TECP 7/85 | | | Japanese Workshop |
| 157/D | 07/10/85 | Palaeo-oceanography & marine climatic history of the Japan Sea | Koizumi,I.<br>Oba, T. | Osaka U.<br>Kanazawa U<br>Japan | Yes | Yes | WPAC 7/85<br>SOHP 7/85 | | | Related to Ideas I-52<br>Japanese Workshop |
| 158/D | 07/15/85 | Geochemistry & sedimentology of active oceanic margin & back-arc basin sediments: Japan Sea and Trench | Matsumoto,R.<br>Minai,Y. | Tokyo U.<br>Japan | Some | Yes | WPAC 7/85<br>SOHP 7/85<br>TECP 7/85 | | | Japanese Workshop |
| 163/D | 07/18/85 | Zenisu Ridge (Nankai Trough) - intraplate deformation of a young marginal basin | Rangin,C.<br>Lallemant,S.<br>Le Pichon,X. | U.P&MCurie Paris France | Yes | | WPAC 7/85<br>TECP 7/85<br>SOHP 7/85 | | | See Prop.177/D |
| 164/D | 07/18/85 | Japan Trench & Japan-Kuril Trenches Junction | Jolivet,L.<br>Cadet,J-P.<br>Lallemand,S. | U.P&MCurie Paris<br>U.Orleans France | Yes | | TECP 7/85<br>WPAC 7/85<br>SOHP 7/85 | | | Further revision after KAIKO-2 |
| 165/D | 07/18/85 | Shikoku Basin ocean crust | Chamot-Rooke,N<br>Le Pichon,X. | U.P&MCurie Paris France | Yes | | TECP 7/85<br>WPAC 7/85<br>SOHP 7/85 | | | |
| 166/D | 07/22/85 | Instantaneous opening of the Japan Sea;evolution of the mantle wedge | Tatsumi,Y. et al | Kyoto U.<br>Japan | Yes | | TECP 7/85<br>LITHP 7/85<br>WPAC 7/85 | | | Japanese Workshop |
| 167/D | 07/22/85 | Okinawa Trough back-arc rifting & Ryukyu Trench system | Uyeda,S. et al | ERI,Tokyo U.<br>Japan | Yes | | TECP 7/85<br>LITHP 7/85<br>WPAC 7/85 | | | Japanese Workshop<br>Inc. in 145/D rev'd 6/86 |
| 168/D | 07/22/85 | Japan Sea:sedimentology of siliceous sediments | Iijima,A.<br>Matsumoto,R.<br>Tada,R. | Tokyo U.<br>Japan | Yes | | SOHP 7/85<br>TECP 7/85<br>LITHP 7/85 | | | Related to Prop. 52/D<br>Japanese Workshop |

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| 170/D | 07/30/85 | Valu Fa Ridge,Lau Basin; back-arc spreading center | Morton,J.L.<br>Vallier,T.L.<br>Hawkins,J. | USGS,Menlo Park<br>SIO | Yes | No | LITHP<br>TECP<br>WPAC | 7/85<br>7/85<br>7/85 | | USSAC West Pacific W'shop. Rel. to 189/D & 220/D |
| 171/D | 08/13/85 | Bonin Region;problems of intra-oceanic arc-trench development | Taylor,B. | HIG | Yes | Same | WPAC<br>LITHP<br>TECP | 8/85<br>8/85<br>8/85 | | USSAC West Pacific Workshop.Rev.4/86 Rel. to 83/D |
| 172/D | 08/19/85 | Mariana forearc,arc & back-arc basin | Fryer,P. | HIG | Yes | Same | WPAC<br>LITHP<br>TECP | 8/85<br>8/85<br>8/85 | | USSAC West Pacific Workshop |
| 174/D | 08/19/85 | Forearc tectonics: Japan Sea | Otsuki,K. | Tohoku U.<br>Japan | Yes | Yes | WPAC<br>TECP | 8/85<br>8/85 | | Japanese Workshop |
| 175/D | 08/19/85 | Origin of inner wall of the Japan Trench | Niitsuma,N.<br>Saito,Y. | Shizuoka U<br>Nat.Sci.<br>Mus.Tokyo<br>Japan | Yes | | WPAC<br>TECP | 8/85<br>8/85 | | Japanese Workshop |
| 176/D | 08/19/85 | Southernmost Japan Trench & migration of triple junction | Niitsuma,N. | Shizuoka U<br>Japan | Yes | | WPAC<br>TECP | 8/85<br>8/85 | | Japanese Workshop |
| 177/D | 08/19/85 | Zenisu Ridge:intra-oceanic plate shortening | Taira,A.<br>et al | ORI Tokyo<br>Japan | Yes | No | WPAC<br>TECP<br>SOHP | 8/85<br>8/85<br>8/85 | | Japanese Workshop See Prop.163/D |
| 178/D | 08/19/85 | Nankai Trough forearc | Shiki,T.<br>Miyake,Y. | Kyoto U.<br>Japan | Yes | | WPAC<br>TECP | 8/85<br>8/85 | | Japanese Workshop |
| 179/D | 08/19/85 | Daito Ridges region: N.W. Philippines Sea | Tokuyama,H.<br>Konishi,K.<br>Kimura,M. | ORI Tokyo<br>Kanazawa U<br>Ryukyu U.<br>Japan | Yes | Yes | TECP<br>WPAC<br>LITHP | 8/85<br>8/85<br>8/85 | | Japanese Workshop Inc. 145/D rev'd 6/86 |

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| 180/D | 08/19/85 | Kita-Amami basin & Amami Plateau,N.Philippines Sea | Shiki,T. | Kyoto U. Japan | Yes | Yes | TECP 8/85<br>LITHP 8/85<br>WPAC 8/85 | | Japanese Workshop |
| 181/D | 08/19/85 | Petrological & tectonic evolution of wedge mantle & forearc crust along the Izu-Ogasawara-Mariana forearc | Ishii,T. | ORI Tokyo Japan | Yes | Yes | TECP 8/85<br>LITHP 8/85<br>WPAC 8/85 | | Japanese Workshop |
| 184/D | 08/21/85 | Drilling in the Papua New Guinea/Bismark Sea Region | Exon,N.F.<br>Marlow,M.S. et al | BMR Australia<br>USGS Menlo Park | Yes | Yes | LITHP 8/85<br>WPAC 8/85<br>TECP 8/85 | | See Props.25/D & 187/D |
| 187/D | 09/13/85 | Drilling in the New Hebrides Arc Region, S.W.Pacific | Taylor,F.W.<br>Lawver,L.A. | U.T.Austin | Some | Yes | WPAC 9/85<br>LITHP 9/85<br>TECP 9/85 | | See Props.25/D & 184/D<br>USSAC West Pacific Workshop |
| 189/D | 10/07/85 | Drilling in the Tonga Ridge-Lau Ridge region | Stevenson,A.J.<br>Scholl,D.<br>Vallier,T. | USGS | Yes | Yes | WPAC 10/85<br>LITHP 10/85<br>SOHP 10/85<br>TECP 10/85 | | USSAC West Pacific W'shop.Rel. to 170/D & 220/D.Part inc.in 26/D rev'd |
| 190/D | 10/07/85 | Drilling in the arc-ridge collision zone in the central New Hebrides island arc (Vanuatu) | Fisher,M.A.<br>Greene,H.G.<br>Collot,J-Y.<br>Recy,J. | USGS<br>ORSTOM France | Yes | Yes | WPAC 10/85<br>LITHP 10/85<br>SOHP 10/85<br>TECP 10/85 | | USSAC West Pacific Workshop |
| 191/D | 10/07/85 | Drilling in arc-plateau collision zone & intra-arc basin,central & western Solomon Islands | Vedder,J.G.<br>Bruns,T.R. | USGS | Yes | Yes | WPAC 10/85<br>LITHP 10/85<br>SOHP 10/85<br>TECP 10/85 | | USSAC West Pacific Workshop<br>Rel.to 235/D |

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| 194/D | 11/26/85 | Drilling in the South China Sea | Liu,D.<br>Luo,Y.<br>Chen,D. | CSCOD,Soc. of Oceanog PRC | Yes | Yes | TECP 11/85<br>WPAC 11/85<br>SOHP 11/85 | | Related to Props. 46/D,147/D,216/D & 218/D |
| 198/D | 12/16/85 | Ulleung (Tsushima) Basin: Neogene tectonics & sediment--ation | Chough,S.K. et al<br>Honza,E.<br><br>Klein,G.deV.<br>Cadet,J-P<br><br>Hilde, T.W.C. | Seoul Nat. U.,Korea<br>Geol.Surv. Japan<br>U.Illinois<br>Orleans U. France<br>TAMU | Yes | Yes | WPAC 12/85<br>TECP 12/85<br>SOHP 12/85 | | Related to Prop. 51/D<br>Supplement rec'd 7/86 |
| 206/D | 12/30/85 | Great Barrier Reef:slope sedimentation adjacent to a mixed reefal-carbonate/ epiclastic shelf | Davies,P.J.<br>Symonds,P.A.<br>Feary,D. | BMR, Australia | Some | Yes | SOHP 12/85<br>WPAC 1/86<br>TECP 3/86 | | USSAC Carbonate Platforms Workshop Formerly included in Prop.126/D: COGS-2 super-prop. Rev.3/86 |
| 216/D | 2/13/86 | Drilling in the South China Sea | Rangin,C.<br><br>Pautot,G.<br>Briais,A.<br>Tapponnier,P. | U.P&MCurie Paris<br>IFREMER<br>IPG Paris France | Yes | No | LITHP 2/86<br>TECP 2/86<br>WPAC 2/86 | | Related to Props. 46/D,147/D,194/D & 218/D |
| 217/D | 2/13/86 | Drilling on the Lord Howe Rise | Mauffret,A.<br>Mignot,A. | Univ.P&M Curie, France | Some | Yes | SOHP 2/86<br>WPAC 2/86<br>TECP 2/86 | | See Prop.67/D |
| 218/D | 2/13/86 | Manila Trench & Taiwan Collision Zone, South China Sea | Lewis,S.<br>Hayes,D.E.<br>Lundberg<br>Suppe<br>Dorsey,R. | LDGO<br><br>Princeton U. | Some | Yes | TECP 2/86<br>LITHP 2/86<br>WPAC 2/86 | | Related to Props. 46/D,147/D,194/D & 216/D |
| 220/D | 3/20/86 | Three drilling sites in the Lau Basin | Hawkins,J.W. | SIO | Some | Yes | TECP 3/86<br>LITHP 3/86<br>WPAC 3/86 | | USSAC West Pacific W'shop.Rel. to 170/D;189/D;239/D |

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| 235/D | 6/2/86 | Problems of arc-trench development rel. to collision, back-arc spreading & slow rate subduction in the Solomon Sea plate region | Honza,E.<br>Sandy,M.<br>Crook,K.A.W.<br>Tiffin,D.L. | Geol.Surv. Japan<br>Geol.Surv. Papua/N. Guinea<br>ANU Australia<br>CCOP/SOPAC | Some | Yes | WPAC 6/86<br>TECP 6/86<br>SOHP 6/86 | | Expansion of part of 146/D COGS-2 super-proposal Rel.to 191/D & 222/E |
| 239/D | 6/9/86 | Two sites in the Lau Basin | Cronan,D.S. | Imp.Coll. London,U.K | Some | Yes | WPAC 6/86<br>TECP 6/86<br>LITHP 6/86 | | Rel.to 170/D & 220/D |
| 242/D | 6/16/86 | Backthrusting and back arc thrusting in an arc-continent collision zone:eastern Sunda Arc | Silver,E.A.<br>Reed,D.L. | UCSC | Yes | Yes | WPAC 6/86<br>TECP 6/86 | | See 127/D |
| 243/D | 6/20/86 | Drilling the outer Tonga Trench | Bloomer,S.H.<br>Fisher,R.L. | Duke Univ.<br>SIO | Some | Yes | TECP 6/86<br>WPAC 6/86<br>LITHP 6/86 | | |

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.<br>Buffler, R.T. | U.T.Austin | Yes | No | AMP (P)<br>Middle America WG (P) | | Reference to DSDP Panels |
| 3/E | 6/27/83 | Drilling flexural moats flanking the Hawaiian Islands | Watts, A.B.<br>ten Brink,U.<br>Detrick, R.S.<br>Brocher,T.M. | LDGO<br><br>URI<br>USGS | Yes | Yes | CEPAC 2/84<br>TECP 11/85<br>LITHP 2/84 | | Revised 11/13/85 |
| 4/E | undated | Drilling in the Tuamoto Archipelago(French Polynesia) | Okal, E.A. | Yale Univ. | Some | | CEPAC 2/84<br>LITHP 2/84 | | |
| 8/E | 9/18/83 | Ridge crest subduction along the Southern Chile Trench | Cande,S.C. | LDGO | Some | Ref'd to JOI SSP8/84 | TECP 7/84 | Approved 9/84 | |
| 14/E | 1/10/84 | Zero age drilling: East Pacific Rise 13° N. | Bougault, H. | COB,France | Yes | | CEPAC 2/84<br>LITHP 2/84<br>TECP | Approved 9/84 | Related to Prop. 76/E.<br>French Blue Book |
| 34/E | 2/-/84 | Pacific-Aleutian-Bering Sea (PAC-A-BERS) proposal | Scholl, D.<br>Vallier. T. | USGS,Menlo Park | | | | | |
| 37/E | 2/25/84 | Costa Rica drilling - a test of the duplex model | Shipley, T.<br>Moore, G.<br>Buffler, R.<br>Silver, E.<br>Lundberg, N. | U.T.Austin<br><br><br>UCSC<br>Princeton | Some | | CEPAC (P)<br>TECP (P) 8/84<br>SOHP 8/84 | | Revised 8/84 |

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| 75/E | 8/13/84 | Gulf of California drilling | Becker, K. et al | SIO | Some | Yes | LITHP (P)<br>TECP (P)<br>SOHP (P)<br>CEPAC (P) | | |
| 76/E | 8/17/84 | Proposal for drilling oceanic crust at the axis of the East Pacific Rise | Francheteau,J.<br>Hekinian, R. | Univ.Paris<br>IFREMER, Brest | | | CEPAC (P)<br>CEPAC 11/84<br>LITHP 11/84 | Approved 9/84 | Revised 11/84.Rel. to Prop.14/E. |
| 84/E | 9/10/84 | Peru Margin drilling proposal | Kulm, L.<br>Hussong,D | HIG | | Needed | TECP 9/84<br>CEPAC (P)<br>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<br>CEPAC 1/85 | Approved 6/85 | Related to Prop. 124/E.Leg 111 |
| 124/E | 01/02/85 | Proposal to deepen Hole 504B | Becker,K. (on behalf of LITHP) | S.I.O. | Yes | No | LITHP 1/85<br>CEPAC 1/85 | Approved 9/84 | Leg 111<br>See Prop.160/F |
| 142/E | 04/02/85 | Equatorial Pacific depth transect: Ontong Java Plateau | Mayer,L.<br>Berger,W.H. | Dalhousie U.Canada<br>SIO | Some | Yes | CEPAC 4/85<br>SOHP 4/85<br>WPAC 4/86 | | See Prop.222/E |
| 153/E | 07/01/85 | Three drill sites in the S.E. Pacific | Hays, J.D. | LDGO | Yes | No | CEPAC 7/85<br>SOHP 7/85<br>SOP 7/85 | | |
| 182/E | 08/19/85 | Sounder Ridge,Bering Sea: Kula Plate stratigraphy | Taira,A. | ORI Tokyo Japan | Yes | Yes | TECP 8/85<br>SOHP 8/85<br>CEPAC 8/85 | | Japanese Workshop Rel.to 195/E,207/E 211/B & 225/E |
| 192/E | 11/06/85 | Drilling on the Baranoff Fan S.E.Gulf of Alaska | Stevenson,A.J.<br>Scholl,D.W. | USGS | Yes | Yes | CEPAC 11/85<br>SOHP 11/85<br>TECP 11/85 | | USSAC NORPAC Workshop |

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| 195/E | 12/05/85 | Palaeoenvironment & palaeo--climate in the Bering Sea | Sancetta, C. | LDGO | Some | Yes | SOHP 12/85<br>CEPAC 12/85 | | USSAC NORPAC W'shop Rel. to 182/E,207/E 211/B,225/E & 229/E |
| 199/E | 12/30/85 | Pelagic sediments in the sub-Arctic gyre region of the north Pacific | Janecek,T.R.<br>Morley,J.J.<br>Sancetta,C. | LDGO | Some | Yes | SOHP 12/85<br>CEPAC 12/85 | | USSAC NORPAC Workshop |
| 202/E | 12/30/85 | Geological evolution of N. Marshall Islands:drilling carbonate banks with related palaeoceanographic,tectonics & lithospheric objectives | Schlanger,S.O. | North-western U | Yes | Yes | SOHP 12/85<br>CEPAC 12/85<br>LITHP 1/86<br>TECP 1/86 | | USSAC Carbonate Platforms Workshop |
| 203/E | 12/30/85 | Drilling guyots in the central Pacific | Winterer,E.L.<br>Natland,J.<br>Sager,W. | SIO<br><br>TAMU | Some | Yes | SOHP 12/85<br>CEPAC 12/85<br>LITHP 1/86<br>TECP 1/86 | | USSAC Carbonate Platforms Workshop |
| 207/E | 1/3/86 | Tectonic evolution of the Bering Sea Basin & Aleutian Ridge | Rubenstone,J. | LDGO | Some | Yes | TECP 1/86<br>LITHP 1/86<br>CEPAC 1/86 | | USSAC NORPAC W'shop Rel. to 182/E,195/E 211/B,225/E,227/E, & 229/E |
| 210/E | 1/13/86 | Drilling on the Yakutat Continental Margin, N.E.Gulf of Alaska | Lagoe,M.B.<br>Armentrout,J. | UT Austin<br>Mobil | Yes | Some | TECP 1/86<br>SOHP 1/86<br>CEPAC 1/86 | | USSAC NORPAC W'shop.Rel. to 236/E & 241/E |
| 212/E | 1/27/86 | Drilling off northern & central California | Greene,H.G. | USGS | Yes | Yes | TECP 1/86<br>SOHP 1/86<br>CEPAC 1/86 | | |
| 213/E | 1/27/86 | Processes controlling accretion in the central Aleutian Subduction Complex | McCarthy,J.<br>Scholl,D.W. | USGS | Yes | No | TECP 1/86<br>CEPAC 1/86 | | USSAC NORPAC Workshop.Rel. to 214/E & 234/E |
| 214/E | 1/31/86 | Drilling the trench-slope break:Central Aleutian Forearc | Ryan,H.F.<br>Scholl,D.W. | USGS | Yes | Some | TECP 1/86<br>CEPAC 1/86 | | USSAC NORPAC W'shop Rel.to 213/E &234/E |

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| 221/E | 3/24/86 | Late Cenozoic palaeoenvironments:APC/XCB drilling in the Equatorial Pacific | Pisias,N.G.<br>Mix,A.C.<br>Lyle,M. | OSU | Same | Yes | SOHP 3/86<br>CEPAC 3/86<br>TECP 3/86<br>LITHP 3/86 | | INPAC W'shop<br>Rel. to 247/E |
| 222/E | 3/28/86 | Ontong-Java Plateau: origin, sedimentation history and tectonic processes | Kroenke,L.W.<br>Coulbourn,W.<br>Mahoney,J.<br>Resig,J. | HIG | Yes | Yes | SOHP 3/86<br>LITHP 3/86<br>TECP 3/86<br>CEPAC 3/86<br>WPAC 4/86 | | See Prop.142/E<br>Rel to 235/D |
| 224/E | 4/23/86 | Drilling in the Escanaba Trough:the sediment filled axial valley of the Gorda Ridge,N.E.Pacific | Fisk,M. et al<br>Karlin,R.et al<br><br>Holmes,M.<br>Morton,J. | OSU<br>U. Washington<br>USGS | Yes | No | LITHP 4/86<br>TECP 4/86<br>CEPAC 4/86 | | |
| 225/E | 4/30/86 | Drilling in the Aleutian Basin,Bering Sea | Cooper,A.K.<br>Marlow, M.S. | USGS | Same | Yes | TECP 4/86<br>SOHP 4/86<br>CEPAC 4/86 | | USSAC NORPAC W'shop<br>Rel. to Props.182/E 195/E,207/E,211/B & 229/E |
| 227/E | 5/2/86 | Subsidence & fragmentation of the Aleutian Ridge and formation of summit basins | Vallier,T.L.<br>Geist,E. | USGS | Same | Yes | TECP 5/86<br>CEPAC 5/86<br>LITHP 5/86 | | USSAC NORPAC W'shop<br>Rel. to 207/E |
| 229/E | 5/8/86 | Drilling on the Beringian continental slope & rise, Bering Sea | Cooper,A.K.<br>Marlow,M.S.<br>Armentrout,J. | USGS<br><br>Mobil | Yes | Same | CEPAC 5/86<br>SOHP 5/86<br>TECP 5/86 | | USSAC NORPAC W'shop<br>Rel. to 195/E,207/E & 225/E |
| 231/E | 5/8/86 | Drilling in the North Pacific magnetic quiet zone | Mammerickx,J. et al | SIO | Same | Yes | TECP 5/86<br>CEPAC 5/86<br>LITHP 5/86 | | USSAC NORPAC W'shop |
| 232/E | 5/16/86 | Drilling in high temperature zero-age crust on northern Juan de Fuca Ridge | Davis,E. et al | PGC, Canada | Yes | Same | LITHP 5/86<br>CEPAC 5/86<br>TECP 5/86 | | INPAC W'shop |

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| 233/E | 5/21/86 | Fluid processes & structural evolution of the central Oregon accretionary complex | Kulm,L.D. et al | OSU | Yes | Some | SOHP 5/86<br>TECP 5/86<br>CEPAC 5/86 | | INPAC W'shop Rel. to 237/E |
| 234/E | 6/2/86 | Kinematics of plate coverage along the eastern Aleutian Trench | von Huene,R.<br>Fisher,M.<br>Wang,C.<br>Moore,C.<br>Keller,G. | USGS<br><br>UCBerkeley<br>UCSC<br>UPrinceton | Some | Yes | CEPAC 6/86<br>TECP 6/86<br>SOHP 6/86 | | USSAC NORPAC W'shop Rel.to 213/E & 214/E & 241/E |
| 236/E | 6/2/86 | Drilling in the northern Gulf of Alaska | Bruns,T.R.<br>Fisher,M.A.<br>von Huene,R. | USGS | Yes | Yes | CEPAC 6/86<br>TECP 6/86<br>SOHP 6/86 | | USSAC NORPAC W'shop Rel. to 210/E |
| 237/E | 6/2/86 | N.E.Pacific active margin off Vancouver Island | Brandon,M.T.<br>Yorath,C.J. | Geol.Surv. Canada | Yes | Some | CEPAC 6/86<br>TECP 6/86<br>SOHP 6/86 | | INPAC W'shop Rel. to 233/E |
| 241/E | 6/13/86 | Drilling the Yakutat Block, Gulf of Alaska & Zodiak Fan, Aleutian Abyssal Plain | Heller,P.L. | U.Wyoming | Some | Yes | CEPAC 6/86<br>SOHP 6/86<br>TECP 6/86 | | USSAC NORPAC W'shop Rel.to 210/E & 234/E |
| 245/E | 7/7/86 | Drilling the transform margin of California | Howell,D.G. et al. | USGS | Yes | Yes | TECP 7/86<br>SOHP 7/86<br>LITHP 7/86<br>CEPAC 7/86 | | |
| 247/E | 7/11/86 | Oceanographic,climatic and volcanic evolution of the N.E. Pacific Ocean | N.Pisias<br>R.Duncan<br>D.Rea<br>T.Pedersen<br>B.Bornhold | OSU<br><br>U.Michigan<br>Univ.B.C.<br>Geol.Surv. Canada | Some | Yes | LITHP 7/86<br>SOHP 7/86<br>TECP 7/86<br>CEPAC 7/86 | | INPAC Workshop Rel. to 221/E |

GENERAL & 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,ESE | | | 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 | | |
| 133/F | 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 | | |

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| 143/F | 04/15/85 | In situ magnetic susceptibility measurements with a well log probe | Krammer,K.<br>Pohl,J. | Inst. fur Allgemeine u.Angewan-te,Munich, FRG | N/A | N/A | ARP 4/85<br>LITHP 4/85<br>DMP 4/85 | Approved 1/86 | Revised 12/30/85<br>Related to Props. 200/F & 201/F |
| 152/F | 07/01/85 | Borehole seismic experiments in the Tyrrhenian Sea | Avedik,F.<br><br>Dietrich,M. | IFREMER Brest<br>U.de Brest France | N/A | N/A | ARP 7/85<br>DMP 5/85 | | |
| 155/F | 07/01/85 | Downhole measurements in the Japan Sea | Suyehiro,K.<br>Kinoshita,H.<br>Kanazawa,T.<br>Yamamoto,K. | Chiba, U.<br><br>Tokyo,U.<br>Tohuku,U.<br>Japan | Yes | Yes | WPAC 7/85<br>DMP 7/85<br>TECP 7/85<br>LITHP 12/85 | | Japanese Workshop<br>Supplement rec'd 6/86 |
| 159/F | 07/15/85 | Monitoring changes in the physical conditions across a trench system (Izu-Mariana--Sagami-Suruga) | Kinoshita,H. et al | Chiba U.<br>Japan | Yes | N/A | WPAC 7/85<br>DMP 7/85<br>TECP 7/85 | | Japanese Workshop |
| 160/F | 07/15/85 | Geophys.conditions of the top most part of the lithospheric plate in the Weddell Sea | Kinoshita, H.<br>Kaminuma, K.<br>Shibuya,K.<br>Kobayashi,K. | Chiba U.<br>Nat.Inst. Pol.Res.<br>ORI Tokyo<br>Japan | Yes | N/A | SOP 7/85<br>DMP 7/85<br>TECP 7/85<br>LITHP 7/85 | | See proposal 54/C<br>Japanese Workshop |
| 161/F | 07/15/85 | Magnetic field & Water flow measurements at high temps. in holes accompanying hydrothermal circulation | Kinoshita,H.<br>Kobayashi,K.<br>Furuta,T. | Chiba U.<br>ORI Tokyo<br>Japan | N/A | N/A | DMP 7/85<br>WPAC 7/85<br>CEPAC 7/85<br>ARP 7/85<br>LITHP 7/85 | | See proposal 124/E<br>Japanese Workshop |
| 162/F | 07/17/85 | Offset VSP on the S.W.Indian Ocean Ridge fracture zones | Stephen,R.A. | WHOI | Some | Yes | DMP 7/85<br>IOP 7/85<br>LITHP 7/85<br>SOP 9/85<br>TECP 9/85 | Approved 6/86 | Inc. in revision (5/86) of 89/B |

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| 186/F | 08/28/85 | Hydrology & heat flux in the S.W.Indian Ocean fracture zones | von Herzen,R. | WHOI | N/A | N/A | IOP 8/85<br>DMP 8/85<br>LITHP 8/85 | Approved 6/86 | Inc. in revision (5/86) of 89/B |
| 188/F | 09/18/85 | Alternate proposal for Leg 109;395A borehole geophysics & 418A drilling & geophysics | Salisbury,M. (on behalf of DMP) | Dalhousie U. Canada | Yes | No | DMP 9/85<br>LITHP 9/85<br>ARP 9/85 | Approved 1/86 for 395A | |
| 193/F | 11/06/85 | Cooperative study of upper ocean particulate fluxes in the Weddell Sea | Biggs,D.C. | TAMU | N/A | N/A | SOP 11/85<br>SOHP 11/85 | | Proposal to NSF |
| 200/F | 12/30/85 | Borehole magnetometer logging on Leg 109 (MARK) | Bosum,W. | BGR, FRG | N/A | N/A | DMP 12/85<br>ARP 12/85<br>LITHP 12/85 | Approved 1/86 | Related to Props. 143/F & 201/F |
| 201/F | 12/30/85 | High precision borehole temperature measurements on Leg 109 (MARK) | Kopietz,J. | BGR, FRG | N/A | N/A | DMP 12/85<br>ARP 12/85<br>LITHP 12/85 | Approved 1/86 | Related to Props. 143/F & 200/F |
| 238/F | 6/9/86 | Pore pressure in the Makran subduction zone | Wang,C.<br>von Huene,R. | UCBerkeley<br>USGS | N/A | N/A | DMP 6/86<br>IOP 6/86<br>TECP 6/86 | | Rel. to 55/B |

# IDEAS ; SUGGESTIONS

# FOR

# DRILLING

## 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 other subject. Memo never received by JOIDES Office. |
| 4 | Outline of multi-topical program of Ocean drilling: NE Pacific Ocean | INPAC Group (Johnson,P.) | Univ. of Washington | 1/6/84 | TECP (P)12/85<br>CEPAC(P)12/85<br>LITHP(P)12/85<br>SOHP (P)12/85<br>DMP (P)12/85 | Workshop convened for Feb. 1985<br>Workshop Report received 12/30/85<br>& distributed to Panels as indicated<br>Formal proposals requested 12/85. |
| 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<br>LITHP | |
| 7 | Some geological problems and areas of regional interest (Central and Eastern Pacific) | Okada, H. | Shizuoka University, Japan | 2/15/84 | CEPAC (P) | |

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| 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.<br>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.<br>O'Nions, R.K.<br>White, R.M.<br>Frey, F.A.<br>Albarede, F. | URI<br>Cambridge Univ., UK<br>Max-Planck.Inst.,FRG<br>MIT<br>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 | Further letter 12/30/85.Formal prop. requested 2/85,12/85 & 1/86.Prelim. prop.received 3/85.See Props.119/B & 219/B |
| 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<br>SOHP | |
| 16 | ODP drilling in the tectonic area of Japan | Klein, G. deV. | Univ. of Illinois (Urbana) | 7/6/84 | TECP (P) | See proposal 146/D |

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| 17 | Ocean margin drilling project around Japan | Ogawa, Y. | Kyushu Univ., Japan | 7/6/84 | TECP (P) 12/83 | Proposals 132/D & 148/D receieved 6/85 |
| 18 | Some drill sites in the Indian Ocean | Luyendyk, B.P. | Univ. of California, Santa Barbara | 8/22/84 | IOP (P)<br>TECP 10/84 | |
| 19 | Suggestions for drilling in the Indian Ocean - Indus Fan | Kidd, R.B. | IOS, UK | 9/4/84 | IOP 9/84<br>TECP 9/84 | Withdrawn. |
| 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. Withdrawn No further action. |
| 22 | Drilling in the Atlantis-II Deep, Red Sea | Zierenberg, R.A | USGS, Menlo Park | 9/8/84 | IOP<br>LITHP<br>TECP | Proposal 120/B received 12/10/84. |
| 23 | Transect: Northern Exmouth Plateau to Argo Abyssal Plain | Willcox, J.B.<br>Symonds, P.A.<br>(supported by Gradstein, F.) | BMR, Australia<br><br>(Atlantic Geoscience Centre-Canada) | 9/8/84 | IOP<br>SOHP 12/84<br>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. Advised to liaise with Kennett (see pro-posal 117/B) |
| 25 | Investigation of hydrothermal processes and basalt dia-genesis in the Gorda Ridge | Hart, R.<br>Fisk, M. | OSU | 10/16/84 | | Formal proposal requested. |

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| 26 | Deep sea drilling targets near loci of arc volcanism in Marianna back-arc basin | Fryer, P. | HIG | 10/19/84 | TECP<br>LITHP 10/84<br>WPAC | Proposal 172/D received 08/19/85 |
| 27 | Philippines Workshop | Wolfe, J.A. | Taysan Copper Inc., Philippines | 11/14/84 | | Copied to Chairman, WPAC |
| 28 | Transect of upwelling zone sedimentation and palaeoceanography of cold circulation 15°-30°S | Kelts, K. | ETH-Zurich, Switzerland (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 seamounts | 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.<br>Jongsma,D.<br>Audley-Charles, M.G.<br>von der Borch, C.C. | Univ. California,S. Cruz<br>Vrije Univ,Amsterdam Netherlands (ESF)<br>Univ.Coll.London (U.K.)<br>Flinders Univ., Adelaide (Australia) | 12/28/84 | WPAC (P)<br>TECP 12/84 | Formal proposal in the name of Silver only received 03/11/85. See Proposal 131/D |

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| 33 | Workshop on Western Pacific drilling (USSAC) | Hawkins,J.W. | S.I.O. | 01/02/85 | WPAC(P) | Report of Workshop rec'd 08/20/85. See proposals 170/D,171/D ,172/D, 187/D,189/D,190/D,191/D & 220/D |
| 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 See proposal 136/C |
| 36 | Upper Mesozoic & Cenozoic palaeoenvironments of S.Indian Ocean (Kerguelen-Gaussberg Plateau) | Leclaire,L. | 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) | Leclaire,L. | Mus.Nat.d'Histoire Naturelle, Paris (France) | 01/03/85 | IOP(P) | Rec'd from IOP Chairman |
| 38 | Sedimentary record of Indonesian volcanic activity | Leclaire,L. | 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 | Leclaire,L. | Mus.Nat.d'Histoire Naturelle, Paris (France) | 01/03/85 | IOP(P) | Rec'd from IOP Chairman |

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| 40 | Study of shear margin and fault (Davie Ridge) | Leclaire,L. | Mus.Nat.d'Histoire Naturelle, Paris (France) | 01/03/85 | IOP(P) | Rec'd from IOP Chairman<br>See revised proposal 30/B |
| 41 | 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<br>See proposal 140/B |
| 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<br>See proposal 138/B |
| 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<br>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<br>Previously classified as Prop. 73/C<br>Full proposal received 02/25/85(73/C) |

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| 47 | Madeira Abyssal Plain | Duin,E.J.T.<br>Kuijpers,A.<br>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:Legs 106 & 109 | Rona,P.A. | NOAA,Miami | 02/25/85 | LITHP(P) | Full proposal requested<br>Further note about Leg 109 received 1/10/86 |
| 49 | Stratigraphic tests proposal | SOHP | Panel proposal | 04/02/85 | IOP(P) | Proposal 221/B rec'd 1/17/86 |
| 50 | Proposal for a workshop on scientific seamount drilling (proposal to NSF) | Watts,A.B. | LDGO | 04/11/85 | | |
| 51 | Hydrogeology experiments to be performed during the first two years of ODP (proposal to NSF) | Becker,K.<br>Gieskes,J. | SIO | 05/22/84 | | |
| 52 | Back-arc spreading & fresh-water sediment: Japan Sea | Koizumi,I. | Osaka Univ., Japan | 05/03/85 | WPAC | Related proposal 157/D received 7/85<br>Formal proposal requested<br>Japanese Workshop |
| 53 | Geochemical significance of hard-rock drilling in the S.E.Indian Ocean | Frey,F.A. | M.I.T. | 05/14/85 | IOP(P) | Proposal 150/B received 07/01/85 |
| 54 | Workshop to evaluate upper ocean dynamics studies in conjunction with ODP operations (proposal to NSF) | Miller,C.B.<br>Wiebe,P.H. | OSU<br>WHOI | 07/01/85 | SOHP | |

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| 55 | Manila forearc & opening of the Japan Sea | Niitsuma,N. | Shizuoka Univ.,Japan | 08/19/85 | | Japanese Workshop<br>Formal proposal requested |
| 56 | Accurate dating of the Hawaiian hotspot | Niitsuma,N. | Shizuoka Univ.,Japan | 08/19/85 | | Japanese Workshop<br>Formal proposal requested |
| 57 | DSDP Hole 462A,Nauru Basin | Fujii,N. | Kobe Univ.,Japan | 08/19/85 | | Japanese Workshop<br>Formal proposal requested |
| 58 | NORPAC drilling proposals | Scholl,D. | USGS | 11/13/85 | | USSAC Workshop |
| 59 | Scientific rationale for establishing long-term ocean bottom observatory/laboratory systems | Delaney,J.R. | U.Washington | 11/12/85 | | Formal proposal requested |
| 60 | Mantle peridotite drilling | Bonatti,E. | LDGO | 10/22/85 | | Related to 89/B |
| 61 | Basin margin exploration : S.E.Asia | Mcmanus,J.W. | URI | 11/19/85 | | |
| 62 | Fracture zone drilling in the Indian Ocean | Natland,J. | SIO | 12/30/85 | | See proposal 223/B<br>Related to 89/B. |
| 63 | USSAC Workshop on Carbonate Banks & Platforms Report | Winterer,E.L. | SIO | 12/30/85 | | USSAC Workshop<br>See Props. 183/B;202/E;203/E;204/A;205/A;206/D |

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| 64 | USSAC North Pacific (NORPAC) Workshop Report | Scholl,D.W. | USGS | 1/23/86 | CEPAC Dist.at SOHP PCOM TECP mtg. LITHP 1/86 | USSAC Workshop. See props.192/E;195/E;199/E;207/E; 213/E;214/E;225/E;227/E |
| 65 | Ocean drilling in S.Red Sea | Hemleben,C. | U.Tubingen,FRG | 1/27/86 | | Formal proposal requested |
| 66 | Geochemical reference holes on active convergent margins | Langmuir,C. | LDGO | 2/24/86 | | |
| 67 | Evolution of the Sulu Sea | Fernandez,J.C. | Bureau of Mines, Manila,Philippines | 3/03/86 | WPAC(P) | Formal proposal requested |

(P)= Referred directly to the indicated Panel by the proponent.

# WORKSHOPS RELEVANT TO DEVELOPMENT OF DRILLING PLANS

## CHECKLIST OF WORKSHOPS RELEVANT TO DEVELOPMENT OF DRILLING PLANS

| WORKSHOP TITLE | DATE HELD | CONVENERS/ CONTACT POINT | SPONSORING ORGANISATION | PROPOSALS REF. # | IDEAS/SUGGESTIONS REF. # | ODP DRILLING LEGS |
|---|---|---|---|---|---|---|
| Future of Scientific Ocean Drilling in the Australasian Region (Report available) | 3/12/81 | Cook,P.J.<br>Crook,K.A.W.<br>Frakes,L.A. | Consortium for Ocean Geosciences of Australian Universities (COGS) | See 126/D (COGS-2) | | |
| Some proposals for ODP (Report available) | 1/1/84 | Aubouin,J. | Comite Scientifique ODP (France) | 15/A;16/A;17/A; 18/A;19/A;20/A; 21/A;22/A;23/A; 24/A;25/D;26/D; 27/D;28/D;29/D; 30/B;31/B | | 101,103,107,110, Red Sea,(EPR back-up) |
| Future Drilling in the Indian Ocean (Report available) | 6/5/84 | Curray,J.R.<br>Prell,W.L.<br>Weisel,J.K. | NSF (U.S.A.) | 56/B;57/B;61/B; 62/B;65/B;80/D; 86/B;87/B;88/B; 89/B;90/B;91/B; 92/B;93/B;94/B; 95/B;96/B;97/B; 98/B;99/B;100/B; 101/B;102/B;103/B; 104/B;105/B;106/B; 107/B | | Neogene Package, Red Sea, SWIR, Broken Ridge, 90°E Ridge, Intraplate Deformation, Mascarene Plateau |
| Philippines Workshop | - | Wolfe,J.A. | | | I-27 (WPAC) | |
| Western Pacific arc-backarc systems (Report available) | 6/25/85 | Hawkins,J. | USSAC | 170/D;171/D;172/D; 187/D;189/D;190/D; 191/D;220/D | I-33 | |

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| Scientific Seamount Drilling | 6/4/86 | Watts,A.B. | USSAC | | I-50 | |
| Workshop on Carbonate Banks and Guyots (Report available) | 8/6/85 | Winterer,E.L.<br>Schlager,W. | USSAC | 183/B;202/E;203/E;<br>204/A;205/A;206/D | I-63 | |
| Workshop to evaluate upper ocean dynamic studies in conjunction with ODP operations (SPECTROS) | 11/4/85 | Miller,C.B. | NSF (U.S.A.) | | I-54 | |
| Japanese ODP Workshop (Report available) | 5/17/85 | Taira,A.<br>Kobayashi,K. | ODP National Committee (Japan) | 50/D;51/D;83/D;<br>132/D;144/D;148/D;<br>149/D;151/D;155/F;<br>156/D;157/D;158/D;<br>159/F;160/F;161/F;<br>166/D;167/D;168/D;<br>174/D;175/D;176/D;<br>177/D;178/D;179/D;<br>180/D;181/D;182/E | I-52;I-55;I-56;<br>I-57 | |
| Ocean Drilling in the Australasian Region (COGS-2) (Report available) | 11/12/84 | Crook,K.A.W.<br>Falvey,D.A.<br>Packham,G.H. | Consortium for Ocean Geosciences of Australian Universities (COGS) | 121/B;126/D;185/C;<br>197/B;206/D | | Argo/Exmouth |
| Neogene Palaeoclimates and Evolution | 9/11/84 | Denton,G.H.<br>Partridge,T.C.<br>Vrba,E.S.<br>Burckle,L.H. | | 118/B | | Neogene Package |
| South Pacific | 4/20/86 | Cieselski,P.<br>Mammericx,J.<br>Weissel,J.K.<br>Anderson,J. | USSAC | 209/C;230/C; | | |

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| North Pacific Drilling (NORPAC) (Report available) | 9/22/85 | Scholl,D. | USSAC | 192/E;195/E;199/E; 207/E;210/E;213/E; 214/E;225/E;227/E; 229/E;231/E;234/E; 236/E;241/E | I-58 | |
| International NE Pacific Activities Consortium (INPAC) (Report available) | 2/20/85 | Johnson,P. Rea,D. | NSF (U.S.A.) | 221/E;224/E;232/E; 233/E;237/E;247/E; | I-14 | |
| Cretaceous Black Shales | 12/6/85 | Arthur,M. Meyers,P. | USSAC | | | |
| Physical & mechanical properties measurements in ODP samples | 6/26/86 | Karig,D. | USSAC | | | |
| Palaeomagnetic objectives for ODP | 9/5/86 | Virosub.K.L. | USSAC | | | |
| Gulf of California drilling activities consortium (GULFAC) | 8/5/86 | Dauphin,J.P. | USSAC | | | |
| South Atlantic drilling | 4/-/87 | Austin, J. | USSAC | | | |
| Canadian National ODP Workshop | 9/25/86 | Gradstein,F. | Canadian National ODP Committee | | | |