rec 5th June 89

Uncorrected Minutes of OHP Meeting Miami April 4th - 6th 1989

The meeting opened at 08.30 April 4th

After welcome from host Gary Brass and introductions, we received an apology from N. Pisias, PCOM liaison. In his place G. Brass acted as PCOM liaison (though he was not at the last PCOM meeting). All members of the new OHP were present including P. Davies (Australia) who had only been made a member the previous week. In addition W. Sliter (CEPAC DPG liaison) was present along with I. Premoli Silva and L. Mayer (invited guests). NJS reported that he had requested L. Mayer be designated member-at-large following his resignation from SGPP but that this requires a PCOM decision. He also reported that TAMU representatives are only present by special request and that their presence depends on the TAMU budget. We did receive and welcome a TAMU report by TELEMAIL.

L. Mayer reported on the Panel Chairmen's meeting (Miami Nov 1988). Of particular note: the new panel structure is vertical in the sense that the DPG's are supposed to report to PCOM through the thematic panels. However, the timing of meetings has not been planned from that point of view- we will see the report of the upcoming DPG meeting at our next meeting; the next PCOM meeting to which we would be able to transmit the DPG's reports will thus be the annual meeting in November. One specific recommendation the panel make is that DPG REPORTS SUCH AS THE CEPAC PROSPECTUS SHOULD AUTOMATICALLY BE DISTRIBUTED TO THEMATIC PANEL MEMBERS.

The panel agreed that the regular presence of a TAMU representative was highly desirable: (a) to keep the thematic panel abreast of the progress of the project, and keep TAMU abreast of the development of thematic objectives; (b) to keep the panel abreast of engineering developments, and keep TAMU in touch with our engineering requirements; (c) to facilitate discussion with TAMU over such matters as staffing, sampling, publications.

Mandates

For the benefit of new members, all mandates were examined briefly.

Of the general mandates to thematic panels, we regarded 4.2.3 as the most questionable; it is not clear in what sense we can

achieve this although we understand the concern that has led to the inclusion of this section. OHP feels that this does provide another reason for TAMU to report to us at each meeting.

The OHP mandate was discussed in detail. In general the panel felt that this was fully appropriate. We do however request that the phrase "Ocean Paleoproductivity" should be inserted in place of "sedimentation patterns" in view of the fact that this concisely describes one area of particular interest to the panel. Other than this we consider that the general nature of our mandate is appropriate.

We also examined the mandate of SGPP in order to ascertain that this panel is properly mandated to represent those portions of the former SOHP interests that are not covered by OHP. One topic of some importance that emerged at COSOD is the cause and effects of global eustatic sea level change. We noted that tectonic causes of global sea level change are (as is obviously appropriate) within the mandate of the Tectonics Panel, and that the sedimentary manifestations of sea level change are within the SGPP mandate. Both the paleoclimatological causes of sealevel change (ice sheets during part of the Cenozoic) and paleoceanographic responses to sea level change are clearly within the OHP mandate. We are however concerned that the major preoccupation of many scientists at COSOD II concerning drilling to test the hypothesis that onlap/offlap sequence stratigraphies give evidence for a pattern of eustatic sea level variability that is pervasive in the geological record, is not sufficiently clearly expressed in the SGPP mandate. We then discussed various specific drilling proposals that had been discussed by SOHP in the past in order to assure ourselves that they did fall within the brief of one or other panel.

The new Shipboard Measurements Panel mandate was also discussed. It was agreed that both the shipboard LIBRARY (especially with regard to paleontological reference works) and slides of micropaleontological reference material (which seemingly has disappeared since Glomar Challenger days) fall within the brief of this panel. Berggren was asked to write to Ellen Thomas on that panel with specific recommendations. This panel should note that on some legs a

micropaleontological technician is urgently needed; OHP is concerned that the rather expert shipboard technicians may be unwilling to undertake the rather menial tasks such as washing samples and making slides which as a result occupies too much of the time of the scientific party.

Panel Membership

Our panel membership was discussed; OHP agreed that if Mayer is a full member replacing Garrison, our coverage is good, though the loss of Premoli Silva's Mesozoic and Paleogene expertise will certainly be felt and must be considered at the next round of member rotation.

SGPP Liaison Report

Droxler, who went to SGPP as liaison, reported on their meeting. We understand that they accepted their mandate and concentrated on discussing a future white paper, and on long range plans, as well as on proposal reviews. The lack of discussion of sea level issues may result from the fact that Christie-Blick was not present.

Publication

Publications policy was discussed at some length, taking account of the two newly available Scientific Proceedings volumes. We agreed that the common perception of these volumes as "Grey Literature" is not fully inappropriate and moreover that it is not only desirable but ESSENTIAL that the B volume does contain this element; in the long term the vast repository of data in these widely-available volumes will be seen as more important than many of the more immediately attractive scientific papers that ought to be published rapidly in appropriate journals.

The panel UNANIMOUSLY RECOMMENDS that the present policy be discarded in favour of a mechanism that favours more immediate and unrestricted publication in the open literature. We recognise that the priorities of shipboard scientists must be preserved, and that some degree of monitoring is essential to ensure that data and ideas freely exchanged aboard ship are not published without adequate credit being given. One

argument against free rapid publication (that the biostratigraphy used may not be final) was countered by the argument that the published A-volume stratigraphy is available to scientists requesting samples 12 months post-cruise so it should be acceptable to shipboard scientists who want to publish speedily.

As regards the Part A volumes, we concluded that although it is sometimes the case the volume could be completed almost immediately the cruise ends, there are other occasions when a few months of post-cruise work (particularly, but not exclusively biostratigraphy) vastly enhances the usefulness and reliability of the volumes and that since the purpose of the volumes is to facilitate access to the samples twelve months post-cruise there is no need to drastically accelerate their production. There was however agreement that a post-cruise meeting of all scientists was not necessary for the production of the Part A volume although a post-cruise meeting of paleontologists before the A volume is finalised may be essential for many legs.

After this discussion it was discovered that notes on the recent Information Handling Panel discussion on this issue were available. We examined their recommendation and observed that it resembles ours, but we consider that it remains needlessly restrictive. OHP advises PCOM to adopt a less restrictive formulation. Despite the fact that we recognise the immense value of the B volume as a mine of scientific information, we regard the wide dissemination of ideas as of greater importance in some respects and particularly in regard to the health of ODP. We regard the fact that ODP-related research gets published as more important than publication in the B volume and would prefer a simple formal obligation that any open-literature publication should be lodged for inclusion in the volume (in a modified form if copyright restrictions forbid an exact reprinting).

White Paper

JOIDES JOURNAL dated February 1989 recently printed the White Paper produced by SOHP. OHP examined this and agreed that it gives a fair representation of the objectives of OHP,

although it may become necessary to produce another version containing only the OHP portions after SGPP produces their White Paper.

Meetings

Mix reported briefly on the status of the JOI/USAAC sponsored workshop (JOIDES JOURNAL XV p. 63; date in a current EOS subsequently located: June 6-8 in Corvallis) on the relationship between ODP and Global Climate initiatives; a date has been fixed. We expressed surprise that OHP had not been informed earlier about this workshop but Mix explained that the primary purpose was to communicate to the oceanographic community rather than to the OHP community who are already aware of the potential for interaction with these initiatives.

Proposal Reviews

NJS began the discussion by stating his feeling that at this level in the planning structure of ODP all proposals should be presented to the panel in as good a shape as possible; we should be prepared to give advice to proponents as to how their proposals can be improved so as to better achieve the long-term objectives of the community that OHP represents. We do not wish to be in the position of selecting proposals as a basis for drilling plans because they are well constructed; we would prefer to choose from among many well constructed proposals, those that offer the most exciting scientific advances in the field of ocean history as covered by our mandate.

301/D; 304/F; 314/D; 316/E no OHP content

163/D Rev No OHP content (although the sedimentary sequence could prove useful and should be properly recovered).

303/E No OHP content

307/F No OHP content (to the extent that sealevel impinges, it is in the sense that our lack of understanding of sea level

history might jeopardise the success of the proposal)

3/E No OHP content. Brass reiterated a question previously posed by PCOM concerning the likelihood that attainable biostratigraphic resolution would be adequate to address the objectives. Kent's letter was re-examined; since this was written prior to recent paleomagnetic work on cores in the area, Kent may be asked to re-evaluate this aspect of the proposal in the light of this recent work.

315/F No OHP content

221/E Rev. Mix reported that site survey will be conducted in September 1989 so OHP did not re-examine this proposal which has previously been very highly ranked by criteria that we still endorse. It was emphasised that CORE ORIENTATION will be essential on this leg. Brass reported that the orientation system had operated well on Leg 124.

305/F The panel recognised that this does not represent a conventional proposal in terms of ODP drilling and decided to treat the four topics as different proposals since it appears that they might not even all be tackled by the same platform.
1. Alpha Ridge. Clearly not a Joides Resolution target. By ODP standards the available survey data are inadequate to demonstrate that the sites are optimally positioned, especially as the area is not tectonically simple. OHP was not convinced that the hiatus marked as the K/T boundary should be treated as a K/T target on the basis of available information. However, this area is likely to remain a very high priority area for drilling and we look forward to further survey data becoming available as innovative approaches to geophysical research continue to be developed. The nature of ice cover in the Central Arctic will always be critical information for the understanding of global paleoclimate and paleoceanography, and can almost certainly not be determined except by drilling in that area, so that in the long term this area must be tackled.
2. Yermak Plateau. One of these sites would be accessible to

Joides Resolution. However, they are compromise sites in the sense that they have tectonic as well as paleoceanographic objectives; the OHP objectives are too important to compromise. It may not be appropriate to develop a proposal for non-Joides Resolution drilling in this area until the problems have been defined more clearly by conventional drilling such as is proposed in 320/A

3. Nansen-Gakel Ridge. Not primarily OHP interest; the specific OHP objectives given might be better served by a site in the Amundsen Basin.

4. North Chucki Basin. This is strictly an idea proposal in the absence of adequate documentation. It is potentially of very great importance for the early history of the Arctic. OHP was concerned that the difficult in obtaining a useful high resolution record in such a shallow (200m) water depth had not been adequately considered. However, the history of interchange between the Arctic and the Pacific through the Bering Strait is a very important issue that must at some stage be addressed by drilling in this area. Sliter suggested that a great deal more data are available from this area, perhaps from A. Green (USGS).

306/E Old Pacific Ocean. New data provided in this proposal, and additional survey data presented by Kent on behalf of the proponents, suggest to OHP that the OLD PACIFIC is now an attainable objective for OHP drilling and that a leg should be devoted to this topic. Even if the survey cruise scheduled for 1989 were to provide no new information this could be regarded as a mature proposal that could be drilled immediately if a window of opportunity should arise as a result of difficulty in achieving the technological needs of other proposed legs. Velocity estimates support interpretations of the seismic sections which imply that the "basement" seen is indeed true basement and not the volcanic sills that impeded earlier drilling for this target (although this argument could be made more convincing if a velocity reconstruction were shown for site 462 where the sill is documented). A new seismic section through unsuccessful site 585 shows clearly that this was located in a quite different

and inappropriate location, explaining its failure. The attraction of the proposal is enhanced by the fact that since the sections are not inordinately thick it should be possible to recover carbonate sediment of Oxfordian, Callovian and Bajocian ages over crust preserving equivalent age magnetic anomalies at sites PIG 1, PIG 2 and PIG 3

233/E no OHP content

308/E No OHP content

310/A Prime Objectives not OHP, although the proposal does suggest some paleoceanographic opportunities. OHP consider that in this area sites would have to be placed with great care if there were to avoid slumping and/or erosion. However, this is not an area of particular interest in relation to the primary objectives of OHP and we would not advise the proponents to compromise their own objectives in the hope of gaining OHP support.

311/A Prime objectives not OHP, although the proposal does suggest some paleoceanographic opportunities. OHP questioned whether that the older parts of the section may already have been recovered in conjugate drilling on the Rockall side, that already document the limited usefulness of the sequence. As regards the younger part, the sites are not particularly well positioned to address any specific paleoceanographic problem. OHP consider that the proposal might become more convincing if the paleoceanographic objectives were cut out.

312/A No OHP content

59/A The majority of the objectives of this proposal address SGPP interests. The information on CCD history that will be provided is predicted to be very slight, since these sites on the Madeira Abyssal Plain are modelled by the proponents as having been below the CCD for almost their entire history. OHP will monitor the progress of this proposal in SGPP.

313/A This proposals encompasses 12000m of sediment in 10 sites to tackle questions regarding the early opening of the Atlantic that are in part tectonic and in part paleoceanographic.
OHP noted that two older proposals (Herbin; Herbin and Zimmermann; not available to the meeting) address related issues. 313/A lacks a clear focus and if it were to be recast to more clearly address issues that have been singled out for attention in COSOD II or SOHP White Paper, it might be become more viable. It may be appropriate to make Herbin aware that proposal 313/A is now in consideration; the various proponents might prefer to pool their expertise to generate a new proposal.

271/E Barron et al. This is a resubmitted proposal relating to the California Current System. OHP recognise this as a major component of the ocean circulation system, and as perhaps that Eastern Boundary Current whose geological history is most amenable to useful study. This proposal is considerably strengthened, yet there are several aspects of it that ought to be given more attention if this is to be highly rated in competition with incoming proposals to drill in other oceans.
1) the issue of turbidites in the sequences needs to be clarified so that (a) it is clear in what portions of the sections they are expected and the extend to which they may be minimised by more survey data; (b) it is clear which aspects of the science proposed are viable even where turbidites are present; (c) it is considered to what extent the turbidites present are likely to affect or terminate APC drilling.
2) varved sediments are mentioned; OHP found it difficult to ascertain in which parts of the section, and in which sites, these are expected particularly as their presence would imply higher accumulation rates than appear to be anticipated. The presence of recoverable varved sequences would affect both the scientific goals that might be attainable and the drilling strategies that would be needed, and should be addressed more explicitly.
3) The case for obtaining El Nino information is not

convincingly made.
4) Some members of OHP suggested that this is a proposal that could perhaps benefit from ocean modelling input in advance of drilling.
5) to counter possible arguments that the problems can be tackled on land, it might be appropriate to discuss explicitly the contribution that the land record together with the drilled records will make to out understanding of the California Current system.

318/E No OHP content. OHP remain dismayed at the lack of OHP-related drilling proposals for the South Pacific that might be tackled if the drill ship were to tackle this proposal for the Chile Triple Junction at 46^{o}S..

320/A Jansen et al Nordic Seas

This proposal was regarded very highly by OHP. We feel strongly that the climatic and oceanographic history of the Arctic is an essential component of the whole system and that we should do a proper job of addressing it with the present drill ship before embarking on the use of a different platform. 320/A does includes some drilling at a location that may prove to be inaccessible in the particular year chosen (for which an alternate is suggested); OHP had not doubt that a viable drilling leg addressing our highest ranking objectives is proposed; although some further survey work is planned for 1989, this is very close to being a mature proposal.

<u>Results of Engineering Leg 124E.</u>

Droxler handed out a copy of a report given to SGPP on this leg.
Diamond Coring System (DCS). The objectives were to test the viability of a second "active" heave compensation system, and to evaluate the use of the rotating drill rod inside the ODP drill string. both tests were successful, though TAMU engineers consider that a second engineering test is needed before the DCS is scheduled for a scientific leg. This tool is being developed for drilling fractured rock on the East

Pacific Rise, but OHP had the impression that it may be applicable to OHP objectives (eg chert/chalk)
The Pressure Core Sampler appears to have successfully recovered core at in situ pressure on two of three attempts; further work is required to develop the ability to utilise the material (requiring removal of the core sample to a lab pressure chamber).
Tests of the Navi Drill system seem to have been less successful. OHP understand that considerable further work is needed to develop this tool to the point where it is useful for recovering Chert/chalk alternations, because of the difficulty of controlling weight-on-bit (generated from hydraulic pressure by the thruster unit) and rotation, as the lithology changes.
Keir Becker joined us briefly to report that the GEOPROPS tool that is intended for Nankai drilling is not likely to be ready and that PCOM may be obliged to reschedule this leg. If this proves to be necessary, OHP consider that although further survey is planned, the information in proposal 306/E is sufficient that an Old Pacific leg could be scheduled in present data with the option to change site selections if the new survey data warrants it.
In relation to the Engineering Leg, OHP endorse the advice offered by Rea (CEPAC chairman; see Nov 1988 PCOM agenda book p. 175) regarding suitable targets for 129/E. OHP asked Davies (co-chief elect for Leg 131 North East Australia) to write a letter drawing attention to the requirements of that leg (recovery of reefal limestone, carbonate sand) inasmuch as it may focuss the Leg 129/E work.
Ontong Java

At the Nov 1988 PCOM meeting the proposal to drill a Neogene Transect on Ontong Java was scheduled despite the fact that at that time the site survey had not been completed, on the basis that we know enough about the area that it was unlikely that a first rate set of sites would not be available. Mayer reported on the Site Survey cruise which was followed by a detailed discussion of the leg. It was clear that a minimum requirement for the objectives would be four sites with triple APC coring and double XCB coring of the

Neogene parts of the section at each site; there seems little doubt that the pressure on sampling on this leg will be extreme and the third APC deployment will be needed to provide sufficient material. We anticipate high enough XCB recovery in that part of the Neogene not accessible to APC, that by double XCB coring a near-perfect sequence will be recovered at each site.
ODP site 586 should also be re-occupied to double XCB core that part of the Neogene not recovered by previous APC drilling.
An important opportunity exists to investigate the Aptian/Albian ocean in this area so that we advocate drilling at least two sites- OJ at around 3100m and OJ at around 4200m through the Albian. This will also provide (in conjunction with DSDP289) a very valuable depth transect for the Paleogene. If it is Mayer agreed to provide CEPAC with revised drilling time estimates (provisional pending TAMU input) based on the above discussion. If any sacrifice is needed in the above program we suggest eliminating the reoccupation of 586 rather than lose the opportunity to achieve our important secondary objectives (noting that the steepest gradient in paleoceanographic parameters is expected deeper in the section around 3000 to 3500m wd).
Oriented APC cores, and attention to avoiding magnetised core barrels, will be essential for a successful magnetostratigraphy to be developed in these classic low-latitude carbonate sequences.

Future drilling in the Pacific

Longer-term Pacific plans will be discussed by CEPAC and PCOM at their next meetings. We emphasise (1) that we now regard the Old Pacific proposal 306 as mature and ready-to-go, despite possible improvements that may stem from new survey data later this year (2) we remain very interested in Bering Sea drilling, particularly after reading proposal 305/F for Arctic drilling, since it would be unfortunate to embark on Arctic drilling without having adequately investigating the paleoceanography of the Bering Sea side of the Bering Straits. We regret that PCOM did not choose to form a DPG to

investigate the most effective way of achieving the many important objectives of the several proposals for North Pacific and Bering Sea drilling, and hope that CEPAC, perhaps with help from the various proponents, will be able to fill this gap.

Long Term Planning Document

Although the status and purpose of this document (other than as a guide to the preparation of the next NSF drilling proposal) is not clear, it was distributed to OHP in the hope that it will help in stimulating proposals. OHP should make the community aware that there are major goals and even identified drilling targets outlined in this document for which proposals do not yet exist.

Liaisons

Peter Davies agreed to consider the possibility of acting as liaison to SGPP; if he finds he is unable to do this, Droxler will take over and another liaison will be found for CEPAC. At least for the next CEPAC meeting Droxler is the liaison.

While much regretting Pisias' stated intention of resigning from PCOM, OHP commend his suggestion that Brass should become liaison with PCOM in his stead.

Other Business

Stein read out a letter from a group of scientists seeking our support for a project necessitating dense sampling (15cc every 20cm). OHP considered that it would be inappropriate to endorse or otherwise a request from one particular group of scientists; we recognise that TAMU has on the one hand a responsibility to ensure that core material will continue to be available for scientific projects over the next several years, and on the other hand has a responsibility to ensure that high priority projects are not impeded by over-restrictive sampling policies. OHP recognize that high density sampling is increasing as the emphasis on high-frequency climatic variability increases, and that we should take account of this in recommending triple APC coring where un-

restricted sampling may be desirable in order to achieve our primary goals.

Next meeting

Tentatively scheduled for Giessen, FRG; host, R. Stein, Dates: October 26th to 28th.