Information Handling Panel Meeting

8-10 October 1990

Basel, Switzerland

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Attendees: John Saunders, Ted Moore, Mike Loughridge, Volkhard Spiess, André Schaaf, Will Sager, William Riedel, Chao-Shing Lee, Ray Ingersoll, Brian Funnell, Woody Wise, Patsy Fryer, Yves Lancelot, Kathy Lighty, Russ Merrill, Robin Reynolds, and Henry Spall.

Executive Summary And Recommendations

As has been our custom in recent times, the panel discussed at length the Publications Report (Appendix 1). The IR volumes have achieved their target publication time of 10-12 months, and the SR volumes are approaching a publication time of 36 months post cruise. A new reporting style by the publications group emphasizes the performance of individual volumes in the publication process. The panel was particularly concerned with the functioning of the Manuscript Coordinators and with the quality of the SR Index. The following recommendations were made:

PCOM endorse and support the retention of the second manuscript coordinator at ODP on a permanent basis. [p. 3]

ODP provide manuscript status reports to the Editorial Review Board (ERB) on a monthly basis. The ERB should use this report to identify tardy authors and reviewers and assume the responsibility of reminding authors and reviewers of their deadlines. [p. 3]

The ERB should meet near the time of the manuscript deadline in order to identify manuscript-related problems, coordinate the final review process, and identify referees. [p. 3]

ODP use the expanded Table of Contents for the Initial Reports volume (as illustrated in the Publications Report Attachment 5). [p. 4]

ODP amend its policy on the number of plates per paper to allow co-chief scientists to assign as many as 15 additional plates if needed to achieve the scientific objectives of individual papers. In high latitude areas this number could be increased to as many as 25 additional plates. [p. 4]

ODP produce a limited number of an updated, second video disc of core photographs. The remaining copies of the first video disc should be distributed to appropriate technical libraries. [p. 4]

The Data Base Report contained many aspects including the development of new software for inputting the Visual Core Descriptions and micropaleontological data - the two most labor-intensive parts of the ODP data base. The panel was generally pleased with the progress made on these programs. New problem areas that need to be addressed include the capture of SR volume data in the data base, and dealing with user-created spread sheet data base entry forms. The following recommendations were made:

ODP integrate the Cepek data base into the DSDP data base, and we encourage our German colleagues to help Cepek complete the remaining DSDP legs for this data base. [p. 2]

ODP optically scan the lithostratigraphy summaries for inclusion as digital images on future DSDP CD-ROMs, as well as for ODP CD-ROMs. [p. 5]

ODP establish the format for the stable isotope database. [p. 7]

ODP start incorporating the below listed data from scientific Results volume into the ODP database: CaCO₃-Corg.; stable isotopes; trace element geochemistry; major element geochemistry; any non-tabulated paleontologic data; optical scans of the site lithology summaries. [p. 7]

ODP include the biostratigraphic zone of samples in the paleontologic database. [p. 5]

ODP continue to recognize the usefulness of user-developed and spreadsheet software, and make shipboard scientists (including ODP scientific representatives) aware of the requirements placed on shipboard data collection by the need for maintaining a reliable and consistent database (including error checks and formats). They should further help developers and users of such non-ODP software packages to assure that at least the minimum requirements for database entry are met. [p. 5]

ODP include on newly-designed barrel sheets paleontological sample locations, zonal (or age) calls, and abundance and preservation estimates. These latter notes may be appropriately incorporated in the "Description" column. [p. 6]

ODP include smear slide descriptions in the "Description" column of the newly-designed barrel sheets. [p. 6]

ODP establish a new database that relates the standard shipboard determined depth (Core, Section, Interval) to "adjusted" depth. [p. 6]

Any use of "Meters Below Sea Floor" (MBSF) in Proceedings Volumes be explicitly qualified as to what (if any) adjustments have been made to this measure. [p. 6]

If SMP feels it is appropriate to use letter designations (i.e., C, A, R) for abundance ranges in smearslide descriptions, numerical ranges of abundance for these letter designations should be specified and that the midpoint of this range should be used for the database entry. [p. 6]

The panel endorsed the prioritized list of shipboard computer upgrades submitted in the Computer Services Report.

The Curatorial Report indicated that ODP had managed to decrease the average response time for sample requests. They continue to be concerned with the preservation of the cored sections, many of which have deteriorated badly. The panel endorsed increased efforts by this group to preserve and repair existing cores; as well as a revisions in policies concerning the manufacture of thin sections and labeling rock pieces. The following recommendation was made:

ODP should set as a goal to respond by letters (Fax, E-Mail) or phone to sample requests within two weeks of receipt. If there are problems, the requestor should know about them; if there are not, then give an estimate of when the samples will arrive. [p. 8]

The Micropaleontological Reference Center Report included a tour of the facilities at Basel. Everyone was impressed with the setup and noted the usefulness of these centers for training, as well as research purposes. The following recommendation was made:

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As soon as the MRC database is available, John Saunders provide a map of zones represented in the Micropaleontological Reference Centers and that these maps be sent to shipboard paleontologists as part of their pre-cruise information package. [p. 8]

The Borehole Research Group Report focused on the new Formation Microscanner data that is now becoming available. The following suggestion was made:

The Borehole Research Group consider putting their log data on 16 mm film for ease of rapid scanning and browsing of the log data; and for the purpose of long term archiving of their log data, they transfer the log data on magnetic tape to optical discs. [p. 7]

The National Geophysical Data Center demonstrated a test version of the new ODP data base CD-ROM. A MacIntosh version of the DSDP data base access software is coming soon. It will include some search capabilities.

Action items are listed at the end of the minutes.

The meeting of the IHP was held at the Natural History Museum in Basel. After introductions and announcements from our host, John Saunders, the following items of business were addressed.

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Report on Action Items. Discussion of many of the action items were held for individual reports of ODP; however, the following items were discussed separately.

- 1. R. Merrill reported that low quality figures in the I.R. volumes were traced to the CAD system, which has now been replaced.
- 2. The log data distribution policy was addressed in a letter from Roger Anderson to the panel and basically stated that he saw no need to change that policy. T. Moore will contact Roger to explain the IHP's concern that two points be addressed: (a) that logging scientists either solely, or in cooperation with other members of the scientific party, be responsible for turning a scientific report on logging results for the scientific results volume, and (b) that requests from scientists not participating in a leg for logging data prior to the twelve month moratorium on sample/data distribution be approved by the co-chiefs/shipboard party and that the obligation to publish the results of studies of such data in the SR volume be made clear to those who receive the data [ACTION ITEM 1].
 - Y. Lancelot commented that although PCOM had instructed IHP to inform them of scientists who apparently had not lived up to their obligations, he personally felt it was a bad policy to write letters to such scientists which might be construed as accusatory.
 - R. Merrill commented that it was also important for people who receive logging data be informed that results of their studies on these data must be published in the open literature.
- 3. V. Spiess reported that P. Cepek had received no response from ODP acknowledging receipt and "readability" of the data base tape that he sent them. K. Lighty said the tape was at ODP and could be read. V. Spiess added that further work on the Cepek DSDP data base was temporarily delayed, but he thought it might start up again soon, if funded by BGR.

The Panel recommended that ODP integrate the Cepek data base into the DSDP data base, and we encourage our German colleagues to help Cepek complete the remaining DSDP legs for this data base.

- 4. M. Loughridge reported that DSDP CD-ROMs have been sent to the Micropaleontological Reference Centers (MRC's).
- PCOM Report. Y. Lancelot reported that PCOM is very interested in FMS (formation microscanner) data and asked if it were being published. R. Merrill said Legs 126-128 do have FMS data as microfiches in the IR volumes, but does find them a bit hard to read. The panel expressed concern over producing material that was not useful, but R. Reynolds responded that the microfiches could be very helpful as an index to what was available and provided a fairly good idea of the quality of the data. She further suggested that Benson Printer copies are better for purposes of comparison with logs and cores. The BRG is open to suggestions on better ways to present and make available the FMS data.
- Y. Lancelot reported that a film (co-produced by JOI) on ODP Leg 105 will be distributed to PBS, A&E TV channels in the United States. J. Saunders asked if European-VCR format copies (especially of the shorter version of the film) could be made available.

The likelihood of the USSR being invited to join the ODP has increased. EXCOM has recommended that Soviet observers be placed on panels as soon as approval of their invitation to join is received.

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The ODP staffing of legs has been reported and indicates that 50% of participants are U.S. (half JOI institutions, half non-JOI) and 50% are non-U.S. partners.

Yves asked if there would be SR volumes coming out of the Engineering Legs. R. Merrill responded that it would vary (at the discretion of the chief scientists) depending on the amount of scientific results derived from the recovered cores.

Publications Report (see Appendix I). R. Merrill presented the written report and noted that ODP publications had caught up on IR volume publications and had achieved its publication target of 10-12 months post cruise. The SR volumes are now approaching the 36 month post-cruise target originally set for these volumes and will continue to strive for the 30 month target set by PCOM.

- R. Funnell commented that as the tremendous effort expended in catching up is somewhat lessened, ODP should direct their attention to enhancing the quality of the SR volumes. In particular, W. Wise noted that many papers suffered in their final production from not having a very careful editorial check prior to typesetting. B. Funnell felt the Publications group should begin to tighten editorial standards and increase emphasis on technical editing and checks for consistency.
- R. Merrill noted there has been some confusion over the deadlines for synthesis papers versus those of other scientific results. He is working with the scientific parties to clear up this confusion, and is working with the scientist to minimize delay in the production schedule (see graph 2 in reports for individual legs).
- T. Moore noted that the new reporting format was very useful and asked that the publication progress of all legs be reported in this fashion, including those SR volumes which are now approaching (or are past) their manuscript deadlines. He was mildly surprised that the length of each step in the publication process did not show positive correlations with the total months post cruise of publication itself. However, some steps do show a positive relationship with publication time. If the average initial submission of manuscripts is greater than 16-18 months, publication time is likely to be greater than 30-36 months. If the time between receipt of the last review and the return of the revised manuscript is (on the average) greater than about one month, the volume tends to be delayed beyond the target date, as it is when the maximum time between the revised manuscript being received and final acceptance (or rejection) decided exceeds six weeks. These relationships, derived from data presented in the publication report, are generally consistent with guidelines used by ODP. The size of the volume does not seem to be related to publication time.
- T. Moore further noted USSAC, at its recent meeting, had indicated that the Manuscript Coordinator position seems to be one at which some bottlenecks in manuscript flow may occur. They felt it very important that the Manuscript Coordinator provide the Editorial Review Boards with regular monthly reports on the status of all manuscripts. The panel discussed this suggestion, the difficulties in providing these data, and how the ERB could and should function. They made the following recommendations:

ODP provide manuscript status reports to the Editorial Review Board (ERB) on a monthly basis. The ERB should use this report to identify tardy authors and reviewers and assume the responsibility of reminding authors and reviewers of their deadlines.

The ERB should meet near the time of the manuscript deadline in order to identify manuscript-related problems, coordinate the final review process, and identify referees.

The Panel recommended that PCOM endorse and support the retention of the second manuscript coordinator at ODP on a permanent basis.

- W. Sager noted that a flow chart (event vs. time) indicating when the Co-Chiefs and ERB's should do what might be a good way of synthesizing their responsibilities.
- R. Merrill presented a draft of a revised Table of Contents for IR volumes, as asked for at our last meeting. The Publication group pointed out the high degree of repetitiveness in this form (Appendix I, Attachment 5); however, the panel found the revised version to be useful.

The Panel recommended that ODP use the expanded Table of Contents for the Initial Reports volume (as illustrated in the Publications Report Attachment 5).

R. Merrill requested guidance on the updating of the core photo video disc. The panel felt the video disc was valuable both as an archive medium and as an index to cores and core photos.

After some discussion, the Panel recommended that ODP produce a limited number of an updated, second video disc of core photographs. The remaining copies of the first video disc should be distributed to appropriate technical libraries.

I. Gibson, in a letter to the panel, asked that an independent evaluation of the ODP Index be conducted. He supports the panel view that a good Index is very important to the program and that the ones produced in recent volumes are very much better than earlier versions. M. Loughridge noted that with the CD-ROM version of the DSDP index, some of the problems with it can be overcome. H. Spall suggested that the AGI indexing structure might be needed. W. Riedel concurred that the structure provided by the AGI, with a flexible, but defined "dictionary" of terms, headings and hierarchy, was a "top-down" structure and was probably preferable to the "bottom-up" creation of the "dictionary" by scanning the volumes themselves. The structure provided by the "bottom-up" technique (which is presently being used) is practically non-existent. The question remains can we afford to extend the index far enough down in an AGI-style structure to be of real use to the specialists (who the panel now considers to be the target audience). After considerable discussion, the panel asked R. Merrill and H. Spall to investigate the AGI approach further. [ACTION ITEMS 2,3]

V. Spiess raised the issue of the need for additional plates for some paleontologic papers in areas where exciting new sequences are recovered, and especially where the detailed (and well documented) stratigraphies of these sections are critical to the scientific objectives of the leg. W. Wise spoke in support of change in the ODP policy of limiting each author to 5 plates. The panel discussed the issue and noted that the \$75 charge to the author for extra plates was minimal and that only a very few cases where more plates were vitally needed can be documented.

After this discussion, the panel recommended that ODP amend its policy on the number of plates per paper to allow co-chief scientists to assign as many as 15 additional plates if needed to achieve the scientific objectives of individual papers. In high latitude areas this number could be increased to as many as 25 additional plates.

As previously requested by the panel, R. Merrill showed a mock-up of a site chapter in the IR where figures are placed close to the text in which they are first called. This placement lengthened the chapter by about 10 percent and left a lot of "white spaces" on the pages. The panel preferred the revised version, but thought that some of the white spaces could be removed by not having double column breaks at new headings and perhaps adjusting print size. The panel understands that changes may have to be deferred until the printing contract comes up for renewal.

Data Base Report (Appendix II). T. Moore reported that JOI will be funding the gathering of DSDP "bluebook" data to be entered into the DSDP data base (as recommended by this panel). We have identified four categories of data that should be gathered: CaCO₃-Corg, stable isotope, and major and trace element geochemistry. We have been asked by T. Edgar to add to this list an optical scan of the lithologic summaries for each site. [ACTION ITEM 4]

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The Panel recommended that ODP optically scan the lithostratigraphy summaries for inclusion as digital images on future DSDP CD-ROMs, as well as for ODP CD-ROMs.

C. Mato requested that we endorse having a "critical boundary interval" data base setup. After a careful explanation of the need for this data base and an evaluation of what was (or would be) available in the ODP data base, the panel felt that the specified needs could be best filled by extracting specific information from the data base. We did feel, however, that the biostratigraphic zone for each paleosample should be in the data base, as specified by the description of the paleodata input program submitted by J. Firth to the panel paleontologists.

The Panel recommended that ODP include the biostratigraphic zone of samples in the paleontologic database.

The J. Firth draft specifications have been looked at by Riedel, Saunders, and Moore and their individual comments sent to J. Firth. The panel urges the Data Base Group to proceed with the development of this program as soon as possible.

The panel expressed its approval of the good progress made with data base development and with the development of software by this group. However, Checklist IIa has been very slow in coming. Hopefully the program described by J. Firth will be more speedy. W. Wise noted that one of his students has been able to export an Excel spreadsheet to McDraw in order to create a publication-quality paleontologic range chart. This is a slick solution to many problems and overcomes some of the shortcomings of Checklist II.

- K. Lighty and R. Merrill described the difficulties in taking data from user-developed software and spreadsheets and entering it into the ODP data base:
 - a) There is no commercial software (presently available) that would allow direct uploading of data from a spreadsheet (like Excel) into a standard data base; furthermore, information necessary for a straight transfer is proprietary and unavailable. Thus data has to be downloaded in an ASCII file and then loaded into S1032 with separate software.
 - b) Cross checks with other files (error checks to see if core sample exists, core designation is correct, etc.) are usually not included in these user created programs. If these checks are not made at or near time of data entry, subsequent corrections are extremely time consuming and difficult.
 - c) If users are not aware of the exact needs of the data base (as specified by IHP, SMP and other panels and working groups) some of the necessary data may be missed altogether. This happened on one leg when the physical property data was only entered on a spreadsheet.

The panel discussed the many sides of these problems and recommends that:

ODP continue to recognize the usefulness of user-developed and spreadsheet software, and make shipboard scientists (including ODP scientific representatives) aware of the requirements placed on shipboard data collection by the need for maintaining a reliable and consistent database (including error checks and formats). They should further help developers and users of such non-ODP software packages to assure that at least the minimum requirements for database entry are met.

K. Lighty presented the latest progress on the visual core description (on the MacIntosh). The progress is substantial and it includes some ingenious innovations. Having reviewed the presently proposed and early versions of the display panels, IHP recommends that:

ODP include on newly-designed barrel sheets paleontological sample locations, zonal (or age) calls, and abundance and preservation estimates. These latter notes may be appropriately incorporated in the "Description" column.

ODP include smear slide descriptions in the "Description" column of the newly-designed barrel sheets.

The panel also notes results of the core-log integration workshops, and feels that there will be an increasing demand for "wiggly-line" display space on the barrel sheet. These will likely include high resolution logs (e.g., FMS), Multitrack sensor data, and color data. Going to a "2 page barrel sheet" may be desirable, at least for some sites.

It is also clear that needs for barrel sheets may vary widely from leg to leg and even site to site. It is important to provide both a consistent set of basic data on the barrel sheets and space for a flexibility in the display of correlatable ancillary data (including photos).

- R. Merrill presented more information (Appendix III) on the digital image capture and analysis system. Previously, the panel had shown some alarm at the amount of data that would be generated by the routine use of this device. The color scanner being developed by N. Pisias, with its 512 channels of data capture, is also a major data "fire hose" with uses that are complementary to those of the digital imaging system. The use of 8 mm tapes seems to be an effective and inexpensive way of capturing and storing data from these systems, however, we need some experience in their use. Will they bottleneck the core description process? How can they be best employed to replace the presently used Munsell code?
- T. Moore presented some results of the core-log data integration workshop, and in particular, the recommended changes to present policy in establishing a "real" depth (m) below sea floor (MBSF) using logs, FMS, and the sonic core tracking device. Core Section Interval (CSI) depths would be unchanged and drill string depth would still provide what we recommend calling "shipboard depth." Adjustments to the depth of the recovered intervals within the cored intervals would result in what we recommend calling an "adjusted depth" (not "real" depth as specified in the workshop report). A new data base must be created that would consist of a look-up table that relates CSI to this "adjusted depth." "Adjusted depths" between these CSI tie points would be linearly interpolated. After extensive discussion on this matter, the panel agreed on the need for "adjusted depths" and recommends that:

ODP establish a new database that relates the standard shipboard determined depth (Core, Section, Interval) to "adjusted" depth.

Any use of "Meters Below Sea Floor" (MBSF) in Proceedings Volumes be explicitly qualified as to what (if any) adjustments have been made to this measure.

K. Lighty mentioned the apparent disagreement between SMP and IHP recommendations regarding the recording of abundances in smear slide descriptions.

The panel felt that this disagreement is easily resolved by the recommendation that if SMP feels it is appropriate to use letter designations (i.e., C, A, R) for abundance ranges in smearslide descriptions, that numerical ranges of abundance for these letter designations be specified and that the midpoint of this range be used for the database entry.

In regard to capturing data that appears in the ODP SR volume, we recommend that:

ODP establish the format for the stable isotope database.

ODP start incorporating the below listed data from scientific Results volume into the ODP database: CaCO₃-Corg.; stable isotopes; trace element geochemistry; major element geochemistry; any non-tabulated paleontologic data; optical scans of the site lithology summaries.

Computer Services Report (Appendix IV). R. Merrill reported that about two thirds of the group's effort is spent creating new software and about one third on maintaining old software. ODP recognizes that there is a continuing need for software development, but lacks sufficient staff to meet the needs in a timely fashion. They have used outside software when available and when it addresses ODP needs (or can be altered to meet these needs). Some flexibility is required because of unanticipated problems that arise on a leg and changing requirements from leg to leg.

R. Merrill presented a prioritized list of desired upgrades to shipboard hardware. BCOM has made available \$37,000 for such upgrades. The list (which greatly exceeds this amount) is based on evaluations of the shipboard party at the end of each cruise and generally follows the guidelines previously expressed by IHP. The panel endorses the priority list which emphasizes bringing the scientists PC's up to speed (i.e., matching some of the Mac capabilities) and replacing all PRO-350's. SMP may identify some very critical needs to replace or upgrade lab computers which might alter this list somewhat.

Borehole Research Group Report (Appendix V). R. Reynolds reported that a new logging manual will be out soon. Requests for logging data are up markedly in 1990; the Formation Micro Scanner (FMS) is one of the popular new tools that shows great potential for both giving a clear "picture" of the hole and relating cores to logs. Processing time of the FMS logs requires about 3 hours CPU per 50M FMS data. Y. Lancelot noted that speedy onboard production of the blueline of the FMS log was very helpful. Onboard processing of the FMS may be achieved by Leg 134. The new Vax station 3200 is on board. Schlumberger has been helpful in development and use of FMS and FMS processing but there are still some problems in adapting their software for our use (e.g., accurate re-scaling of the logs). The panel viewed Leg 128 data comparing logs to FMS, and some comparisons of logs and cores put together by R. Reynolds. The panel viewed some microfiches of FMS data (as included in the volumes).

M. Loughridge pointed out that the fische data, although good as an index, is difficult to browse. A 16 mm film of the data could be zipped through a lot faster. Furthermore, long-term storage of log data on tape takes a lot of space and is not as stable as storage on optical media [ACTION ITEM 5].

The Panel recommended that the Borehole Research Group consider putting their log data on 16 mm film for ease of rapid scanning and browsing of the log data; and for the purpose of long term archiving of their log data, they transfer the log data on magnetic tape to optical discs.

Curatorial Report (Appendix VI). R. Merrill reported that turnaround time on sampling was improving and was on target for West Coast and Gulf Coast repositories. The panel asked where were the lag times in the system. R. Merrill responded that some requests did not provide complete information, others were in conflict with sampling policy and had to be checked. In addition, there are administrative checks that had to be made. Also, during the sampling process if a core is found to be in poor shape, it is "rehabilitated" before sampling proceeds. Anything unusual like this will slow the process. After later discussion, the panel recommends that:

ODP should set as a goal to respond by letters (Fax, E-Mail) or phone to sample requests within two weeks of receipt. If there are problems, the requestor should know about them; if there are not, then give an estimate of when the samples will arrive.

Results of the geriatric core study were presented, but there were no volunteers among the panel to take over some of the needed measurements (Appendix VI-B).

The panel reviewed the various attachments to Appendix VI. The panel endorsed an increased effort to repair and preserve cores (Appendix VI-A), but suggested that the budget be reviewed and revised.

The revision in the policy for producing thin sections (Appendix VI-C) was endorsed, as was improvements in the labeling of hard rocks (Appendix VI-D).

National Geophysical Data Center (Appendix VII). M. Loughridge reported that good progress is being made with the DSDP reference CD-ROM and with the Mac-version of the DSDP data base access software. This new software will allow some on-line searching of the data prior to downloading it. This will also be available for the ODP data base software. A demonstration disk of the ODP data base (containing two legs and carbon-carbonate data) was viewed by the panel on John Saunders' PC.

Micropaleontologic Reference Centers (Appendix VIII). J. Saunders presented a report on the MRC's and noted that another batch of samples have been recently processed and distributed. A. Sanfilippo was awarded the contract to produce the radiolarian slides. Saunders hopes to initiate a formal reporting of the MRC's on an annual or bi-annual basis, and feels that it would be important to have all the curators meet in the near future and discuss procedures and needs. The panel suggested that he help develop a JOI workshop for curators and interested paleontologists.

Saunders also presented the design of a MRC data base that he hopes to build. The panel strongly supported the development of this data base and recommended that

As soon as the MRC database is available, John Saunders provide a map of zones represented in the Micropaleontological Reference Centers and that these maps be sent to shipboard paleontologists as part of their pre-cruise information package.

The panel felt that the educational and training potential of the MRC collections could be emphasized. They do provide a wealth of material that could be used by paleontologists both before and after they go out on ODP legs. This would be particularly useful to scientists unfamiliar with the region sampled by their assigned ODP legs.

The panel discussed again the feasibility of putting a reference collection on the ship, but generally concluded that such collections would not last long unless personally supervised. The panel does endorse anyone who wishes to loan a personal reference collection to individual scientists for use on the ship, but emphasizes that each shipboard paleontologist receiving such a valuable collection should accept personal responsibility for it.

J. Saunders conducted a tour of the MRC at the Natural History Museum. The panel was extremely impressed with the preparation, organization, and ease of use of the collection. We were particularly impressed by the handy reference volumes, including the marked up volumes of DSDP/ODP showing sampled sections.

NEXT MEETING:

The next meeting of the IHP is tentatively scheduled for 18-20 March 1991 at ODP/TAMU.

The panel ended the meeting with a unanimous vote of thanks to J. Saunders and the Natural History Museum for hosting our meeting. We all enjoyed our tour of the museum, the Chinese dinosaurs, our evening banquet, and the City of Basel itself. Thank you, John.

ACTION ITEMS:

- 1. Ted Moore call Roger Anderson regarding logging data policy.
- 2. Russ Merrill contact Jan Blakesley regarding imposing an AGI-type structure on the ODP Volume Index.
- 3. Henry Spall contact AGI regarding the indexing of the ODP volumes. How much could they help in establishing a structure.
- 4. Representative of the ODP Data Base Group contact Ellen Kappel (JOI office) to facilitate capture of DSDP "bluebook" data and to establish the format of the delivered product.
- 5. Mike Loughridge contact the Borehole Research Group in order to aid in trying out 16 mm filming of log data.

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