

JOIDES PLANNING COMMITTEE MEETING  
ALTON JONES CAMPUS, UNIVERSITY OF RHODE ISLAND  
WEST KINGSTON, RHODE ISLAND  
OCTOBER 8 - 10, 1985

DRAFT MINUTES

PCOM Members:

- R. Larson (Chairman) - University of Rhode Island
- H. Beiersdorf - Federal Republic of Germany
- J-P. Cadet - France
- S. Gartner - Texas A&M University
- C. Harrison (for J. Honnorez) - University of Miami
- D. Hayes - Lamont-Doherty Geological Observatory  
(R. Anderson replaced D. Hayes on 10 October)
- D. Hussong - University of Hawaii
- M. Kastner - Scripps Institution of Oceanography
- S. Levi - Oregon State University
- R. McDuff - University of Washington
- P. Robinson - Canada
- T. Shipley - University of Texas
- A. Taira - Japan
- D. Ross (for R. von Herzen) - Woods Hole Oceanographic Institution

aisons:

- R. Anderson - ODP/L-DGO (Wireline Logging Services)
- G. Brass - National Science Foundation
- J. Clotworthy - Joint Oceanographic Institutions, Inc.
- L. Garrison - ODP/TAMU (Science Operator)

Guests:

- O. Eldholm - University of Oslo (Leg 104 Co-chief)

JOIDES Office:

- Maria Burdett
- D. Keith
- A. Mayer

## Introduction and Welcoming Remarks

R. Larson, Planning Committee Chairman, convened the 8 - 10 October meeting which was held at the Alton Jones Campus of the University of Rhode Island. Meeting participants were welcomed to Rhode Island by J. Knauss (JOIDES Executive Committee Chairman). In his welcoming address, Knauss commented on the overall success of the program, beginning with the smooth transition from the Deep Sea Drilling Project (DSDP) at SIO to the Ocean Drilling Program (ODP) at TAMU. Knauss pointed out that a number of aspects of the program have been completed in accordance to the program plan ( e.g. the conversion process of the JOIDES RESOLUTION). Knauss further noted that in addition to these successes there are financial problems that can only be solved by increasing the number of members in JOIDES and that the staffing of regional and thematic panels is still incomplete. Presently, the ODP has 4 of the 6 members needed to make the program financially sound and there is optimism for an additional member by 1 January 1986. Further, there is confidence for one or two more members during 1986. In closing his remarks, Knauss stressed that the ODP is a high visibility program within the international geologic community and because of this position it will be subjected to intense examination and peer review.

At this time, R. Larson introduced and welcomed the following new members to the Planning Committee:

T. Shipley (replaced R. Buffler) - University of Texas  
S. Levi (replaced H. Schrader) - Oregon State University  
P. Robinson (replaced J. Malpas) - Canada

Larson also welcomed and introduced the following temporary replacements for PCOM members:

D. Ross (substituting for R. von Herzen) - Woods Hole Oceanographic Institution  
C. Harrison (substituting for J. Honnorez) - University of Miami

During the closing of the introductory remarks, A. Taira noted that Japan became a full member of the PCOM as of 1 October.

## ADOPTION OF THE MEETING AGENDA

The agenda was amended to include additional discussion of Leg 106 planning and an updated site report for Leg 112 under Short Term Planning, to include the appointment of panel chairman for the Atlantic Regional Panel (ARP) under Panel Chairman Appointments and to include a presentation of the ODP Organization in Canada under Any Other Business. Finally, under Short-term Planning, Leg 111 - selection of co-chiefs was amended to read Leg 111 - recommendation of co-chiefs.

It was moved by H. Beiersdorf (Fed. Rep. of Germany) that the agenda be accepted with the proposed changes. The motion was seconded by M. Kastner (SIO).

Vote: 14 for, 0 against, 0 abstain

#### MINUTES OF THE PCOM MEETING , 25 - 27 JUNE 1985 (HANNOVER)

It was moved by D. Hussong (Univ. of Hawaii) that these minutes be accepted by the PCOM. The motion was seconded by J-P. Cadet (France).

Vote: 14 for, 0 against, 0 abstain

#### EXECUTIVE COMMITTEE REPORT

R. Larson (PCOM liaison) reported on the results of the 16 - 17 September 1985 meeting of the JOIDES Executive Committee which was held in Bonn-Bad Godesberg, Fed. Rep. of Germany.

#### International Membership:

The European Science Foundation (ESF) has raised approximately \$1.5 M from nine countries in a bid for membership. However, the ESF/Australia consortium cannot join ODP at this time because Australia was unable to raise the additional \$1.0M needed to fulfill the required \$2.5 M needed for membership. The Australians have not given up hope and are examining other sources of funding. On the other hand, the ESF formally asked the EXCOM to consider an "Associate" membership at the \$1.5M level. The EXCOM rejected this proposition and informally asked the ESF to consider a full \$2.5M membership without Australia using a "creative financing" arrangement. The ESF rejected this possibility but will attempt to raise the \$2.5 M by itself. Further, the ESF will continue to be invited to future EXCOM meetings as special guests.

The United Kingdom (UK) has been unable to raise the full membership by 1 October 1985 and did not attend the meeting. However, G. Gross (NSF) reported that the UK is optimistic that a Memorandum of Understanding (MOU) can be signed that will be effective 1 October. Larson noted that this event would probably post-date 1 October by several weeks or months.

The Union of Soviet Socialist Republics (USSR) was represented at this meeting by Valery Krasheninnikov, who reported that the USSR desires to join the ODP but could not personally guarantee a signed MOU in the immediate future. In order to facilitate Soviet membership in ODP, EXCOM passed the following two motions:

EXCOM Motion: Referring to the motion agreed upon on 5 June 1985, the JOIDES Executive Committee welcomes the attendance of Dr. V. Krasheninnikov at its present meeting. Recognizing the many contributions of scientists from the USSR to the success of the International Phase of Ocean Drilling (IPOD) and their significant presence in the world community of marine geologists and geophysicists,

the JOIDES Executive Committee invites the USSR Academy of Sciences, as the body primarily responsible for IPOD participation, to join the Ocean Drilling Program by signing a Memorandum of Understanding (MOU) with the U.S. National Science Foundation and thereby joining JOIDES.

Vote: 14 for, 0 against, 0 abstain

EXCOM Motion: The JOIDES Executive Committee welcomes the interest of USSR scientists in the Ocean Drilling Program. We encourage applications to the ODP operator, Texas A&M University (TAMU), from qualified Soviet scientists in order to permit their consideration for membership of the shipboard scientific party.

Vote: 14 for, 0 against, 0 abstain

#### Present Finances

J. Baker (JOI, Inc.) reported that the draft program plan has NSF-National Science Board approval at the \$32.5M level.

#### Proceedings of the ODP (Publications)

The highlights of reports from the PCOM Publications Subcommittee and the Information Handling Panel (IHP) were presented to the EXCOM.

After hearing these, the EXCOM requested information on the comparisons of costs between editing and publishing with a commercial publisher and those associated with the "in house" (TAMU) option presently proposed. Larson pointed out that he could not provide this information and therefore, the EXCOM asked that D. Appleman (IHP Chairman) be invited to the next EXCOM meeting to discuss various options.

EXCOM further asked the PCOM to discuss the publications report with special attention to 1) initiating preparation of Part A's as soon as possible and 2) considering the question of not publishing Part B but releasing the shipboard scientists to outside journal publication as soon as their Part A manuscripts are approved. An EXCOM subcommittee, formed to consider ESF membership, informally asked that PCOM consider having a commercial publisher produce a Journal of Ocean Drilling in lieu of Part B. Manuscripts to this journal could be submitted at any time after Part A manuscripts were approved so that articles would appear in print as quickly as possible. However, under this option, leg coherence would be lost. In addition, ODP would guarantee to buy a minimum number of copies and the publisher, in the future, might reprint articles or produce synthesis volumes.

The EXCOM further suggested that bids for these options be sought from commercial publishers in ODP-member countries.

#### Panel Staffing

The EXCOM requested that the PCOM wait until January 1986 to restaff the panels. Further, they asked that panel members not be added in order to achieve some ad hoc level (nominally 14) but that vacancies be filled only in areas of missing expertise. EXCOM indicated that the PCOM is free to draw on the entire world community, including non-ODP countries, to accomplish panel staffing.

### Third World Participation

This issue was raised by the EXCOM Chairman on pragmatic (getting permission to drill within the 200 mile limit of potential coastal countries) and humanitarian (increasing the information exchange between ODP and Third World scientists) grounds. EXCOM acknowledged the pragmatic need but generally felt that anything beyond that would have to await a better financial situation.

The EXCOM Chairman stated that any advice the PCOM could give would be welcomed and appreciated.

### Discussion:

During discussion, P. Robinson (Canada) indicated that the interaction between Canadian and Third World scientists has been funded by the International Development Research Center (IDRC) in Ottawa, which has developed a number of contacts in India, Asia and Africa. Further, the IDRC might very useful and interested in the establishment of a program to allow for Third World participation. H. Beiersdorf (FRG) further suggested that at a recent IOC workshop in Sri Lanka, Third World scientists expressed an interest in participating in ODP but stated that funding is lacking. Therefore, IOC should also be informed of JOIDES' intentions. D. Hayes (L-DGO) also supported the previous suggestions and suggested that JOIDES contact CCOP and the East-West Center in Honolulu for additional contacts in the Third World. J. Clotworthy (JOI) informed PCOM that JOI is preparing a proposal to support Third World scientists and that AGID might be another organization to approach.

The discussion was closed by the following motion which was proposed by Biersdorf (FRG) and seconded by Taira (Japan):

PCOM Motion: PCOM requests that the JOIDES Office establish an information transfer service to AGID, IOC, CCOP and SCOR for the purpose of conveying future plans of the ODP for operations in the Indian and Pacific Oceans. Further, advice should be obtained from these organizations concerning the procedures needed in order to include individual Third World scientists in the ODP.

Vote: 14 for, 0 against, 0 abstain

### NATIONAL SCIENCE FOUNDATION REPORT

G. Brass (NSF) reported on the following changes at the NSF. As of 1 September 1985, Sandra Toye was promoted from the head of the Ocean

Centers and Facilities Section (OCFS) to the post of Controller of the office of Budget Audit and Control in NSF. The vacancy left by the promotion was filled by Dr. Donald Heinrichs, previously the Program Manager of the Division of Submarine Geology and Geophysics. Further, R. Buffler (Univ. of Texas) has been appointed to the post of Associate Program Director of the ODP and W. Merrell (TAMU) has been nominated to the post of Assistant Director of Astronomy, Atmospheric, Earth and Ocean Sciences (AAEO) at the NSF. Merrell's nomination is presently awaiting confirmation in the U.S. Senate. Finally R. Wall, head of the Ocean Sciences Research Section at NSF is leaving to join the Institute of Marine Science in Maine.

#### Budget

The National Science Board (NSB) has reviewed the program plan of the ODP and granted funding for the program to cover the next 3 years at projected levels of support which total \$108M. Further the NSF is authorized to exceed this amount by 10% without referring to the NSB for approval. The figures presented to the NSB were as follows:

FY 86: \$32.5 M

FY 87: \$36.0 M which includes \$1.0M for inflation and program costs, \$1.0M transferred from DSDP, \$1.0M estimated increase from the contributions of non-US members and \$1.0 M in real growth from the NSF contribution.

FY 88: \$39.5 M which includes \$1.0M for inflation, \$1.0M for real growth, \$1.0M from final DSDP operations and \$0.5M inflation increase from the contributions of non-US members.

The NSF Budget is presently at the US Congress and is stalled in the overall U.S. budget procedures there. Further, the ODP needs 5 international members or Congress will eventually request a re-evaluation of the program.

#### Environmental Impact Statement

A draft Environmental Impact Statement was prepared in July 1985 and issued to EXCOM and PCOM as well as to the 16 signatories of the Antarctic Treaty at their 7 - 18 October meeting. The final draft will be ready by mid-November, recirculated for additional comment and the final copies issued by 1 January 1986. The document will then be submitted to the Environmental Protection Agency (EPA) for approval.

#### JOINT OCEANOGRAPHIC INSTITUTIONS REPORT

J. Clotworthy (Vice-President, JOI Inc.) reported that the program plan for FY 86 has been approved and copies mailed to both EXCOM and PCOM members. JOI is presently working on the FY 87 program plan using the target figures provided by NSF and estimates from the ODP subcontractors.

Discussion:

D. Hayes asked JOI to comment on the changes that were suggested at the Hannover PCOM to the program plan for FY 86 and requested that a 1-2 page document be prepared which addresses these changes. JOI indicated that they and the subcontractors responded in full to the EXCOM Budget Subcommittee recommendations. This response resulted in a number of changes to the original document including budget amendments, although the substance of the plan is the substantially the same.

Clotworthy further reported that organization of the Performance Evaluation Committee continues and that the first site visit is scheduled for L-DGO in late October. The Committee will then tour the JOIDES RESOLUTION at the St. John's portcall and conclude its evaluations at TAMU. At this point, the committee has had to find a replacement for its industry representative and M. Horn (Cities Services) has agreed to replace P. Vail (Exxon). Further, the committee is seeking a replacement for non-US representation as J. Aubouin (France) is unable to serve on the committee. K. Hinz (FRG) has also agreed to serve on the committee.

#### Discussion:

P. Robinson suggested that an additional member of the committee could be possibly be nominated from the Canadian community.

### SCIENCE OPERATOR REPORT

#### Leg 104 (Norwegian Sea)

The Science Operator Report opened with a presentation by O. Eldholm (Co-chief) of preliminary cruise results from the Norwegian Sea.

The primary objectives of Leg 104 were to sample the dipping seismic reflector sequences believed to be associated with late stage continental rifting or early seafloor spreading and which are found under sections of the Norwegian continental margin. Drilling was projected to penetrate the dipping reflectors and into material which forms an acoustically opaque basement that is delineated by a sharp contact known as Horizon K. Lastly, Leg 104 was designed to study the paleoenvironment during Cenozoic times.

In order to accomplish these goals, a three site transect with one deep section (Site 642, 1.2 km) and two shallow sections (Site 643, 550 m and Site 644, 250 m) was drilled across the Voring Plateau.

#### Site 642

In beginning his report Eldholm noted that due to time constraints involved during the cruise, the two site approach of drilling the dipping reflectors and reflector K objectives that was approved by the PCOM was not done and the Co-chiefs decided that the objectives of the

two sites could be achieved with one deep site. This plan was approved by the PCOM at their Hannover meeting just after the beginning of Leg 104.

Operations at Site 642 drilled initially through an upper strata containing glacial sediments that exhibited distinct glacial-interglacial cycles, ice rafted debris and volcanic ash layers and that is suggested to have had subaerial and subaqueous origins. Below this sequence, which is marked by a distinct change in sediment lithology and ties into a regional reflector of Miocene age, the dipping reflector sequence was found to consist of a cyclic unit of flow basalts that alternated with layers of volcanoclastic sediments. At the base of this sequence, Reflector K (Eocene age) separated the overlying volcanic and glacial material from underlying basaltic material. Reflector K was found to be a 8 - 10 m thick unit of volcanoclastic sediments that immediately covered a lower volcanic series of either continental or oceanic origin. The material in this sequence was characterized as consisting of trachytic basalt, possibly associated with late stage continental rifting.

#### Site 643

At Site 643, sixty-two cores sampled pelagic and hemi-pelagic sediments that were underlain by basalt and which are postulated to have come from a tilted fault block on oceanic crust.

#### Site 644

Operations at Site 644 drilled 250 m and resulted in 13 cores that contained Mid-Pliocene to Pleistocene glacial/ interglacial cycles that occasionally contained biogenic gases.

In summarizing the preliminary results, Eldholm indicated that the primary objectives were achieved, that these cores contain the best record of high latitude Cenozoic sediments ever collected and the combination of results from the three sites will provide a good means to reconstruct the paleoceanographic history of the region.

Eldholm (in consultation with J. Thiede, Co-chief 104) had the following recommendations/observations concerning shipboard operations:

- 1) Better integration of the external experiments, the Vertical Seismic Profiler (VSP) and the logging program, into the science program. The Co-chiefs suggested that the VSP experiments should be proposed to and accepted by PCOM before inclusion in a leg program and that the use of non-standard logging tools should be determined at the pre-cruise meeting.
- 2) Revision of the logging time estimates as the present estimates are a "bare bones" minimum.
- 3) That the scientists performing the external experiments be familiar with the geology of the area and the scientific objectives of the cruise.
- 4) Better communication between the ship and shore to avoid lobbying efforts by proponents of external experiments.



Improve the accuracy and methods of monitoring "in situ" gas. Presently, it is difficult to make gas determinations before extrusion from the cores. This allows for trace amounts to disappear.

#### Discussion:

During discussion, Garrison (TAMU) indicated that that recommendations have been received from K. Kvenvolden for improving the geochemistry lab and that a workshop this month in College Station will address the problem of gas detection.

#### Leg 105 (Baffin Bay and Labrador Sea)

L. Garrison reported that Leg 105 left St. John's, Canada on 28 August 1985 after an extended portcall due to repairs to the heave compensator. A NSF/JOI sponsored film crew was placed onboard to film a documentary of shipboard operations.

The RESOLUTION began operations in Baffin Bay at Site BB-3B, accompanied by the ice picket boat CHESTER, and encountered shallow level boulders in 4 holes which temporarily terminated operations while the site was relocated. The ice management program worked well as RESOLUTION pulled out/reentered drill holes twice for icebergs without interruption to drilling, while maintaining safety standards.

At Hole 645E (Site BB-3B), a re-entry cone was set and drilling proceeded to 1147 m before time constraints ended operations. Cores exhibited terrigenous sediments predominantly void of nannoplankton. However, sedimentation rates indicate that deposition has occurred at approximately 50 m/m.y. The magnetostratigraphy was good to 900 m. Drilling results further suggest that at 1100 m an erosional unconformity, R2 (Miocene age), was formed by a strong southward flowing current. Drilling was terminated on schedule and the co-chiefs decided not to drill to reflector R3.

The CHESTER stayed with RESOLUTION during the trip to LA- 5 and during the transit, when Hurricane Gloria was encountered. The CHESTER was released at LA- 5 (Site 646A), APC coring recovery was 88% and at Site 645B APC coring resulted in 55 - 88% sample recovery. After finishing LA- 5, RESOLUTION steamed to LA- 9.

At the conclusion of the cruise, RESOLUTION is scheduled to arrive in St. John's on 27 October 1985 and at that time the guidebase will be put onboard for Leg 106. An open day is scheduled for 29 October 1985 to be hosted by the Canadian government's Minister of Mines.

#### Leg 106 (MARK-1)

Staffing for Leg 106 is completed and deliveries and guidebase fabrication are on schedule. Two guidebases have been built and were ready for transport on October. The first guidebase will be bolted together in the moonpool of RESOLUTION in an operation that is scheduled to take 2 - 3 hrs. The TV winch has been tested as has the Mesotech sonar system.

The Navidrill core barrel that was tested on Leg 104 had mixed success as problems occurred with spinning up the motor to a proper rpm without affecting the weight distribution on the drill collar. This problem needs additional R & D work that has been delayed at this time. However, this motor was one of three that are under examination by ODP and the other two types will be used on Leg 106. These have been successfully tested on land to determine if all components are workable.

#### Leg 107 (Tyrrhenian Sea)

Staffing for Leg 107 is not complete at this time, however, completion is expected in the near future. The Co-chief pre-cruise meeting has occurred and operations planned. Clearances to operate in Italian waters have been requested through the U.S. State Department. Further, a safety review of the Leg 107 drill sites will be conducted on 23 - 24 October. Garrison noted that three berths on RESOLUTION are being reserved for TV/film crews and a congressional visit.

#### Leg 108 (Equatorial Transect-NW Africa)

The Science Operator has met with the co-chiefs concerning operational plans for the leg but no invitations for staffing have been sent. It appears that clearances to operate in coastal waters could be a problem with 3 sites in the Exclusive Economic Zone (EEZ) of the Cape Verde Islands, the Spanish Sahara and Mauritania.

A safety review of the Leg 108 drill sites will occur at the same time as the Leg 107 sites.

#### Leg 109 (MARK-2)

Garrison reported that the Co-chiefs are Bryan and Juteau and that staffing is in hand for the leg.

#### Leg 110 (Barbados)

Garrison reported on the strategies proposed for drilling the decollement zone of Barbados.

The priority hole (Site LAF-1) will be drilled to sample temperature, pressure and pore fluid content at the highly disturbed decollement level. To accomplish this goal, discussions have been held with C. Moore (Co-chief) and G. Foss (ODP/TAMU). Foss proposes that three holes be drilled into and through the decollement with the first hole, a single bit hole, drilled with an XCB corer for temp., pressure and logging. Based on the results of this hole, a re-entry cone should be set with 20 in. casing to a depth of 420 m. Below which, 16 in. casing should be set and rotary cored as deep as possible, after which 9 in. casing should be set and permeability tests using the Stratopacker conducted below the 9 in. casing. Permeability tests should then be conducted in the cased hole in the decollement zone. The third hole is an upper permeability hole above the decollement using the Lynes TAM packer.

The time estimates for these operations are:

28 days LAF-1  
14 days LAF-2  
9 days LAF-3

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51 days

then transit to Bridgetown, Barbados.

#### Discussion:

During discussion, Garrison pointed out that drill-in casing (as previously discussed at other PCOMs) is still in the general scheme and is an alternative to casing off the decollement zone. However, the latching assembly of the old drilling array will have to be redesigned to mount at the bottom of the casing string.

#### Leg 111 (Hole 504B)

The Science Operator indicated that the drilling system used on Leg 106, with new drill bits, will be used on Leg 111 without the use of the guidebases. TAMU engineers have indicated that with this system drilling rates should increase by 10-20% over those of DSDP. However, the issue of whether this increase in drilling rate will yield a corresponding increase in per cent recovery will be better answered after the results of Leg 106 drilling are examined. In closing, Garrison asked advice from the PCOM concerning co-chief nominations since the previous nominations were made before Leg 111 drilling plans changed.

#### Leg 112 (Peru Margin)

Nominations were made to invite D. Hussong and E. Suess as the co-chiefs on Leg 112. Suess has accepted but due to other commitments, Hussong has had to decline the invitation had to refuse.

#### Ship Schedule

SEDCO has requested that the ship's schedule be balanced as equally as possible for the odd and even numbered cruises in order that the two SEDCO crews will have equal amounts of sea time. This also translates, for SEDCO payroll purposes, into equal pay for the two crews. Under the SEDCO system, the crew that spends less than half time at sea reimburses SEDCO which in turn increases the amount of sea pay paid to the crew which has spent more than half time at sea. For 1986, the schedule was adjusted by TAMU to accommodate this request (Appendix A). The adjustment in the schedule has resulted in the addition of a transit leg- Leg 111T. This has affected some cruise legs in that 2-3 days have been subtracted from drilling days and others have been increased by that amount. This results in Legs 108 & 109 remaining unchanged, an increase of 3 & 2 days (respectively) for Legs 107 & 111 and decrease of 3 days for Legs 110 & 112. This results in the odd number cruises equaling 166 days and the even number cruises equaling 167 days.

ussion:

It was the general sentiment of the PCOM that SEDCO has become less flexible over time in accepting the ODP ship schedule and perhaps SEDCO should be more flexible, possibly amending its payroll policy, as scientific objectives for some of the proposed programs may disrupt the balance in days-at-sea. In particular this policy might affect the special legs (e.g. the Antarctic and Kerguelen legs) which may be longer than the regular ODP legs. The Science Operator indicated that SEDCO would like to keep ODP cruises to a maximum of 60 days. However if the PCOM requests a 70 day leg, TAMU will negotiate until a compromise is reached. On the other hand, SEDCO may agree to a 70 day leg as long as there are not too many and if a 60 day leg occurs on an odd numbered leg then a 60 day leg should be given to an even numbered leg during the 12 - 14 month period in order to balance the schedule. The PCOM asked what is the cost of the days-at-sea balance to ODP/TAMU. The Science Operator responded that there are no direct costs to ODP, however, it is in the best interest of the program to keep the balance in order to keep morale high and the loss of competent shipboard people to a minimum. It was strongly emphasized by several PCOM members that the basic penalty under this system is the loss of drilling days for science on the special cruises. There was further suggestion that the lost drilling days may be recovered by limiting the number of public relations days. The discussion was ended by the following motion, proposed by Robinson and seconded by Kastner:

PCOM Motion: The Planning Committee recognizes the concerns of SEDCO in balancing the length of the odd and even legs over a 1-2 year period and will include this consideration in its planning of future legs. It must be recognized that, because the planning of lengths of legs is guided primarily by their scientific objectives, this may not always be possible.

Vote: 14 for, 0 against, 0 abstain

In closing the issue, the PCOM asked that a running balance be kept by TAMU and the PCOM notified of this account in order to aid in planning.

#### WIRELINE LOGGING SERVICES OPERATOR REPORT

R. Anderson (Director-Wireline Logging Services, L-DGO) reported on the excitement within the Borehole Research Group (BRG) over the development of a method to determine aluminum concentrations during logging using the NGT. This increases the BRG's ability to conduct downhole geochemistry and to do clay typing via logging information. Software development to refine this operation is continuing and input is now needed from the geochemical community.

The BRG is presently been examining the problem of excess pore pressure as it relates to hole stability problems by examining the clathrates and pore pressures in DSDP Hole 570.

Results from Leg 104 and Leg 105 (see Appendix B, under Operations)

## Wireline Packer Development

Anderson reported that the wireline packer cannot be delivered for Leg 110 because AMOCO has terminated tool development and cutback on staffing. However, AMOCO will release the plans of the system to ODP and M. Zoback has been authorized to act as an agent in finding a company to build the packer. At this time, PSI (Calif.) and TAM have been approached and if a favorable response is not received, a general Request for Proposals (RFP) may be issued.

## Logging Time in the Borehole

Anderson indicated that the Borehole Research Group has had difficulty in getting time to conduct logging in the borehole using the standard suite of tools and requested advice from PCOM on defining which tools should comprise the standard logging suite. In addition, Anderson indicated that a standard suite should include nuclear, sonic and electric logs and suggested that for holes greater than 400 m, the best tools available in each of these three categories be used.

## Discussion:

The PCOM indicated that a major problem was that the logging program is continually changing and that a defined standard logging program is needed but difficult. The PCOM also identified a lack of education concerning what the various logging tools can achieve and communication between L-DGO and co-chief scientists which could be solved by including a logging representative into the pre-cruise planning process. Anderson suggested that the educating of the ODP community could be done through workshops similar to the Technology and Engineering Workshop held at College Station and which could be conducted for the PCOM at its January 1986 meeting. Discussion of the issue was closed by the following motion, which was proposed by P. Robinson and seconded by M. Kastner:

PCOM Motion: The Planning Committee reiterates its requirement to have a standard logging package run in each hole deeper than 400 m and defines standard logging as a suite of sonic, electrical resistivity and active nuclear tools to be run within a reasonable time period.

Vote: 14 for, 0 against, 0 abstain

## Status of the L-DGO Logging Person on RESOLUTION

Anderson indicated that at the Hawaii PCOM, the L-DGO logging person was not considered to be a member of the scientific staff although the position has been part of the science party at the discretion of previous co-chief scientists. At this time, TAMU has requested that PCOM formalize policy which either places the position as a member of the science party or does not. Anderson emphasized the importance for the loggers to be considered part of the science party as problems could occur with TAMU concerning staffing on RESOLUTION. Anderson further indicated that the L-DGO logger represents L-DGO in the same fashion as the TAMU science representative represents TAMU. The Science Operator responded that the issue does not concern titles or the number

berths but is a question of who invites scientific input into the  
t cruise volumes.

Discussion:

A number of PCOM members asked what would be the problem if the L-DGO logging person who goes to sea, makes significant contributions to the cruise is labelled as a member of the scientific party. TAMU responded that it disagrees with a technician being labelled as a member of the science party while at sea. Other PCOM members indicated that again the issue is one of pre-cruise communication that could be solved by the integration of the logging program into the science program. L-DGO again responded by stating that the L-DGO logger is a scientist and should be labelled as such. The discussion was closed by the following motion, proposed by Robinson and seconded by Hayes (L-DGO). However before voting was conducted, TAMU requested veto power over selections as they are responsible for cruise participant selection. The discussion was closed by a motion proposed by Robinson and seconded by Hayes.

PCOM Motion: This is an amendment to PCOM motion # 500. The PCOM recommends that the Wireline Logging Services Contractor should make nominations to the Science Operator for the Shipboard Logger (personnel from within the logging subcontract) to be included as part of the Scientific Party of each leg.

Vote: 14 for, 0 against, 0 abstain

Anderson closed the Wireline Logging Services Operator Report by stated that D. Fornari has resigned his position as Operations Manager with the Borehole Research Group and circulated a job description of the post.

REPORTS FROM PANELS

For Executive Summaries of the Minutes of the Panels, please see the appropriate appendix.

Atlantic Regional Panel (see Appendix C)-informal report by R. Larson

Central and Eastern Pacific Panel (see Appendix D)

Southern Oceans Panel (see Appendix E)

Indian Ocean Panel (see Appendix F)

Western Pacific Regional Panel ( see Appendix G)

Sediments and Ocean History Panel (see Appendix H)

Lithosphere Panel (see Appendix I)

Tectonics Panel (see Appendix J)-informal report by A. Taira

Information Handling Panel (see Appendix K)

After hearing the Information Handling Panel report the following motion was proposed by S. Gartner and seconded by D. Ross (WHOI):

PCOM Motion: The PCOM wishes to thank William Riedel for his many contributions over the years as Chief Curator of the Deep Sea Drilling Project (DSDP). Further, the PCOM recommends that Riedel retain his role in the development of the Micropaleo Reference Centers, including establishment of the remaining centers and planning for the preparation of the final fossil groups.

Vote: 14 for, 0 against, 0 abstain

REPORT OF THE SUBCOMMITTEE FOR REVIEW OF ODP PUBLICATIONS  
(see Appendix L)

S. Gartner (Subcommittee Chairman) reported to the PCOM.

It was the general consensus of the membership, that the PCOM reiterate its position on the planned publication of Parts A & B as stated by the Subcommittee. This is dependent on the outcome of a review of costs of the alternative publication processes for Part B (including the possibility of replacing Part B by an ODP Journal) which should be undertaken as soon as possible by the Science Operator. The PCOM then discussed the proposed ODP Journal as to its status as "grey literature" and determined that the Journal could only be termed such by the quality of the papers which could be controlled by a peer-review process. PCOM agreed that the publication of the Part A volumes should occur as soon as possible. The decision on Part B was made in the following motion, proposed by Kastner and seconded by Hayes:

PCOM Motion: The PCOM reiterates its original publication policy (Parts A & B: Proceedings of the ODP). A further financial review should be undertaken of the option of producing Part B in Journal form.

Vote 13 for, 1 opposed, 0 abstain

In closing, M. Kastner alerted the PCOM to concern about the quality of the DSDP Initial Reports index being produced under contract to the Project. It was agreed that the issue should be resolved by DSDP, in consultation with NSF. Meanwhile, the IHP should be asked to formulate an indexing policy in order to avoid future problems with ODP volumes. The PCOM agreed to formulate an indexing policy possibly during the January meeting.

REPORT OF THE TECHNOLOGY AND ENGINEERING WORKSHOP

R. Larson reported on the workshop.

The engineering workshop was conducted by the ODP's Engineering and Operations Group in September at College Station. The purpose of the

orkshop was to inform members of the ODP community of the activities at TAMU to get input from the science community in setting short-term goals for future projects. Attendees were asked to prioritize a list of projects for future development and the results fell into 2 groups:

#### Group 1-Higher priority

- bit development
- heave compensator compatibility for piston coring
- hard rock spud system
- high temperature drilling/coring adaptations

#### Group 2- Medium Priority

- locakable flapper (float valve)
- drill-incasing (compatible with re-entry)
- pressure core barrels (in situ samplers)
- string string dynamics
- upgrade hydraulic bit release
- core liner improvements

During discussion the Science Operator requested that an ODP/TAMU engineering liaison be appointed to TECP, LITHP and DMP. The Science Operator further suggested that TEDCOM be reformed to better interface with the ODP community and that the expansion of communications with the ODP community should not be viewed to be in conflict with TEDCOM.

PCOM Chairman indicated that request for revising TEDCOM can be addressed at the January meeting when J. Jarry (TEDCOM Panel Chairman) will be present.

It was also the consensus of the PCOM that the above listing should be circulated to all the panels for evaluation and comment.

### SHORT-TERM PLANNING

#### Legs 106/109 (MARK 1 & 2)

It was the recommendation of the PCOM at the Hannover meeting that both guidebases be committed for use on Legs 106 and 109. Also, the PCOM recommended that the LITHP develop a back-up plan for Leg 109. LITHP, as reported by PCOM liaison- R. McDuff, has in response recommended that all options for Leg 109 be kept open until results are obtained from Leg 106. LITHP has further recommended that both guidebases be used in the Atlantic objectives only if needed and to get one good hole. Therefore if the first guidebase is successful, the second should not be deployed in the Atlantic but should be used for East Pacific drilling as Leg 111.

PCOM Consensus: If the first guidebase is successful in beginning bare rock drilling, then it should be used for the remainder of Leg 106. However, if the first guidebase is not successful due to factors which can be corrected at sea then the second guidebase should be deployed provided that there is a reasonable amount of drilling time available.



Further, if Leg 106 guidebase deployment fails completely, then the Leg would default to drill the Kane Fracture Zone (nodal basin). LITHP responded by saying that excellent site survey work in the MARK area has defined ideal sites for Legs 106 and 109. However, discussion by LITHP members raised the issues of off-axis drilling to examine age related changes rather than drilling a fracture zone and whether or not the nodal basin seems a high risk target given the lack of knowledge of sediment thickness. LITHP indicated that the decision to drill the nodal basin site vs. other fracture zone sites must be left as a judgement call for the co-chiefs but they urged that a reexamination of the site survey data be made to determine if any inferences of sediment thicknesses can be made. The LITHP recommended that final decisions on Leg 109 back-ups (if needed) be delayed until the January 1986 LITHP meeting which is before the January 1986 PCOM meeting, although it was re-affirmed that DSDP Hole 395 should be logged during Leg 109. It was the general consensus of the PCOM to take the LITHP advice to defer decisions on Leg 109 back-ups until January 1986.

PCOM Consensus: The PCOM recommends that the decision as to where to conduct operations in the Kane Fracture Zone be left to the co-chiefs in the case that the default options are necessary.

The PCOM then discussed whether a single bit hole next to the guidebase should be drilled, using the Navidrill, to collect a basalt "mudline" core since the upper 50 m of the section would totally be disrupted by drilling operations. Discussion was closed by the following motion as proposed by Hussong (Univ. of Hawaii) and seconded by Robinson:

PCOM Motion: The PCOM requests that, as part of the engineering tests on Leg 106, an attempt be made to spud into bare rock with the Navidrill without the guidebase.

Vote: 14 for, 0 against, 0 abstain

#### Leg 107

For the Atlantic Regional Panel recommendations for the order of priorities in the Tyrrhenian Sea (Leg 107) see Appendix C. It was noted by the Science Operator that staffing is 2/3 complete and the science party will include 2 - 3 Italian scientists to meet clearance requirements but no other ESF scientists.

After hearing these priorities, the PCOM came to the following consensus:

PCOM Consensus: For Leg 107, The PCOM recommends that Site 5B be continuously cored and that no logging be conducted at Site 2. Otherwise the plan is accepted as proposed.

#### Leg 108

For the recommendations of ARP concerning Leg 108 drilling, see Appendix C. For Leg 108, the co-chief scientists (Ruddiman & Sarnthein) have divided the drilling priorities into three packages of the Sarnthein paleowind proposal, the Ruddiman Sierra Leone proposal and a package of 2 sites containing EQ 9 and EQ 7. They further propose to spend 30.5 days transiting to and within the Sarnthein area, 14.0 days in the Ruddiman area and any remaining time will be spent at the other 2 sites and transit to port. These sites will have double

Logging and 1 hole will be cored with XCB to the proposed total depth. No logging is proposed as all are shallow ([400m) sites. After discussing the inclusion of logging in order to enhance the acoustic stratigraphy of the continental margin, the following was agreed:

PCOM Consensus: The PCOM asks that the co-chiefs on Leg 108 re-consider their decision to conduct no logging on Leg 108 and L-DGO is asked to maintain contact with the co-chiefs. However, the PCOM does not place logging as a requirement for Leg 108.

#### Leg 110

For an in-depth review of Leg 110 drilling plans see the letter from C. Moore (Appendix M). The current plan for Leg 110 is to drill 2 - 3 holes at Site LAF - 1. The first hole would be a single bit hole to basement as a jet-in soil test. The site would be APC cored until refusal for pressure, temperature and pore fluid content. A second hole would be a deep hole drilled to conduct permeability tests using a hybrid/TAM packer. The third hole would be a shallow hole to conduct permeability tests on the upper sections of the hole. The alternative to the second hole is to use drill-in casing to case the decollement and to rotary core into basement. For these operations, a hybrid Lynes packer and drill-in casing will have to be developed. At this time, the PCOM Chairman read a letter from K. Becker concerning the proposed packer modification (Appendix N). The alternate plan, if the decollement cannot be penetrated is to drill a series of single bit holes across the accretion wedge down to the decollement zone in order to measure changes in structural style, the hydrogeology and deformation characteristics.

The Wireline Logging Services Contractor recommended that the PCOM appoint a 3 - 4 person working group of Packer scientists to work with L-DGO in the development of the packers. The PCOM appointed K. Becker, R. Anderson and an ODP engineer as a subcommittee with D. Hussong (Chairman) to evaluate packer development including potential hybrid packers, especially for Leg 110.

The PCOM considered the issue of drilling a reference hole in an undisturbed section of ocean floor near the subduction zone on Leg 110 site in order measure physical properties. It was emphasized that this hole could establish overpressure sites and monitor porewater porosity and other physical properties. The PCOM reaffirmed its Hannover decision in the following consensus:

PCOM Consensus: The PCOM agrees that a reference hole for Leg 110 should be quickly drilled and washed to basement and this hole will be logged as a reference section.

PCOM also considered a back-up plan for Leg 110 should complete penetration of the decollement zone prove impossible. It was agreed that operations will be limited to structural and hydrogeologic questions associated with the progressive growth of an accretionary prism (as recommended by the Co-chiefs, IAP and TECP).

PCOM Consensus: The PCOM agrees that drilling the decollement zone is the prime objective of the leg and endorses the proposals for a back-up hydrogeology program.

Leg 111

Recommendations of Co-chiefs:

CEPAC	LITHP
Hyndraman & Sinton	Becker
Mottle and Kinoshita (with Zoback)	Bougault
Robinson & Langseth	Emmerman Kinoshita Natland

It was the consensus of the PCOM that 2 geophysicists (with expertise in downhole instrumentation) and 2 petrologists be nominated to TAMU. However no specific names were recommended. The PCOM further agreed that Becker should be discouraged from participating in Legs 109 and 110 if he is in consideration for Leg 111.

Leg 112 Site Survey Report

D. Hussong (Site Survey Co-chief) reported that the site survey was completed in April and 1500 km of 24 channel multi-channel seismic (MCS) data along with Seamarc imagery was collected from the Yaquina and Lima basins along the Peru margin.

The Seamarc records and coring and dredging information show that the margin is characterized by normal faulting in the trench axis, evidence for diapirism on the shelf and sediment outcrops on the upper slopes. The forearc area was found further to consist of lenses of dolomite that are underlain by metamorphosed continental rocks.

Presently, there are three objectives for this area, 1) to investigate the tectonics and structure of the region by examining the vertical history of the margin 2) to examine the history of truncation along the margin and 3) to study the upwelling history, the paleoceanography and the diagenetic processes associated with the vertical tectonics of margin basins. To accomplish these objectives in the southern survey area, 3 sites are proposed with 1 hole at a seaward site with rotary drilling to 500 m through the sediment lenses and 2 holes along the upper slopes to examine vertical tectonism and sample Paleogene sediments. For the northern survey area 4 sites are proposed with 2 holes near the tip of continental material, 1 in the trench axis to sample landward dipping reflectors and 1 along the upper margin. A proposal is being assembled at this time and drill time estimates are 56 days.

Paleoceanography sites near Southern Chile

The Southern Oceans Panel and the Sediments and Ocean History  
asked to prioritize the proposed sites and they were found to be of  
less priority than those already in their respective programs.

#### LONG TERM PLANNING

1978-1988: Southern Oceans/ Indian Ocean

Weddell Sea - Atlantic SubAntarctic transect

In opening remarks it was stated that plans for the Weddell Sea are well established and that the next step in planning is the selection of co-chief scientists. The PCOM Chairman indicated, at this time, that SOP has made recommendations and that he will canvas SOHP and ARP for suggestions:

The PCOM then discussed the start date, which is originally scheduled for 1 January 1987. The SOP has indicated that it recommends an earlier start date (preferably 15 December 1986) because of weather and ice problems and suggests that the best weather period is during November/December. TAMU responded by saying that if these changes are accepted then cruise plans will have to be modified with the reduction of time for previous legs. It was further suggested that there is no way to predict exactly when the best weather window will occur and emphasized that the start date should remain unchanged.

It was the consensus of PCOM that the 1 January 1987 start date remain unchanged.

Atlantic SubAntarctic Transect Sites: Adequacy of Site Surveys

The NSF expects that the site surveys for the Atlantic SubAntarctic sites are adequate enough for the proposed program. However, the NSF pointed out that without the addition of a 5th member into JOIDES, serious problems may arise with US Science funding of these and other site survey proposals.

H. Biersdorf indicated to the PCOM that the POLARSTERN will conduct site surveys in the Weddell Sea/ Bransfield Strait areas in November of 1985 and this site survey has been well coordinated with SOP.

SOP requested that a member of the logging group be present at their next meeting in order to estimate logging times in conjunction with drilling times. The PCOM agreed with this request and suggested that L-DGO act on this request as soon as possible.

The Science Operator presented the following time schedule for drilling:

- 60 days-Weddell Sea leg
- 5 days-Portcall at Port Stanley, Falkland Is.
- 48 days-Sub-Antarctic leg

In discussing Port Stanley and Capetown portcalls, TAMU indicated that after communications with Peter Barker it was determined that there are no problems anticipated with Port Stanley, although the fuel situation is uncertain. In

contrast, sensibilities associated with South African politics in combination with the sensibilities of several non-US JOIDES members towards this situation suggest that this port should be avoided. Further, a refueling stop in this region could be conducted at Reunion Is. but this will add 3 - 4 days to the Sub-Antarctic leg. In closing discussion, Biersdorf suggested that the POLARSTERN could possibly be used to refuel RESOLUTION, however, coordination of this activity should occur as soon as possible.

The need for an ice-breaker or ice-strengthened escort vessel for RESOLUTION was discussed. TAMU expressed concern at the cost of an ice-breaker but agreed that an escort vessel capable of moving growlers from near the drillship was desirable. TAMU's preference was for a commercial escort ship rather than rely on goodwill and conflicting schedules of other ships likely to be in the area at that time.

#### Southern Indian Ocean

The Science Operator indicated that after discussions with the operators of the MARION DUFRESNE, it has become apparent that operations schedule of the DUFRESNE may strongly influence the schedule for RESOLUTION if it is to act as a resupply vessel during the Kerguelen campaign. Further, if the crew transfer at Kerguelen is done by ship the estimated cost (with 2 SEDCO crews at sea, ODP sea pay, the cost of M. DUFRESNE and ship costs) will approach the \$800 K mark. The alternative to this program is to spend 18 days of time transiting the ship back to Reunion Island to complete the crew change and then to steam back to the work area.

During discussion of the crew change at Kerguelen, the objectives of the Kerguelen program were reviewed and NSF informed PCOM that they should examine the ODP budget for areas where reductions worth \$800 K could be made, if PCOM agreed to the proposal to use the M. DUFRESNE. w During discussion, it was suggested and supported by several PCOM members that the 18 transiting days could be recovered by extending the cruise by that amount. The discussion was closed by a motion by Hussong and seconded by Harrison (Univ. of Miami):

PCOM Motion: After reviewing the costs of the transfer, the PCOM found, pending a final cost estimate, them to be too expensive and advises that the ship schedule be arranged around a normal port stop with no support vessel.

Vote: 13 for, 1 against, 0 abstain

The PCOM further suggested that the 18 drilling days could be deferred into the Western Pacific program. This round of discussion was closed by a motion by Kastner and seconded by Harrison:

PCOM Motion: At the January 1986 meeting, the PCOM will examine (in detail) the total length of time for the Kerguelen Science program and will ask proponents to justify drill site locations.

Vote: 13 for, 0 against, 1 abstain

The Science Operator was asked to refine the cost estimates for the transfer during the Kerguelen leg and present these at the January meeting.

#### Indian Ocean (Remainder)

PCOM Consensus: The PCOM reaffirmed its commitment to single legs (nominally approx. 2 months) for the Red Sea and a Neogene package. Detailed planning for these legs will take place in January. PCOM also agreed to include drilling on the SW Indian Ocean Ridge and on the fossil ridges of the Mascarene Basin in the Indian Ocean program established by PCOM in June.

#### 1988-1989 Western Pacific

After reviewing the recommendations of CEPAC and WPAC, it was agreed that the thematic problems for the Western Pacific be reduced to a limited number of objectives in order to aid in the allocation of ship time. It was further concluded the boundary between the CEPAC and WPAC was unclear and needed to be defined. This definition was achieved in a motion by Robinson and seconded by Biersdorf:

PCOM Motion: For the purposes of planning, the Western Pacific area will be defined as the area within the purview of the West Pacific Panel (as established in the JOIDES Science Advisory Structure terms of reference) extending eastward to 20 miles to the seaward side of the trench complexes.

Vote: 14 for, 0 against, 0 abstain

The following motion was proposed by Robinson and seconded by Hussong:

PCOM Motion: The PCOM sees a minimum of 1 yr of drilling for the Western Pacific out of a 3 yr program in the Pacific basin. Additional time in the region must be justified by developing focussed and concentrated objectives/themes for the region.

Vote: 4 for, 7 against, 2 abstain  
(1 absent)

Discussion of the motion revealed that the several of the PCOM were against specifying a determinate amount of time for West Pacific drilling until the thematic panels have had their input. It was the consensus of the PCOM that the panels be asked for guidance in establishing operations in the West Pacific and that they report their recommendations at the January PCOM meeting.

#### JOIDES SCIENCE ADVISORY STRUCTURE

Discussion of long-term drilling plans for the West Pacific revealed concern among PCOM members at the effectiveness of the current Panel structure in developing scientifically well-balanced programs. Some concern was also expressed at the apparent predominance of the regional panels. It was agreed that PCOM should review the Science Advisory Structure at its January 1986 meeting.

## PANEL CHAIRMAN APPOINTMENTS

The issue of whether the \$1000 available for use by the panel chairman was a sufficient amount to cover operating expenses. It was pointed at this time that a number of U.S. JOIDES institutions were taking overhead expenses (which in some cases reached 40%) out of this amount. The PCOM expressed its feeling in the following consensus:

PCOM Consensus: The \$1000 allotment is sufficient to conduct activities that are associated with the panel chairmanships and that JOI, Inc. will attach a contingency to these funds stating that it will only accept billings from these institutions if the overhead requirement is waived.

It was also the consensus of PCOM that resigning panel chairmen will remain with their panels as continuity for 1 year.

### Western Pacific Regional Panel

B. Taylor has been nominated by WPAC and has agreed to serve. PCOM approved the nomination.

### Central and Eastern Pacific Regional Panel

D. Rea has been nominated by CEPAC and has agreed to serve. PCOM approved the nomination.

### Indian Ocean Panel

R. Schlich and W. Prell were nominated by IOP and have agreed to serve. PCOM approved R. Schlich as Chairman.

### Atlantic Regional Panel

B. Tucholke and J. Austin were nominated by ARP, but only Austin agreed to serve. The PCOM approved the nomination of J. Austin as Chairman.

## PCOM LIAISON APPOINTMENTS

ARP- T. Shipley added.

CEPAC- T. Shipley added.

IOP- R. Larson in place of J. Honnorez

TECP- S. Levi added.

SOP- H. Beiersdorf (switched from CEPAC).

The PCOM made the following contingencies: Robinson will go to LITHP if Honnorez leaves PCOM and Robinson will leave SSP after the January 1986 meeting.

## FUTURE MEETINGS

1986 January 20 - 24 La Jolla, California  
(to include Panel Chairmen)

May 19 - 21 Palisades, N.Y.

D. Hayes has suggested this new date as an alternate more convenient date and the PCOM Chairman has agreed to this change.

August 11 - 15 Corner Brook, Newfoundland, Canada

## ANY OTHER BUSINESS

### Databank Review Panel:

It was felt by several PCOM members that the response of the PCOM to the Databank Review Panel (as reported in the meeting minutes) was left unclear. In an effort to put forth a definitive statement and to clarify its position, D. Hayes proposed the following motion that was seconded by Kastner:

PCOM Motion: The PCOM agreed in principle with the recommendations of the Review Panel. We further note that the Review Panel Report includes specific recommendations regarding a modest increase to the originally proposed ODP Data Bank budget. PCOM has referred this budgetary issue to the JOIDES Site Survey Panel, its designated oversight panel for the Databank, and requests that the advice of the SSP, regarding any small ODP Data Bank budget adjustments, be transmitted directly to JOI management for appropriate action.

Vote 13 for, 0 against, 1 abstain

### Appointment of US SSP member

It was noted by the PCOM Chairman that this responsibility has been accomplished by USSAC and that Fred Duernebier (Univ. of Hawaii) has been appointed to the Site Survey Panel.

### January Meeting Agenda

In addition to receiving reports from Panel Chairmen and including sessions on engineering (with special references to Leg 106), logging and a review of the JOIDES Scientific Advisory Structure it was agreed to include items on riser drilling plans and, at the request of NSF, plans for COSOD-2.



# APPENDIX A

## OCEAN DRILLING PROGRAM

### OPERATIONS SCHEDULE

1986

LEG	LOCATION	DEPARTS	DESTINATION	ARRIVES AT	IN
		DATE		DATE	PORT
107	Malaga, Spain	1 Jan 1986	Marseilles, France	18 Feb	Feb 18-22
108	Marseilles, France	23 Feb	Dakar, Senegal	21 April	April 21-25
109	Dakar, Senegal	26 April	Barbados,	22 June	June 22-26
110	Barbados	27 June	Barbados	17 Aug	Aug 17-18
111T	Barbados	19 Aug	Panama	26 Aug	Aug 26-30
111	Panama, Panama	31 Aug	Callao, Peru	24 Oct	Oct 24-28
112	Callao, Peru	29 Oct	Punta Arenas, Chile	27 Dec	Dec 27-31

10/1/85  
LEG

REPORT TO EXCOM, BONN SEPT. 25, 1985  
WIRELINE LOGGING CONTRACTOR  
BOREHOLE RESEARCH GROUP  
LAMONT-DOHERTY GEOLOGICAL OBSERVATORY

Since the Washington meeting, legs 103 and 104 have been completed, and logging operations are dodging icebergs on leg 105. Several interesting scientific findings came out of the logging program completed on leg 103. Four wells were logged with Schlumberger suites and the Lamont multichannel sonic logging tool. Hole conditions were poor, and bridging was a common problem. The in-pipe logging program is becoming an increasingly important addition to the logging services. Potassium, Uranium and Thorium, as well as porosity were recorded through pipe in hole 641C, identifying lithological changes similar to those cored in hole 641A from changes in Uranium content of the formation. Two "basement" finds were of particular interest on the leg. Serpentinite was logged and cored at the bottom of hole 637, with density of 2.3 g/cm and velocity of 3.4 km/s recorded. In contrast, 'basement' at 639D was dolomite with density of 2.7 g/cm and velocity of 7 km/s. Excellent seismic stratigraphic ties were obtained from impedance logs at each hole.

Leg 104 logged 335 m of an XPC hole 642D and 755 m of basalt cored at hole 642E. The most striking result was the log response of virtually every sonde put down the hole to the layered flow basalts. Cyclicity on a scale of 10-30 m was produced by the alternating hard flows and weathered rubble of the flow centers and edges. Both major and minor eruptive events can be easily seen on the logs (figure 1). This contrasts sharply with the 30-50 meter thick cyclicity recorded from fractures and joints found in the site 504B basaltic dikes. The borehole televiewer was successfully deployed, but inadequate time was allowed by the co-chiefs for a proper survey of the wellbore. Instead, a rapid ascent of the hole was made to look for stress induced wellbore breakouts.

The mysterious basaltic reflector K which was the target of the drilling effort turned out to be a major lithological boundary with a 15 m thick layer of very low K, U, Th, very high electrical resistivity, density of 2.8 g/cm, negligible porosity, and fast sonic velocity overlying a zone of very high radioactive content (25 API units versus basaltic norm of <10); very low resistivity, density (drop from 2.8 to 2.1 g/cm<sup>3</sup>), low sonic velocity, and a high percentage of hydroxyl minerals. The layers appear to be unusually thick flow and rubble zones compared to the other 128 cycles recorded in the log. Major impedance contrasts across these boundaries are obvious, but their thickness makes them strong reflectors to the long wavelength seismic energy attempting to pass through them.

The ship is at sea for leg 105, with the first results just coming in. The pilot hole in Baffin Bay was lost to logging because of proximity to an iceberg. The wireline heave compensator is in place and ready for use. A field test on the transit leg from Norway to Canada dropped wireline motion to 5 inches in 8 feet of vertical heave recorded at the rig floor. The new Gamma Ray Spectrometry Tool is aboard and operational. The Terralog analysis software is aboard and operational. Now we wait for hole.

Executive Summary  
 Atlantic Regional Panel Meeting  
 Villefranche-sur-Mer, France, 18-20 September 1985  
 by Lucien Montadert, ARP Chairman  
 and Roger Larson, ARP-PCOM Liaison

Leg 107, Tyrrhenian Sea

The ARP recommends the following order of priorities for Leg 107 in the Tyrrhenian Sea:

<u>Site Description</u>	<u>Estimated Drilling Time</u>	<u>Logging</u>
Site 2, Plio.-Pleist. ref. section, re drill DSDP 132, <u>no logging</u>	4.0 d	0.0 d
Site 1b, (alt. 1a), Post and Syn rift sequence near upper Sardinian margin	6.0 d	1.5 d
Site 3a (alt. 3a', then 4), Post and Syn rift sequences in west Vavilov Basin on oceanic crust	10.0 d	1.5 d
Site 5b, Oldest basal hyoclastic sediments and nature of basement, Central Vavilov Basin ( <u>wash Plio-Pleist. if good section at Site 2</u> )	7.5 d	1.5 d
Site 7a, Age and nature of basement central Marsili Basin, <u>no logging proposed</u>	7.5 d	0.0 d

Designated backup sites are:

Site 5a, Lherzolite(??) ridge, Vavilov; no logging proposed

Site 6, Tilted block, base of slope, Marsili Basin

Site 8, Base of Marsili Volcano

At both Sites 5b and 7a, ARP supports a scientific rationale calling for penetration of both the oldest observable sedimentary sequences and basement in order to estimate minimum oceanic (?) basement ages in both the Vavilov and Marsili basins.

At Sites 1b (1a) and 3a (3a'/4), ARP recommends penetration to the base of the postulated syn rift sequences discerned on both regional and site-specific MCS profiles.

### Leg 108, N.W. Africa

ARP has examined again the Leg 108 proposed sites and their recently revised drilling estimates. Estimated times seem unrealistically short, and all eleven sites may not be achieved. Better times are needed in order to prioritize the sites in an order which will satisfy as many scientific objectives as possible. ARP recommends:

1. All sites be double-cored to maximize resolution and recovery, even if fewer sites can be occupied.
2. Logging not be done at any sites.
3. Better estimates of drilling times be provided by ODP.
4. Sites be occupied in order of priority, rather than in order of geographic proximity, as much as feasible.
5. Cochiefs should provide a prioritized ranking of all eleven sites to ARP and SOHP.

### Leg 110, Barbados

ARP reaffirms its previous position that ODP proceed with Barbados Leg 110, Sites LAF 1-6, regardless of the availability of advanced technology such as wireline packer or drill-in casing. ARP believes that the first priority objective is to penetrate the decollement to oceanic crust, but the value of the Leg as proposed does not hinge on this target. ARP strongly advocates the scientific objectives of Sites LAF 1-6 proposed by MASCLE and MOORE, also by Tectonics Panel and Caribbean Working Group, that embody a partial transect across the Lesser Antilles forearc to investigate the changes in physical properties and deformation rates and mechanisms in the progressive growth of an accretionary prism. ARP recommends immediate review of all proposed sites by Safety Panel and that all HPC cores on Leg 110 be oriented.

### Subantarctic Atlantic Leg

The ARP, after reviewing the subantarctic drilling plan submitted by SOHP to JOIDES, and while acknowledging its importance in providing potentially necessary "extra" time for Weddell Sea drilling, recommends that this drilling be considered within the broader perspective of South Atlantic drilling targets.

## APPENDIX D

### SUMMARY OF CEPAC MEETING 25-26 September 1985

1. CEPAC is concerned that publications are being delayed and that no firm contingency plan has been developed should there continue to be an income shortfall.
2. The panel requests that: Before 504B is occupied a strong effort be made to double HPC the sediment section. This section, which was poorly recovered in early HPC work, would provide a complete carbonate fine-scale paleoclimatologic and paleoceanographic history of the Cenozoic.

Co-chief recommendations for the 504B leg are: Sinton and Hyndman; Robinson and Langseth or Anderson; Mottl and Kinoshita or Zoback

3. Don Hussong presented the new data collected this spring in the Peru trench. The drilling will be all single bit holes and no casing should be required. A total of 60 days of high priority drilling has been defined. We then discussed the Hays proposal for three holes along the Chilean margin. We felt that the objectives outlined by Hays are important but are not ready for drilling at this time. The surveys are not complete enough for good site selection. Further, the panel believes that as a one shot attempt at high latitude paleontology, this area may not be the best place, and it is certainly poorly known. Therefore:

We recommend that as much time as possible be devoted to the Peru leg, and if more time is available it should be used to complete the second Peru paleo-upwelling set of holes. We strongly feel that the Peru leg objectives will be jeopardized if drilling time is reduced.

4. We then continued with our general discussion of the Pacific. Yves Lancelot reviewed the Old Pacific problems. Dave Rea and Paul Johnson reviewed the INPAC results. Dave Scholl reviewed the major topics of the NORPAC workshop held just before our meeting. With this background we then proceeded to list the major problems in the central and eastern Pacific. The order is based on simple evaluation of the merit of the science for each theme with each member giving a numerical score from 1 (high) to 4 (low) to each problem. The list and rankings are both subject to revision as the themes become more defined. As the total points show, there is as yet no strong groupings.

The panel feels this review is somewhat premature but believe it is a necessary start to illustrate the range and depth of drilling related science in the Pacific. We strongly feel that the time allocated in the first round of drilling is very inadequate. We request that PCOM consider the science objectives outlined and find a method to increase the Pacific drilling time.

5. The panel recommends that Dave Rea take on the responsibilities of chairmanship of CEPAC. We continue to have a shortcoming on our panel with respect to Cenozoic micropaleontology and biostratigraphy. We again request appointment of someone like Nick Piasias, Joe Morley or Gretta Keller to our panel.

SOUTHERN OCEANS PANEL MEETING  
Woods Hole, September 19-20, 1985

EXECUTIVE SUMMARY OF MAIN POINTS

SE PACIFIC PROPOSAL (HAYS)

- \* SOP considers objectives worthy but should be considered within framework of later South Pacific drilling. Has lower ranking than Weddell Sea and south Atlantic Subantarctic drilling.

WEDDELL SEA DRILLING

Logging:

- \* Realistic logging times should be considered with drilling estimates. It should then be decided where to place logging efforts in consultation with the co-chiefs.
- \* Current schedule by SOP lists only logging for W-4. Of the remaining sites, W-6, W-7, and W-8 could benefit most by logging.
- \* SOP wishes to have a member of the logging group present at the next meeting.

Drilling Priorities:

- \* Objectives of W-10 (Bransfield Strait) were again reaffirmed. But drilling should not jeopardize the three South Orkney sites (W-6; W-7; W-8). W-10 remains an alternate site to be drilled at beginning or end of leg.
- \* W-6 should be moved to Jane Basin.
- \* W-4A priority retained.

Other:

- \* SOP recommends that TAMU contact Navy to provide ice cover information for Weddell Sea.
- \* SOP does not believe it necessary to endorse particular ports at this time (i.e. Cape Town; Port Stanley; Punta Arenas, etc.), but requests that PCOM place prime consideration upon ensuring that scientific objectives are met.

SUBANTARCTIC DRILLING

Site Surveys:

- \* SOP feels strongly that pending site surveys for the subantarctic transect be carried out without further delay.

### Drilling Priorities:

- \* SOP recognizes that in a "worst case scenario" for Weddell Sea drilling, the highest priority during the following subantarctic leg would be in completing Weddell Sea objectives.
- \* SOP rankings of subantarctic sites are similar to those of SOHP. Final rankings will be decided after site surveys are completed.

### EAST ANTARCTIC MARGIN-PRYDZ BAY DRILLING

- \* Excellent Australian MCS lines are now available. Sites K1, K2, and K3 can easily be located on these dipping reflector sequences. Scientific prospects excellent but much drilling required. K4 is problematic because of slumping and requires further attention.

### NORTH KERGUELEN DRILLING

- \* The following plan was agreed upon: Drill KH-1 to 900 m into top of reflector I1, then move to KH-3 (perhaps select a slightly thinner section than the present site) and do exploratory drilling to about 300-400 m to top of I1. Attempt re-entry, wash down and continue drilling to basement; KH-4 remains as alternate basement site. KH-5 o.k. as is. SOP likes the site S8B and will keep it as alternate site. S8B requires site survey but has a relatively thin pelagic section and could therefore be surveyed by the RESOLUTION.

### SOUTHERN KERGUELEN

- \* Objectives at this time are to direct and influence the site surveys and ascertain that existing and new data are merged for the final selection of sites. SOP recommends that R. Schlich (France) and J. Falvey (Australia) be strongly encouraged to collaborate on this task. Both of them or their representatives should participate in the next SOP meeting.

### OTHER SOUTH INDIAN OCEAN OBJECTIVES

- \* Melville Fracture Zone. SOP strongly supports drilling in this feature but recommends a thorough SeaBeam survey.

### SOUTH ATLANTIC WORKSHOP

- \* SOP would like to co-sponsor this workshop. Suggests that it be held following drilling of the Subantarctic leg.

SOUTH PACIFIC WORKSHOP

- \* Co-sponsored by CEPAC and SOP.
- \* To be held in Gainesville, Florida in April, 1986.

CO-CHIEF NOMINATIONS FROM SOP

- \* Weddell Sea leg - J. Kennett and D. Fuetterer
- \* Subantarctic leg - J. LaBrecque and P. Ciesielski

LIAISON

- \* Better liaison needed between LITHP and SOP.



SUMMARY

IOP has continued to revise its priorities and recommendations for a drilling program in the Indian Ocean in response to receipt of new and revised proposals, and in response to the tentative schedule put forth by PCOM in June 1985. Our recommendations are summarized as follows, arranged in what we perceive as the best logistical schedule for a 21-month program including Kerguelen and Red Sea. In order to hit the optimum weather windows for both northern Arabian Sea and the Kerguelen Plateau area, two 3/4-length legs are proposed to start the Indian Ocean campaign.

#115	May '87	<u>SWIR-Melville Fz</u> : lithosphere, upper mantle ~ 1 mo. <u>Fossil Ridge</u> , Mascarene B., basement sampling ~ 1/2 mo.	Capetown
	June	Mascarene Pl.: <u>L-M-C-M</u> hot spot and carbonate dissol. > 1/2 mo. Davie R: biostrat. & paleoceanog. < 1/2 mo.	Seychelles
#116	July	Gulf of Aden: hominid site, <u>Neogene package</u> < 1/2 mo.	Djibouti
#117	Aug.	<u>Red Sea</u>	
	Sept.		Djibouti
#118	Oct.	<u>Neogene Package</u> - Oman margin, Owen R., distal Indus Fan	
	Nov.		La Reunion
#119	Dec.	<u>Kerguelen-1</u> , north Kerguelen plus SW end of SEIR transect	
	Jan. '88		Kerguelen
#120	Feb.	<u>Kerguelen-2</u> , north Kerguelen, Antarctic margin, and remainder SEIR transect	
	Mar.		Freemantle
#121	Apr.	<u>Broken R.</u> and southern part of <u>Ninetyeast R.</u> : hot spot trace & paleoceanography	
	May		Diego Garcia?
#122	June	<u>L-M-C-M</u> (Laccadive-Maldives-Chagos-Mascarene) 2/ hot spot trace, paleoceanography, carbonate dissolution	
	July	Start <u>Central Indian Basin</u>	
#123	Aug.	Finish <u>Ninetyeast R.</u> and <u>Central Indian Basin</u> , intra plate deformation & distal Bengal Fan	Colombo
	Sept.		Padang, Sumatra, or Jakarta
#124	Oct.	<u>N.W. Australia</u> : Exmouth Plat. & Argo Abyssal Plain	
	Nov.		Freemantle or Darwin
#125	Dec.	<u>S.E. Australia</u> (Otway Basin) continental margin & Tasman Rise. 2/	
	Jan. '89	Could be done later with SW Pacific work	Melbourne

1/ First program out for time constraints: full Laccadive-Maldives-Chagos-Mascarene.

2/ Second program out: S.E. Australia margin.

3/ Project names underlined are explained briefly in Appendix B.

MINUTES

ATTENDEES:

Panel Members

Cochran  
Curry  
Falvey  
Gradstein  
Schlich  
von Rad

Guests

Larson (PCOM)  
Brenner (SSP)  
Weissel (TECP)  
Kidd (TAMU)

Members Missing

Duncan  
Prell  
Sclater  
Tauxe

REPORTS:

XCOM and PCOM -- Larson

ODP is still short of foreign members. It appears unlikely that the U.K. will be able to join. Japan is coming in this year, and E.S.F. and Australia are still negotiating. In order to operate a full program without robbing U.S. science, two new members should be located. Some talks have continued with the U.S.S.R., and preliminary communications have been established with China. Without additional members, some parts of the program and activities will continue to be cut, mainly from the science and operations budgets.

At their June Meeting, PCOM accomplished two significant things: first, establishment of a rather firm 1986 schedule; and second, establishment of a tentative subsequent schedule. Our proposal for the Indian Ocean was a major item of discussion for this subsequent schedule. Unfortunately, the eighteen months previously suggested for Indian Ocean dwindled to sixteen months, with PCOM endorsement of the Atlantic Sub-Antarctic Drilling Leg prior to entry into the Indian Ocean, tentatively in about May 1987. Highest priority items to PCOM from our recommendations were Kerguelen, Red Sea, and the Neogene Package. Specific assignments were given to panels for further development of these programs and legs, as follows:

- The mix or selection of Davie Ridge, Southwest Indian Ridge, Somali Basin, and/or Makran, assigned to SOHP, LITHP, TECP, and IOP for refinement and recommendations.
- Red Sea, assigned to Red Sea Working Group.
- Neogene Package, assigned to SOHP for primary responsibility.
- Kerguelen I and II, assigned to IOP, SOP, TECP, LITHP, and SOHP.
- Broken Ridge, Ninetyeast Ridge, and Intraplate Deformation-Bengal Fan, assigned to IOP.
- Argo/Exmouth, assigned to IOP and SOHP.

These assignments were discussed. Some disappointment was expressed that the Neogene Package, conceived and put together by IOP, was assigned to SOHP for refinement. The SOHP Minutes of July, however, suggested that the responsibility should be given back to IOP, a responsibility which we accept.

PCOM is especially interested in our recommendations and those of the other panels for the first leg priorities and recommendations among Davie Ridge, SWIR, Somali Basin, and Makran.

MINUTES OF THE WESTERN PACIFIC PANEL

SEP 18 1985

14 - 16 AUGUST, 1985

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

Members Present:

Eli A. Silver	UCSC	Chair
Brian Taylor	HIG	
Jim Natland	SIO	
Margaret Leinen	URI	Lith Liason
Kazu Nakamura	U. Tokyo	TECP Liason
Jim Ingle	Stanford	
Reinhard Hesse	McGill U.	
Jacques Recy	ORSTOM	
Claude Rangin	IFP	
Hans Schluter	BGR	
Marcus Langseth	LDGO	
Asahiko Taira	ORI	PCOM Liason
Audrey Meyer	TAMU (Rapporteur)	ODP Liason
Absent:	Kagami	
Visitors:	(None)	

## APPENDIX G

### Executive Summary of WPP Meeting in Santa Cruz August 14-16, 1985

The panel prepared a list of 20 potential drilling legs, based on all the proposals that we have received up to the start of the meeting. Each leg is focused on a scientific topic, but many represent amalgamations of several proposals and many sites. Voting was done as follows: Each voting member (11 total) had 3-3's, 3-2's, and 3-1's to distribute among the 20 potential legs. Members were not allowed to vote on proposals for which they were co-authors. To help alleviate the situation in which several members were excluded from voting on a given proposal, we divided the total vote from each leg by 11 minus the number of excluded voters for that leg. The results, presented below, fairly represents the feelings of the panel as a whole on the drilling priorities in the western Pacific region.

Leg name	Total Vote	Normalized Vote	Rank
Japan Sea	22	2.0	1
Bonin Transect	20	2.0	1
South China Sea	16	1.78	3
Banda-Sulu	16	1.78	3
Nankai Toe	18	1.64	5
Vanuatu Transect	15	1.5	6
Okinawa-Ryukyu	16	1.45	7
Lau-Tonga Transect	14	1.27	8
Zenisu Ridge Area	9	0.9	9
Sunda	8	0.8	10
Solomon Arc	8	0.73	11
Kurile-Japan Trench	7	0.64	12
Serpentine Diapirs	5	0.5	13
Northern Marianas	5	0.5	13
Valu Fa	5	0.45	15
Taiwan-Manila	5	0.45	15
Coral Sea	3	0.27	17
Sagami Trough	3	0.27	17
W Pac Downhole Expt	3	0.27	17
Lord Howe/Norfolk/etc	0	0	20

DRAFT MINUTES OF THE

SEDIMENTS AND OCEAN HISTORY PANEL

(meeting at Lamont-Doherty Geological  
Observatory, July 25-26, 1985)

PRESENT

M. Arthur  
P. Meyers  
Y. Lancelot  
M. Sarnthein  
E. Suess  
W. Hay  
W. Ruddiman  
J. Kennett (SOP)  
S. Gartner (PCOM Liaison)  
G. Brass (NSF)  
A. Palmer (ODP)

SOHP Minutes

(July 25/26, 1985; LDGO)

- I. SOHP endorses 2 legs for southern ocean in Indian Ocean Program:
  - 1) Pryda Bay and Southern Kerguelan  
(Sites: 4 in Prydz Bay & K7, K12, K5, K10, K11)
  - 2) Northern Kerguelan  
(Sites: KHP-1, KHP-3, KHP-5A, S8B)
  
- II.
  - a) SOHP recommends that EPC Sites proposed by J. Hays off Chile be retained as backup sites, but that they have lower priority than Weddell sea program.
  - b) SOHP reiterates that W7 (or W8), W6, and W10 be completed at end of Weddell Sea program (as previously proposed), but that W10 (Bransfield Straits) be considered as first site if any ice problems.
  
- III. SOHP recommends that a deep hole (ca. 2500 m) be drilled on or near anomaly M25 in the Somali Basin (for reasons detailed in minutes) as our favorite "Chinese Menu" alternative. More specific location to follow.
  
- IV. Deep Stratigraphic Tests proposal will be revised and submitted as formal proposal. Emphase 6 deep holes: 1) Somali Basin; 2) Exmouth-Argo; 3) Bering Sea; 4) Venezuelan Basin; 5) Hole 603B; 6) Moroccan Basin
  
- V. Man, Milankovitch, Mountains, Monsoon proposal:
  - a) 3 Sites in upwelling transect to Ducin Ridge;
  - b) 1 site on Somali basin margin;
  - c) 1 to 2 sites on distal Indus Cone. (follows basic plan of Prell and IOP)
  
- VI. See other comments within on Red Sea, 90°E-Ridge, and possible Chagos/Laccadive/Mascarene transect.
  
- VII. Next meeting Jan. 6,7 in La Jolla.

OCT 4 1985

## APPENDIX I

### JOIDES LITHOSPHERE PANEL MEETING

August 29-30, 1985

at Universite Louis Pasteur, Institut de Geologie  
Strasbourg, France

#### SUMMARY

1. Considerable concern over the availability of only two bare rock guidebases that causes major review of Atlantic and Pacific priorities. Recommend that two guidebases be used in the Atlantic only if needed to get one good hole. If a guidebase is available for 111, either left over from 106-109 or because more funds could be found, then 111 should be EPR drilling. 504B and EPR have equal science priority but there is a need to start tackling the technical problems associated with EPR as soon as possible.
2. Excellent MARK site survey work defines ideal drill sites for 106 and 109. Kane Fracture Zone drilling is back-up for 106 but recommend that final decisions on 109 back-ups (if needed) be delayed to January LITHP meeting before PCOM but after 106.
3. EPR drilling site should have three characteristics: seismically defined magma chamber, full photo coverage, and active hydrothermal activity but locate first site in downflow zone. Consensus was 'French' 13°N area probably best meets these requirements at this time.
4. Unique opportunity exists for sampling upper mantle stratigraphy by drilling SW Indian Ridge fracture zones. This proposal combines aspects of both upper mantle geochemistry and fracture zone tectonics, both high priority COSOD objectives. Full panel support for this drilling. Recommend three basement penetrations in Kerguelen and strong support for 90-E ridge program but still would like strengthened proposal and other relevant principals involved in the deliberations.

September 30 - October 2, 1985  
Ocean Research Institute, Tokyo, Japan

\* \* \* \* \*

1) RECOMMENDATIONS FOR LEG 110 DRILLING ON BARBADOS RIDGE

We endorse the drilling plan submitted by Moore in a memo dated May 17, 1985. Specifically, most of the drilling time should be expended at LAF-1 to: a) drill through the decollement; b) measure in situ physical properties using a drill-string packer; and c) set drill-in casing if necessary. After LAF-1, sites LAF-2 and 3 should be drilled upslope to complete the transect begun on Leg 78A. We do not support drilling completely new sites, such as LAF-5, 6, or 7 in the Caribbean Working Group proposal, on this leg.

2) IN SITU FLUID PRESSURE MEASUREMENTS

In view of the importance of documenting in situ fluid pressures and fluid properties at convergent margins, we recommend:

- A) Immediately modifying the Barnes-Uyeda temperature probe so it can be used to measure in situ fluid pressures in the bottom of holes to be drilled on Leg 110;
- B) Proceeding with the engineering required to modify the TAM drill-string packer so it can be included in a rotating ("hole-making") drill string, preferably before Leg 110; and
- C) Developing a wire-line packer as soon as is technologically possible.

3) INDIAN OCEAN DRILLING

- A) From the Chinese menu of possible legs for May-June 1987, we recommend drilling the Southwest Indian Ridge fracture zone (SWIRFZ). As is clear from our earlier ranking, we think both SWIRFZ and Makran address thematic problems of global significance; our rationale is clearly explained in the minutes of our March 1985 meeting. Forced to choose between them, we now favor SWIRFZ. On balance, the panel (by a 5-4 vote) feels that new information concerning fracture-zone tectonics and structure is more important at this stage than additional drilling in an accretionary prism, especially because drilling is scheduled on Barbados Ridge and off Peru. Looking down the road (or strait), we plan to evaluate other prisms and trench slopes in the Pacific Ocean.

Regarding SWIRFZ, we insist on using at least 2 holes to study transverse variations in the fracture zone instead of placing all holes along the trend of the zone as proposed. Finally, the sites proposed for other items on the menu - Davie Ridge and Somali Basin - do not merit drilling from a tectonic standpoint.

- B) Kerguelen: Basement must be sampled on the north, central, and southern parts of the plateau. Of the existing proposed sites, we give highest priority to KHP-3, as a re-entry hole if necessary.
- C) Drilling into "basement" beneath the dipping reflectors off the Caird Coast of Antarctica is of high priority because of the non-conclusive results of Leg 104 concerning seismically equivalent rocks.



#### 4) WESTERN PACIFIC

From a thematic standpoint, drilling in the Western Pacific offers an outstanding opportunity to address these global tectonic problems:

- A) The evolution and constitution of arcs and fore-arc basement; the process of rifting in and near arcs; vertical tectonics in arcs
- B) The origin and evolution of back-arc basins, including nascent and more highly evolved examples
- C) The tectonics of collisions in the broad sense: The arrival of seamounts, aseismic ridges, plateaus, and continental plates and microplates at active convergent margins.

We plan to devise a drilling program aimed at these topics at our next meeting.

Report of the Information Handling Panel meeting,  
College Station, Texas, September 9-11, 1985

Summary

1. Publications policy. The IHP restated its firm commitment to a strong ODP publication program, and concluded that the two-part program adopted last year by PCOM still best meets the needs of the scientific community. To deal with the current financial shortfall the Panel endorses the conclusions and recommendations of the PCOM Publications Review Subcommittee. We recommend that (1) post-cruise conferences proceed on schedule; (2) all necessary material for Part A volumes be ready at the post-cruise conferences; (3) as a temporary expedient basic, cheaply-printed Initial Core Descriptions be produced for the early legs; (4) as Part A volumes can be completed, they are shelved to await funding for publication; (5) Part B. manuscripts be scheduled as originally planned, and shelved when received to await funding for editing and printing. The Panel concluded that ODP must maintain responsibility for publication of "Part B" peer-reviewed scientific reports by some means, and our proposal for a Part B volume seems ultimately to serve best the scientific community at a cost no higher than alternative proposals.

The IHP feels that the proposed "steady state" publications costs of \$2.1 million are reasonable and in line with percentage publication costs of other large science programs. We recommend that publications be given a very high priority when and if additional funding becomes available, to facilitate earliest possible publication of Part A volumes. If anticipated improvement in funding does not occur, IHP asks to meet on an emergency basis to evaluate further options.

In our assessment, if the results of the ODP are not published in an adequate and coherent form, the Project loses its only universally visible product.

2. Logging data. IHP recommends that the routine wireline logging results be published, as edited and selected by the logging operator in consultation with the science operator, in Part A at the scale of the barrel sheets. If financial or production constraints preclude this, representative logs should be published and the presence of all logging data indicated on the core descriptions. Non-routine downhole measurements should appear as individual scientific experiments in Part B.

3. Other subjects. The following matters were also considered at the IHP meeting, and are covered in the attached report.

- (a) Logging data distribution policy
- (b) Appointment of a liaison to IHP from the logging operator.
- (c) Sample curation policy, especially regarding requests for whole round core samples for destructive shipboard analysis.
- (d) Status of ODP data bases and data acquisition
- (e) Status of Micropaleontology Reference Centers
- (f) Status of ODP computer services
- (g) Need for representative sampling for consistent correlation

of various measurements.

- (h) Relation of ODP Data Bank at LDGO to other data banks and services.
- (I) Request for a Japanese representative on IHP.

12 August 1985

## REPORT OF THE SUBCOMMITTEE FOR REVIEW OF ODP PUBLICATIONS

## 1. INTRODUCTION

Constraints on the FY86 ODP budget prompted EXCOM to re-examine, among other items, the ODP publications budget. That budget is projected at \$864K for FY86 and at \$2.0 to \$2.5 M steady-state. EXCOM directed PCOM to examine the problem and PCOM in turn appointed a subcommittee for this purpose. Issues to be addressed by the subcommittee grow mainly from the need to cut costs, but they extend to re-examination of the entire philosophy behind the publication of past and projected ocean drilling results.

(a) One option raised by EXCOM was elimination of the blue book series (presumably meaning its equivalent in ODP) and its replacement with another form in which data could be presented, perhaps a collected reprint series or the establishment of a data center at the ODP Databank.

(b) Reservations were expressed about the two part format, particularly Part B (peer reviewed papers discussing the results of a leg).

(c) Publication of logging data in Part A was expected to be very expensive and should be re-examined. EXCOM felt that different ways of making these data available should be explored.

(d) Advances in information technology should be taken into account.

(e) The need of non-U.S. members to have a tangible output from ODP also must be considered.

The subcommittee, consisting of S. Gartner (PCOM), D. Appleman (IHP), A. Mayer (JOIDES), R. Merrill (ODP), and H. Spall (USGS Reston) (for J. Holoviak, AGU) met in Washington on July 29. Also present were W. Rose (ODP) and G. Brass (NSF).

## 2. BACKGROUND

(a) The Review Group started from the basis of the currently agreed publications policy as recommended by the Information Handling Panel (IHP) and accepted by PCOM. The PCOM (September 1984) recommended that an Initial Report (Part A) should be published about one year post-cruise. This would include a simple introduction, the site chapters with the ICD

equivalents and a short summary. The full scientific report (Part B) should appear about three years post-cruise.

(b) IHP in making recommendations to PCOM had drawn up a list of attributes which were desirable for ODP publications designed to serve the needs of the shipboard scientific parties and the co-chief scientists, the outside scientific community of users of the program results, and the program operators and managers. Highest priority went to leg coherence (keeping all the results of a given leg together); timeliness of publications; and editorial scope (peer review standards) and flexibility.

(c) At its Norfolk (April 1985) meeting, PCOM considered that the data from the standard logging tools should be printed as a logging summary in Part A with interpretations and analyses appearing in Part B. This issue has been referred to IHP and to the Downhole Measurements Panel (DMP). The latter reacted enthusiastically to this proposal.

### 3. CONSTRAINTS

(a) R. Merrill gave a presentation on the current ODP publications policy and a cost comparison between DSDP publications and those projected by ODP TAMU in order to meet the agreed policy. This budgetary information is given in Annexes 1-8 of this report.

(b) The original estimate for FY86 from the Publications Group was for \$843K, increasing in later years to a maximum "steady-state" of approximately \$2.2 M annually in 1986 dollars. This would include printing and distribution costs which were not included within the DSDP publications costs. Following revisions of the ODP budget consequent upon funding shortfalls, the FY86 figure has been reduced to \$188 K, which may be further reduced by about 10% to accommodate the recommendations of the EXCOM Budget Subcommittee.

### 4. DISCUSSION

(a) Some concern had been expressed by EXCOM over the \$2 M - \$2.5 M projected "steady-state" budget for publications, which represents approximately 8% of the current annual program costs. The Review Group compared this with USGS activities: these figures are comparable and entirely reasonable for a program of this magnitude. It should be noted that revised estimates from TAMU put the publications "steady-state" cost at \$2.14M in 1986 dollars.

It should be recognized that even this revised estimate cannot be taken as cast in concrete. It is impossible to judge whether doubling of the number of shipboard scientists

will result in a doubling of scientific contributions. It is reasonable to expect some increase. It is also unclear to what extent the peer review of all of these contributions plus a policy of making all contributions "lean" will materially reduce costs, although such a reduction will almost certainly occur.

(b) The policy for publications with Parts A and B of ODP Proceedings was considered at some length. Part A (consisting of site chapters, core descriptions, black-and-white core photographs, and selected underway geophysics and logging data) is considered essential, and should appear approximately 12-14 months post-cruise to coincide with the release of core material and other data for use by the general scientific community.

(c) The DSDP Initial Reports are considered "gray" literature by some members of the community and there is concern that Part B will be similarly considered and at considerable cost of publication. The conclusion of the subcommittee was that Part B will not be stigmatized by that odious label provided that the papers contained in it are fully peer-reviewed, that realistic deadlines for manuscript submission are adhered to, and that these papers address the interpretation of results. Papers which consist largely of data presentations without interpretations create difficulties if included, despite their being essential to ODP's overall mission. The subcommittee thought that such data might be published on microfiche and bound in a pocket within the book, rather than be published as part of the text of Part B.

Much of the discussion during the meeting pertained directly or indirectly to the issue raised above. The question may be rephrased as follows: "Is it appropriate for ODP to be responsible for publication of those results which are to be included in Part B, i.e., the fully peer-reviewed contributions of shipboard and other scientists pertaining to a particular leg?" Points raised which were relevant to this question are as follows:

(i) Journals in the open literature probably cannot handle the sheer volume of manuscripts produced by ODP science in the course of a year (projected at 6000 printed pages annually).

(ii) Some important contributions could not find space in appropriate publication media because they would make little sense if presented out of context with other material related to the scientific problems addressed by the relevant legs.

(iii) The lack of a designated vehicle (and schedule) for publication of ODP results probably would cause many

scientists to lose interest and motivation for timely completion of manuscripts, with consequent irrevocable loss of information.

(iv) Contributions resulting from any single leg would be widely scattered in various journals and be published at various times in various languages; there would be a complete loss of quality control. Under these circumstances, the scope and complexion of the final product of 10 years of the ODP would become unpredictable and uncontrollable and, if ultimately judged to be faulty, would be irreparable.

(v) The contributions in Part B constitute the only public record of the scientific thought invested in the planning, execution and analysis of each leg by the JOIDES community and by the participating scientists. They record the interactions of the international scientific community and the synergistic effects of combined efforts to define, attack and resolve scientific problems. In their present form, they are an essential part of the tangible product of the international scientific community's investment in ODP. Loss of the Part B publication format, and the resultant dissemination of these papers throughout the open literature, could severely impact perceptions of the quality of the ODP product in the eyes of scientists outside of the JOIDES community.

(vi) Elimination of Part B would not necessarily result in a significant cost savings, because page charges and other production costs (drafting, etc.) for an equivalent number of pages to be published in the outside literature would still be incurred by the funding agencies.

(d) There was discussion about the maximum length of papers to be permitted in Part B. Papers should be as brief as necessary, but the subcommittee did not think it appropriate to suggest editorial policy.

(e) ODP/TAMU is reviewing new advances in paper technology for Part A and Part B production. Acid-free, lightweight paper which permits high quality plate reproduction is now available which would decrease the overall cost of production and also create savings in distribution costs.

(f) The subcommittee is satisfied that ODP/TAMU is taking advantage of new technologies in publishing to streamline and reduce the costs of production. These include automated manuscript tracking, optical character reading, and electronic translation of foreign (to the ODP/TAMU computer system) disk formats, which will ease the electronic capture of incoming manuscripts, electronic manuscript transfer to

reduce typesetting costs, and ship-to-shore word processing in order to accelerate the production schedule and to make on-line revisions to Part A manuscripts possible.

New machines are now being marketed which facilitate electronic paste-up and page composition (including graphics). These are the WYSIWYG ("what you see is what you get") machines. ODP/TAMU has been asked to assess this technology which, if applicable, could further reduce the future staffing requirements of the Publications Group. At this time, however, this technology is expensive and relatively untested. It may be a useful development in the not-too-distant future.

(g) The subcommittee considered the subject of "advances in information technology." It is not entirely clear what is meant by this phrase, although some present interpreted the phrase to suggest, e.g., dissemination of ODP results on floppy disks. While the technology for this procedure may exist, the complexity and cost of applying this technology are likely to preclude its use in the immediate future.

(h) The subcommittee was satisfied with the level of staffing necessary to produce Part A, which consists of two copy editors (of five proposed), one production editor (of three), one illustrator and one draftsman. This staff would also be engaged in the production of science cruise prospecti, preliminary reports, technical reports, hole summaries, and support of PR activities.

## 5. CONCLUSIONS AND RECOMMENDATIONS

(a) It is clear that there are insufficient funds available in the FY86 Publications budget to produce the Part A volumes of the Proceedings and the ancillary publications which are scheduled to appear during FY86.

(b) The subcommittee considers it to be of prime importance to produce some form of ODP publication during FY86, without prejudicing the approved publications policy. Current staffing of publications is frozen for FY86 at the publications supervisor, two illustrators, one draftsman (for the barrel sheets), and one hole summary coordinator. With this staffing and funding for FY86, the subcommittee recommends the production, printing, and distribution of at least two (2) DSDP-style Initial Core Descriptions. These would be considered preliminary versions of equivalent Part A's, which would be published in FY87. Legs 101 and 103 are appropriate for ICD production, in that cores were recovered, and it may be possible to produce some equivalent documentation for Leg 102 (the logging leg). It is also expected that the Publications Group will carry out some editorial work on Part A's in preparation for FY87 printing.



although the lack of editorial staff probably will limit the Group's accomplishments in this direction. Additionally, the Group is asked to continue to produce the ancillary publications referred to in Section viii above.

(c) In an effort to reduce costs, the Publications Group should investigate the possibility of using freelance editorial staff. It is understood that the Publications Group will seek out the most economical bids for typesetting, printing and distribution without compromising the quality of the ODP publications.

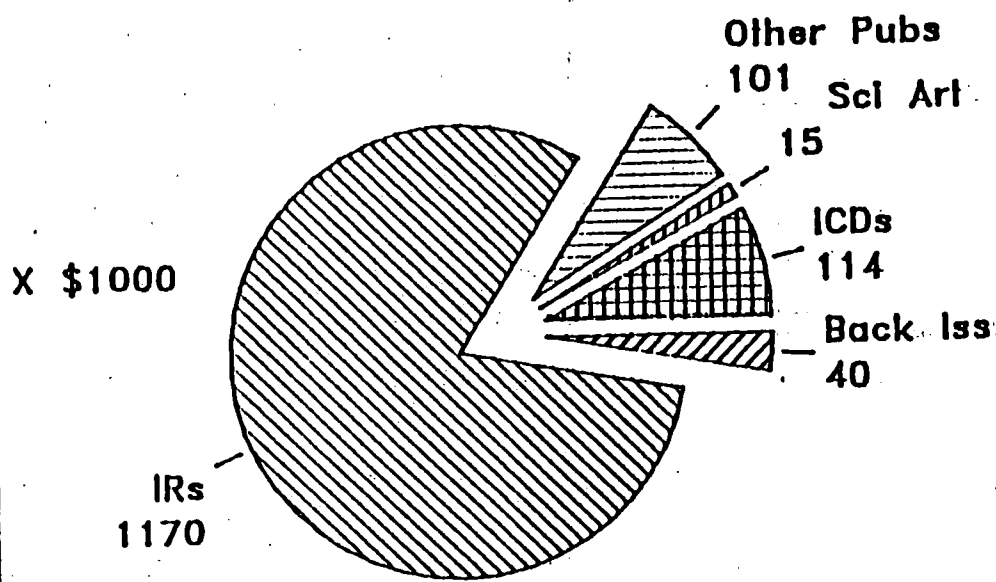
(d) The Manager of Science Services should hold off on proceeding with RFP's for typesetting, printing and binding, and distribution of Parts A and B until the budget for FY87 can be projected with reasonable accuracy.

(e) Overall staffing of the Publications Group needs further review prior to formulation of the FY87 budget in order to bring staffing in line with the tasks required of the group.

(f) It is anticipated that the phase-down of DSDP during FY87 will assist the ODP budget for that year. The subcommittee places high priority on restoring funds for rapid publication of Part A's for FY86 and FY86 cruises.

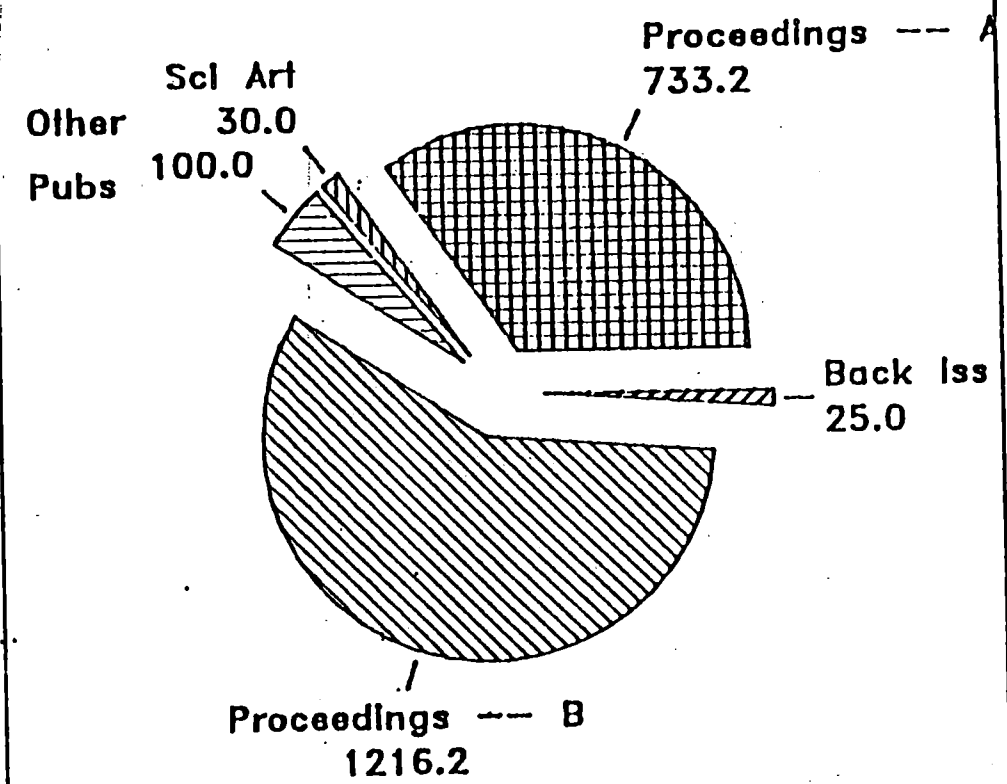
(g) The subcommittee considered that, apart from specific logging legs such as Leg 102, Part A of the Proceedings should contain only a brief guide to the logging data and to specialist downhole experiments, and that it should advise as to how users may access data in L-DGO and TAMU. IHP should be asked to give further consideration as to how this may be done.

### Annual Cost of DSDP Publications



Total: \$1410 K

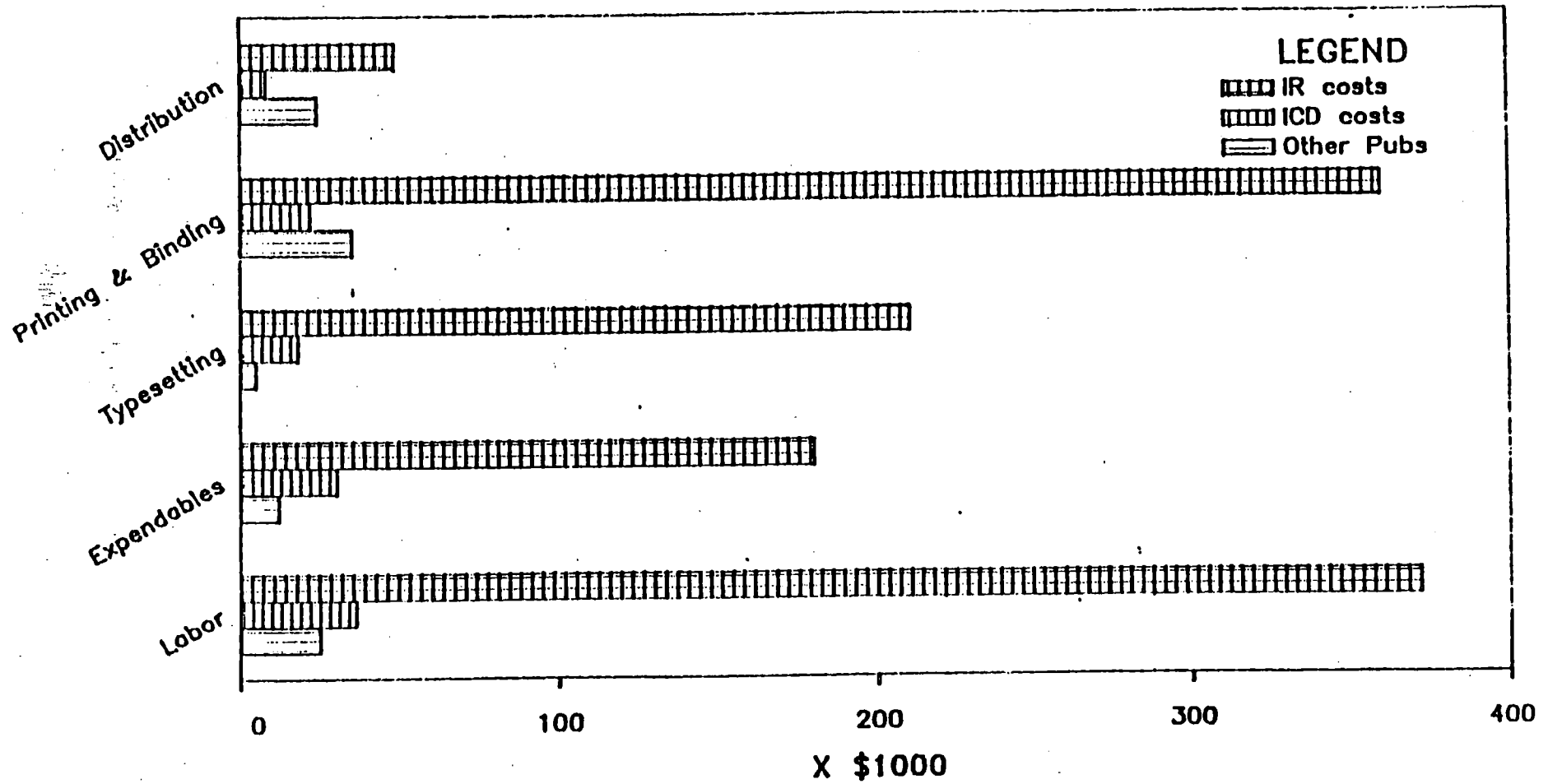
### Annual Cost of ODP Publications Estimated Steady-State



Total: \$2,140.4K

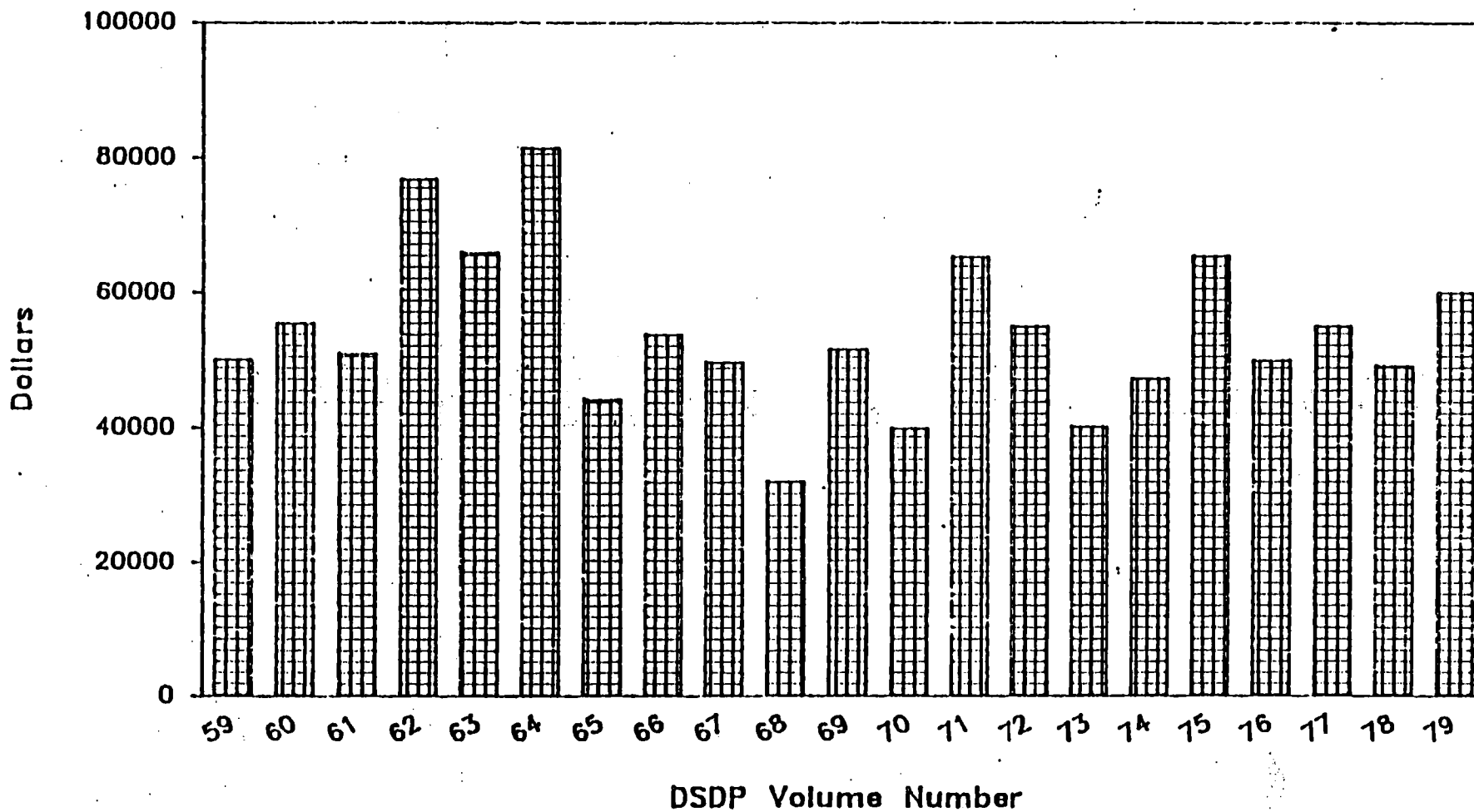
July 1985

# DSDP Publications Budget

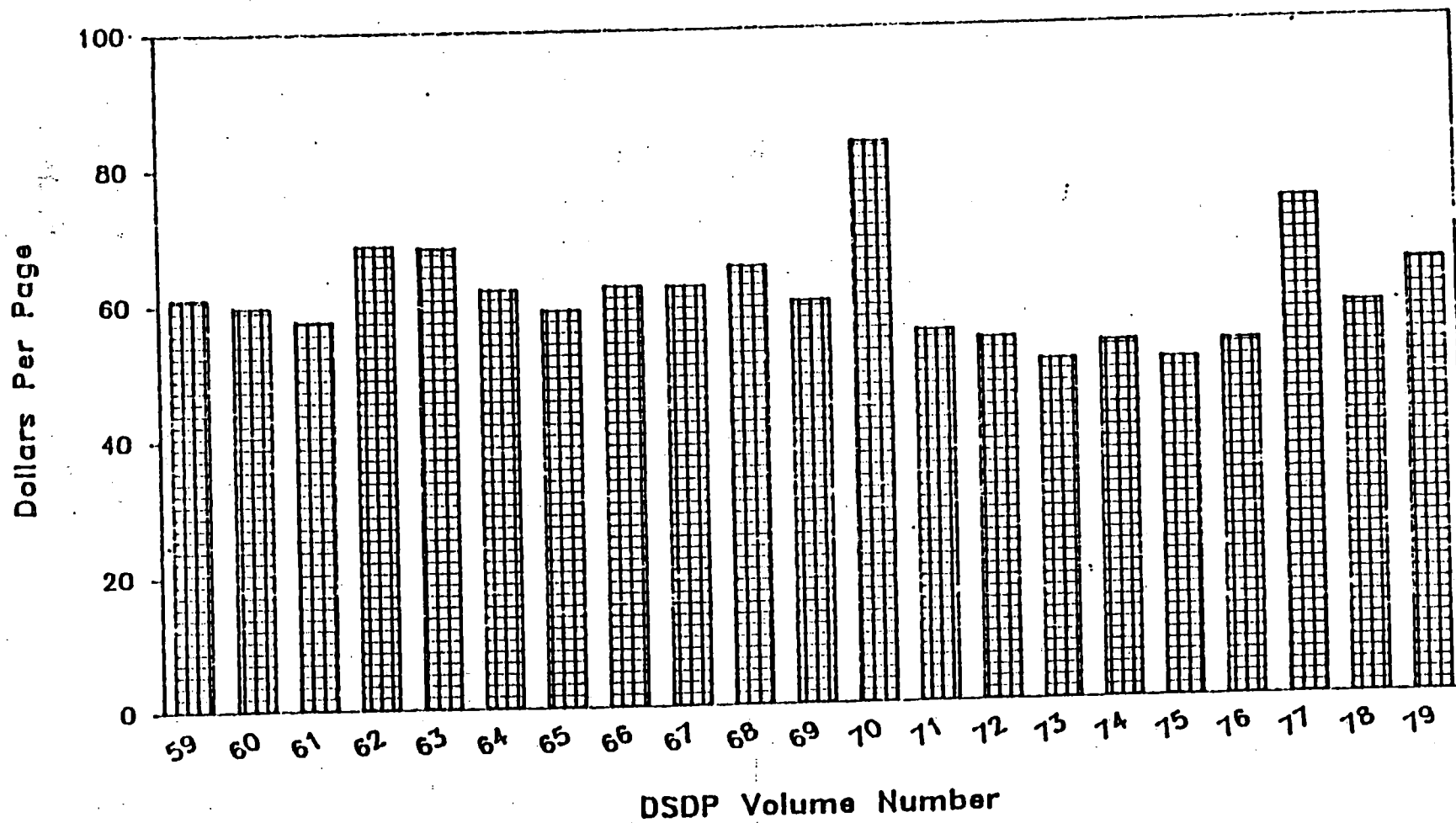


# Printing, Binding & Distribution Costs

Exclusive of Postage



# Per Page Printing, Binding & Distribution Costs



# Contents of ODP Proceedings

## -- Initial Report --

- \* Introduction & Explanatory Notes
- \* Site Chapters
- \* Core Barrel Sheets
- \* B&W Core Photographs
- \* Selected Underway Geophysical Data
- \* Selected Logging Data
- \* Back Pocket Figures

## -- Final Report --

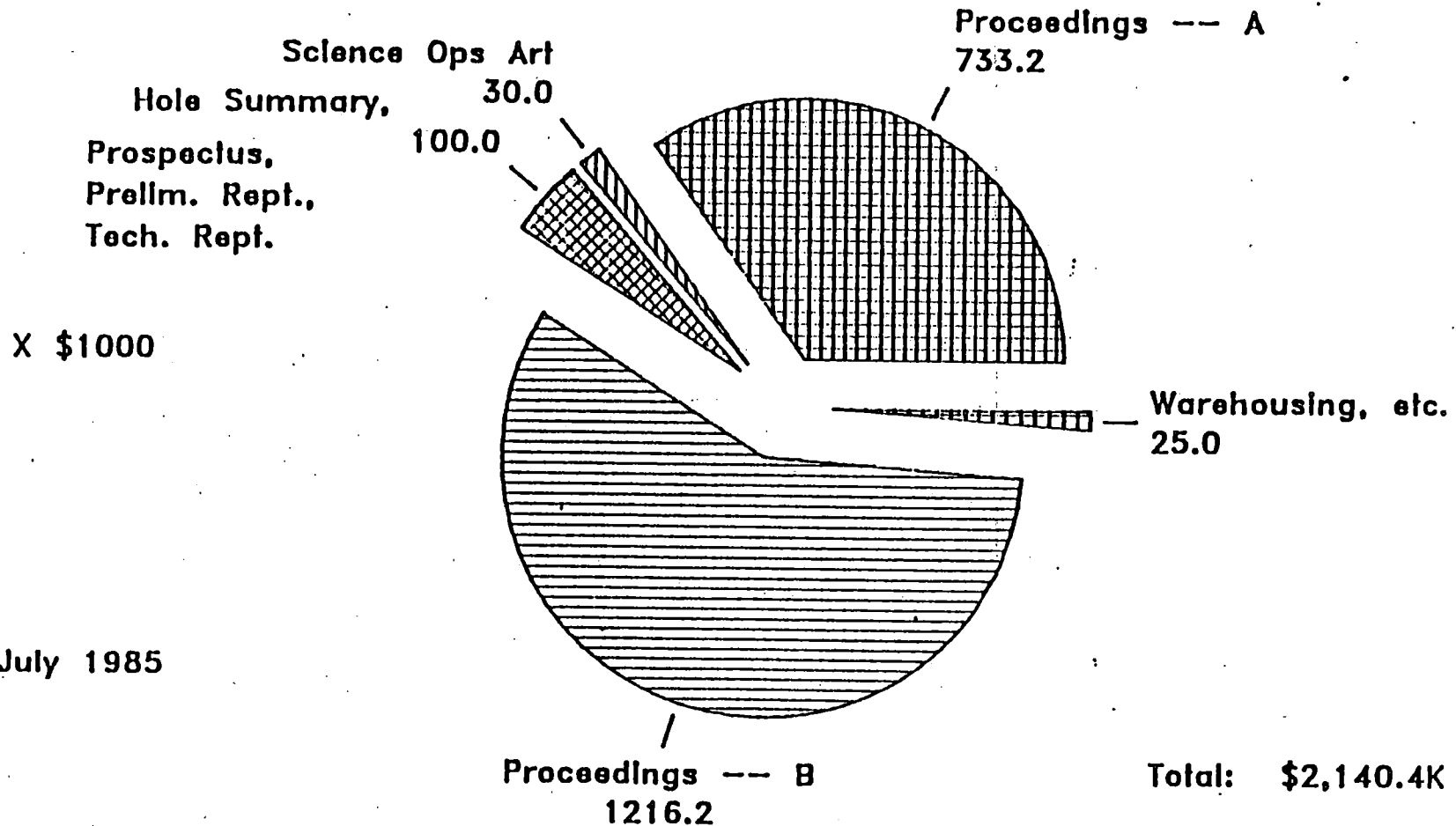
- \* Frontispiece
- \* Introduction & Explanatory Notes
- \* Peer-reviewed specialty papers
- \* Acknowledgments
- \* Back Pocket Figures

## ODP Cruise-related Publications

1. Cruise Prospectus  
3 months precruise
2. Preliminary Report  
1 month postcruise
3. Hole Summary  
1 month postcruise
4. ODP Proceedings: Initial Report  
12 months postcruise
5. ODP Proceedings: Final Report  
40 months postcruise

# Annual Cost of ODP Publications

Estimated Steady-State

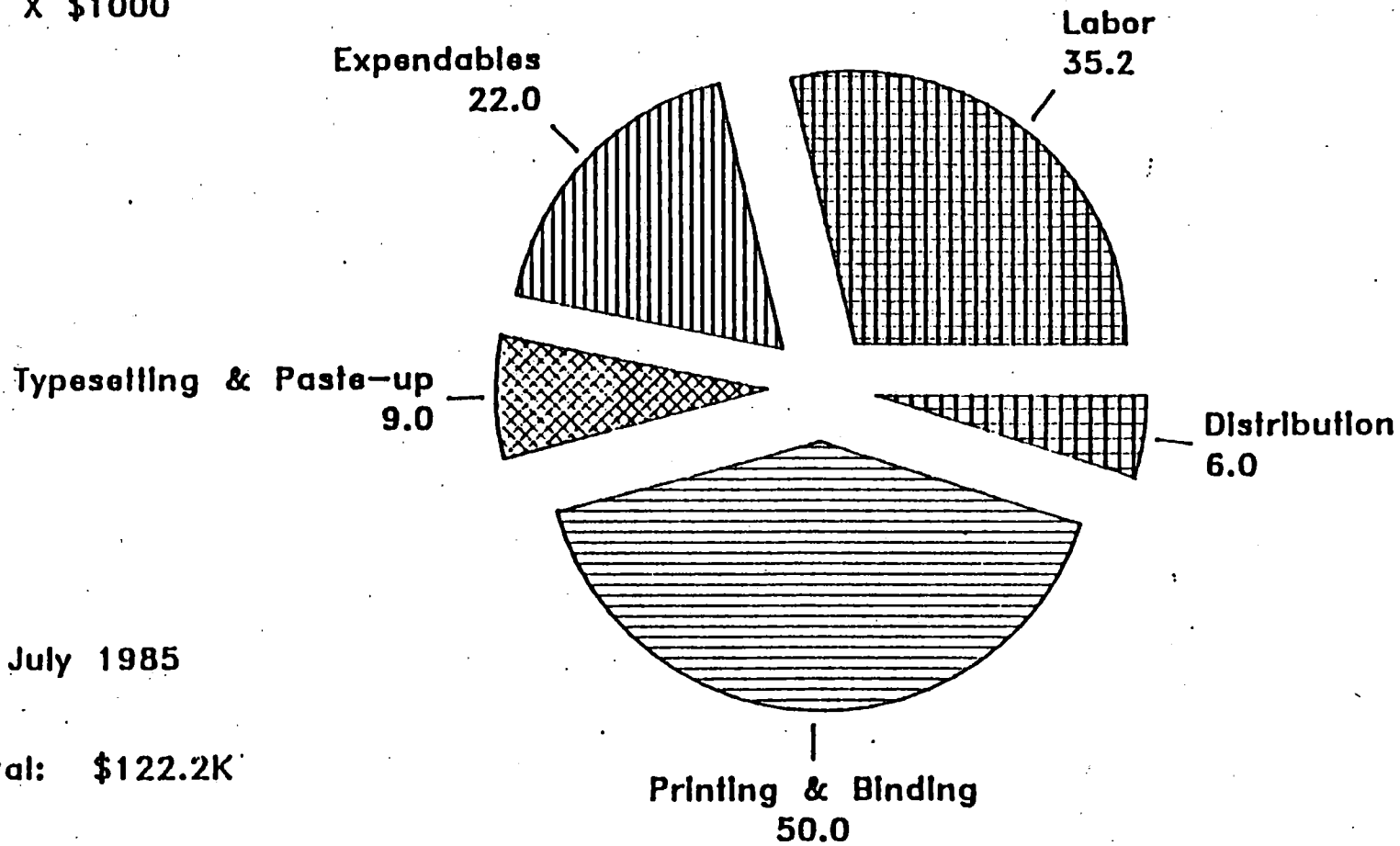




# ODP PROCEEDINGS, PART A -- Initial Report

## Estimated Costs Per Cruise

X \$1000



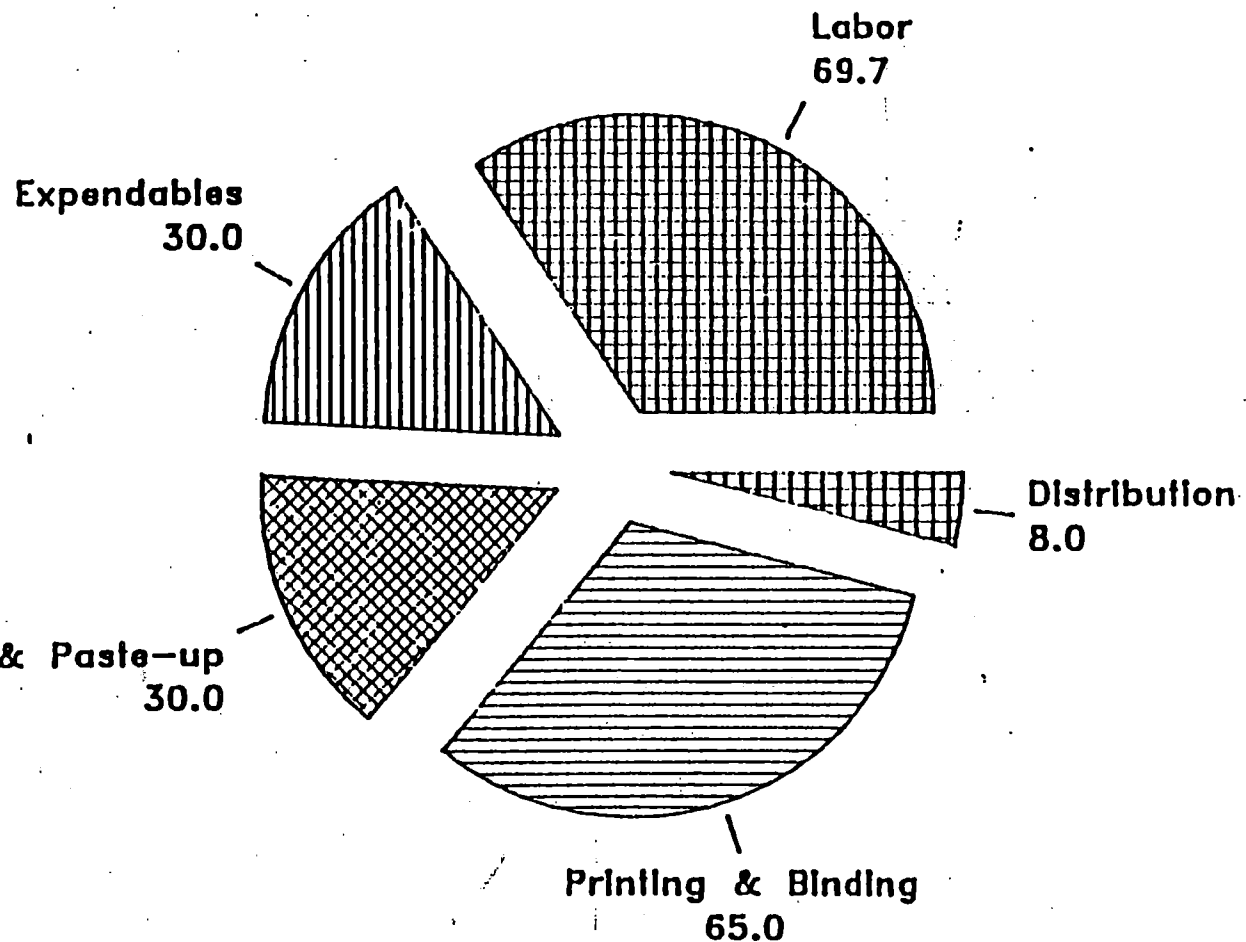
July 1985

Total: \$122.2K

# ODP PROCEEDINGS, PART B -- Final Report

## Estimated Costs Per Cruise

X \$1000



July 1985

Total: \$202.7K

## ODP Peer-Reviewed Publication Process

- Manuscript Review, Revision and Acceptance
  - Staff Scientist and Co-chiefs
- ODP Revisions for Consistency & Grammar
  - Staff Copy Editor
- Typesetting, Illustrating, Proofreading
  - ODP Art and Production, Typesetting subcontractor
- Co-chief Review & Corrections
  - Co-chiefs, Staff Copy Editor & Production Editor
- Printing, Binding & Distribution
  - Printing & Binding Subcontractors

# Streamlined ODP Production Procedures

Automated manuscript tracking will prompt laggards and supply management reports

Ship-to-Shore word processing will make on-line editorial revisions to Part A mss possible

Optical character reading/foreign disk translation will ease electronic capture of incoming mss

Electronic ms transfer will reduce typesetting costs



EARTH SCIENCES  
APPLIED SCIENCES BUILDING

SANTA CRUZ, CALIFORNIA 95064

September 25, 1985

Professor Roger Larson, Chairman  
Joides Planning Committee  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, RI 02882-1197

Dear Roger:

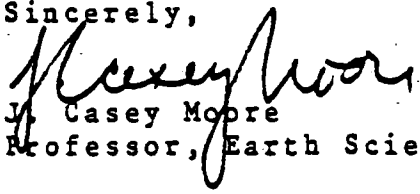
I am writing regarding the Packers for Leg 110 of ODP:

As you know the only packer presently available for Leg 110 is Keir Becker's double element Tam packer which requires a pipe trip and re-entry for utilization. Recently Keir has informed me that his existing Tam Packer can be modified to allow rotation and therefore placement in the drill string during coring operations. This option would allow pressure/permeability testing immediately after penetrating faults during drilling, providing the opportunity for measurements before time-dependent hole collapse occurs and obviating the need for re-entry in some cases. Furthermore, this modified packer is the only tool that could be coupled with the existing drilling casing and potentially measure fluid pressures and permeabilities below the décollement.

The modified Tam Packer has enormous potential for saving both ship time and the cost of drilling hardware (re-entry cones, casing strings). Support of the modification of this tool should be given the highest priority in funding. Since the development of a re-entry compatible drilling casing is not feasible by Leg 110, perhaps some of the funds targeted for this expensive item can be diverted to the Tam Packer modification.

Thank you for your consideration.

Sincerely,

  
J. Casey Moore  
Professor, Earth Sciences

cc K. Becker  
R. von Herten



EARTH SCIENCES  
APPLIED SCIENCES BUILDING

SANTA CRUZ, CALIFORNIA 95064

September 25, 1985

Professor Roger Larson, Chairman  
Joides Planning Committee  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, RI 02882-1197

Dear Roger:

I am writing regarding the planning for Leg 110 of ODP. Specifically I would like to address the feasibility of penetrating the decollement between offscraped and underthrust material as well as fall-back options should this objective not be achieved.

#### **Drilling Schemes to Penetrate the Decollement**

Glenn Foss of TAMU has informed me that they cannot develop drilling casing that is compatible with a re-entry cone and extended casing string. However, they plan to improve the existing, non-re-enterable, drilling casing to more uniformly apply torque and hopefully allow its release from the drill string after emplacement. Secondly, they are preparing a long standard casing string that perhaps could span the decollement. Foss is optimistic that this casing system can be emplaced by using abundant mud to circulate cavings out of the hole while the casing is run. If successful, both coring and existing Tam packer experiments could occur below the decollement. If not, utilization of the modified drilling casing would permit coring and logging below the decollement and packer experiments if the Tam packer is modified (see Keir Becker's letter). Success with either of the above two schemes will allow completion of virtually all leg objectives. I believe that the foregoing options provide an adequate range of approaches to the admittedly difficult problem of penetration of the decollement. I personally believe the chances of success are high.

### Alternate Drilling Plan: Scientific Justification

If complete penetration of the decollement is impossible, then operations will be limited to coring, re-entry, logging, and packer measurements above and within the upper part of the decollement. The critical question is whether this "fall-back" position constitutes a viable leg.

Structural and hydrogeologic questions associated with penetrating the offscraped material above the decollement include: 1) is there significant intergranular fluid flow? 2) is there fluid flow along the faults that splay off the decollement? 3) what is the magnitude of fluid flow in the decollement (at least its upper portion)? Since the material below the decollement is undeformed and apparently fine-grained (limiting fluid flow) the attainment of the above objectives probably describe 70% of the hydrologic regime of this accretionary prism. While this would produce an admittedly incomplete analysis of the structure and hydrogeology of this system, it would be virtually the first thorough investigation of fluid flow in this environment of massive tectonic consolidation. Although, not discrediting results from previous Legs at active margins (including 78A!, see attached reprint), they have been principally structurally oriented, and have produced no pressure, pore water, nor temperature data adequate for modeling of fluid transport. Moreover, recent discoveries of unique biological communities at subduction vents provides additional impetus for hydrologic studies of accretionary prisms. The multidisciplinary analysis of the structure and hydrogeology of the Barbados prism will break new ground in studies of accretionary tectonics and provide a basis for conceiving further, more sophisticated investigations.

### Time Requirements of Alternate Drilling Plan

Given the good possibility of penetrating the decollement at LAF 1, Leg 110 should begin with this objective and only proceed to the alternate drilling plan after thorough testing of all approaches. Total time estimates are as follows:

LAF 1	Penetration of Decollement	21 days
LAF 2	Penetration to Decollement	15 days
LAF 3	Arcward Reference Site	11 days
LAF 3A	Upslope Fault Dynamics	13 days
	Transit	7 days
		<hr/>
		67 days

Professor Roger Larson  
September 25, 1985

Page 3

Time on LAF 1 is that required to try all approaches to penetration. Successful penetration might involve more time to core a test sediment below the decollement. Estimates for all Sites include continuous coring, full log suites, televiwer runs, and packer experiments. Clearly, a credible attempt at LAF 1 plus completion of the upslope transect will more than utilize a normal two month leg.

I hope the above material is adequate to allow PCOM to evaluate the viability of Leg 110 with or without complete penetration of the decollement. For your information I've also enclosed a copy of a previous, more detailed drilling plan. If you have questions please call me at 408-429-2574 (429-2504, leave message; 426-6245, home).

Sincerely,



Casey Moore  
Professor, Earth Sciences



Casey Moore  
May 17, 1985

## NORTHERN BARBADOS FOREARC TRANSECT: STRUCTURAL AND HYDROGEOLOGICAL PROCESSES

### BACKGROUND

The northern Barbados forearc transect is designed to examine structural and hydrogeologic processes in an active accretionary environment. A key objective is to penetrate completely through the toe of the prism, including offscraped sediment, underlying underthrust sediment, and the active decollement separating these differing structural regimes. Emplacing a re-entry cone and casing string to the decollement here would provide the basis for long-term measurements of tilt and fluid characteristics in this environment. To evaluate lateral variations in fluid properties and structural features a series of additional sites are planned up to 23 km landward of the deformation front.

Operating time estimates were derived with the assistance of Glenn Foss and Stan Serocki at ODP. The time required for transit and to accomplish all objectives exceeds the normal cruise length by about 50 percent. A normal cruise should complete the first priority site at the toe plus at least one other hole; with luck several of the upslope holes could also be drilled.

### SITE OBJECTIVES AND OPERATIONS

The proposed sites for the northern Barbados forearc transect are listed below in order of priority.

#### LAF 1: Base of Slope near Site 541, Three Km from Deformation Front

**Specific Objectives:** Completely penetrate from imbricately thrustsed offscraped sediment through active (and probably overpressured decollement) to underthrust stratified sequence, finally to oceanic crust. Determine sequence of structural features including biostratigraphic definition of faults, use televiwer to image structural features downhole. At selected structurally defined localities measure geotechnical properties and fluid pressure, composition, temperature and flow rate.

Establish cased hole with a re-entry cone that could serve as a permanent observatory for down-hole monitoring of subduction zone.

Operations: Achievement of objectives will require two re-entry cones and setting of casing, both standard and drill-in variety.

A-Hole: Penetrate about 500 m to decollement, setting re-entry cone, and casing as necessary to unstable zone in decollement. Measure fluid pressure and compositions associated with faults in offscraped sequence and decollement at base of offscraped section. Compliment drilling with logging, televiwer runs, and packer and geotechnical experiments. 17.5 days

B-Hole: Set re-entry cone, drill and case as necessary to decollement. Span unstable decollement zone with long section of drill-in casing. Focus logging, televiwer runs, packer and geotechnical experiments in stratified sequence below decollement. 18 days

Note: It is possible that the base of the A-hole would remain stable long enough to continue through the decollement with drill-in casing and therefore save 8 days necessary to set another re-entry cone and to case to the decollement. Therefore the total time to complete all objectives could range from 25.5 to 35.5 days.

#### LAF 2: Eight Km Upslope from Deformation Front

Specific Objectives: Investigate lateral variations in structural features, physical properties, and pressures, composition, and temperatures of fluids in offscraped material and in decollement zone.

Operations: Single hole designed to penetrate 850 m to decollement using casing as necessary and re-entry cone (required for current packer). Continuous coring with complete program of logs, televiwer runs, and packer and geotechnical experiments at selected localities. 18 days

#### LAF 3: Twenty-Three Km Upslope from Deformation Front

Specific Objectives: Penetrate landward dipping reflectors (fault?) at top of lower slope. Establish arcward reference point for variations in structural style, fluid properties, and temperature. Test for active fluid movement along faults well arcward of deformation front.

Operations: Single hole designed to penetrate 500m to prominent series of landward dipping reflectors. Re-entry cone required to use packer. Full suite of logs planned plus borehole televiwer and geotechnical experiments. 11 days

**LAF 3A: Fifteen Km Upslope from Deformation Front**

Specific Objectives: Penetrate landward dipping reflectors in order to establish structural style, fluid pressure, temperature and composition. Test for active fluid movement along landward dipping reflectors (fault?). LAF 3A is designed to complete transect and provide control on lateral gradients of fluid properties and structural style should LAF 2 and 3 also be drilled.

Operations: Single hole designed to penetrate 600m to landward dipping reflectors. Re-entry cone required to use packer in this environment. Full suite of logs planned plus borehole televiwer and geotechnical experiments. 13 days

TABULAR SUMMARY

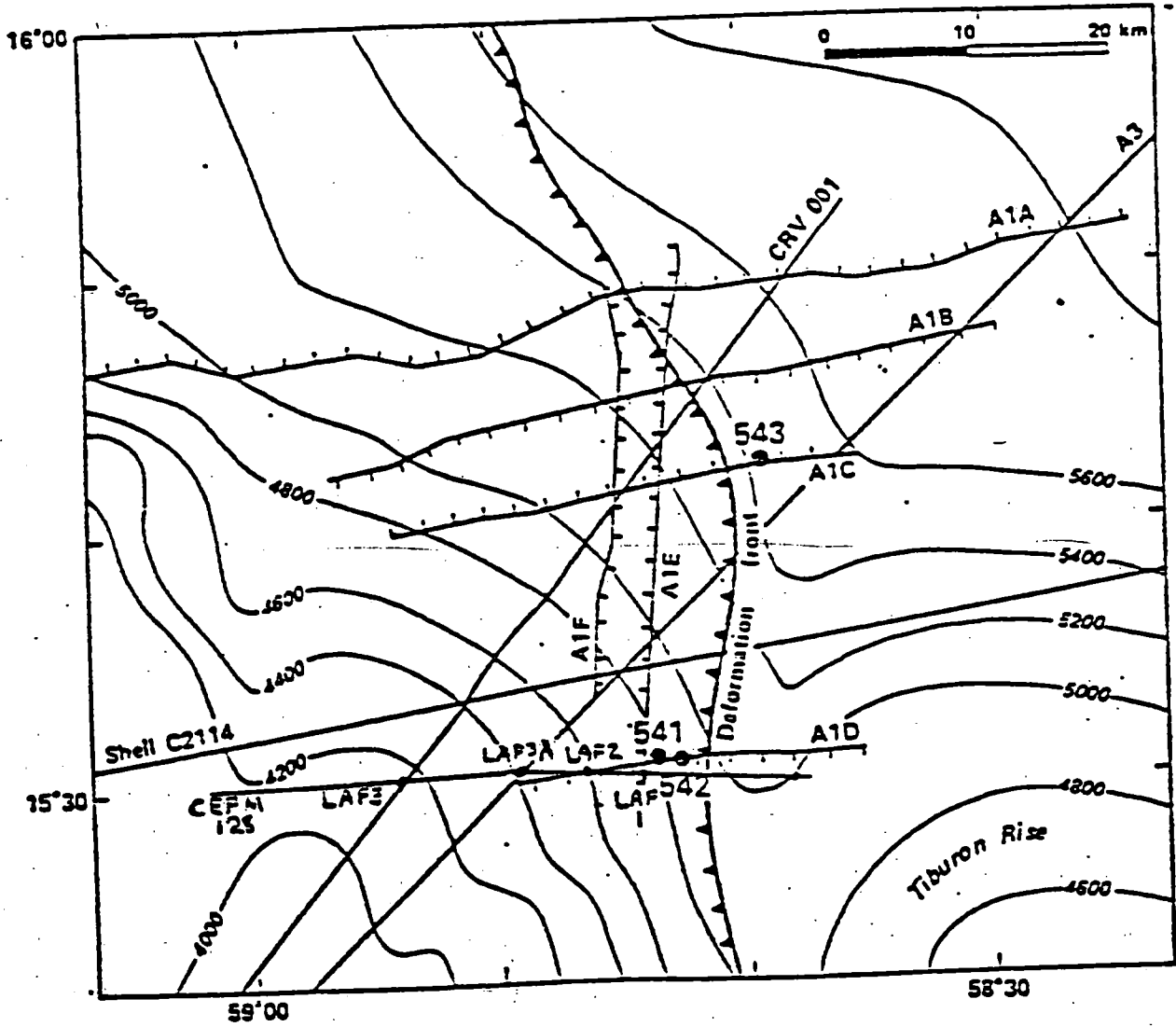
Site	Water Depth (meters)	Penetration (meters)	Time Required (days)	Comments
LAF1	5025	860	25.5-35.5	Two holes
LAF2	4800	850	18	
LAF3	4275	500	11	
LAF3A	4650	600	13	

67.5-77.5

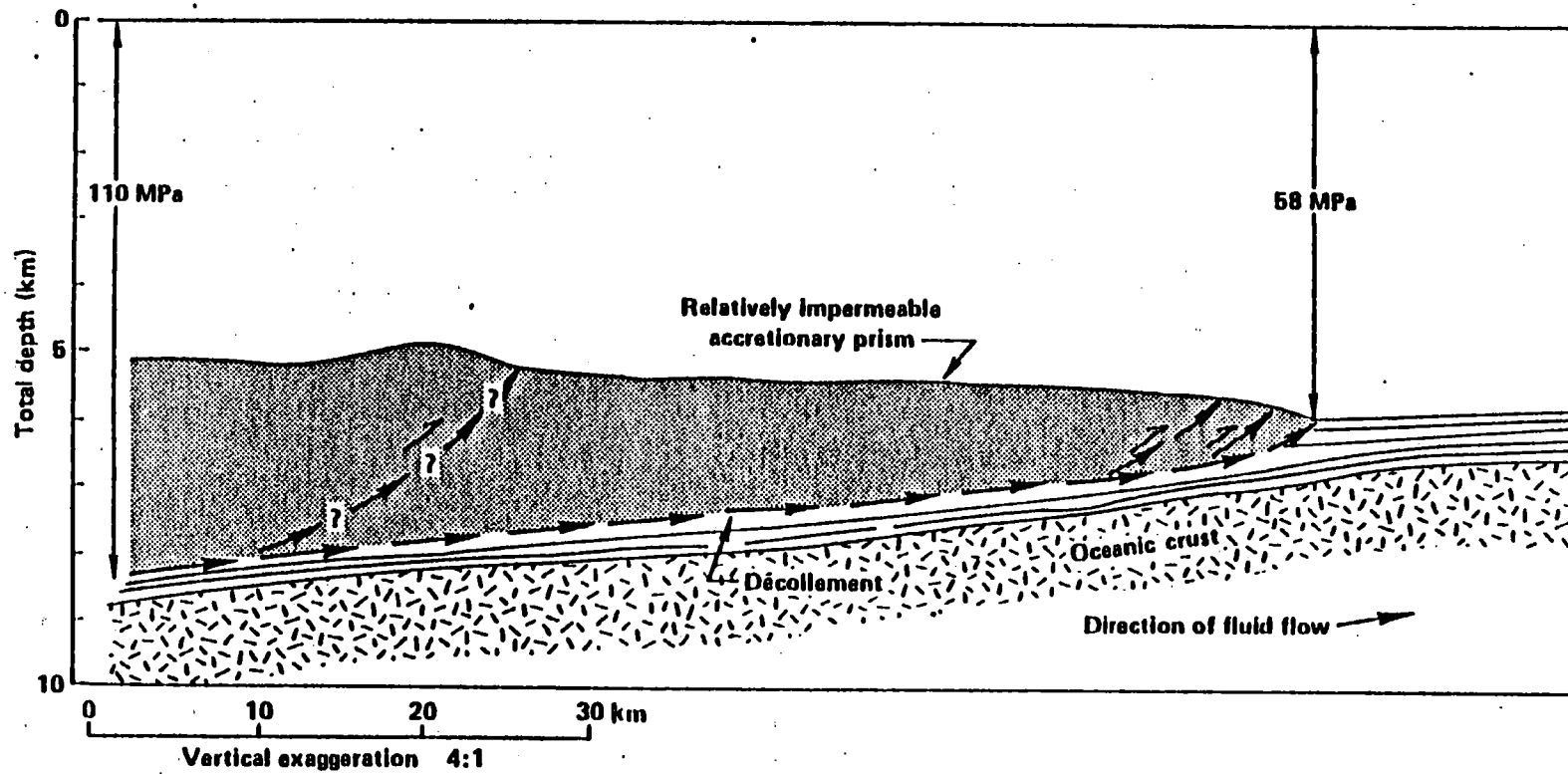
Estimated Transit 7

Total 74.5-84.5

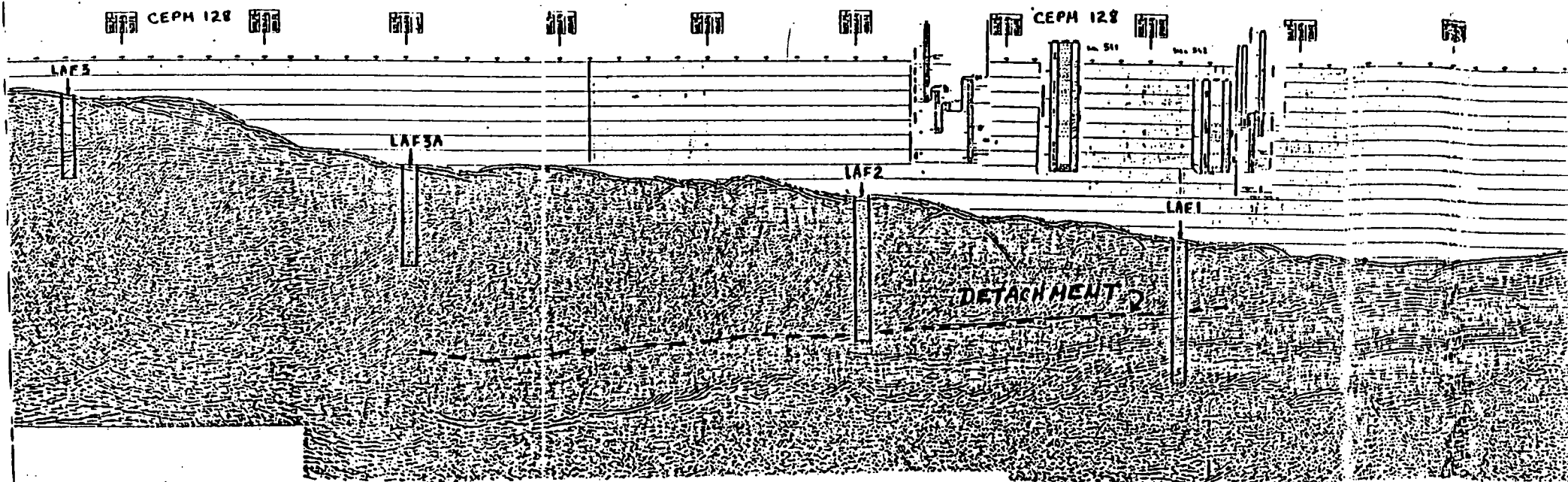
Note: All sites require re-entry cones, and have significant associated experimental programs.



- 541-3 Leg 78A SITES
- LAF 1-3 Proposed Sites



# Barbados North





University of Miami  
Miami, Florida 33149

## DIVISION OF MARINE GEOLOGY AND GEOPHYSICS

Dorothy H. and Lewis Rosenstiel  
School of Marine and Atmospheric Science  
4600 Rickenbacker Causeway (305) 361-4663

23 September, 1985

Dr. Roger Larson (from K. Becker)  
Chairman, JOIDES Planning Committee  
Graduate School of Oceanography  
University of Rhode Island  
Narragansett, RI 02882-1197

Dear Roger,

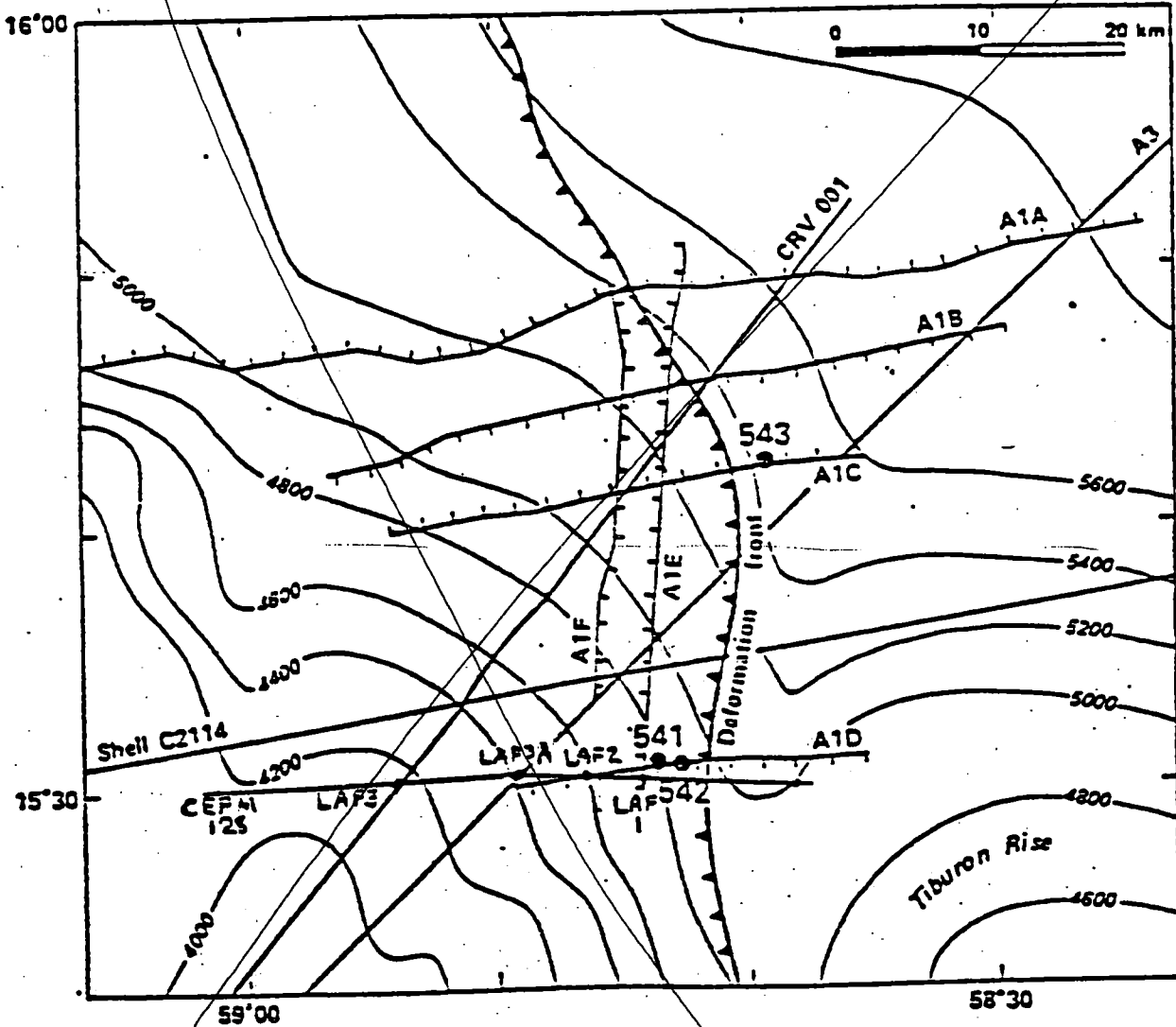
After our September 4 and 5 discussions regarding packer use on Leg 110, and given the recent Lithosphere Panel recommendation regarding Leg 111, I decided I'd better write you before the October PCOM meeting. I do so in my roles as (1) principal investigator of the NSF grant covering operations of the drill-string packer, and (2) main author of the proposal to return to 504B and Lithosphere Panel nomination to be co-chief scientist of Leg 111. I'll make my comments as brief as possible; if you need clarification, please call me at 305-361-4661 or 361-2352 (but I'll be gone to Tectonics Panel 9/27-10/6).

Leg 110 packer use

It became apparent at the ODP Engineering Workshop that the Barbados packer work would be much easier if the TAM packer had a routine rotational capability. I enquired of the manufacturer whether the drill-string packer could be modified to allow rotation, and he replied positively, with the following qualifications: The packer would have to be mounted above the BHA, at the bottom of the drill pipe, so that the packer be kept out of compression, and it would have to be configured as a single-element (non-straddle) packer. The cost of such a modification would be on the order of \$20-40k, which I do not have in my grant.

I feel that such a modification would be useful for general operational and safety considerations, as it would allow reentry of existing holes with the packer above a clean-out BHA, and it would in some cases negate the necessity for separate pipe trips for packer tests. If PCOM feels that this modification should be made for Leg 110, a strong recommendation to that effect would aid me in trying to obtain a supplement to my grant. Please note that this discussion of a possible modification is based only on a single phone call to the manufacturer; we should have a better idea of the feasibility of this modification after I ship the packer back to the factory in early October to correct the minor design flaws that prevented packer success on Leg 102.





- 541-3 Leg 78A SITES
- LAF 1-3 Proposed Sites