JOIDES PLANNING COMMITTEE MEETING
2-4 MAY 1989
OSLO, NORWAY

AGENDA

002

Additional attachments

JOIDES MEETING SCHEDULE

DATE	PLACE	Committee/Panel
2-4 May	Oslo, Norway	PCOM
22-23 May	La Jolla, CA	DMP
31 May -2 Jun	Palisades, NY	EXCOM & ODP Council
? May or ? Jun	Lamont Doherty	ex-IOP & Co-chiefs*
13-15 Jun	Ottawa, Canada	SRDPG
19-20 Jul	Lamont Doherty	SGPP*
22-24 Aug	Seattle, WA	PCOM
8-11 Sept	FRG	LITHP*
11-12 Sept	FRG	DMP*
19-20 Sept	GEOMAR, FRG	SGPP*
25-28 Sept	Honolulu	TECP*
2-3 Oct	Lamont Doherty	SMP*
3-5 Oct	The Netherlands	EXCOM
26-28 Oct	FRG	OHP*
16-17 Nov	Lamont Doherty	CEPDPG*
26 Nov	Woods Hole, MA	Panel Chairmen
27-30 Nov	Woods Hole, MA	PCOM
1990		
24-26 Apr	France	PCOM

*Tentative meeting; not yet formally requested and/or approved.

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ODP OPERATIONS SCHEDULE

Leg	Objective	Days At Sea	Cruise Dates	Port
124	S.E. Asian Basin	59	11/06 - 1/04 1989	Manila - 1/04-08
124E	Engineering I	37	1/09 - 2/15	Guam - 2/15-2/19
125	Bon/Mar	57	2/20 - 4/18	Tokyo - 4/18-4/22
126	Bonin 2	57	4/23 - 6/19	Tokyo - 6/19-6/23
127	Japan Sea I	57	6/24 - 8/20	8/21-8/25*
128	Japan Sea 2	41	8/25 - 10/5	Niigata - ~~8/20/8/24~~ / ?
	Dry Dock	14	10/05 - 10/18	?

DATES AND PORTS AFTER THE DRY DOCK WILL BE FINALIZED AFTER THE MAY, 1989 PLANNING COMMITTEE MEETING.

Revised 2/2/89

*Revised dates per Lou Garrison's memo of 3/22/89 which stated, "At the request of the Legs 127 and 128 Co-Chief Scientists who met here this week, we have agreed to lengthen each of those cruises by one day to provide reasonable contingency times."

AGENDA NOTES
PCOM Meeting 2-4 May 1989, Oslo, Norway

Tyr's Day, 2 May 1989: Background

A. Introduction
Opening remarks (O. Eldholm)
Introduction of members, liaisons, and guests

B. Approval of Minutes of PCOM Meeting 28 November - 2 December 1988, Miami, Florida.
The attached revised draft minutes include corrections received at the JOIDES Office through 13 April 1989.
After a call for for additional corrections or additions, *PCOM should approve the minutes.*

C. Approval of Agenda
The principal effort of the spring PCOM meeting is the planning of the general track of the vessel a few years in advance of the drilling. This spring there are two closely related problems to consider, namely the apparent collapse of the early part of the FY90 schedule, and the policy about engineering legs.. The agenda is planned so that the first day is for receiving up-to date information, the second day is for the advanced planning, and the third day is for publications, the Long Range Plan, and a number of other policy discussions and decisions, as well as routine business.

These agenda notes, along with the minutes and letters in the agenda book and the presentations that will be made in Oslo, are intended to help PCOM resolve the issues and come to decisions, with special regard to (1) technological developments, (2) the FY90 program plan and rescheduling of legs, (3) the general track of the ship through the next three years, and (4) publications.

After learning the timing for lunch breaks and other logistical arrangements, the schedule for breaks given in the agenda may be changed.

After a call for additions or revisions, *PCOM should approve the agenda.*

D. ODP Reports by Liaison

NSF: B. Malfait
JOI: T. Pyle
BCOM: R. Moberly
Science Operator: L. Garrison
Wire-line Logging: R. Jarrard

E. JOIDES Reports by Liaison

Thematic Panels (with **coffee break** at an appropriate time)
LITHP: G. Brass
OHP: G. Brass
SGPP: M. Kastner
TECP: O. Eldholm
Service Panels
DMP: R. Moberly
IHP: Y. Lancelot
SMP: M. Leinen
SSP: T. Shipley
PPSP: R. Moberly
TEDCOM: J. Watkins
Detailed Planning Group
CEPAC: R. Moberly

Lunch

F. Response to Program Evaluations

T. Pyle will report on the status of response to the two major evaluations of ODP last year. Publications and engineering development will be brought up again as major agenda items. One part of this present agenda item leads into the next one:

G. Arctic Drilling

J. Thiede will present the scope and present status of an Arctic-drilling program that is developing within some countries. The presentation will be followed by a general discussion

H. Data on CD ROM

N. Pisias will present the CD ROM method of storing and retrieving drilling data. The demonstration can extend into coffee-break time for those members and guests who are especially interested.

Coffee break

I. Status of Engineering and Technological Developments
Leg 124-E: B. Harding

(Current drilling operations can be in the Science Operator's report, agenda item D, above. At Seattle we will schedule Co-chief reports about the recent WPAC program, legs 124, 125, and 126.)

Developments at TAMU, including principal systems under development, and a report of meeting of 11 April on high-temperature drilling: B. Harding and L. Garrison

J. Logging of Slim Holes.
At Miami, the science operator and wireline logging subcontractors were asked to advise PCOM on the relative costs to achieve compatibility between hole size and logging if the diamond coring system is used. Some suggestions have been: Use existing commercial slim-hole tools; design and build new slim-hole tools; design a diamond-coring system that cuts larger-diameter core; ream out a small-diameter hole.

B. Harding and R. Jarrard will report on costs and other factors, including time and funds for development, log quality, ship-time to test and to ream, and expected drilling conditions.

Recess for the night

Odin's Day, 3 May 1989: Three-year track-planning mode

K. Watchdog reports for the Pacific program
Western Pacific.

Here the item of concern is the Nankai Geotechnical Program. PCOM will recall that the goal of the Nankai Geotechnical Program is to determine how deformation takes place in an accretionary prism, and to understand the fluids and physical properties that control the deformation process. To obtain both horizontal and vertical sets of measurements, the objectives can only be obtained by drilling and collecting data in at least two deep holes into the prism, a reference hole seaward of the deformation front, and a pattern of shallow holes in the prism. Not only must fluids be sampled, but physical properties must be measured to a much better degree and more

extensively than has been done in the past. This requires having the Geoprops tool or the new packer available for Nankai drilling.

At least one of the deep accretionary-prism holes must be drilled to, preferably through, the decollement. The decollement is shallower at the proposed site NKT-10 than at the currently scheduled site NKT-2. In addition, because deformation at NKT-10 is less than at NKT-2, drilling conditions should make it easier to reach the decollement. For these reasons, the proponents, the DMP, and WESPAC all recommended a two-leg program, with NKT-10 being drilled on the first leg and NKT-2 being drilled on the second leg, as the most likely plan to obtain the scientific objectives.

It is clearly most important that the first leg not be drilled before the Geoprops tool is available. By our most recent information, Geoprops should be finished and tested on land but not at sea in mid-to-late October, but might not make our first post-dry dock leg for testing. A sea test could follow on the leg starting in late December. Therefore a draft recommendation for PCOM is that *Nankai 1 be scheduled in spring 1990, with the principal deep hole at site NKT-10.*

Central and Eastern Pacific

In the order of the listing of the last CEPAC prospectus, these were the programs of high thematic rank through fall 1988, and their PCOM watchdogs. R. Moberly attended the recent CEPAC DPG meeting, where on 12 April each program's status was reviewed and is summarized in brackets below. All need PPSP reviews.

Hawaii Flexure: J. Malpas [Little new information, except a response from D. Kent on dating: paleomagnetism may give reversal datums but provides no precision between datums. GLORIA records show products of abundant mass wasting in moat and of extensive volcanism on arch.]

Chile Triple Junction: O. Eldholm [Processing of MCS is continuing. Recently acquired GLORIA data in the region. Final endorsement by TECP as a 1-leg or 2-leg program will depend on final presentation of data.]

Cascadia Accretion: D. Cowan [Safety preview was in March. Extensive MSC funded for Oregon margin for summer, and probably funded for Vancouver margin for summer].

Old Pacific: A. Taira. [Needs specific drilling sites based on what is available now; proponents are to prepare. Sites for the Pigafetta Basin will be readjusted after Y. Lancelot cruise in late summer.]
Atolls and Guyots: B. Tucholke [Evaluation of recent cruise information virtually complete. Proponents will have revised proposals by early June. Remaining problems: design of 1-leg vs 2-leg program; uncertain recovery in part of reef holes. CEPAC has recommended that a test of recovery methods be made on MIT Guyot on the next engineering leg. See also white page 209]
Ontong Java Plateau: M. Kastner [This was approved for the FY90 schedule. In response to PCOM's directive, CEPAC members and a guest from OHP prepared a 1-leg program, based on the L. Mayer et al combined proposal, of 4 sites for the Neogene depth-transect objectives and one deep site for the Paleogene and basement objectives. There have been questions about the assignments of co-chiefs.]
Eastern Equatorial Pacific: M. Leinen [Sites can be placed on the two long north-south transects after the funded site-specific survey at the lend of this summer.]
North Pacific Neogene: Y. Lancelot [In response to PCOM's directive, CEPAC members and guests have prepared a l-leg program based on combining the three proposals. It will be sent to the thematic panels. No additional survey or processing seems necessary.]
Bering Sea: Y. Lancelot [In response to PCOM's directive, CEPAC members and guests prepared a 1-leg program based on the proposals. It will be sent to Thematic panels. Information is complete for two areas. Soviet geophysical data would aid site selection at Shirshov Ridge, where the ideal site probably would lie west of the US-Soviet treaty boundary. Direct Soviet participation in ODP would help, but there will be attempts anyway to acquire the Soviet data.]
Shatsky Rise: H. Jenkyns [Much depends on the ability to recover alternating hard chert and softer chalk or limestone lithologies, especially in nodular sections in which a nodular "roller" blocks the bit throat. CEPAC recommended a site on Shatsky for the next engineering leg. An additional old seismic line through Hole 47 has come to light. The scientific aims for the Ogasawara Plateau proposal seem to fit closer to Shatsky Rise than Atolls and Guyots.]
Deep Crust at 504-B: J. Malpas [Awaiting the clearing of junk that is in the hole.]
EPR Bare-rock Program: G. Brass [In March the revised D. Fornari et al. proposal was received. Objectives are keyed to the LITH White Paper, and an area at 9° 43' N was selected based on a synthesis of

new and older information. The French proposal will be revised by late summer, for an area farther north. LITHP should evaluate these proposals next fall. There are requirements for obtaining core and fluid samples and measurements in young brittle rocks, some of which may be hot. In preparation for legs in young basalt, CEPAC recommends that a test site in the Mariana trough be included in the nest engineering leg.]

Sedimented Ridges: M. Langseth and M. Kastner [PCOM has charged a DPG to plan a site-specific program of two Juan de Fuca legs, one in the Middle Valley hydrothermal system, and one in the sulfide system to the south. The DPG, composed of the former Bare Rock and Sedimented Ridges working groups and chaired by Bob Detrick, meets 13-15 June in Ottawa. There are requirements for sampling and measuring hot and corrosive fluids.]

Young Hotspots: Loihi: R. Moberly [All survey work is completed. The petrologic objectives require obtaining young, brittle rocks. The natural-laboratory objectives are not compatible with the M. Purdy et al. request for a hole for a down-hole seismometer near Hawaii to detect teleseisms because Loihi itself is an active seismic source.]

incidentally, a watchdog form was prepared by B. Tucholke and R. Moberly (pages 207-208) *Should PCOM adopt it for routine use?*

Coffee break

L. Policy on Engineering Legs

Our revision of the FY 90 Program Plan and our general consideration for future drilling will depend on our policy of allowing ship time for the development and testing of ways to advance our drilling, recovery, logging, and other technology. The JOIDES Office has received written and oral comments as to whether engineering legs should be (a) continued like 124E, (b) never allowed again, or (c) modified and monitored. PCOM needs to choose among these three, and if (c) modification is chosen, PCOM needs to decide how to modify. .

Here is a range of suggestions:

A. In all cases the objectives for testing and development, and the site-survey information for such legs must be reviewed by appropriate JOIDES panels (TEDCOM, SSP, DMP, etc.) and approved by

PCOM for ship-time and scheduling in the Program Plan, or for modification within the plan. *PCOM should discuss and decide.*

B. Examples of engineering legs or parts of legs:

1. ODP-generated, JOIDES reaction, omnibus leg. About one 30-day leg per year be proposed by engineers, with the review by JOIDES aimed at providing advice to PCOM so PCOM can evaluate the potential worth of such a leg compared to the thematic legs in competition for drill-ship time. Basis would be the time in which have accumulated, and JOIDES has approved, a set of development that cumulatively require about one month for testing. The time-frame would be several months to more than a year of lead time. PCOM's role would be to weigh the possibilities of success and failure of an engineering leg against the same for a highly ranked thematic program.

2. ODP-generated, JOIDES reaction, mini-legs: About three 10-day, single-objective (or compatible-objective) engineering legs per year be proposed by engineers, with review as in 1 above. Basis would be what is ready for testing, near some appropriate port call. Would need a few months' lead time. PCOM's role would be much the same as in 1 above.

3. ODP-generated, JOIDES reaction, extended legs: About three and perhaps all legs per year be extended 10 days, and be proposed by engineers, well loggers, or instrument-testing scientists, with review as in 1a. The basis would be what is ready for testing, somewhere on a science leg and not necessarily near a specific port. Would need a few months of lead time. PCOM's role would be much the same as in 1 above.

4. ODP-generated, JOIDES reaction, use of parts of normal thematic legs: At least three and perhaps all legs per year have about 10 days of thematically endorsed science replaced by technological developments proposed by engineers, well-loggers, or instrument-testing scientists, with review as in 1. The basis would be what is ready for testing, somewhere on a science leg and not necessarily near a specific port. Would need several months of test

lead time to revise the science program. PCOM's role, in addition to 1 above, would be to adjust legs to absorb the impact.

5. JOIDES-generated, ODP reaction. One 30-day or more engineering plus science leg per year, proposed by scientists but leading to an engineer plus a scientist as co-chiefs. Basis would be PCOM's decision, based on JOIDES and engineering advice, of what is the need for developments to advance highest-priority thematic drilling. Would need several months to a year of lead time. PCOM's role, in addition to 1 above, would be to provide ODP with a clear set of priorities for the leg. (white pages 189 & 213)

PCOM should discuss and decide on a policy regarding engineering legs.

M. FY90 Rescheduling.

In light of the probable delay at Nankai and the initial statement by TAMU engineers that they would need about one year post-124-E to prepare for another engineering leg, R. Moberly asked L. Garrison to prepare some draft schedules for a revised FY90 program. In light of its knowledge of Pacific weather and geography, and of the status of CEPAC programs, Moberly also asked CEPAC for a draft schedule. In both instances some increased transit time is unavoidable.

Of four CEPAC programs in the northwestern part of the Pacific that are not yet approved by PCOM, two are essentially ready for consideration for possible inclusion in FY90. Old Pacific and Atolls and Guyots have had good thematic reviews, and surveys are either complete or will be used only for minor adjustments of sites. Neither have been presented to PPSP but should have no problems. Two others are not ready for consideration for inclusion at this time: North Pacific needs thematic review in its new form, whereas Shatsky needs improvements in recovery; both are too far north for winter-time drilling.

CEPAC DPG gave this draft:

1989	O-N	Geochemical Reference
1990	D-J	Old Pacific
	F-M	Ontong Java
	A	Engineering Tests+ Science Leg (page 213)
	M-J	Nankai
	J-A	Atolls and Guyots
	S-O	NE Australia
	N-D	Vanuatu
1991	J-F	Lau-Tonga
	M-A	Transit East and Engineering Operations

PCOM should discuss and decide on a FY90 schedule.

Lunch

N. General Track of the Vessel, Spring 1989 - Spring 1990.

R. Moberly sent out to PCOM Members on 21 March copies of four draft plans, as a basis of discussion for planning the general ship track three months in advance of drilling. Since then, the JOIDES Office has received minutes of recent meetings of the four thematic panels, and some priorities have shifted (e.g., Hawaiian flexure is not high on the TECP list). Although panels report that some new Atlantic proposals are of great potential interest, and PCOM will consider drilling in any ocean in FY92, as yet there appears to be little scientific reason to change the present PCOM general plan of 18 months of scientific drilling in the CEPAC area after the WESPAC program. Of course, now that Ontong Java and perhaps others have moved to within what was WESPAC, the 18 months doesn't start after the last WESPAC leg, but the plan must be considered as a total of 18 months of drilling. The time frame is through about June 1992. Removal of a few months of engineering use of the vessel would move the time earlier into 1992, but engineering advancements are needed for the Pacific as well as for the Atlantic (OHP needs recovery below Eocene cherts and LITHP needs recovery on the Mid-Atlantic Ridge, for example).

Our plan today must be a general one, as we do not yet know such variables as the success of first legs in potential 2-leg programs, the success of engineering advancements, or the quality of proposals still to come. We do not know how proposals within a highly rated theme will fare (e.g., Nankai 2 vs Cascadia 1 and/or 2 vs

Barbados). At the time of preparing this Agenda Book (13 April), we do not know PCOM's revision of FY90. On the assumption that one Nankai leg, one Atolls & Guyot leg, the Old Pacific leg, and a joint engineering & science leg will be in the FY90 plan, along with the previously approved legs, then here are two possible general tracks:

I: High Thematic Interest

1991 M-J Sedimented Ridges 1
J-A Cascadia 1
S-O EPR or 504-B (E Eq Pac Neogene as backup)
N-D Transit and Chile 1
1992 J-F Chile 2 and transit
M-A E Eq Pac Neogene (or EPR or 504-B)
M-J and later:

May 1992 through April 1994, to be drafted by PCOM in spring 1990. Depending on quality of proposals and their thematic evaluation, the drilling vessel could either loop into the northern Pacific via a May-June engineering + science observatory leg at Loihi, or into the northern Atlantic via a May-June engineering + science observatory leg at Barbados or on the MAR..

II: CEPAC Draft

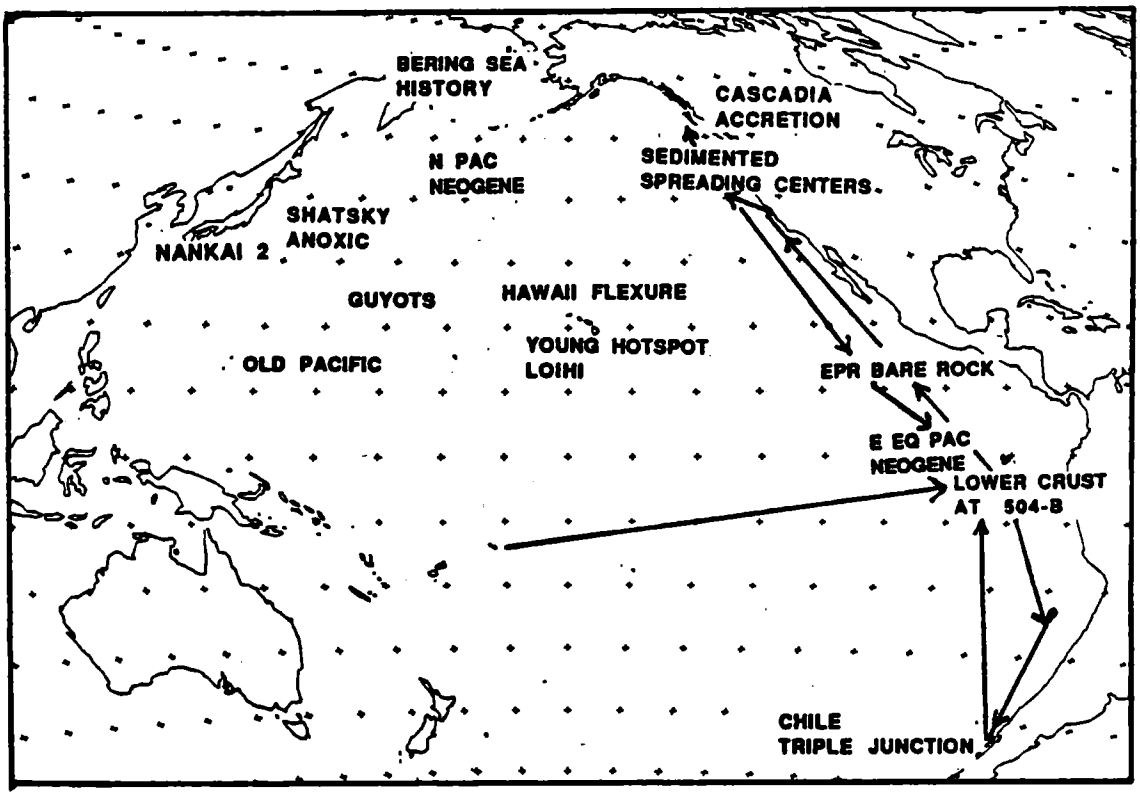
1991 M-J (after transit assigned to previous leg without scientists) North Pacific Neogene
J-A Bering
S-O Sedimented Ridges I
N-D 504-B or EPR
1992 J-F transit and Chile 1
M-A Chile 2 and transit
[*]
M-J Eastern Equatorial Neogene
J-A Cascadia 1
S-O 504-B or EPR
N-D Loihi or Hawaiian Flexure
1993 J-F Atolls and Guyots 2
M-A Nankai 2

[* note: this marks the point of the first 18 months of CEPAC drilling.; the DPG, however, continued scheduling the top thematic objectives in the Pacific]

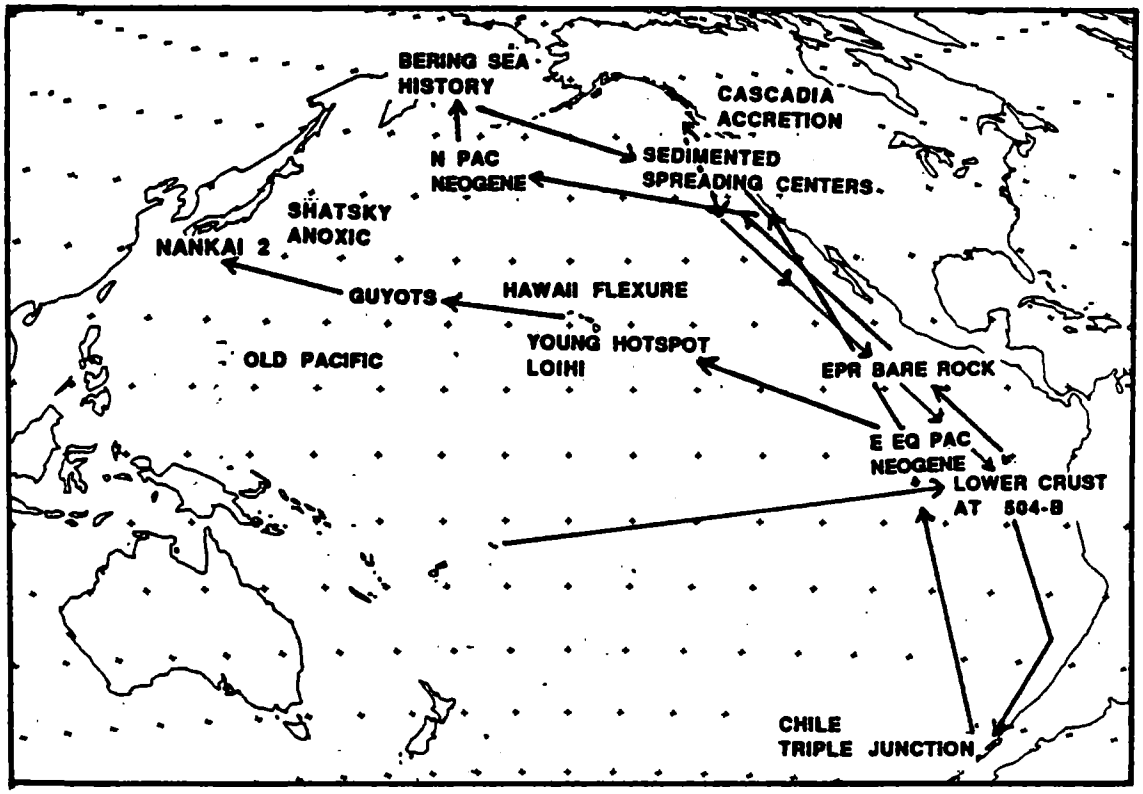
PCOM discussion and decision.

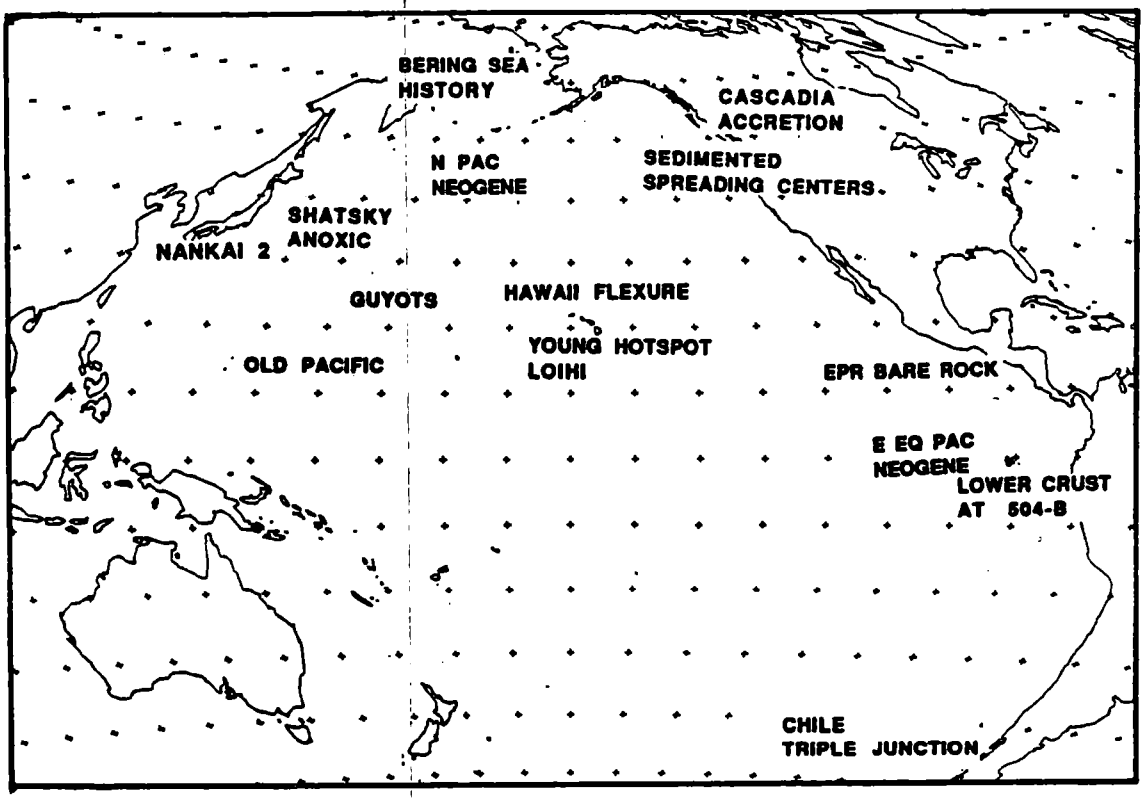
Recess for the night

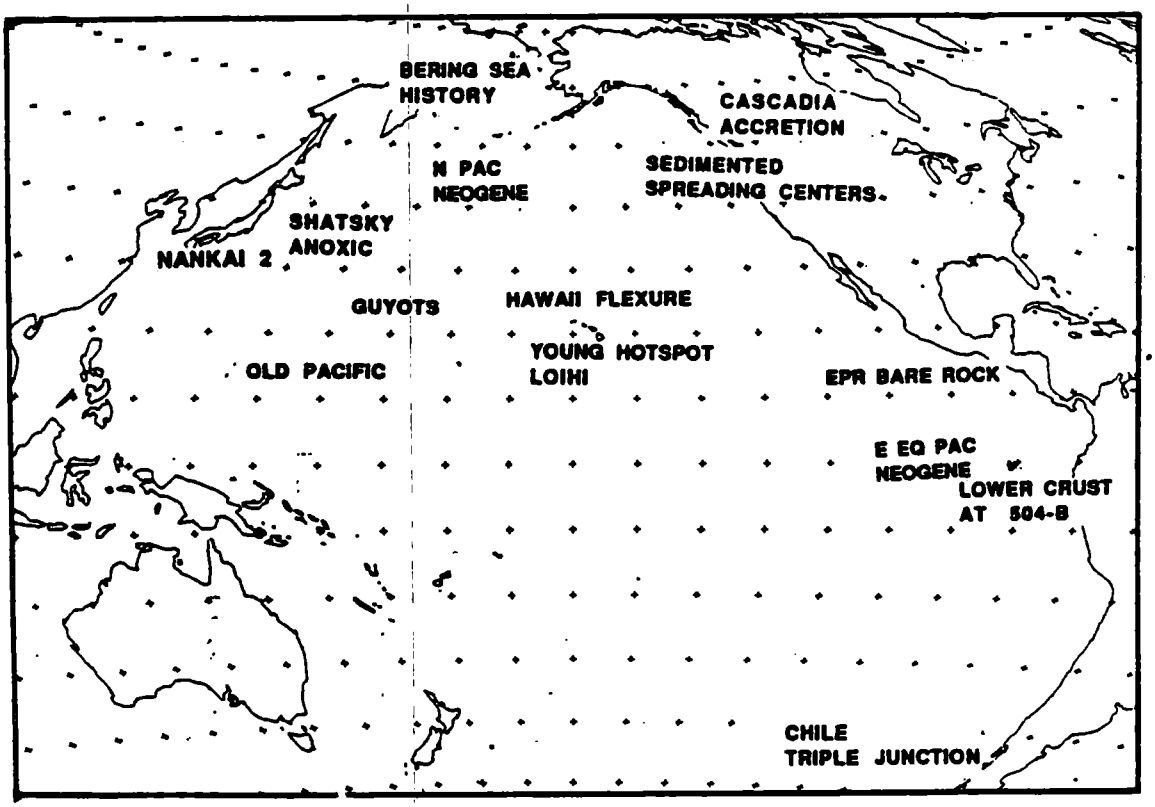
High Thematic Interest Ship Tracks



CEPAC Draft Ship Tracks







CEPAC Weather Months

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Program	January	Februar	March	April	May	June	July	August	Septemb	October	Novemb	December
2	504-B	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
3	EPR	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
4	E Eq P Neogene	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
5	Chile TJ	yes	yes	maybe								maybe	yes
6	Cascadia					maybe	yes	yes	yes	maybe			
7	Sed. Ridges					maybe	yes	yes	yes	maybe			
8	N. Pacific					maybe	yes	yes	yes	maybe			
9	Bering					maybe	yes	yes	yes	maybe			
10	Nankai			maybe	yes	yes	yes	yes	maybe	maybe	maybe		
11	At. & Guyots			maybe	maybe	yes	yes	yes	yes	yes	maybe		
12	Loihi				maybe	yes	yes	yes	yes	yes	maybe		
13	H'N Flexure				maybe	yes	yes	yes	yes	yes	maybe		

MAY

Thor's Day, 4 [redacted] 1989: Policy decisions and other business.

O. Publications Policy (IHP minutes, white pages 134-135) The problem: Reviewers of ODP criticize the delay in publication of Initial Reports and Scientific Results, as well as the lack of thematic (synthesis) publications. Many inside and outside of JOIDES consider the criticism to be valid. There is, on the other hand, need to maintain high-quality comprehensive volumes for each leg; moreover, repeated changes in policy may in themselves tend to delay publication. *PCOM must decide* (1) if it intends to respond to criticism, and if so, (2) what changes in policy it will recommend to EXCOM, and (3) what further changes (management, staffing, budget, later evaluation, etc.) it will recommend after considering the probable ramifications of its policy changes.

"The one very serious defect in ODP today is the excessive time it takes for publishing the data and interpretations. Not only is this undesirable for potential consumers of samples and information, it could well jeopardize continuation of ODP beyond 1993." (Report of Program Evaluation Committee II, 1988, p. 4, emphasis in original. This is the international committee chaired by Chuck Drake.)

The review by a special panel of the National Science Board, chaired by Bill Hay and reporting to NSF, also criticized the untimeliness of ODP publications in what are now called the IR and SR series. Moreover, both the Drake and Hay committees deplored the general lack of synthesis volumes or thematic publications outside the IR and SR series. We on PCOM and our colleagues have voiced similar concerns. Our IHP has polled the drilling community and given us their advice (see IHP minutes). Related is the problem that ODP publications have not become fully accepted as peer-reviewed literature, especially outside the drilling community. There is strong sentiment among some that policy be changed to favor a more immediate and unrestricted publication in the open literature (see OHP minutes; also remember much of our PCOM discussion in Miami). Non-US scientists in one group proposed and rapidly gained the agreement of all present that policy should be to return to the style and guidelines of DSDP days, which could even be speeded up because so much work can now be done on board (see CEPAC-DPG).

PEC II recommended that Part A [Initial Reports] be published so as to appear within one year of the end of the cruise, "even if this means some sacrifice in appearance and makes for unhappy paleontologists." Two-thirds of respondents to the IHP survey thought IR publication could be accelerated by 1 to 4 months. The present schedule calls for 14 months, but the IRs are appearing about 16 to 18 months post-cruise. With most IR material now ready for publication at the end of a leg, the main requirements for time seem to be for (1) biostratigraphic adjustments, (2) preparing or improving illustrations, (3) editing, and (4) printing and binding.

PEC II also suggested that "every effort be made to publish [Part B, the Scientific Results] in less than 30 months." Sixty per cent in the IHP poll thought the results should be published less than 30 months post-cruise; only 5% said 36 months or more. At present, 36 months is the target, but about 45 months is the actual time to appearance of the SR volumes. A major delay is post-schedule receipt (or non-receipt) of manuscripts from authors.

PCOM has asked the thematic panels to take the lead toward thematic publications. The PCOM chairman and PCOM liaisons will keep reminding panels of this responsibility. A subcommittee of PCOM will make further recommendations at Oslo.

These draft statements may help to focus our discussion:

1. PCOM accepts as valid the main part of current criticism of the lack of timely and thematic publications, and will attempt to rectify the situation.

2. If so, on to:
There shall be a return to a DSDP format, with an ICD appearing within about 8 months and the IR leg volume appearing about 30 months post-cruise.
Actually, "blue books" were appearing about 36 to 45 months post-cruise near the end of DSDP days. Perhaps that could be shortened greatly through present-day on-board writing and editing.

3. If not, on to various proposed schedules. To carry out new schedules a number of policy changes may be necessary. Such complications arise as protected authorship, copyright©, attaining and maintaining quality, the number and timing of post-cruise

meetings, staffing problems while trying to catch up with the backlog, and the timeliness of funds for post-cruise investigations. *An Initial Report volume shall be scheduled to appear within one year of the end of its leg.*
To carry out this schedule, the volume would be essentially what is carried off the ship at the end of a leg. IHP has recommended a meeting of key personnel 3 to 4 months post-cruise to edit and complete the IR volume, and thus speed it along. Included might be co-chiefs, staff scientist, biostratigraphers, and logging scientists.

4. If it is believed that the early and wide dissemination of ideas is of greater importance than homogeneous publication per se in the SR volume, then:

The SR volume need not be scheduled to appear any earlier than, say, 36 - 40 months if the SR volumes contain (a) reprints of papers printed in the outside literature, and (b) papers reviewed by the ODP editorial system.
These latter may include data papers with plates or abundant data difficult to publish outside of a monograph series. If PCOM should decide to press for more early publications in the open literature, IHP and ODP-TAMU recommended some procedures about authorship and copyright (IHP Recommendation IV, white page 130), and OHP suggested a simpler one. Also, should not the policy include *preprints* as well as reprints, if a paper has been accepted for publication outside of ODP? Should the 12-month moratorium for outside sampling be reduced to the appearance-date of the *Geotimes* article? Further to spur early submission of manuscripts for the open literature, should not a paper authored by an individual or a subset of the scientific party (see part B3) be allowed to be submitted to a journal *as soon as possible* rather than after any such moratorium? If a tentative table of contents and authors of papers for the SR volume is agreed upon by all the scientific party before leaving the ship, should not a "part B3" paper be allowed *without* further checking for unanimous approval by the entire scientific party? If the IHP recommendation is needlessly restrictive, can the obligation be the simple one proposed by OHP: *any open-literature publication should* [also] *be lodged for inclusion in the volume.*

5. If PCOM, however, recommends keeping the present policy as to content, but speeding the process:
A Scientific Results volume shall be scheduled to appear within 30 months of the end of its leg.

020 Can some of the IHP recommendations help? *In addition, JOI, the ODP subcontractors, and the national science-support organizations of each member are asked to take measures to hasten publications to the greatest possible degree.* BCOM has recommended the addition of two temporary copy editors; IHP has recommended the addition of another manuscript coordinator. USSAC is now providing roughly $10K/leg to US Co-chiefs for leg-specific editorial assistance, funds that have had to be reprogrammed from existing science-support programs. USSAC and its equivalent national committees in the partner countries should provide science-support funds for leg scientists as early post-cruise as possible. IHP's recommendation II (minutes, p. 2) is for a small 3-month post-cruise meeting aimed at completing the IR earlier, plus a full workshop meeting at 1-year post-cruise aimed at expediting the SR. If that recommendation were implemented, it probably would require a reprogramming of funds.

What are PCOM's actions?

PCOM will also hear the report of its sub-committee chaired by M. Leinen, regarding thematic publications.

What are PCOM's actions?

Coffee break

P. Transfer of Packer (white page 215)

Keir Becker wants to turn over to ODP-TAMU the operation and maintenance of the drillstring straddle packer that he developed. Because that would involve future support by co-mingled funds rather than by US funds alone, any transfer should first be approved for reasons of scientific value by DMP (they have done so) and for policy by PCOM. TAMU Engineering has agreed to accept the packer for routine operations. *PCOM must decide whether or not to approve the transfer.*

Q. Proposed Rewording of Mandates

The following changes in panel mandates have been requested:

1) The Technology and Engineering Development Committee was concerned that it is described as responsible for ensuring, rather

than for recommending, the proper tools. In section 5, paragraph 1, change *ensuring that* to *recommending to the Planning Committee,* so that the paragraph now reads "The Technology and Engineering Development Committee (TEDCOM) is responsible for recommending to the Planning Committee the proper drilling tools and techniques to meet the objectives of ODP drilling targets, especially those for achieving highly-ranked objectives identified in ODP long-range planning."

2) Shipboard Measurements Panel noted that an important shipboard activity was left out in last year's attempt to stuff all activities into the mandate. In section 7.6.2(d), add *paleontological* and *micropaleontological* to the listing so that the paragraph now reads "(d) Petrological, mineralogical, sedimentological, biological, paleontological, micropaleontological, organic and inorganic geochemistry analysis, and such equipment as microscopes for performing these measurements;"

3) Ocean History Panel requested that the phrase *ocean paleoproductivity* replace the phrase *sedimentation patterns* in view of the fact that this concisely describes one area of particular concern, so that section 4.5 now reads in part: "(a) Long-term history and driving mechanisms of the evolution of the ocean, atmosphere, and biosphere. Central to this theme are relations among plate tectonics and ocean paleocirculation, ocean paleoproductivity, global paleoclimates, glacial and ice-sheet evolution, ..."

PCOM must decide whether or not to recommend these changes to EXCOM.

R. Long-Range Plan

You should have received a copy of this from Nick Pisias. It is to be discussed, and, if you wish, recommended for adoption.

PCOM must decide whether or not to recommend this plan to EXCOM.

S. FY90 Program Plan, including its budget (page 197)

In light of (a) the briefing on the Program Plan and budget, (b) various other reports PCOM has received, (c) action PCOM may have

022 taken regarding the ship track in FY90 and later years, and (d) any new PCOM policy (engineering legs, publications, etc.), PCOM may want to comment on the FY90 Program Plan and its budget. EXCOM approval of the final ODP Program Plan and its detailed budget is an agenda item for the EXCOM meeting of 31 May - 2 June.

PCOM should make its recommendation about the FY Program Plan and its budget.

Lunch

T. Liaison

Problems: In many instances the need to exchange information more rapidly and completely than by mailed minutes requires liaison by individuals at meetings. The cost in man-hours and travel funds, however, may outweigh the usefulness of liaison. The recent change in the number of thematic panels and the elimination of regional panels, has led to some important gaps in liaison. There has been some confusion on liaison procedures. In many instances it may be more appropriate to ask for a guest or guests to attend a meeting to provide specific information, rather than have a formal liaison. The attempt to provide mutual information and cooperation between JOIDES and other large international programs in the earth and marine sciences will require liaison or some sort of ad hoc committees.

Liaison between thematic panels Our Panel Chairmen proposed the following arrangement, and we accepted it at the Annual Meeting. Liaisons proposed by thematic panels are listed. *PCOM should approve these liaisons and fill the remaining positions.*

LITHP suggested that its liaisons be:

Mevel to	TECP
Cathles to	SGPP*
Smith to	OHP

* Previously approved by PCOM

OHP suggested that its liaison be:

Davies if able to SGPP
(alt. Droxler)

SGPP suggested that its liaisons be:

Goldhaber to	LITHP
(alt. Boulegue)	
Froelich to	CHP
(alt. McKenzie)	
Elderfield to	SMP
(alt. Normark)	
Dreiss to	TECP

TECP suggested that its liaisons be:

Buck to	LITHP
Westbrook to	SGPP

Other panel-to-panel liaison. The following list shows what present liaisons exist, and what ones are requested. At their Annual Meeting, the Panel Chairmen thought such liaison should be mainly ad hoc. *PCOM should decide whether permanent liaison or ad-hoc guests is the better method in these cases. What minimum number of liaison members is needed? Are these the appropriate ones?*

DMP has mandated liaisons to TEDCOM and SMP
DMP suggested its liaisons be:

Worthington to	TEDCOM*
Carson, Gieskes, Karig or Wilkens to	SMP

also requested:

Bell to	TECP*
a reciprocal guest	CEPDPG

* Previously established or approved by PCOM

IHP has mandated liaison to SMP
IHP has not suggested a liaison:

_____ to SMP

(IHP suggests, however, that Gibson of SMP be made liaison to IHP)

PPSP has no mandated liaison
PCOM previously established and approved:

Ball to	SSP

SMP has no mandated liaison
SMP suggested a liaison be:
Moran to SSP

SSP has a mandated liaison to PPSP
An established liaison may have been:
? Lewis to PPSP**
** As indicated on membership list, but source cannot be found in any minutes.

TEDCOM has no mandated or suggested liaison in JOIDES

Other Liaisons Suggested for Thematic Panels
LITHP has no mandated liaison
Suggested liaison is:
Becker to DMP*
* Previously established or approved by PCOM

OHP has no mandated liaison
OHP requested that PCOM liaison be Brass as replacement for Pisias

SGPP has no mandated liaison
SGPP suggested that a liaison be:
Mienert
alt. Christie-Blick to DMP

TECP has no mandated liaison or request

Liaison between DPGs and panels. Because most DPGs were to be focused in scope and formed on a thematic basis, and therefore would have members of thematic panels in their composition, the Panel Chairmen and PCOM thought that formal liaisons would not be needed for DPGs. Then PCOM decided to continue CEPAC Panel membership as the CEPAC DWG. The mandate for DPGs allows PCOM to appoint non-voting liaisons. *Should DPGs that cut across many themes receive liaison from thematic and other panels?*
For example, OHP suggested Droxler to CEPAC-DPG, but there are no LITH, TECP, or SGPP suggestions.

Should part of CEPAC's membership be added to appropriate thematic panels, so that if CEPAC includes thematic-panel members,

there is no need for liaisons at all? (this was not a CEPAC recommendation but arose elsewhere)

For example, Francheteau, Floyd, or Flower to LITH; Sliter, Sancetta, Schrader, or Schlanger to OHP; Beiersdorf to SGPP; Rea or Kroenke to TECP.

Liaison by PCOM. As we all know, acting as liaison is a duty, not a matter of choice, of PCOM membership. Two PCOM members are assigned as liaison to each of its panels and DPGs (exceptions: only one each to TEDCOM and PPSP). There is an attempt to have one US and one non-US PCOM liaison per panel or DPG. That is especially true for the important thematic panels. Liaisons should decide between themselves who will attend a meeting. Normally that is on the basis of reducing travel costs, either because someone is closer, or perhaps able to include a stop in a longer trip. Sometimes it is on the basis of one liaison accommodating the other. If for exceptional reasons neither can attend a meeting, they or the PCOM chairman must attempt as early as possible to find another PCOM member to substitute. The following is our current PCOM liaison list. *Does it need adjustment?*

	panels	DPGs
G. Brass	TEDCOM	
D. Cowan	DMP	
O. Eldholm *	TECP	
H. Jenkyns	OHP	
M. Kastner *	SGPP	SRDPG
Y. Lancelot	IHP, SSP	
M. Langseth	DMP	SRDPG
M. Leinen	SMP	CEPAC
J. Malpas	LITHP	
R. Moberly	PPSP	CEPAC
N. Pisias *	OHP, IHP	
T. Shipley *		
A. Taira	SMP	WPAC
B. Tucholke	TECP	
U. von Rad	SGPP	
J. Watkins	SSP	

* likely to be replaced before January 1990

Subcontractors to JOIDES. There was a panel request that PCOM appoint TAMU-ODP personnel to panels, to improve liaison both to and from TAMU. Panel advice can go to both PCOM and an ODP subcontractor, but panel recommendations are channeled through the

Planning Committee. To receive information from subcontractors, panels may decide to meet at College Station or Palisades, or they may ask for guests or a permanent liaison from the Science Operator or the Wireline Logging Contractor. PCOM does not, however, appoint persons employed by the JOI subcontractors (or by NSF) to its panels as members. Nor is there any obligation for these subcontractors to send their employees to a specific meeting, although as a rule they have been very helpful. [note however mandates that PCOM and DMP have Science Operator and Wireline Logging liaisons to them, and TEDCOM have a Science Operator liaison to it.]
Does any of this policy need adjustment?

Liaison between JOIDES and other international science organizations. One way might be overlapping memberships on advisory panels; another might be small ad hoc committees. Probably there are other suggestions as well. *How shall JOIDES handle cooperation and exchange of information with other organizations.*? (white pages 203-205)

U. Membership

Panel Recommendations. Recommendations follow. *PCOM should evaluate, and approve as necessary.*

SSP.
With Mountain now off SSP, only 2 U.S. members remain. PCOM should consider appointing up to 4 new members. USSAC was to nominate a slate of potential candidates in U.S. industry for appointment. This is their list:

Jim Hedberg	EXXON International
Michael G. Fitzgerald	EXXON Production and Research
Cliff Edwards	MOBIL Research and Development
Thomas A. Hauge	EXXON Production and Research

Considering the desirability for a balance between U.S. and non-U.S. representation, as well as between JOIDES and non-JOIDES institutions, a slate from U.S. JOIDES institutions is also needed.

SMP
Has the UK placed someone on this panel? Is the person's expertise in underway geophysics? If not, should PCOM add one? Has the FRG placed someone on this panel?

TECP.

U.S. Members, two needed to replace Dave Howell and Peter Vogt who have left, and two more to replace Tony Watts and Dan Davis at end of 1989. This is their list:

Eldridge Moores	UC Davis
Greg Moore	HIG
David Clague	USGS
Tanya Atwater	UC Santa Barbara
Robert Duncan	OSU
Dale Sawyer	Rice
Lee Royden	MIT
Richard Gordon	Northwestern

Because the list is neither alphabetical nor by speciality, Moberly asked Dalziel if it were in priority. Dalziel said no, but suggested a plan to cover needed expertise. Moberly asked Pisias about Duncan's availability.

Here is a strawman proposal:

Appoint now, to take effect now:

1. E. Moores (Howell)
2. Atwater>Clague>Gordon (Vogt)

Appoint now, to take effect January 1990

1. G. Moore (Davis)
3. Sawyer>Royden (Watts)

DMP

Robert Porter has resigned since the last PCOM meeting. Worthington has requested that Mark Hutchinson be appointed as Porters replacement. PCOM had previously agreed to reconsider Hutchinson's appointment when Eddie Howell rotated off the panel at the end of 1989.

IHP

Alfred Loeblich has resigned since the last PCOM meeting. There are now only 4 U.S. members on IHP. Ted Moore will be submitting a slate of candidates for PCOM consideration. IHP requires someone with expertise in computer systems. Up to two new members should be considered for appointment.

OHP

Robert Garrison has resigned since the last PCOM meeting. Shackleton has requested that Larry Mayer be appointed as a member-at-large to the panel.

SGPP
Additions to the membership will be considered at the July panel meeting to cover the areas of: sedimentary mass balances; seismic interpretation; and crustal alteration.

V. Miscellaneous Recommendations

Leg Co-chiefs
JOIDES Office will attempt to gather names from the appropriate panels for legs of the western Central Pacific programs that may be moved forward in the schedule.

Establishment of DPGs
TECP has requested an *Accretionary Wedges DPG*, to evaluate, clarify objectives, and coordinate plans for Nankai, Cascadia, and Barbados programs. It would include considerations of fluids and gas hydrates, as well as structural and tectonic ones. Their proposal is for a joint TECP and SGPP group (i.e., making recommendations to both thematic panels), perhaps based on the membership of the ad hoc working group on Fluids in Accretionary Prisms (from which we have not had a report). *PCOM discussion and action?*

LITHP has recommended that a *Deep Crustal Drilling DPG* be formed early in 1990 to consider site selection criteria for deep crustal drilling sites and to consider specific proposals. Several proposals for drilling the lower crust and mantle are expected to be submitted in late 1989. A long-term drilling program designed to sample the layer 2/3 boundary, the Moho, and obtain long sections of rocks from layer 3 and the oceanic mantle has a high thematic priority from LITHP and would require 14 drilling legs over a ten-year period. *PCOM discussion and action?*

Present core-sampling policy is so restrictive that it causes problems in obtaining the sampling density necessary for many isotopic and paleomagnetic studies of sedimentary sections and petrological studies of igneous cumulatae sections. For the sedimentary sections adequate sampling is not allowed unless a section has double or triple coring runs, thus creating difficulties in scheduling logging and additional sites in a leg. *Refer to IHP? PCOM discussion and action?*

W. Future Meetings (page 217)

22-24 August 1989. Seattle. D. Cowan to host.
Preparation for the Annual Meeting; review of programs led by watchdogs and panel liaisons; specific assignments to panels and DPGs.; also as much of the year's routine business here as possible. The PCOM meeting should end by early- to mid-afternoon on Thursday the 24th, at which time a joint informational meeting between the US members of PCOM and the USSAC will commence. It probably will not need to go into the evening, and certainly not into the next day as we thought earlier. Non-US members of PCOM are welcome if they wish to attend.

27-30 November 1989. Woods Hole. B. Tucholke to host.
Our Annual Meeting will be preceded on Sunday by the Panel Chairmen meeting. As a result of your requests, we will strive for a 4-day, rather than 5-day, PCOM meeting leading to the FY91 Program Plan.

24-26 April 1990. Southern France. Y. Lancelot to host.
At our spring meeting we will plan the general track of the vessel 4 years in advance of drilling. (to spring 1994)

August 1990 (when and where)
USSAC has suggested that the late August meeting of PCOM be held either in California at UCSC or SIO (Santa Cruz or La Jolla), or in Hawaii, followed by the USSAC meeting, with a few hours between so we can meet together. *What does PCOM want to do?*

26-29 November 1990 (where?)

PCOM should now set the date and venue of its August and November 1990 meetings. (At Seattle, it should set its April 1991 meeting)

X. Other Business

Y. Adjournment

JOIDES PLANNING COMMITTEE ANNUAL MEETING
28 November - 2 December 1988
Rosentiel School of Marine and Atmospheric Science
Miami, Florida

REVISED DRAFT MINUTES

Members:

R. Moberly (Chairman) - Hawaii Institute of Geophysics
K. Becker - University of Miami (for G. Brass)
D. Cowan - University of Washington
O. Eldholm - University of Oslo, ESF Consortium
T. Francis - Inst. of Oceanographic Sciences, United Kingdom
M. Kastner - Scripps Institution of Oceanography
Y. Lancelot - University Pierre et Marie Curie, France
M. Langseth - Lamont-Doherty Geological Observatory
M. Leinen - University of Rhode Island
(replaced by alternate R. Larson 30 Nov.- 2 Dec.)
J. Malpas - Memorial University, Canada
N. Pisias - Oregon State University
T. Shipley - University of Texas at Austin
A. Taira - Ocean Research Institute, Japan
B. Tucholke - Woods Hole Oceanographic Institution
U. von Rad - BGR, Federal Republic of Germany
J. Watkins - Texas A&M University

Liaisons:

R. Anderson - Wireline Logging Services (ODP-LDGO; for R. Jarrard)
L. Garrison - Science Operator (ODP-TAMU)
B. Malfait - National Science Foundation
T. Pyle - Joint Oceanographic Institutions, Inc.

Panel and Committee Chairmen:

J. Austin - Atlantic Regional Panel
M. Ball - Pollution Prevention & Safety Panel
I. Dalziel - Tectonics Panel
R. Detrick - Lithosphere Panel
L. Mayer - Sediments & Ocean History Panel
T. Moore - Information Handling Panel
K. Moran - Shipboard Measurements Panel
G. Mountain - Site Survey Panel
D. Rea - Central & Eastern Pacific Panel
R. Schlich - Indian Ocean Panel
C. Sparks - Technology & Engineering Development Committee
B. Taylor - Western Pacific Panel
P. Worthington - Downhole Measurements Panel

Guests and Observers:

D. Falvey - BMR, Australia
R. Ginsburg - University of Miami (2 December)

B. Haq - National Science Foundation (30 Nov.- 1 Dec.)
B. Harding - ODP-TAMU Engineering
H. Jenkyns - Oxford, United Kingdom
E. Kappel - Joint Oceanographic Institutions, Inc.
S. McGregor - National Science Foundation
N. Shackleton - Ocean History Panel
M. Storms - ODP-TAMU Engineering
E. Suess - Sedimentary and Geochemical Processes Panel

JOIDES Planning Office:

P. Cooper - Science Coordinator
L. d'Ozouville - Executive Assistant and Non-U.S. Liaison
H. Iwamura - Secretary
G. Waggoner - Science Coordinator

Monday, 28 November 1988

741 Introduction

New PCOM Chairman Ralph Moberly called the 1988 Annual Meeting of the JOIDES Planning Committee to order. Chris Harrison welcomed everyone to RSMAS and the University of Miami and expressed his gratitude for both the involvement of new blood and the continuity represented by old familiar faces. Moberly commented that Chris Harrison was an effective former member of PCOM. Keir Becker, who was acting as host for this meeting, extended his welcome and explained logistics including two dinner parties. An informal field trip led by Bob Ginsburg was planned for Wednesday noon to visit local outcrops of an oölitic limestone.

Moberly stated that the new staff of the JOIDES Planning Office at the Hawaii Institute of Geophysics hopes to be as useful and accommodating as was Nick Pisias's office at Oregon State University. Introductions were then made starting with the JOIDES Planning Office, PCOM members, panel chairmen, liaisons, invited guests and observers.

742 Minutes of PCOM Oxford Meeting 23-25 August 1988

Moberly called for comments, corrections and approval of the previous minutes.

J. Malpas asked for a correction to p.14 of the minutes (p.16 of agenda book) changing the second sentence of the second to the last paragraph to read as follows (changes in **bold**):

> With a 10% increase, the Moho objective would **probably be** lost, and more emphasis **would be placed on science that can be carried out with existing technologies**.

U. von Rad asked for a correction to p.16 of the minutes (p.28 of agenda book) with the second sentence under Leg 123 reading as follows (changes in **bold**):

> L. Garrison reviewed the changes in Leg 123 due to the exchange of **Leg 123 site EP9E for Leg 122 site EP2A**.

B. Harding asked for a correction to p.6 of the minutes (p.18 of agenda book) with the first sentence of the third paragraph under Engineering Test Leg 124E reading as follows (changes in **bold**):

> The platform for the DCS has been fabricated and is scheduled to **depart for** Manila **on or about** 1 November.

PCOM Motion

> PCOM approves the minutes of the 23-25 August 1988 Planning Committee meeting with amendments. (Motion Malpas, second Kastner)
>
> Vote: for 15; against 0; abstain 1

743 Approval of Agenda

Moberly called for additions or revisions, and then for adoption of the agenda for the meeting. Pisias and Lancelot asked for minor revisions.

PCOM Motion

PCOM adopts the agenda for the 28 November - 2 December 1988 Planning Committee meeting. (Motion Pisias, second Leinen)

Vote: for 15; against 0; abstain 1

744 EXCOM Meeting Report

Both Moberly and Pisias attended the 13-15 September 1988 EXCOM meeting in Edinburgh and written summaries of the meeting of interest to PCOM are attached (Appendix B). Of special concern to PCOM, EXCOM commended PCOM for its consistent approach to developing the thematically driven planning process, and approved strongly the four points of consensus of PCOM at its Oxford meeting of how to proceed. EXCOM thought, however, that the specific wording of the PCOM motion for implementation was inappropriate. EXCOM's motion was, *At the November 1989 Annual PCOM meeting, and at subsequent meetings, PCOM will examine thematically reviewed proposals in any ocean, in order to plan a general direction of the vessel in the period after 1991.*

Pisias emphasized in his report that the two most important items of concern to PCOM were that (1) EXCOM approved the new advisory structure of JOIDES and the panel mandates were accepted almost as written with few revisions. EXCOM was concerned that the Site Survey Panel (SSP) should not review the merits of drilling proposals, so the wording of the panel's mandate was changed to reflect this. (2) EXCOM strongly endorses the concept that science proposals drive the ship, so that PCOM can continue to develop long-range plans.

Discussion

There was some concern that EXCOM Minutes are not distributed to PCOM members and Panel Chairmen. Moberly noted that PCOM members should have them available through their affiliated EXCOM representatives.

The misunderstanding about the role of the SSP in regards to the merit of drilling proposals was also discussed.

745 National Science Foundation Report

B. Malfait represented the National Science Foundation. A budget summary is attached (Appendix C). In his introduction Malfait noted that the change in administrations will have an unknown effect on NSF, but looks forward to the same generally favorable treatment for science as under the Reagan administration.

Status of the FY89 Budget

The total appropriation for FY89 for NSF's ODP program budget is $32.1M Of this $21.5M is budgeted for the U.S. contribution to ODP. Individual contributions by the international partners is $2.5M and total $15M The approved total budget for FY89 ODP Operations/Management program plan is $36.15M, with the increase of $150 K over the target level supported by U.S. funds.

NSF has budgeted $5.184M for grants to support U.S. research related to ODP programs, including 5 field programs in the Pacific and development of downhole experiments and instrumentation (see Appendix C). FY89 will mark the end of two years of high-priority support for studies related to the Pacific drilling program.

Projected FY90 Budget

FY90 (1 October, 1989 - 30 September 1990) contributions by the international partners has been increased by 10% to $2.75M and based on this increase the FY90 budget target of $38M appears attainable. JOI will be given formal notification in early January 1989.

In FY90 NSF will be giving high-priority support to field studies in the Atlantic and its contiguous seas as outlined in the November 1988 JOI/USSAC Newsletter. NSF tries to direct high-priority field programs two to three years in advance of the drill ship track.

Other Items

MOU between Canada and Australia has been signed. Canada and NSF are attempting to resolve problems in the wording of the draft MOU between Canada and NSF.

The EXCOM resolution supporting Soviet participation in ODP has been forwarded into the system but there is nothing new to report.

Staff changes at the Division of Ocean Sciences at NSF are:

M. Grant Gross (Division Director) on 1 year sabbatical.

Don Heinrichs has moved to Division Director.

Bruce Malfait will serve as Acting Section Head for Oceanographic Centers and Facilities.

Dave Epp has joined Bil Haq at the Marine Geology and Geophysics Program as Permanent Associate Program Director.

746 Joint Oceanographic Institutions, Inc., Report

T. Pyle reported for JOI, Inc. and reviewed the timing and the steps for making the FY90 program plan.

Early Dec. 88	PCOM. establishes science plan (the driving force of the program)
End Dec. 88	Science Plan submitted by PCOM chairman to JOI.
Early Jan. 89	Official NSF budget target to JOI ~$38M
Early Feb. 89	JOI "budget overview".
14-15 Feb. 89	JOI budget preview by JOI Board of Governors.
7-9 March 89	BCOM reviews budget and sets scientific priorities if there is not enough money to accomplish the proposed program.
April 89	NSF does a quick administrative review to guard against major omissions or misstatements.
2-4 May 89	PCOM meeting reviews if necessary.
31 May-June 2 89	EXCOM meets and approves program plan.
July 89	NSF final review.
August 89	NSF executes contract with JOI.
Aug./Sept. 89	National Science Board has no formal review this year but gets a briefing.
1 October 89	Start FY90 program.

FY90 Budget

Pyle then discussed the FY90 budget from the last program plan (Appendix D) noting that there are two categories of budget (1) standard budget and (2) special operating expenses (SOE). The SOE part of the budget is designed to improve the program with new or special things such as leasing an escort ship during Antarctic drilling, replacing drill pipe, and purchasing the mining coring system. For FY90, $1.25M was budgeted for SOE, but only $68K remains uncommitted. Pyle noted that there is little flexibility in the FY90 budget. Problems to be faced in the FY90 budget include:

Avoiding higher extrapolation of funds available in FY91.

SOE includes only $150K for Hard Rock Guide Bases (HRGB).

If 2 HRGB are needed cost estimated at $800K

Other SOE:
- $400K Mining Coring System (enough?)
- $200K Drilling Supplies (HRGB?)
- $350K Drill String Replacement (10K ft.)
- $150K Shipboard Equipment Upgrades

Uncommitted SOE only $68K.

2 subsequent day-rate increases for the JOIDES Resolution are not included. Day-rate increases are tied to the Producer Price Index which went up again in November 1988. Increases in the PPI cost about $500K and are tied to budget size.

Logging insurance (premium and deductible) rate increases are not included in the budget. Premiums have increased x4-5 ($28K to $139K) and the deductible has more than doubled ($20K to $50K) since an "aggressive" logging program has been implemented.

Fuel costs have remained fairly constant and may provide some flexibility in the budget.

Additional Information Items

A policy on "fishing" for lost logging instruments has been established (see agenda book p.213-217).

U.S. logging schools have been established to coincide with various scientific meetings (GSA 1988 Annual Meeting in Denver, AGU 1988 Fall Meeting in San Francisco, IGC meeting next summer in Washington).

A logging practices meeting was held between LDGO, TAMU, Schlumberger, and SEDCO on 24 October 1988, to improve communications about what happens aboard ship, who is responsible for what, and who talks to whom, and generally improve decision making during logging. A six month trial of the new structure will see if there is an improved record of fewer tool losses.

Minutes from the 11 October 1988 Nansen Arctic Drilling Project meeting in Bremen, FRG are attached to the minutes (Appendix E). Pyle suggests cooperation between ODP and this project could strengthen the program.

News related to the U.S. Science Support Program of general interest to ODP are:

One proposal for a wireline reentry program has been received and is currently out for review and decisions are expected in several months.

A CD-ROM of DSDP data is due for release in late Feb./Mar. 10 copies will go to national program offices and international partners for distribution as they see fit.

A USSAC sponsored synthesis of EPR data is complete and will be presented at the 1988 Fall AGU Meeting in San Francisco.

Pyle emphasized that Panel Chairmen must send their minutes to JOI under pain of no funding.

Discussion

Leinen questioned the $800K cost for 2 HRGBs. She said that Dave Huey told CEPAC that the costs have decreased substantially. It was suggested that roughly 5-6 HRGBs could be purchased for $150K

Moberly asked Barry Harding to provide PCOM with a new estimate of the cost of HRGBs, for long-range planning.

Pisias asked about a cost analysis for logging holes drilled with the Diamond Coring System with slim-line tools versus making bigger holes. Garrison said this analysis was being done. Anderson said that

redesigning the present logging tools with a slim-line design is too expensive. The options are to rent those slim tools available and lose logging data, or ream out the holes to make then larger and use the present logging tools.

747 ODP Science Operator Report

Lou Garrison gave the Science Operator report in two sections, first reporting on the JOIDES Resolution, and then on TAMU.

Leg 124

Leg 124 (SE Asia Basins) is now in progress with drilling at site CS-1 (Site 767). Three holes have been drilled at this site:

A Hole	Completed.
B Hole	Drilled to 739 mbsf, logging only partially completed due to hole troubles going down. Recovery was good at top and about 30% at bottom of hole.
C Hole	Drilled to basement 794 mbsf, recovered a few grams of basalt from 20 cm penetration in last core. Drilled through alternating terrestrial, calcareous and volcanic ash turbidites. Age of oldest sediments not clear, but Oligocene sediments were recovered above basement. Twelve cores were recovered and while coring the 13th the drill string became irretrievably stuck in massive turbidites and the pipe had to be severed.

While on site Co-Chiefs requested that the priority of the Sulu Sea holes be changed from SS-3 which is thought to have abnormal contaminated basement to SS-2 which may have a more conventional basement. Moberly (for PCOM) and PPSP agreed to the switch.

Other JOIDES Resolution Items

The scheduled port call between Leg 126 and 127 has been changed to Tokyo from Yokohama. Yokohama proved unsatisfactory because a bridge prevents the Resolution from entering the main port and only one outlying berth can accommodate the ship. There were also hotel problems. There will now be Tokyo I and Tokyo II port calls.

Shipboard computer upgrades will begin on Leg 124E and be completed by Leg 125. Upgrades include: 2 new VAX 3500 computers (Older 11/750 computers also remain on board), new disk servers, 2 optical disks one on board ship and one at TAMU (to reduce dependence on magnetic tape), Local Area VAX Cluster (a new configuration control using software to cluster VAXs into essentially one computer), 2 Macintosh-II computers, 2 Macintosh-SE computers, and 1 NT LaserWriter.

To try to improve the resolution of the 3.5 kHz seismic records a new sonar dome has been installed forward of the moon pool. A test of the new system on Leg 123 showed improvement, with 38 meters of bottom penetration with structural data while the the ship was making 13 knots in 4800 meters of water.

A new multi-sensor tracker system will be installed on Leg 124E in the Physical Properties Section. This system runs a whole core section through the GRAPE/P-Wave Velocity/Magnetic Susceptibility logger and gives a single readout of the results in one pass.

Staffing of legs proceeds apace. Both Legs 125 and 126 are almost fully staffed except for a foram person on each leg; additionally a sedimentologist and logging scientist are needed on Leg 125 and a VSP person on Leg 126. The invitations have been mailed for Legs 127 and 128 but Canada/Australia participants are still needed. Logging scientists for Legs 127 and 128 have not been invited pending PCOM prioritization of the logging needs. Leg 129 is not staffed since it depends on how many Nankai Legs are planned and the prioritization of drilling sites. The safety review of Leg 129 holes is complete.

ODP-TAMU

Four new Staff Scientists will be coming on in 1989 to replace staff members who have left. Tom Janecek from LDGO has been hired as a sedimentologist, Laura Stokking from Scripps as a paleomagnetist, Andrew Fisher from RSMAS as a logging scientist and Jamie Allen from Univ. of British Columbia as an igneous petrologist.

There has been an administrative restructuring at ODP-TAMU with Data Base moved from Science Services to Science Operations since Science Services was too getting too big and a more equitable distribution of the work load was desired. Data Base now reports to Audrey Meyer. IHP will now go through different channels as well.

- A laser video-disk is being published with archival images of all cores from Legs 1 through 121 of both DSDP and ODP. The charge for this has not been set.

Discussion

von Rad wanted to know if notices of ODP Staff openings were sent to the European science community. It was established that advertisements of openings go out on an international level and are advertised in international journals.

Cowan wanted know about the status of drilling in Indonesian waters since lack of clearance prevented Banda Sea drilling. Garrison said this matter was beyond ODP's ability to handle and requires the negotiation of an overall MOU by the US and Indonesia. It was largely a political issue and not an objection to drilling.

Austin asked about the status of Part B Publications. Garrison said that Part B (Scientific Results) for Legs 101 and 102 are supposed to be ready for distribution in early December; Leg 103 ready for distribution at end of December; Leg 104 will be distributed in June. The time gap between December and June is the result of hesitancy on the part of PCOM and EXCOM as to how publication should proceed. There is a glitch in Leg 107 assembly because of the establishment of the Editorial Review Board (ERB). The poor quality pictures of the Leg 113 cores is the result of a cost cutting attempt to use unglazed paper which resulted in the publisher overinking and producing blurring. For the next volume (Leg 116), ODP will experiment with using unglazed paper for the body and glazed paper for photos of cores. The plates will be placed at the end of the book. ODP would like to know whether or not this method meets with approval.

Kastner wanted to know if Leg 113 Part A publication will be redone. Garrison indicated that it would remain as it is. A decision was made to get out the volume on time even with the poor quality pictures.

Schlich commented on the deficiency of the geophysical equipment aboard the Resolution, especially the poor bathymetry on site and loss of seismic lines above 5 knots. He noted that the types of problems found on the ship have been solved by other oceanographic institutions for their vessels.

Garrison noted that ODP at TAMU is aware of the shortcomings and improvements are being made (*i.e.* new sonar dome) but budget constraints are limiting what can be done. ODP is working on purchasing a real time navigation system which will give smooth plots within 24 hours. Garrison stated that gathering high speed seismic lines between port and remote areas is not a role for ODP since they do not have the ship time available or the money to invest in a high speed streamer.

Schlich also noted that magnetic field results cannot be examined onboard ship since there are no programs to reduce the magnetics and this means important magnetic data is not available for making drilling decisions and may be lost entirely due to equipment malfunctions no one is aware of.

Garrison said that real time processing is a problem for which suggestions are needed and which could come from the new Shipboard Measurements Panel.

Shipley and Pisias both noted that SMP is to report to PCOM, which will establish priorities. Further discussion was held about the role of SMP and formation of liaisons with other panels (*i.e.* SSP). Moberly asked K. Moran to talk to R. Schlich and G. Mountain about the problems with shipboard geophysical measurements.

von Rad suggested that a narrow beam echo sounder should be installed to image the seafloor better, since the old fashioned wide beam system now onboard has side echo problems.

748 ODP Wireline Logging Services Report

R. Anderson gave the quarterly status report for Wireline Logging Services for the Borehole Research Group at LDGO (Appendix F). There has been an increased amount of time devoted to logging of holes since Leg 101. The side entry sub (SES) suggested by Lamar Hayes to get the logging tools to the bottom of the drill string has proven an extremely successful method for Legs 122, 123 and 124. Anderson suggests that the name "Hayes SES" be adopted both to recognize the efforts of Lamar Hayes on behalf of ODP and his suggestion of the technique.

Bridging continues to be a problem for logging holes. Clay swelling does not appear to be the cause. It appears to be a problem with sand caving into the hole. The solution is to use the SES. Logging tool bashing has not been successful and only results in tool loss.

Logging of Leg 122 holes found that Si, Ca, Al measurements correlate with the Haq and Vail sealevel curves, reflecting the changes in sand input.

Logging of Leg 123 site 766 hole downslope and west of 761 and 762 has shown the value of geochemical logs for stratigraphic correlation between holes. Because the hole had to be cased the planned experiment to compare logging through pipe and outside pipe could not be conducted. This will be tried on Leg 125.

Hole 765D provided good breakout data (breakouts in direction of least compressive stress) with the stress orientation the same as at 90E Ridge (site 758) but of greater magnitude. These experiments represent an important development in worldwide stress measurement mapping.

The French-made Slim Formation Microscanner will be shipped from the manufacturer around Christmas. The computer system has been received and software is under development, and the system is anticipated to be operational for Leg 126.

Testing of wireline packer is nearing completion and deployment on Leg 126 is anticipated. Changing the design of the steel reinforced braiding of the bladders has fixed the closure problem. New problem is the pumps keep burning out. The maximum life for motors and pump is 8 hours. The motors and pump were subcontracted to Stanford. M. Zoback is trying to solve the problem by getting AMOCO to let ODP use its design. The tool started out as the AMOCO Wireline Packer and used their own 1.5 HP motors. The ODP design uses TAM International motors which are only 3/8 HP and which are inadequate for the job. M. Zoback is negotiating for the use of the AMOCO motor or if that fails they will jury rig 4 TAM motors in series. The packer was supposed to be deployed on Leg 124E but will not be ready. The delay is the result of the need to field test the jury rigged 4-motor setup at Lamont, which is scheduled for the first week of December in a borehole in basalt. The design failure is blamed on Stanford and should have been spotted before the field tests. The problem arose because the instrument was assembled as individual components with each component working separately, but when fully assembled the tool was not capable of doing its job reliably. [Late word by Anderson was that AMOCO would let ODP use the motor design and the on-land test was back on schedule.]

Discussion

Taylor asked if K. Becker's packer could be used if necessary on Leg 126. Becker said yes. Anderson said the wireline packer will be ready to test by Leg 126.

von Rad noted that there have been lots of tool losses and failures causing complete unpredictability of logging time requirements. He suggested better maintenance of tools during the 5 days of port time. Anderson replied that Schlumberger cannot maintain their own test schedule because of the distance of the ship from Schlumberger Maintenance Districts. This is compensated for by carrying 2-3 backup tools. Schlumberger says shipping is the primary source of tool damage. Auxiliary Measurement Sonde has been failing a lot, causing the system to shut down, and may no longer be used. The problem is related to a failing splice required by the use of the crown block. Also, the swivel head has been leaking.

Moberly asked if you had to use the crown block. Anderson indicated it was necessary for safety reasons (heavy cable). He also said there was a full maintenance call by Schlumberger (expensive) last time in Singapore and all the tools were checked out as OK. He emphasized that tools should not be used as bashers, they're built to withstand significant horizontal banging, but not vertical. Most of the problem may be the rugged environment downhole. A set maintenance schedule will not solve the problem. Another part of the problem is a lack of logging time allowed; there just isn't any time available to thread a new tool after one fails.

Francis asked if the main problem is heave. Anderson said that heave mainly affects data quality. The engineers' hypothesis is that the main problem is "bashing" through bridged holes by users.

Taylor asked what could be done regarding the Auxiliary Measurement Sonde problems. Anderson said assemble tool ahead of time and test it in a "mouse hole" before the SES is deployed.

von Rad stated the chief scientists need real time figures so they can plan logging programs. At present one should multiply standard figures by factor of 2. It is possible to miss one's objective because of these timing errors.

CS-1 was an example of the value of the new policy of logging holes before reaching full depth on deep holes. The logging took 2.6 days but it was important because core recovery was very poor and the drill string got stuck.

Shackleton stated that there is a need for more information in the open literature regarding the benefits obtained from logging. Anderson said Volume 3 of the Logging Manual contains a lot of information from the backlog of logging manuscripts. Because of the restrictive ODP publication policy there has been trouble getting logging publications out.

Moore & Pisias both stated that publication in the open literature with all 42+ authors could and should be done. It was noted that Leg 111 logging data were published in Reviews of Geophysics.

von Rad suggested that logging information should be combined with paleontology and sedimentology information.

Shackleton noted that the logging manual has a lot of information useful to chief scientists.

Anderson said that Volume 3 of the Logging Manual has a lot of science in it but was intended to be an educational volume using examples from ODP legs.

749 Regional Panel Reports

Atlantic Regional Panel

J. Austin gave the report of the Atlantic Regional Panel. The panel has not met in 18 months. Former PCOM Chairman N. Pisias wrote a letter to Austin asking for an evaluation of the "ready-status" of drilling programs in the Atlantic. The purpose was to identify a small set of scientific drilling objectives that had nearly mature proposals and assemble a set of new thematic programs based on recent workshops. Additionally they were to make the community aware of plans to drill in the Atlantic. The preliminary assessment was included in the agenda book starting on p. 177. With the exception of Leg 101 proposals, previous drilling did not answer all high-priority thematic objectives of the mature proposals

previously submitted and further drilling related to these programs is envisioned. The regional thematic white paper generated by ARP also identified new drilling objectives in the Atlantic. Workshops sponsored by JOI-USSAC have also identified new thematic objectives in the South Atlantic and Adjacent Southern Ocean (J. Austin convenor) and in the Caribbean Sea (R. Speed convenor). Four workshops held in Europe have also identified new thematic objectives: (1) "Geologic History of the Polar Ocean: Arctic versus Antarctic" convened by J. Thiede; (2) "Mediterranean Workshop" convened by J. Mascle; (3) "U.K. Proposals for ODP: Atlantic Ocean" convened by NERC; (4) "Drilling in the Atlantic" convened by ESF. Austin noted that the Europeans are taking very seriously the PCOM initiative to open up drilling in all oceans based on thematic objectives. The U.S. response has not been as large.

Discussion

von Rad questioned why Leg 101 was left out of the summary of old legs. Austin said the purpose was to outline high thematic priority work that still needs to be done and Leg 101 accomplished its drilling objectives.

Cowan wanted to know what can be done in 1990-91 that hasn't already been done to investigate continental breakup? Is drilling deeper all that is needed, or is it a waste of money? Austin said the French are particularly interested in identifying the S-reflector. At present we cannot address all phases of breakup, and further drilling is needed.

von Rad said the deep stratigraphic hole in the Moroccan Basin is not mentioned. Austin said that in a phased program a deep stratigraphic test does not have a high priority in an early phase and these holes cannot be easily attempted with the ship in its present state. It would also be a safety nightmare.

Eldholm wanted to know what a return to volcanism drilling means? Austin said that the document considers the North and South Atlantic as good places to test plate kinematics and the hotspot reference frame and that the margins are good places to look at anomalous volcanism and its effect on continental separation.

Moberly asked if the report on p. 177 of the agenda book constituted the ARP Annual Report. Austin said that without a panel meeting in 18 months this was it.

Southern Ocean Panel

Moberly conveyed P. Barker's apologies for not being able to attend; a written report is attached to the minutes (Appendix G). Barker wanted it emphasized that remote areas may get neglected and remain neglected if their proponents of drilling perceive that it is a hopeless cause and may thus become a self-fulfilling prophecy. It may be equated that if there are no advocates in the panel structure then there will be few new proposals.

(Pisias noted that a major change in the panel structure is that proponents no longer rank their own proposals.)

N. Shackleton was asked to give the SOP report. He suggested that PCOM read Barker's report as he was not prepared to discuss it in detail. Shackleton noted that: SOP has not met in 12 months; there is a list of Antarctic proposals in the system; it is not true that SOP proposals have been the only proposals drilled in the Southern Ocean.

Discussion

Pyle asked if it was true that the number of scientists in the advisory structure is being reduced. Pisias noted that while 3 regular panels have been eliminated, two new panels and one DPG were added.

Indian Ocean Panel

R. Schlich gave the IOP report, noting the last meeting of the panel was October of 1987. Since that last panel meeting, drilling at site 735 has recovered 500 m of gabbro. Schlich requested a final meeting of the

IOP. He gave the history of the problems of putting together this final meeting of the panel and Chief-Scientists from the Indian Ocean legs, which was to have provided Pisias with help in a part of the Long-Range Planning Document. The final panel meeting is now requested for a time after the panel is officially disbanded (31 Dec. 1988). The purpose of the meeting would be to document the achievements of drilling in the Indian Ocean and identify the remaining problems to be addressed by thematic panels.

Discussion

Kastner said it is a good idea, that there is a need to publish these results in the general science community. She suggested publication of a summary of the main achievements in EOS. Moberly said there is pressure to get out the important thematic summaries and he would note this suggestion.

Lancelot said this is extremely important especially since results will not be out for some time and since ODP volumes do not get highly publicized. Lancelot suggested publishing a small volume of some kind which could come out as a scientific report of this drilling phase. He suggested January would be the right target date for this meeting. Publication of these drilling results will help answer questions asked by France about where the scientific results are published, how can it be proven the project is well run, and how is the money being spent?

Kastner said that USSAC is going to have a meeting to discuss the problems of thematic publications and EOS-type articles, and the need to get results of drilling out more quickly.

Pisias wanted the IOP meeting to provide an evaluation of what was planned versus what was achieved by drilling.

Langseth suggested that this meeting might be held in a workshop setting to get publication outside of the planning committee.

Mayer noted that two sessions at the IGC in July will be devoted to Indian Ocean drilling.

Francis wanted to know who is being addressed in producing this publication. Is the EOS article to be something other than a collection of Geotimes articles?

Pisias said the intention of the article is to put Indian Ocean drilling in a larger perspective with cross-leg links and not a leg by leg summary.

Schlich agreed with Pisias and noted that it is important to examine Legs 119, 120, and 121 together for future reference.

von Rad said there are two completely different objectives here (1) discuss what has been achieved by drilling and (2) what are the gaps in what we want to achieve in a long-range document. A workshop would be very useful but these objectives can be fulfilled by a follow-up meeting of the panel.

Mayer said this would be a healthy exercise. IOP was planned as a regional exercise but it would be good to see everything synthesized in terms of thematic objectives.

Pisias noted that calling it a workshop may open the door for proliferation of DPGs and workshops. A meeting of the panel could provide what is needed especially since you can't go through a workshop format in a timely manner. Expectations regarding output should be formalized. The end of a panel's life could be a time to produce these kinds of documents.

Francis noted that the general public is not interested in details of whether or not planning worked, but how much ODP has contributed to improving our knowledge of the Indian Ocean. We should begin with what was known before drilling started and what drilling achieved.

Schlich requests a clear message from PCOM regarding the IOP meeting.

Langseth said the workshop suggestion was designed to get the publication out from under the JOIDES umbrella.

Kastner voiced two objections to the workshop type format (1) as Pisias noted it is not a timely way and (2) it reestablishes the concept of a regional panel. The JOIDES intent is to have thematic panels establish what thematic issues can be studied in what ocean. What is needed is a summary of scientific achievements of drilling, not a workshop. Schlich noted that this was his original request.

Lancelot said something must be published extremely soon, no matter what format. Put Schlich in charge and do it.

Shackleton said he doesn't see how you can make a useful publication given the publishing constraints imposed by ODP on the scientists involved.

Moberly noted that there is a great deal of difference between a volume (whatever a volume is) and one of the fairly long news items in EOS.

Moore said there are two ways to approach a summary of Indian Ocean drilling, under the existing publication policy: (1) the volume mode with two pages listing all authors on all legs, or (2) the short EOS-type article with references to individual leg volumes or Geotimes articles as sole references for the synthesis. The second option doesn't draw on any more data than are already out.

PCOM Motion

In light of the requests from both the NSF review and EXCOM that the thematic successes of ODP be highlighted and summarized, I move that a subcommittee of PCOM meet to discuss the possibilities for doing so and recommend some scenarios for summaries. (Motion Leinen, second Kastner)

Vote: for 11; against 4; abstain 1

Moberly appointed Leinen as chair of the subcommittee with Pisias, Lancelot and Taira members. Moberly asked that a focussed set of three or four choices, directed towards publication, be prepared. If a workshop format were chosen as an option, suggestions for specific charges should be made. A brief report is to be given on Friday during the agenda section on resolutions and new memberships. (Note: Leinen and Lancelot had to leave Miami early; there was no report on Friday.)

Shackleton thought it would be more useful if separate thematic reports were written including one on Ocean History findings in the Indian Ocean.

Moberly said that was the intent, to try and get away from a lot of nonthematic reports. (See further, Minute 767)

750 Advisory Service Reports

Site Survey Panel

G. Mountain gave the SSP report (Appendix H) in three sections (1) How the mandate was fulfilled in 1988; (2) Assessments regarding FY90; (3) Comments on future role. Site Survey Standards are given in the new Guidelines Special Issue of the JOIDES Journal which will be published soon. Carl Brenner was commended for his efforts towards data deposition.

Site survey reviews for scheduled WPAC legs are now generally satisfactory, except for: Leg 126 where high heat flow in vicinity of BON1 means care is needed in final site selection; Leg 127 where basement at J3b needs better imaging.

For unscheduled WPAC programs, site survey reviews have identified problems for: Lau Basin which needs redefinition of objectives based on new Gloria data; Vanuatu where site DEZ-2 has a continuing problem with the velocity structures and depth of drilling to the décollement objective; Geochemical Reference Sites do not have final locations for BON-8 or MAR-5.

Based on site survey reviews the CEPAC Programs have been divided into five categories: (1) Adult; (2) Adolescent; (3) Child; (4) Infant; (5) Gleam-in-the-eye (see Appendix H).

In the future SSP needs at least a 3-year lead time between receipt of initial data package and drilling. Moberly noted that PCOM is supposed to plan the general track of the drill ship 4 years in advance, but it is doubtful that SSP will get more than a 3-year lead time.

Liaisons with PPSP and DPGs on an "ad hoc" basis are important for timely input. TAMU engineers should provide feedback on the following issues: (1) the need for geotechnical core information at reentry sites; (2) risks associated with high temperature environments and the boundary conditions for drilling; (3) clarification regarding safety boundary conditions for bottom currents (>1.5 knot ?).

Discussion

Lancelot said that there will be a cruise to the Pigafetta Basin in July to August which will survey PIG1-4 and EMB2. Mountain noted that this is getting late in the year for processing the data for a site review.

The SSP characterization of the CEPAC programs drew considerable comments. Taylor and others questioned the SSP maturity assignments, including Sedimented Ridges and EPR Bare Rock drilling proposals as gleam-in-the-eye. Detrick said that EPR and Sedimented Ridges have some minor deficiencies but Middle Valley has a comprehensive data set available. Middle Valley needs deep MCS to image the magma chamber reflection, but this is not essential for the drilling objective. More geophysical studies are pending: Earl Davis for sedimented ridges; Hayman and Fornari for EPR. Langseth noted that Middle Valley is a paragon of site survey data. There are also abundant survey data on the EPR.

Detrick said that in drilling near fracture zones there is a need to know what rock type is present (peridotites, gabbros, basalts) and therefore sample recovery is important. On the EPR, siting of the guidebase is less dependent on rock type and more dependent on the structural setting.

Mountain asked if SSP should decline comments from persons like Ballard or others who suggest new technologies (*e.g.* Argo-Jason). Moberly said any information you can provide PCOM is valuable so SSP should take advantage of any information anyone wants to supply. There is however but a limited amount of money available to bring these persons to panel meetings. Pisias said it was suggested that Ballard should submit a proposal to do these surveys. Austin noted that R. Hayman got support from the competitive sphere (NSF) to use the Argo to survey at 9°30'N on the EPR. This speaks eloquently about the calibre of science generated by these techniques for ODP.

Langseth noted that proponents of new techniques should not go to SSP for money. Certain types of drilling require a properly set guide base, and it is appropriate for SSP to be asking what type of site requires what kind of detail. SSP may need to go on a case-by-case basis for setting the guide bases. Mountain also noted that in the new Site Survey Data Matrix the term bottom photography has been replaced with bottom imaging so that the category includes a number of new techniques.

von Rad noted that the SW Indian Ridge drilling is a good example of a badly setup program. The IOP had said it was not a suitable site.

Dalziel said the Nankai Leg has been checked off by SSP while TECP has suggested additional data are needed from a thematic point-of-view in order to understand processes properly. Drilling objectives may need to be modified. Mountain said this is an example of why liaisons are needed with panels in order to keep informed about changing drilling objectives. Lancelot and Shackleton also commented on the usefulness of liaisons.

Lancelot wanted to know if SSP has the responsibility to advise ODP-TAMU about necessary ship equipment so that sites can be drilled properly. Moberly indicated that this is the responsibility of DMP and the new Shipboard Measurements Panel (SMP).

Downhole Measurements Panel

P. Worthington gave the DMP report. In his introduction he noted that the DMP views its function as about 70% service and 30% thematic. Panel membership breaks down along the lines: 4 from oil industry, 3 from JOIDES institutions (would prefer a bit more), 4 from other Universities, and 4 from government labs and institutes.

DMP has been trying to educate the community about the value of logging and is concerned about the recent statement that "If you have continuous core recovery you don't need logs". Logging provides information not available in cores, such as characterization at *in situ* conditions and of volumes considerably more than core.

Purpose of DMP is to make recommendations to PCOM and they do appreciate a reply to their recommendations. In 1988 they made 22 recommendations to PCOM and the following actions were taken: 15 accepted; 2 to ODP-TAMU for information; 2 referred back to DMP for further information; 1 not discussed (Accept Formation Microscanner dedicated scientist on the first leg that this tool is run); 1 rejected (Nankaii Working Group); and 1 on hold pending cost analysis (Slim-lining tools versus enlarging DCS hole).

DMP has adopted these guiding interests of a thematic nature: (1) Composition and structure of crust; (2) Hydrogeological characterization; (3) Lithospheric stress on a global scale; (4) Sediment cyclicity; and (5) Temporal emphasis for monitoring of modern geological processes. These themes are used as guides for determining downhole measurement logging needs. They allow provisions for non-standard logging measurements when initial leg drilling strategies are being devised.

Future downhole measurement objectives (Mid 1990's) are: (1) Measurements-while-drilling technology (*i.e.* resistivity, natural radioactivity) and (2) Interwell tomography.(extending measurements beyond wells)

The COSOD II DMP white paper on downhole measurements and the scientific value of logging has been submitted and accepted for publication in Basin Research.

DMP emphasis for 1989 is to improve log data quality by monitoring of 3rd party tools, supporting improved tool maintenance by Schlumberger at remote locations (Schlumberger invited to next DMP meeting), furthering logging through pipe, requesting a meeting of logging scientists and contractors (requested for March 1989), and finally to improve tool calibration (most are calibrated for carbonates, not sandstone or basalt).

A major concern is that the Diamond Coring System 4" hole prevents certain tools from being run (*e.g.* full-waveform sonic, VSP, wireline packer, lithodensity tool, geochemical logging tool, borehole gravitometer, magnetometer, induction tool, formation microscanner, thermal neutron porosity tool). DMP does not see the sole purpose of ODP drilling to be the acquisition of deep material, but to acquire a balanced package of information including core, logging data, VSP data and to provide linkages to geophysical data. The loss of the use of these tools must be very carefully considered.

Discussion

Kastner asked if there are slim-line versions of these tools. Worthington said that there are slim-line versions for the sonic (but just get velocity, not waveform), resistivity (induction lost), basic porosity and density tools, and could develop gamma ray tool. If ODP is content to accept what is currently available in slim-hole tools this would be going back to what was considered a useful suite ten years ago and saying goodbye to what is available today.

A question was raised about how long it would take to develop slim-line versions of what is available today. Worthington replied that some tools cannot be slim-lined and for others the cost would be horrendous. Kastner wanted to know the cost of development. Worthington replied that for slim-lining the Formation Microscanner ODP contributed $150K of the total $500K spent by Schlumberger.

Pisias asked what is the minimum hole size acceptable for logging. Worthington said 5.5 to 6 inches based on the drilling at the KTB site in Germany. A table is given at the back of the June DMP Minutes with the diameters of the logging tools. Harding noted that the larger the hole diameter, the harder the drilling gets and the more unstable the hole.

Downhole Stress Using Borehole Televiewer

A further concern of DMP is the delayed acquisition of the Digital Borehole Televiewer. DMP sees downhole stress measurements to produce a global stress map as a major driving force for ODP and one of their high-priority thematic concerns. Existing Analog Borehole Televiewers cannot support the logging program. BCOM has approved acquisition of the Digital Borehole Televiewer in FY92. Therefore DMP suggests that it is important to advance the purchase of the Digital Borehole Televiewer by two years. The Digital Borehole Televiewer is the next logging tool in line for purchase, since there are no purchases scheduled for FY90 or 91. Another option is to make an arrangement with the FRG manufacturers of these devices.

Discussion

Taylor asked about the difference between the Analog Borehole Televiewer and the Digital Borehole Televiewer. Anderson noted that the analog tool is not durable and breaks down consistently while in the hole; on the other hand the digital tool is reliable.

Pisias asked about the cost of the Digital Borehole Televiewer. Anderson said the cost was about $80,000 for 2 units.

Francis wanted to know how many Digital Borehole Televiewers are needed to ensure that this service is reliably supplied. Anderson replied that a minimum of 3 Digital Borehole Televiewers is needed for the logging program. Mountain asked how much more reliable is the Digital Borehole Televiewer compared to the Analog tool. Worthington indicated the digital tool was an order of magnitude more reliable.

Dalziel wanted the reason for delay in purchasing the televiewer. Worthington said it was a budgetary problem. The initial priority budget item had been the formation microscanner. The difference between the two instruments is that the microscanner is not specifically designed to look at breakouts while the televiewer sees the breakouts and determines their direction. The use of the instruments is complimentary. (Note: On Friday PCOM reaffirmed that the Digital Borehole Televiewer tops its proposed use of SOE funds.)

Another budgetary constraint has arisen because high temperature logging tools have to be rented for upcoming legs. Rea wanted to know if any slim-line tools work at high temperatures. Worthington said 3 high temperature tools were available. A discussion about design constraints for slim-lining tools followed. Most problems associated with slimming tools involve keeping the electronics cool and poor counting statistics associated with decreasing the size of detection crystals. Kastner wanted to know why the high temperature logging tools had to be rented and if this was cost efficient. Anderson said that Sandia gets $50K for the use of their tools, while the actual worth is much greater.

von Rad wanted to know when Volume 3 of the Logging Manual would be available. Anderson said that they will be mailed to JOIDES Journal receivers who got Vols. 1 & 2 and sent back the blue card in the front. Those who attend the logging school at AGU will get the color version while others get a B&W copy.

Pollution Prevention and Safety Panel

M. Ball gave the PPSP report (Appendix I). The mandate of this panel is to make sure ODP does not find oil or gas. Industry is heavily represented on this panel. Continuity is maintained by not rotating members off as do other panels. The 10 member JOIDES Panel chaired by M. Ball usually meets concurrently with a 3 member ODP-TAMU committee.

A safety panel meeting includes a review by L. Garrison of drilling legs since the last meeting. Co-Chief Scientists present the regional geology and geophysics, scientific objectives, and site-specific data for upcoming legs. PPSP is not adversarial; it wants to understand the science objectives so it can accommodate the science with changes made for safety reasons. Evaluation of potential for occurrence of hydrocarbons is defined using direct evidence (preexisting drilling) or indirect evidence (anomalies in amplitude, bottom-simulating reflections, structure, source, etc.).

Liaison with SSP has been useful, giving PPSP a chance to make contact with chief scientists well before a leg is finalized and improving the quality of safety reviews.

Discussion

Lancelot wanted to know if high temperatures were a safety problem and if safety limits in terms of maximum temperatures would be set. Ball said that they were not ready to set limits at this time but a study was being made of the mechanism for steam conversion. Garrison said that drilling engineers have been doing some modelling in cooperation with Sandia on the steam flash problem and that theoretical data do exist.

Pisias wanted to know if there were any safety concerns for the shallow holes for the NE Australia Margin. Ball said they did not see any problems for shallow holes; there are good seismic records and not much chance of hydrocarbons. PPSP also does not foresee any problems for Nankai, which is in very deep water and lacks reservoirs.

Kastner asked about the experience of drilling margins with clathrates and if PPSP had re-evaluated its policy. Ball said that decisions are based on prior experience with clathrates. Nankaii is near the downdip limit of clathrates. Bottom-simulating reflectors (BSR) indicate clathrates and have been avoided during drilling. Garrison said that at the last PPSP meeting von Huene talked about clathrates. The feasibility of setting up a test to get under a clathrate or through a BSR has been discussed but with no conclusions. Moberly suggested that with high-quality seismic and 3.5 kHz records, drilling in a syncline may be safe. Since proposals exist to drill clathrates, ODP will have to consider this possibility in more than the abstract. Ball said PPSP is worried about it from a safety standpoint.

von Rad said that PPSP should look at the Exmouth Plateau drilling where there was an extremely gas rich show, for which the shipboard party prepared a good summary for PPSP. Ball said that PPSP would like to look at that.

Moberly noted that with the success of the preview of the NE Australian margin as an example, future requests for "previews" of leg proposals will be well received, but PCOM needs to consider the total expenses for doing this. Ball noted that the preview is intended to indicate obvious problems.

Information Handling Panel

T. Moore gave the IHP annual report to PCOM (Appendix J). Highlights of 1988-1989 for IHP are: (1) ODP has added a copy-edit step to production of the Scientific Results volume as suggested by PCOM; (2) Four new Macintosh computers and a laser printer have been put onboard ship plus new graphics software (Largely through the efforts of R. Merrill); (3) Core photos are available on video-disk (Recommended price $50 slightly more than individual production cost); (4) DSDP data base available on CD-ROM (USSAC sponsored project). IHP proposes that the ODP data base be released in a similar way on a biannual basis; and (5) Letters to "non-performers" were drafted for PCOM Chairman's approval and have since been sent out by Moberly.

IHP will advise on the development of interactive on-board entry of data for: (1) Paleontologic data base (Using the Checklist II program which has a simple data entry menu suitable for shipboard use); and (2) Visual Core Description (current handwritten system is archaic and IHP recommends development of an up-to-date system that is easily convertible to a computerized data base).

Discussion

Malfait wanted to know how many letters to "non-performers" went out. Moberly indicated around 15. Moore said about 80% of "non-performers" are young scientists (graduate students) who go to sea with full intentions of participating but change job positions and no longer have time to spend on ODP obligations. Most are persons leaving academia for industry. von Rad wanted to know if the letters were being sent out as a warning. Moore recommended to ODP that the letter specify what are the consequences of not meeting the obligations now that the policy is in place, but before any action occurs. Eldholm wanted to know if the Chief Scientists were being consulted. Moore said the background to each case had been investigated but IHP and ODP did not want to publicize this list widely.

Pisias said he noticed in the minutes that "KERMIT" is used for file transfers. There are more efficient ways to transfer data and with the expertise available a better networking system should be found.

Publications:

Moore noted that PCOM dealt with the publications budget issue last year and now is going to address the issue of the timing of publications. A letter had been sent to panel chairs asking about the options available for speeding up publication. From a historical view the early goals of the DSDP and ODP publications policy was to: (1) tabulate locations and measurements, (2) collate and integrate drilling results, and (3) produce comprehensive, well-reviewed, high quality reports on results of each leg.

The proposed normal schedule for publication of the Part B Scientific Results Volume is:

	months post-cruise
Post-Cruise Meeting	4-6
Deadline for Manuscripts	18 (Publ. Part A)
Complete MS Review	22
Receive Revised MS	24
Complete Synthesis MS (Reviewed)	27
Type/Print (Paged)	32
Index	33
Publish Part B	36

The question is "Can this be speeded up?". ODP should be able to publish what comes off the ship in about a year (Part A now takes 16-18 months). A disadvantage for publishing quickly is that you lose the ability to reinterpret the stratigraphy and paleontology calls made onboard ship.

Discussion

Pisias wanted to know how much the paleontologists change their reports from leg-end to publication. Lancelot said there is very little change based on a summary he made at DSDP. Publication can be within a year without losing much of the stratigraphic control. Eldholm said that things may change in major ways after a Co-Chief has the manuscripts for final publication, but not by the post-cruise meeting stage.

Lancelot suggested that there is a need for an earlier meeting of the paleontologists to finalize barrel sheets to prepare for a post-cruise meeting. Moore said that the improvements in getting data into the data banks will help speed up the process. By eliminating the time spent going over the barrel sheets, more time becomes available for getting Part B done.

Kastner said that if the post-cruise meeting is eliminated the time could be better spent on the Part B volume. The letter to Panel chairs raised the question about a post-cruise meeting aimed solely at Part

B in order to decrease the time before publication. Moore asked if there was a consensus that we should take what comes off the ship and publish that as Part A.

Schlich said it is not so clear that you can take what comes off the ship and publish, because it depends on the leg and disciplines involved. Some very fundamental problems are not solved in 4-6 months. You can't say there is no need to discuss volume A. The changes between volumes A and B could be great. Volume A is important to geophysicists who need stratigraphic information and cannot finish their work until they have it.

Taylor wanted to know what would be done on the upcoming WPAC legs where there is only 1 day from the last drill site to port. Austin said that it took only 12 hours to write both the Geotimes and Nature papers on his leg. Moberly pointed out that one does not have to wait until the last core is up to start writing the results.

Leinen said that a deadline for changes in biostratigraphy needs to be set. Erroneous biostratigraphy can lead to problems in interpretation. Moore agreed that biostratigraphy should be determined within a few months and then published.

Taylor wanted to know how the new formation microscanner scheduled to be deployed on Leg 126 for first time will effect data handling, since there has been no planning to accommodate this major increase in amount of data. Moore said that there should not be a major problem since the formation microscanner will not get used on every hole. Provisions will have to be made for displaying the data along side the core data.

Some Options for Speeding Up Publication

The biggest problem causing the publication delays is people not getting their manuscripts in on time. Options for speeding up the process going from least severe to most severe are: (1) Utilize the system in place now but reduce deadline time for manuscripts from 18 months to 12 months (and stick to it); (2) Publication of the results of individual scientists outside the ODP Volume B, once they have completed a fully acceptable MS (on the same topic) for the ODP Volume; (3) Independently publish all scientific results outside the ODP Scientific Results Volume B, which will then consist of a bound reprint collection. (Clarification note for option #2; accepted means reviewed with reviews incorporated into text, and is not the same as "acceptable".)

Discussion

Moberly said publication delays have been discussed in the past, but two recent high powered reviews of the program, while overall quite favorable, have both identified publication timeliness as a deficiency. We have to take this problem seriously.

Lancelot said we need to get good publications in the "real" literature and out of the "grey" literature. We should encourage people to publish in outside journals and publish Volume B as collected reprints along with the unpublished paleontology plates and other data.

It was said that missing deadlines for manuscripts is still the main problem.

Eldholm observed that it is very difficult to publish a Part A synthesis of a leg without the key data to a certain level, especially geochemistry data. There is a need to produce the Volume B scientific results.

Kastner said ODP needs to get the information out into the open literature. She suggests three publications: (1) Vol. A with shipboard results plus minor augmentation; (2) Vol. B like option #3 with data papers and plates; (3) Third volume with integrated syntheses of several legs, but not to be published by ODP, instead to be published by established journals.

Garrison observed that there was no new idea discussed here today. A policy must be adopted and stuck to. Constant changes in policy are what delays volume B. The PCOM must not back up and

change the rules. Moore agreed with what Garrison said. We can reconsider our policies but should try them for some time first.

Pisias said that we need to make hard decisions about publications, otherwise it will continue to be viewed as "grey literature". .EXCOM wants a lot of data in a volume, but we have only a finite resource to spend.

Moore said he is tired of the term "grey literature" for something that a lot of hard and conscientious work goes into.

Mayer said the problem is that since volume B does not exist at all its not even "grey literature".

Austin said that Part B Results for Leg 101 is a high quality publication. He cannot understand the level of criticism leveled at something that hasn't even been looked at. The publication is not that far behind schedule and it was realized by ODP from the beginning that it would take 36 months to publish.

Moberly said the criticism has been that no one has seen the scientific results coming out. ODP may have known that there would be a delay but the program reviewers did not know this. That's the crux of the problem. We need to give some help to the NSF people for future reviews by publishing the ODP volumes. There may not be a problem if there is timely publication of ODP results.

Lancelot said that Volume B is considered bizarre literature and not fully accepted as openly reviewed literature. There is a need to publish in open literature. The need is extremely well sensed by a lot of people. The literature is actually quite good, but no one reads it.

Francis affirmed the need to publish to keep the program operating.

Shackleton noted that a lot of good science goes into the ODP volumes that wouldn't make it into the open literature. It is ludicrous that we're talking about 18 months from manuscript deadline to publication. Modern technology should speed up the publication time.

Moore said we should not be too hard on the 18-36 month time frame, since by analogy the time of walking off the ship is the equivalent for some researchers as the time of getting notification that their grant has been funded. Therefore, 36 months to collect data and publish the results is not an unusual amount of time for publication of Part B Results.

Dalziel said the Antarctic research community had a similar experience, moving from in-house publication to the open literature. He suggested a memoir series to publish the kind of data that would not get published in the open literature.

Kastner said that even a high quality Part B is not an efficient way to communicate with the general community; we need to publish in the open literature.

Worthington said to (1) get timely and prestigious publication of scientific issues and (2) collect them into volumes. Make Part B a reprint volume of collated outside articles, other syntheses and data.

Rea noted that the "blue books" are treasures of data on ocean basins. Leg 92 was a spectacular success but only 11 papers have appeared in the open literature. This would make for a thin reprint volume.

Moberly noted that option 3 gives you the ability to publish outside, bind the papers and include the data. The bound papers cannot be called "grey literature".

Worthington noted that the reviewing load would be decreased by including reprints which are already reviewed.

Leinen suggested that the soon to be published Part B scientific results (which are reviewed literature of excellent quality) should be reviewed as a book in a journal such as Science to enhance the reputation of the books and the program. There was a general agreement that this was an excellent idea.

Taylor said PCOM should set a time table for resolution of the publication questions. This policy should be in the LRP document.

Moberly said that now is not the time to deal with this problem, there is not enough background information.

Pisias said that the publication problem is not in the LRP now.

Malfait said that something like this does not need to go into the Long-Range Planning Document, although it should be kept in mind that it has been identified as a problem by the outside community.

Shackleton wanted to know if consideration had been given to marketing aspects of the publications. People think of these volumes as being issued; more effort is needed to make them seem generally available for purchase by the public.

Kastner wanted the publication question put on the agenda for the spring PCOM meeting so that a firm decision can be made. She suggested that IHP prepare a report on the options based on their survey of Panel Chairmen.

Moore said that it would present difficulties to prepare the results of the survey at the March IHP meeting since not all panels will have met. Moberly said the problem was originally addressed to all panels. Pisias agreed that the general policy is a much broader issue that should go to panels for input to PCOM Moberly agreed, but suggested that it may not be possible by May.

Tuesday, 29 November 1988

<u>Technology and Engineering Development Committee</u>

C. Sparks gave the TEDCOM annual report. The committee has 15 members with 6 from the oil industry, 2 from Universities, 4 from research organizations, 2 consultants and 1 from industry. TEDCOM meets about every 8 months and sometimes combines their meetings with a workshop with other groups of affiliated interests.

TEDCOM disagrees with a term of reference for their panel: "TEDCOM is responsible for ensuring that the proper drilling tools and techniques are available to meet the objectives of ODP drilling targets". They feel that it is the responsibility of ODP-TAMU Engineering to develop new tools whereas their responsibility is an advisory capacity. Moberly asked TEDCOM to submit the wording they want to PCOM for forwarding to EXCOM.

Engineering priorities discussed in December 1987 TEDCOM meeting were:(1) Drilling and core recovery in hard and soft interbedded sequences; (2) Drilling and core recovery in young basement and fractured rocks; (3) Drilling and core recovery in unconsolidated turbidites; (4) Drilling and logging in high temperatures.

TEDCOM is in agreement with TAMU that the mining, or Diamond Coring System (DCS) holds hope for drilling in interbedded sediments and basalts. Vibracoring and hydraulic hammers are being explored with the KTB Drilling Group for the purposes of drilling and recovering unconsolidated sandy sediments. Based on the results of the Riser Drilling Workshop, TEDCOM still thinks that a mini-riser system can be developed for the Resolution.

Long Term Goals to be addressed by TEDCOM as discussed at the February 1988 meeting are: (1) Deeper drilling - a 3 km hole by year 2000; (2) Higher Hole Stability using smaller holes such as in industry; (3) Mining drilling - How best to do it? Which motor to use - Circulation fluid drive, turbine drive (can get stuck without knowing it), or top drive system (recommended drive, will be tried on Engineering Leg)?

TEDCOM played a role in the contact between TAMU Engineering and the Norwegians who operate a drill ship which uses a diamond coring system to drill in water as deep as 1000 m. This system has been

examined for application to that system under development for the Resolution. Close to 100% core recovery has been achieved by the Norwegians.

Communications between the Engineers and different panels have improved by the use of liaisons, but TEDCOM wonders if these are sufficient. There are problems with the expectations of thematic panels concerning engineering developments, where everyone wants engineering solutions by a specific date, but it is not always possible to solve problems on a set schedule. Better communications are needed with the scientists. Liaisons with thematic panels, engineers and other service panels are needed.

Discussion

Moberly said there is a problem with the cost both in money and time for liaisons to attend all of these meetings. Liaisons will be discussed on Friday. There is also the problem of setting clear priorities as every panel becomes involved. PCOM should make the decisions about where to direct efforts.

Garrison asked if the concern over recovery of reefal limestones can be lumped with the chert-chalk recovery problem. Harding said that the results of the Enewetak drilling are being studied to help solve the problem of recovery of interbedded reef limestones. Mayer noted that the DCS has been used successfully to core this material.

Mountain wanted to know if rubber-sleeve technology can be used for reefal limestone recovery. Harding said this was an old technology that has had success recovering sands. It was looked at previously, but is not compatible with the ship's technology and is not wireline retrievable. Moberly noted that this technique had over 95% recovery through rubble at Midway, but was very time consuming.

von Rad said that on Leg 122, which drilled several hundred meters of shallow water reefal and lagoonal limestones, recovery was only 2-10%. With present technology recovery of shallow water unconsolidated carbonates is a problem.

Moberly wanted to know what was the definition of a mini-riser. A slim-line riser drills through the existing drill pipe, but a mini-riser is a 5-6 inch riser compatible with the mining drilling system. Harding said that by packing off at the bottom of the drilling system on the Resolution it's possible that a riser could be made for the DCS.

751 Panel Chairmen Meeting

R. Detrick gave the report on the 4th Annual Meeting of the panel chairmen held on Sunday, 27 November 1988 (Appendix K). The following topics were emphasized.

New Panel Advisory Structure

Communication among thematic panels are more important in new panel structure and because of the long-range planning mode. Timely distribution of minutes is essential. It is recommended that formal, double liaisons be made among thematic panels. (LITHP to TECP & SGPP; OHP to SGPP; TECP to SGPP & LITHP; SGPP to LITHP, TECP & OHP).

Detailed Planning Groups are intended to: have a short life; advise appropriate thematic panels; have flexibility; provide regional expertise (WPAC, CEPAC); integrate existing proposals; provide technical or thematic expertise not available on thematic panels.

The Panel Chairmen unanimously adopted the following carefully worded resolution:

"The Panel Chairmen agreed that the planning of the ODP, and therefore the movement of the JOIDES Resolution, should be driven by the science that is proposed. Every effort should be made to drill the sites that address the most important scientific problems in the most appropriate locations, without regard to parochial or political considerations that impose an arbitrary time frame or push to have the ship visit a particular area."

The Panel Chairmen wanted to make it clear to PCOM that the proper amount of time needs to be taken to address scientific problems without arbitrary time limits being set.

Engineering development needs and priorities identified by the Panel Chairmen were: improved core recovery, drilling chalk-chert sequences, drilling unconsolidated sediments, drilling fractured rocks, drilling deep holes, drilling at high temperatures. A lot of the high-priority drilling requires the development of new technology. Therefore it is essential that the science plan be realistic in terms of the available technology.

Publication Policy was discussed extensively both at the Panel Chairmen meeting and in the PCOM meeting. IHP will circulate a questionnaire.

The Long-Range Planning Document was discussed for about one-half the meeting. It was suggested that the 16 thematic objectives in the Long-Range Plan be focussed under four broad themes:

Structure and composition of oceanic crust and mantle.
- Nature of lower oceanic crust and Moho
- Magmatic processes associated with crustal accretion
- Mantle structure and geochemical variability
- Intraplate- and arc-volcanism

Causes and effects of oceanic climate and variability.
- High-frequency global change
- History of sea level
- Longer-period global change
- Carbon cycle and paleoproductivity
- Evolutionary biology

Fluids in the lithosphere.
- Hydrothermal processes in the oceanic crust and sediments
- Mechanisms of dewatering of accretionary prisms
- Processes of fluid flow at passive margins
- Source of fluids
- Impact on global geochemical budgets

Dynamics, kinematic, and deformation of the lithosphere.
- Dynamics of oceanic crust and upper mantle
- Plate kinematics
- Deformation at divergent margins
- Deformation at convergent margins
- Intraplate deformation

This structure is similar to the COSOD II structure and gives a focus for long term planning.

Discussion

Kastner wanted to know what kind of technical expertise would be concentrated in a DPG. Detrick said as an example, if ODP wanted to establish a Seafloor Seismic Observatory, expertise on the best way to proceed could be provided by a DPG without having to establish a long term panel or working group. The EPR working group brought together expertise from different panels and individuals. A general discussion about DPGs established that they should be controlled by PCOM, limited in number, limited in life span, and have specific guidelines.

von Rad wanted to know why two-way liaisons were suggested instead of one-way with the liaison reporting to both panels. Detrick said this was what the panel chairmen thought would best improve communications while retaining panel advocacy.

PCOM generally agreed that the division along four major themes for the Long-Range Planning Document had merit. It was noted that these four themes do not correspond exactly to the thematic panels.

752 Thematic Panels

Tectonics Panel

I. Dalziel reported that in 1988 TECP spent most of its time working on the Long-Range Plan. TECP is now working on its second draft and expects to have the final revision done in February 1989. TECP concerns fall largely under the fourth heading of the main themes of the Long-Range Plan already discussed, namely dynamics, kinematics, and deformation of the lithosphere; although TECP also has interests in the other three divisions.

The TECP plan will try to generate a broader community interest in ODP programs, by addressing how the drill can be used to get at the underlying global tectonic processes. It will focus on models to be tested.

TECP high-priority programs (but as yet unranked) in the upcoming Pacific drilling:

WPAC Nankai as a natural laboratory for mechanisms and development of accretionary prisms. Must be able to measure fluid flow to justify drilling.

CEPAC Kinematic analysis

- Calibration of Mesozoic Anomalies
- Chile Rise Triple Junction (important for orogenic studies on-land)
- Hawaiian Lithosphere Flexure
- Cascadia Accretionary Prism (must be able to measure fluid flow)
- N. Pacific & Bering Sea (important for understanding global tectonic framework)

Dynamics

- Stress orientation
- Ocean Bottom Seismometers

Stress orientation and magnitude observations are important for (1) testing models of the driving motions of plate tectonics and (2) forces operating on the upper plate at convergent margins. Mapping of stress may be a secondary objective.

The Pacific is a better laboratory than the Atlantic to address many thematic problems, although, for example, drilling in the Mediterranean (Gulf of Valencia) or Southern Ocean (Bransfield Strait) fit into a thematically driven program. [Total high priority TECP months in CEPAC area cannot be determined at this time.]

Discussion

Cowan wanted to know what TECP sees as the new thematic goals in the long-range drilling plan. Dalziel listed logging fluid flow, permeability and pressures, and drilling deeper goals (2.5 km for Vancouver margin).

Leinen asked if the Chile Rise Triple Junction was another regional drilling theme or did TECP consider it a thematic problem best addressed at that location. Dalziel said the orogenic consequences of the subduction of a ridge are seen throughout geological history, therefore from a thematic viewpoint this is a high-priority site where ridge subduction can be studied in all of its different phases (before, during, and after). For proper integration, Dalziel suggested that two legs be devoted to a drilling program at the Chile Rise Triple Junction.

Sediments and Ocean History Panel

L. Mayer gave the final SOHP annual report. Because the mandate of this panel was too broad for the panel to cover the thematic field adequately, it is replaced by two new panels: Ocean History Panel (OHP) and Sedimentary Geochemical Processes Panel (SGPP). Copies of the first draft of the "SOHP Long Term Planning Document" and the second draft of the "JOIDES Sediments and Ocean History Panel White Paper" were distributed.

From SOHP's viewpoint, the minimum high-priority CEPAC drilling program is the following: (1) Eastern Equatorial Pacific Depth Transect; (2) Western Equatorial Pacific Depth Transect (*i.e.* Ontong Java Plateau); (3) North Pacific Transect; (4) Atolls and Guyots; (5) Shatsky Rise. [High-priority CEPAC drilling totals about 11 mo.]

Without improvement of core recoveries to at least 50%, SOHP has difficulty justifying either (4) or (5). SOHP suggests that the upcoming Engineering Leg be devoted to improving core recovery by drilling on the Shatsky Rise. The Ontong Java Plateau needs at least one deeper site into basement, which an upcoming cruise will survey. The Bering Sea has a high thematic priority for SOHP but is also a high risk program. SOHP requests that a DPG be formed to prepare a program for the North Pacific Transect and Bering Sea.

The new OHP has as its thematic objectives the study of: high-frequency global change, history of sealevel, low-frequency global change, carbon cycle and paleoproductivity. OHP plans for implementation of Phase 1 (1989-1992) drilling include: short-term engineering development of improved XCB and improved recovery in alternating lithologies, shallow-water carbonates, and gassy sediments; improved correlations between logging and recovered core; complete low-latitude and subarctic high-resolution transects; begin sealevel program with drillable carbonate margins, atolls and guyots; drill attainable low frequency targets. OHP plans for implementation of Phase 2 (1993-1996) drilling include: begin development of technology for drilling stable 2-3 km holes; complete surveys and selection of Arctic and deep passive-margin sites; initiate Central Arctic drilling using an alternate platform designed for Arctic drilling; mid-latitude high-resolution transects; continued sealevel studies using an alternate platform designed for drilling in atoll lagoons; extended Antarctic paleoceanographic and paleoclimatic record. OHP plans for implementation of Phase 3 (1997-2000) drilling include: one deep 3 km hole per year; continued Arctic drilling using an alternate platform designed for Arctic drilling.

The new SGPP has as its thematic objectives the study of: sedimentary geochemical processes (fluid flow and diagenesis) and facies evolution and depositional environments. Drilling strategy for facies evolution and depositional environment studies varies with objectives: stratigraphic and basin-evolution objectives require continental margin transects, facies studies will require small, dense arrays of sites to yield 3-D character of facies. Drilling strategy for sedimentary geochemical processes objectives requires transects of active and passive margins representing end-members of systems. Geophysical and geotechnical data are essential to develop 3-D picture of fluid flow. SGPP plans for implementation of Phase 1 (1989-1992) drilling include: improved recovery in sandy sediments; develop *in situ* tool technology; develop long term borehole monitors; studies of accretionary prisms and mud volcanoes; sedimented ridge crest and flanks; diagenetic studies in backarc basins, anoxic basins, and carbonate platforms; studies of turbidite facies. SGPP plans for implementation of Phase 2 (1993-1996) drilling include: begin instrumentation of accretionary prisms; develop technology for 2500-3000 m deep, stable holes and high-temperature drilling for sedimented ridges and flanks; transect studies of long-distance flow; high-temperature drilling on rift and flanks; diagenetic studies; drift, fan and ice-margin studies. SGPP plans for implementation of Phase 3 (1997-2000) drilling include: develop second generation instrumentation; develop deep instrumented multipurpose holes; study mass balance of subducting and passive margins; deep-drilling into hot areas.

Discussion

Moore and Tucholke both asked questions about the linkages between OHP and SGPP in relationship to thematic concerns about sealevel change. There also would appear to be duplication of efforts by the two panels. Mayer said that the SOHP white paper addresses these questions.

There was also a discussion about the use of alternate platforms to drill shallow continental shelves and shallow carbonate platforms.

Lithosphere Panel

R. Detrick gave the LITHP annual report. Accomplishments for the year included production of three reports: EPR Working Group Report, Sedimented Ridge Working Group Report, and LITHP Long-Range Planning Document. Other important issues were: WPAC planning for Geochemical Reference Sites and Lau Basin; CEPAC planning; and Engineering development.

WPAC

The Geochemical Reference Holes have a high thematic ranking from LITHP and have as their objective, obtaining first-order information on the composition of the principal components being subducted at the Bonin and Mariana Arcs. A viable reference-hole program requires sampling of the three major components being subducted: (1) a normal, marine pelagic sequence; (2) normal oceanic crust; (3) ocean-island lavas and volcanogenic sediments. The hypotheses that are being tested are: (1) That the more enriched compositions of the Mariana lavas compared to those in the Bonins are due to abundant volcanogenic sediments entering the Mariana Trench; (2) That alteration products in the upper few hundred meters of the pillow section can provide K, Rb, Ba and other LIL elements to arc-magma sources. LITHP suggested drilling program requires about 1.5 legs to drill the following sites:

BON-8 - Normal marine pelagic sequence plus 200 m or more of old, altered basement produced at a fast spreading ridge (M-13, adjacent to Bonin transect).

MAR-4 - Normal marine pelagic section and possible apron component (M-25, adjacent to Mariana transect).

MAR-5 - Volcanoclastic sediments adjacent to Hemler seamount at eastern end of Dutton Ridge.

Optional Site: MAR-6 - Sediments and uppermost basement at summit of Hemler seamount north of MAR-4.

LITHP suggests that: (1) MAR-5 be drilled as part of the Old Pacific program; (2) BON-8 and MAR-4 be drilled as one leg. The Geochemical Reference Hole leg does not stand alone, but is part of the overall 4 legs drilled in the arc and backarc drilling program supported by LITHP, TECP and WPAC. Can one leg answer the questions? Little is known about the composition of either the sediments or Mesozoic crust. One leg provides a quantum leap in our knowledge of unknowns for modelling fluxes at subduction zones. This is part of a proposed long term global program to quantify processes at both ridges and subduction zones.

The magmatic evolution and early rifting history of the Lau Basin has the highest LITHP thematic priority. Sites LG-2 and LG-7 are the highest priority followed by LG-3 and LG-6. LITHP still considers Valu Fa (LG-4) to be an immature drilling target and favors a re-entry hole on young crust (but not a bare-rock site) in the central Lau Basin (LG-1). LITHP recommended a Lau Basin Working Group meeting to reconsider proposed sites (LG-1) in light of new Sea Beam and Gloria data.

CEPAC

From the CEPAC prospectus LITHP has recommended a 7-leg program that includes two engineering half legs. In order of decreasing priority these are: (1) Structure of lower crust at 504B; (2) Magmatic and hydrothermal processes at sediment-free ridge crests (EPR); (3) Magmatic and hydrothermal processes at sedimented ridge crests (Middle Valley); (4) Early evolution of hotspot volcanoes (Loihi).

For Hole 504B LITHP favors deviating the present hole as the best option for sampling the boundary between layers 2 and 3, and the uppermost rocks of layer 3. An engineering half-leg should be devoted to this hole as early as possible in the CEPAC program. If 504B cannot be deepened, LITHP recommends other deep crustal drilling sites be evaluated.

The goal of EPR bare-rock drilling is to understand magmatic and hydrothermal processes at a fast spreading ridge and has a long-standing priority with LITHP. The EPR Working Group report has helped define strategy, site-selection criteria and science objectives. In LITHP's priorities, hydrothermal processes take precedence over magmatic processes. A suite of 8 holes is proposed with this priority: (1) a deep hole (1-1.5 km) near the ridge axis to penetrate as closely as possible to the top of an axial magma chamber; (2) a 500-m-deep hole to penetrate the upper crust near an active discharge zone; (3) a suite of three holes (about 300-m-deep) across the ridge out to 300Kyr crust; (4) a suite of three holes along the ridge axis from the middle to the end of a ridge segment. The highest priority objectives are also the technologically most difficult and require development of the DCS or other capability to drill young fractured rocks. A future program that LITHP would like to see developed is a series of 8 holes along a ridge crest to study the magmatic history.

The goal of the Sedimented Ridge drilling program is to: (1) Characterize in 3-D the fluid flow and geochemical fluxes within a sediment-dominated hydrothermal system; and (2) Investigate the processes involved in the formation of sediment-hosted sulfide deposits. This program would be easier to drill using existing technologies than the EPR bare-rock program. Two legs are proposed: (1) A hydrology experiment in Middle Valley consisting of a suite of six holes; and (2) Drilling of actively forming sulfide deposits in Middle Valley and Escanaba Trough. The highest priority site would be a single re-entry hole through sediments into basement in the active discharge zone slightly off-axis. Other holes would be drilled farther off-axis in both discharge and recharge zones. Extensive logging and fluid sampling would be part of this program. A new report has been submitted for Escanaba Trough drilling emphasizing the coeval volcanic association of sulfides and basalts; an array of shallow holes through sediments and sulfide bodies is proposed.

The objective of the Loihi drilling is to investigate the juvenile stage of Hawaiian volcanism and the physical and chemical processes involved in mantle plumes and their interaction with the lithosphere. Two holes are proposed: (1) A 200-400 meter deep hole in the summit area; and (2) A 100-300 meter deep hole on the northern flank of the volcano. There is also interest in developing this site for long-term geophysical monitoring and borehole experiments. [High-priority CEPAC drilling totals about 12 mo.]

Engineering Development

LITHP has identified the following engineering developments as necessary for meeting drilling objectives: improved penetration rates and hole stability when drilling young, fractured basalts; capability to drill routinely crustal holes to 2 km; high-temperature logging and borehole instrumentation; better borehole sampling techniques (rocks, fluids); wireline re-entry capabilities and methods for long-term borehole data recording and retrieval.

Drilling Objectives for the Next Decade

LITHP has identified the following drilling objectives for the next decade: (1) Drill three holes 2-3 km into the oceanic crust, extending one of these holes to Moho by the year 2000; (2) Drill arrays of shallow (~300 m) and intermediate (1-1.5 km) depth holes in several locations along the mid-ocean ridge and establish a seafloor "volcano observatory" by the year 2000; (3) Establish a global network of seafloor geophysical stations equipped with short and long-period broad-band seismometers; (4) Complete select "case studies" addressing magmatic and dynamic processes associated with intraplate volcanism, plate convergence, and mantle evolution and heterogeneity. LITHP plans for implementation of Phase 1 (1989-1992) drilling include: begin site survey work for candidate sites for ridge crest drilling, deep crustal drilling and seafloor seismic stations; complete 2 legs of drilling at 504B; carry out 4 legs of drilling at EPR and

sedimented ridge crests in NE Pacific; complete 3 lithospheric "case study" legs on magmatism in back-arc basins (Lau Basin), geochemical fluxes at convergent margins (Bonin-Mariana arcs), and early evolution of hotspot volcanoes (Loihi). LITHP plans for implementation of Phase 2 (1993-1996) drilling include: complete three holes 2000-3000 m into the crust including one hole in a fracture zone; begin first phase of Mid-Atlantic Ridge drilling and complete second phase of EPR program; carry out two lithospheric "case studies" (e.g. drilling a near-axis seamount and an oceanic plateau); establish 5 seafloor seismic stations. LITHP plans for implementation of Phase 3 (1997-2000) drilling include: extend one crustal hole to Moho; complete second phase of MAR drilling and establish a seafloor volcano observatory (in conjunction with RIDGE) in a volcanically active part of the mid-ocean ridge system; carry out 2 lithospheric "case studies" (e.g. a regional geochemical mapping experiment and an *in situ* stress experiment along an accreting plate boundary); complete installation of a global network of 15-20 seafloor seismic stations.

Discussion

Moberly wanted to know if any of LITHP's thematic science interests were involved in drilling the Atolls and Guyots, Old Pacific or Ontong Java Plateau proposals. Detrick said Old Pacific is an important part of the over-all Geochemical Reference Holes program. Sampling old crust (Mesozoic) formed at fast spreading centers can only be accomplished by drilling. If the Ontong Java Plateau (or Atolls and Guyots) were to be drilled into basement, LITHP would have a thematic interest.

Shipley wanted to know why BON-8 was being drilled 200 meters into basement for the alteration profile but not MAR-4 which should be equally as important. Detrick said in the minimum program, the maximum information is obtained by drilling MAR-5 at the expense of the basement at MAR-4.

The value of the Geochemical Reference Holes for helping to understand geochemical fluxes in arc volcanism was debated. A major point raised was if the recovered sediments and crust would be sufficiently representative of what has been subducted to be an improvement over general estimates of averaged components sampled from other regions (*e.g.* Old Pacific). The necessity of drilling versus dredging the seamount apron was also questioned.

753 Reports for Pacific Planning

ODP-TAMU Engineering Projects

B. Harding gave the first part of the report for ODP-TAMU Engineering. Panel Chairmen wanting to receive the monthly engineering status reports should contact ODP-TAMU Engineering.

The prospectus for Engineering Leg 124E remains on target. The new and improved final version of XCB is being "fine tuned" after the Leg 121 test. The Navi-Drill is on line for testing using a new high-torque, lower RPM motor. The Phase I Pressure Core Sampler will be tested on this leg. The Diamond Coring System was given a quick test at Salt Lake City and was shipped to Manila last week. There will be a one day meeting in College Station among ODP-TAMU Engineering, SEDCO operations, Tonto Drilling and other parties to discuss plans, procedures, and deployment of the drilling rig on the Resolution. A new experiment has been added, using a rented bottom-imaging sonar devise attached to the TV frame to look for chert layers around Site ENG-3, and to see what happens when chert drilling is attempted. There continued to be some concern expressed about finding chert-chalk interlayers at this site.

A handout was distributed about the DCS (Appendix L). Tests by AMOCO using an identical Universal Drillers (Australia) top-drive system, drilled 6000 feet with 95% recovery in West Texas. A 2000 meter system is going to be deployed on the Resolution.

On Leg 122, a new system for recording drilling parameters was installed. This system will help with correlating lithologies and drilling speeds.

A study of past chert drilling by both the DSDP and ODP programs is underway. The study will look at variables such as thickness of chert layers, drill bits used, success of method, etc. to help with the drilling on the Engineering Leg.

Methods such as vibracoring and hydraulic hammers for recovering sands are being studied via information shared by KTB.

A study is just underway to look at previous atoll drilling and associated recovery problems.

Discussion

The question was asked why there had not been a land test of the DCS in chert-chalk interlayers. Harding said since there have been successful on-land mining drilling tests in similar interlayered materials by other programs and the cost for these tests is a problem (ODP would have to buy pumps), the decision was to deploy the DCS on the ship.

Langseth said that a shallow high-temperature test of the drilling system will probably require drilling at hydrothermal vents on an oceanic ridge where high sulfide contents and high flow velocities will be encountered. Harding said that ODP has studied the drilling components that are affected by high temperatures and does not think it will be a problem since the hole is cooled by circulation of the drilling fluids and takes several hours to rebound. The present buterate plastic core liners are rated to only 175-180°C and metal core liners will have to be used above approximately 200°C. Francis wanted to know what effect the H_2S-rich fluids will have on the drill string. Harding and Storms said H_2S causes embrittlement of high strength steel and ruins the joints. ODP can run down-graded pipe (20% wall-loss) but they can't pull on it. There were several questions whether or not high-temperature drilling could be done realistically, and the answer appears to be that it can be done. For water depths greater than 2500-3000 m steam-flash appears to be less of a problem than originally thought. The depth range for the shallow high-temperature drilling test will be in the 2500-3000 m range.

Detrick wanted to know what plans were being made to overcome the problem with initial hole instability in fractured rocks. Harding said that a smaller diameter hole drilled at higher speed and with a lighter bit weight should solve the problem. Detrick wanted to know how this would cure the problem of collapse of rubble into the hole. Harding said that starting the hole with the present drilling system and then drilling through this larger pipe with the smaller DCS drill pipe (casing by drill pipe) should solve the problems of initial hole collapse. Detrick said that there are two drilling problems that must be solved: (1) Rubble; (2) Deep drilling. Harding said that the DCS needs to be tested to see if it can solve these two problems.

Pisias wanted to know the cost and time necessary to extend drilling capabilities to 4000 m and beyond using the DCS. Harding said that the DCS could be extended to about 4000 m within a year of Leg 124E given the resources (~$740K). Extension of drilling beyond this (Phase III 4000-5500 m) will require major redesign to both platform and mast as well as other parts of the drilling rig with the cost over $1M.

Development Engineering Schedules

M. Storms then discussed the three ODP Development Engineering Schedules: (1) Project Schedule; (2) Generic Technology Requirements; (3) 3rd Party Development Schedule (Appendix M). He said the vibra-percussion corer was still being studied through cooperation of the KTB Drilling Group but no money is available for ODP testing. An engineer working on the vibra-percussion corer system will be on the Engineering Leg. ODP hopes to be able to marry this system into the drilling program based on the experience gained through piggybacking with KTB.

ODP-Engineering would like PCOM input on a breakdown of the priorities for the technology development line items, so that the engineers can make plans based on the highest priority required developments.

Storms updated what ODP knows about third party tool developments. The status of the Barnes sampler is unknown. Geoprops (Taylor & Karig), Pressure Meter (K. Moran), and Japanese Instrument

Emplacements 1 & 2 are on schedule. Keir Becker's TAM straddle packer design works with only minor changes needed. The ODP TAM drilling packer was developed and deployed early in program (Leg 110) but ODP-Engineering does not recommend using the drilling packer over the straddle packer. Because of a concern about hole collapse and deployment of the Geoprops tool, Leg 124E will test hole conditions after removal of the Navi-Drill but without deploying the Geoprops tool. There will also be a test of the straddle packer using a minicone.

Discussion

Francis wanted to know about the status of the Downhole Turbine-Thruster for the DCS since it was included as a line item on the development sheet with $100K budget. Storms said the money was requested for development participation with the KTB Group of the Downhole Turbine-Thruster, but the money was not available. The top-drive system works better and has been adopted for the DCS. Turbines are a problem in an oceanic environment.

Francis wanted to know if the Geoprops tool will be tested before the Nankai Leg (129). Brian Taylor has set aside 6 hours for a test of Geoprops on Leg 126.

von Rad wanted to know if the XCB had been improved since its use on Leg 122 where very poor quality cores were recovered. Storms said that both the flow to the cutting chute and the cutting chute itself have been modified and they expect that tests on 124E will show that they have gone as far as they can go with the advanced XCB design.

Langseth wanted to know if the problem of not knowing if the Navi-Drill core barrel advances has been solved. A system using MWD technology, being developed by industry, has been adapted to measure if the drill is advancing. Lancelot wanted to know if this system could be used with the APC system. Yes it could, but it would only be of minimal help.

Leinen wanted to know if the break-away piston head core was at a stage where only a few more weeks of work is needed to make it operational. The break-away piston head was designed, deployed and tested, but the piston head was breaking away at the wrong time. To correct the problem the hydraulic orifices need to be balanced and this will require an iterative adjustment and testing program.

Becker said the rotating head packer was successful on Leg 123 and could be very important as an alternative system at Nankai, since it can be used in holes that are unstable whereas his packer needs a stable hole.

Update on Third Party Tools

K. Moran gave a further update on several of the third party tools. Her own Lateral Stress Tool - Phase I makes passive, autonomous, low temperature, *in situ* measurements of lateral stress (magnitude and direction), pore pressures, and temperature in soft sediments (APC range up to 150 m), but disturbs the sediments. The Phase-I tool replaces the nose or shoe of the APC. This tool is now in the testing phase. Her Lateral Stress Tool - Phase II is an active tool which includes measurements of *in situ* deformation properties of harder sediments and will be used in conjunction with the Geoprops tool. This tool is in a three year design phase and a prototype should be tested on the Engineering leg after 129E.

The Geoprops tool being developed by Karig and Taylor using packer technology and has as its goals the *in situ* measurement of pore-water pressure, permeability, temperature and pore water sampling. This tool is in a "dynamic design" status that is "on track" for deployment at Nankai. Shipley said that the electronics are ready for fabrication and any physical problems are minor.

Western Pacific Regional Panel

B. Taylor gave the report for WPAC. He went over the summary (which starts on p.131 of the agenda book) of scheduled upcoming legs that are part of the WPAC Prospectus. He covered the suggested changes for Leg 125 (exchange BON-6A and BON-6B for BON-6; set re-entry cone at Site BON-6A) and

Leg 126 (exchange BON-4 for BON-5 in list of drilling priority and run VSP and formation microscanner at BON-6A). Science objectives will not be changed from what PCOM approved for the FY89 program. PCOM therefore gave its approval to the changes for Leg 125 and 126 as suggested by the Co-Chief Scientists at the pre-cruise meeting and approved by PPSP and the ODP-TAMU Science Operator. There is a potential problem with Leg 127 because what has previously been interpreted as basement in the Japan Sea has low seismic velocities and shows layering. Drilling to the high-priority oceanic basement may take longer than previously anticipated. Therefore it is suggested that the highest-priority site J-1b be drilled to oceanic basement taking as long as necessary to reach this objective. The lowest priority site J-3b should be drilled on a time-available basis. WPAC suggests that DMP re-evaluate the electrical conductivity experiment proposed for site J-1b. Leg 128 remains unchanged. The time requested for logging on Leg 129 (31.3 days) is unacceptable for a one-leg program, so WPAC has recommended a two-leg program.

WPAC programs which are not yet scheduled were also covered by Taylor and are in the summary (p.131). WPAC suggests that the number of Geochemical Reference Leg sites be shortened to drilling the primary BON-8 & MAR-4 sites plus logging, with additional drilling in the volcanoclastic apron and seamount sites at MAR-5 & 6 done if time is available. NE Australia Margin should eliminate 2 sites to keep drilling times within a standard length leg. Vanuatu shows a "velocity pull-up" structure which may indicate fractured volcanic material above the décollement and could cause longer drilling times for the high-priority sites. All of the Lau-Tonga sites can probably be drilled in one leg.

Jim Gill is nominated to replace Taylor as WPAC chairman.

Discussion

Mountain asked if the single line of heat flow measurements along the seismic line for BON-1A was sufficient, but as the need for heat flow measurements was safety related and not part of a hydrogeology program, this survey was deemed sufficient. Langseth suggested that detailed heat flow measurements be made downhole.

Discussion of the oblique electrical resistivity experiment at site J-1b was continued on Wednesday (see end of Minute 754).

Wednesday, 30 November 1988

Central and Eastern Pacific Regional Panel

D. Rea gave the CEPAC report. Two concerns of CEPAC covered in letters in the agenda book are: (1) Lack of chert-chalk sequences at site ENG-3 (p.173); (2) Engineering development priorities (p.174); Leg 129E should address chert-chalk (Shatsky?), limestone (Menard Guyot?), and young crust (Mariana back-arc?).

Rea talked about the results of Leg 121 which suggest that APC cores have gaps that total about 10%, but that by vertically offsetting the cores 4.5 meters in an adjacent hole this loss of data can be avoided.

Rea discussed the 14 programs covered by the CEPAC Prospectus, emphasizing that only one site (504B) has a fixed location whereas all others require site-survey information to various extents. Programs where there are significant problems are: Flexure of the Lithosphere where dating of material to within 100,000 years is essential for testing the response of different flexure models; Cascadia Margin needs a more polished proposal for the Vancouver sites and more MCS for both sets of sites; Old Pacific where there is a need to determine paleolatitudes (for pre-70my plate-motions) and therefore oriented hardrock core samples; Atolls and Guyots require recovery of reef limestones, and alternating lithologies; Shatsky Rise Anoxic Events requires recovery of alternating lithologies, depth and dating of anoxic events; Lower Crust at 504B needs the hole cleaned or deviated; EPR Barerock Drilling and Loihi both need engineering developments to deal with high-temperatures and corrosive fluids plus drilling and recovery of fractured rocks; Sedimented Ridge Drilling also requires high-temperature drilling capabilities.

Total time required to drill the CEPAC programs would be over 20 legs without including transit times.

754 Drilling Plans for FY90

High-priority drilling in the Pacific should be done in the next few years, since under a thematically driven program open to drilling in all oceans, transit times may become very large if the ship has to shuttle frequently through the Panama Canal between Atlantic and Western Pacific Oceans.

A general discussion was held about whether Nankai should be drilled as a one leg or a two leg program. Leinen via Larson suggested that a second Nankai Leg should be drilled about a year after Nankai I to allow time for evaluation. Shipley indicated that a one-leg versus a two-leg program has a big effect on what science is planned. A one-leg program requires moving site NKT-2 up slope. A minimum program requires three holes to be drilled at sites NKT-1, NKT-2 and NKT-10 in order to determine gradients as suggested by the Fluid Processes in Accretionary Processes Working Group. Taira said that in a one-leg scenario NKT-10 in the proto-thrust zone of ductile deformation would not get drilled. A two-leg scenario allows time for both more holes and a more complete logging program, so that horizontal as well as vertical gradients and fluid flow can be measured. Francis noted that DMP requests 31 days of logging and calls for 54 deployments of the Geoprops tool, which he thought was exaggerated logging expectations for untested tools. It was generally agreed that the measurements made with these tools (especially packers) are the most important scientific aspect of this drilling program. Therefore DMP needs to prioritize both logging requirements and sites for this leg in order to reduce logging time to about 20 days. The WPAC scenario suggested for drilling the first Nankai Leg is:

NKT-1	drill 10.0 days + log 6.9 days	16.9 days
NKT-2	drill 21.1 days + log 16.0 days	37.1 days
Contingency + Transit		6.0 days
	total	60.0 days

Cowan wanted to know the options if the Geoprops tool is not ready for deployment on 19 October 1989. A discussion was held about options and it was decided that since Karig has indicated that the tool will be ready and there are other tools and packers to be tried on the Nankai Leg, everything should proceed as planned. Nankai I is to be kept in the present schedule after the drydock in the NW Pacific.

PCOM Motion

Accept in the FY90 drilling program a Nankai Leg consisting of drilling sites NKT-1 and NKT-2 and about 20 days of logging. A second Nankai Leg will be considered after evaluation of the first Nankai Leg. (Motion Pisias, second Francis)

Vote: for 13; against 0; abstain 2; absent 1

It was suggested that the proposed SW Pacific WPAC programs were more advanced than the North Pacific CEPAC programs and should be considered for drilling after Nankai. However cyclones in the southern areas such as off Australia during December through March prevent safe drilling of these programs soon after Nankai. It was therefore suggested that the second Engineering Leg be drilled at this time.

CEPAC, LITHP and SOHP have all identified development of new engineering capabilities as necessary for accomplishing thematic objectives. Testing of a longer DCS, Geoprops Probe, OBS Instrumentation Experiment, etc. were all suggested for a second Engineering Leg. Rea said CEPAC's recommendations for a second Engineering Leg are drilling and recovery of chert-chalk interlayers, reefal limestone rubble, and drilling young fractured rocks. The Shatsky Rise, Menard Guyot and Mariana Back-Arc were suggested as sites close to one another and suitable for these tests.

ODP-TAMU expressed some concern that Leg 129E was being planned before Leg 124E has been drilled. Moberly said that preliminary planning of the leg requires some knowledge of what needs to be tested. If

engineering developments for drilling in young fractured rocks are not tested soon then the EPR bare rock drilling gets moved back even further. Tucholke said the important thing at this stage is to establish when to have the leg; what is to be done can be decided later. Larson pointed out that a half leg (30 days) is only enough time to do one test. von Rad suggested that a balance is needed between science drilling and technological development to enhance the scientific capabilities. Moberly asked PCOM to postpone the discussion of objectives for the engineering legs until FY90 scientific legs are set.

Moberly said that he sees a pull towards the SW Pacific because of the maturity of those proposals. Leinen via Larson recommended that Engineering Leg II be drilled between a Japan to Guam transit and that on the return transit northwards either the Geochemical Reference or Old Pacific proposals be drilled. Malpas said that it should be kept in mind that the drill ship should stay away from NE Australia until March when the cyclone season ends. This translates into at least 1.5 legs after Nankai.

Eldholm said that the science of the WPAC program needs to be reevaluated. Pisias pointed out that Lau-Tonga, Vanuatu and NE Australian Margin have been discussed in depth and are part of the WPAC program previously accepted by PCOM. Eldholm asked if Lau-Tonga had required some revisions. Langseth (PCOM watchdog) said that the drilling priorities and science objectives have not changed from what PCOM approved. All sites can be drilled in one leg.

PCOM Motion

Accept in the FY90 drilling program the NE Australia Margin, Vanuatu, and Lau-Tonga programs as most recently modified by WPAC (Motion Shipley, second Kastner)
Vote: for 15; against 0; abstain 1

Langseth asked if space should be reserved for programs such as Banda and South China Sea which had their science objectives approved but because of political problems did not get drilling approval. It was decided that until clearance is given they will not get scheduled, but TAMU is asked to continue seeking approval for these programs.

The Geochemical Reference Holes were discussed extensively, because of their previous low ranking by regional and all thematic panels. Malpas (PCOM liaison to LITHP) said that a letter from J. Natland discusses how this leg was originally proposed as a part of a large thematic program, which has been whittled down to what may appear to be a one leg regional proposal. The global thematic science which is being addressed by drilling in the Mariana-Bonin region is the crustal contributions to arc volcanism. The Mariana-Bonin system is one of the simplest and cleanest arc systems studied, where known geochemical variability of the volcanic arc products can be directly related to the different proportions of three crustal components being subducted (marine pelagic sediments, altered upper oceanic crust, seamount component in Marianas). This leg should not be viewed as a local one, but as part of the larger science objectives identified in the Long-Range Planning Document.

Kastner said the theme of geochemical reference holes is trying to address some basic science questions that are part of the objectives of ocean drilling. The two sites BON-8 and MAR-4 are important for understanding old altered ocean crust and require 100 m penetration into the crust to get the alteration sequence. Sites of second-order importance can be sampled in other ways, MAR-5 as part of the Old Pacific program and MAR-6 (seamount apron) by dredging. Lancelot said that he still thinks that the program is poorly designed. Taira said that this is not a single-shot program, but one designed to give a first handle on the problem. Cowan said that the first order differences between the Mariana and Bonin arc volcanism suggest differences in the crust being subducted; both BON-8 and MAR-4 need to be drilled. The geochemical and petrological differences between the two arcs are much greater than the variability along each arc axis. In answer to queries about the actual site locations, Taylor said that these sites were chosen because they had good site-survey data. Langseth said these would be good sites to use the borehole televiewer to determine stress magnitude as part of a regional stress map. In query to the

question of drilling times, Taylor said that BON-8 (200 m basement penetration with set reentry cone) and MAR-4 (100 m basement penetration with free-fall cone) can be done in a standard length leg.

PCOM Motion

Accept within WPAC drilling program one Geochemical Reference Leg, including sites BON-8 and MAR-4, plus appropriate downhole experiments and logging. (Motion Kastner, second Taira)

Vote: for 12; against 2; abstain 2

A general discussion was held regarding thematic ranking of proposals versus execution based on geographical and logistical constraints. It is possible that drilling will not be back in the SW Pacific for some time following the WPAC program. After FY91 with drilling open to all oceans there will be an open competition between remaining CEPAC, WPAC and new proposals. PCOM must decide whether it is acceptable to spend large amounts of time for transits between the highest priority legs or to insert lower priority legs that fill geographic or time gaps. Only mature proposals are supposed to be considered for drilling.

Next the CEPAC programs were considered, to see if one could be inserted within the FY90 schedule. Moberly emphasized that thematic panel rankings should prioritize the CEPAC proposals and he will ask for any new rankings from the panel chairmen for the Spring PCOM Meeting. Francis was concerned that all panels rank proposals in the same way. It was also a concern that some panels would be ranking proposals in which they have no interest. Rea said that the CEPAC Prospectus is a distillation of over 100 proposals based on thematic panel rankings. It was noted that the top-ranked proposals of each of the thematic panels are listed in the prospectus in the order TECP, SOHP, LITHP. Of the western CEPAC proposals, PCOM agreed that the Ontong Java Plateau is the best at present in terms of site surveys and has a high priority with thematic panels.

PCOM Motion

Place an Ontong Java Plateau Leg within the FY90 program. (Motion Malpas, second Pisias)

Vote: for 15; against 0; abstain 1

Taylor suggested that PCOM examine the proposed WPAC drilling schedule on page 143 of the agenda book. It was generally agreed that the proposed schedule fulfilled the plans already suggested for drilling in FY90.

PCOM Motion

Following a Nankai Leg the general order of drilling in FY90 will follow the order on page 143 of the agenda book with the CEPAC Leg identified as the Ontong Java Plateau. (Motion Malpas, second Francis)

Vote: for 14; against 0; abstain 2

Note: this then is the approximate cruise plan for FY90

129	10/19-12/18 1989	2 mo.	Nankai
129E	12/23-1/21 1990	1 mo.	Engineering II
130	Feb.-Mar. 1990	2 mo.	Geochemical Reference
131	Apr.-May 1990	2 mo.	Ontong Java Plateau
132	June-July 1990	2 mo.	NE Australia Margin
133	Aug.-Sep. 1990	2 mo.	Vanuatu
134	Oct.-Nov. 1990	2 mo.	Lau-Tonga

Some concern was expressed that EPR Bare Rock Drilling was not in the FY90 plan. If this leg is to be drilled before FY92 then an engineering leg must be planned to prepare the site. The technological issues will also have to be resolved. Another concern was that place savers may need to be placed for the

second legs of some drilling programs (*e.g.* Nankai II). There is however the danger that this might make it seem these second legs are guaranteed, whereas their drilling must be based on results of the first leg.

Engineering Legs

The earlier discussion of Engineering Legs was continued. Engineering developments identified by PCOM and panels to have high priority for CEPAC and later programs are: drilling at high temperatures; drilling and recovery of young fractured crust; drilling and recovery of chert-chalk sequences; drilling and recovery of unconsolidated sediment (shallow-water carbonates; sands) and reefal limestones rubble; further testing of the diamond coring system aimed at the preceding; and testing of downhole instrumentation.

von Rad said that drilling and recovery of chert-chalk sequences has the highest immediate priority and the DCS should be used to solve the problem on the second engineering leg. He suggested the third engineering leg be devoted to solving problems of hot temperatures and fractured rocks. Pisias thought that high temperatures should be given the highest priority since this problem must be solved for the EPR drilling; high-temperature drilling could be tested either in sediments or bare rock. Langseth noted that a deep hole in the offaxis recharge zone of a hydrothermal system would not encounter high temperatures in the upper 1 km and could be accomplished without new engineering developments. An engineering leg could both set guidebases and do a drilling test in the high temperature zone. von Rad wanted to know if drilling hot conditions could be tested on land (Kilauea). Harding said that testing on land would not be the same as ocean drilling. Testing of some components would be possible, but there would be problems testing the heat exchangers.

Pisias emphasized that if deepening of 504B is to be accomplished before the end of the present program then an engineering leg devoted to hole preparation must be soon (early FY91). Kastner said that the highest priority should be testing of the DCS in hot rocks and fractured rocks to prepare for the EPR drilling. Garrison pointed out that transit times from the Western Pacific (Pago Pago) to the EPR and back would total about one month (or half a leg). Taylor suggested that the well-surveyed Bonin Rift (1700-2400 m depth) has both bare rock and sediments as well as hydrothermal vents and thus is suitable for a Western Pacific engineering leg. A deeper water test could be in the Mariana Trough (3500-4000 m depth) where Alvin observers located hydrothermal vents. Moberly suggested that a test of the DCS for drilling and recovering of chert-chalk sequences could also be done at Shatsky Rise, which is 2-3 days transit from the Bonins. Harding noted that vertical racking of drill pipe with the Diamond Coring System makes a substantial savings of time for tripping the pipe. The possibility was suggested that another drill ship could be hired to clean or deviate the hole at 504B on a "no cure-no pay" basis, but it was pointed out that the cost of hiring this out is not in the budget.

PCOM Consensus

The Second Engineering Leg (129E) should be a further test of the mining coring system with emphasis on drilling and recovery of fractured crust and chert-chalk sequences, with reefal limestones-sandy sediments added if there is time.

PCOM Consensus

The Third Engineering Leg (134E) should be aimed at meeting the science objectives in the Eastern Equatorial Pacific by preparing for drilling at 504B (clean or deviate hole) and EPR Bare Rock Drilling (set hardrock guidebases). It was noted that this leg, with a long transit, may require 60 days, which would be in about December 1990 and January 1991.

Other Drilling-Related Matters

Pisias asked that two items be addressed: (1) prioritization of the downhole measurements in the Japan Sea; and (2) what to do with the $68K SOE contingency funds. Pyle said that the SOE amount is so small it could easily be used up by the DCS. Purchase of the Digital Borehole Televiewers remains

PCOM's intention for SOE funds. Since there was so little money and the costs associated with the DCS are only gross estimates, that may not be possible now.

A general discussion was held on the problem of downhole measurements proposed for site J-1b in the Japan Sea. Both an oblique seismic experiment (6.6 days) and an oblique electric resistivity experiment (2.6 days) were proposed for this hole. The oblique electric resistivity experiment did not get support from TECP although DMP had included it in the program in its 1987 minutes. The logistics of both experiments include the use of a second ship and has required considerable coordination, elimination of the resistivity experiment would be a disservice to Japan. DMP will be asked to review again the proposed oblique electric resistivity experiments at site J-1b. A written review of the experiment will be requested as soon as possible of Nigel Edwards by John Malpas who will then forward this report to Mark Langseth. Within a day of the DMP panel meeting a decision on whether or not to proceed with this experiment will be made by Ralph Moberly and Mark Langseth, with the consultation of Keir Becker, and transmitted to Lou Garrison for any appropriate scheduling changes.

755 New Drilling Vessel

Y. Lancelot presented information on the new French initiative to build a European drilling vessel. The scientific objectives, proposed technical approach, and data about the ship are given in the attached handout (Appendix N). The new ship is envisioned as being integrated into ODP with scientific advise by JOIDES, with either a full-time or part-time operation schedule. France is willing to stay in ODP and also participate in this project. The other European partners will be asked about their participation in this project. France would assume 30% of the cost. Management of the ship would be in Europe. Proposals for drilling would come from worldwide.

Thursday, 1 December 1988

Discussion

Malfait asked why there was only 200 days of ship use indicated. Lancelot said it was 200 days for drilling in a year; the rest of the time would be used for other projects. Malfait asked if the Charcot was being replaced with another new ship. Lancelot said a 85-m-long ship was being built that was equipped with a hanger for the Nautile. The new ship will be operational in about a year and a half. It will be equipped with a new Seabeam system that has a 60-beam system.

von Rad commented that the European technological community favors building a big ship, but the European science community questions if enough manpower and funding is available for operating two drilling ships. Competing projects are already imperiling drilling funds in the FRG and the major decision about continuing ODP funding will coincide with money requests for this new project. Lancelot said he did not think manpower would be a problem, since there is a large geological community in France, Germany, Italy, and Britain which can be brought into the new project.

Francis said that NERC is concerned with building new UK research ships including a new Antarctic research vessel the James Clark Ross which is expensive (£40M). The Discovery also needs to be replaced, but a £10M refit will try to stretch the life. Lancelot said that France is also starting this year to build a new ice breaking vessel which will be run by TAAF rather than IFREMER. In a few years there will be 4 icebreakers operating out of Europe.

756 Reviews of Drilling Legs

Leg 120

R. Schlich reviewed Indian Ocean Leg 120 on the Kerguelen Plateau. Leg 120 lasted from 21 February until 30 April, 1988 (69 days), with a total of 28 days spent on drilling operations. Reports have been published in both Geotimes and Nature. Leg 120 drilled 12 holes at 5 sites on the Kerguelen Plateau under hostile drilling conditions: waves >20 m, winds >65 kts, and 20° rolls of the ship. Recovery was only about

20% due to the unfavorable conditions. The objective of drilling was to recover Neogene, Paleogene-Mesozoic, and basement sections. Drilling results for Leg 120 sites 747 ,748 , 749, 750, 751 were presented. Site summaries and preliminary interpretations can be found in the Leg 120 Preliminary Report.

Discussion

The problem that logging took a much longer time than expected was discussed. Weather conditions and tool failures both played roles in the long logging times.

Leg 122

U. von Rad and B. Haq reviewed Indian Ocean Leg 122 on the Exmouth and Wombat Plateaus. von Rad thanked PCOM for allowing flexibility in moving drilling sites so that the best science could be accomplished. The basement of the Exmouth and Wombat Plateaus is foundered continental crust. Sites occupied on Leg 120 were 759, 760, 761, 764 on the Wombat Plateau, and 762 and 763 on the Exmouth Plateau. Drilling results for Leg 122 can be found in the accompanying handout (Appendix O).

Discussion

The site pre-review process was discussed. Much concern was expressed over the potentially dangerous conditions that were encountered during drilling on the Exmouth Plateau (Site 763) when a gas-rich sand was drilled. Site pre-review should have spotted this problem since it was previously noted by oil industry drilling at this location. PPSP will be asked to perform a post-mortem on the Leg 122 information.

Leg 123

L. Garrison provided a review of Leg 123 drilling in the Argo Abyssal Plain. Site 765, where there are suppressed M26 magnetic anomaly signatures, has drilled 931 m of sediments and 271 m of basalt. A brown, silty, hemipelagic claystone was found at the sediment contact with the underlying fresh glassy basalts which appear to be typical MORB. Recovery has been about 68% in the sediments and about 100% in the basement. VSP experiment did not have much success because of attenuation of signal and noise in the pipe. Single packer experiment was partially successful and found low permeability. Double packer failed due to packer mechanism mistake. The hole was cased to 31 m into the basement. Site 766 was rotary cored to 767 mbsf. Basement was encountered at 466 mbsf where a series of diabase intrusive sheets (40-50 m thick) of MORB affinity were found. Recovery was about 66% in sediments and reached 100% in basement. Three series of logs were run but ledging problems curtailed additional logging.

Leg 124

Garrison then described Leg 124 drilling in progress. The Celebes Sea hole (CS-1) was lost at the basement contact, when the pipe got stuck in turbidites and had to be severed (see also Minute 747 above). A medical evacuation caused some delay in the Sulu Sea (SS-2) drilling. Celebes-1 will be redrilled into basement if there is time.

Discussion

A discussion was held about the problem of medical evacuations and whether this is the result of more people on the ship or inadequate checking of health before going to sea. There is a problem with some of the subcontractors not requiring adequate reports on physical condition, but the illnesses which required medical evacuations probably could not have been detected beforehand. Medical staffing and facilities onboard the Resolution are in good shape.

757 Long-Range Planning Document

A discussion of the Long-Range Planning Document was led by its author, N. Pisias. The document will be used as part of the proposal to renew ODP, for NSF and the non-US drilling partners. He identified

successful completion of the Nankai, EPR, and 504B Legs as being important for the future of the program, in order to demonstrate that ODP can plan and execute high ranking scientific programs that are technologically difficult. ODP is a long-range project; the thematic objectives of high-priority already have more than 100 proposals, which translates into over 17 years of drilling. A 50% increase in funding is not to be expected. An alternate drilling platform or another ship, while attractive, is not a reasonable expenditure, because as yet the long-range planning documents from the panels show little need for one. He also wanted it kept in mind that other global initiatives are starting to gather momentum and they will be competing with ODP for funding. The ODP approach is to deal with the earth as an interlinked global system, which can be divided into four main topics. Pisias expects panel chairmen will help to integrate their white papers and provide cross-reference to other documents (e.g. COSOD I & II) in the Long-Range Planning Document.

Discussion

There were some general questions about the funding of the present program. The Ocean Drilling Program has National Science Board approval through FY92 to spend money. The Memorandum of Understanding with each partner extends through FY93, so there will be drilling in 1993.

Questions were raised about when the final document would be ready and its distribution. The "final" document would be brought to the Spring PCOM meeting for last minute work and final approval. This is only three weeks before the EXCOM and ODP Council meetings. The document will be reproduced by JOI to be sent out to all interested scientists and international partners. Distribution will be sought as widely as possible. COSOD I & II documents will also be distributed to interested parties.

It was felt that the scientific aspects of downhole measurements were under-represented in the document. A charge was given to the DMP to prepare a section on scientific highlights of the logging program. Malpas said that Canada would be interested in the results that have come out of the program that are of value to industry. He was asked to prepare something on the technological developments and applications. Eldholm also thought that the technological achievements should be highlighted, especially the development of deep-water drilling technology and developments in downhole measurements which will help promote the program outside the academic community. Sparks volunteered TEDCOM to help with the section on technological developments.

Taira said that highlights of the Japanese scientists' contributions to ODP would be useful in Japan; this could be a one page summary of Japanese scientists' publications. von Rad said documenting the contributions of international partners is important for promoting the program.

It was thought that the Global Geosphere-Biosphere links were too vague; specific statements are needed about how ODP results can be used to study such topics as pollution, world-wide oceanic and atmospheric circulation, and environmental and climate change, with references to specific documents.

An executive summary is needed for the COSOD documents. Keep everything as clear and crisp as possible, with 2 or 3-sentence bullets used in the introduction to highlight exciting achievements.

Francis wanted to know if the budget was going to be based on steady-state funding. If so, do parts of the program have to be cut out? Pisias said that the emphasis was now on the proposed science objectives. The budget will be worked out after the ODP-TAMU and ODP-LDGO cost analyses are completed, which will be before the next PCOM.

Kastner suggested that PCOM show its appreciation of the work of the subcommittee and especially N. Pisias (and staff) in putting together the Long-Range Planning Document. A round of applause signified appreciation.

758 Four Year Planning Mode

PCOM cannot jump directly from its present thematic-priority regional-planning mode to a four-year thematic-priority all-ocean planning mode, as there are not enough mature proposals to jump into a three-year mode. The main item for the Spring 1989 PCOM meeting in Oslo will be planning the ship's general direction in a three-year mode (Spring 1989 to Spring 1992). By the following year (Spring 1990), panel reviews of new and existing proposals should allow PCOM to plan the general route for four years (Spring 1990 to Spring 1994).

Pisias said that the present challenge is to take the prospectus with nearly mature proposals and plan three years. This means that the thematic panels' rankings of thematic priorities of proposals become all-important for planning. New proposals will have to be integrated into the thematic rankings constantly. Eldholm said that he agrees that it will be hard to go directly to the new mode, but PCOM also has to open the program to all oceans after 1991. There may have to be some compromises at the Oslo meeting if there are no mature proposals for drilling in all oceans, but PCOM must show it is open to this new drilling. Malpas suggested that a "straw man" type setup be made at the Oslo meeting. As new proposals come in it may fall apart, but a schedule can be designed so the engineers will know when developments will be needed. Moberly pointed out that the existing PCOM commitment to 18 months of CEPAC drilling would carry through all but the last few months of the 3-year general planning at Oslo. Pisias suggested that the CEPAC prospectus plus any new proposals should be used for the ship track.

759 Detailed Planning Groups

Cowan asked if DPGs are needed to evaluate objectives. The need for DPGs was discussed. DPGs serve useful purposes such as: integrating the priorities of the thematic panels; insuring full evaluation of proposals; work on specific requirements of an individual hole; help improve program development; provide an overall flexibility; and assemble special expertise. That was the general basis for the following decisions.

PCOM Motion

(1) Retain the CEPAC panel membership as a Detailed Planning Group that reports to all thematic panels and (2) evaluate the CEPAC membership to determine if any other new Detailed Planning Groups are needed to provide advice in the CEPAC-area. (Motion Kastner, second Taira)

Vote: for 11; against 1; abstain 3 (absent 1)

During the discussion, Larson stated that slight addition or modification in the present CEPAC membership should allow it to provide detailed planning without creating new DPGs. [Present members of CEPAC are: Rea (Mich.); Beirsdorf (FRG); Davis (Can.); Flower (Ill.); Floyd (UK); Francheteau (France) Kroenke (HIG); Okada (Japan); Sancetta (LDGO); Schlanger (NW); Schrader (ESF); Sliter (USGS).] Another suggestion was that any new DPGs should report to PCOM before the May meeting.

Langseth advised PCOM that only accepted proposals or highly ranked thematic programs be the basis for DPGs. The purpose of a DPG is not to write proposals. PCOM should not create a Bering Sea DPG. Cowan said that the Bering Sea has excellent proposals and two panels have called for creation of a Bering Sea DPG. General discussion led to the following motion.

PCOM Motion

There will not be a Bering Sea-North Pacific DPG. The CEPAC DPG will ask for additional expertise as needed to evaluate the program. (Motion Pisias, second Eldholm)

Vote: for 14; against 0; abstain 1 (absent 1)

CEPAC needs to decide whether they have the necessary expertise to evaluate a Bering Sea program or if they need additional members. A report requesting changes in membership is to be submitted to

PCOM by the 2-4 May, 1989 PCOM meeting. Liaisons from OHP should be considered for providing additional expertise.

CEPAC needs to meet to keep the prospectus up-to-date and improve the drilling program. CEPAC should meet according to the work load. The next CEPAC prospectus is expected for the Summer PCOM Meeting. A new prospectus will not have to be prepared for the Spring PCOM Meeting in Oslo.

Discussion next shifted to WPAC and the following motion was made.

PCOM Motion

WPAC will be kept as a DPG, meeting as requested by PCOM to evaluate any new site information affecting the current drilling program, and reporting to PCOM. (Motion Pisias, second Malpas)

Vote: for 14; against 0; abstain 1 (absent 1)

Malpas asked if CEPAC could serve the same purpose as the EPR and Sedimented Ridges Working Group. Becker said that the EPR and Sedimented Ridges Working Group has almost completed their charge, only the EPR Bare Rock drilling proposal is left. Pisias said that it would be a shame to lose the critical mass of expertise assembled for the working group. Malpas asked if CEPAC should turn Sedimented Ridges over to the EPR and Sedimented Ridges Working Group. Shipley suggested that LITHP could make the necessary drilling decisions. Pisias said that the EPR and Sedimented Ridges Working Group has a "corporate history" of working with these problems and have worked out the experimental design for investigating hydrothermal systems. It was also observed that DPGs meet at the request of PCOM to address specific tasks, so they will meet only if necessary.

PCOM Motion

Create a Sedimented Ridges DPG (SRDPG) out of the existing Working Group to deal with existing proposals for EPR Bare Rock Drilling and Sedimented Ridges and which reports to LITHP, SGPP and TECP. (Motion Pisias, second Malpas)

Vote: for 9; against 1; abstain 5 (absent 1)

SRDPG members are to use their special expertise to help develop a drilling program using the existing proposals and not to write new proposals. CEPAC will turn over the Sedimented Ridges proposals to SRDPG to ensure that the drilling program is correctly prepared. Moberly is to ask R. Detrick if he is willing to continue as chairman of the SRDPG. The membership of this DPG is to remain the same as the overlapping EPR and Sedimented Ridges Working Group.

The general agreement of PCOM was that the Fluid Processes in Accretionary Prisms Working Group should not meet again until the initial report of this group has been circulated. Their status was left in abeyance until PCOM decides if further work is necessary.

760 Watchdog Assignments

The following watchdogs have been assigned to keep track of CEPAC drilling proposals:

J. Malpas	Hawaii Flexure
O. Eldholm	Chile Triple Junction
D. Cowan	Cascadia Accretion
A. Taira	Old Pacific
B. Tucholke	Atolls and Guyots
M. Kastner	Ontong Java Plateau
M. Leinen	Eastern Equatorial Pacific
Y. Lancelot (alt. J. Watkins)	North Pacific Neogene
Y. Lancelot (alt. J. Watkins)	Bering Sea History

H. Jenkyns	Shatsky Rise
J. Malpas	Lower Crust at 504B
G. Brass	EPR Bare Rock Drilling
M. Langseth & M. Kastner	Sedimented Spreading Centers
R. Moberly	Young Hotspots: Loihi

It was suggested that forms need to be established for the watchdogs so that a more uniform way of keeping track of advanced proposals can be implemented. Tucholke and Moberly will draft forms.

Friday, 2 December 1988

761 Jack-up Mobile Platform

In view of such potential ODP drilling as in atoll lagoons, R. Ginsburg spoke about the possible use of a jack-up mobile platform (R/V JUMP) for drilling and recovery of sediments from shallow carbonate banks such as the Bahama Bank. The platform is a self-propelled barge with three hydraulically operated legs that can be operated in up to 200 feet of water. The platform carries enough drill pipe to reach 1000 meters, and additional pipe can be carried on another barge. Chartering cost for the platform is $5000/day with crew. The drilling rig and crew must be supplied. Drilling of atolls and shallow carbonate banks are used for studies of sea level change and evolution of carbonate platforms. Industry is interested in the studies because they help interpret seismic patterns on these structures. A RSMAS drilling program using one of these rigs is planned for next year with support coming from both NSF and industry.

762 PCOM Liaisons to Panels

The following liaisons were established between PCOM and panels.

	TECP	LITHP	SGPP	OHP	TEDCOM	IHP	SSP	SMP	PPSP	DMP
G. Brass		*			*					
D. Cowan										*
O. Eldholm	*									
H. Jenkyns				*						
M. Kastner			*							
Y. Lancelot						*	*			
M. Langseth										*
M. Leinen								*		
J. Malpas		*								
R. Moberly									*	
N. Pisias				*		*				
T. Shipley										
A. Taira								*		
B. Tucholke	*									
U. von Rad			*							
J. Watkins							*			

The following liaisons were established between PCOM and DPGs:

M. Langseth and M. Kastner	SRDPG
M. Leinen and R. Moberly	CEPAC
A. Taira	WPAC

It was reaffirmed that DPGs report to Thematic Panels who report to PCOM by way of the PCOM Chairman or the PCOM Liaison to the Thematic Panel.

763 New Panel Members

TEDCOM New person to be invited to join TEDCOM is Prof. Heinrich Rischmüller, providing KTB Drilling Group pays his expenses, which von Rad said would be the case. New international partner panel members are: J. Bonnasse-Gahot (France), A. Milton (UK), and H. Strand (ESF).

SSP R. Kidd (UK) was nominated as the new SSP chairman to replace G. Mountain. PCOM Chairman is to ask USSAC for nominations for a U.S. panel member with expertise in petroleum geology. New international partner panel members are: K. Louden (Canada) and G. Pautot (France). SMP panel member F. Duennebier is rotating off USSAC, but PCOM member J. Watkins (SSP liaison) is still a USSAC member. A liaison between SMP and SSP still needs to be nominated. PCOM reaffirmed its policy that persons serving as NSF program officers are disqualified from membership in JOIDES panels.

LITHP R. Batiza will be the new LITHP chairman. New persons to be invited to join LITHP are: Don Forsyth (1st choice), J. Phipps Morgan (2nd choice) or Marc Parmentier (3rd choice) to replace M. McNutt; and Guy Smith (1st choice), P. Johnson (2nd choice), or M. Tivey (3rd choice) to replace N. Petersen. New international partner panel member is: S. Cloetingh (ESF). Suggested LITHP liaisons to other panels, M. Perfit-CEPAC, D. Forsyth-TECP, L. Cathles-SGPP, were accepted.

IHP New persons to be invited to join IHP are: H. Spall (1st choice), J. Aaron (2nd choice) or E. Smith (3rd choice) to replace M. Latremouille. Others suggested are R. Buchanan, J. Thyfault, R. Cole, and P. Ryan. IHP wants someone with managing-editor skills. New international partner panel members are: J. Sanders (ESF), A. Schaaf (France), K. Tamaki (Japan). Someone may be needed to replace I. Gibson's expertise in computers.

SGPP E. Suess is the new SGPP chairman. Transfers from SOHP are: P. Froelich, M. Goldhaber, L. Mayer, and W. Normark. After considerable discussion, H. Elderfield will transfer from LITHP and remain a member-at-large, and new nominees are: N. Christie-Blick or J. Thorne; N. James; F. Prahl; and S. Dreiss. New international partner panel members are: J. Boulegue (France), F. Masuda (Japan), J. McKenzie (ESF), J. Mienert (FRG), and D. Stow (UK). The panel is directed to make an evaluation of the expertise of its membership in regards to meeting its mandate, and report for the next PCOM meeting.

OHP N. Shackleton is the new OHP chairman. Transfers from SOHP are: W. Berger, A. Droxler, R. Garrison, D. Kent, R. Stein, T. Saito, E. Vincent. New nominees are: A. Mix or L. Peterson; M. Delaney or E. Boyle; W. Berggren or J. Lipps; E. Baron or J. Parish. New international partner panel member is: E. Jansen (ESF).

TECP TECP had pointed out the need for replacements but made no specific new membership recommendations. PCOM recommendations and decisions will be deferred until after the next TECP Panel meeting. New international partner panel member is: H.C. Larsen (ESF).

DMP New invitees to join DMP are: R. Morin (physical properties), J. Gieskes (sampling fluids and chemistry), P. Lysne (high temperature work). PCOM decided that M. Hutchinson (industry logging experience) be reconsidered when E. Howell leaves panel in one year. New international partner panel members are: J.P. Foucher (France) and O. Stephansson (ESF).

SMP K. Moran is the chairman of the new SMP. New person to be invited to join the SMP is M. Mottl for his expertise in shipboard chemical measurements. New members who were previously invited to join and have accepted are: J. King, M. Rhodes and E. Thomas. New international partner panel members are: I. Gibson (Canada), A. Richards (ESF), H. Tokuyama (Japan) and J.P. Valet (France). Francis says the UK will try to nominate someone with underway geophysics experience.

It was decided that Panel Chairman should make specific nominations for any necessary liaison between panels and DPGs.

764 Co-Chief Scientist Nominations

The following are the PCOM recommendations for Co-Chief Scientists, based on the nominations by WPAC, CEPAC and SOHP, with such modifications by PCOM and international partners as are indicated. Those who are not US are so indicated.

Geochemical Reference

C. Langmuir, J. Natland, H. Staudigel, M. Leinen, M. Salisbury (Canada), F. Alberede (France), R. Kay From the initial panel list, Francis for the UK withdrew the nomination of A. Robertson. PCOM added Kay to the list. J. Natland got a strong endorsement.

Ontong Java Plateau

L. Mayer (Canada), W. Berger, N. Shackleton (UK), J. Resig, L. Kroenke, L. Peterson, W. Curry. PCOM added Peterson and Curry to the list.

NE Australia Margin

P. Davies (Australia), P. Symmonds (Australia), R. Sarg, A. Droxler, J. McKenzie (ESF), A. Bosselini (ESF), W. Schlager (ESF), R. Ginsburg, N. James (Canada), J. Ladd. PCOM added Ladd to the list. Canada indicated its first choice is Davies. ESF listed this priority: 1 McKenzie; 2 Bosselini; 3 Schlager.

Vanuatu

J-I. Collot (France), M. Fisher, H.G. Green, J. Recy (France), S. Bloomer, D. Falvey (Australia), L. Kroenke. PCOM added Falvey and Kroenke to the list. France's priority is: 1 Collot; 2 Recy.

Lau-Tonga

J. Hawkins, J. Gill, J. Erzinger (FRG), L. Parson (UK), H. Foucher (France), D. Scholl, S. Bloomer, A. Stevenson. From the initial panel list, Francis for the UK withdrew the nomination of D. Cronan, and von Rad for FRG replaced U. von Stackelburg with J. Erzinger.

765 Remaining Agenda Items

In the new thematically driven program, all thematic panels should evaluate all proposals, but if the proposal is outside of the panel's mandate they can indicate they have no interest in it.

There will be a Guidelines Special Issue of the JOIDES Journal giving new information on panel mandates. The JOIDES Journal will go back to the old format and publish an updated membership directory in each issue.

Moberly asked everyone to read item M in the agenda book, The JOIDES Planning Year. Panel Chairman should especially take note that having panel meetings as short as two weeks before PCOM meetings makes it hard to incorporate panel advice into the agenda.

Pisias was concerned that PCOM and panels should be preparing to plan Eastern Pacific drilling at the next Annual Meeting. He recommended that the SRDPG be given the specific charge of starting to prepare for a hydrology leg for the Sedimented Ridge program (as recommended by LITHP) and CEPAC be given the specific charge of starting to prepare a leg for the Cascadia program. Moberly said that the minutes will reflect that specific charges will be given when the meetings are requested.

Langseth said that two other nearly mature programs should also be included, one leg of drilling on the EPR and one leg for the Eastern Equatorial Pacific Neogene. Both of these programs should have site specific surveys by the PCOM Annual Meeting, and a cost analysis should be done as well.

Pisias said that this process should start as soon as possible, and proponents of these programs should also be aware that they are being considered for drilling. Langseth emphasized that this should not be taken to indicate that they are in the drilling program, but only that they are under serious consideration.

Moberly asked if there were any institutional recommendations or comments to the letter from EXCOM Chairman Helsley concerning balanced discipline representation on PCOM and the possibility of longer terms for PCOM members. Kastner said that a letter had been sent by Scripps to the EXCOM Chairman. Cowan said the University of Washington sees no compelling reason to extend PCOM membership beyond 4 years.

Concerning the letter from C. Sancetta on a separate electronic-mail bulletin board for JOIDES, E. Kappel said that there is an Drilling Bulletin Board on OMNET and JOI will consider one on KOSMOS. BITNET has no bulletin boards. Moberly asked Kappel to talk to Sancetta about the matter.

Moberly called attention to the information on the new JOIDES Planning Office at the Hawaii Institute of Geophysics. Important for speedier mail are the street number, 2525 Correa Road, and the zip code, 96822.

von Rad was concerned about communications concerning who would or would not be able to attend meetings, since alternates need to be contacted to cover the meeting. The JOI Office in Washington keeps track of this information. Moberly said the JOIDES Planning Office can be contacted if there is a problem contacting JOI.

766 Future PCOM Meetings

1989 Spring PCOM Meeting will be from 2-4 May 1989 in Oslo and will be hosted by the ESCO-secretariat.

1989 Summer PCOM Meeting will be from 22-24 August 1989 in Seattle and will be hosted by the University of Washington. US PCOM members will be asked to attend the USSAC meeting that will overlap on the following day.

1989 Fall Annual PCOM Meeting will be a four day meeting from 27-30 November 1989 in Woods Hole and hosted by WHOI.

1990 Spring PCOM Meeting will be from 24-26 April 1990 in France.

O. Eldholm went over the plans that are being made for the Oslo meeting (Appendix P). Preliminary arrangements are being made to hold the meeting at the Conference Room at the Voksenåsen Hotel in the hills above Oslo. A two-day field trip is being planned which includes the Oslo Rift and a range of geologic topics. Eldholm will help arrange accommodations for those arriving early or staying on after the meeting. A questionnaire concerning travel plans, hotel accommodations and field trip will sent out by Eldholm in January.

767 Other Business

PCOM Consensus

> The PCOM chairman should ask the IOP chairman (R. Schlich) to convene a panel meeting including invited guests consisting of Leg Co-Chief Scientists, Science Operator, Bore Hole Research Group, and others as needed to examine the objectives and achievements of the Indian Ocean drilling program and the causes and possible remedies for any disparities between the objectives of drilling and the results thereof and to provide a report to PCOM on their findings before the 2-4 May, 1989 PCOM meeting. In addition a second report emphasizing the exciting thematic results of Indian Ocean drilling should be prepared for publication in EOS as soon as possible.

PCOM also decided that in general at the end of a regional planning group's task that a meeting such as the one proposed for the IOP be held as a "post-mortem", to examine the drilling objectives and achievements of that program, including technical and logistical problems and their possible solutions.

Taira wanted the problem of publications placed as an agenda item for the Oslo PCOM Meeting. Japanese participants on ODP legs would like to publish their data as soon as possible. Moberly said that this will be a major agenda item.

PCOM Consensus

PCOM urges that the acquisition of two Digital Borehole Televiewers be advanced to the earliest time possible so that an improved stress-measurement program can be implemented.

768 Conclusion of the Meeting

The Planning Committee expressed appreciation to the following persons and groups of individuals:

Jean-Paul Cadet, Tim Francis, and Steve Gartner for their dedicated service on PCOM.

Nick Pisias and his subcommittee for their efforts in developing the Long-Range Planning Document.

Doris Rucker who is retiring from the JOI office and whose help over the years has benefitted us all and deserves recognition.

Keir Becker for "pitching in" and organizing logistics for this meeting, and also to Chris Harrison who graciously extended the RSMAS facilities and made our stay here more pleasant.

Outgoing Panel Chairmen Jamie Austin (ARP), Peter Barker (SOP), Bob Detrick (LITHP), Larry Mayer (SOHP), Roland Schlich (IOP), and Brian Taylor (WPAC) for their stewardships.

The Lau Working Group for its efforts.

Members of the regional panels (ARP, IOP, SOP) which have been disbanded and those other panel members who are leaving.

The 1988 Annual PCOM Meeting was adjourned at 1:10 p.m.

LIST OF APPENDICES ATTACHED TO MIAMI PCOM MINUTES

A List of handouts at 28 November - 2 December 1988 PCOM meeting

B Report of 13-15 September 1988 EXCOM meeting in Edinburgh

C FY89 NSF-ODP Program Budget and Anticipated Expenditures

D JOI FY89-90 Budget Summary

E Draft Minutes Interim Executive Committee of the Nansen Arctic Drilling Project

F Wireline Logging Operator Report 28 November 1988

G Southern Ocean Panel, Annual Report 1988

H Site Survey Panel, Annual Report 1988

I Pollution Prevention and Safety Panel, Annual Report 1988

J Information Handling Panel, Annual Report 1988

K Annual Report and Minutes of 1988 Panel Chairmen Meeting

L Diamond Coring System and 124E Preliminary Test Plan

M Development Engineering Schedules

N Proposed European Drilling Vessel

O Leg 122 Major Objectives

P Information sheet on Spring 1989 PCOM meeting in Oslo

Minutes received after Miami agenda book (due to postal delays):

Q Technology and Engineering Development Committee, 28 September 1988

R Site Survey Panel, 4-6 October 1988

T Pollution Prevention and Safety Panel, 10-11 November 1988

MEETING OF JOIDES DOWNHOLE MEASUREMENTS PANEL

Hawaii Institute of Geophysics
University of Hawaii
Honolulu

16 - 18 January 1989

EXECUTIVE SUMMARY

1. This meeting was scheduled over three days in an attempt to bring the Panel's business programme up to date, following the dedication of much of the previous DMP meeting to the Nankai issue.

2. In response to the successful French deployment of the NADIA wireline re-entry system, DMP reiterates its encouragement for the development of scientific programmes that use re-entry technology. These initiatives provide exciting new possibilities for downhole measurements. Panel strongly supports the French proposals to use the NADIA re-entry system in ODP and DSDP holes. There are no scientific reasons why these holes should not be made available.

3. Modified guidelines for the monitoring of third party tools have been drafted in response to PCOM request.
[DMP Recommendation 89/1]

4. The drillstring packer is regarded as a mature tool which is appropriate for transfer from University of Miami to ODP/TAMU.

5. Of those tools currently under development, the slimhole formation microscanner has been land tested and is still scheduled for initial deployment during Leg 126. The Canadian lateral stress tool is reportedly on schedule: this is programmed for the Nankai leg. The wireline packer has encountered motor problems: TAM, Inc., are estimating that an improved motor will be available by April with an evens chance that the wireline packer will be ready for Leg 126. The geoprops probe is temporarily on hold because TAM, Inc., do not have the resources to handle two tool developments at the same time.

6. In view of development delays within TAM, Inc., the Nankai Leg be deferred two months to improve the chances of both the wireline packer and the geoprops probe being operational and adequately tested. **[DMP Recommendation 89/2]**

7. During the Nankai Leg Site NKT2 should be drilled first to maximise the chances of an adequately studied hole. Two additional days should be added to the abridged programme of downhole measurements to allow time for the deployment of the side entry sub. The programme of downhole measurements at NKT2 should not be curtailed solely in order to allow time for the drilling of NKT1. **[DMP Recommendation 89/3]**

8. Panel re-affirms its support for the geoelectrical experiment at Site J1b, Leg 128, which is entirely in accord with the Panel philosophy of integrating data at different scales of measurement. The streamlining of the experiment to 1.5 days allows Leg 128 to be shortened by one day, thereby resolving the scheduling problem with this leg.

9. Modified logging programmes have been recommended for:

Leg 130; BON 8, MAR 4 **[DMP Recommendation 89/4]**

Leg 131; all holes **[DMP Recommendation 89/5]**

Leg 133; DEZ 2, DEZ 4 **[DMP Recommendation 89/6]**

In addition, Panel urged a re-think of the importance of fluid sampling to the scientific objectives of Leg 132; if perceived to be important, the wireline packer should be scheduled for deployment.

10. Panel recommended reciprocal guest arrangements between DMP and detailed planning groups. **[DMP Recommendation 89/7]**

11. Panel sought to fill their liaison slot to SMP with any one of four nominees (Carson, Gieskes, Karig, Wilkens) according to the topics scheduled for discussion. PCOM is invited to select an official liaison who can delegate to the other three, if appropriate.

12. A workshop on Shipboard Logging Practices, to which all former JOIDES logging scientists are to be invited, is scheduled for 13-14 April 1989 in Washington DC. Co-convenors are Worthington and Wilkens.

13. In view of the moves towards slimhole drilling in hot environments, Panel recommended that a proposal be formulated for a workshop to investigate the implications for logging. Target date is July-September 1989. Co-convenors to be Worthington and Lysne. **[DMP Recommendation 89/8]**

14. Next DMP meetings are scheduled for:

22-23 May 1989	Scripps	(Gieskes)
11-12 September 1989	FRG	(Villinger)

Paul F Worthington
31 January 1989

MEETING OF JOIDES DOWNHOLE MEASUREMENTS PANEL

Hawaii Institute of Geophysics
University of Hawaii
Honolulu

16 - 18 January 1989

MINUTES

Present

Chairman:	P F Worthington (UK)
Members:	B Carson (USA)
	J Gieskes (USA)
	E Howell (USA)
	D Karig (USA)
	P Lysne (USA)
	R Wilkens (USA)
	N Balling (ESF)
	R Hyndman (Canada/Australia)
	H Kinoshita (Japan)
	J-P Pozzi (France)
	H Villinger (FRG)
Liaisons:	K Becker (LITHP)
	X Golovchenko (LDGO)
	R Moberly (PCOM)
	L d'Ozouville (JOIDES)
Guests:	G Henderson (Schlumberger)
	M Hutchinson (Conoco)
	B Taylor (WPAC) *
Apologies:	C Sondergeld (USA)
	R Morin (USA)
	M Langseth (PCOM)
	A Sutherland (NSF)

* present for agenda items 14 - 15 only

1. Welcome and Introductory Remarks

The meeting was called to order at 8.30 am. The Chairman welcomed DMP Members, Liaisons and Guests, especially those attending for the first time as members (Gieskes, Lysne, Balling) and guests (Henderson, Hutchinson).

Review of Agenda and Revisions

Additional agenda items were proposed in respect of:

(i) Nomination of liaison to Shipboard Measurements Panel [WORTHINGTON]
- AGENDA ITEM 20

(ii) Workshop on high-temperature slimhole tools [LYSNE]
- AGENDA ITEM 21

(iii) Third party tools : drill-string straddle packer: conversion from University of Miami to ODP [BECKER]
- AGENDA ITEM 22

Date and format of next meetings will be discussed as AGENDA ITEM 23.

With these modifications, the pre-circulated agenda was adopted as a working document for the meeting.

2. Minutes of Previous DMP Meeting LDGO, 6 - 7 October 1988

Modification:

p16, final paragraph

First sentence to read

"The Chairman thanked Members, Liaisons and Guests for their contribution to the meeting, the Lamont-Doherty Geological Observatory for their kind hospitality, and Dr R N Anderson for his gracious hosting."

With this modification the minutes were adopted: the Chairman signed the master copy for ODP records.

3. Chairman's Annual Review

For the benefit of new Panel members, and as a refresher to established members, the Chairman reviewed the role of DMP within ODP in terms of the Panel's advisory role, reporting relationships and liaison with the primary contractors.

The Chairman then presented a review of DMP's current status as outlined at the recent PCOM meeting.

The Panel has a complement of 15. Three DMP meetings were held during 1988, Miami (January), College Station (June) and Palisades (October). Three meetings are planned for 1989, Honolulu (January), Scripps (May) and FRG (September).

Recently circulated minutes of another JOIDES committee contained the view that if you have continuous core recovery you don't need logs. In rebuttal of this view, it was reiterated that logs provide in-situ characterization, sample volumes that are two orders of magnitude greater than core samples, allow a natural grossing up of parameters, and permit measurements that cannot be undertaken easily in the laboratory (eg Stoneley waves).

Of the 22 DMP recommendations forwarded to PCOM over the twelve-month period Nov 1987 - Oct 1988, only one has not been accepted (Nankai Working Group).

DMP has identified the following thematic thrusts which it wishes to support (Panel operates 70% in service mode and 30% in thematic mode):

- composition and structure of crust
- hydrogeological phenomena
- lithospheric stress on a global scale
- sediment cyclicity
- monitoring of modern geological processes

These themes will determine the input of non-standard downhole measurements in future ODP programmes.

A major stand has been taken by DMP on the integration of data measured at different scales. Two new areas of data acquisition are Measurement-while-drilling and Interwell (tomography) measurements. These will be pursued in 1989.

The scientific value of logging continues to be promoted. The "white paper" originally planned for COSOD II report, but greatly curtailed by page limitations, has been accepted for publication by the journal Basin Research. Logging schools and workshops continue to be favourably received. A paper on the scientific benefits of logging has been presented by DMP Chairman as part of an AGU Union Session. Efforts need to be continued to inform Co-chiefs of the objectives of logging programmes. Post cruise access to logging data and interpretation facilities is being enhanced.

The major new initiative during 1989 will be directed at improving log data quality. Important elements of this initiative are:

- monitoring of third party tools
- tool maintenance by Schlumberger
- logging through pipe
- request for a one-off meeting of JOIDES logging scientists and contractors (April 1989)
- continue to improve tool calibration

Two causes for concern were exposed. The first relates to the Diamond Coring System which is currently designed for a 4-inch hole. The adoption of this technique with this hole diameter would preclude the following logging tools:

- full waveform sonic *
- VSP
- wireline packer
- lithodensity tool *
- borehole gravimeter
- magnetometer
- induction tool *
- formation microscanner **
- thermal/epithermal neutron porosity *

Tools marked (*) form part of the standard logging suite. The microscanner (**) is intended to become a standard tool.

The potential loss of such a bank of information would seriously detract from the downhole measurements effort.

The second cause for concern is the deferral by BCOM of the acquisition of the digital borehole televiewer(s) to FY 92. The existing (analogue) televiewers cannot support the downhole-measurement programme until 1992. The digital BHTV is the next tool in line for purchase (no purchases are scheduled for FY 90 and FY 91). The WPAC programme which is about to commence is largely tectonics-driven. To support this drive effectively we need to advance the acquisition date for new BHTVs. A possibility might be to open discussions with a potential supplier, WBK of Bochum, FRG.

In summary, 1987 saw a hard sell of logging capability to counter prejudice; 1988 has concentrated on promulgating the scientific benefits of logging; 1989 is to be strongly directed at improving data quality, an effort which is likely to continue well into 1990.

4. PCOM Report

Moberly reported on the PCOM meeting held at the University of Miami during the period 28 November - 2 December 1988. PCOM responses to DMP Recommendations 88/16 - 88/21 were as follows:

Rec. No.	Description	PCOM Response
88/16	Leg 126: withdraw IP; test Geoprops.	Accepted
88/17	Leg 129: expand logging programme to 31.3 days	Not accepted

88/18	Leg 129: schedule two separate legs for Nankai	Not accepted: but a second leg may be scheduled if first leg is successful
88/19	Leg 129: abridged logging programme of 20.7 days	Accepted, with scope for limited extension of logging programme
88/20	Log quality workshop involving former JOIDES logging scientists	Endorsed
88/21	This DMP meeting: date and venue	Accepted

In addition, PCOM responded to the DMP concerns about the status of borehole televiewers in ODP. DMP had concurred that the acquisition of the digital BHTV should be advanced from the currently scheduled date of FY92. PCOM urged that the acquisition of two digital BHTV tools be advanced. This matter is to be referred to the next BCOM meeting. A point to note is that WBK of Bochum, FRG, a digital BHTV developer, is reportedly changing its policy to leasing tools rather than selling them.

5. Liaison Reports

(i) Lithosphere Panel

Becker reported that LITHP has not met since last DMP meeting. However, PCOM has made some decisions on LITHP matters.

(a) Geochemical reference sites : two sites in old crust, we will need to examine the logging requirements for effective characterization.

(b) Third engineering leg should include cleaning out 504B plus visit to EPR to set guidebases and test the feasibility of drilling through crust there. This focusses the question of high temperature logging. Current scheduling for third engineering leg is end 1990.

(c) Drilling on sedimented ridges: EPR working group will continue as a sedimented ridges detailed planning group. This again emphasizes the need to address high-temperature logging problems.

(ii) TEDCOM

The Chairman reported on aspects of the TEDCOM meeting held in FRG on 28 September 1988. The principal thrust is towards the development of the Diamond Coring System (DCS) which, with holes of 4-inches diameter, would impact adversely on the logging

activities of ODP. The testing of DCS is seen by ODP/TAMU as the principal objective of the Engineering Leg 124E. If adopted subsequently, the DCS would preclude many of the currently deployed logging tools (see Annexure II to Minutes of DMP meeting on 9-10 June 1988).

Unfortunately, there is still a view in TEDCOM that scientific logging can be effectively undertaken in four-inch holes with existing equipment. Further, one TEDCOM member went on record as saying that there was "no point in logging holes that had been continuously cored". These views, which are contrary to established thinking, will be corrected at the next TEDCOM meeting at College Station on 27-28 April 1989. **[ACTION : WORTHINGTON]**

(iii) NSF

No report.

(iv) KTB

Villinger reported that the pilot hole, which has been drilled over the past 16 months, has now reached a depth of 3.5 km. The first meeting of the Borehole Research Group at which interpretations will be presented is scheduled for next week.

6. National Reports

(i) Canada/Australia

Hyndman reported that a new consortium has been formed with Australia. A logging school is scheduled for Montreal in May 1989. Canada is a strong proponent of sedimented ridge crest drilling with its high temperature implications.

(ii) France

Pozzi outlined two proposals. The first is to quantify by in-situ measurement the mechanism of heat transfer associated with hydrothermal activity as a function of the age of the crust. This would involve re-entry of holes 395A, 333A, 417. Decision by IFREMER to use NADIA system is expected in April. Thereafter, endorsement to use ODP holes will be sought through DMP. This programme is planned for 1990. Two of these holes contain junk which will restrict depth rather than preclude the experiment.

Second proposal is to install a seismometer in an ODP hole using re-entry by submersible. A three-week test is proposed at site 396B. 396B was re-entered down to 300m in July 1988. Decision expected April/July 1989.

Pozzi showed the Panel a video of the recent successful deployment of the NADIA wireline re-entry system at hole 396B.

DMP Consensus

Panel encourages the development of scientific programmes for the use of re-entry technology. These initiatives provide exciting new possibilities for downhole measurements. Panel strongly supports the French proposals to utilize the NADIA re-entry system in ODP and DSDP holes. There are no scientific reasons why these holes should not be made available.

(iii) UK

The Chairman reported that a two-day logging school is scheduled for September 1989. This will be the second ODP school to be held in the UK. The work at the University of Nottingham on the interpretation of geochemical logs from hole 504B is continuing and certain aspects are approaching the publication stage.

(iv) Japan

Kinoshita reviewed the three experiments being undertaken in 1989. These are:

(a) Nankai Trough temperature experiment

(b) Oblique electrical resistivity experiment (see Item 14 (ii))

(c) Ocean-bottom seismometer deployment in the Japan Sea

A new submersible has been built with diving capability to 6500m.

(v) FRG

A meeting of the FRG National ODP Committee is scheduled for 8-10 March 1989.

7. Monitoring of Third Party Tools

(i) Guidelines

PCOM have sought clarification of certain points in the Panel's initial draft on suggested procedures for monitoring third party tools, i.e. those tools being developed or provided by organisations outside the ODP contractor framework.

DMP Recommendation 89/1

"The following guidelines be adopted for the monitoring of third party tools.

There are two types of third party tools:

Development Tools (instruments under development);
Mature Tools (established tools).

086 For a tool to be considered an ODP Development Tool, and thereby scheduled for deployment, several criteria should be satisfied.

(a) There must be an identified principal investigator.

(b) LDGO (for wireline tools) or TAMU (for all others) should formulate a development plan in conjunction with the principal investigator, and then inform DMP of this plan.

(c) The development plan should:

- indicate the acceptance, desirability, financial and technical feasibility, and the usefulness of the measurements;

- identify development milestones;

- make provision for initial testing on land;

- satisfy safety considerations;

- specify shipboard requirements such as the data processing necessary to make the information accessible on board ship, any special facilities (emphasising areas where the tool is not compatible with existing hardware/software), and appropriate technical support;

- contain a statement of intent that the tool would be available for post-development deployment in ODP.

If DMP endorse the development plan, and subject to PCOM approval, the Panel will appoint a coordinator to monitor on behalf of the Panel the tool's progress through the development plan. The Panel monitor will receive reports from the Principal Investigator on request and will present these to DMP. DMP will review progress at regular intervals and will evaluate tool performance after each deployment. Day-to-day monitoring will be the responsibility of TAMU and LDGO. A tool cannot be regarded as an ODP Development Tool, and therefore cannot be scheduled for future legs, if it has not undergone the above procedure. All tools that are currently scheduled must have a development plan formulated as soon as possible. Once a tool has been accepted by DMP as a Development Tool, the Principal Investigator will be required to co-sign the development plan with TAMU or LDGO as appropriate as a visible accedence to the provisions of the plan. A Development Tool cannot be deployed on an ODP leg unless TAMU/LDGO and DMP are fully satisfied that the terms of the development plan have been fully met.

B For an ODP Development Tool to undergo the transition to an ODP Mature Tool, i.e. an established tool operated by TAMU or LDGO, there must be DMP endorsement. This endorsement will be given after Panel review of a proposal prepared by TAMU and/or LDGO and submitted to DMP. This proposal must satisfy DMP on the following counts:

- cost of routine operations including shipboard data processing
- requirements for routine operations/processing
- availability of spare components
- facilities for maintenance
- existence of an operating/maintenance manual
- safety considerations
- long-term usefulness of data
- established track record both in land tests and shipboard deployment.

Where several Development Tools are competing for the same Mature Tool slot, DMP will require the appropriate contractor to evaluate all the tools and submit their multiple-tool evaluations to DMP for Panel consideration.

C Where an established third party tool is loaned for use in ODP, this tool will have to satisfy the criteria in paragraph B in order to be accepted as the technical equivalent of an ODP Mature Tool. Tools which do not satisfy these criteria cannot be programmed for future ODP legs.

D Last-minute requests to include on unproven third party tool within an ODP leg will not be accepted."

(ii) Current third party tools

The logging contractor is asked to prepare an updated list of third party tools before the next Panel meeting,

[ACTION : LDGO LIAISON]

8. Monitor Reports

(i) Wireline Packer

Howell reported that the packer part of the system now works on the basis of laboratory tests, i.e. expands 3.5 to 10 inches and reverts to just under 4 inches. Unfortunately it took about one hour to inflate the packers. Motors are deemed inadequate. Improved motor is being sought by TAM with Amoco assistance. Measurements (Eh, pH, specific ions, etc.,) all check out. Next field test, with an oversize motor, is scheduled for February. If this works, a 3.5 inch improved motor should reportedly be available by April. With this optimistic schedule, the wireline packer might be ready for Leg 126.

(ii) Geoprops Probe

Karig reported that prototype boards were all in the computer by December. Sensors have largely been tested satisfactorily. Delays are occurring because of TAM's inability to dedicate resources to wireline packer as well as geoprops probe. TAM is provisionally scheduled to recommence work on the geoprops probe in February. Geoprops probe will not now be ready for testing during Leg 126. TAM have not yet offered a bid for the final phase of geoprops probe development. There is no absolute guarantee that the 150 000 budgeted will be sufficient.

(iii) Lateral Stress Tool (LAST)

Hyndman reported that as far as he is aware, the LAST development is on schedule.

(iv) Slimhole FMS

Golovchenko reported that the slimhole FMS was field tested back-to-back with standard FMS in the KTB hole. Results compared well. FMS is still scheduled for initial deployment during Leg 126. Software will be in place during Leg 125 (permits allowing).

9. Logging Contractor's Report

Golovchenko reported on logging operations since the last DMP meeting.

Leg 123

Hole 765D - Argo Abyssal Plain

Three standard Schlumberger runs, BHTV, VSP. Packer experiment failed. BHTV revealed east-west breakouts.

Hole 766A - Exmouth Plateau

Three standard Schlumberger runs.

Leg 124

Hole 767B - Celebes Sea

Seismic stratigraphy and geochemistry

(lithoporosity and BHTV proposed (DMP October 1988 Minutes) but not run)

Hole 768C - Sulu Sea

Seismic stratigraphy and geochemistry. Tool sticking problems were encountered.

Hole 770C - Sulu Sea

Three standard Schlumberger runs, BHTV. This comprised the first logging in crust formed by back-arc spreading.

The current engineering Leg (124E) has a site dedicated to logging. A hole will be drilled for 1.5 days with no coring and tests will be made of the wireline heave compensator, the new Schlumberger tool combinations, and the side entry sub (SES). Design changes are planned for the SES to reduce the set-up time.

LDGO have recruited a sediment geochemist to relate XRF data from core to the elemental yields predicted by the Geochemical Logging Tool. The GLT is run without a boron sleeve (which reduces the borehole effect) and core can be used to calibrate the potentially degraded log signal. Tool slimming is being evaluated.

10. Logging Subcontractor's Report

Henderson (Manager, Houston Offshore District, Schlumberger) gave an overview of log data acquisition.

(i) Organisation

Schlumberger's Houston Offshore District is subcontracted by LDGO, the ODP logging contractor. The Houston Offshore District is geographically close to ODP/TAMU and to various Schlumberger supporting services.

(ii) Shipboard Tools

Schlumberger tools currently on board ship are:

DIT-E (2 tools), SDT (1), LSS (2), LDT-C (1), HLDT-C (1), TCC-B (2), GPIT (1), NGT/AACT (3), CNT-G (2), GST-A (2), WST (2), HRT (2), DLL (2), MCD (2)

A tool nomenclature is appended as Annexure I.

090

The equipment is located immediately behind the stacks: this is regarded as the best possible shipboard location. Tools are stored horizontally. They are subject to continuous vibration.

Certain tools have had to be modified for ODP use, e.g. the LDT (but no departure from oil-industry usage for the recently introduced HLDT), RFT and FMS. Degradation of data due to non-standard use can be expected through the absence of a boron sleeve on the GST and through the eccentering of sonic tools which can induce cycle skipping.

Fishing equipment needs to be upgraded. However, this would alleviate the insurance problem only if the track record of lost tools was improved.

(iii) Standard Tool Combinations

The three standard strings in use hitherto are:

(1) DIT-E/SDT/NGT/MCD/TCC
(2) GST/AACT/NGT/CNT-G/GPIT/TCC
(3) LDT-C/CNT-G/NGT/TCC

The three proposed tool strings incorporating the slimhole FMS are:

(1) DIT-E/LSS/HLDT/CNT-G/NGT/TCC
(2) GST/AACT/NGT/CNT-G/GPIT/TCC
(3) FMS/NGT/TCC

The reversion to the long-spaced sonic log (LSS) relects the fact that the sonic digital tool (SDT) does not ship very well and has proved unreliable. The mechanical caliper device (MCD) has had difficulties in re-entering the drill pipe.

(iv) Tool Maintenance

There are three levels of maintenance in routine Schlumberger operations.

(1) Basic maintenance before and after tool deployment:

- clean, grease, ensure good seals
- ensure good status of failure-prone subassemblies (e.g. insulation/continuity of wiring, fluid levels in units, CSU check)
- exercise the equipment in a simulated operation.

(2) Periodic maintenance which extends the basic procedures to include more subassemblies and involves the master calibration of tools.

(3) Q - check: in-depth maintenance. This is the most difficult to provide for ODP.

There are occasions when, due to the remote location from the Houston base, tools are not maintained to Gulf Coast standards. (There is no support base in Japan so throughout the WPAC programme technical support would continue to come from Houston.) These departures do not result in tools being run when they shouldn't be, nor do they result in an inordinate number of failures.

Up to Leg 124 Schlumberger had provided 405 services involving 85 trips in hole, with 18 lost rig time failures (LTF), giving 22.5 services per LTF. This compares with a figure of 31 services/LTF in the Houston Offshore District as a whole.

The following is a breakdown of equipment failures up to Leg 124:

GST	6
Cable/Head	3
Swivel head adaptor	2
AMS	2
Sonic cartridge	2
Software	2
DIT-E	1

The design of the GST will not permit any improvement in this performance. The swivel-head adaptor and AMS problems have been eliminated, as has one software problem. This brings the projected performance to 31 services/LTF which is comparable to industry. Problems are anticipated with the slimhole FMS for there will only be two tools available on board ship: LDGO generally regards three tools as the minimum necessary to guarantee continuous availability.

(v) Calibration

Standard tool calibrations are effected at the primary (1), secondary (2) and field (3) levels. Examples are:

DIT-E -
- (1) controlled loop in zero conductivity environment
- (2) test loop in air
- (3) automatic calibration

LSS -
- (1) customer acceptance test well
- (2) sonic test tube
- (3) drillpipe

CNT-G -
- (1) limestone blocks
- (2) 18 porosity-unit calibration tanks
- (3) jig

LDT -
- (1) limestone blocks
- (2) aluminium block
- (3) internal source

092 Calibration is effected primarily in sedimentary rocks: there is a need for controlled calibration in igneous rocks. In particular, we need to investigate the pedigree of the transformation from limestone to basalts. To date, very little hard-rock calibration of logging tools has been made.

(iv) Data Accuracy and Precision

Accuracy is the degree of comparison to a known value: precision is the repeatability of log response. The following values were quoted for the ideal case of thick beds, water-filled rocks and borehole, 8-inch diameter well, and no borehole rugosity.

		Accuracy	Precision
DIT-E		2%	2%
CNT-G	0 p.u.	0.33 p.u.	similar (to accuracy)
	15 p.u.	1 p.u.	"
	30 p.u.	2 p.u.	"
NGT	K	0.5% conc	"
	U	1 ppm	"
	Th	2 ppm	"
LDT*		0.001 g cm^{-3}	0.01 g cm^{-3}
SDT		-	3%
LSS		-	5%
GST		varied, function of element type.	

* LDT precision quoted for density range 1.4 - 3.0 g cm^{-3} only.

All raw data can be read by LDGO through the Schlumberger Work Station. Data should be fully archived so that future generations can re-interpret in the light of advancing knowledge. The question was raised about tool details: should these be archived so that tool differences might be taken into account over a period of time? Schlumberger does not release tool drawings but the possibility of some alternative form of information release could be pursued.

(vii) Cable Communication System

In its present form this provides for a high data rate with high reliability, it is compatible with all tools and is controllable by the Cyber Service Unit (CSU), and allows more flexibility in tool combinations.

The transmission characteristics of the cable are deemed satisfactory: earlier concerns about the physical integrity of the cable have now been resolved. However, Schlumberger do have some misgivings concerning the cable itself. The Rochester cable is not one that is used in Schlumberger who now make their own. A key problem is that neither LDGO nor Schlumberger have influence over the pulling of the cable: TAMU would never pull over half the breakage strength. We need weak (quick-break) joints to reduce

the risk of a cable break leaving much cable in the hole. Schlumberger have had weak joints (up to 10 000 lb) built specially: these allow operations at up to 80% of this weight. Schlumberger consider that the use of the SES is detrimental to the cable and can weaken it. A spare cable is carried on board ship but there are no facilities for changing this during a leg. Cable change has to be undertaken in port. A high temperature cable will need to be put on board ship for future legs.

11. Disc Storage of Core Barrel Data

Agenda Item deferred to next DMP meeting.

12. Workshop on Shipboard Logging Practices

The Chairman reported that this workshop had been recommended by DMP (Rec. No. 88/20) and was subsequently endorsed by PCOM. JOI have now agreed to support such a workshop through their USSAC arm. The principal thrust is to evaluate the impact of shipboard logging practices on log data quality by identifying problematic areas and recommending ways in which these might be improved. It is intended that participants will be all the previous JOIDES logging scientists plus representatives from Schlumberger (a logging engineer with ODP experience), SEDCO (a coring technician), TAMU (an operations superintendent) and LDGO (a logging scientist). JOI-USSAC have agreed to cover the attendance costs of US scientists in the expectation that attendees from international partners will be funded by their respective agencies. JOI have also offered the services of their staff in making travel arrangements.

Co-convenors of this workshop are Worthington and Wilkens. Dates have been fixed as 13-14 April 1989. Location is to be Washington DC with the precise venue determined by the JOI office. A letter of invitation is to be drafted and sent to all former JOIDES logging scientists and other invitees before mid-February. This letter will solicit input to the draft agenda which will be circulated to attendees before the workshop.

[ACTION : WORTHINGTON, WILKENS]

13. Role of DMP Thematic Thrusts in Planning

Agenda Item deferred to next DMP meeting.

14. WPAC Legs 125 - 129

(i) Programme Overview

Golovchenko reviewed the logging programme which, allowing for enforced departure due to development delays, is essentially as previously recommended.

09 Leg 125 - Bonin/Mariana

BON 6 site is now an alternative to BON 6A and 6B which are shallower.

Site	Depth of hole	Logs
MAR 3A	700 m	Standard suite BHTV
MAR 3B	700 m	Standard suite
BON 6A	750 m (600 sediments + 150 basement)	Standard suite BHTV Drillstring packer Magnetometer/Susceptibility
BON 6B	550 m (400 sediments + 150 basement)	As for BON 6A
BON 7	500 m	Standard suite

N.B. Wireline packer not available.
FMS to be introduced on Leg 126.
Drillstring packer has no fluid sampling capability.

BON 6A to have re-entry facility if time allows.

Leg 126 - Bonin

Four holes, all to be logged with standard suite which now includes FMS in this and subsequent legs.

BON 1 is re-sited away from local high-temperature anomalies so there are no special high temperature logging requirements.

There is an evens chance that the wireline packer will be available for this leg. If so, this will be deployed in BON 1 and BON 2. Zero-offset VSP using WST in BON 1 and BON 2. Magnetometer/susceptibility log in BON 2.

If time, return to BON 6A (if re-entry installed) for FMS and VSP.

N.B. Induced polarization will not be run due to absence of a suitable tool.
Geoprops Probe will not be ready for testing on this leg.

BON 2 to have a re-entry cone if drilling conditions allow.

Leg 127 - Japan Sea I

Site	Downhole Measurements
J1b	Standard suite BHTV Magnetometer/susceptibility Packer/hydrofracture VSP
J1d	Standard suite
J1e	Standard suite BHTV Magnetometer/susceptibility
J3a	Standard suite BHTV Magnetometer/susceptibility Packer/hydrofracture

N.B. Tools for VSP have not been identified beyond Leg 126.

Leg 128 - Japan Sea II

Site	Downhole Measurements
J1b	Geoelectrical, oblique seismic, seismometer
J2a	Standard suite Wireline packer VSP
JS2	Standard suite

N.B. VSP and wireline packer are not in WPAC programme. Wireline packer proposed because fluids are important at J2a. VSP tool not yet identified. At J2a wireline packer is a higher priority than VSP if a good sonic log is obtained: otherwise the priorities should be reversed. Geoelectrical experiment is the subject of detailed discussion under Item 14 (ii).

Leg 129 - Nankai

The Geoprops Probe is unlikely to be ready for this leg, as scheduled. This is because of delays in TAM, Inc., whose limited resources are tied up in resolving the problems with the wireline packer. The geoprops probe cannot be handled until the wireline packer is perfected. The Chairman queried the wisdom of committing two tool developments to an organisation that could not deliver. TAM, Inc., had ironically been selected to develop the

geoprops probe because of their experience with the wireline packer which, at the time, had seemed satisfactory. In the light of this bottleneck it is appropriate to propose delaying the Nankai Leg. There are no weather constraints. Moberly observed that a two-month delay to Leg 129 would not create any logistical problems. Thus far, the only staffing for Leg 129 is at the co-chief level.

DMP Recommendation 89/2

"In view of development delays within TAM, Inc., the Nankai Leg be deferred two months to improve the chances of both the wireline packer and the geoprops probe being operational and adequately tested."

Panel discussed the implications of PCOM's decision to adopt an abridged logging programme for Leg 129. It was considered that the objectives of the study are highly compromised by shortfalls in the allotted time. Panel noted that the substitution of NKT 10 for NKT 2 would reduce the pressure of time but would compromise the downhole temperature experiment which the Panel has previously supported. Moberly commented that PCOM would require evidence of technical success in Leg 129 before committing to a second Nankai leg. Panel observed that a curtailed scientific programme in Leg 129 reduces the chances of achieving sufficient successes to justify a second Nankai leg, the latter being even more desirable because of the abridged programme in the first Nankai leg. Four hours' discussion failed to identify a way out of this "Catch 22" situation. The following recommendation was formulated to reduce the risk of Leg 129 producing data from two inadequately studied sites as opposed to one site studied more completely. This recommendation is in accord with DMP philosophy.

DMP Recommendation 89/3

"During Leg 129 Site NKT 2 should be drilled first to maximise the chances of an adequately studied hole. Two additional days should be added to the abridged programme of downhole measurements to allow time for deployment of the side entry sub. The programme of downhole measurements at NKT 2 should not be curtailed solely in order to allow time for the drilling of NKT 1."

The abridged logging programme for Leg 129 which DMP recommended with reluctance (Rec. 88/19), and which PCOM subsequently adopted, is re-stated as follows.

NKT-2 Pilot Hole to about 400 m

Days	
0.5	8 LAST, 4 WSTP @ 30 m, 2 geoprops
1.3	standard logging (includes FMS)
0.3	multichannel sonic (shear source)
2.1	

NKT-2 (XCB then rotary to 1300 m, with re-entry cone and casing)

Days	
2.3	18 geoprops
1.0	trip to release bit and insert rotatable packer
1.6	standard logging (includes FMS)
0.4	hole conditioning
0.4	BHTV
0.4	multichannel sonic (shear source)
1.0	4 packer
1.4	4 wireline packer plus fluid tests
0.4	hole conditioning
1.2	VSP
1.0	trip to change to straddle packer
1.0	4 packer
2.0	deploy temperature string
2.0	SES deployment
16.1	

NKT-1 (XCB to 900 m)

Days	
1.8	8 LAST, 4 WSTP, 12 geoprops (or 6 wireline packer)
1.8	standard logging (includes FMS)
0.4	BHTV
0.5	multichannel sonic (shear source)
4.5	

In concluding the Nankai discussion, the Chairman noted that ten hours of DMP time had been spent on this issue. This was equivalent to the time that would have been spent in a dedicated workshop, had PCOM permitted it. The Panel's business programme was consequently behind schedule. It was hoped that future requests for specialized workshops on difficult issues would be considered favourably, for their refusal ties up the entire Panel for significant periods rather than allowing these matters to be debated in a more specialized advisory forum.

(ii) Oblique Resistivity Experiment, Leg 128, Site J1b

Becker reported that a problem has arisen with this proposal which DMP has strongly supported and which forms part of the programme of downhole measurements at site J1b. The problem is two-fold:

(a) TECP did not support the experiment;
(b) the time dedication (2.5 days) was queried by PCOM in view of the need to reduce this leg or an adjoining leg by one day.

The aim is to investigate the electrical conductivity of the subsurface with a view to ascertaining the degree of crustal heterogeneity as a basis for explaining observed anomalies of heat flow, etc. It is proposed to measure the vertical electrical field in the hole as a ship-drawn current source circles the hole.

098 This experiment is claimed to provide information on subsurface conductivity to a depth of about 10 km. The experiment will be conducted with a near-hole magnetometer in place to provide a second independent estimate of conductivity within the sedimentary succession, to a depth of about 1 km. The proposers have streamlined the experiment to reduce the time to 1.5 days.

DMP Consensus

Panel re-affirms its support for the geoelectrical experiment at site J1b which is entirely in accord with the Panel philosophy of integrating data at different scales of measurement. The streamlining of the experiment to 1.5 days allows Leg 128 to be shortened by one day, thereby resolving the scheduling problem with this leg.

15. <u>WPAC Legs 130 et seq.</u>

Taylor and Golovchenko reported on the current scheduling and logging programmes. Some of these legs have been the subject of earlier DMP logging recommendations.

Leg 130 - Geochemical Reference Sites

Two sites are in contention:

BON 8 (500 m sediments + 200 m basement)
MAR 4 (500 m sediments + 100 m basement)

Provision has been made for 12 days of logging. BON 8 is a re-entry site. If re-entry is needed at MAR 4, four days will be subtracted from the time allocated for logging.

Panel considered that BON 8, which is a lithosphere reference hole, should be a priority for downhole measurements. In accordance with the Panel philosophy of studying fewer holes thoroughly rather than many inadequately, the logging effort on Leg 130 should be directed primarily at BON 8 which should be drilled first. MAR 4 should be logged using the standard suite with as much relevant non-standard logging as time permits.

DMP Recommendation 89/4

"BON 8 to be a full reference site with the following logging programme:

Standard suite (including FMS)
Packer/wireline packer
Hydrofracturing
BHTV (before and after hydrofrac.)
Magnetometer/susceptibility
Dual laterolog
VSP

Attempt the same logging programme at MAR 4 with the order of priority as listed above.

BON 8 to include provision for the testing of the geoprops probe if not previously tested at sea. (This implies that the Navidrill is on board ship)"

Leg 131 Ontong - Java Plateau

Originally a CEPAC objective, this has now been placed under WPAC. Four holes are scheduled in sediments with an average depth of 500 m; at least one additional hole to basement where sediment thickness is estimated at 1000-1400 m. High-resolution stratigraphy is a major requirement.

DMP Recommendation 89/5

"Logging during Leg 131 to be restricted to the standard logging suite (including FMS) with BHTV and shear wave sonic being run additionally in the deep hole. The shear wave sonic should initially be deployed in one of the shallower holes for testing purposes."

Leg 132 N.E. Australia Margin

Objective of leg is ocean history. Standard logging only at sites NEA 1-5, 9A, 10A, 11. Sites NEA 13, 14 are of low priority. Sites NEA 6, 8 will not be logged. The wireline packer has been dropped because fluid sampling for mineralization is not seen as a high priority by WPAC.

DMP Consensus

The importance of fluid sampling to the scientific objectives of Leg 132 should be re-assessed: if perceived to be important, the wireline packer should be scheduled for deployment.

Leg 133 Vanuatu

This is now a one-leg programme. The six proposed sites include two reference sites (DEZ 1 and 5), two fore-arc sites (DEZ 2 and 4) and two inter-arc sites to investigate arc polarity reversal (AB 1 and 2). This leg has serious time constraints. Standard logging (including FMS) is scheduled for all holes. The original Panel recommendations included BHTV and wireline packer at DEZ 2 and 4. The function of the BHTV can be largely assumed by the FMS for this leg. Wireline packer was dropped because of time constraints.

DMP Recommendation 89/6

"In view of the importance of pore pressure to deformation style in the fore-arc region, pore pressure studies should be undertaken in DEZ 2 or DEZ 4. Reduce the logging time on AB 1 and/or AB 2 if necessary."

Scientific targets encompass rifting, back-arc spreading and volcanism. Logging programme unchanged from earlier DMP recommendation. In addition to standard logging (including FMS) at loggable sftes, BHTV, wireline packer and magnetometer/ susceptibility logs are scheduled.

16. CEPAC

Agenda Item deferred to next DMP meeting.

The desirability was expressed of reciprocal guest arrangements between DMP and the CEPAC Detailed Planning Group. Next CEPAC meeting is in Honolulu in April 1989. Roy Wilkens to attend on behalf of DMP.

[ACTION : WILKENS]

Invitation to CEPAC DPG to send a representative to next DMP meeting to be issued by Chairman, subject to PCOM approval of DMP Recommendation 89/7 below. [ACTION : WORTHINGTON]

DMP Recommendation 89/7

"Reciprocal guest arrangements between DMP and detailed planning groups be established."

17. Scientific Value of Logging

This is an ongoing item: the following updates were provided.

(i) Post cruise data access

LDGO Liaison has previously announced the availability of a 30 000 national licence for Terralog. The current situation needs to be clarified in terms of (a) each member country and (b) the USA specifically. [ACTION : LDGO LIAISON]

(ii) Keynote paper

As reported under Item 3, this paper is in press with the journal Basin Research. It is to be paired with the COSOD II paper on logging practice and issued in reprint form to the scientific community by LDGO. [ACTION : WORTHINGTON, LDGO LIAISON]

(iii) Logging Schools

Golovchenko reported on the US schools held on 29 October 1988 in Denver (30 attendees) and on 4 December 1988 in San Francisco (80 attendees). Feedback from attendees was generally favourable. Logging schools are scheduled for 13 May 1989 in Montreal, Canada, 8 July 1989 in Washington D.C., and 7-8 September 1989 in London, England.

(iv) Keynote presentation

As reported under Item 3 an invited paper on "Scientific benefits of downhole measurements in the Ocean Drilling Program" was presented by the Chairman at the fall AGU Union Session on the results of ODP to date. AGU scheduled this session in parallel with about 24 regular sessions, some held in different buildings. As a result of this competing schedule, attendance was disappointing; of the 50 or so attendees, many were already active in ODP. It would be worth considering a similar venture in the future, but under the auspices of an organisation that is prepared to offer a higher-profile slot than is achievable with multi-parallel sessions. The venture was nevertheless worthwhile.

(v) JGR thematic volume

This initiative, based on an AGU poster session on logging in the lithosphere, is going ahead.

(vi) LDGO performance evaluation II

Golovchenko reported that one of the key observations, the need to educate further Co-chiefs, is being implemented through short logging presentations at pre-cruise meetings and logging seminars on board ship.

18. **Proposals**

(i) 309 F

Zero offset VSP at BON 1 and BON 2, Leg 126

This proposal has already been incorporated into the Leg 126 programme, without DMP input. As such, there was little point in discussing it further.

(ii) 315 F

A global network of permanent ocean-floor broad-band seismometers: a test site north of Oahu, Hawaiian Islands.

This proposal is in accord with the long-term thematic policy of DMP. As such, Panel fully endorses it.

(iii) General

The Chairman commented on the dearth of proposals received over the past few months. D'Ozouville reported that this trend was unfortunately evident throughout ODP.

19. Geochemical Workshop

The Chairman reported that suggested dates and venue are 6-8 November 1989 at Lamont-Doherty Geological Observatory. These await confirmation. This is not exclusively a logging workshop but it is expected that a significant proportion of time will be dedicated to geochemical logging. One of the co-convenors, Dr M Kastner, has asked for DMP support in preparing the logging input. The DMP members with designated responsibility for this effort are Worthington and Howell. **[ACTION : WORTHINGTON, HOWELL]**

20. Nomination of Liaison to Shipboard Measurements Panel

Panel nominated four liaisons to SMP so that the load might be shared and so that the DMP representative might be matched to the primary SMP topics at any given time. The four nominees are Carson, Gieskes, Karig, Wilkens. SMP Chairman is asked to circulate meeting agendae well in advance so that the most appropriate person might attend. Panel seeks input from JOIDES on how this arrangement might best be worked in practice. A possible avenue is for PCOM to select an official liaison from DMP to SMP who can delegate to the other three as appropriate.

21. Workshop on High-temperature Slimhole Tools

Lysne reviewed the logging implications of slimhole coring which purports to be inexpensive, provide continuous core recovery, and result in a stable hole. There are few pedigree logging tools for slimhole application. Further, engineering difficulties can be expected in high-temperature instrumentation. These issues affect not just ODP but other deep drilling programmes.

DMP Recommendation 89/8

"A proposal be formulated for a workshop to investigate the implications of slimhole coring on scientific drilling and logging programmes, especially in hot environments. Target date is July-September 1989. Co-convenors to be Worthington and Lysne. KTB of FRG to be invited to participate."

22. Drillstring Straddle Packer

Becker reported that the drillstring straddle packer is a third party tool operated by the University of Miami. It is now in routine use in ODP. It is therefore appropriate to transfer the responsibility for the tool to ODP/TAMU. Before this can be done, NSF require JOIDES approval because a transfer of funds is involved from an NSF grant to ODP/TAMU co-mingled funds. DMP is therefore asked to endorse.

The Chairman commented that DMP is in the process of advising PCOM on procedures for the transfer of third party tools into ODP

(Agenda Item 7). These procedures, which are not yet in place, are intended to prevent the dumping of poorly-functioning tools on ODP/TAMU and LDGO. There must also be guarantees from ODP/TAMU and LDGO that the tools will be adequately maintained after transfer. If these procedures had already been approved and adopted, they would have to be followed. At present, the Panel notes that both ODP/TAMU and the University of Miami are in agreement that this proven tool be transferred into ODP.

DMP Consensus

The drillstring packer is regarded as a mature tool which is appropriate for transfer from the University of Miami to ODP/TAMU.

23. Date and Format of Next Meetings

The next DMP meeting is scheduled for May 1989, after the next PCOM meeting. Panel requested the Chairman to select dates that dovetail with the AGU. [ACTION : WORTHINGTON]

[It turns out that the spring AGU meeting coincides with the PCOM meeting in early May: as such, DMP cannot meet around AGU and still receive appropriate feedback from PCOM. **The next DMP meeting is therefore scheduled for 22-23 May 1989.** Venue to be Scripps Institution of Oceanography, La Jolla, California. Gieskes to host.]

The September DMP meeting is scheduled for 11-12 September 1989. Venue is FRG, precise details to be decided prior to next DMP. Villinger to host.

The FRG meeting is to be followed by a joint ODP/KTB workshop on 13-15 September 1989. Agenda for workshop to be decided prior to next DMP. Chairman to visit FRG if possible to discuss details. [ACTION : WORTHINGTON, VILLINGER]

Close of Meeting

The Chairman thanked Members, Liaisons and Guests for their contribution to the meeting, the Hawaii Institute of Geophysics for their kind hospitality, and Dr Roy Wilkens for his gracious hosting and especially for organising the field trip to the Big Island to take place after this meeting. The meeting closed at 12.17 pm on Wednesday, 18 January 1989.

Paul F Worthington
31 January 1989

LOGGING TOOL NOMENCLATURE

AACT	aluminium activation clay tool
AMS	auxiliary measurement sonde
BHTV	borehole televiewer
CNT-G	compensated neutron tool (thermal and epithermal detectors)
DIT-E	dual induction phasor tool
DLL	dual laterolog
FMS	formation microscanner
GPIT	general purpose inclinometer tool
GST-A	induced gamma spectral tool
HLDT-C	lithodensity tool (hostile environment, slimhole)
HRT	high resolution temperature sonde
LDT-C	lithodensity tool
LSS	long spacing sonic tool
MCD	mechanical caliper device
NGT	natural gamma spectral tool
RFT	repeat formation tester
SDT	sonic digital tool
TCC-B	telemetry communication cartridge
WST	well seismic tool

SMP
27-28 February 1989
Executive Summary

At the first meeting of the Shipboard Measurements Panel, the agenda was focused in two main areas. First, the panel members needed information about the current status of the JOIDES Resolution shipboard facilities and methods. Some members have not yet sailed on the Resolution and also required information about changes since the Challenger. This first area was addressed by direct discussion and presentations from ODP/TAMU staff members. Secondly, the panel reviewed all shipboard measurements under the panel's mandate. By going through this exercise, problem areas were identified and some recommendations for improvement were made. However, no major equipment purchase recommendations were made given our need to first assess the overall status of the shipboard procedures and equipment.

The panel discussed shipboard measurements by reviewing disciplines/topics as listed in the meeting agenda (Attachment #1). In general, the labs and disciplines/topics which are in 'good' shape and only require monitoring and minor modifications to procedures are: (1) geochemistry; (2) paleomagnetics; (3) paleontology; (4) petrology; and (5) biology. The disciplines/topics which require moderate change (e.g. documentation of procedures, minor equipment improvements) are: (1) computers; (2) core handling; and (3) physical properties. The three topics which require major improvement are (1) underway geophysics; (2) sedimentology; and (3) visual core description. We have made specific recommendations for improvements to underway geophysics which are outlined in the minutes (pages 7 -12). These recommendations include the purchase of equipment and software. The panel discussed the possibility of incorporating underway geophysics with a future 'routine' VSP program. Because the two experiments share very similar equipment requirements, it would be most efficient to combine the responsibility of these activities. The panel, however, realizes that the routine use of VSPs on the ship has not yet been decided.

The panel will discuss sedimentology and methods of visual core description at the next meeting. It was felt that major improvements can be made in this area to improve the quality and efficiency of the data collected. These improvements would have the greatest impact on the timing of Vol. A.

The panel requires some clarification from PCOM on downhole tools. At present, ODP/TAMU staff are responsible for the operation, maintenance and (in some cases) development of downhole tools. At sea, this operation is integral with shipboard measurements. Should SMP include some aspect of downhole tools in the mandate?

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Shipboard Measurements Panel
27-28 February 1989
Minutes

I Introduction of members, liaison, and guests.

The following attended the first meeting of SMP:

Jack Baldauf (ODP/TAMU)
Ian Gibson (member)
Joris Gieskes (liaison from DMP)
John King (member)
Margaret Leinen (PCOM)
Kate Moran (chair)
John Mutter (guest)
Adrian Richards (member)
Mike Rhodes (member)
Ellen Thomas (member)
Hidekazu Tokuyama (member)

In addition, members of the ODP staff attended the meeting for specific discussion and are listed in the minutes.

II The chair called for any additions to the agenda which resulted in the modified agenda (Attachment #1).

III Current membership was accepted as appropriate for the near future with the addition of J. Mutter in attendance until problems associated with Underway Geophysics have been addressed completely.

IV J. Baldauf presented an overview of scientific operations onboard the Resolution with particular emphasis on comparison of DSDP and ODP. The presentation included statistics on the increases of data and staff between DSDP and ODP (Attachment #2). It was noted that even though the overall staffing has increased since DSDP due to the broader and more complex ODP program, the ratio of technical to scientific staff has slightly decreased. The presentation also included the status of the current changes to the paleontology and physical properties labs which were initiated from comments made by the user community.

V R. Olivas (ODP/TAMU) presented the status of the technical support staff. The current structure of the technical staff was presented with noted changes of all seagoing personnel under the management of the shipboard laboratory officer including curatorial and computer services (refer to Attachment #2). At present there are eight marine technical staff per leg responsible for the supporting the following:

Core laboratory
Core orientation/downhole tools
Paleomagnetics
Physical properties
Paleontology
Thin Sections
XRF/XRD
Inventory control
Underway Geophysics
Safety
Maintenance
Special studies

In addition to marine technicians, the other technical support includes two electronic technicians, 1 photographer, two dedicated geochemistry technicians, 1 yeoperson, and 1 curator. The eight marine technician positions per leg are filled with 6 full time personnel, 1 student, and 1 rotating person from ODP staff. The group totals 32 and 15-16 are required each leg which limits the amount of time onshore for any technical training.

VI Following presentations by ODP staff, the panel discussed shipboard measurements. A summary of the discussions and recommendations by discipline/topic follows. All panel recommendations and action items are printed in bold type.

GEOCHEMISTRY

This discussion was led by Martha vonBreymann, ODP staff scientist. Attachment #3 includes a summary of the current lab status. The panel generally agreed that the geochemistry lab had very few major problems. The following discussion items were considered by the panel:

1. Sampling program

The routine sampling program as prescribed in Attach. #4 is agreeable for normal applications, but on legs with increased geochemical emphasis, it will be important to increase the sample density. For this reason, **the panel urges a greater flexibility of subsampling rules,** so that geochemical objectives can be met. This increased sampling program could either use samples from split cores or from 5 cm whole-rounds where the potential for lithological or paleontological boundaries is very low. In certain cases, it may be desirable to obtain samples under oxygen-free conditions, e.g. under a nitrogen atmosphere. **The panel recommends that glove bags be made available for such purposes.** In addition, one of the squeezing chambers could be sealed in such a manner that pore fluid extraction can be performed under a nitrogen environment. Similarly, especially when studies of rapidly oxidizable trace metals are envisaged, **it will be advantageous to have available a few non-plastic or teflon coated squeezers to minimize contamination.** Finally, the availability of a high speed centrifuge (especially suitable for the more porous upper sediments) should be encouraged; this can provide excellent samples and centrifuge tubes can be easily handled in a nitrogen atmosphere.

The panel recognizes that artifacts can be introduced by extracting at temperatures different from in situ conditions. However, it should be realized that squee at in situ temperatures should be performed with knowledge of the existence of a

geothermal gradient. Any special attention to this should be restricted to special geochemical efforts.

2. Laboratory Equipment

The panel recognizes the availability of a large array of analytical equipment both for organic geochemistry and inorganic geochemistry (Table 1). Continuous attention to updating procedures should be encouraged through interaction with appropriate panel members as well as shipboard Scientists with geochemical backgrounds.

3. Technical Support

The panel recommends that chemistry laboratory technicians receive appropriate training not only in chemistry procedures, but also in the significance of the work of the chemistry laboratory. Due to a recent turn-over in technical staff, training is presently the most important issue to address in this laboratory. This can be accomplished either onboard ship, at ODP, or at an appropriate laboratory. It is the panel's considered opinion that this will lead to a continued improvement of the technical operations of the shipboard operations of the chemistry laboratory.

Table 1.
Chemical Equipment Onboard JOIDES Resolution

ORGANIC GEOCHEMISTRY

Hydrocarbon Monitoring
- 2 Hewlett Packard 5890 gas chromatograph, TCD and FID
  - NGA: hydrocarbons through C14
  - Liquid extraction analysis, fused quartz small bore column
- 1 Carle 101 GC, FID
  - methane and ethane (C1/C2)
- Ultraviolet ray box (Halliburton)
  - qualitative analysis of hydrocarbon shows

Sediment analysis
- Rock-Eval II plus TOC nodule (Delsi Nermag)
  - type and maturity of organic carbon and hydrocarbon potential
- Carlo Erba NA 1500 elemental analyzer
  - analysis of carbon, nitrogen and sulphur

INORGANIC CHEMISTRY

Sediment and rock analysis
- Coulometric analyzer
  - carbonate determination
- XRF (Applied Research Lab 8400 hybrid spectrophotometer)
  - calibrated for both major and trace element analysis of sediments and rocks
- XRD (Phillips ADP 3520)
  - identify mineral composition

Pore water analysis
- Dionax ion analyzer (SO2-4)
- Automatic titrator (Alkalinity; chloride)
- Spectrophotometer (Bausch and Lomb)
- Semi-automatic titrators for Ca, Mg, Cl.

PALEOMAGNETICS

This discussion was led by J. King. In general, the panel felt that this lab is working well and had no major problems. The following issues were raised, discussed and some recommendations were made.

1. Paleomagnetics

a) **The panel recommends that the curatorial policy should be modified to allow peak alternating field demagnetization of archive halves to 15mT.**

b) In order to improve data analysis, **it is recommended that ODP obtain deconvolution software for high-density sampling of low sedimentation rate sites.**

c) Due to the complexity of the cryomagnetometer, a trained paleomagnetics technician is required on each leg in order to train the paleomagnetics scientist(s). The panel discussed the requirement for a dedicated technician to this discipline, similar to the geochemistry set-up. However, a detailed discussion of technician assignments could not be completed at this initial meeting due to time constraints.

d) A pulse magnetizer capable of peak field of 2T to determine mineralogy and generate data to identify diagenetic and paleoceanographic cycles was discussed. **ACTION: J. King estimate cost and evaluate the priority.**

2. Rock-Magnetics

a) DMP should consider the requirement for a magnetic susceptibility logging tool (may be available from Bartington).

b) A requirement for integration of multi-sensor data with down-hole logs exists. The major integration tasks are data handling problems. The panel will discuss and make recommendations at a future meeting regarding logging and sample-measured data integration.

3. Coring-Related

Three issues were discussed which directly impact the quality of paleomagnetic data. The first two topics resulted in questions which should be answered by ODP engineers and DMP and then re-addressed at a subsequent SMP meeting.

a) Is there a faster core orientation device that provides digital data which would be an improvement over the multi-shot tool? **ACTION: ODP and DMP**

b) Can non-magnetic core barrels and drill string to reduce remanences which overprint paleomag record be implemented into the program? **ACTION: ODP and DMP**

c) Contamination of core samples has occurred which influences the quality of paleomagnetics data collected. Further discussion and documentation is required in

order to make recommendations for improvements. ACTION: J. King; **documentation of contamination.**

PHYSICAL PROPERTIES

This discussion was led by K. Moran. W. Autio (ODP/TAMU technical staff) also participated in the discussion. The physical properties laboratory has seen some significant improvements over the DSDP lab facilities. One of the most common comments from users of the lab is that the data acquisition and analysis is accomplished utilizing a wide variety of computers and programs. This variety tends to limit the efficiency of the lab and, for some measurements, may compromise data quality.

The most important requirement for the physical property laboratory is to standardize and document methods. **The panel recommends that standard methods for the determination of water content, bulk density, and porosity be established.** These methods should rely on use of the penta-pycnometer for sediments and use of gravimetric methods for lithified materials. The documentation of the software which is used in the calculations is also required as part of the standardizing procedures. The measurement of grain density should be carefully considered for sediment. In high water content materials, the error in grain density increases. The direct measurement of specific gravity should be considered as a replacement for the 'routine' calculation of grain density. These measurements are the most basic of all physical property measurements and are used extensively in other disciplines. Consequently, the highest priority should be placed on this standardization exercise. Standardizing these measurements can best be implemented in conjunction with appropriate panel members and by utilizing the appropriate ASTM committee for review.

The P-wave logger, which has been incorporated into the multi-sensor track, has not been calibrated since it was placed on the vessel. **The panel recommends that P. Schulteiss be contracted to calibrate, upgrade and document the software for the logger.**

A constant volume subsampler (very low cost) should be made for the lab so that, in coarse sediment, samples can be collected at a constant volume for density and porosity determinations. A. Silva (URI) has built some of these for use in soft sediment.

The panel briefly discussed the following items which require further discussion before recommendations can be made:

a) an improved V_p system to replace Hamilton frame for collection of digital data and determination of attenuation;

b) improvements in the flexibility of whole-round sampling;

c) replacement of the gamma sensor with X-ray backscatter on the multi-sensor track;

d) purchase of a strain-relaxation device;

e) technical staff and training;

f) purchase of a natural gamma sensor for the multi-sensor track; and

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g) integration of down-hole logging and shipboard measurements is required; this integration may require additional lab equipment and requires further discussion with DMP and LDGO.

UNDERWAY GEOPHYSICS

This discussion was led by J. Mutter. A. Meyer and B. Hamlin and ODP technical staff participated in the discussion. The panel agreed that this component of the program needed significant improvement.

1. Seismic System
   There are three principal objectives of the seismic profiling system as follows:
   (a) To ensure that the drill ship reaches the intended site;
   (b) To tie the actual drill site into an existing grid of regional seismic data; and
   (c) To provide seismic profiling between sites.

   Of the three requirements, the first two have considerably higher priority than the latter. Furthermore, the system which satisfies the first two may not be suitable for the latter. It is, however, desirable that all three be achieved as the vessel frequently transits sparsely surveyed regions between sites and obtaining good quality seismic profiling data in transit is invaluable. Surveys in the region of the drill site can also provide valuable augmentation to the existing grid of site survey data, although this should not be regarded as a primary function.

   Site-specific surveys

   Numerous complaints have been received about the quality of reflection profiling and the case with which the present system can be used. ODP has taken steps toward solving this problem by investigating SIOSEIS or a replacement for the present system, HIGHRES. While SIO systems is certainly superior to HIGHRES, and has been installed at several locations in the U.S., its principal draw-back is that, not being a commercial system, no after sales service is provided. It is also somewhat limited and not straight forward to operate. Thus SIOSEIS is an improvement over HIGHRES, but not as good a system as is available commercially and may prove difficult to maintain and upgrade.

   At present, the seismic processing cannot be achieved in anything like real time or near real time, apparently due to hardware limitations: disk space and CPU, possibly tape drives also. Because the realization of ODP's scientific objectives depends critically on locating sites correctly and correctly tying the site into existing reflection profiling, **it is absolutely essential that an adequate, near real time record can be made from the drill ship.** First priority must be given to obtaining a software package and associated hardware to achieve this. Specifically:

   1. The Sierraseis commercial package should be assessed as an alternate to SIOSEIS. It is far more powerful, flexible and user-friendly. Being commercially available, the package is routinely updated and the documentation is extremely good. Furthermore, all its advertised functions actually work! It is available to UNIX-based small computers and is highly portable to other machines. Its off-the shelf price is $12,000; but since TAMU is an IRIS

institution and IRIS has adopted this package as a standard, it is available to TAMU at a lower cost. The IRIS link has ensured that Sierraseis has been placed in many US institutions; many more than SIOSEIS.

2. Whichever onboard processing system is chosen, it must be available in near real-time mode. The acquisition systems must be modified, together with the appropriate hardware upgrades implemented to achieve this. One mode is to write a disk file in parallel with the tape record so that data can be accessed after every shot, processed and plotted. A delay of no more that five or six shots (a couple of minutes) would occur.

3. On-line display of DR navigation, updated with transit and/or GPS fixes is essential for site-specific surveys. A plotted display of the track must be made in the underway lab. This system should also allow for existing track, intended site location, core positions, etc. to be plotted also so that the survey can be most effectively carried out (see specific notes in navigation).

Profiling between sites

This function is apparently so poorly achieved at present that it is seldom even attempted. The ship transits at 10-12 knots and recordings are typically swamped with noise. However, the fact that a good record can be made at 5 knots and that PDR records can be made if the transducer is set out from the hull suggests that a good 10 knot record should be achievable.

ODP technicians have tried several methods of improving the records, including lowering the tow point and setting the active section as far astern as possible, but no improvement has been achieved. Apparently, however, in calm seas, acceptable records have occasionally been obtained. This suggests that although ship-generated noise is undoubtedly very important, towing noise is also a major factor.

Lamont and a few other institutions are presently obtaining high quality seismic profiling at around 10 knots using an internally ballasted streamer produced by the French manufacturer AMG. The vessels used to tow the hydrophone arrays are much quieter that the Resolution. Nevertheless, it seems that ODP should test the AMG streamer system for suitability. The Lamont system could be borrowed after April 1989 and before January, 1990. A low tow point and long lead section will still be required. The same system might be used at 5 knots by hauling in most of the lead before beginning the site specific work.

H. Tokuyama suggested other towing arrangements which could be tried to improve towing at higher ship speeds. This requires an additional boom located to move the streamer outboard of the vessel (see attachment #4). This configuration may also be required, even if the current Teledyne streamer is replaced with the AMG (Table 2).

Table 2
Comparison of Streamers

Streamer Section	Teledyne	AMG
active	yes (single)	yes (4 channel)
weighted	no	yes
stretch	no	yes

2. Navigation and non-seismic geophysics

The ship is equipped with Transit and GPS satellite systems, will soon have Loran C, and for DR user an E-M log and gyro compass. The latter is fairly crude by current standards. Navigation is achieved by hand plotting positions. While this may be suitable for transiting between sites, it is insufficient for site location. The present practice is to wait for a GPS window before conducting site location surveys. Improvements need to be made in two areas as follows:

a) Navigation equipment
The speed log should be augmented by a doppler speed log that measures ship speed relative to the deep water mass. The present E-M log is unlikely to be giving good speed estimates and hence the quality of DR navigation will be low. In addition, since Transit satellite input (the fix calculation is basically based on doppler shift information) these fixes will also be poor. The speed information is in error.

b) Navigation calculation
Real-time DR navigation can be fairly simply obtained and should be displayed on a map chart that is computer-generated on board the vessel. Many institutions do this. The reconciliation of DR with "absolute" systems is more complicated but could also be done at sea if suitable staff were available. A simple chart could be plotted by sampling the Magnavox position computed using speed and heading, updated with fix positions. Navigation information should be logged on the same system that is recording seismic data, sampled once per shot. Seismic recording alone ought not completely occupy the Masscomp. Lamont and other institutions have achieved this and could provide software and expertise.

3. Integration with VSPs

Underway geophysical operations represent a distinct and separate function of the JOIDES Resolution, more nearly allied to downhole logging and VSP operations than it is to drilling and work on the recovered materials. ODP has not been able to satisfactorily provide this essential service for reasons related to the facility itself, rather than in the manner in which it has been operated. The initial system, as previously described, was not a complete, working, seismic processing system that could easily be operated by

technicians who are non-specialists in seismics. The basic set-up ensured that real-time processing of seismic data was not possible. ODP staff have put in quite a bit of effort into trying to work with the system with some success. However, with technicians stretched thin in the other labs, the underway geophysics has become a burden.

JOI/USSAC together with DMP has been advocating a larger and more routine role for VSPs in the Ocean Drilling Program and USSAC has recently agreed to commit funds to support US VSP activity on the Resolution. Given that the existing Technical Support Staff are presently fully involved in the present laboratory activities and because VSPs are a specialized experiment, this new task should not be taken on by ODP staff.

In future, if VSPs are designated and become a routine part of ODP, SMP recommends that underway geophysical operations are integrated with the VSP program. The tasks of this combined program would be:

1. digital acquisition of all underway geophysical data;
2. digital acquisition of VSP data;
3. digital acquisition of all navigation data;
4. provision of on-line DR navigation in the form of continuous plots;
5. processing of underway geophysical data, VSPs and navigation information following acquisition, but prior to the completion of the leg[1];
6. provision of on-line, near real-time seismic reflection profile for use in site-specific surveys[1];
7. archive and provide upon request copies of the navigation, underway geophysics and VSP data to ODP operations.

SMP sees the following advantages to this integration:

1. improved effectiveness of the TAMU staff in performing the primary drilling-related functions of ODP; and
2. coupling of underway seismic profiling with VSP acquisition at the operational level to properly support the scientific objective of VSP work which is to tie the drilling information to existing seismic data.

COMPUTERS

ODP staff members Larry Bernstein and Patsy Brown presented the status of shipboard computers and the 1032 data base systems. The direction taken of networking the PC's, MAC's, VAX, and micro-VAX is a good one. The response of ODP in purchasing MAC's was also a good move. This type of configuration allows for greater user flexibility, but still leaves ODP with 'standard' VAX-based systems. The graphics package, currently used by ODP is not as user-friendly as most PC and MAC-based graphics packages. The shipboard scientist should be allowed to plot and analyze the data using 'easy' packages. At present, the ship has MAC software for this purpose; however, PC graphics packages are not onboard. This should be remedied. At present, the database group has input data up to Leg 119. The effort is commendable. The group has also developed computer forms for data entry; this should be extended to include other data sets. A list of specific discussion topics and recommendations follow:

1. The current database has access limitations which may hinder science performed while onboard. The panel needs to specify its concerns for IHP

Action: further discussion and definition required at next panel meeting.

2. **IBM-PC software should be acquired for graphics.**

3. **Improvements to the software (and documentation) for data acquisition and calculations in the physical properties lab are required.** The most urgent requirement is upgrading the thermal conductivity routines so that first, temperature can be monitored until an equilibrium is reached for testing to commence, and then data is collected without such intense user-input.

4. **Micropaleo data for Part A in addition to Part B data should be entered into the database.**

5. **Software for range charts (Checklist) should be routinely available.**

6. **Software for micropaleontological data input should replace the carbon-copy forms which would also make it easier for data base work.**

7. **Graphics: there should be templates available for making biostratigraphy - compilation figures and the sedimentation rate curves.**

8. Standard software templates for each lab need to be developed to improve the efficiency of routine plots generated for Vol A. **ACTION: All panel members review respective disciplines and define routine plots.**

MICROPALEONTOLOGY

There were several problems in the past, mainly because of insufficient space in the preparation lab and the workspace. There were also major problems in the water supply lab. These problems were recently addressed by TAMU/ODP, and we must wait to see how the new lab configuration works out. In addition, the panel makes the following recommendations:

1. **On heavy micropaleo legs (e.g. 6 to 7 paleontologists), there should be a designated technician for the paleo lab to help sample processing.**

2. **There have been problems with maintenance of the microscopes, these should be checked at the end of each trip.**

3. **The 'foram scopes' - Zeiss stereo microscopes should be equipped with different sets of ocular objectives (possibly a zoom objective) if feasible for these models. Otherwise they should be replaced.**

4. **Sample splitter (vibrating) should be made available.**

5. **Literature: bound volumes of reprints (from the Challenger) should be placed in the micropaleo lab.**

Another problem area under this discipline is the safe use of hydrofluoric acid for palynological preparation. The panel needs to discuss this further. **ACTION: Moran get input from Leg 104/105 palynologists.**

SEDIMENTOLOGY AND VISUAL CORE DESCRIPTION

Suzanne O'Connell presented the current status of this lab (Attach 5). Since this lab has one of the most time-consuming processing tasks, the discussion focused on changes which will speed up the process as well as provide consistent results. It was noted that variations in results from this lab occur on a shift cycle as well as on different legs. The panel believes that major improvements can be made in this lab, but this topic requires investigation and further discussion at the next meeting. Some of the suggestions made were as follows:

digital colour scanner **ACTION: Moran**
XRD for routine composition analysis **ACTION: Leinen/Rhodes**
video scanner **ACTION: Thomas**
image analysis for smear slides ACTION: **Richards**
computer form for core description data entry ACTION: **Gibson**

These suggestions will be discussed with regard to improving the consistency of the visual core description and the quality of the data collected as the highest priorities. In addition, all suggestions will be evaluated on how they would impact the speed of data collection/output. When discussing this topic at the next panel meeting, we will require representation from OHP and SGPP.

At this time, only one recommendation concerning this 'lab' could be made. **The panel recommends that the evaluation of the smear slides should not be broken down into absolute percentages; rather the percent composition should be represented by descriptive terms which represent ranges of percent compositions.** The designation of numbers implies a certain accuracy and because this data is being entered in the database, there is a danger of misuse of this inherently inaccurate dataset.

CORE HANDLING

A general discussion of core handling included TAMU/ODP staff members and the panel. Technical staff members also participated in this discussion. Four general topics were discussed: core barrel handling; core liner handling; core splitting procedures; and core storage. It was noted that when the core barrel is retrieved to deck level, little effort is made to minimize shock loading. **The panel recommends that shipboard ODP operations staff make every effort to inform the drilling personnel of the requirement to reduce disturbance to the sample as much as possible.** After the core liner is removed from the core barrel, this now very flexible sample is moved to the catwalk for cutting and initial sampling. This additional extreme flexing of the samples causes disturbance which can and should be eliminated. The argument that all samples are disturbed due to pressure change anyway is not an acceptable one. When collecting samples, every effort should be made to eliminate sample disturbance where feasible. In this case, **the panel recommends that a rack be built which can be used to transport the sample from the core barrel to the catwalk rack.** This should be done by considering current operations and by designing the rack for ease of use by the technicians (i.e. light weight; comfortable handles; accessible) It may be possible to re-design the catwalk rack so that it could serve both purposes. At present,

the water used in the core splitting room is 'drill' water, the composition of which varies from port to port. This water contaminates the core sample with essentially unknown substances. **SMP recommends that filtered surface seawater be used in the core splitting room.** Presently, cores are put directly into 'D' tubes for permanent storage. Some cores which degrade rapidly when exposed to oxygen or when dried out may require additional protection. The panel realizes that due to time considerations, additional wrapping of all core samples would be prohibitive. However, for special circumstances, **SMP recommends that facilities be provided and made readily available on the ship to wrap sections of core in polyethylene film.** The chief scientists/staff should arrange for "at risk" sections, and "priority" sections to be wrapped in polyethylene before they are placed in the D-tubes. The wrapping should be evacuated plus sealed. It is envisaged that only a small proportion of reference/sampling sections would be wrapped, based on the decision of the curator and shipboard party.

PETROLOGY

ODP staff scientist, Andrew Adams presented the status of this discipline onboard. B. Domeyer (ODP/TAMU technical staff) also participated in the discussion. No pressing problems were identified. Discussions included the thin-section lab, XRF, XRD, and the computer forms for visual description. The success of the evolution of the computerized visual description was noted and this success will help in improving the sediment visual core description task. There may be a requirement to replace the existing shatter box; further review is required **(ACTION: Rhodes). SMP recommends that the clean hood be replaced with a portable clean hood.**

BIOLOGY

Jack Baldauf informed the panel of successful biological 'add-on' programs which have occurred. One example was phytoplankton subsampling on Leg 119. The panel agrees that this type of cooperation is good and should not be discouraged.

SPACE

Deferred discussion until next meeting.

GEOTECHNICAL MEASUREMENTS

Deferred discussion until next meeting.

VII Shipboard procedures related to faster publication. During discussion of each discipline/topic, the panel considered this question. In general, the panel agreed that Volume A results are essentially complete when the ship arrives in port, inclusive of biostratigraphy. The preparation of Volume A, however, still includes some time-consuming aspects most of which are related to visual core description, the preparation of barrel sheets, and data analysis from the physical properties laboratory. These time-consuming tasks take away time available to shipboard scientists for the preparation and review of Vol. A text and data. We plan to discuss and provide recommendations on visual core description (and barrel sheets) at our next panel meeting as our highest priority.

VIII Next Meeting: Lamont-Doherty Geological Observatory, October 2-3. John Mutter has agreed to host the meeting.

Attachment 1

Shipboard Measurements Panel
Agenda - First Meeting
27 - 28 February 1989
ODP, College Station, Texas

Start at 08:30

1. Introduction of members, liaison, and guests

2. Additions to agenda

3. Membership/Terms of reference

4. Presentation by scientific staff representative on status of shipboard laboratories

5. Presentation by technical staff representative on status of technical staff/expertise

6. Discussion of shipboard measurements under the following topics and disciplines in order of number in brackets:

   (a) Biology (10)
   (b) Computers for data collection, data analysis, and data presentation (shipboard and Vol. A) (5)
   (c) Core handling (8)
   (d) Geochemistry: organic and inorganic (1)
   (e) Geotechnical measurements (11)
   (f) Micropaleontology (6)
   (g) Paleomagnetics (2)
   (h) Petrology (9)
   (i) Physical properties (3)
   (j) Sedimentology and core description (7)
   (k) Space (12)
   (l) Underway geophysics (4)

7. Discussion of shipboard procedures related to faster publications

8. Next meeting: when and where?

9. Adjourn

JOIDES TECTONICS PANEL MEETING
HANNOVER, F.R.G., FEBRUARY 27-MARCH 1, 1989

DRAFT MINUTES

Present

Panel Members:

Ian Dalziel, Chairman, U.S.A.
Roger Buck, U.S.A.
Dan Davis, U.S.A.
David Engebretson, U.S.A.
Karl Hinz, F.R.G.
Hans-Christian Larsen, Denmark
Yujiro Ogawa, Japan
Robin Riddihough, Canada
Jacques Bourgois, France
Graham Westbrook, U.K.

Guest/Observer:

Michael Etheridge, Australia

Liaison:

Olav Eldholm, Norway (PCOM)

Preliminaries

Chairman Dalziel welcomed new TEC Panel member Hans-Christian Larsen (Denmark) and Guest/Observer Mike Etheridge (Australia).

Karl Hinz, F.R.G., welcomed the TEC Panel to West Germany.

President Kürsten of Bundesanstalt für Geowissenschaften und Rohstoffe welcomed the TEC Panel to B.G.R.

Minutes

The draft minutes of the meeting in Palisades, N.Y., October 1988 were approved.

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Reports

Olav Eldholm (PCOM) reported on the Annual Meeting and recent PCOM activities.

Proposals

1. WPAC, CEPAC and TEC Panel priorities therein.

   A. Northern Cascadia subduction zone off Vancouver Island (317/E)

   Presentation: R. Riddihough presented the proposal

   Discussion: This centered on the seismicity part of the proposal. Doubts were expressed that the heat-flow temperature model would be good enough to constrain the extent of the "brittle" zone at its deeper end. How does faulting at a higher structural level in the wedge relate to the thrust faulting along the Benioff zone?

   It seems to the Panel that there is a paradox with regard to the BSR and gas hydrates. If the latter seal off gases deeper in the structural pile, then how could upwards fluid flow proceed?

   Deductions from velocity/porosity and BSR stability/heat flow lead to presumption of pervasive fluid loss and the widespread existence of a non-porous BSR. Can you have both? There appears to the Panel to be a conspicuous lack of knowledge of the whole problem (see B below).

   Decisions:

   1. TEC Panel requests PCOM to establish a Detailed Planning Group (perhaps a modification of the Fluid Processes in Accretionary Prisms Working Group chaired by Graham Westbrook):

   Recognizing that the investigation of processes at convergent margins is one of the top five themes identified by TEC Panel, also recognizing that accretionary wedges are an important component of these margins, and noting the general guidelines laid out in the draft of the TEC Panel Long-Range Planning Document, the Panel requests that PCOM establish a Detailed Planning Group to evaluate proposals, clarify objectives, and coordinate drilling plans within a realistic framework for the accretionary wedges of Nankai, Cascadia (Vancouver Island and Oregon) and Barbados.

   Appropriate connections with other interested panels (e.g., LITH Panel and SGP Panel) should be made.

   2. The Report to proponents of Proposal 317/E should indicate that it does address high priority objectives of the TEC Panel, but:

   - Doubts were raised as to the validity of the modeling for the inner (i.e., deeper) boundary of the zone of interplate brittle thrusting.
   - There may be some contradictions between the existence of a BSR and bulk fluid expulsion.

- Lateral variability shown in single channel seismic data, SeaMarc data etc. requires a high quality MCS survey before final site selection.

- The proposal needs to be assessed alongside Nankai, Oregon and Barbados accretionary wedge proposals.

B. Gas Hydrates in WPAC Drilling (316/E)

Following general discussion it was decided that TEC Panel believes this to be an important problem that should be addressed as early as possible. It is obviously going to come up again and again. If possible it should be tackled as Nankai, but could be done anywhere in an accretionary wedge situation.

C. Chile Margin Triple Junction (318/E)

Presentation: G. Westbrook presented the proposal in the light of recently acquired *Gloria* data from the region.

Discussion: This ranged over all aspects of the proposal from plate kinematics to variation in deformational front morphology.

Decisions: The proposal addresses high-priority objectives of the TEC Panel although final site selection is viewed as premature given the preliminary state of processing of the MCS data. The Panel looks forward to revisions based on further processing, and its final endorsement of 1 or 2 legs will depend on this refinement. Meantime a few points need to be conveyed to the proponents:

- A site well to the north of the Darwin Fracture Zone would provide an otherwise missing calibration of the thermal history of the margin before the influence of ridge crest approach was felt.

- Can good biostratigraphic control be expected?

- Most precise available poles of rotation should be used to refine the plate kinematics, triple junction and fracture zone migration history, and plate interaction history.

- Better graphics, including block diagrams, would help reviewers assess the final proposal.

D. Cross Seamount, Hawaiian Swell (307/E)

The mixed goals of this proposal diminished its appeal to TEC Panel. None of the objectives were judged to be achievable in a satisfactory way. The proposal does have secondary interest to TEC Panel if judged to be of high priority to another panel.

E. Seamounts of Line Islands chain (308/E)

As a possible 70-120 Ma hot-spot trace this feature has considerable potential value for the high-priority theme of plate kinematics. The tectonic situation is, however, judged to be a rather complex one subject to a possible major "overprint" event. Hence it was not deemed to satisfactorily address high-priority thematic objectives.

124F. Old Pacific (306/E, 285, 287, 267/E)

Presentation: D. Engebretson gave a brief overview of the "Old Pacific" problem. He noted that in his opinion it is of major global significance both in terms of plate kinematic history and paleoenvironment.

Discussion: TEC Panel agreed that this overall program of study of pre-Cretaceous Pacific crust, sedimentary environment and magnetic anomaly time-scale is of very high priority.

Decision: The TEC Panel view with regard to prioritization should be conveyed to all proponents so that a consensus can be sought as to the best drilling program to address the theme.

G. Priorities

Because the member from France had to leave early, the Chairman decided to hold a vote on TEC Panel's views of outstanding WPAC and CEPAC tectonic objectives. Each member was given 3 top priority, 3 mid priority and 3 low priority votes. Result:

	Priorities*			
	Top	Mid	Low	Points Total*
1. Chile Rise (1 leg)	10	0	0	30
2. Pre-Cretaceous History	8	0	2	26
3. Cascadia (1 leg)	4	5	1	23
4. Nankai (2nd leg)	3	6	1	22
5. Hawaii Flexure	4	2	4	20
6. Chile (2nd leg)	0	9	1	19
7. Bering Sea	0	5	5	15
8. North Pacific (Detroit seamount, etc.)	1	1	8	13
9. Cascadia (2nd leg)	0	2	8	12

*10 Voting
**1st priority = 3 pts.; 2nd priority = 2 pts.; 3rd priority = 1 pt.

2. Other Proposals

A. Continental Margin Sediment Instability (59/A)

Presentation: D. Davis presented the proposal for the investigation of turbidite sequences off NW Africa.

Discussion: The proposal was not judged to be of high thematic interest by TEC Panel (although there was some interest because of suppressed magnetic anomalies that may be in the Jurassic quiet zone. Some concern was expressed about lack of knowledge of the role of deep currents.

Decision: Refer to other panels - principally OHP and SGP.

B. Arctic Ocean (305/F)

Presentation: K. Hinz presented the proposal.

Discussion: The feeling of TEC Panel is that there is need for considerably more work before drilling for tectonic targets is undertaken in the Arctic Ocean. The most important tectonic theme involves primary exploration drilling for kinematic history - for example discovering the age of the Canada Basin and Alpha Ridge crust. Much of the drilling proposed could not be undertaken by *JOIDES Resolution* anyway, and other targets may be achievable elsewhere - for example slow spreading ridge processes. The main interest lies in the paleoenvironment.

Decision: TEC Panel does not endorse drilling in the Arctic Ocean for tectonic targets at the present time. More specific comments are to be sent to the proponents.

C. Dipping Reflector Sequences and their "Sedimentary Equivalents" (310/A; 311/A)

Presentation: The proposals were presented by H.-C. Larsen.

Discussion: There was extensive discussion about oceanward dipping reflector sequences and their relationship to onshore magmatic provinces related to supercontinental break-up. It was generally agreed that these are manifestations of extremely important tectonic processes related to the evolution of rifted continental margins. There is an important opportunity to combine work that must be done at sea with work that can be done on land. The North Atlantic region with all its detailed petrologic/geochemical work on land is one important place to study these phenomena.

Decision: TEC Panel rates this theme very highly but believes that more work needs to be done to optimize the drilling targets in the North Atlantic region, and indeed on volcanic margins in general. The Panel wishes to encourage the proponents to interact with other groups known to have additional data relevant to the problem and come up with an optimum plan. TEC Panel is willing to recommend a Detailed Planning Group in this area of study to PCOM if future developments indicate that this would be a fruitful step.

The proposal to investigate sedimentary basins adjacent to volcanic margins (311/A) does not, however, convincingly demonstrate that a mappable stratigraphic relationship exists in this particular region between the main volcanic body and the sediments. Demonstration of such a relationship by high-quality seismic data must be regarded as a prerequisite to any panel endorsement of incorporating marginal basins into transects across volcanic margin/dipping reflector sequences.

D. The Equatorial Atlantic (313/A)

While not addressing directly the highest priority themes of TEC Panel, the proposal is aimed at an area of important interface between tectonics and ocean history. TEC Panel feels that it is important to develop quantitative predictive models of the plate kinematics, based on the most accurate poles of rotation available, before drill sites can be optimized.

E. Reykjanes Ridge (312/A)

This was not judged by TEC Panel to be a mature proposal; rather it suggests that certain TEC Panel and LITH Panel goals can be addressed by drilling on the Reykjanes Ridge.

F. Gulf of California (275/E)

The area clearly has considerable potential for high-priority thematic proposals to understand the evolution of transtensional environments. TEC Panel does not believe, however, that appeal to orthogonal rifting models is appropriate, and feels that the proponents should reconsider their proposal in the light of more recent (i.e., post-1982) models of the stretching and rifting of continental crust. In other words, TEC Panel feels that the region has major potential for drilling important tectonic targets that is not realized in the current proposal.

Panel Membership and Liaisons

NOMINATIONS FOR TEC PANEL MEMBERSHIP

1. The following candidates were nominated for membership of the Tectonics Panel to replace Dr. David Howell and Dr. Peter Vogt.

Eldridge Moores, UC, Davis
Greg Moore, HIG
David Clague, USGS, Menlo Park
Tanya Atwater, UC, Santa Barbara
Robert Duncan, Oregon State University
Dale Sawyer, Rice University
Lee Royden, MIT
Richard Gordon, Northwestern University

2. The following were nominated as TEC Panel Liaisons:

LITH Panel, Roger Buck*
SGPP Panel, Graham Westbrook

*Willing to serve from fall 1989.

Next Meeting

The next TEC Panel meeting will be held the week of September 25, 1989 in Honolulu, Hawaii subject to the approval of PCOM.

Acknowledgements

TEC Panel members acknowledged with thanks the hospitality of President Kürsten and Dr. Karl Hinz of BGR, their colleagues, and associates at Prakla-Seismos.

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Branch of Petroleum Geology

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IN REPLY
REFER TO:

March 7, 1989

MEMORANDUM

To: Ralph Moberly, Chairman, JOI-PCOM

From: Mahlon Ball, Chairman, JOI-PPSP

Subject: PPSP meeting of 3/2-3/89.

This meeting was held at the Ocean Research Institute, University of Tokyo, Tokyo, Japan.

Attendance:

Yutako Aoki, JOI-PPSP
Mahlon Ball, JOI-PPSP
George Claypool, JOI-PPSP
Claude Delas, JOI-PPSP
Mimi Fortier, JOI-PPSP
Dieter Horn, JOI-PPSP
David McKenzie, JOI-PPSP
Ken Pisciotto, Co. Ch. Sci. Leg 127
Kensaku Tamaki, Co. Ch. Sci. Leg 127
Kiyoshi Suyehiro, Co. Ch. Sci. Leg 128
LaVerne Kulm, Oregon Accretionary Complex Proponent
Earl Davis, Vancouver Accretionary Complex Proponent
Ralph Moberly, PCOM Chrman.
Lou Garrison, ODP/TAMU
Glen Foss, ODP/TAMU
Kevin Burke, ODP Safety Panel
Henk Wories, ODP Safety Panel
Carl Brenner, JOI Data Bank, LDGO

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Minutes of PPSP Meeting of March 2-3, 1989

Kensaku Tamaki, ORI, welcomed meeting participants and explained services available during the meeting.

Lou Garrison, ODP, reviewed drilling results of legs 124, SE Asian Basins, and 124E, Engineering I.

Ralph Moberly, PCOM Chairman, reviewed PCOM decisions pertinent to PPSP operations.

Minutes of the PPSP meeting of November 10-11, 1988 were approved. Garrison suggested that panel members provide Chairman Ball with notes regarding any points they wish to emphasize during this and future meetings.

Kensaku Tamaki described the regional structure, stratigraphy and hydrocarbon history of the Japan Sea and adjacent areas. Tamaki then discussed the general plan and objectives for leg 127. Kiyoshi Suyehiro followed with a description of the general plan and objectives for leg 128. Ken Pisciotto reviewed leg 31 Japan Sea drilling results as they pertained to current drilling plans. Yutaki Aoki then discussed hydrocarbon exploration results in the Japan Sea regions. Henk Wories expanded on the exploration results and source rock identifications of the region. Pisciotto then enumerated and described safety issues for both legs 127 and 128. Significant points that were made included 1) Pisciotto's point that all sites were chosen attempting to stay, as much as possible, off structure 2) as pointed out by George Claypool, although ethane concentrations were high relative to methane on leg 31, in Japan Sea gas shows, gas volumes were not. In our current state of knowledge, similar gas show would not justify stopping drilling in light of geologic information indicating likelihood of lack of structural closure and poor reservoir quality. 3) As pointed out by Aoki, the accumulations of eastern Honshu and Hokkaido occur in a fold belt forming traps. This structural style does not continue into the drilling area.

This was followed by a site by site discussion of leg 127 led by Tamaki and a site by site discussion of leg 128 led by Suyehiro with the following results:

Leg 127

J1b-1 Approved with the stipulation that the site be moved to SP 1262 on line 108 to avoid reflection configuration suggestive of a possible trans-pressional flower structure.

J1b-2 Approved with the stipulation that the site be moved to SP 1965 on line 109 to avoid reflection configuration suggesting a possible flower structure.

J1b-3 Approved as proposed. Site appears to be off structure.

Leg 127-continued

J1e-1 Approved as proposed. Site appears to be off structure.

J1d-1 Approved as proposed. Site appears to be off structure.

J1d-2 Approved as proposed. Site appears to be off structure.

J3b-1 Approved with the stipulation that the site be moved to SP 821 on line 5 to get structurally lower on deeper reflections.

J3b-2 Approved as proposed. Site appears to be off structure.

J3b-3 This site was added in the course of the meeting. The site is approved as proposed at SP 630 on line 5 to basement. The site appears to be off structure.

J1c Approved as proposed. The site appears to be structurally low.

J1a Approved as proposed. The site appears to be structurally low.

J3c Approved with the stipulation that the site be moved to SP 1198 on line MC 1 to avoid a zone of chaotic reflections.

Leg 128

J2a-1 Approved with the stipulation that the site be moved to SP 7120 on line JNOC 13-4 to avoid a zone of reflection complexity.

J2a-2 Approved as proposed. The site appears to be structurally low.

J52 Approved as proposed. The site appears to be structurally low.

A general stipulation regarding all sites is that the drill ship's seismic system must be used to home in on approved site locations and that crossing lines should be added in all cases where they are lacking.

David McKenzie complimented the Chief Scientists on the excellence of both the written and oral presentations made for the Japan Sea safety review. Panel members unanimously endorsed McKenzie's congratulation.

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LaVerne Kulm conducted a preview discussion of the Oregon Accretionary Complex. The drilling program envisioned will consist of 10 holes with maximum penetration of 600 m with the exception of a reference hole to be located about 20 km seaward of the deformation front and drilled to about 1 km below the seafloor. A 1000 to 1500 km multichannel net will be shot to resolve deep structure. Earl Davis emphasised the desireability of using high resolution single channel data to resolve shallow structure in the vicinity of the drill sites. Kulm said a 3.5 kHz survey was planned and that high frequency equipment had been used to locate some vents. In retrospect, a system akin to that available on the drill ship should be used to better resolve structure in the upper km or so of section. McKenzie emphasized the desireability of having crossed lines at proposed drill sites. Claypool suggested the probability that lack of a bottom simulating reflection (BSR) was due to insufficient methane to saturate pore waters to the degree necessary to form clathrates. The safety panel membership concluded that although structure and migration path geometries were complicated in this area there was no reason to rule out this region for drilling to relatively shallow depths at this time.

Earl Davis previewed the Vancouver Accretionary Complex. The main differences between the Vancouver and Oregon programs are the common presence of BSRs in the Vancouver region and the desire of preponents of this program to approach and, if possible, penetrate a BSR (inferred clathrate). This is essentiallly the same desire expressed by Roland von Huene at the November 10-11, 1988 meeting of PPSP. Von Huene's research on clathrate occurrences of leg 112 off the Peru Margin indicates BSRs are caused by impedance contrasts at the contact of clathrate base and underlying thin gas-enriched zones with low free gas to water percentages. Claypool and Moberly pointed out that PPSP had expressed an interest in continued clathrate research and agreed to consider recommendations from von Huene. It followed that this same willingness to consider proposed clathrate drill sites should be extended to Davis. It was suggested that Davis contact von Huene. Kevin Burke re-emphasized the need for crossed seismic lines at proposed drill sites.

Earl Davis then led a preview discussion of East Pacific Rise Drilling. In light of this preview, the PPSP membership expressed a desire to learn more about high temperature drilling. Garrison reported having arranged an April meeting at Dallas International Airport to bring together expertise on high temperature drilling as a start on assembling the information we should need. Davis concluded with a brief preview of Juan de Fuca Ridge drilling which will entail investigations of sediment sealed hydrothermol systems and sediment hosted sulfides. Concern was expressed about the level of H_2S concentration. Claypool explained that the H_2S is dissolved and not in free gas phase and therefore not as serious a problem as it might otherwise be.

Moberly asked that a post-mortum discussion be held on the Exmouth Plateau drilling to obtain some feedback on how PPSP recommendations were followed. Arrangements are underway at ODP to make this discussion a part of the PPSP fall meeting.

Plans for the next PPSP meeting were discussed. It was clear that a meeting will be required before September, 1989 but decisions on date and place were postponed until more information is available on the drilling schedule. At this point, the meeting adjourned.

Information Handling Panel Meeting
10 March 1989

Executive Summary:

IHP recommends that ODP try holding two post-cruise meetings (on an experimental basis) (Recommendation II).

The Panel recommends a modification of the ODP publication policy (Recommendation III).

IHP suggests that thematic panels can help in identifying needed "thematic" publications (Recommendation XII).

JOIDES monies should be made available for the regular production of the ODP data base on CD-ROMs (together with required software; Recommendation V).

IHP suggests that SGPP, OHP, and SMP work together to develop a better visual core description (Recommendation IX), and that they consider putting all VCDs in the Initial Reports (Recommendation X).

IHP urges ODP to develop a user-friendly, menu-driven VCD data entry system for on-board use as soon as possible (Recommendation IX).

With the endorsement of IHP, ODP will begin sending 50 free reprints to first authors of papers in the Scientific Results volumes.

The results of the IHP Publications Questionnaire are enclosed (Attachments 2, 3).

An inventory of available ODP well-log data is enclosed.

Recommendations to PCOM

I. Upon his resignation from the panel, IHP acknowledges the long and valuable service of Dr. Alfred Loeblich, and bid him a very fond farewell from this group. We ask that PCOM replace Dr. Loeblich with a specialist in computer systems.

II. In an effort to speed holding production of the IR volumes, PCOM should consider the suggestion of having two post-cruise meetings per cruise. The Panel recommends that the idea be tried on an experimental basis with one or two cruises, as follows (see page 10).

A. The first meeting should take place between 3 and 4 months after the cruise, and should include only a few key members of the scientific party (as agreed to by the co-chiefs before the end of the cruise). The purpose of this meeting would be to edit and finalize the IR volume. It would speed up production of IRs. In the view of IHP such key people might include the co-chief scientists, the staff scientists, the biostratigraphers and the logging scientists.

B. The second meeting would be a "workshop" of all leg participants. It would take place approximately one year after the cruise and would be a science-oriented meeting geared toward the presentation and preparation of material for the Scientific Results (SR) volumes.

III. In order to help speed up the publication of the SR volumes, the IHP strongly recommends that ODP be provided funds for hiring another manuscript coordinator (see pages 11 and 12).

IV. The IHP recommends to PCOM a revised publication policy for Scientific Results volumes (see pages 12 and 13), as follows. The policy should be effective with Scientific Results volume 115.

Shipboard and shore-based cruise participants are granted specific privileges. They have immediate, unlimited access to all cruise data, and are not subject to the 12-month moratorium period for distribution of samples from their cruise.

In return, all cruise participants agree to adhere to the following restrictions and to contribute to the Program's publications in a timely manner (see B.3.).

A. During the first 12 months after the cruise, papers, abstracts, etc., may be submitted for publication anywhere by any of the participants, subject to co-chief review and approval, provided that:

1. Authorship includes the entire shipboard scientific party. When appropriate, shore-based participants' names may be added to the author list at the discretion of the co-chiefs.

2. Any participant may choose to withdraw his/her name from the list of authors of any such paper or abstract without prejudice.

B. After the 12-month moratorium period has elapsed, but before the participants' obligation to publish within ODP publications has been fulfilled:

1. Participants may continue to submit papers following the same rules as during the first 12 months.

2. Participants may submit abstracts for publication with themselves as the sole author, or with an author list other than the entire shipboard party. It is recommended, however, that information copies of all published abstracts be sent to all cruise participants.

3. A paper authored by a subset of the scientific party may be submitted externally for publication, provided unanimous approval has been obtained from the entire scientific party through the co-chiefs. It is a condition of this method of publication that the editor of the external journal is made aware that the paper, or a more comprehensive version of the paper, will also be published in the Scientific Results volume of the ODP Proceedings. Should irreconcilable copyright, scheduling or editorial conflicts exist between the Proceedings and the external journal, then the Proceedings shall have first right to publish the paper. Publication external to ODP does not absolve a participant of the obligation to publish within the Proceedings volume for which he or she is responsible.

C. A participant's obligations to the Program are not fulfilled until the co-chiefs agree that the individual has submitted all of the papers for the Proceedings volumes for which the participant is responsible, until all of those papers have passed through the peer-review and revision cycle, and until the Editorial Review Board has accepted them for publication in the Proceedings.

D. Once the obligation to contribute to ODP's publications has been fulfilled, as outlined above, all restrictions are lifted.

V. Because of the ease with which data in CD-ROM form can be accessed and the small amount of space required for data storage in this form as compared to magnetic tapes, IHP recommends that all ODP data should be made available in this format. For this purpose, the accession software that NGDC developed for the DSDP data can be modified as necessary to be used for ODP data. IHP recommends that JOIDES funds be allocated to pursue the project (see page 16).

VI. The number and variety of computer systems onboard the ship has increased, and only one shipboard system manager is available during each cruise to make this system work as well as to assist scientists. The system manager is one person through whom the scientists view and receive aid in the operation of the shipboard system. IHP recommends that an additional systems manager should be sent on each cruise. By doing so there will be a systems manager available to help scientists 24 hours a day (see pages 9 and 10).

VII. Taking into consideration the letter from James Ingle, co-chief for

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Leg 128, and the revised Parkes and Cragg sample request for materials from this leg, IHP feels that in order for this request to be approved sample recovery should be as follows: from 100 to 500 mbsf samples can be taken from the A or B holes as requested. For the uppermost 100m at a site, a third dedicated hole should be drilled. Accordingly, the scientific objectives of the leg should be changed to include the purpose of the study proposed by Parkes and Cragg. IHP requests that the co-chiefs and PCOM consider this matter further (see page 14).

VIII. Ian Gibson is now a member of the Shipboard Measurements Panel. IHP recommends that he serve as that panel's liaison to IHP.

IX. The Panel supports computerization of visual core description on the ship. As soon as possible, ODP should design and implement a user-friendly, menu-driven data-input system for shipboard use. This will result in better data as well as reduce workload for the shipboard scientists and the Data Base Group. The SGPP and OHP should work together with the SMP to develop better methods of sediment core description (see pages 8 and 9).

X. The IHP requests that the SGPP and SOHP consider and approve presenting all the visual core description data gathered on the ship as text, alongside the barrel sheets in the Initial Reports (IR) volume. This would replace the barrel summary description and make the prime data more easily accessible. To open some space for this purpose, smear slide data could be presented elsewhere in the volume; however, the panel recognizes that the volume will have to grow in order to accommodate all of this data (see page 8).

XI. IHP recommends that the shipboard system manager continue to generate VAX cluster usage tables for each leg, and that these tables be provided in the reports to IHP.

XII. IHP recommends that the task of bringing forth ideas and/or identifying the need for thematic publications should be carried out by the thematic panels. They could recommend workshops, conferences, etc., and/or specific thematic volumes. PCOM could then name working groups to undertake the task of producing such publications. The working group would then have ODP's assistance (through the use of the bibliographic data base). Publishing should be done elsewhere.

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Information Handling Panel
Meeting Notes, 8-10 March 1989

Present: John B. Saunders, Andre Schaaf, Laurent d'Ozouville, Michael S. Loughridge, Ted Moore, Yves Lancelot, Meirion T. Jones, Chao-Shing Lee, Henry Spall, Ian Gibson, Robin Reynolds, William Rose, Norman Stewart, Jack Foster, Audrey Meyer, Patsy Brown and Russ Merrill.

A. Introduction of new panel members, attendees

Canada and Australia agreed to have Chao-Shing Lee, from Australia, as their representative on the IHP.

Andre Schaaf is the new representative from France.

John Saunders is the new representative from the European Science Foundation. He replaced Jan Hertogen.

Laurent d'Ouzoville is the new liaison with the JOIDES office.

Nick Pisias is the new PCOM liaison (Yves Lancelot is the alternate PCOM liaison).

Ian Gibson is now a member of the Shipboard Measurements Panel. IHP recommends that he serve as that panel's liaison to IHP.

B. Report on action items

1. P. Brown sent a copy of the igneous rock description procedures to T. Moore.

2. M. Loughridge found that the sediment VCD data was not appropriate for use with NGDC's "data stuffing" routines.

3. T. Moore presented the issue of finding an automated approach to VCD data collection to the attendees of the meeting of the Panel Chairmen. At that meeting it became clear that this is a matter that falls within the Shipboard Measurements panel's purview, and they will be handling the issue from now on. This will be discussed in more detail when the Data Base Group report is presented.

4. Ian Gibson was able to review the thin section data base design during a previous meeting in College Station.

5. Information regarding the type of investigation promised by "non-performers" is being gathered and will be presented to IHP with each report. R. Merrill said that a report on potential non-performers will not be submitted to IHP until their September meeting.

Y. Lancelot objected to the idea of penalizing good scientists who may have not performed. T. Moore pointed out that PCOM supports the idea

of keeping track of non-performers. The practice helps countries make an informed decision as to who they want to represent them as cruise participants.

6. The data on how implementation of the ERB has affected timing and cost of the Scientific Results volumes ~~was~~ were sent to the panel members before the meeting. This will be discussed in more detail together with the Publications report.

7. Mike Loughridge reported that from his experience with the DSDP data he learned that the usefulness of CD ROMs depends on the cleanliness of the data. He concluded that it will be very difficult to provide a cost estimate for producing ODP CD-ROMs. However, he can assess the cost of modifying the accession software that was developed by NGDC so it can be used with ODP data. He will try to have an estimate in time to be presented by Nick Pisias at the May PCOM meeting. He will be assisted by ODP and the Borehole Research Group in obtaining this estimate.

8. T. Moore informally introduced the idea of producing companion volumes to the Pacific Lithologic Data at the meeting of panel chairmen, but interest wasn't great. They felt that it should be pursued, but at a very low priority level. M. Loughridge will carry on the work. He noted that production of CD ROMs will make it obsolete.

9. ODP distributed a table showing the end of leg, submission, and publication dates of ODP leg articles in Nature for Legs 118 through 122 (Attachment 1). The average delay time between the end of the leg and publication of the article is about 5 months; this delay doesn't seem to be related to submission date.

C. Report from PCOM meeting

T. Moore distributed a report on the results of the PCOM meeting and the results of the IHP Publications Questionnaire (Attachments 2 and 3). He explained that he sent the IHP Publications Questionnaire to about 650 people who have been scientists or panel members since the inception of ODP. He received 161 responses, and a summary of those responses was distributed.

M. Loughridge asked if there is a need for change in the ODP policies, as indicated by the responses. T. Moore responded that apparently the only change needed is in the responsiveness of those who are expected to submit papers.

Y. Lancelot asked whether the questionnaire was sent to anyone in the scientific community outside ODP. I. Gibson felt that this was important in view of the fact that the outside scientific community is the one before which we have to justify our Publications program. T. Moore explained that, if this were to be done, the questionnaire would have to be designed differently. Many of the questions in the one distributed were meant for the ODP community, to get specific answers. He would also like to conduct such a survey (outside the ODP community) after a few Scientific Results

volumes are published. Chao-Shing Lee feels that it would be best to have the office of each IPOD contributing member conduct the survey. A. Meyer reported that USSAC has already conducted such survey.

D. Report from Logging Group

R. Reynolds distributed copies of the Logging Update (Attachment 4) and the Database Report (Attachment 5) from the Borehole Research Group. She presented an analysis of the volume of data archived per leg and displayed copies of the forms that are to be used to request well log data from Schlumberger and from BRG's special logging tools (Attachments 6 and 7). She noted that a request for data from one site typically takes about 2 Mac discs, stored as ASCII tabular files. The data aren't edited.

Logging and processing of data from the Formation Microscanner System (FMS) will be done on the ship beginning with Leg 126. Features were well defined on the paper and microfiche sample images that she displayed at the meeting, and cores can be correlated to these images. The microfiche images seem to give appropriate resolution.

The BRG recommended that FMS data be presented in the form of microfiche in a back pocket in the Proceedings volumes. The panel requested that the idea be pursued. The Borehole Research Group will begin production of the microfiche. R. Merrill pointed out that microfiche images need to be of high quality, and that ODP is willing to assist the BRG, if necessary, in achieving this goal.

R. Merrill suggested that paper copies be provided to ODP, to be stored at the repository where the respective cores are kept. They could be a useful tool to researchers. R. Reynolds said that two sets of paper images could probably be generated on the ship: one for L-DGO and one for the repository. R. Merrill said that the data could be sent to ODP as tapes if we can work out system compatibility. M. Loughridge suggested that CD ROM would be an ideal storage medium for this kind of data. T. Moore believes that the idea should be considered, but not at the expense of having the microfiche.

All the logging data through Leg 118 were shipped back to L-DGO because of limited storage space on the ship. R. Merrill noted that, with the availability of the WORM drive on the shipboard system and after the BRG's system is connected to it via Ethernet, the BRG may be able to keep more data on the ship, probably in the form of WORM cartridges.

R. Reynolds said that requests are coming from other ODP countries to have a library of logging data at each central office. The panel agreed that this would be fine if each office will assume responsibility for filling requests for data from their respective countries.

E. Reports from ODP

1. Data Base Group

P. Brown presented the report which was distributed to panel members before the meeting (Attachment 8). She pointed out that C. Segade left

and will be replaced with a programmer/analyst, a description that will better fit the assignments that will be handled by this person. She distributed a table which shows the size (in blocks) of each dataset (Attachment 9), a chart showing a comparison of data entry methods between 1985 and 1989 (Attachment 10), and a chart on the status of the ODP computerized data bases (Attachment 11). The panel praises the progress that has been made; especially in the visual core descriptions.

C.-S. Lee asked if ODP has looked into acquiring commercial software to use in computerizing the data collection for types that aren't already computerized. J. Foster explained that S1032, the database management system currently in use, is a commercial data base management product. However, we still have to develop applications appropriate for our particular needs. Ian Gibson wanted to know about the possibility of S1032 being discontinued, and the Program being left without support. R. Merrill said that data in S1032 is highly transportable.

I. Gibson reported that the Shipboard Measurements Panel met and looked at the question of computerization of VCD data collection in particular. SMP recommended that we try to adopt the procedure to capture data on the ship, which they believe would improve the quality of data. Scientists filling out computer forms could not skip data items as they now do on the paper forms, said P. Brown. SMP feels this should be easily achievable given the fact that the software was developed and is now in use at TAMU, and that the shipboard computer system was upgraded.

P. Brown responded that to modify the entry forms for shipboard use will take a minimum of 6 months. Modifications would include making the forms more user-friendly, and possibly some report generating to make scientists more amenable to using them.

Sediments are described in great detail on the ship, but the information gathered is not made available in the Proceedings volumes. I. Gibson said that the SMP would like to see the information on smear slides moved to another place in the book and the VCD data presented in its place, alongside the barrel sheets. To achieve this, R. Merrill said, scientists would have to gather the information via entry forms on the ship and then generate and approve the write up before leaving the ship, so that no editing is needed before publication. P. Brown estimated that, if the graphics were kept as they are, arranged by section to present each alongside the respective write up, the average size of a volume would increase between 10 and 30%. J. Saunders suggested deleting the paleontology section of the graphic description. Scientists use this section in different ways, said P. Brown, which makes the information difficult to delete.

The IHP decided to support the idea of computerizing VCD on the ship. The Panel recommends that, as soon as possible, ODP should design and implement a user-friendly, menu-driven, data-input system for shipboard use. This will result in better data as well as reduce the workload for the shipboard scientists and the Data Base Group.

The Panel also supports the joint efforts of the SGPP, OHP and the SMP to develop better methods of sediment core description.

A few of the panel members wanted to know how easy it is for scientists to log into and use the information contained in the databases onboard the ship. C. Mato explained that the data bases for the current leg are kept on line and can be accessed. Data bases for previous legs are on tapes and these need to be loaded when a scientist needs to access them.

J. Foster expanded saying that scientists typically request the help of the system manager when accessing the data bases on the ship. As a result, routines have been developed. The routines are typically developed by the system manager, the scientist, or a marine technician. When properly documented, the routines are kept and made available to scientists on future legs. In addition, ODP has purchased some "canned" packages.

2. Computer Services Group

J. Foster presented the CSG report (Attachment 12). He pointed out that phase two of the core sampling inventory was delayed because the person who was doing the work left. Checklist II will be ready for use on the ship during Leg 127, maybe sooner.

The first phase of the manuscript tracking system has been completed and data are being entered.

T. Moore clarified, for new members, that prioritization of CSG tasks is by IHP recommendation. Currently emphasis is placed on speeding publications, followed by data base entry and enhancements for use by shipboard scientists. He suggested that, after the hard rock forms have been exercised on the ship and the SMP has come up with a recommendation on VCDs, ODP should try to implement it. This will probably be by the time of the next IHP meeting. He noted that development time for the hard rock software package was about 40 mos., some of which was because of personnel turnover.

T. Moore asked about the availability of assistance from the system manager to the scientists onboard the ship. J. Foster said that the systems manager typically spends a fair amount of time on this task. However, the number and variety of computer systems onboard the ship have increased, and only one shipboard system manager is available during each cruise to make these systems work as well as to assist scientists.

The system manager is the primary person through whom the scientists view and receive aid in the operation of the shipboard system. The growth in shipboard systems has taxed his/her ability to fully support the needs of individual scientists, as well as maintain the various shipboard computer systems. This is a situation that most panel members felt is very likely to worsen.

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After some discussion, IHP decided to recommend that an additional computer systems manager should be sent on each cruise. By doing so there will be a systems manager available to help scientists 24 hours a day.

3. Publications Group

B. Rose presented the report (Attachment 13) and distributed an update to the production analysis for the SR volumes that was included in it.

a. Production of Initial Reports

The Initial Reports (IR) volumes are now running about 16 months post cruise (2 months behind schedule). ODP expects to reduce this to 14 months post-cruise soon.

There was some discussion of giving consideration to issuing a paper-bound book, in the style of DSDP's ICDs instead of publishing the IR volumes. T. Moore said that the issue has been discussed before and that, given the amount and quality of data that ODP is gathering, this initial publication needs to be treated carefully.

T. Moore said that results of his survey indicated that a fair number of people felt that more than one month is needed to prepare the results of each cruise for publication, but at the same time they thought that the post-cruise meeting should be speeded up to be able to publish the IRs sooner.

It was suggested that two meetings should be held after each cruise: the first one would take place between 3 and 4 months after the cruise, and should include only a few key members of the scientific party (as agreed to by the co-chiefs before the end of the cruise). In view of the IHP such key people might include the co-chief scientists, the staff scientist, the biostratigraphers and the logging scientists. The purpose of this meeting would be to edit and finalize the IR volume. It would speed up production of the IRs.

The second meeting would be a "workshop" of leg participants. It would take place approximately one year after the cruise, and would be geared toward the presentation and preparation of materials for the Scientific Results (SR) volumes. This meeting, T. Moore said, would create a team spirit among the participants and stimulate fresh efforts. R. Merrill pointed out that funding to attend two meetings may become a problem for participants. He also said that if a second meeting is to take place someone needs to provide logistics support and an infrastructure for the meeting. The Panel felt that this should be left to R. Merrill.

IHP decided to recommend that the above system be tried on an experimental basis for one or two upcoming cruises.

b. Effects of the Editorial Review Board (ERB) on production schedule of Scientific Results (SR) volumes.

The Panel requested and received an analysis of the effects of the Editorial Review Board (ERB) on delays in publication of Proceedings, Scientific Results volumes (included in the report distributed before the meeting).

A few panel members felt that time lapses between cruise time and distribution of the publication aren't crucial when compared to the publications' lifetime.

N. Stewart noted that ODP is now strictly adhering to deadlines, and this may result in books that contain fewer papers for each leg. He feels that this should encourage those who responded on time because their manuscripts will be published in a timely fashion. He also said that extensions can be (and have been) granted on a case by case basis, and this is currently being handled by R. Merrill.

A. Meyer said that ODP tried to speed up publications by having more staff scientists. Each scientist would then have been responsible for fewer volumes and could devote more time to each. She also pointed out that other factors in the publications delay were the larger number of participating scientists for any given ODP cruise as compared to DSDP cruises, and the greater amounts of data that are gathered and need to be presented.

A letter from K. Kastens to B. Rose making suggestions on how to improve the flow of manuscripts through the ERB system was distributed. B. Rose replied to the letter (Attachment 14), saying that several of the suggestions were adopted by ODP, and explaining why some others wouldn't be practical. The use of electronic mail for transfer of reviews was discussed. Its main drawback is that comments made in the form of notes interspersed with text in a long manuscript cannot be transferred this way. Use of FAX where possible would be a good solution, but it isn't available everywhere. This would also impose an economic burden on the reviewers.

Part of the delays in ODP publications may be a result of confusion caused by revisions of the Publications program. The system relies heavily on the good faith of co-chiefs, who have competing concerns, such as future funding, at the time the Scientific Results are being produced. This leaves the burden and little means to exert control in ODP's hands. ODP has one person, the manuscript coordinator, who keeps track of deadlines and sends out reminders. With the current workload for this job, the ms. coordinator cannot respond to queries and keep sufficient pressure on ERB members, authors and reviewers to adhere to deadlines rapidly enough to overcome the inertia of the average ERB member.

The IHP decided to endorse B. Rose's response to K. Kastens and to encourage the use of FAXes whenever possible.

114 In order to speed up the publication of the SR volumes, the IHP strongly recommends that ODP be provided funds for hiring another manuscript coordinator.

e. ODP publications policy

I. Gibson voiced a need to continue to have a report in the manner of the Scientific Results, but to also provide an avenue to publish exciting results elsewhere soon after the cruise. H. Spall said that publishing in scientific journals would increase the credibility and visibility of the Program because distribution of such publications is wider and to the appropriate audiences.

The current ODP publications policy allows publication outside the Proceedings before the SR volume is distributed, but authorship must include the entire shipboard party if the publication is submitted within 12 months post cruise. Any subset of participants can submit a paper to a journal after the 12-month moratorium, if these participants have already had their ODP contribution reviewed and accepted.

T. Moore noted that the majority of the respondents of his questionnaire felt that keeping leg coherence by publishing results of the research in one volume is vital. 68% felt that 30-36 months post cruise is the appropriate time frame for such publication.

Y. Lancelot suggested that individual scientists should be allowed to publish their results elsewhere and a reprint of that publication could be included in the SR volume for the leg. R. Merrill pointed out that journals would then own the copyright, and delays would inevitably result from having to wait for copyright release and for the journal to be distributed before the SR volume could be printed. Another concern expressed was that other scientists would be discouraged from submitting original manuscripts to the SRs because they would be mixed with what may be perceived as a collection of reprints. The mix would dilute the perceived quality of the original papers.

R. Merrill suggested that ODP seek a "joint publication" agreement. Under such agreement the scientific journal would have the right to publish the paper acknowledging that it is an ODP contribution. The SR volume would then include the manuscript, or a longer version of it.

Y. Lancelot proposed that scientists who want to publish their results in such manner could be required to have the paper ready for review at the "workshop," one year post-cruise. Approval from the entire shipboard party would be required to allow this publication, and authorship could be revised and approved at that time.

R. Merrill noted that we would need to keep in mind that this could only be done if the experiment of holding two post-cruise meetings works out and becomes policy.

A subcommittee was formed to study the current publication policy and to draft a new one including the recommendation to allow joint publications. M. Jones was elected to lead this task. The re-written policy was revised by the panel (see Recommendation No. IV) and will be forwarded to PCOM with a suggestion from IHP to adopt it.

d. Thematic publications

The question of how to encourage thematic publications was discussed. In addition to the encouragement (and funding) of ad hoc conferences, workshops, and special sessions of professional meetings (from which publications would result), the IHP recommends to PCOM a revised publication policy for Scientific Results volumes.

e. Offprints policy

R. Silk prepared an analysis of problems encountered when trying to implement the policy to charge for offprints of papers published in the SR volumes. Preparing the charge forms significantly increased the Production staff's workload. Additionally, the forms were prepared and sent to authors after manuscript paste up, giving them little time to respond and prepay for their order before printing. R. Silk suggested that the backstock of ODP books be reduced by 50 copies. ODP could then ask Edwards Brothers to send those 50 books, unbound, to ODP. ODP would sort, staple and distribute the 50 sets of prints to the first author of the paper, free of charge. This would be at little additional cost (student worker hours to prepare and distribute) to ODP, but no more than 50 offprints could be provided to each author.

R. Merrill, B. Rose and R. Silk adopted the above procedure, and the panel endorsed their decision.

4. Curation and Repositories

C. Mato presented this report (Attachment 15). She distributed charts showing the average number of samples distributed by DSDP and ODP (Attachments 16 and 17). She pointed out that sample distribution by ODP is, on an average, 30% over that of DSDP. The core curation program is now handled by task.

The ECR SPAN end node will allow that repository to link to and upgrade the on-line data bases.

a. Curation data bases

The bibliographic reprints data base helps curation keep track of outstanding responsibilities by scientists (samples that have not been returned, no updates received, etc.). The scientists are reminded of those responsibilities whenever a new request is submitted. Sample residues that are returned are stored at the repository where the respective cores are kept. The returned samples are useful when fulfilling new requests.

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J. Saunders asked if it would be possible to return paleontological samples to the paleontology reference centers. C. Mato said that this could be done, and that it would help to have an inventory of what samples are at each center to help determine where the samples that are returned to ODP should go.

All shipboard sample records are entered into a database when the samples are taken. The subbottom depth for each of these samples is calculated using a report writer, with the assumption that everything recovered in a core came from the top. Each scientist gets a list of his/her shipboard samples, and a complete list is published in each hole summary.

b. Non-performers

PCOM signed and sent out the letters to non-performers, as drafted by IHP. A few responses were received. After a brief discussion of each response the panel decided that one U.S. scientist was in clear violation of ODP policy, and that his future participation in ODP was not recommended. D. Bukry's explanation for his non-compliance with the ODP policy was deemed appropriate and no penalizing action should be taken in his case.

c. Parkes and Cragg request for whole round samples

R. Merrill received their initial request for samples from Leg 128. He replied to them saying that their request exceeded ODP's maximum, and as a result they submitted a modified request.

James Ingle, co-chief for Leg 128, wrote a letter recommending approval of their request. A copy of that letter and the revised Parkes and Cragg sample request were distributed to IHP before the meeting.

After a brief discussion, IHP decided that, in order for this request to be approved sample recovery should be as follows: from 100 to 500 mbsf samples can be taken as requested. For the uppermost 100m at a site, a third dedicated hole should be drilled. Accordingly, the scientific objectives of the leg should be changed to include the purpose of the study proposed by Parkes and Cragg. IHP requests that PCOM consider this matter.

F. Report from the Micro-paleontological Reference Centers

J. Saunders distributed an updated copy of his report (Attachment 18). P. Brown distributed copies of the brochure that was published. She said that plans are to produce another version of the brochure for use by the European community, and that a series of posters is also being considered.

The Centers maintain a reference collection that can be viewed and photographed by scientists, but samples cannot be removed from the collection. They hold the most complete collection of samples from the

deep seas, containing at least one sample from each important biostratigraphic zone that has been cored.

The Swiss center processes foraminifers samples for all the centers. They had a small amount of support from the U.S.A. ($10K), but funding now is coming from the Swiss NSF. As of February, 2300 samples had been sent to each of the centers and 224 samples are now being processed. These would complete all the samples received through Leg 84 of the DSDP. A sample request was submitted in December of 1988 and, when processed, this will complete sampling through DSDP Leg 96. A request for between 500 and 600 samples from ODP legs 101-115 will be submitted shortly.

Slides for nannofossils, radiolarians and diatoms are being prepared by Scripps. They have distributed 83 nannofossil slides. They do not have funding to process 340 samples intended for radiolarians, but they have submitted a proposal to do it.

J. Saunders reported that 10 scientists from three different countries have already visited the Swiss center before its existence is advertised in any way other than word of mouth. He believes that some centers have not unpacked their collections (e.g. the Smithsonian).

C.-S. Lee asked about the possibility of setting up a center in Australia. J. Saunders responded that the Bill Riedel had tried to identify a location for such a center twelve years ago, but he wasn't successful. There is no possibility of creating a new center now, because all sample splits are distributed to existing centers.

G. Report from NGDC

M. Loughridge presented the NGDC report.

He said that all the DSDP data have been received and are being held at NGDC as a national archive which is accessible by all members of the scientific community.

NGDC decided, about two years ago, that this collection of data (about 15 years worth of work) could be stored in one compact disc (CD) for easy access, and they undertook the project.

Normally, M. Loughridge explained, NGDC takes the data, exercises it, and then flags any problems they encounter to the originating institution. Their effort is dedicated to develop software that will allow easy access and manipulation of the data by scientists. In the case of the DSDP data, however, DSDP no longer existed. This put NGDC in the position of having to alter the data, for which they used outside expertise. They chose to proceed with the modifications and add a field describing all changes that were made to the original data. Mastering of the discs will start within one week.

USSAC provided the funds for the project, and asked for 500 copies of the disc to be distributed per their instructions. People should contact E. Kappel at JOI to get copies.

148 The IHP discussed a suggestion by I. Gibson that all ODP data be placed on compact discs. M. Loughridge said that in this case NGDC's effort should be limited to modifying the accession software to fit the ODP data bases structure. He noted that it isn't necessary to have all data at hand to make the first copy of a disc. Once the software is developed and you have produced one disc, it is very easy to copy the original disc adding data as necessary. The cost of this latter process is trivial.

Because of the ease with which data in CD-Rom form can be accessed and the small amount of space required for data storage in this form as compared to magnetic tapes, IHP recommends that all ODP data should be made available in this format. For this purpose, the accession software that NGDC developed for the DSDP data be modified as necessary to be used for ODP data. Funds should be allocated by JOIDES to pursue the project.

PCOM's approval is necessary to undertake this project. M. Loughridge will evaluate the cost of modifying the accession software developed for the DSDP data that is being transferred to CD-ROM, so that it can be used with ODP data. He will try to have the estimate in time to be presented by Nick Pisias at the May PCOM meeting. P. Brown and R. Reynolds will assist M. Loughridge in obtaining these estimates. They will send him copies of the new data base structures and description files, highlighting any differences. They will also send an ASCII file containing samples of the data to be exercised, and give him an approximate number of tapes that are to be processed. M. Loughridge will send N. Pisias the estimate and a sample of the DSDP discs to be presented at PCOM.

Action Items

1. The idea of presenting the FMS logging data in microfiche form in the Initial Reports volumes will be pursued. The Borehole Research Group will begin production of the microfiches; ODP will assist if necessary.

2. M. Loughridge will evaluate the cost of modifying the accession software developed for the DSDP data that is being transferred to CD-ROM, so that it can be used with ODP data. Will try to have the estimate in time to be presented by Nick Pisias at the May PCOM meeting. He will be assisted by ODP and the Borehole Research Group in obtaining these estimates.

3. Patsy Brown and John Saunders will check tape files to see if Mesozoic paleontologic data base can be found.

ATTACHMENT 2

4 March 1989

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RESULTS OF IHP PUBLICATIONS QUESTIONAIRE

1. What type of data requires significant (> 1 month) post-cruise work before finalizing it for publication in the Initial Reports Volume(A) ? (161 resp.)

	no.	(%)
chronostrat./biostrat.	77	48
petrol./lithol.	26	16
downhole data/logs	21	13
organ. & inorgan. chem	20	12
seismics/ navig.	11	7
physical prop.	8	5

2. Should the publication of the Initial Reports Volume (A) be speeded up, with all data finalized - (161 resp.)

	no.	(%)
a) < 1 month post-cruise?	20	12
b) < 2 months post-cruise?	20	12
c) < 3 months post-cruise?	32	20
d) < 4 months post-cruise?	37	23
e) (not speeded up)?	48	30

3. Do you feel that a comprehensive volume describing the scientific results of each ODP Leg is an indispensable part of the Ocean Drilling Program? (circle one) (161 resp.)

	no.	(%)
yes	137	85
maybe	3	2
no	18	13

4. How long after the end of a cruise should the scientific results from each leg be published? (142 resp.)

	no.	(%)
a) < 24 months post-cruise	38	27
b) < 30 months post-cruise	47.5	33
c) < 36 months post-cruise	49.5	35
d) < 42 months post-cruise	4	3
e) < 48 months post-cruise	3	2

5. The best way to speed up publication of the scientific results of ODP legs (without seriously affecting the quality of the Scientific Results Volume) is to: (188 resp.)

a) reduce the deadlines for the Scientific Results Volumes.
no. 21 (11%)

b) stick strictly to the manuscript deadlines that have already been set up.
no. 70 (37%)

c) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), and require that all papers submitted outside ODP be in print before the Scientific Results Volume for a particular leg could be put together (i.e. with such outside papers included in the volume as reprints).
no. 14 (7%)

d) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), and leave it up to the Editorial Board wether or not to include such outside papers as reprints in the Scientific Results Volume.
no. 51 (27%)

e) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), but require that a more complete manuscript on the same general subject be first submitted for ODP review and inclusion in the Scientific Results Volume (similar to the present policy).
no. 32 (17%)

6. How best can "thematically-based" or synthesis volumes based on ODP results be encouraged. (145 resp.)

a) ODP/ JOIDES/ USSAC etc. sponsored Conferences with resulting volumes to be published with other organizations (e.g. AGU).
no. 94 (65%)

b) Thematic Panels organize volumes containing collected reprints and/or synthesis papers on partcular themes of the ODP.
no. 41 (28%)

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TCM's Comments on responses to IHP Publications Questionaire

There were about 650 questionaires sent out to ODP participants and JOIDES panel Members. To date I have received 161 replies. I am told that this percentage of response is reasonably good for such a survey. Not all people who responded answered every question; in addition, some people provided more than one answer to a single question. Where it seemed appropriate (e.g., questions 5, 6) I let them vote twice.

1. What type of data requires significant (> 1 month) post-cruise work before finalizing it for publication in the Initial Reports Volume(A) ?

From the results of this question I conclude that a significant number of people feel that more than one month of post-cruise work is needed on one sort of data or another. I do not think the ranking has a lot of meaning. More people depend on good stratigraphy than any other single data type perhaps; but from what we have heard from the logging group, more than 1 month is commonly needed to get log data in shape for the Initial Reports.

2. Should the publication of the Initial Reports Volume (A) be speeded up, with all data finalized -

Many of the respondents felt that the present policy of 4 - 6 months was about right. There were other general comments, however, that I think we need to consider in light of the fact that two thirds of the respondents thought that the IR could be speeded up somewhat.

a) Some people thought that the post cruise meeting as conducted now was really just an editorial and biostratigraphic gathering and that everyone need not attend.

b) It was also thought by some that what was really needed was a mini-workshop where shipboard and shore-based investigators sat down and discussed the results of the leg before they finalized their papers for the SR volume.

c) Still others noted this need for post-cruise communication and recommended continued close contact between the participants via newsletters, telephone calls, etc.

d) Finally, some people pointed out that the quicker you had your post-cruise meeting, the quicker people would start on their SR papers.

Throughout this publication discussion we have to balance timelyness versus completeness. I think all of these suggestions

are good ones; but I don't think we can satisfy everyone. The best compromise that I can see is an early, pre post-cruise working meeting of the paleontologists, co-chiefs and science rep. to sort out the stratigraphy, followed directly by a more general meeting of participants where scientific results and SR volume contents are discussed. The median time for such a meeting as suggested by these responses is on the low side of the present policy- about 4 months.

3. Do you feel that a comprehensive volume describing the scientific results of each ODP Leg is an indispensable part of the Ocean Drilling Program?

Well, this is about as close to a consensus as I ever expect to get from any group of scientists. But let us not disregard the minority opinion. Those that felt that the SR volume was not necessary could be divided into two groups: those that preferred a non-leg specific ODP journal format and those that felt that the data was the important thing and that the "science" would better be published in the outside literature. Both of these groups felt that a publication delay of 36 months or more made the SR volume useless for the distribution "hot, new science" These general feelings were echoed by many of those who voted "yes" on the question above, so we should not take these points lightly. They are in fact at the heart of what is seen by many as the main problem of the ODP publications - they take too long.

4. How long after the end of a cruise should the scientific results from each leg be published?

Most people feel that the SR volume should come out 30 to 36 months post-cruise. Several U.S. scientists pointed to what they considered a bare minimum schedule: 6 mo. to get USSAC funding (they wanted this speeded up); 12 mo. to do the research; 6 mo. to write and submit the paper; and 6 mo. to publish. Frankly, I think they are right. There is no way to turn out a scientific results volume in less than 30 months, if you expect any post-cruise research to be done. Thirty six months is probably a more realistic expectation.

5. The best way to speed up publication of the scientific results of ODP legs (without seriously affecting the quality of the Scientific Results Volume) is to:

a) reduce the deadlines for the Scientific Results Volumes.

This seems to indicate that no matter what they want in terms of publication time not many of them really want to turn things in any sooner than already prescribed by the publication guidelines

b) stick strictly to the manuscript deadlines that have already been set up.

This suggests to me that many of the respondents are frustrated with deadlines that keep getting pushed further and further back - especially after they have already finished their manuscript on time. It would seem to call for the co-chiefs to be much harder on those that do not get the work done on time and that the participants be made to realize the full extent of their time commitment before they are allowed to join the scientific party.

Several people felt that the review process took too long and that if an author did not get his ODP article back from review in less than 6 months he should be freed to publish it elsewhere. This seems to be a valid complaint.

c) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), and require that all papers submitted outside ODP be in print before the Scientific Results Volume for a particular leg could be put together (i.e. with such outside papers included in the volume as reprints).

Most people thought this would cause even greater delays.

d) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), and leave it up to the Editorial Board wether or not to include such outside papers as reprints in the Scientific Results Volume.

e) allow (and encourage) participants to submit their manuscripts to scientific journals with the approval of the co-chief scientists (but without the full ODP review procedure), but require that a more complete manuscript on the same general subject be first submitted for ODP review and inclusion in the Scientific Results Volume (similar to the present policy).

This question stirred a lot of discussion. Many people felt that a slight relaxation of the present publication constraints might help; but others worried that it might diminish the spirit of cooperation and team work that is so necessary for a successful cruise. I think both points are valid, but if we wish to get ODP-based science out into the scientific literature as fast as possible we will have to rely on the co-chiefs to make sure that the the participants are treated fairly.

One point that was made by several people was that the SR volumes do not have to be absolutely complete - they never will be anyway, so why delay and delay just to get those one or two extra papers? Why not pare it down instead? Their suggestion was to limit each participant to one first-author paper and one (or

two) co-authored papers per volume. Everything else they would be free to publish outside once they had turned in their required (promised) papers for the SR volume. This suggestion makes a lot of sense to me and does not deviate greatly from the present publication policy; however I find it difficult to evaluate how much this would really speed up the publication process.

Several people thought the the inclusion of reprints in the SR volume was a waste of money and not worth the effort, others thought it was a good idea and still others thought the whole volume should just be collected reprints. It was real hard to find a consensus on this point.

Finally, I think that if we are to speed up production of the SR volume to a 30 to 36 month post-cruise date and get the "hot, new results" from ODP into the open literature quickly its going to take a different attitude of the scientific party more than it will require new rules and guidelines. As an example, look at the synthesis chapter done for each leg by the co-chief scientists. The way most cruises are planned today they are multi-thematic. Inorder to synthesize the results of such a cruise in one paper it almost has to be a hodge-podge; no journal would accept it. The synthesis should be done around each theme seperately and related to other legs, just as if each chapter was going to be a journal article. Similarly, every article in the SR volume should be written as if for a journal, with the one exception that they must put in the data, the tables, the illustrations that might be cut from a normal scientific journal. One respondent noted that that DSDP and ODP volumes would probably long outlive the usefulness of most journal articles. The difference lies in the completeness of the data presentation - not in the verbosity of the text.

Each scientist should look at his/her work on board with two things in mind: a) this part of my work has to go in the SR volume because it is critical to answering the questions addressed by the shipboard party, this particular leg, or that particular theme; and b) this new idea I had is a very interesting sidelight and with a little help from one or two of my colleagues it would make a wonderful little Nature paper. But before the Nature paper can be submitted, I have to finish off this ODP paper, so let's get on with it! If everyone went onboard with the idea that they had the possibilty of getting both an SR volume chapter and a journal article out of their efforts on board, they might be a little more eager to finish off their ODP chapter. There is the aforementioned fear of hurting the team spirit with this sort of attitude, but I personnaly feel that the danger of this happening is small compared to the benefit derived from the overt encouragement of publications in addition to those produced for the ODP volume.

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6. How best can "thematically-based" or synthesis volumes based on ODP results be encouraged.

a) ODP/ JOIDES/ USSAC etc. sponsored Conferences with resulting volumes to be published with other organizations (e.g. AGU).

b) Thematic Panels organize volumes containing collected reprints and/or synthesis papers on partcular themes of the ODP.

Most people thought that conferences or special sessions at national meetings were the best way to get such syntheses done and published. Others felt that this was best handled in a laissez-faire manner - if a synthesis needed doing, someone would do it. Others pointed out that in the U.S. our National Science Foundation is loath to fund synthesis studies and that perhaps USSAC might provide such monies.

Some people pointed out that the SR volume itself was a valuable synthesis. Another respondent suggested that the co-chiefs write synthesis papers before they went to sea, revise them upon their return and publish them in the SR volume. I liked that idea.

Another suggestion was for ODP to provide thematic bibliographies of DSDP and ODP-based papers as a tool to aid syntheses. I don't know quite how this would be done but it does seem to have some merit.

Reading all these questionaires has been an enlightening experience for me. We had a fairly broad representation of expertise, experience and national affiliation among the resopondents and I feel the results are representative of the ODP community as a whole.

Yours truly,

T. C. Moore, Jr.
IHP Chairman

Summary of Publications Activities, September 1988--January 1989
(Prepared 1 February 1989 for Information Handling Panel meeting)

1. Continued preparation and publication of ODP Proceedings volumes.

a. Initial Reports: Volume 113 was distributed September 30, Volume 114 was distributed in November, Volume 115 was distributed in December, and Volume 116 will be distributed in February; Volumes 117 and 118 are being sent to the printer in February for distribution in March.

b. Scientific Results: Volumes 101/102 and 103 were distributed in December; Volume 104 is being sent to the printer in February or early March for distribution in late April.

2. Reviewed handling procedures for Scientific Results volumes after a few months' experience with the Editorial Review Board (ERB) concept in place. This review had the benefit of a lengthy critique from Leg 107 as well as considerable analysis by Science Operations and Publications staff in a series of meetings. The manuscript flow has been streamlined, and several changes have been made to existing procedures to enable more timely and efficient review and editing. Some of these changes are mentioned here.

a. The ERB now elects a chair (as suggested in the September IHP meeting); the chair receives first authorship for the volume.

b. A query letter is sent to prospective reviewers asking consent to review the manuscript before it is submitted, thus saving valuable time finding review resources at a later stage.

c. The Preliminary Editorial Review Checklist (PERC) is now the principal ODP editorial tool (this checklist is the same as given as "Author's Checklist" at the end of the Instructions for Contributors). A thorough rapid check is made by the ODP editor, and the author and reviewers have the benefit of these editorial thoughts before final revision; consequently, only marking for typesetter is needed after the report is accepted for publication.

d. A monthly report is now sent to all authors giving the name of the Assigned Board Member (ABM) for each report and the status of every report for that volume. Knowledge of the status and the ABM for other authors will serve as an incentive for all participants and will speed review and communication.

3. Subcontracts: ODP executed a contract with William Byrd Press, Richmond, VA, for typesetting services for the period ending 30 September 1991. (This is in addition to the present contract with Design Service, Anaheim, CA.) Volume 108 Scientific Results is presently being typeset under the Byrd subcontract.

4. The video discs containing color photographs of cores from Legs 1-121 have been manufactured, and the packaging and accompanying brochure are nearing completion.

5. Programming for the electronic version of the Manuscript Tracking System is proceeding.

6. The printing vendor shipped re-covered copies of ODP Proceedings to replace discolored Volumes 101/102, 103, and 105, and ODP has replaced books from those recipients requesting them.

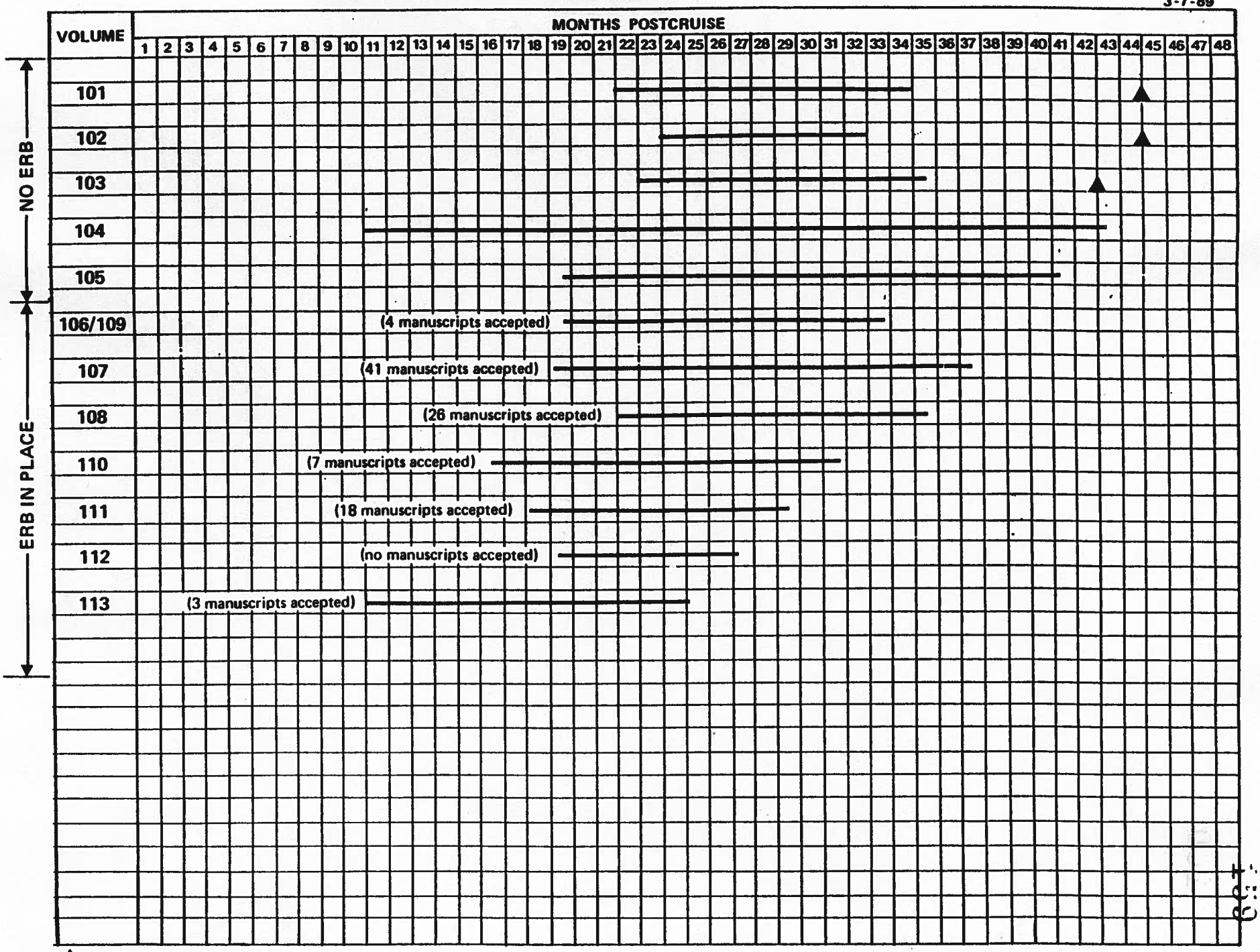
7. Action item from September meeting (Merrill): Timing and costs affected by establishing Editorial Review Board.

Timing.--Establishing the ERB handling has had an impact on the time needed to produce the Scientific Results volumes of the Proceedings. As of this date, 37 manuscripts have been accepted for the seven Volumes 106-113. The average time post-cruise until receipt of the first manuscript for each volume is 26.6 months. A chart illustrating production time of all ODP Scientific Results volumes is shown as Attachment 1. The average time until receipt of the first manuscript for Volumes 101-105 was 24 months. This number of manuscripts (37) represents a very small sample (less than 15% of the promised reports). An important and unpredictable variable in the forecasting of production time is the date of receipt of the last manuscript for any volume. Because of this unknown factor, accurate forecasts are not yet possible. The apparent time added to production by establishing the ERB is 2.6 months per volume.

Costs.--Instituting the ERB has required ODP to generate additional written correspondence and other communications to the board members, reviewers, and authors, and to record the resulting manuscript movements. Overhead costs associated with the additional correspondence and communication have increased. The exact magnitude of this increase is not yet known, but items contributing to the increase include mail and forwarding costs, telex and telephone (including facsimile) expenses, and clerical support.

PRODUCTION ANALYSIS FOR SCIENTIFIC RESULTS VOLUMES*

3-7-89



▲ Publishing Date

*Showing manuscript submittal record; bar begins with receipt of first manuscript

Executive Summary; SGPP meeting, 13-15 March 1989, USGS, Federal Center, Denver

The newly formed panel heard reports about the internal workings of ODP, the expectations attached to the new thematic panels, the long-range planning document, and the engineering leg 124E.
The major topics for a new **document** with the tentative title: "Sources, Sinks and Behavior of Elements and Sediments in the Oceans" to define the mandate of the new panel were established. Topics falling under this theme fit three general categories: (1) fluxes and balances; (2) processes and mechanisms; (3) recorders of change. From the geochemical perspective these include: paleochemistry; hydrogeology and the physical properties of sediments and crustal materials, crustal alteration, metallogenesis and petroleum genesis. From the sedimentary perspective these include: (1) geostrophic circulation; (2) external controls on sedimentation; (3) depositional architecture. The task of expanding each of these individual subtopics into more concrete descriptions was delegated to various subgroups within the panel.
The first attempt to formally review drilling proposals was somewhat hampered by not having had all proposals and enough advance copies available for the panel members. To facilitate future review of proposals this panel urges the PCOM office to mail proposal copies to all members at the same time as they are mailed to the SGPP chairman.
Proposal #317/E: This proposal appears to be largely based on geophysical objectives; therefore, unless the experiment is re-designed to incorporate fluid and gas chemistry and sedimentology, it would fall outside our mandate.
Proposal #233/E rev.: This proposal is fully within our mandate and its objectives are of the highest priority. Success of this experiment depends upon the operation of several of the new tools currently at a development stage. Although Nankai is the best prism to begin drilling because of its thin sediment cover, all efforts should be made to continue work in tool testing to ensure that Cascadia margin can be drilled successfully.
Proposal #314/D: Drilling of the Nankai margin falls entirely within our mandate; in light of the partial failure of tool testing on Leg 124E the panel recommends that: (1) the engineering leg, now scheduled after the Nankai leg, be advanced to allow for maximum opportunity to get NCB and GEOPROPS operational; (2) all efforts should be made to get good recovery of sand intervals and associated fluids required to establish the plumbing of this system; the panel realizes that this could be a compromise which would not go much beyond existing Resolution capabilities; (3) two holes should be drilled through the décollement which can be achieved by moving one of the proposed holes slightly.
Proposal #318/E rev.: The proposal in its present form does not address our high priority thematic objectives but has several secondary features of clear geochemical significance which should be further developed; i.e. fluid flow, crustal alteration and metallogenesis; deep volatiles as tracers to establish fluid sources; access to high temperature processes at shallower depth than is possible elsewhere. Sites should be located above the "hot-plate", site survey should establish that the system is "hydrothermally alive".
Proposal #319/E: This proposal falls outside our mandate. Emphasis should rather be toward drilling systems where fluid flow processes and metallogenesis are presently active.
Proposal s#284/E; #232/E; #275/E rev; #290/E: Sedimented and bare-rock ridges
The evaluation of drilling sedimented and bare-rock systems should be guided by the following considerations:

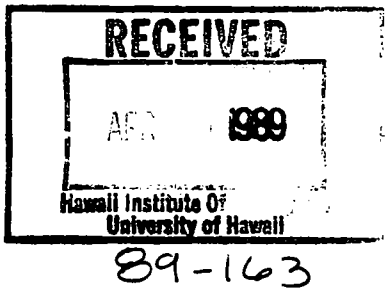
1) Defining the specifics of the hydrogeology of these systems is the fundamental priority in drilling. Experiments designed to study the plumbing should address the link of fluid flows with sulfide geochemistry and associated metallogenesis as well as high-temperature alteration processes.
2) Attention should be payed to the role of the biosphere in these systems. Emphasis between laboratory and field experiments with respect to this objective needs to be established.
3) How can primordial signals be differentiated from natural artifacts of geochemical recycling?

We concluded that the study of these systems might proceed as follows: Drill one leg dedicated to Middle Valley to establish the hydrogeology of this system. If sulfides are found, drill into other sedimented systems during a second leg to establish "end-member" variability. If sulfides are not found, the mineralization objectives should be fully addressed elsewhere; Escanaba Trough, Gulf of California. The latter objective requires at least one -perhaps two- drilling legs.
Proposal #142/E, #222/E, #248/E: Objectives of proposals #142/E and #222/E can both be met by utilizing a common set of holes and penetrating 100 m into the volcanics. Objectives of the third proposal (#248/E), requiring deeper penetration, do not lie within the expected mandate of SGPP.

Minutes of the Sedimentary and Geochemical Processes Panel Meeting

The first meeting of the newly formed SGP Panel of the Ocean Drilling Program was held March 13-15, 1989 at the Federal Center in Denver, Colorado; the meeting was hosted by Martin Goldhaber of the U.S. Geological Survey.

The panel approved the agenda proposed by the chairman; this was followed by a brief introduction by each of the panel members with special emphasis on their scientific expertise to serve the panel mandate. The following members were in attendance:
Erwin Suess (chairman)
Jacques Boulegue
Shirley Dreiss
Henry Elderfield
Phillip Froelich
Martin Goldhaber
Tom Pedersen, representing Larry Mayer
Judith McKenzie
Makato Ito
Jürgen Mienert
William Normark
Fredrick Prahl
Dorrik Stow



Members absent from the meeting and not represented by an alternate were:
Nicholas Criste-Blick
Noel James

The ODP Science Operator (Texas A&M University) was represented by:
Marta von Breymann
The Bore Hole Group by:
Mitchell Lyle
The newly established Ocean History Panel by:
André Droxler
The JOIDES Planning Committee by:
Miriam Kastner and Nick Pisias.

Scientific structure of ODP and the expectations of the new thematic panel SGPP

Miriam Kastner gave a condensed history of ODP, described the structure of this program and recent changes to this structure and identified how the revisions should facilitate more efficient accomplishment of the broad range of scientific goals in ocean drilling. She described the general mandate of the previous Sediments and Ocean History Panel (SOHP) and pointed out that geochemistry was insufficiently represented within SOHP leading to its division into two new thematic panels (SGPP and OHP). In particular, PCOM felt that the response from SOHP with respect to recommendations for drilling in ridge crest systems and accretionary prisms did not sufficiently address geochemical objectives, e.g. the role of fluids and fluid flow within sediments and ocean crust as controls on chemical cycling within the oceans. Scientific recommendations to PCOM from the new SGPP are expected to overcome this deficiency and enhance the scientific utility of ocean drilling experiments.

ODP Long Range Planning Document

Nick Pisias described the expected interaction between a thematic panel and PCOM, the Long-Range Planning Document being one manifestation of this interaction. He suggested that the panel's White Paper should act to steer the science conducted by ODP and to identify the types of technological development that are needed to achieve the objectives of future drilling experiments. He brought up the possibility of SGPP revising and authorizing its own white paper and long-term planning document. He also emphasized that one of the major responsibilities of each thematic panel is to evaluate whether or not the scientific objectives of a given proposal are technologically practical. This presentation was primarily for the benefit of new panel members unfamiliar with how ODP operates.

Engineering Leg 124E

Marta von Breymann presented a summary of engineering achievements and shortcomings encountered during Leg 124E in the testing and development of new tools for drilling. The tools discussed were: the advanced hydraulic piston core/extended core barrel (APC/XBC) for improving recovery in chert/chalk sequences (no such sequences were encountered during Leg 124), the Navi-Drill Core Barrel (NCB) under current development for hardrock coring (we hope to improve design), the Diamond Coring System (DCS) for coring and drilling fractured rock (tool was significantly successful, with strength problems and penetration limitation to approximately 500 m), the Pressure Core Sampler (PCS) for retrieving core samples at near in situ pressures (the tool worked successfully; but "what do we want scientifically" after the samples have been brought on deck?) and the GEOPROPS Probe for detailed measurements of physical properties (tool could not be deployed). Considerable discussion ensued regarding whether or not important scientific objectives of drilling accretionary prisms could be achieved if these tools were not fully operational. It was made clear from various discussions over the three days of the meeting that detailed sampling of fluids and physical properties using NCB and GEOPROPS and the efficient recovery of sand layers using APC/XBC would certainly remain the highest goal but important scientific advancement would result if these tools were not completely on-line. As an example the usefulness of the wire-line packer was mentioned.

Status and Opinions on ODP by non-U.S. member countries

The non-U. S. members of the panel gave a brief sense of their countries' perception of the current mission of ODP with the following individuals providing input: Jürgen Mienert (Germany), Harry Elderfield (Great Britain), Judith MacKenzie (Switzerland, representing the European consortium), Makato Ito (Japan) and Jacque Boulegues (France). In general, a favorable impression is evident throughout and strong commitments to ODP is apparent for the near future. Better focusing of the science on process-oriented problems is essential if longer term commitments are to be assured, however. There is a sense that the "exclusiveness" of ODP-participating scientists will be challenged and that ODP has to earn its funding in competition with other national research programs in the future.

SOHP Long Term Planning Document

Following an earlier suggestion by Nick Pisias, a lengthy discussion ensued regarding whether or not the SOHP Long Term Planning Document (First Draft, November 1988 which was distributed to all panel members prior to the meeting) was appropriate for the new SGPP. It was decided that this document must be abstracted from and in many cases completely rewritten to accomodate the

overall theme of the new SGPP. Because the details of our mandate have not yet been identified or agreed upon, it was decided that the task of assembling a new document could not be accomplished within the timeframe of the present meeting. An attempt was made, however, to outline the major topics that would be included in this document. A tentative title for the new document was created, "Sources, Sinks and Behavior of Elements and Sediments in the Oceans". Topics falling under this umbrella fit three very general categories: (1) fluxes and balances; (2) processes and mechanisms; (3) recorders of change.

From the geochemical perspective, the following subtopics are to be included somehow within these categories: paleochemistry; hydrogeology and the physical properties of sediments and crustal materials, crustal alteration, metallogenesis and petroleum genesis.

From the sedimentary perspective, the following subtopics are to be included: (1) geostrophic circulation; (2) external controls on sedimentation; (3) depositional architecture. The task of expanding each of these individual subtopics into more concrete descriptions was delegated to various subgroups within the panel.

Review of Proposals to PCOM

The major portion of time at this meeting was dedicated to the review of proposals. This task was deemed of fundamental importance because it provided a clearer background by which our newly formed panel could synthesize its overall mandate, and to familiarize the new panel members with the internal workings of ODP. In addition, PCOM and the detailed working group for sedimented ridges required scientific feedback from SGPP to facilitate further planning of drilling legs slotted for the near future.

We discussed only those proposals for which full documents were available. These proposals fell into three categories: the drilling of accretionary prisms (Cascadia margin: northern and southern subduction zones and Nankai margin; certain aspects of Chile Triple Junction), the drilling of sedimented and bare-rock ridges (Gorda Ridge: Escanaba Trough; Juan de Fuca Ridge: Middle Valley; Gulf of California: Guaymas Basin; Juan de Fuca Ridge: Axial Seamount; East Galapagos Rift: Inca transform fault) and the drilling of the Ontong-Java Plateau. To facilitate future review of proposals this panel urges the PCOM office to mail proposal copies to all members at the same time as they are mailed to the SGPP chairman.

Proposal #317/E:
Accretionary Wedge Deformation and Fluid Expulsion Processes.
Shirley Dreiss presented the details of the proposal to drill the northern Cascadia subduction zone off Vancouver Island. In the discussion that ensued, the following comments were essential to the overall evaluation by this panel:

1) details of the fluid flow model to be tested were missing;
2) little geochemistry and fluid chemistry has been incorporated into the proposed experiment;
3) apparent lack of sedimentology, such as deformational fabric of the wedge sediments; this was considered to be a serious deficiency;
4) experiment seems to be designed on the basis of geophysical data alone; it lacks a clear multi-disciplinary approach;
5) merits of drilling this location versus location in the southern subduction zone can only be ascertained through closer interaction with geophysicists; i.e. depth of décollement, bottom simulating reflector, underthrust vs. overthrust setting, complex vs. simple tectonics.

The panel concludes that unless the experiment could be re-designed to incorporate geochemistry and sedimentology, it would not fall within our mandate. It is imperative to establish the

relationship between the experiments proposed for the northern and southern subduction zone of the Cascadia margin; i.e. fluid venting manifestations, deep submersible surveys, heat flow.

Proposal #233/E rev.:

Cascadia Accretionary Prism

Martin Goldhaber presented the details of the proposal to drill the accretionary prism in the southern Cascadia margin. In the discussion that ensued, the following comments were essential in the overall evaluation by this panel:

1) experiment is completely focused on understanding fluid flow processes and geochemical evolution;
2) extensive background information documenting the surface geochemical expression of fluid flow is available from submersible observations, coring and in situ measurements.
3) long-term instrumenting seems feasible for this area and should be encouraged for a later phase;
4) structural styles seem complex over short distances: is this an advantage or a disadvantage?;
5) are the number and location of sites optimally chosen to answer questions such as: does facies control the plumbing system, what is the lateral continuity of facies units; how does the Astoria two-fan system affect dewatering?
6) tectonic complexity of the margin might require return at a later date for another drilling leg;

The panel concludes that the objectives of this proposal fall directly into the mandate of SGPP and are of the highest priority. Numerous comments were made concerning the technological difficulties of this proposed experiment. A lengthy discussion occurred regarding the extent that the success of this experiment would depend upon the operation of several of the new tools currently only at the stage of development within ODP.

Proposal #314/D:

A Study of Fluid Flow and Mechanical Response across an Accretionary Prism: The Nankai Trough.

Makato Ito and Tom Pedersen presented the details and objectives of this proposal. A number of comments were essential in the discussion that ensued to evaluate this proposal:

1) Drilling of coarse-grained prisms challenges the existing technology of ODP for core recovery;
2) NDC and GEOPROPS are not fully operational, which will pose considerable experimental limitations but perhaps not enough to forego drilling.
3) Chemical and fluid data needed from this experiment could be obtained by using other available tools such as packers.
4) Evaluation of physical properties are, however, considerably compromised by this technological deficiency.
5) Drilling strategy proposed provides an excellent opportunity to constrain the sedimentary geometry and to evaluate the hydrogeology;
6) Some concern was raised about the effect that drilling closely-spaced holes may have on the observed fluid flow, it was however, considered unimportant.
7) By modifying the placement of holes planned for NKT-3 and NKT-10, it would be possible to penetrate the thrust fault two times and allow the fluid transport pathways to be more clearly defined.
8) Nankai was recognized as one of the best locations to study the hydrogeology of an accretionary prism because of the thin sediment cover and the feasibility to drill through the décollement. Unless this depth of penetration is achieved, however, the fluid flow pathways may not be definable without considerable ambiguity (the example of the data obtained from drilling the Barbados accretionary prism (Leg 110) was cited).

Drilling of the Nankai margin falls entirely within the mandate of SGPP and in light of the partial failure of tool testing on Leg 124E the panel recommended: (1) the Engineering leg, now scheduled after the Nankai leg, should be advanced to allow for maximum opportunity to get NCB and GEOPROPS operational; (2) all efforts should be made to get good recovery of sand intervals and

associated fluids required to establish the plumbing of this system; although SGPP realizes that this could be a compromise which would not go much beyond existing Resolution capabilities; (3) two holes should be drilled through the decollement which can be achieved by moving one of the proposed holes slightly; it would allow an evaluation of the geochemical evolution in this prism.

It was also pointed out that although Nankai is the best prism to begin drilling because of the thin sediment cover, all efforts should be made to continue preparatory work in tool testing and improvement of core recovery to drill the Cascadia margin. The southern location (off Oregon) is attractive because an extensive geochemical data set defining the surface expression of fluid flow in this area is already available. The northern location (off Vancouver) is attractive because it is potentially more simple tectonically and may, therefore, be an easier system to interprete hydrologically and unfortunately, the present proposal lacks this objective.

Proposal #318/E rev.:
Chile Triple Junction
Judith MacKenzie presented the details of the proposal to drill the region of the Chile Trench between 46° and 47°S. In the discussion that ensued, the following comments were essential in the final evaluation by this panel:

1) Proposal is strong through availability of a large geological data set; it has potential to be tied to land geology;
2) Although it is tectonically focused, its geochemical implications make it potentially an attractive study site. These, however, are not spelled out in the present proposal. Geochemical objectives are the infusion of mantle volatiles which may provide a unique (set of) tracer(s) by which to examine fluid flow processes in this system; tracers include gases and high temperature alteration products in fluids;
3) Setting provides an opportunity to learn about deep-seated (metamorphic) processes;
4) Setting could serve as a model for mineralization of a young accretionary prism;

SGPP concludes that the proposal in its present form does not address high priority thematic objectives of this panel but has several secondary features of clear geochemical significance which should be further developed; these include: fluid flow processes, crustal alteration and subsequent metallogenesis; use of deep volatiles as tracers to establish fluid flow; access to high temperature processes at shallower depth than is possible in other accretionary systems; opportunity to establish the relationship of the sedimentary morphology to the geometry of the trench system. Priority should be given to sites located to the north, where the collision process and its effect on gechemical cycling is presumably occurring at the present time; i.e. sites should be located above the "hot-plate". In order for this proposal to formally fit within the mandate of SGPP, it will be necessary to demonstrate through site survey that the system is now hydrothermally active and not dormant; i.e. establish that the "system is alive".

Proposal #319/E:
Drill an extinct hydrothermal system (10 ka) East Galapagos Rift - Inca Transform Fault
Erwin Suess presented the details of the proposal to drill this extinct hydrothermal system. There was very little discussion; the panel agrees that generally this proposal falls outside the mandate of SGPP. Our emphasis would be toward drilling systems where fluid flow processes and metallogenesis are presently active and not -as in the proposal- where hydrothermal activity has ceased.

Proposal #284/E:
Drilling in Escanaba Trough, Southern Gorda Ridge
Jacques Boulegue presented the details and objectives of this proposal. Several elements of the proposed study were clearly within the mandate of the SGPP and the following comments reflect the evaluation by this panel:

1) formation of talc and chlorite,
2) effect of hydrothermal circulation on water chemistry,
3) metallogenesis,
4) study of high temperature thermal alteration of organic matter and subsequent petroleum genesis.

The drilling strategy put forth to examine the time evolution of these processes was recognized as an attractive feature of the proposal.

Proposal #232/E:
Drilling into high-temperature zero-age crust on the Northern Juan de Fuca: Middle Valley Ridge
Jacques Boulegue also presented the objectives of this proposal. The proposal to drill Middle Valley was compared to the one for the Escanaba Trough. It was recognized that the geophysical background for this site was far superior to that available for the Escanaba Trough. It was also noted that this proposal had similar elements with the interests of SGPP as the Escanaba Trough proposal did, although a drilling strategy to examine time evolution was not considered.

Proposal #275/E rev.:
Drilling of the Gulf of California
Jürgen Mienert presented the details and objectives of this proposal. SGPP evaluation was based on the following comments:
1) this sedimented ridge system is the better one to study because of the large gradients in heat flow observed throughout the area;
2) nonetheless, the proposal is too diffuse and should be re-written to focus on the hydrothermal issues alone.
We concluded that any meaningful paleoceanographic study in the Gulf would probably be limited to shallow sediment depths easily accessed by standard piston coring techniques. Deep sediment intervals, requiring a drilling platform, would more than likely be too complex for a first rate paleoceanographic study.

Proposal #290/E:
Deep Drilling on Axial Seamount
Jacques Boulegue presented the details and objectives of this proposal. In the discussion that ensued the following comments reflected the opinion of the SGPP:
1) System is worthy of drilling because it displays a range of morphological diversity and excellent geophysical data are available for this area;
2) System is not sediment-hosted, therefore no good heat flow data are obtainable to constrain the fluid flow patterns; this is a major limitation;
3) Desirable to design an experiment to enhance understanding of the Helium Basin; this is not an objective addressed in the current proposal but would provide thematic interest of the SGPP.

The panel concludes that this proposal is within the mandate, however further site survey is required to optimize its experimental design. There was discussion of the technological difficulties caused by drilling a fractured (?) rock system and comments were made regarding the attractiveness of this site as a "natural laboratory" because of its close proximity to the research institutions involved. Some discussion centered on the role of the microbiosphere of the proposed drilling sites. The panel suggests that the logistics of the "origin of life" objectives of this experiment be more adequately defined. It remained unclear to what extent the microbiosphere research would require a dedicated hole or could be accomplished along with objectives of other holes.

The objectives of drilling sedimented and bare-rock systems is best summarized in the following statements which should guide the final evaluation; hereby the SGPP implies a ranking with the following order below:

1) Defining the specifics of the hydrogeology of these systems is the fundamental priority in drilling. Experiments designed to study the plumbing should address the link of fluid flows with sulfide geochemistry and associated metallogenesis as well as high- temperature alteration processes.
2) Increasing attention should be paid to the role of the biosphere in these systems. The degree of emphasis between laboratory and field experimentation with respect to this objective needs to be established.
3) How do we identify primordial signals from natural artifacts of geochemical recycling? This is a fundamental question which bears on the chemical evolution of the oceans.

The panel arrives at a conclusion that the study of sedimented ridge systems should use the following approach: One drilling leg should be dedicated to Middle Valley to establish the hydrogeology of this system. If sulfides are found, drilling into other sedimented systems (e.g. Escanaba Trough, Gulf of California) should be done in a second leg to establish "end-member" variability. If sulfides are not found in Middle Valley, the mineralization objectives should be fully addressed elsewhere. This would require at least one -perhaps two- drilling legs. Better knowledge of the regional variability of sedimented systems would facilitate the construction of proper geochemical model(s) for these geological features. A question was asked if the drilling experiments would adequartely address the concept of phase separation and subsequent geochemical fractionation.

Proposal #142/E, #222/E, #248/E:
Ontong-Java Plateau
William Normark presented the details and objectives of these proposals. The panel quickly concluded that the study of:

1) Seismic reflectors (carbonate dissolution events) in the Neogene record,
2) Volcanic and anoxic events in the Cretaceous record clearly placed proposals #142/E and #222/E within our mandate. It was suggested that the objectives of these two proposals could both be met by utilizing a common set of holes and penetrating 100 m into the volcanics. The panel decided that the objectives of the third proposal #248/E, requiring deeper penetration, does not lie within the expected mandate of SGPP.

SGPP liaison assignments

Liaison assignments to the following thematic and service panels were made:
OHP: Phillip Froelich (alternate Judith MacKenzie)
TEC: Shirley Dreiss (alternate not named)
LITH: Martin Goldhaber (alternate Jacques Boulegue)
DMP: Jurgen Mienert (alternate Nicholas Criste-Blick)
SMP: Henry Elderfield (alternate William Normark)

Membership policy

Membership of this panel should remain as defined in these minutes at least for the next year. At that time, a rotation policy would apply and one third of the membership would be replaced annually. Total tenure on the panel would be for <3 years.

The overall expertise represented by the present panel lacks specialists in: sedimentary mass balances, seismic interpretation and crustal alteration. The panel chose not to name individuals to

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fill these three positions at the present time but would do so at the July meeting as our mandate will be defined in more detail.

Endorsement of changes in publication policy

Miriam Kastner described the changes in publication policy proposed by USSAC for both Volume A and B. The panel agreed unanimously that these changes would expedite the publication of results from the drilling legs and lead to an inevitable improvement in the image of the Volume B publication in particular.

Next meetings

An interim meeting was scheduled for July 19-20, 1989 at Lamont-Doherty Geological Observatory, explicitly to formulate and formalize the mandate and to establish a written, first draft of the SGPP document from which to work. This meeting will be hosted by Phillip Froelich; homework assigned to panel members should reach the chairman not later than 26 May, 1989.

A fall meeting of the SGPP was scheduled for September 19-20, 1989 to complete the review of proposals needed by PCOM before the end of November. This meeting will be held at GEOMAR Research Center of the Kiel University and will be hosted by Erwin Suess.

Kiel, 4-7-1989
Erwin Suess

E. Suess

JOIDES Lithosphere Panel Meeting
Miami, Florida
28-30 March 1989

EXECUTIVE SUMMARY

1.0 WPAC PLANNING

1.1 Geochemical Reference Sites

New field data needed by PCOM to choose between BON-8 and A2-2 for drilling during the geochemical reference sites leg (130) are now available. LITHP feels either site would fulfill the scientific objectives of Leg 130.

2.0 WORKSHOP ON DEEP CRUSTAL DRILLING

A JOI/USSAC workshop was recently convened at WHOI to discuss priorities and strategies for drilling the lower oceanic crust and mantle. Recommendations include complementary strategies of total crustal penetration to Moho combined with drilling of offset sections in areas where lower crustal and mantle rocks are present near the surface. The high-priority objectives identified at the workshop (attended by 150 scientists) are strongly endorsed by LITHP and will require 14 legs of drilling over the next 10 years. LITHP recommmends the creation of a Deep Crustal Drilling (DPG) early in 1990.

3.0 CEPAC PLANNING

3.1 Engineering Legs

LITHP recommends that the diamond coring system along with drill-in casing and the new mini-guide base be thoroughly tested on rubbly volcanic rock during 129E. Future engineering legs, including 129E and 134E should include a contingent of scientists interested in the scientific results of the engineering legs.

3.2 Contingencies for Leg 134E

The second engineering leg (134E) at 504B and the EPR is scheduled to take place after Lau Basin drilling (Leg 134). A proposal has been submitted to examine the casing in 504B using wireline reentry. If the casing is sound, attempts to clean junk from the hole should proceed as scheduled. If these attempts fail, 504B should be side tracked and deepened by 100 m-200 m. At the EPR, a hole should be started using the new diamond-coring system with a mini-guide base, reentry core and drill-in casing.

3.3 Post 134E Drilling

If 504B can be deepened, a drilling leg to continue to the layer 2/3 transition should be scheduled as soon as possible. If in addition, the EPR site is successfully established, then the first leg of EPR drilling could start six months later. There should be a twelve month delay between the first and second legs of EPR drilling.

If 504B cannot be deepened, another deep crustal penetration site in the Pacific should be chosen.

4.0 OTHER MATTERS

4.1 Liaisons

LITHP recommends the following liaison appointments:

to OHP - G. Smith
to TECPP - C. Mevel
to SGPP - L. Cathles
from OHP - D. Kent
from SGPP - M. Goldhaber
from TECP - Roger Buck (already approved)

4.2 Next meeting

LITHP has tentatively scheduled to meet with DMP (one day of overlap) Sept. 8-11 at the KTB deep drill site in Germany (J. Erzinger as host).

JOIDES Lithosphere Panel Meeting

Miami, Florida

28-30 March 1989

Members present:

R. Batiza (HIG), Chairman
K. Becker (RSMAS)
L. Cathles (Cornell)
J. Erzinger (FRG)
J. Franklin (Canada)
T. Fujii (Japan)
S. Humphris (WHOI)
C. Mevel (France)
J. Phipps-Morgan (MIT)
J. Mutter (LDGO)
M. Perfit (U. Florida)
G. Smith (St. Louis Univ.)

In attendance:

G. Brass (PCOM)
E. Davis (CEPAC DPG)
R. Detrick (EPR/SR DPG)
H. Dick (WHOI)
S. Howard (TAMU)
J. Natland (SIO)

Absent:

S. Cloetingh (ESF) SGPP Liaison
J. Pierce (UK) OHP Liaison
R. Buck (TECP)

Agenda

1. Liaison Reports
2. New Proposals
3. Long-Range Planning
4. Other Matters
   - Liaisons
   - Next meeting

MINUTES

The meeting began at about 8:45 a.m. Detrick passed the chairman's LITHP binder to Batiza, thus formally completing his chairmanship. The membership thanked Bob for his outstanding efforts and accomplishments during his two-year term as chairman of LITHP. New members (Jason Phipps-Morgan and Guy Smith) were welcomed and Keir Becker, our host, provided some information on meeting logistics, availability of tickets for a nearby tennis tournament and other matters.

1.0 LIAISON REPORTS

1.1 PCOM (K. Becker and G. Brass)

Keir Becker, Bob Detrick and G. Brass reviewed the PCOM meeting which took place 18 Nov.-2 Dec. 1988. Several issues of importance to LITHP were reviewed and discussed:

WPAC: PCOM approved one Geochemical Reference Leg (Leg 130) including sites BON-8 and MAR-4. During a recent cruise to the western Pacific, E. L. Winterer was asked to collect single-channel seismic data over sites A2-2 and A2-3 because A2-2 is a possible alternative to BON-8. J. Natland, who was on that cruise, discussed the issue of A2-2 which offers some possible advantages by combining goals of the Geochemical Reference holes with drilling the M-series anomalies in the Western Pacific (proposal 287/E by Handschumacher and Vogt). The new results confirm the magmatic anomaly amplitude changes noted previously but showed that site A2-3 is directly over a seamount. For this reason, Winterer et al. surveyed a site just west of A2-3 on normal crust along the M18 anomaly. Site A2-2 has approximately 200 m of sediment over basement. These new survey data will soon be sent to the L-DGO data bank. In addition, Jim Natland will send to R. Moberly, a letter discussing the results of these surveys and how these results might bear on scientific issues to be decided by PCOM in choosing between BON-8 (on M-13) and A2-2 (on M-18) as part of the Geochemical Reference Hole Leg. Either site is fully compatible with the LITHP objectives in the program.

Next, the status of the Lau Basin drilling (Leg 134) approved by PCOM was discussed. The Lau Basin working group met in November 1988 to consider the new Gloria data collected there. It was noted that J. Hawkins recently completed a cruise to the Lau Basin and these new results may have some impact on the selection of specific sites. In particular, new seismic data collected by Hawkins may affect the exact placement of sites LG-2, LG-7 and LG-9. Hawkins, J. Gill and members of the WPAC DPG are expected to discuss these new results to determine the best site locations.

CEPAC - After the second year of WPAC drilling, PCOM approved a third engineering leg (134E) at hole 504B and the EPR. It was noted that the drilling schedule after that is not firm, but a transit to the Juan de Fuca area followed by a counterclockwise circuit of the North and Central Pacific is a possibility. LITHP discussed possible options for the CEPAC program later in the meeting (see section 3-2).

DPG's - PCOM approved a detailed planning group (DPG) for sedimented ridges while disbanding the EPR working group. The new sedimented ridges DPG (SRDPG) should consider proposals for EPR bore-rock drilling as well as sedimented ridges. Bob Detrick is the chairman of the group and at their next meeting (June 1989) they will discuss several new proposals: 319/E (Galapagos), 321/E (EPR), existing proposals and proposals expected prior to June 1989 (e.g. Endeavour Ridge). During discussion, it was emphasized that the new DPG's and planned DPG's, such as one for deep crustal drilling, should not be dissolved prematurely. The thematic panels may require the imput of DPG's regularly because new drilling proposals are submitted continuously. Such imput does not necessarily require frequent meetings, however it is essential that DPGs be able to provide their expertise for decision-making for as long a period as necessary. The length of this period may vary, but it cannot be predicted accurately, since it is partly decided by the submission of unsolicited drilling proposals.

Long-Range Planning Document

The ODP long-range planning document is in the final stages of preparation. The priorities of the LITHP for the next decade of drilling, reflecting discussion over several years, are well-integrated into this document. J. Erzinger (FRG) noted that the document was discussed at a recent meeting of the FRG ODP group and was endorsed strongly. During discussion, it was noted that LITHP planning for post-1992 ODP drilling must proceed in a timely manner. Also it was noted that the long-range planning document should be viewed as a "living document," as new site survey results, new proposals and changing scientific ideas and priorities must also be accommodated in LITHP planning recommendations to PCOM.

1.2 CEP-DPG (E. Davis)

The Central and Eastern Pacific DPG has recently completed its prospectus for CEPAC drilling (Blue cover). At their next meeting (April 11, 12 at Hilo) CEP-DPG will attempt to shorten the present program, if possible, and to construct several "straw-men" drilling schedules. It is important to note that LITHP priorities during CEPAC remain unchanged. LITHP continues to recommend a high priority for drilling unsedimented ridges, sedimented ridges, deep crustal drilling, (504B) and a case study of the early evolution of hot spots at Loihi. A new drilling proposal (321/E) for the EPR was recently received and was very favorably reviewed by LITHP. This proposal, plus additional proposals to be considered in detail by the SRDPG in June, should considerably strengthen the case for the scientific importance of drilling unsedimented ridge crests. (CEPAC planning is discussed also in section 3.2).

An important concern for drilling all the above LITHP targets continued to be the potential problem of high temperatures. Temperatures of 300°-400°C are expected and these pose a problem for drilling and subsequent logging of the holes. It was noted that Lou Garrison, M. Langseth and others intend to meet in April at TAMU to consider the problems of drilling into rock at high temperature. In parallel, the down-hole measurements panel (DMP) has recommended a workshop to investigate the implications of high-temperature drilling (possibly in slim, 4" holes) on logging requirements. TEDCOM also is concerned with these potential problems and will discuss them at length in Summer 1989.

Since all of LITHP's highest priority drilling targets in CEPAC are likely to encounter high temperatures and some may be drilled with the new diamond coring system (DCS), LITHP believes it is essential to carefully consider the implications for drilling and logging. Partly for this reason, we propose our next meeting to overlap with the DMP meeting in September 1989 (see 4.2). The Pollution Prevention and Safety Panel (PPSP) also is concerned with high-temperature drilling and plans to start considering it in detail. Potential hazards include not just the high temperatures in the hole but also possible venting of hydrogen sulfide gas and hot water. These problems are not considered especially difficult, but should be resolved during 1990 well in advance of drilling high priority LITHP targets in CEPAC.

1.3 - Workshop on Deep Crustal Drilling (H. Dick, J. Natland)

A JOI/USSAC-sponsored workshop on drilling the lower ocean crust and mantle was convened March 7-10 at Woods Hole. This workshop was organized by H. Dick with the aid of an Organizing Committee and a Steering Committee of eleven scientists. It was attended by 150 scientists representing diverse disciplines within earth and ocean sciences and was intended as a major effort to design a realistic strategy to drill rocks from the lower ocean crust and mantle.

Results of the workshop will be widely distributed to the community in the form of a workshop report. A copy of the preliminary working document is appended to the minutes and gives the major recommendations of the workshop. Essentially, the workshop recommended continued attempts to complete a hole through the ocean crust into the mantle. This is a long-term goal probably requiring engineering developments such as a 11.5 to 12 km-long drill string, new heavy duty casing and others. An important complementary strategy to complete crustal penetration involves drilling offset partial sections in regions where deep crustal and mantle rocks are present near the surface. Important long-term goals of these combined strategies are to penetrate the layer 2/3 boundary and the Moho and to obtain long sections of rock from layer 3 and the oceanic mantle. Major questions concerning tectonic processes at mid-ocean ridges and transforms also can be addressed at the same time.

Careful estimates of drilling times needed to achieve these objectives have been made by Jim Natland. Preliminary indications are, that to fully succeed, the recommmended program of Deep Crustal Drilling will require about 14 drilling legs over a ten-year period, which slightly exceeds the present recommendation in the ODP long-range planning document for Objective 1 (presently 12 legs over 10 years).

LITHP strongly endorses the workshop recommendation and will make efforts over the next several years to help implement them. As an important part of this effort, LITHP recommends to PCOM that a DPG for deep crustal drilling be formed to consider site selection criteria for deep crustal drilling sites and to consider specific proposals. Several proposals for drilling the lower ocean crust and mantle are expected to arrive in 1989, so the DPG should probably be formed in late 1989 or very early in 1990.

2.0 NEW AND REVISED PROPOSALS

LITHP considered nine new or revised drilling proposals. Each proposal was discussed at length and under the new review system, detailed letters summarizing the discussion will be sent to proponents. At this moment, the letters have not yet been sent, however below are listed some of the main points of discussion for each proposal.

2.1 3/E(R) - Hawaii Flexural Moat and Arch (Watts et al.)

The flexural response to loading the oceanic lithosphere is a very important question, however doubt still remains that the dating resolution obtainable in sediments of the Hawaiian moat will be sufficient to resolve the loading/flexure response history of the moat at the required level. However, new Gloria data showing massive debris flows entering the moat from the Hawaiian islands, plus large lava flows on the Hawaiian arch indicate some new and very interesting scientific questions that can be addressed by drilling. The nature, history and significance of arch volcanism is of particular interest to LITHP and consequently this portion of the proposal was highly rated.

2.2 275/E Gulf of California (B.R.T. Simonett et al.)

This proposal has many scientific goals, of which two are of interest to the lithosphere panel. The nature of the continent-ocean transition along the Gulf of California is an important question, however LITHP feels that the proposed drilling is inadequate to fully resolve most important issues. The hydrothermal drilling program, especially a careful program in the Guaymas basin aimed at an understanding of fluid circulation is of interest to LITHP and probably also SGPP. The proposed program, however, is too scant to address most questions of interest thoroughly. This portion of the proposal received the highest rating but, as proposed, received only moderate ratings. This portion of the proposal should be considered further at the SRDPG meeting in June.

2.3 310/A Dipping Reflectors - E. Greenland (Morton et al.)

The nature of dipping reflectors was investigated on DSDP Legs 38 and 81. They are now known to consist of basalt lavas generated during early rifting. This proposal argues that drilling the conjugate margin of E. Greenland would shed further light on the melting process, extent of contamination of basalt and other matters. LITHP feels that some of the arguments in the proposal are flawed and that the drilling strategy is inappropriate in the light of present knowledge about dipping reflectors. This proposal did not receive high ratings.

2.4 312/A Reykjanes Ridge (Cann and Powell)

Although this proposal is very immature, it received high ratings in principle because ridge processes are a high thematic priority of LITHP. The proponents will be encouraged to submit a fully mature proposal for young crustal drilling of the Reykjanes Ridge. LITHP notes, however, that merely because the rocks may be more vesicular than at deeper ridge axes, it is not likely that they will be any easier to drill than young fractured basalts of zero-age elsewhere along the mid-ocean ridge system.

2.5 315/F Global Seismic Network - Hawaii Test Site (Purdy and Dzeiwonski)

The notion of a Global Network of Ocean Floor broad band seisometers placed in ODP holes received very strong support from LITHP. LITHP reaffirms its strong interest in the program, which is an element of the ODP long-range planning document. However several important questions were raised about the proposed site off Oahu. First, it was not clear whether adequate site surveys are available to avoid placing the instrument into a sill intruded into sediment (which would cause poor instrument response). Secondly, while Oahu is an accessible and convenient site, it was not clear that equally convenient sites are not available elsewhere. For example, could the instrument be tested using an existing DSDP or ODP hole with wire-line reentry? Thus while the concept of conducting a pilot study, instrument development, testing and all steps required to eventually establish a net of ocean floor seismometers is strongly endorsed by LITHP, this proposal raises questions. The proponents will be asked to provide clarification of these issues.

2.6 318/E Chile Margin Triple Junction (Cande and Lewis)

This proposal is strongly endorsed by TECP and is aimed mostly at tectonic questions. However, several of the proposed sites are also of interest to LITHP: TJ-4 to look at hydrothermal activity at the triple junction and TJ-7 on the Taitao ridge, which possibly is related to the Taitao ophiolite exposed on land nearby. Of additional interest to LITHP are sites on zero age crust near the margin, but none are proposed in the present drilling proposal. The problem of ridge subduction is one of great interest to LITHP, but this question is de-emphasized in the present proposal. Although there are some concerns about whether TJ-4 alone will be sufficient to resolve the hydrothermal questions, overall, the proposal was rated highly.

2.7 319/E Galapagos Stockwork (Perfit et al.)

This proposal has several goals including investigating the possible links between high iron basalts and hydrothermal activity. Site GRIT-1, to drill an extinct hydrothermal system received high ratings, though it was noted that study of on-land stockworks generally require an array of many drill holes for thorough understanding of their genesis. Site GRIT-4 to drill a section of Fe-Ti-rich basalts also received reasonably high ratings. Sites GRIT-2 and 3, used to tie alteration, hydrothermal activity and eruption chronology together spatially, received less high ratings because it was felt that more holes would be required to make the test conclusive. Overall, the proposal was rated moderately high. LITHP recommends that it be considered further at the upcoming SRDPG meeting as it deals with bare-rock drilling at the Galapagos Spreading Center and with extinct hydrothermal activity.

2.8 321/E EPR at 9°40'N (Fornari et al.)

This proposal is of great interest to LITHP and received high ratings. This segment of the EPR was considered as a good candidate for drilling by the EPR working group and the only important site-selection criteria lacking is documentation of hydrothermal activity. A field program in November 1989

(Fornari and Haymon) will map this EPR segment in detail using the ARGO-JASON deep tow instrument and should find hydrothermal vents if they are present. Even though these results will not be known prior to the SRDPG meeting in June, LITHP recommends that this proposal be considered al their June meeting.

2.9 322/E Pipe-like Structure on the Ontong-Java Plateau (P. H. Nixon)

This drilling proposal is very interesting because if the pipe-like structures present on the Ontong-Java Plateau (OJP) are kimberlites, as suggested, this would be the first oceanic occurrence. Unusual, possibly related rocks (alnoites) are thought to have been explosively emplaced on the island of Malaita just south of the OJP 34 MY ago. While the possibility of kimberlites on the OJP is exciting, evidence to substantiate that the pipe-like structures on truly buried kimberlites is lacking. Unless the OHP could incorporate a hole on one of the structures into their program, which seems doubtful, LITHP does not favor devoting a major effort to this question. A deep-basement penetration on the OJP is a much higher priority to LITHP.

3.0 LONG-RANGE PLANNING

3.1 Engineering Developments

Steve Howard of the TAMU engineering group attended the LITHP meeting to discuss results of Leg 124E and additional plans for engineering work. While the results of Leg 124E were mixed, it is clear that the tests of the new diamond coring system (DCS) were highly successful. LITHP was impressed by the great progress that has been made in a very short period of time. Steve also reported on several new engineering concepts which could be used to drill young fractured volcanic rock and other problematic materials. These employ a number of different strategies featuring the new mini-guide bases, reentry cones and cement bags in combination with the new DCS. For example, for shallow (<200 m) holes into fractured basalt, Steve Howard described a possible strategy using a mini-guide base and a reentry cone weighted with doughnut collars. This arrangement might allow starting a hole on bare rock with the DCS and continuing down up to 200 m. It was noted that for future site selection, a camera mounted on the mini-guide base would be extremely helpful for finding areas of unfractured bare-rock for spud-in. Several of these combinations give great promise of success and are described in more detail in the attached trip report of Steve Howard.

LITHP emphasizes the importance of continued testing of the diamond coring system during the next engineering leg (Leg 129E). It is important that several shallow sites known to contain fractured volcanic rock be identified well before 129E is scheduled. While the present WPAC schedule is uncertain, several sites in the Bonin's, and elsewhere in the northwest Pacific are good candidates. LITHP further recommends that a scientific party interested in the drilling results at the proposed test sites be aboard for 129E. This would help improve site selection options and also help maximize the scientific return of the leg. LITHP strongly endorses the notion of dedicated engineering legs, and feels that better-integrated participation by interested scientists will help the success of the engineering tests.

3.2 Long-Range Planning

Two major planning items were considered: 1) LITHP objectives during CEPAC drilling (Phase 1, to 1992) and 2) Planning for Phase 2 (1993 to 1996). Phase 1 - PCOM has recommended that after Leg 134 (Lau Basin), the RESOLUTION transit to hole 504B to begin the third engineering leg (134E). The main purposes of the leg are to prepare 504B for later deepening and to start a base-rock hole at the EPR. LITHP considered possible options for 134Eand subsequent legs, based on the level of success achieved during 134E. At 504B, there are two problems. The first is to determine whether the casing is sound, or whether it is worn, as suggested by repeated hang-ups at the end of Leg 111. Keir Becker has submitted a proposal to enter 504B using wire-line reentry to determine the state of the casing. If the casing is badly worn, then it may be possible to install new casing (see S. Howard's trip report). This possibility, however, does not seem very promising, so if the casing is worn, it may be necessary to abandon hole 504B.

If the casing is sound, then the second problem is the junk at the bottom of the hole. If the junk can be removed or milled away, the hole could then be deepened 100-200 m or more. Milling and fishing activities are estimated to take 4 weeks. If at the end of this time, the hole cannot be cleared of junk, sidetracking the hole and deepening it by 100-200 m is estimated to take an additional 2 weeks. Thus it is possible that up to 6 weeks of Leg 134E may be needed at 504B. This would leave only about 2 weeks at the EPR to set a guideline and establish a hole. If the new mini-guide bases (expected cost $30,000 each), reentry cone, drill-in casing and DCS are successfully tested during 129E, then it may be possible to accomplish a great deal at the EPR during 134E. In any case, it will be essential to have a scientific party on 134E.

If 504B can be successfully deepened, LITHP favors returning to continue drilling to the layer 2/3 transition as soon as possible in the drilling schedule. If it cannot, then additional logging and side-wall coring may be desirable to present depth. This could possibly be done during 134E, but if not, could be postponed to a later time. In general, the following options and desirable scenarios appear:

134E - 504B	EPR	LITHP recommendations
Success	Success	Leg 135 - E. Equatorial Pac., 136- ?, 137-504B, 138-EPR I. EPR II - 12 mos. later.
Success	Failure	Leg 138-504B
Failure	Success	Leg 138 - EPR I
Failure	Failure	EPR-I 12 mos. later (with possible additional engineering half leg) - start new deep crustal drilling site prior to Leg 140.

Phase 2 (1993-1996) - LITHP's high priority goals for Phase 2 drilling include: 1) deep crustal drilling and recovery of deep crustal and mantle sections, 2) studies of crustal accretion, 3) establishing sea-floor seismic observations, and 4) case studies. The ODP long-range planning document provides 7 legs of drilling for these objectives prior to 1993 during Phase 1. In Phase 2, the specific priorities for LITHP drilling have not yet been determined in detail, but LITHP will have thematic priorities of global significance for the Atlantic, Pacific and Indian oceans soon. For each of the four LITHP priorities, above, there are existing, highly rated proposals available. In addition, many new proposals are expected in the next year or two for Phase 2. At its next meeting LITHP will attempt to rerank existing proposals and to discuss planning priorities for Phase 2. In this way, LITHP is expected to have highly rated case studies as contingency drilling objectives as wells as highly rated drilling targets to help determine whether CEPAC drilling should be extended modestly, or alternatively whether the RESOLUTION should move into the Caribbean/Atlantic. Existing proposals for MAR drilling in the Kane Fracture Zone area, plus expected proposals for Reykjanes ridge, the Vema area and the Caribbean indicate that LITHP will have no shortage of outstanding drill targets. Even so, some discussion was held on the notion of placing an Ad in EOS to solicit drilling proposals (for all oceans). LITHP feels that the community should be more widely aware of the LITHP thematic priorities so that a variety of proposals that address them can be considered.

4.0 ADDITIONAL MATTERS

4.1 Liaisons

LITHP recommends the following liaisons from LITHP be appointed:

to OHP - Guy Smith
to SGPP - Larry Cathles
to TECP - Catherine Mevel

At present, LITHP lacks liaisons from OHP and SGPP. The TECP liaison to LITHP is Roger Buck. LITHP requests that the following suggestions for liaisons be considered by OHP and SGPP liaisons to LITHP:

from OHP - Dennis Kent
from SGPP - Morton Goldhaber

LITHP believes that strong liaisons to and from TECP, OHP and SGPP are essential, not only for information transfer but also for long-range planning. All thematic panels have overlapping interests as set out in their mandates and should thus work closely on high priority drilling objectives of common interests.

4.2 Next Meeting

The next meeting is tentatively scheduled for September 8-11 at the KTB deep drill site in Germany. This is planned as a one-day overlap with the downhole measurements panel which meets September 11, 12. Jörg Erzinger has agreed to act as host.

Uncorrected Minutes of OHP Meeting
Miami
April 4th - 6th 1989

The meeting opened at 08.30 April 4th

After welcome from host Gary Brass and introductions, we received an apology from N. Pisias, PCOM liaison. In his place G. Brass acted as PCOM liaison (though he was not at the last PCOM meeting). All members of the new OHP were present including P. Davies (Australia) who had only been made a member the previous week. In addition W. Sliter (CEPAC DPG liaison) was present along with I. Premoli Silva and L. Mayer (invited guests). NJS reported that he had requested L. Mayer be designated member-at-large following his resignation from SGPP but that this requires a PCOM decision. He also reported that TAMU representatives are only present by special request and that their presence depends on the TAMU budget. We did receive and welcome a TAMU report by TELEMAIL.

L. Mayer reported on the Panel Chairmen's meeting (Miami Nov 1988). Of particular note: the new panel structure is vertical in the sense that the DPG's are supposed to report to PCOM through the thematic panels. However, the timing of meetings has not been planned from that point of view- we will see the report of the upcoming DPG meeting at our next meeting; the next PCOM meeting to which we would be able to transmit the DPG's reports will thus be the annual meeting in November. One specific recommendation the panel make is that DPG REPORTS SUCH AS THE CEPAC PROSPECTUS SHOULD AUTOMATICALLY BE DISTRIBUTED TO THEMATIC PANEL MEMBERS.

The panel agreed that the regular presence of a TAMU representative was highly desirable: (a) to keep the thematic panel abreast of the progress of the project, and keep TAMU abreast of the development of thematic objectives; (b) to keep the panel abreast of engineering developments, and keep TAMU in touch with our engineering requirements; (c) to facilitate discussion with TAMU over such matters as staffing, sampling, publications.

Mandates

For the benefit of new members, all mandates were examined briefly.

Of the general mandates to thematic panels, we regarded 4.2.3 as the most questionable; it is not clear in what sense we can achieve this although we understand the concern that has led to the inclusion of this section. OHP feels that this does provide another reason for TAMU to report to us at each meeting.

The OHP mandate was discussed in detail. In general the panel felt that this was fully appropriate. We do however request that the phrase "Ocean Paleoproductivity" should be inserted in place of "sedimentation patterns" in view of the fact that this concisely describes one area of particular interest to the panel. Other than this we consider that the general nature of our mandate is appropriate.

We also examined the mandate of SGPP in order to ascertain that this panel is properly mandated to represent those portions of the former SOHP interests that are not covered by OHP. One topic of some importance that emerged at COSOD is the cause and effects of global eustatic sea level change. We noted that tectonic causes of global sea level change are (as is obviously appropriate) within the mandate of the Tectonics Panel, and that the sedimentary manifestations of sea level change are within the SGPP mandate. Both the paleoclimatological causes of sea level change (ice sheets during part of the Cenozoic) and

paleoceanographic responses to sea level change are clearly within the OHP mandate. We are however concerned that the major preoccupation of many scientists at COSOD II concerning drilling to test the hypothesis that onlap/offlap sequence stratigraphies give evidence for a pattern of eustatic sea level variability that is pervasive in the geological record, is not sufficiently clearly expressed in the SGPP mandate. We then discussed various specific drilling proposals that had been discussed by SOHP in the past in order to assure ourselves that they did fall within the brief of one or other panel.

The new Shipboard Measurements Panel mandate was also discussed. It was agreed that both the shipboard LIBRARY (especially with regard to paleontological reference works) and slides of micropaleontological reference material (which seemingly has disappeared since Glomar Challenger days) fall within the brief of this panel. Berggren was asked to write to Ellen Thomas on that panel with specific recommendations. This panel should note that on some legs a micropaleontological technician is urgently needed; OHP is concerned that the rather expert shipboard technicians may be unwilling to undertake the rather menial tasks such as washing samples and making slides which as a result occupies too much of the time of the scientific party.

Panel Membership

Our panel membership was discussed; OHP agreed that if Mayer is a full member replacing Garrison, our coverage is good, though the loss of Premoli Silva's Mesozoic and Paleogene expertise will certainly be felt and must be considered at the next round of member rotation.

SGPP Liaison Report

Droxler, who went to SGPP as liaison, reported on their meeting. We understand that they accepted their mandate and concentrated on discussing a future white paper, and on long range plans, as well as on proposal reviews. The lack of discussion of sea level issues may result from the fact that Christie-Blick was not present.

Publication

Publications policy was discussed at some length, taking account of the two newly available Scientific Proceedings volumes. We agreed that the common perception of these volumes as "Grey Literature" is not fully inappropriate and moreover that it is not only desirable but ESSENTIAL that the B volume does contain this element; in the long term the vast repository of data in these widely-available volumes will be seen as more important than many of the more immediately attractive scientific papers that ought to be published rapidly in appropriate journals.

The panel UNANIMOUSLY RECOMMENDS that the present policy be discarded in favour of a mechanism that favours more immediate and unrestricted publication in the open literature. We recognize that the priorities of shipboard scientists must be preserved, and that some degree of monitoring is essential to ensure that data and ideas freely exchanged aboard ship are not published without adequate credit being given. One argument against free rapid publication (that the biostratigraphy used may not be final) was countered by the argument that the published A-volume stratigraphy is available to scientists requesting samples 12 months post-cruise so it should be acceptable to shipboard scientists who want to publish speedily.

As regards the Part A volumes, we concluded that although it is sometimes the case the volume could be completed almost immediately the cruise ends, there are other occasions

when a few months of post-cruise work (particularly, but not exclusively biostratigraphy) vastly enhances the usefulness and reliability of the volumes and that since the purpose of the volumes is to facilitate access to the samples twelve months post-cruise there is no need to drastically accelerate their production. There was however agreement that a post- cruise meeting of all scientists was not necessary for the production of the Part A volume although a post-cruise meeting of paleontologists before the A volume is finalized may be essential for many legs.

After this discussion it was discovered that notes on the recent Information Handling Panel discussion on this issue were available. We examined their recommendation and observed that it resembles ours, but we consider that it remains needlessly restrictive. OHP advises PCOM to adopt a less restrictive formulation. Despite the fact that we recognize the immense value of the B volume as a mine of scientific information, we regard the wide dissemination of ideas as of greater importance in some respects and particularly in regard to the health of ODP. We regard the fact that ODP-related research gets published as more important than publication in the B volume and would prefer a simple formal obligation that any open-literature publication should be lodged for inclusion in the volume (in a modified form if copyright restrictions forbid an exact reprinting).

White Paper

JOIDES JOURNAL dated February 1989 recently printed the White Paper produced by SOHP. OHP examined this and agreed that it gives a fair representation of the objectives of OHP, although it may become necessary to produce another version containing only the OHP portions after SGPP produces their White Paper.

Meetings

Mix reported briefly on the status of the JOI/USAAC sponsored workshop (JOIDES JOURNAL XV p. 63; date in a current EOS) on the relationship between ODP and Global Climate initiatives; a data has been fixed. We expressed surprise that OHP had not been informed earlier about this workshop but Mix explained that the primary purpose was to communicate to the oceanographic community rather than to the OHP community who are already aware of the potential for interaction with these initiatives.

Proposal Reviews

NJS began the discussion be stating his feeling that at this level in the planning structure of ODP all proposals should be presented to the panel in as good a shape as possible; we should be prepared to give advice to proponents as to how their proposals can be improved so as to better achieve the long-term objectives of the community that OHP represents. We do not wish to be in the position of selecting proposals as a basis for drilling plans because they are well constructed; we would prefer to choose from among many well constructed proposals, those that offer the most exciting scientific advances in the field of ocean history as covered by our mandate.

301/D; 304/F; 314/D; 316/E no OHP content

163/D Rev No OHP content (although the sedimentary sequence could prove useful and should be properly recovered).

303/E No OHP content

307/F No OHP content (to the extent that sealevel impinges, it is in the sense that out lack of understanding of sea level history might jeopardize the success of the proposal)

3/E No OHP content. Brass reiterated a question previously posed by PCOM concerning the likelihood that attainable biostratigraphic resolution would be adequate to address the objectives. Kent's letter was re-examined; since this was written prior to recent paleomagnetic work on cores in the area, Kent may be asked to re-evaluate this aspect of the proposal in the light of this recent work.

315/F No OHP content

221/E Rev. Mix reported that site survey will be conducted in September 1989 so OHP did not re-examine this proposal which has previously been very highly ranked by criteria that we still endorse. It was emphasized that CORE ORIENTATION will be essential on this leg. Brass reported that the orientation system had operated well on Leg 124.

305/F The panel recognized that this does not represent a conventional proposal in terms of ODP drilling and decided to treat the four topics as different proposals since it appears that they might not even all be tackled by the same platform.

1. Alpha Ridge. Clearly not a JOIDES Resolution target. By ODP standards the available survey data are inadequate to demonstrate that the sites are optimally positioned, especially as the area is not tectonically simple. OHP was not convinced that the hiatus marked as the K/T boundary should be treated as a K/T target on the basis of available information. However, this area is likely to remain a very high priority area for drilling and we look forward to further survey data becoming available as innovative approaches to geophysical research continue to be developed. The nature of ice cover in the Central Arctic will always be critical information for the understanding of global paleoclimate and paleoceanography, and can almost certainly not be determined except by drilling in that area, so that in the long term this area must be tackled.

2. Yermak Plateau. One of these sites would be accessible to JOIDES Resolution. However, they are compromise sites in the sense that they have tectonic as well as paleoceanographic objectives; the OHP objectives are too important to compromise. It may not be appropriate to develop a proposal for non-JOIDES Resolution drilling in this area until the problems have been defined more clearly by conventional drilling such as is proposed in 320/A

3. Nansen-Gakel Ridge. Not primarily OHP interest; the specific OHP objectives given might be better served by a site in the Amundsen Basin.

4. North Chucki Basin. This is strictly an idea proposal in the absence of adequate documentation. It is potentially of very great importance for the early history of the Arctic. OHP was concerned that the difficult in obtaining a useful high resolution record in such a shallow (200m) water depth had not been adequately considered. However, the history of interchange between the Arctic and the Pacific through the Bering Strait is a very important issue that must at some stage be addressed by drilling in this area. Sliter suggested that a great deal more data are available from this area, perhaps from A. Green (USGS).

306/E Old Pacific Ocean. New data provided in this proposal, and additional survey data presented by Kent on behalf of the proponents, suggest to OHP that the OLD PACIFIC is now an attainable objective for OHP drilling and that a leg should be devoted to this topic. Even if the survey cruise scheduled for 1989 were to provide no new information this could be

regarded as a mature proposal that could be drilled immediately if a window of opportunity should arise as a result of difficulty in achieving the technological needs of other proposed legs. Velocity estimates support interpretations of the seismic sections which imply that the "basement" seen is indeed true basement and not the volcanic sills that impeded earlier drilling for this target (although this argument could be made more convincing if a velocity reconstruction were shown for site 462 where the sill is documented). A new seismic section through unsuccessful site 585 shows clearly that this was located in a quite different and inappropriate location, explaining its failure. The attraction of the proposal is enhanced by the fact that since the sections are not inordinately thick it should be possible to recover carbonate sediment of Oxfordian, Callovian and Bajocian ages over crust preserving equivalent age magnetic anomalies at sites PIG 1, PIG 2 and PIG 3

233/E no OHP content

308/E No OHP content

310/A Prime Objectives not OHP, although the proposal does suggest some paleoceanographic opportunities. OHP consider that in this area sites would have to be placed with great care if there were to avoid slumping and/or erosion. However, this is not an area of particular interest in relation to the primary objectives of OHP and we would not advise the proponents to compromise their own objectives in the hope of gaining OHP support.

311/A Prime objectives not OHP, although the proposal does suggest some paleoceanographic opportunities. OHP questioned whether that the older parts of the section may already have been recovered in conjugate drilling on the Rockall side, that already document the limited usefulness of the sequence. As regards the younger part, the sites are not particularly well positioned to address any specific paleoceanographic problem. OHP consider that the proposal might become more convincing if the paleoceanographic objectives were cut out.

312/A No OHP content

59/A The majority of the objectives of this proposal address SGPP interests. The information on CCD history that will be provided is predicted to be very slight, since these sites on the Madeira Abyssal Plain are modelled by the proponents as having been below the CCD for almost their entire history. OHP will monitor the progress of this proposal in SGPP.

313/A This proposals encompasses 12000m of sediment in 10 sites to tackle questions regarding the early opening of the Atlantic that are in part tectonic and in part paleoceanographic.

OHP noted that two older proposals (Herbin; Herbin and Zimmermann; not available to the meeting) address related issues. 313/A lacks a clear focus and if it were to be recast to more clearly address issues that have been singled out for attention in COSOD II or SOHP White Paper, it might be become more viable. It may be appropriate to make Herbin aware that proposal 313/A is now in consideration; the various proponents might prefer to pool their expertise to generate a new proposal.

271/E Barron et al. This is a resubmitted proposal relating to the California Current System. OHP recognize this as a major component of the ocean circulation system, and as perhaps that Eastern Boundary Current whose geological history is most amenable to useful study. This proposal is considerably strengthened, yet there are several aspects of it that

ought to be given more attention if this is to be highly rated in competition with incoming proposals to drill in other oceans.

1) the issue of turbidites in the sequences needs to be clarified so that (a) it is clear in what portions of the sections they are expected and the extend to which they may be minimized by more survey data; (b) it is clear which aspects of the science proposed are viable even where turbidites are present; (c) it is considered to what extent the turbidites present are likely to affect or terminate APC drilling.

2) varved sediments are mentioned; OHP found it difficult to ascertain in which parts of the section, and in which sites, these are expected particularly as their presence would imply higher accumulation rates than appear to be anticipated. The presence of recoverable varved sequences would affect both the scientific goals that might be attainable and the drilling strategies that would be needed, and should be addressed more explicitly.

3)The case for obtaining El Nino information is not convincingly made.

4) Some members of OHP suggested that this is a proposal that could perhaps benefit from ocean modelling input in advance of drilling.

5) to counter possible arguments that the problems can be tackled on land, it might be appropriate to discuss explicitly the contribution that the land record together with the drilled records will make to out understanding of the California Current system.

318/E No OHP content. OHP remain dismayed at the lack of OHP-related drilling proposals for the South Pacific that might be tackled if the drill ship were to tackle this proposal for the Chile Triple Junction at 46°S..

320/A Jansen et al Nordic Seas

This proposal was regarded very highly by OHP. We feel strongly that the climatic and oceanographic history of the Arctic is an essential component of the whole system and that we should do a proper job of addressing it with the present drill ship before embarking on the use of a different platform. 320/A does includes some drilling at a location that may prove to be inaccessible in the particular year chosen (for which an alternate is suggested); OHP had not doubt that a viable drilling leg addressing our highest ranking objectives is proposed; although some further survey work is planned for 1989, this is very close to being a mature proposal.

Results of Engineering Leg 124E.

Droxler handed out a copy of a report given to SGPP on this leg.

Diamond Coring System (DCS). The objectives were to test the viability of a second "active" heave compensation system, and to evaluate the use of the rotating drill rod inside the ODP drill string. both tests were successful, though TAMU engineers consider that a second engineering test is needed before the DCS is scheduled for a scientific leg. This tool is being developed for drilling fractured rock on the East Pacific Rise, but OHP had the impression that it may be applicable to OHP objectives (e.g. chert/chalk)

The Pressure Core Sampler appears to have successfully recovered core at in situ pressure on two of three attempts; further work is required to develop the ability to utilize the material (requiring removal of the core sample to a lab pressure chamber).

Tests of the Navi Drill system seem to have been less successful. OHP understand that considerable further work is needed to develop this tool to the point where it is useful for recovering Chert/chalk alternations, because of the difficulty of controlling weight-on-bit (generated from hydraulic pressure by the thruster unit) and rotation, as the lithology changes.

Keir Becker joined us briefly to report that the GEOPROPS tool that is intended for Nankai drilling is not likely to be ready and that PCOM may be obliged to reschedule this leg. If this proves to be necessary, OHP consider that although further survey is planned, the information in proposal 306/E is sufficient that an Old Pacific leg could be scheduled in present data with the option to change site selections if the new survey data warrants it.

In relation to the Engineering Leg, OHP endorse the advice offered by Rea (CEPAC chairman; see Nov 1988 PCOM agenda book p. 175) regarding suitable targets for 129/E. OHP asked Davies (co-chief elect for Leg 131 North East Australia) to write a letter drawing attention to the requirements of that leg (recovery of reefal limestone, carbonate sand) inasmuch as it may focus the Leg 129/E work.

Ontong Java

At the Nov 1988 PCOM meeting the proposal to drill a Neogene Transect on Ontong Java was scheduled despite the fact that at that time the site survey had not been completed, on the basis that we know enough about the area that it was unlikely that a first rate set of sites would not be available. Mayer reported on the Site Survey cruise which was followed by a detailed discussion of the leg. It was clear that a minimum requirement for the objectives would be four sites with triple APC coring and double XCB coring of the Neogene parts of the section at each site; there seems little doubt that the pressure on sampling on this leg will be extreme and the third APC deployment will be needed to provide sufficient material. We anticipate high enough XCB recovery in that part of the Neogene not accessible to APC, that by double XCB coring a near-perfect sequence will be recovered at each site.

ODP site 586 should also be re-occupied to double XCB core that part of the Neogene not recovered by previous APC drilling.

An important opportunity exists to investigate the Aptian/Albian ocean in this area so that we advocate drilling at least two sites- OJ at around 3100m and OJ at around 4200m through the Albian. This will also provide (in conjunction with DSDP289) a very valuable depth transect for the Paleogene. If it is Mayer agreed to provide CEPAC with revised drilling time estimates (provisional pending TAMU input) based on the above discussion. If any sacrifice is needed in the above program we suggest eliminating the reoccupation of 586 rather than lose the opportunity to achieve our important secondary objectives (noting that the steepest gradient in paleoceanographic parameters is expected deeper in the section around 3000 to 3500m wd). Oriented APC cores, and attention to avoiding magnetized core barrels, will be essential for a successful magnetostratigraphy to be developed in these classic low-latitude carbonate sequences.

Future drilling in the Pacific

Longer-term Pacific plans will be discussed by CEPAC and PCOM at their next meetings. We emphasize (1) that we now regard the Old Pacific proposal 306 as mature and ready-to-go, despite possible improvements that may stem from new survey data later this year (2) we remain very interested in Bering Sea drilling, particularly after reading proposal 305/F for Arctic drilling, since it would be unfortunate to embark on Arctic drilling

without having adequately investigating the paleoceanography of the Bering Sea side of the Bering Straits. We regret that PCOM did not choose to form a DPG to investigate the most effective way of achieving the many important objectives of the several proposals for North Pacific and Bering Sea drilling, and hope that CEPAC, perhaps with help from the various proponents, will be able to fill this gap.

Long Term Planning Document

Although the status and purpose of this document (other than as a guide to the preparation of the next NSF drilling proposal) is not clear, it was distributed to OHP in the hope that it will help in stimulating proposals. OHP should make the community aware that there are major goals and even identified drilling targets outlined in this document for which proposals do not yet exist.

Liaisons

Peter Davies agreed to consider the possibility of acting as liaison to SGPP; if he finds he is unable to do this, Droxler will take over and another liaison will be found for CEPAC. At least for the next CEPAC meeting Droxler is the liaison.

While much regretting Pisias' stated intention of resigning from PCOM, OHP commend his suggestion that Brass should become liaison with PCOM in his stead.

Other Business

Stein read out a letter from a group of scientists seeking our support for a project necessitating dense sampling (15cc every 20cm). OHP considered that it would be inappropriate to endorse or otherwise a request from one particular group of scientists; we recognize that TAMU has on the one hand a responsibility to ensure that core material will continue to be available for scientific projects over the next several years, and on the other hand has a responsibility to ensure that high priority projects are not impeded by over-restrictive sampling policies. OHP recognize that high density sampling is increasing as the emphasis on high-frequency climatic variability increases, and that we should take account of this in recommending triple APC coring where unrestricted sampling may be desirable in order to achieve our primary goals.

Next meeting

Tentatively scheduled for Giessen, FRG; host, R. Stein,

Dates: October 26th to 28th.

MINUTES OF THE CEPAC-DPG MEETING OF APRIL 10-12, 1989

CEPAC convened its spring meeting at the Naniloa Hotel in Hilo Hawaii, at 0900 on the 10th of April. Members present included: M. Flower, C. Sancetta, S. Schlanger, P. Floyd, H. Beiersdorf, W. Sliter, J. Francheteau, L. Kroenke, and D.Rea. Liaisons present were R. Moberly (PCOM), and A. Droxler (OHP). Guests included B. Bornhold (PGC), L. Keigwin (WHOI), and A. Stevenson (USGS). R. Wilkins of DMP was present to discuss logging and logging requirements. The meeting was held at the same time as that of the Site Survey Panel, in order to discuss data and plans of mutual interest.

The meeting began with introduction of guests and dissemination of information concerning local logistics. There followed the reports of the liaisons. Moberly (PCOM) reported that a change in plans will result from the delay in the Nankai leg, postponed an uncertain length of time to permit final development and deployment of the physical properties tool. This rescheduling may require the addition of one or two CEPAC legs into the schedule at an early date. (Those western Pacific efforts most ready to go are Old Pacific and one of the Atoll/Guyot efforts.) PCOM will attempt to establish a general ship's track three of four years in advance of drilling, an effort scheduled to begin at their May meeting. Moberly mentioned the various reviews of the Drilling Program, both U.S. and International. The question(s) of the publications, Volumes A and B, etc. aroused the usual intense discussion among the panel members, much centered in the concept "if it ain't broke, don't fix it" and a call to return to the old one-book format.

CEPAC no longer has a formal liaison with LITHP, a deficiency we hope will be soon remedied, and our reports from that group were in the form of a comprehensive letter from Earl Davis, of CEPAC, who was attending another ODP meeting (in the Dallas airport). LITHP objectives in the CEPAC region remain unchanged; new Pacific area proposals are coming into that panel now.

CEPAC no longer has a formal liaison with TECP, a deficiency we hope will be soon remedied, and our reports from that group were in the form of BITNET notes to the chairman from T. Shipley, and a report form Moberly. TECP once again prioritized the Pacific work, ranking Chile 1-leg (this after asking the proponents for a two-leg program last fall), Old Pacific, and Cascadia 1-leg highest, followed by Nankai second leg, Chile second leg, and Hawaii flexure. They requested an accretionary WG or DPG to assess the relative merits of drilling at Nankai-2, Cascadia, and Barbados and CEPAC supports that request.

Both Droxler and Sliter attended the OHP meeting during the first week of April and provided CEPAC with deliberations of that newly-constituted panel and, secondarily of SGPP. We learned of the membership of these panels, and how they have divided up the old SOHP objectives.

After presentation of the liaison reports R. Wilkins of DMP gave CEPAC a welcome update on the ODP logging program, the variety of tools in use and about to be in use, and how to calculate the times of various logging programs that may be required for most of the sites to be drilled. During the

remainder of the meeting he was helpful in providing such information while panelists were constructing various drilling programs.

On Monday afternoon CEPAC and SSP met jointly to hear presentations of the various Pacific data sets that will provide the foundation for the CEPAC programs. Tom Shipley brought the recently processed data from the Ontong-Java Site Survey cruise and discussed those data along with the package/report that Larry Mayer had prepared for the meeting. Brian Bornhold described the data set from Patton-Murray Seamount group that reveals the pelagic window through the Northeast Pacific turbidites. Lloyd Keigwin reported on the results of the Keigwin/Lonsdale cruise to the Detroit Seamount area of the Northwest Pacific. He showed the Seabeam maps and profiles across the suggested coring locations. Andy Stevenson described the USGS data in the North Pacific and Bering Sea region. The Lee may have traversed regions appropriate to North Pacific sites NW-3 and NW-4, giving a better understanding of the underlying sediment than the old Lamont single-channel seismic lines. Stevenson also showed the multi-channel lines crossing Umnak Plateau, Sounder Ridge, and Shirshov Ridge drill sites in the Bering Sea. Sy Schlanger presented the results of his surveys of atolls and guyots in the Marshall Islands and outlined proposed drill sites to resolve the several posed problems. He reported that Winterer and others would also be submitting a revised proposal for drilling on the Cretaceous features to the west. Tom Shipley discussed the data from Pigafetta and East Marianas Basins that are pertinent to the Old Pacific Project. Finally, Greg Mountain raised questions about the nature of data on Shatsky Rise; Kroenke may have some old HIG data that pertains to this question. Monday's meeting adjourned at 6:00 PM.

On Tuesday CEPAC broke into subgroups to write drilling plans for the Ontong-Java Plateau, North Pacific Neogene, and Bering Sea Programs, an effort that required the entire day.

CEPAC reconvened Wednesday morning April 12, the clouds having lifted from Mauna Kea revealing the snow-capped peak, to establish a straw-person schedule for Pacific drilling through 1992. The following schedule resulted:

1989	O-N	Geochemical Reference
	D-J	Old Pacific
1990	F-M	Ontong-Java Plateau
	Apr	Engineering/Science
	M-J	Nankai #1
	J-A	Atolls and Guyots #1
	S-O	Northeast Australia
	N-D	Vanuatu
1991	J-F	Lau Basin
	M-A	Engineering and easterly transit
	M-J	North Pacific Neogene
	J-A	Bering Sea Paleoceanography
	S-O	Sedimented Ridges
	N-D	504B/EPR
1992	J-F	transit and Chile Triple Junction #1
	M-A	Chile Triple Junction #2 and transit
	M-J	Eastern Equatorial Pacific Neogene
	J-A	Cascadia
	S-O	EPR/504B

N-D Loihi/Flexure

1993 J-F Atolls and Guyots #2

M-A Nankai #2

The next meeting will be requested for November 16 and 17, 1989, at Lamont, hosted by Sancetta. The summer meeting will be replaced by mailed submissions and revisions to the chairman who will compile a Third CEPAC Prospectus for distribution in July, and review by all panels during the fall. Feedback should be in time for the November meeting.

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

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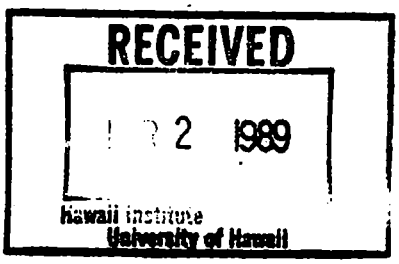
School of Oceanography, WB-10

March 14, 1989



89-133

Doctor Thomas Pyle
JOI, Inc.
1755 Massachusetts Avenue Northwest
Suite 800
Washington, D. C. 20036

Subject: JOIDES BCOM Report

Dear Dr. Pyle:

Attached herewith is the report of the JOIDES budget committee, which met on 7 and 8 March 1989 at JOI, Inc.

Sincerely,

Brian T. R. Lewis

BTRL/kg

cc: J. Briden
J. Stel
N. Pasias
R. Moberly

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TO: Dr.T.Pyle
JOI inc

BCOM Report
7 and 8 March 1989
Washington D.C.

1. BCOM met in Washington D.C. on 7 and 8 March 1989. Members present were Brian Lewis in the chair, Jim Briden, Ralph Moberly and Nick Pisias; Jan Stel was ill and unable to attend. Also present were Xenia Golovchenko (LDGO), Phil Rabinowitz and Sylvia DeVoge (TAMU), and Tom Pyle and Ellen Kappel (JOI).

2. Proposals presented to BCOM. Excellent presentations were made to the committee which provided the BCOM with an overview of the budget requests. In the discussions that developed problems that needed attention from the BCOM were identified.

The proposed draft budget totals presented to BCOM were compared to the initial targets set in the FY89 four year plan as follows:

	Presented	Target
TAMU	$33,239,000	$33,239,000
LDGO	3,303,761	3,029,000
JOI/JOIDES	1,740,359	1,664,000
MRC (*)	45,142	0
Total	$38,328,262	$38,000,000

(*) Micropaleontology Reference Center.

3. Major Factors. In the late afternoon of 7 March the BCOM reviewed, in executive session, the budget in terms of the FY90 program plan, the long range outlook for ODP, recommendations by recent reviews of ODP, and the necessity to balance the budget. It was recognized that:

1) There were two elements of the budget that are non-negotiable by JOI Inc. namely the SEDCO and Schlumberger contracts.

2) Such items as fuel, port call costs, and travel costs are difficult to predict but TAMU has made realistic estimates of probable costs.

3) Potential increases in the SEDCO day-rate have not been budgeted. As in previous years, day-rate increases and deductibles for insurance claims will have to be dealt with

by management if they occur.

4) The containment of payroll costs is critical not only for FY90, which has a $2M total increase over the previous year, but even more so in future years when comparable increases are not assured.

5) The target of 4% Special Operating Expenses (SOE), which is based on the total budget ($38M) minus the JOI/JOIDES budget, is $1,447,600. It must be achieved and utilized for the purposes originally intended by JOIDES. The total SOE included in the presented budget drafts was $1,073,500, which was short of the 4% by $374,100.

6) An unexpected fourfold increase in the insurance for Schlumberger tools significantly impacted the FY90 budget.

7) The costs for publishing the Long Range Plan of ODP and the brochure highlighting significant achievements of ODP were not included in the 4 year program plan prepared last year but must be allowed for now.

8) The availability of the digital bore-hole televiewer at a significantly reduced cost needed to be considered in terms of the FY90 program plan.

9) Concern for the long range future of ODP has raised the question of timely publication of ODP results.

The BCOM discussed the budget in these terms placing special emphasis on the publication and engineering issues. Specifically the BCOM recognized the concerns expressed to JOIDES about editorial support for the "Results" volume and that the use of a small diameter diamond coring system could preclude the use of specialty logging tools.

On the morning of 8 March BCOM obtained comments from the sub-contractors about consequences to their programs of smaller increases than they had proposed. During the remainder of the day BCOM, in executive session, developed the following recommendations.

4. Special Operating Expenses. To ensure the "innovation content" of the Ocean Drilling Program and to address the issues mentioned above the BCOM makes the following recommendations for SOE funds:

TAMU 1. $16,000 for publications equipment as specified in the TAMU draft budget to improve capability in graphics.

2. $70,000 to be added to the publications budget specifically for hiring two copy editors to assist the preparation of "Results" volume papers submitted to ODP. In the view of the BCOM these funds are necessary independent of any change in publication policy proposed by JOIDES. This recommendation is made based on the concern over timely publication of ODP results expressed by review panels and the concern over the lack of adequate copy editing expressed through JOIDES.

3. $380,600 for drilling supplies (casing, guide bases and hard-rock supplies) associated with hard-rock drilling operations as specified in the TAMU draft budget.

4. $45,000 for the development of the smaller hard-rock guide base as specified in the TAMU draft budget.

5. $400,000 for further development of the diamond coring system (DCS). The BCOM anticipates that the specific use of these funds will be defined after the evaluation of the results of Leg 124E.

6. $95,000 for testing on land of the DCS and such other systems as necessary following the evaluation of Leg 124E.

7. $125,000 for the feasibility study of drilling to 7500m with the DCS and the feasibility of reaming the hole for use of specialized downhole tools.

8. $170,000 for upgrading shipboard equipment. BCOM added $20,000 to the TAMU request for ship-board equipment so as to include upgrading the seismic computer system. The BCOM recognizes that the Shipboard Measurements Panel will make recommendations to PCOM to set the priorities for use of these funds.

Items 6 and 7 were indicated in the back-up information of the TAMU submission but not included in their budget request. The BCOM recommends that the $81,900 request by TAMU for additional computer equipment for computer services be rejected. As a result of these recommendations the SOE for TAMU is $1,285,600.

LDGO 9. $103,488 to cover the unexpected additional insurance costs.

10. $57,600 for the lease-purchase of the digital borehole televiewer as specified in the LDGO draft budget.

The total SOE for LDGO is thus recommended to be $161,088.

JOI/ JOIDES 11. $73,000 for publication by JOI Inc. of the Long Range Plan and dissemination of a brochure on scientific accomplishments of ODP.

The total SOE for JOI/JOIDES is thus recommended to be $73,000.

BCOM rejected the request for funds to provide radiolarian reference slides to existing micropaleontology reference centers. It was felt that the specific request had not been reviewed by JOIDES and that, in general, an RFP should be issued for any such requests.

It is viewed by the BCOM that, within the total budget of $38,000,000 for FY90 and the above SOE distribution, it is possible to attain the following revised budget targets:

	Total	Included SOE	
TAMU	$33,078,182	1,285,600	
LDGO	3,196,819	161,088	
JOI/JOIDES	1,724,999	73,000	
Total	38,000,000	1,519,688	(recommended SOE equals 4.18%)

6. Consequences for Base Budget. While making these recommendations the BCOM recognized that TAMU had done an admirable job in presenting a budget within the target total. Issues that occurred after these targets were defined, required a reduction of about $160,000. The BCOM also notes, however, that the budget presented by TAMU contained payroll increases of 12%, which is well beyond the overall level of increase in the ODP budget and beyond the increase (4%) projected in the four-year

program plan written in FY89. Given the projected increases for FY91 and FY92 (either by JOIDES or NSF), failure to contain payroll costs now will result in very difficult budget decisions in these years.

The revised target for TAMU increased their SOE by $212,000 while reducing their total budget request by $161,000. BCOM reaffirms that it deems these revisions as essential to enable the total SOE for the whole Ocean Drilling Program to be revised from $1,073,000 to at least $1,447,600, including major SOE elements that are attributed to LDGO and JOI.

The consequences of the revised allocations for LDGO are that the borehole televiewer and insurance costs can be covered but only about one third of the labor needed to meet the increased workload is provided for in this target budget.

The JOI/JOIDES base budget was reduced from the initial target figure by about 2% in line with that of the Science Operator, but a $73,000 SOE was assigned to JOI/JOIDES to address what BCOM considered to be a very high priority issue.

These financial constraints will impact upon the performance of the program immediately in FY90. This situation will occur in a year in which the budget will be $2,000,000 higher than in the previous year. It indicates clearly that even with the most optimistic predictions for inflation, the program will be in crisis in 1991 and 1992 if the further $2,000,000 per annum budget increases called for last year by BCOM and strongly endorsed by EXCOM are not forthcoming.

BCOM passed these recommendations to JOI Inc. for discussions with the subcontractors.

WOODS HOLE OCEANOGRAPHIC INSTITUTION
Woods Hole, Massachusetts 02543
Phone: (508) 548-1400
Telex: 951679

Department of Geology and Geophysics

203 To: Dr. Moberly
FYI

E9-116

February 22, 1989

Dr. Thomas Pyle
JOI, Inc.
1755 Massachusetts Avenue, NW
Suite 800
Washington, DC 20036

Dear Tom:

I was glad to see your letter of February 10th to Mike Berry exploring the possibility of the formation of a joint ODP/FDSN working group to coordinate and advise on plans for ocean floor seismic observatories. I consider this to be an extremely positive step. As you know, Adam Dziewonski and I took particular care in ensuring as wide a representation as possible from Federation members at our JOI-sponsored workshop in Woods Hole last April. It is clear that the success of our program depends upon our ability to work effectively with the international community and if there is anything Adam or I can do to this end, please let us know.

Yours sincerely,

Mike

G.M. Purdy

GMP/kifh

cc: M. Berry
A. Dziewonski
J. Orcutt

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2 March 1989

Dr. Peter Lysne
Division 6252
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185

Dear Peter:

As Ellen Kappel has mentioned to you already, JOI is considering the establishment of a number of working groups to provide more visible, formal liaisons between the Ocean Drilling Program and a number of major earth science programs. This idea is on the agenda for the next ODP Planning Committee (PCOM) meeting so that we can begin to get JOIDES input on how such a mechanism might operate.

In light of our previous discussions on improving coordination of ocean and continental drilling programs and your recent submission to USSAC of a workshop proposal, I wanted to get your reactions to such an idea. Instead of a one-time workshop, such a committee would provide "permanent" (as long as both groups wanted), on-going information exchanges and coordination. Such a working group under the ODP rather than USSAC banner would facilitate international coordination (i.e., representatives of other countries' continental drilling programs could attend the meetings if they wished to participate). USSAC would still be involved since it pays the travel of U.S. attendees at ODP meetings, but we would avoid the complications presented by your proposed non-U.S. co-convenor. It should also facilitate the attendance of ODP personnel from TAMU and Lamont. I am sure the attendance of guests could be arranged under this scheme, although I am not sure how such "outsiders" would be chosen.

Compared to other such liaison groups we have contemplated (e.g. with Arctic Ocean Drilling, with the Global Seismographic Network), I am a little uncertain about "your side's" representation on the committee. In the U.S. alone there are many players (NSF, DOSECC, DOE, USGS, etc.) and I hope to keep time and travel costs down by limiting the size of these liaison groups to 6-8 people (3-4 each from ODP and the liaison program). So, it would be critical for you and others to give some thought to who the individual members might be. By copy of this letter, I hope to reach the U.S. Interagency Coordinating Group and engender their discussion of this idea and possible representatives.

I hope these groups could work with a minimum of meetings and travel and with a maximum use of telephone, telemail and letters. My Omnet mailbox is T.PYLE. What's yours?

I'm looking forward to discussing this with you.

Sincerely,

Tom

Thomas E. Pyle
Vice President and Director
Ocean Drilling Programs

cc: C. Helsley, EXCOM
E.Kappel, JOI
B. Malfait, NSF
I. MacGregor, NSF
R. Moberly, PCOM
N. Pisias, PCOM LRP
P. Rabinowitz, TAMU
D. Scholl, USSAC
P. Worthington, DMP

23 March 1989

Dr. Ralph Moberly, Chairman
Joides Planning Committee
Hawaii Institute of Geophysics
University of Hawaii
2525 Correa Road
Honolulu, Hawaii 96822 USA

Dear Ralph:

Enclosed is the Program check-list for PCOM watchdogs, with some suggested revisions. I envision the purpose of such sheets to be threefold: 1) to assure that we all have some minimum standard set of information for each program that PCOM is considering, 2) to flag potential problem areas (e.g. surveys, engineering, clearance, etc.) early so they can be dealt with effectively, 3) to maximize information transfer with minimum hassle for all involved. Sheets should be created or updated only as needed for smooth conduct of PCOM deliberations.

Give me a call if you have any questions or further thoughts.

Sincerely,

Brian E. Tucholke
Senior Scientist

PROGRAM CHECK-LIST
for use by PCOM Watchdogs

I. Program _____ Watchdog_____

A. Relevant proposals, including revisions: file number, content, proponents, dates

B. Other background comments

II. General Status (continue on additional sheet if necessary)

A. Rankings and recommendations by panels and DPGs (referenced to date and page of minutes)

B. Special technical capabilities required: (1- state of the art, and especially 2- beyond state of the art).

C. Site surveys (including planned/completed surveys, SSP comments, submission to ODP Databank; referenced to minutes, letters, reports, etc).

D. PPSP previews and reviews (referenced to minutes or liaison reports)

E. PCOM decisions and ODP action (referenced to PCOM minutes or correspondence)

III. Summary of Status, this date (_____)

NORTHWESTERN UNIVERSITY COLLEGE OF ARTS AND SCIENCES

Department of Geological Sciences

Locy Hall
Evanston, Illinois 60208
Telephone (312) 491-3238

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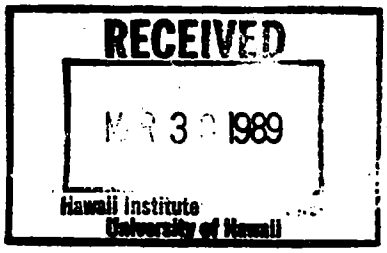
March 22, 1989



89-149

To: R. M. Moberly, Chairman PCOM

From: S. O. Schlanger and E. L. Winterer

Subject: Drilling and recovering limestones from drowned atolls (guyots) (Proposals 202-E and 203-E)

Introduction

Questions have been raised at the Panel and PCOM levels concerning the feasibility of recovering a sufficiently high percentage of cores from reef complexes atop drowned atolls (guyots) of mid-Cretaceous to early Eocene age in the Marshall Islands (proposal 202-E) and of Early Cretaceous age in the northwest Pacific (proposal 203-E). At the request of PCOM to supply it with information on past drilling results and prospects for future ODP drilling, we have prepared this memo. It includes discussions of the reef complex-related scientific objectives of the 2 proposals, expected lithologies, drilling strategies, data on recoveries at previous atolls and carbonate platform drilling sites and recommendations relevant to ODP planning.

Objectives, NW Pacific Drowned Atolls

The main topical objectives of coring Early Cretaceous drowned atolls in the NW Pacific are to document:

- Relative sea-level changes and their relation to eustatism, local and regional tectonics, and atoll seismic stratigraphy.
- The timing and causes of atoll drowning.
- The internal facies anatomy of open-ocean Early Cretaceous atolls.
- Diagenetic changes in atoll sediments.
- The detailed history of paleolatitude changes of the atolls.

Objectives, Marshall Islands Drowned Atolls

The northern Marshall Islands province characterized by the presence of both modern and drowned atolls provides a number of drill sites relevant to:

- The correlation of sea level events as determined on passive margins with those recorded in intra-plate settings.
- The timing and causes of carbonate platform drowning.
- The facies architecture of drowned reefs.
- The diagenetic history of long submerged reef complexes.
- The paleolatitude of formation of a major chain and its path as this bears on plate motion models.
- Vertical tectonic history of a midplate setting related to episodes of thermal rejuvenation.

Lithology of Platform Carbonates as Related to Drilling

On each of the drowned atolls proposed for drilling, the site survey data (Seabeam, SeaMARC, seismic reflection, dredge hauls) show two interfingering major sedimentary facies: an encircling reefal rim and an enclosed lagoon. The contrasting seismic character and dredge-rock petrology of the two facies probably connotes different drilling responses:

a) Lagoonal facies: seismically well stratified, like the Cenozoic lagoonal sediments cored so successfully at Enewetak. At two Early Cretaceous guyots in the NW Pacific (Allison and "M.I.T.") dredges from erosional scarps in the lagoonal facies yielded firm chalky limestone with a friable texture. You now have in your possession a chunk of this limestone facies, dredged from Allison Guyot. The dredge samples, if at all typical, suggest that the lagoon facies may core as easily as firm pelagic chalk.

b) Reefal facies: seismically nearly isotropic ("white-outs"). These are reefal build-ups, comprising mainly framework corals and algae, rudists (in the Cretaceous), and interbeds of rubble, shell debris and lime sand and mud. The cementation varies from almost nil in shallow Neogene layers at Midway, Enewetak, Bikini and Mururoa drill cores to almost complete in deeply buried Eocene layers. At outcrop, even Pleistocene reefal rocks, e.g., on Guam, are well cemented by meteoric-water diagenesis. The upper 100-300 m of reefal material on the Early Cretaceous guyots was emergent and karstified prior to final atoll drowning.

While we are not as optimistic about achieving consistently very high recovery rates in reefal facies using conventional ODP rotary-bit coring techniques, we want to underline that good recovery of reefal facies has been consistently achieved in past drilling and may be improved withnew technology (see below).

Recovery Rates in Reef Complexes

A number of atolls and guyots in the Pacific have been drilled with excellent core recovery, notably Enewetak, Midway and Mururoa.

Enewetak: In addition to a number of shallow holes, KAR-1, drilled in 1985 in a back-reef lagoon setting (W.D. 32 m) from the small drill ship *Knut Constructer* reached a T.D. of 349 m: 216m, or 62%, of the section was recovered. Details of the drilling methods used by the McLelland Engineers Inc. are given in USGS Open File Report 86149, 1986; this report is in the hands of the TAMU-ODP engineering group.

Midway: Drilling with a barge mounted Failing 2500 rig using rubber-sleeve lined core barrel in the back-reef part of the lagoon of Midway resulted in the recovery of 92% of the section in a hole with a T.D. of 504 m (USGS PP 680A, 1970).

Mururoa: A large number of holes drilled included Sondage Collete which reached a depth of 462 m; ~80% recovery was achieved (see review in Aissaoui, Sedimentology, v. 35, p. 821, 1988).

Suiko Guyot: Several holes drilled in a Paleocene bryozoan-algal buildup achieved an average of 50% recovery (DSDP v. 55).

We note that in these drilling programs the complete spectrum of lithologies and facies types that make up atolls were penetrated and recovered: reef, back-reef, lagoonal, dolomitic. Further, recovery

was accomplished in rocks of varying degrees of cementation. Therefore it is obvious that carbonate platform sections can yield very high recovery rates.

Because of the availability of a variety of modern logging tools and because of recent advances in our ability to image reef complexes seismically, in the development of the Sr^{87}/Sr^{86} method of dating limestones and in the application of stable isotopic techniques to our understanding of diagenetic effects, we estimate that a 30-50%, more or less evenly distributed, recovery rate would be sufficient to achieve the objectives of proposals 202-E and 203-E.

Much of the drilling described above was carried out on islands or from barge-mounted rigs or moored drill ships in shallow water. The answer to the question of whether similar high recovery rates can be achieved on the *D/V Resolution* depends on the adaptation of techniques used in prior atoll drilling to the *Resolution* and/or the successful development and testing of new systems such as the Navidrill or Diamond Coring System. Discussions with TAMU-ODP engineers have been encouraging. The problem has been clearly defined and they are actively working with the McLelland Engineers, Inc. of Houston, Texas (the company that carried out the 1985 Enewetak drilling) to see what kind of technology was used and its adaptability to ODP objectives.

We point to the need for realistic testing. To this end CEPAC (see memo from Rea to Moberly, 19 Oct 1988) strongly recommended that a site on engineering Leg 129E be devoted specifically to drilling the Cretaceous limestone cap on one of the guyots listed in 203-E. Recent surveys by Winterer et al. of "M.I.T." Guyot show it to be an excellent location. We note that PCOM (Joides Journal, XV, no. 1, 1989) endorsed this proposal for inclusion in the 129E program.

Drilling Strategies and Plans

For the Northwest Pacific Cretaceous guyots, about 75% of the planned carbonate platform coring is in lagoonal facies strata, in which it is most likely we can:

- relate the relative sea level record to seismic stratigraphy,
- obtain decipherable biostratigraphic and magnetic-reversal successions,
- document detailed paleolatitude paths of guyots.

Only two reef or back-reef sites are planned, with maximum penetration of about 300 m.

In the Marshall Islands, the Sylvania guyot program requires only about 200 m of coring for each of the two facies to be sampled, lagoonal and back-reef. On Harrie Guyot, the section at the lagoonal site is only about 200 m thick, while at the back-reef site it is about 600 m thick.

Summary

We believe that the following points need to be recognized by PCOM.

- The scientific objectives discussed above, and detailed in the revised 202-E and 203-E proposals, being prepared following the recent NSF-funded site-survey cruises in the Marshalls and northwest Pacific guyot province, are of sufficient importance that a determined effort be made to drill the proposed sites.
- The recovery record of past carbonate platform drilling shows that high recovery rates can be achieved at levels more than sufficient to achieve the stated objectives. Examples of successful

prior recovery are: Suiko Guyot, 50% recovery; Enewetak, 62%; Midway, 92%; Mururoa, ~80%; Morocco margin, 40%.

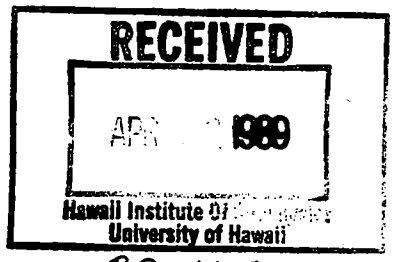
- The adaptation of existing technology coupled with further development of new approaches such as the Navidrill and the fitting of the Diamond Coring System to *D/V Resolution* should be carried forward to achieve recovery rates of 30-50% in the limestone sections we expect to encounter.
- A suitable limestone-capped guyot (e.g., "M.I.T.") be included in the plans for engineering Leg 129E.

To: Dr. Ralph Moberly
PCOM Chairman

From: Dr. David Rea D.K.R.
CEPAC Chairman

Re: Engineering/Scientific Legs

Date: 11 April, 1989



89-167

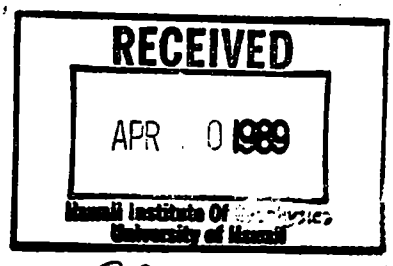
Success of the OHP-LITHP (CEPAC/DPG) high-priority drilling program in the western and central Pacific is dependent on the recovery of chert-chalk sequences and reefal formations (see Rea memo to Moberly of 10/19/88, Schlanger, Winterer memo to Moberly of 3/22/89). In addition, drilling in a bare rock environment with the diamond coring system is needed to prepare for high-priority LITHP drilling in the eastern Pacific . Given the problems of timing and the consequences to scheduling the Pacific program, we urge that an early Engineering/Scientific leg be scheduled. We propose the following framework for a one-month leg, similar to that proposed by CEPAC last fall: one site on Shatsky Rise to drill chert-chalk sequences at DSDP Hole 47 (proposed Shat-1), one site at M.I.T. Guyot (proposed site 27.2N, 152.8E in proposal 203E revised) to test the recovery of reefal limestones, and one site in the Mariana backarc spreading center (Alvin dive area) to recover young brittle basaltic crust. Following the previous memo of 10/19/88, these objectives could be achieved in a Japan to Guam leg by departing Japan, proceeding to Shatsky Rise (2.5 days transit), then to M.I.T. Guyot (1.5 d) then to the northern Mariana back arc spreading center (2.5 d) and ending in Guam (a final 2.5 d transit), leaving 21 days for on site operations. We propose that such a leg be co-directed by an engineer and a scientist with a small scientific party to include two paleontologists, two sedimentologists, and two petrologists.

Because of accessibility and the presently approved drilling programs we suggest that the leg be scheduled as early as possible, i.e as Leg 132, in mid-April of 1990.

cc: L. Garrison, ODP
N. Shackleton, OHP
R. Batiza, LITHP

UNIVERSITY OF Miami

5 April, 1989



89-162

Dr. Ralph Moberly
Chairman, PCOM
Hawaii Institute of Geophysics
2525 Correa Road
Honolulu, HI 96822

Re: Transfer of straddle packer to TAMU

Dear Dr. Moberly,

Following on my telemail message last week, this is a formal request that PCOM consider at its next meeting the matter of transferring the straddle packer that I have developed to TAMU for routine ODP use. After the last PCOM meeting, Barry Harding and I agreed in principle to such a transfer, to be effected over the term of my two-year NSF grant that will expire April, 1990. However, Bruce Malfait noted that approval by DMP and PCOM would be required, as financial responsibility for packer operations would be shifted from my NSF grant to TAMU co-mingled funds.

During its January meeting, DMP affirmed to PCOM that the straddle packer is a mature tool suitable for transfer to TAMU, although the formal policy for such transfers has not yet been finalized. While at TAMU yesterday, I met with the ODP engineers and reconfirmed their willingness to assume full responsibility for routine operations of the straddle packer. If PCOM approve this transfer at the May, 1989 meeting, a full year would remain on my NSF grant. This would allow a suitable transitional period in which (1) TAMU and I could effect an orderly transfer according to JOIDES guidelines now being finalized, without disrupting packer operations in 1989-1990 already scheduled to be supported by my NSF grant, and (2) TAMU could program the required funds into their budgets beginning with 1990. As no further development costs must be covered, the financial responsibility to TAMU would involve only supplying spares and supplies for routine straddle packer operations, at a level of about $20k per packer leg (possibly higher for extensive hydrofracture work).

I would place two conditions on transferring routine operations of the straddle packer to TAMU:
(1) Should ODP ever be terminated or radically re-organized, the straddle packer and spares would be returned to me or to whomever NSF might designate.
(2) TAMU must continue to honor the high priority for crustal permeability measurements that provided the main scientific justification for the NSF grants that have supported the development of the straddle packer. In practice this means guaranteeing availability and full operational status of the straddle packer for high priority crustal and hydrothermal sites, given proper DMP and PCOM approval for packer measurements.

Rosenstiel School of Marine and Atmospheric Science
Division of Marine Geology and Geophysics
4600 Rickenbacker Causeway
Miami, Florida 33149-1098
(305) 361-4663

I sincerely hope that PCOM will approve transferring the straddle packer to TAMU, who can support its increasing routine use on a leg-by-leg basis far better than I. Please note that, should PCOM not approve this transfer, it would be impossible for my grant to support all requested uses of the straddle packer, and I would instead concentrate fairly exclusively on the crustal objectives that are emphasized in the grant.

Please feel free to contact me for any further documentation or information about the straddle packer that you may wish PCOM to consider for its upcoming meeting.

Sincerely,

Keir Becker

Keir Becker

cc: B. Malfait
B. Harding
P. Worthington
G. Brass
M. Langseth

JOIDES Planning Office
Hawaii Institute of Geophysics
School of Ocean and Earth Science and Technology
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2525 Correa Road
Honolulu, Hawaii 96822 USA

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FAX: (808) 949-0245

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December 8, 1988

To US Members of PCOM:

The press of other business Friday afternoon before we adjourned kept me from starting a discussion about PCOM meeting dates and places beyond our 24-26 April 1990 meeting in the south of France. In Oslo we should set the August 1990 meeting and the November 1990 Annual Meeting. They should be in the US, with the first to overlap one day of the beginning of a USSAC meeting, and the second to follow the one day's Panel Chairmen Meeting.

Every US JOIDES institution will have hosted a meeting in the years 1985 through 1989, and there have been a couple of meetings at non-JOIDES localities, as follows: UT (Jan '85), Norfolk to see the ship, URI, SIO, LDGO, HIG, Washington DC, OSU, TAMU, RSMAS (last), UW (this summer), and WHOI (this fall).. There is no rule that we all have to host meetings, much less a rule that we take a specific rotation as the non-US members have done. Nevertheless, on the assumptions that most institutions want to host occasional meetings, and that those which have not hosted recently should be allowed to do so, we probably could not have done much more in Miami anyway. According to the office files here Tom (UT) is due to rotate on or before 1 January 1990, and at the meeting he said he would. Margaret's alternate Roger (URI) had left for the Miami airport. Miriam is due to rotate on or before 1 January 1989. It is rather unfair to volunteer one of your colleagues when he or she isn't present. I also see in the files that LDGO and HIG have had many panel meetings recently, and more are planned there and here.

By Oslo, however, I wonder if any of you three (or your successors, or Marcus or me) might have some 1990 meeting suggestions. Perhaps any one of us could arrange for a meeting at non-JOIDES venue. For example, I'll contact Dave Scholl to see if USSAC might want to arrange the August meeting.

Incidentally, I hope that whenever we US PCOM members have topics that ought to be discussed with USSAC that you inform Dave and me. It doesn't have to wait for a place on the joint August agenda; we can first try the telephone and electronic mail.

Finally, and on a different subject, I'd appreciate any comments on how the Miami meeting was conducted. I do apologize for the disarray when panel nominations were being discussed Friday morning. We had compiled most of the material ahead of the meeting, but at the critical time couldn't find the correct sheets of paper.

With best wishes,

Sincerely yours,

Ralph Moberly

LISTING OF PROPOSALS

Revised 4/3/89

JOIDES No	Title	Proponents	Country	Date
63	[idea proposal]	-	-	
71	[idea proposal]	-	-	
1/A	Pre-m. Cretac. history of SE Gulf of Mexico	Phair & al.	US	12/82
2/E	Middle America trench and Costa Rica margin	Crowe & al.	US	12/82
4/E	Tuamoto Archipelago (French Polynesia)	Okal & al.	US	6/83
5/A	Struc. & sedim. carbonate platforms	Mullins & al.	US	7/83
7/A	Gulf of Mexico & Yucatan	Buffler & al.	US	8/83
8/E	Southern Chile trench	Cande	US	9/83
9/A	Pre-Messinian hist. of the Mediterranean	Hsu & al.	ESF	1/84
11/A	Porto & Virgo seamounts, Iberian margin	Kidd & al.	UK/FR	1/84
12/A	Tyrrhenian back-arc basin transect	Cita & al.	ESF	1/84
13/F	Water column research lab	Wiebe	US	1/84
14/E	Zero age drilling: EPR 13°N	Bougault	FR	1/84
15/A	Formation of the Atlantic Ocean	Herbin	FR	1/84
16/A	Atlantic-Mediterranean relationship	Faugeres	FR	1/84
17/A	Gorringe Bank, deep crust & mantle	Mevel	FR	1/84
19/A	Eleuthera fan, Bahamas	Ravenne & al.	FR	1/84
20/A	Subduction collision: Outher Hellenic Arc	J.Mascle	FR	1/84
22/A	Rhone deep sea fan	Bellaiche & al.	FR	1/84
23/A	Carribean basins	A.Mascle & al.	FR	1/84
24/A	Barbados transects	A.Mascle & al.	FR	1/84
25/D	New Hebrides arc	ORSTOM team	FR	1/84
28/D	South China Sea	Letouzey & al.	FR	1/84
29/D	Ryukyu Island & Okinawa backarc basin	Letouzey	FR	1/84
31/B	Red Sea, paleoenvironmental history	Guennoc	FR	1/84
32/A	Yucatan basin	Rosencrantz & al.	US	1/84
33/A	Mediterranean drilling [same as 9/A]	Hsu	ESF	1/84
35/A	Barbados ridge accretionary complex	Westbrook	UK	2/84
38/A	Gulf of Mexico (DeSoto Canyon)	Kennett & al.	US	2/84
39/A	Cape Verde drilling	Hill	UK	2/84
40/A	Logging of site 534 (Blake-Bahamas basins)	Sheridan & al.	US	2/84
34/E	Pacific-Aleutian-Bering Sea (Pac-A-Bers)	D.W. Scholl & al.	US	3/84
41/A	N Barbados forearc: Struc. & hydrology	C.Moore	FR/US	3/84
42/D	Sunda Straits area	Huchon	FR	3/84
43/D	SW Pacific drilling outline	Falvey	AUS	3/84
44/B	Andaman Sea: Tectonic evolution	Peltzer & al.	FR	3/84
45/A	Equatorian Atlantic: Paleoenvironment	Ruddiman	US	3/84
47/D	Manila trench, S.China Sea	Lewis & al.	US	3/84
49/D	Eastern Banda arc/Arafura Sea	Schlueter & al.	G	3/84
52/D	Solomon Sea	Milsom	AUS	3/84
53/F	Vertical Seismic Profiling	Phillips & al.	US	3/84
54/C	Sub-Antarctic & Weddell Sea sites	Kennett	US	3/84
55/B	Makran forearc, Pakistan	Leggett	UK	3/84
58/A	West Baffin Bay	Grant & al.	CAN	3/84
59/A	Continental margin instability testing	Weaver & al.	UK	3/84
60/A	Newfoundland basin: E. Canadian margin	Masson	UK	4/84
6/A	Labrador Sea, ocean crust & paleoceanogr.	Gradstein & al.	CAN	5/84
36/A	Norwegian Sea	Hinz & al.	G	5/84
18/A	Off Galicia Bank	Mauffret & al.	FR	6/84
64/A	Site NJ-6	Poag	US	6/84
67/D	Tonga-Lord Howe Rise transect	Falvey & al.	AUS	7/84
68/A	Deep basins of the Mediterranean	L.Montadert	FR	7/84
69/F	Rock stress meas. in part of Norwegian Sea	Stephansson	ESF	7/84

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Revised 4/3/89

JOIDES No	Title	Proponents	Country	Date
70/F	Borehole seismic experim. at 417 & 603	Stephen & al.	US	7/84
72/A	Two-leg transect on Lesser Antilles forearc	Speed & al.	CONSOR.	7/84
37/E	Costa Rica, test of duplex model	Shipley & al.	US	8/84
74/A	Continental margin of Morocco, NW Africa	Winterer & al.	US	8/84
75/E	Gulf of California	K.Becker & al.	US	8/84
77/B	Seychelles bank & Amirante trough	Mart	US	8/84
78/B	Indus fan	Kolla	US	8/84
79/B	Tethyan stratigraphy & oceanic crust	Coffin & al.	US	8/84
81/A	Ionian Sea transect, Mediterranean	Hieke & al.	G	9/84
82/D	Sulu Sea	Thunell	US	9/84
84/E	Peru margin	Kulm & al.	US	9/84
85/A	Margin of Morocco, NW Africa	D.Hayes & al.	US	9/84
56/B	Intraplate deformation	Weissel et al.	US	10/84
61/B	Madagscar & E Africa conjugate margins	Coffin & al.	US	10/84
65/B	S. Australian margin: Magnetic quiet zone	Mutter & al.	US	10/84
80/D	Sunda & Banda arc	Karig & al.	US	10/84
87/B	Carlsberg Ridge, Arabian Sea: Basalt obj.	J.Natland	US	10/84
90/B	SE Indian Ocean Ridge transect	Duncan	US	10/84
91/B	SE Indian Ocean Oceanic Crust	Langmuir	US	10/84
93/B	W Arabian Sea: upwelling, salinity etc.	Prell	US	10/84
94/B	Owen Ridge: History of upwelling	Prell	US	10/84
95/B	Asian monsoon, Bay of Bengal	D.Cullen & al.	US	10/84
96/B	Bengal Fan (Indus & Ganges Fans)	Klein	US	10/84
98/B	History of atmosph. circ. (Austral. desert)	D.Rea	US	10/84
99/B	Agulhas Basin paleoceanogr. clim. dynamics	W.Coulbourn	US	10/84
100/B	SE Indian Ridge transect: Stratigr. section	J.Hays & al.	US	10/84
101/B	Ridge crest hydrothermal activity	Owen & al.	US	10/84
102/B	Somali Basin	Matthias	US	10/84
103/B	Laxmi Ridge, NW Indian Ocean	Heirtzler	US	10/84
104/B	90° E Ridge transect	Curray & al.	US	10/84
105/B	Timor, arc-continent collision	Karig	US	10/84
106/B	Broken Ridge, Indian Ocean	Curray & al.	US	10/84
107/B	SE Indian Ridge: Stress in ocean lithosph.	Forsyth	US	10/84
108/C	E. Antarctic continental margin (Prydz Bay)	SOP-Kennett	US	10/84
109/C	Kerguelen - Heard Plateau	SOP-Kennett	US	10/84
110/C	Wilkesland - Adelie continental margin	SOP-Kennett	US/FR	10/84
111/C	SE Indian Ocean Ridge transect (subantarc.)	SOP-Kennett	US	10/84
112/B	Lithosphere targets	SOP-Kennett	US	10/84
113/B	Agulhas Plateau	SOP-Kennett	?	10/84
114/C	Crozet Plateau	SOP-Kennett	FR	10/84
117/B	Northern Red Sea	Cochran	US	10/84
118/B	Cenozoic history of E. Africa	Kennett & al.	US	11/84
76/E	Proposal for axial drilling on the EPR at 13°N	R. Hekinian & al	FR	11/84
62/B	Davie Fracture Zone	Coffin & al.	CONSOR.	12/84
119/B	Early opening of Gulf of Aden	Stein	US	12/84
120/B	Red Sea, Atlantis II deep	Zierenberg & al.	US	12/84
122/A	Kane fracture zone	Karson	US	12/84
123/E	Studies at site 501/504	Mottl	US	12/84
124/E	To deepen Hole 504B	LITHP-K.Becker	US	1/85
125/A	Bare-rock drilling at the Mid-Atl. Ridge	Bryan & al.	US	1/85
126/D	Drilling in the Australasian region	Crook & al.	AUS	1/85
127/D	E Sunda arc & NW Austral. collision	Reed & al.	US	1/85
128/F	Phys.props. in accretionary prisms	Karig	US	1/85

LISTING OF PROPOSALS

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JOIDES No	Title	Proponents	Country	Date
130/D	Evolution of the SW Pacific (N of New Zeal.)	J.Eade	NZ	1/85
131/D	Banda Sea basin: Trapped ocean crust etc.	Silver	US	3/85
132/D	TTT-Type triple junction off Bosco,Japan	Ogawa & al.	J	3/85
133/F	In-situ sampling of pore fluids	McDuff & al.	US	3/85
135/B	Broken Ridge: Thermo-Mechanical Models	Weissel & al.	US/UK	3/85
10/A	Cenozoic circulation off NW Afric	Sarnthein & al.	G/US	4/85
115/B	Agulhas Plateau and adj. basins	Herb & al.	ESF	4/85
116/B	E & Chagos-Laccadive Ridge drilling	Oberhansli & al.	ESF	4/85
142/E	Ontong-Java Pl.:Equat. Pacific depth trans.	L.Mayer & al.	CAN/US	4/85
88/B	Chagos-Laccadive-Mascarene volc. lineament	Duncan & al.	US	5/85
147/D	South China Sea	Wang & al.	CHINA	6/85
179/D	Daito ridges region: NW Philippines Sea	Tokuyama & al.	J	6/85
21/A	Thyrrenian Basin: Rifting, stretching,accr.	Rehault & al.	FR	7/85
51/D	Sea of Japan	Tamaki & al.	J	7/85
97/B	Equatorial Indian Ocean:Fertil.& carb.comp.	Peterson	US	7/85
136/C	Kerguelen - Heard Plateau	Schlich & al.	FR	7/85
146/D	Toyamu fan, E Japan Sea	Klein	US	7/85
150/B	90°E Ridge & Kerg.-Gaussb. Ridge: hard rock	Frey & al.	US	7/85
151/D	Japan Sea: Mantle plume origin	Wakita	J	7/85
152/F	Borehole seismic experim., Tyrrhenian Sea	Avedik & al.	FR/US	7/85
153/E	Three sites in the SE Pacific	J.Hays	US	7/85
154/D	Banda-Celebes-Sulu basin entrapment	Hilde	US	7/85
156/D	Kita-Yamam. trough, Japan Sea: Massive sulf.	Urabe	J	7/85
157/D	Japan Sea paleoceanography	Koizumi & al.	J	7/85
158/D	Japan Sea & trench: Geochem & sedimentol.	Matsumoto & al.	J	7/85
159/F	Phys.cond. across trench: Izu-Mariana-...	Kinoshita & al.	J	7/85
160/F	Geophys. cond. of lithosp. plate, Weddell Sea	Kinoshita & al.	J	7/85
161/F	Magn.field & water flow measurement	Kinoshita & al.	J	7/85
162/F	Offset VSP on the SW IO Ridge fract.zones	Stephen	US	7/85
164/D	Japan trench & Japan-Kuril trenches juntion	Jolivet & al.	FR	7/85
165/D	Shikoku basin ocean crust	Chamot-Rooke & al.	FR	7/85
166/D	Japan Sea: Evolution of the mantle wedge	Tatsumi & al.	J	7/85
168/D	Japan Sea: Sedim. of siliceous sediments	Iijima & al.	J	7/85
169/C	South Tasman Rise	Hinz & al.	G	7/85
170/D	Valu Fa Ridge, Lau Basin: Back-arc spread.	Morton & al.	US	7/85
30/B	Davie Ridge & Malagasy margin, Indian Ocean	Clocchiatti & al.	FR	8/85
50/D	Nankai trough & Shikoku forearc	Kagami & al.	J	8/85
73/C	Antarctic margin off Adelie coast	Wannesson & al.	FR	8/85
92/B	Crozet Basin, seismic observatory	Butler & al.	US	8/85
137/B	Fossil ridges in the Indian Ocean	Schlich & al.	FR	8/85
138/B	Rodrigues triple junction, Indian Ocean	Schlich & al.	FR	8/85
139/B	Agulhas Plateau, SW Indian Ocean	Jacquart & al.	FR	8/85
140/B	Central & N. Red Sea axial areas	Pautot & al.	FR	8/85
141/B	Indus Fan	Jacquart & al.	FR	8/85
172/D	Mariana forearc, arc & back-arc basin	P.Fryer	US	8/85
173/B	Seychelles, Mascarene Pl., NW Indian Ocean	Patriat & al.	FR	8/85
174/D	Japan Sea: Forearc tectonics	Otsuki	J	8/85
175/D	Japan Trench: Origin of Inner Wall	Niitsuma & al.	J	8/85
176/D	S.Japan Trench: Migration of Triple Junction	Niitsuma	J	8/85
178/D	Nankai trough forearc	Shiki & al.	J	8/85
180/D	N.Philippines Sea: Kita-Amami basin & plat.	Shiki	J	8/85
181/D	Izu-Ogasaw.-Mariana forearc:Crust & mantle	Ishii	J	8/85
182/E	Sounder Ridge,Bering Sea: Stratigraphy	A. Taira	J	8/85

LISTING OF PROPOSALS

Revised 4/3/89

JOIDES No	Title	Proponents	Country	Date
184/D	Papua New Guinea/Bismark Sea Region	N.Exon & al.	AUS/US	8/85
185/C	Kerguelen Plateau: Origin, evol. & paleo.	Coffin & al.	AUS	8/85
186/F	SW Ind.Ocean fracture zones hydrology etc.	von Herzen	US	8/85
86/B	Red Sea	Bonatti	US	9/85
187/D	New Hebrides arc region, SW Pacific	F.Taylor & al.	US	9/85
188/F	395A boreh.geophys. & 418A drill.& geophysics	M.Salisbury	CAN	9/85
189/D	Tonga Ridge and Lau Ridge Region	A.Stevenson & al.	US	10/85
191/D	Solomon Isl.: Arc-plateau coll. & intra arc	Vedder & al.	US	10/85
192/E	Baranoff fan, SE Gulf of Alaska	Stevenson & al.	US	10/85
193/F	Upper ocean partic.fluxes in Weddell Sea	Biggs	US	11/85
3/E Rev/1	Flexural moat, Hawaiian Islands	A.B. Watts & al	US	11/85
143/F	In-situ magnet. susc. measurements	Krammer & al.	G	12/85
195/E	Paleoenv. & Paleoclim. in the Bering Sea	C. Sancetta & al.	US	12/85
196/B	90°E Ridge: Impact of India on Asia	J.Peirce	CAN	12/85
197/B	Otway Basin/W.Tasman region	Wilcox & al.	AUS	12/85
198/D	Ulleung Basin: Neogene tectonics & sedim.	Chough & al.	COREA	12/85
199/E	Pelagic sediments in the sub Artic gyre (N.Pacific)	T.R. Janecek & al.	US	12/85
200/F	Borehole magnet. logging on leg 109 (MARK)	Bosum	G	12/85
201/F	High-precision borehole temp. measurements	Kopietz	G	12/85
205/A	Bahamas: Carb.fans, escarpm.erosion & roots	Schlager & al.	ESF	12/85
202/E	N.Marshall Isl. carbonate banks	S.O. Schlanger	US	1/86
203/E	Guyots in the central Pacific	E.L. Winterer & al.	US	1/86
207/E	Bering Sea basin & Aleutian ridge tectonics	Rubenstone	US	1/86
208/B	Ancestral triple junction, Indian Ocean	Natland & al.	US	1/86
209/C	Eltanin fracture zone	Dunn	US	1/86
210/E	NE Gulf of Alaska: Yakutat cont. margin	Lagoe & al.	US	1/86
211/B	Deep stratigraphic tests	SOHP -Arthur	US	1/86
212/E	Off northern & central California	Greene	US	1/86
213/E	Aleutian subduction: accret. controlling p.	McCarthy & al.	US	1/86
214/E	Central Aleutian forearc:Trench-slope break	Ryan & al.	US	1/86
215/B	Red Sea: Sedim. & paleoceanogr. history	Richardson & al.	US	2/86
216/D	South China Sea	Rangin & al.	FR	2/86
217/D	Lord Howe Rise	Mauffret & al.	FR	2/86
218/D	Manila trench & Taiwan collis.zone, SCS	Lewis & al.	US	2/86
219/B	Gulf of Aden evolution	Simpson	US	3/86
220/D	Three sites in the Lau Basin	J. Hawkins	US	3/86
222/E	Ontong-Java Pl.: Origin, sedim. & tectonics	Kroenke & al.	US	3/86
221/E	Equatorial Pacific: late Cenoz. Paleoenv.	N.G. Pisias	US	3/86
83/D	Izu-Ogasawara (Bonin) arc transect	Okada & al.	J	4/86
134/B	Gulf of Aden	Girdler	UK	4/86
171/D	Bonin region: Intra-oceanic arc-trench dev.	B.Taylor	US	4/86
223/B	Central Indian Ocean fracture zone	Natland & al.	US	4/86
225/E	Aleutian Basin, Bering Sea	A.K.Cooper & al.	US	4/86
224/E	Escanaba Trough (Gorda Ridge), NE Pacific	M. Lyle & al	US	4/86
89/B	SWIR, mantle heterogeneity	Dick & al.	US	5/86
121/B	Exmouth & Wallaby Pl. & Argo Abys. Plain	U.von Rad & al.	US	5/86
129/C	Bounty trough	Davy	NZ	5/86
227/E	Aleutian Ridge, subsidence and fragment.	Vallier & al.	US	5/86
228/C	Weddell Sea (E Antarctic contin. margin)	Hinz & al.	G	5/86
229/E	Bering sea, Beringian conti. slope & rise	A.K. Cooper & al.	US	5/86
230/C	Wilkes Land margin, E Antarctica	Eittreim & al.	US/J	5/86
231/E	North Pacific magnetic quiet zone	Mammerickx & al.	US	5/86
232/E	N.Juan de Fuca R.: High temp.zero age crust	E.Davis & al.	CAN	5/86

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JOIDES No	Title	Proponents	Country	Date
26/D	Tonga-Kermadec arc	Pelletier & al.	FR	6/86
144/D	Kuril forearc off Hokkaido: Arc-arc collis.	Seno & al.	J	6/86
145/D	Ryukyu arc: Left-lateral dislocation	Ujiie	J	6/86
148/D	Near TTT-type triple junction off Japan	Ogawa et al.	J	6/86
149/D	Yamoto Basin,Sea of Japan: Active Spreading	Kimura & al.	J	6/86
167/D	Okinawa trough & Ryukyu trench	Uyeda & al.	J	6/86
234/E	Aleutian trench: Kinematics of plate cover.	von Huene & al.	US	6/86
235/D	Solomon Sea: Arc-trench dev., back-arc...	Honza & al.	CONSOR.	6/86
236/E	N.Gulf of Alaska	Bruns & al.	US	6/86
237/E	Active margin off Vancouver Isl., NE Pac.	Brandon & al.	CAN/US	6/86
238/F	Pore pressure in the Makran subduction z.	Wang & al.	US	6/86
239/D	Two sites in the Lau Basin	D.Cronan	UK	6/86
214/E	Gulf of Alaska (Yakutat block) & Zodiak fan	Heller	US	6/86
243/D	Outer Tonga trench	Bloomer & al.	US	6/86
240/B	Argo abyssal Plain	Gradstein	CONSOR.	7/86
245/E	Transform margin of California	Howell & al.	US	7/86
246/E	Mesozoic upwelling off the S.Arabian margin	Jansa	CAN	7/86
247/E	NE Pacific: Oceanogr.,climatic & volc. evol.	D. Rea & al.	US/CAN	7/86
226/B	Equat.Indian Ocean: carb. system & circul.	Prell & al.	US	8/86
244/C	Western Ross Sea	Cooper & al.	US/NZ	8/86
248/E	Ontong-Java Plateau	Ben-Avraham & al.	US	8/86
249/E	Sedimentation in the Aleutian trench	Underwood	US	8/86
250/E	Navy fan, California borderland	M..B. Underwood	US	8/86
251/B	Seychelles-Mascarene-Saya de Mayha region	Khanna	SEYCH.	8/86
253/E	Shatsky Rise:Black shales in ancestr. Pac.	S.O. Schlanger & al.	US	8/86
254/A	NW Africa: Black shales in pelagic realm	Parrish & al.	US	8/86
255/A	Black shales in the Gulf of Guinea	Herbin & al.	FR/US	8/86
256/E	Queen Charlotte Transform fault	Hyndman & al.	CAN	9/86
257/E	Farallon Basin, Gulf of California	L. Lawver & al.	US	9/86
204/A	Florida escarpment transect	Paull & al.	US	10/86
252/E Rev.	Loihi Seamount, Hawaii	H. Staudigel & al.	US	10/86
258/E	Stockwork zone on Galapagos Ridge	R. Embley & al	US	10/86
260/D	Ogasawara Plateau, near Bonin arc	T. Saito & al.	J	10/86
261/E	Mesozoic Pacific Ocean	R.L. Larson & al.	US/FR	10/86
262/B	Mid Indus Fan	B.Haq	US	11/86
263/E	S.Explorer Ridge, NE Pacific	R.L. Chase & al.	CAN	11/86
206/D	Great Barrier R.: Mixed carb/epiclast.shelf	Davies & al.	AUS	12/86
264/A	Montagnais impact struct.,Scotia Sh.	Grieve & al.	US	12/86
265/D	Western Woodlark Basin	S.D. Scott & al.	CAN/AUS/PNG	12/86
266/D	Lau Basin	Lau Group	CONSOR.	12/86
267/F	Old crust at converg. margins: Argo & W.Pac	C.H. Langmuir & al	US	12/86
268/D	Hydrothermal ore deposition, Queensland Pl.	Jansa et al.	CAN	12/86
269/E	Aleutian pyroclastic flows in marine envir.	Stix	CAN	12/86
27/D Rev.	Sulu Sea marginal basin	Cl. Rangin & al	FR	1/87
48/D Add.	Sulu Sea transect	Cl. Rangin	G/FR	1/87
270/F	Tomographic imaging of hydrotherm. circul.	Nobes	CAN	1/87
271/E	Paleoceanogr. trans. of California current	Barron & al.	US	2/87
272/F	Long-term downh. measurem.in seas a. Japan	Kinoshita	J	2/87
183/D	Periplatform ooze, Maldives, Indian Ocean	Droxler & al.	US	3/87
259/E Rev.	Meiji sediment drift, NE Pacific	L.D. Keigwin	US	3/87
274/D	South China Sea	Zaoshu & al.	CHINA	3/87
275/E	Gulf of California (composite proposal)	Simoneit & al.	US	3/87
232/E Add.	Clay miner. & geoch.: Juan de Fuca Ridge	B. Blaise & al.	CAN/FR	3/87

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JOIDES No	Title	Proponents	Country	Date
276/A	Equat. Atlantic transform margins	J.Mascle	FR	4/87
277/E	Aseismic slip in the Cascadia margin	Brandon	US	4/87
278/E	Blanco transf. fault: Alter., layer three.	R. Hart & al	US	5/87
279/E	Anatomy of a seamount: Seamount 6 near EPR	R.Batiza	US	5/87
280/E	Cretac.Geisha Seamounts & guyots, W-Pac	P.R. Vogt et al.	US	6/87
281/D	Accret.prisms at Kuril/Japan trench&Nankai Tr.	Y. Okumura & al.	J	6/87
282/E	Tracing the Hawaiian hotspot.	N. Niitsuma & al.	J	6/87
283/E	Kuroshio current and plate motion history	R.D.Jacobi & al.	US	6/87
284/E	Escanaba Trough,S-Gorda Ridge Hydrothermalism	Zierenberg & al.	US	7/87
285/E	Jurassic quiet zone ,Western Pacific	Handschumacher & al.	US	7/87
286/E	Return to 504/B to core & log layer 2/3 trans.	K.Becker	US	7/87
287/E	Deep drilling in the M-Series,Western Pacific	D. Handschumacher & al.	US	8/87
288/B	Repositioning of EP2 to EP12,Exmouth Plateau	Mutter & al.	US	8/87
289/E	Mass budget in Japan Arc-10Be Geochemical Ref.	S. Sacks & al.	US/J	8/87
66/F Rev.	Laboratory rock studies to reveal stress	N.R. Brereton	UK	9/87
76/E Rev.	EPR: oceanic crust at the axis	R. Hekinian	FR	9/87
177/D Rev.	Zenisu Ridge: Intra-oceanic plate shortening	A. Taira & al.	J/FR	9/87
224/E Rev.	Escanaba trough (Gorda Ridge), NE Pacific	M. Lyle & al	US	9/87
242/D	Backthrusting & back arc thrust., Sunda arc	Silver & al.	US	9/87
290/E	Axial Seamount, Juan de Fuca Ridge	P.Johnson & al.	US	9/87
291/E	Drilling in the Marquesas Islands chain.	J.H. Natland & al.	US	9/87
292/D	Drilling in the SE Sulu Sea	Hinz & al.	G	9/87
293/D	Drilling in the Celebes Sea	K. Hinz & al.	G	9/87
155/F Rev/1	Downhole measurt.in the Japan Sea	T. Suyehiro & al	J	9/87
294/D	Ophiolite analogues in the Aoba Basin,Vanuatu	J.W.Shervais	US	10/87
46/D	South China Sea margin history	D.Hayes & al.	US	11/87
273/C	Southern Kerguelen Plateau	Schlich et al.	FR/AUS	11/87
295/D	Hydrogeol.& structure,Nankai accr.complex	J.M. Gieskes & al.	US	12/87
296/C	Ross Sea, Antarctica	Cooper & al.	US/NZ/GERM.	12/87
297/C	Pacific Margin of Antartic Peninsula	P.Parker & al.	UK	12/87
247/E Rev.	NE Pacific: Oceanogr.,climatic & volc.evol.	B.D. Bornhold	CAN/US	1/88
298/F	Vertical seismic prof. in Nankai Tr. ODP Sites	G.F. Moore	US	1/88
299/F	Self-bor. p-meter: study deform.in accr. sed.	M.Brandon & al.	US/CAN	2/88
300/B	Return to site 735B-SW Indian Ridge	H. Dick & al.	US/CAN	2/88
301/D	Integrated proposal: Nankai forearc	J.Gieskes & al.	US/J	3/88
302/F	Electrical conductivity structure,E-Japan Sea	Y.Hamano & al.	J	3/88
194/D Rev/2	South China Sea	K.J. Hsü & al.	CHINA	4/88
303/E	Fracturing /volcanism on Hawaiian swell	B.Keating	US	4/88
190/D	New Hebrides (Vanuatu) arc-ridge collision	Fisher & al.	US/FR	5/88
163/D Rev.	Zenisu Ridge: Intraplate deformation	S. Lallemant & al	FR	6/88
221/E Suppl.	Equatorial Pacific: L.Cenozoic paleoenviron.	N. Pisias & al.	US	6/88
304/F	ODP Nankai downhole observatory	H.Kinoshita & al.	J	6/88
305/F	Artic Ocean drilling	P.J. Mudie & al.	CAN	6/88
306/E	Old Pacific History	Y.Lancelot & al.	FR/US	6/88
233/E Rev.	Oregon accr. complex: fluid proc. & struct.	L.D. Kulm & al.	US	7/88
307/E	Cross Seamount, Hawaiian swell	B. Keating	US	7/88
308/E	Reactivated Seamounts,Line Island chain.	B.Keating	US	7/88
3/E Add.	Drilling in vicinity of Hawaiian Islands	R.S.Detrick & al	US USA	7/88
222/Rev.	Ontong Java Pl.: origin, sedim. & tectonics.	J. Mahoney & al.	US	7/88
155/F Rev/2	Downhole measurement in the Japan Sea	T. Suyehiro & al	J	8/88
57/B	Deformation of African-Arabian margin	Stein	US	9/88
309/F	VSP Program at sites Bon-2 and Bon-1	P.Cooper	US	9/88
310/A	Geochemical sampling ,dippings ,E-Groenland	A.Morton & al.	UK	9/88

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JOIDES No	Title	Proponents	Country	Date
311/A	Sedim. equivalent of dippings ,Rockall	D.Masson & al.	UK	9/88
312/A	Potential of drilling on Reykjanes Ridge	J.Cann & al.	UK	9/88
313/A	Evolution of oceanog. pathway: The Equat. Atlan.	E.Jones & al.	UK	9/88
314/D	Fuid flow & mechan. response, Nankai	D.Karig & al.	US	9/88
316/E	To drill a gaz-hydrate hole (West Pacifc)	R. Hesse & al.	CONSOR.	9/88
59/A Rev.	Continental margin sediment instability	P.P.E.Weaver & al	UK/NETH/CAN	9/88
3/E Rev/2	Flexural moats, Hawaiian Islands	A.B. Watts & al.	US	10/88
315/F	Network of perm. ocean floor broad band seism.	Purdy & al.	US	10/88
275/E Rev.	Drilling the Gulf of California	Simonet (ed.) & al	US	10/88
271/E Rev.	Paleocean. transect of California current	J.A. Barron & al	U S	10/88
195/E Suppl.	Paleoenviron. and paleoclim. in the Bering Sea	D.W. Scholl & al	US	10/88
199/E Suppl.	High latitude paleoceanography	D.W. Scholl & al	U S	10/88
231/E Suppl.	Plate reconstr. & Hawaiian hotpsot fixity.	D.W. Scholl	US	10/88
225/E Suppl.	Plate-Reconstr.: Bering Sea	D.W. Scholl & al.	US	10/88
317/E	Northern Cascadian Subduction Zone	R.D.Hyndman & al.	Canada	12/88
318/E Rev.	Chile Margin Triple Junction	S.C.Cande & al	US	1/89
319/E Rev.	An extinct hydrotherm. syst., East Galapagos	M.R. Perfit & al	US/CAN	2/89
320/A	High Northern latitude paleoceano. & paleoclim.	E. Jansen & al	NOR/SWED.	3/89
321/E	The EPR ridge crest near 9°40' N	D.J. Fornari & al	US	3/89
322/E	Ontong Java Plateau-pipelike structures.	P.H. Nixon	UK	3/89
323/A	Gibraltar Arc	M.C. Comas & al	CONSOR	4/89