

OCT 28 1991

OHP meeting 1-3 October 1991 Yamagata: EXECUTIVE SUMMARY

1. OHP, regretting the absence of Dmitriev (unable to obtain a visa in time) and JOIDES office to agree thematic panel meetings as of the PCOM meeting at which the minutes proposing the next meeting are received so that meeting notices can go out in good time and local hosts can make plans.

2. OHP, while disappointed at the response to the call for S-proposals, urges PCOM to retain the experiment, pointing out that all the three proposals received a fairer hearing than they would have done had they been made "informally".

3. OHP urges PCOM to incorporate a very brief coring of the Santa Barbara Basin in the 1992 drilling plan, despite the fact that a formal S-proposal was not received for this site.

4. OHP urges PCOM NOT to schedule proposal S-3 (cased hole for emplacing a seismometer). It clearly cannot be accomplished within the guidelines published for S-proposals and thus would take a disproportionate amount of the time available for scientific drilling on leg 145. If PCOM finds it essential to schedule this, the time should be divided among several legs so that no one leg loses more time than was allotted when the S-proposal concept was agreed. A change of port-call to Anchorage might be a way of alleviating the imbalance.

If PCOM do schedule S-3 it will at least require dropping either all but the APC coring at Site DS-3 (eliminating the major Mesozoic opportunity for Leg 145) or dropping all but the APC coring at site DS-1 (eliminating the major Paleogene opportunities for Leg 145). OHP were almost evenly split as to which of these is the more important and the final decision should be taken in consultation with the co-chiefs.

5. OHP make several recommendations based on the successful completion of Leg 138.

6. OHP urge PCOM and EXCOM that the MOU should be reworded to eliminate the obligation for TAMU to invite a co-chief from each non-US member each year. All non-US members present individually supported this motion, urging that while the right to participate is immensely valuable, the right to act as chief-scientist is not.

7. Prioritising the North Atlantic Prospectus, OHP ranking is:

1. North Atlantic Gateways Leg 1 (unanimous)

2. New Jersey Sea Level

3. Ceara Rise

4. NARM-volcanic leg 1, E Greenland

5. Equatorial Atlantic

6. NARM-non-volcanic leg 1

7. Alboran Sea

8. OHP draw attention to two important opportunities in the North Atlantic to achieve very exciting science with very little drilling time:

1. Bermuda Rise (from proposal 404) a single APC site giving ultra-high resolution records that will be comparable with the records from the Greenland Ice Core drilling that is in progress.

2. Hatton-Rockall Bank, location as Site 116 (from proposal 372 but also satisfying a major part of Broecker *et al* proposal 406), again will have important impact outside the ODP community.

OHP recommends PCOM to schedule these if the opportunity arises.

9. OHP will be delighted if PCOM appoints Peggy Delaney to replace Shackleton in the chair and has suggestions for replacements for retiring members.

Ocean History Panel met from 1-3 October 1991 in Yamagata, Japan

Day 1

The meeting convened at 9.00 on 1 October with a welcome from H. Okada, local host.

Present: Members - J. Barron, W.A. Berggren, T.J. Bralower, J.E.T. Channell, M.L. Delaney, R. Gersonde (FRG, alternate for Wefer), T.D. Herbert, A.C. Hine, E. Jansen, T. Loutit, A. Mix, H. Okada, L. Pratt, N.J.S. Shackleton (chair), E. Vincent

H. Jenkyns (PCOM liaison)

G. Smith (LITHP liaison)

W. Sager (invited guest)

P. Davies (Australia) and P.W. Swart (SGPP) were unable to attend due to the Leg 133 post-cruise meeting.

Okada reported that, although Dmitriev had made a reservation, he was in fact unable to attend because he had been unable to obtain a Japanese visa in time.

NJS reported that Audrey Meyer had telephoned to apologise for the fact that it would be extremely difficult for TAMU to send a representative to the meeting, but had offered to send any information we required or respond to any request from the meeting. She did FAX the drilling-time estimates of Leg 145 as requested.

While accepting the pressure on the time of TAMU scientists, OHP reiterate their feeling that it is very important that the thematic panels have the contact with operations that is provided by the presence of a representative from TAMU.

Noting the difficulty for Dmitriev had been the lead time for obtaining a visa, and noting also that for the second meeting in succession neither Davies nor an alternate had attended, NJS reported that at the last Panel Chair's meeting (December 1990) he had requested that Thematic Panel meetings be authorised earlier. He explained that the official stumbling-block is that PCOM chairman has to approve the draft agenda and the meeting time-and-place at the same time; the agenda cannot in principle be set until the minutes of the PCOM meeting have arrived. He argued that the reality is that there MUST be a thematic panel meeting at such a time that the ranking information and minutes be in the agenda book for the winter and spring PCOM meetings; that the only way to get full attendance is to agree a meeting time at the previous meeting; that it is essential that the meeting place is agreed and provisional hotel bookings be made well in advance; that it puts an unfair strain on the host not to be authorised to firm up any arrangements; that the basic items in the draft agenda are mainly known anyway; and that since PCOM accepts the panel minutes, including the proposed meeting place and date, in their agenda book, it would be extremely simple to have that acceptance constitute formal authorisation (or otherwise). OHP requested NJS to re-open this issue.

With regard to the minutes of the previous meeting:

NJS reported that PCOM did not set up a Bering Sea Working Group as requested by OHP and that in due time OHP may need to take another initiative to ensure that a good, well balanced proposal, taking account of Soviet Union interests in addition to those in previously highly-ranked proposals.

The OHP suggestion that JOIDES Office supply review form templates on disk was not thought useful because JOIDES Office prefers to keep track of the actual review forms distributed.

PCOM report (Jenkyns)

1. S-proposals. PCOM ranked S-3 (OSN-2) highest and moved to consider only this one for scheduling in FY1992. Discussion for this constituted a separate OHP agenda item. However, OHP believe that PCOM chairman misled PCOM in stating (PCOM page 31) that the 4-day limit in S-proposals was only "the spirit of the understanding"; it was clearly intended and this limit was clearly stated in the advertisement. On the receipt of S-1, NJS explicitly requested the JOIDES office to draw the attention of the proponent to the fact that their proposal exceeded this time limit.

2. PCOM moved to discontinue the S-proposals experiment, while encouraging the submission of proposals requesting less than one leg of drilling.

In discussion, OHP were in favour of retaining the experiment. Despite the fact that the response had been disappointing the truth is that three proposals for limited science got a fair hearing. By contrast, PCOM chairman advised Sager to make his suggestion for additional science on leg 145 direct to OHP. OHP did not, as a result, have any indication as to how highly other panels rated the suggestion.

OHP were disappointed that the Santa Barbara Basin proposal had not appeared as an S-proposal; NJS reported that he had written to the JOIDES office asking them either to circulate (the relevant part of) the existing proposal as an S-proposal, or to write to the proponents asking them to resubmit it in this form. His concern was that since the Santa Barbara Basin hole had been frequently cited as an example of an appropriate S-proposal, and indeed OHP had requested its incorporation in the program, the proponent might assume that it was already being considered under that heading.

PCOM moved that S-2 (to log Site 801) be incorporated in the prospectus of legs 143/144 as an alternate site. Sager pointed out that a difficulty with this proposal is that the work would need to be done early in Leg 143. NJS read a letter from Rea pointing out that in terms of agreed priorities, the deeper part of site Pel-3 would be that part of the program that would be dropped to accommodate S-2. On discussion, OHP agreed that they should communicate their view on this option since the panel has an interest in Leg 143, and passed the following motion:

"Given the special circumstances and the unique opportunity represented by logging the very old crust at site 801, OHP are willing to see one of the lower-ranked objectives in

this leg sacrificed or modified at the discretion of the co-chief scientists in order to allow a specified and limited amount of time (less than 3.3 days) to be spent logging Hole 801C" (for 11; against 2).

4. PCOM has agreed a procedure for judging proposals "inactive". OHP welcomed this and accepted that this puts some responsibility on the thematic panels to ensure that proposals in which the panel has an interest are not allowed to become "inactive".

5. PCOM has approved limited time being devoted to testing the capability of JOIDES RESOLUTION to drill in shallow water by drilling in the Eniwetak lagoon. It was not clear to OHP exactly what was being tested and to which proposal this might be relevant.

Leg 145 business

OHP objected to the statement in the PCOM minutes that Leg 145 was still in planning stage and reported that PCOM chairman had thanked him for efficiently achieving this planning at the March OHP meeting. After explaining the background to Sager's presence, Sager presented his rationale for requesting deeper drilling at site DS-1 to determine the palaeolatitude of the seamount and hence to determine the drift in the hotspot reference frame.

OHP were impressed by Sager's arguments. However, it was pointed out that at the March OHP meeting it had been far from clear that site DS-1 would reach basement at all; at the site presented it is evident that there is a potentially very exciting 500m sedimentary section to be recovered, but that this may overlie reef material rather than the basement. OHP would be happy for this to be done if the opportunity presents itself but would not advocate putting it in the scientific prospectus unless data not so far seen by OHP exists supporting the notion that there is basement below about 500m of sediment, the following resolution was passed:

"There are currently basement objectives on Leg 145 schedule. From the OHP standpoint, penetration into the basement at DS-1 (for defining palaeolatitude) would be of greater interest than would recovering basement at PM-1 (for geochemical objectives) as it is more consonant with the overall objectives of the leg, and would prefer to see basement at PM-1 included as "second priority" to be drilled only if time is made up in the long transit from the DS sites and in the coring of NW4. The ordering NW-1; DS-3; DS-2, DS-2A, DS-1 would enable maximum time to be devoted to DS-1 basement if it does prove to be attainable.

The next agenda item was the S-3 proposal. NJS explained that notwithstanding OHP's clear lack of enthusiasm for this proposal we are obligated to advise PCOM what should be dropped if this program is included. In discussion, all the four possible options were considered:

1. eliminate PM-1.
2. eliminate NW4 and DS-2 or DS-2A.
3. reduce DS-3 to 2APC/XCB, eliminating Palaeogene and Mesozoic objectives.

4. reduce DS-1 to 2APC/XCB, eliminating Palaeogene and Mesozoic.

Each of these options would probably release enough time assuming that the estimate of 6.6 additional days' work given by TAMU is correct.

Statements given below summarise the science lost by each option:

Option 1. Eliminate PM-1. Leg 145, North Pacific Neogene Transect, was constructed with major input from three proposals; eliminating Site PM-1 would eliminate one of these three entirely. The chief objective of the site is to obtain a good Neogene sequence containing carbonate microfossils. There is no APC-cored site in the East Pacific north of the Gulf of California! The potential of this site is too high for it to be sacrificed.

Option 2. Elimination of Site NW4A (and, possibly, DS-2A as well). Site NW4A will provide the end of a high-resolution transect that records the surface-water palaeoceanography and aeolian transport of the North Pacific. This site is expected to generate an excellent bio-siliceous record, with first-rate palaeomagnetic time control for the history of the Subarctic Front. The base of the high-resolution part of the section will determine the timing and nature of the onset of high productivity in the North Pacific. Below this, there will be an important low-resolution history of Cenozoic and Mesozoic ocean history; the Mesozoic part will probably be especially interesting as the palaeodepth will give us a carbonate record on oceanic crust whose age will also provide critical information for plate reconstruction (Aptian/Barremian, if the Chinook palaeoplate model is correct). Eliminating this site would be grossly unreasonable since it is a major interest of one chief scientist (a proponent).

Option 3. Eliminate deeper drilling at Site DS-3. The seismic record indicates that the Cretaceous/Palaeogene record at Site DS-3 is expanded and relatively complete. Recovery of this section during Leg 145 will provide a critical, detailed record in a region where very little of this time interval exists and where previous sections are poorly recovered and/or condensed and/or riddled with hiatuses. In addition, the proposed site will be among the highest latitude Cretaceous sections recovered from the Pacific and will thus have profound palaeoceanographic implications (existing Cretaceous/Palaeogene latitudinal temperature gradients have no high latitude Pacific data points). The age of the crust is uncertain and its determination is a significant aspect of this site; clearly it is older than the Detroit Seamount and will carry the Cretaceous record that is not present on the seamount itself.

Option 4. Eliminate deeper drilling at DS-1. Drilling at proposed site DS-1 below APC depths will recover a lower Neogene to uppermost Cretaceous sequence. Due to the shallow palaeodepth, this site is likely to possess a good carbonate record that will be especially valuable since it is not deeply buried and should not be diagenetically altered. Recovery of this lower Neogene and Palaeogene record is extremely important from a palaeoceanographic viewpoint as the majority of existing contemporaneous sections in this region are characterized by a moderately to poorly preserved carbonate record. A well preserved carbonate record from the North Pacific is vital to documenting the structure and mechanism of Cenozoic cooling. In addition, proposed drilling at DS-1

includes a basement objective to obtain an age and palaeolatitude for Detroit Seamount. Palaeomagnetic and radiometric studies of basement may provide definitive data on hotspot migration and true polar wander. This information will have palaeoceanographic as well as palaeotectonic implications as it will provide tight constraints to the presently poorly-defined Pacific plate reconstructions.

In voting there were no votes for option 1; 2 for option 2; 5 for option 3; 7 for option 4.

OHP were unanimously against the concept of such a high proportion of the scientific content of a drilling leg in favour of a program that has no immediate scientific content whatever, no assured utility (particularly in the near future) and no prioritisation, and is not within the specifications publicised for S-proposals (which were quite explicit and clearly intended to ensure that an S-proposal did not consume a significant part of a leg). If PCOM insists on scheduling this (presumably for political rather than scientific reasons) they should lengthen the leg and change the port-call from Victoria to Anchorage.

Leg 138 report

Mix presented a review of the results of Leg 138, concentrating on aspects that may have implications for future OHP-promoted legs.

1. The digital colour-scanner was extremely successful, providing a detailed (3cm resolution) record of virtually all of the 5.5km of core recovered.
2. The use of the GRAPE density, magnetic susceptibility and colour records enable the party to assure complete recovery of the sedimentary section before leaving each site.
3. This enabled the party to generate unusually precise biostratigraphy and to achieve many objectives that would normally require much post-cruise effort.
4. This in turn meant that there was no sense that the scientific party was too large.
5. It was demonstrated that even with a nominal 100% recovery, over 10% of the section is nearly always missed between adjacent APC-cores (and a greater proportion with the XCB).
6. High-resolution sampling was deferred to the first post-cruise meeting.
7. The vast amounts of data generated could not have been handled without the three Sun workstations that were brought on board by the Oregon group.
8. JOIDES Resolution is an excellent vessel for this type of work although significantly better quality recovery would result from an improved heave compensator.

OHP made the following recommendations after the discussion following Mix's presentation:

1. ODP should purchase a digital colour scanner which will certainly have application on legs 143-145. This must include appropriate computing equipment for data acquisition, manipulation, storage and transfer.
2. Bearing in mind that other tools are likely to be added for continuous core scanning, data generation is likely to increase; the ship's computing system must be upgraded to anticipate this trend.
3. Related to the above, a second computer systems manager (or person of equivalent expertise) should be a regular member of the ship's complement.

4. Technician assignments should be flexible; some of those recruited should have the background and interests to enable them to be assigned to the palaeo-lab without engendering complaints.
5. The engineers should seek to improve the APC and XCB in the light of the documentation on Leg 138 of the amount of stretching that they generate.
6. The shipboard palaeontology reference collection must be rebuilt and maintained.

OPCOM

Delaney reported on the OPCOM meeting which she attended in place of NJS (who was at sea). She reported that as mandated by OHP members polled, she recommended that further expenditure on new developments should be focused on the Diamond Coring System; this is regarded as the best hope for significant improvements in the drilling and recovery of chert-chalk sequences such as must be represented in some of OHP's highest priority objectives.

Proposal Reviews

An unusually large number of new proposals was received for review. After reviewing these, OHP agreed that they include a large number of exciting proposals both within and outside the OHP mandate. OHP is not in favour of ODP making such a commitment to multi-leg programs as to exclude the increasingly large community that is seeking to play a part in having input to the program.

Santa Barbara Basin

Barron circulated a document from Kennett that constitutes a late proposal for inserting a single site in the Santa Barbara Basin into the FY1992 schedule. OHP unanimously endorses this request, as OHP unanimously endorsed a similar suggestion last year. This site is included in proposals 271 and 386. The known existence of sand turbidites in the SBB does not seriously affect the value of the proposal and indeed the timing of these may have considerable interest in relation to earthquake frequency since the recurrence interval will be accurately determinable.

Co-chief scientist selection

NJS related the history of the selection of co-chief scientists for Leg 145 (OHP minutes; PCOM minutes; letter from Stein withdrawing his acceptance; letter from NJS to Mayer explaining OHP's recommendation). Although the matter is now concluded satisfactorily, there are two items of concern:

1. Given that the relevant thematic panel members are almost certainly closer to the objectives of a leg, and better acquainted with the individuals involved in its planning, OHP was concerned at the extent to which PCOM's list of recommended co-chiefs differed from the OHP list (especially as the PCOM list incorrectly listed Rea as a non-proponent).
2. More seriously, OHP unanimously recommend that the MOU be reworded to ensure

that co-chief scientists are NEVER selected for political reasons in such a manner that either the science or the scientific opportunity of proponents (who have probably worked long and hard through the planning process) are threatened. All non-US members present explicitly and individually supported this motion, expressing the view that while the opportunity to participate is of great importance to individuals in the non-US countries, the opportunity to act as chief-scientist is not of comparable importance (indeed it is a much heavier burden for most non-US scientists because of the language barrier).

North Atlantic Program

The third major item of business was the ranking of the programs/legs in the North Atlantic Prospectus with a view to assisting PCOM in generating a drilling program for FY1993 (bearing in mind that PCOM will probably schedule only four legs since the present phase of Pacific drilling will extend by two legs into FY1993).

Voting procedure. After discussion, the prospectus was divided in two halves: three programs that are of considerable interest to OHP and four further programs that have slight interest to OHP. These were voted on separately with Shackleton and Jansen (proponents) absent for the ranking on the first three. A separate vote was held for each ranking place. The ranking follows:

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| 1. NAAG Leg 1 (see note below) | 13/13 |
| 2. NJ Sea-level | 11/13 |
| 3. Ceara Rise | 13/13 |

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- | | |
|-------------------------------------|-------|
| 4. NARM-volcanic -leg 1 E Greenland | 13/15 |
| 5. Equatorial Atlantic | 9/15 |
| 6. NARM non-volcanic leg 1 | 14/15 |
| 7. Alboran Sea | 14/15 |

OHP also discussed proposals not included in the prospectus. One aspect is the possibility of drilling in the Caribbean region during transit. Drilling of proposal 403 (Chicxulub crater) would have considerable publicity value for the Ocean Drilling Program and would certainly not raise objections from OHP as it seems also to achieve at least a degree of success. However, the sober view is that a much better proposal will probably result from the review process. If PCOM do wish to schedule this program immediately, it could easily be combined with a portion of another proposal in the region to make up a full leg.

Finally, OHP wish to advocate two "Single Sites of Opportunity" for consideration if they fall close to the ship track during the year:

1. The single Bermuda Rise site in proposal 404. This site will produce a unique ultra-high resolution record for the past few glacial cycles. Even a 30 metre giant piston core barely reaches the last interglacial at this site and a record with a comparable detail and temporal coverage to the soon-to-be-completed Greenland Ice core would generate considerable scientific interest extending well outside the ODP community. Drilling this site is clearly a viable stand-alone program.

2. An APC coring of Site 116 as proposed in 372 and exactly satisfying (but with greater confidence) an important component of proposal 406 (Broecker *et al*). It is extremely difficult to obtain palaeoceanographic records of the world's intermediate watermasses. OHP have solicited a proposal to address this problem globally and this would necessarily involve a small number of isolated sites only one of which could be tackled on any drilling leg. At 1100m water depth this is a prime site (and probably would be the most important in a global intermediate-water array), as is made very clear by the proposals of Broecker *et al* (406) and of Zahn (372). Again, this would have important impact value outside the ODP community, and again it is fully viable as a stand-alone program.

Note re NAAG Leg 2

North Atlantic Gateways WG recommended two legs be devoted to this program and that they be separated by a year so that they can both be drilled in the optimum weather window so as to maximise the chances of obtaining the northernmost sites. Since the WG was dissolved, several new proposals and letters of intent have come in for work on the North Atlantic Gateways' problems. Although OHP are fully confident that the program as presently constructed by NAGWG provides an excellent two-leg program, the panel would prefer to see a two-year gap between the two drilling legs. This will enable the second leg to be planned, taking account of new input and of the findings of the first leg. OHP recommends (assuming NAAG leg 1 is scheduled for summer 1993) that PCOM set up a DPG to meet early in 1993 and again almost immediately after this leg ends to finalise a program for a second leg that can be considered at the fall 1993 OHP and PCOM meetings for drilling in summer 1995. This will give more scientist the opportunity to have input in the planning process and will result in better scientific returns to be obtained.

Other business

Berggren suggested that members rotating off the panel should pass on material (especially drilling proposals) to their successors on the panel. This was judged an excellent suggestion.

NJS reported that he had asked JOI-USAAC to automatically add new panel members to their mailing list, and to automatically send such things as the COSOD documents to new panel members. It would be useful if they were to automatically send reports of JOI-USAAC workshops to all members of the relevant thematic panel(s) (including non-US members) since the chief purpose of funding these workshops is to assist the planning process.

It was agreed that it is difficult for new members to immediately start to contribute to the work of the panel and that any help of this kind would be welcome. Possibly JOIDES office could consider what help or advice they can give (eg give a list of documents that a new thematic panel member ought to obtain: panel white paper, COSOD report to new members on acceptance).

Loutit and the panel welcomed the procedure followed for the first time at this meeting whereby proposal reviews were completed and circulated to members before the meeting closed.

Letters of intent: OHP discussed all the letters of intent circulated to NJS, and individual panel members offered to contact the writer in many cases.

OHP note that Coffin will generate a new Somali Basin proposal in due course; in the meantime OHP will not forget the interest in this proposal. NJS "reminded" OHP that it missed drilling in the previous Indian Ocean circuit because of perceived technical difficulties rather than because of its ranking by SOHP.

NJS apologised for his lack of success in obtaining liaison to SGPP. It was agreed that the best policy would be to appoint a new panel member as liaison immediately - the panel noted that the consistent presence of Guy Swart as LITHP liaison had been exemplary. For the next SGPP meeting, NJS agreed to as liaison.

Panel Membership

Shackleton (having grossly exceeded any reasonable term on an ODP thematic advisory panel) will rotate off OHP at the end of his term as chair. Mix, Delaney and Berggren have completed three years on OHP but Delaney has expressed willingness to take over the chair and will probably be replaced by Weaver (a sedimentologist/biostratigrapher. OHP made a long list (over a dozen names) of possible new members. Taking account of the expertise required as well as of factors that may render some of the individuals unacceptable to PCOM at present, OHP request PCOM to appoint W Ruddiman and D Hodell. Failing Ruddiman, OHP would recommend Raymo; failing Hodell, OHP would recommend Zachos (but if PCOM cannot appoint either Ruddiman or Hodell, OHP would recommend Raymo and Kennett because of the need to keep a balance of experience). This recommendation was generated by discussion towards "unanimous consensus" rather than by voting.

NJS thanked Bill Berggren and Alan Mix for their service on OHP, and Guy Smith for his excellent work as liaison from LITHP.

Next meeting

Hine volunteered to host the next meeting in St Petersburg, Florida, 5-7 March 1992.

Since the next Palaeoceanography conference will be held in Kiel, Germany in September 1992, the panel would like to meet at a time close to that. Vincent offered to host a meeting in Marseilles, France and tentative dates of 27-29 September or 28-30 were suggested.