Information Handling Panel Meeting

18-20 March 1991

Texas A&M University
College Station, Texas

Attendees: Ted C. Moore, Jr., Michael S. Loughridge, Brian M. Funnell, William R. Riedel, William W. Sager, John B. Saunders, André Schaaf, Henry Spall, Volkhard Spiess, Woody Wise, Patricia Fryer, Ian Gibson, Nick Rock, Michael Hobart, Audrey W. Meyer, and Russell B. Merrill.

RECOMMENDATIONS

Regarding Membership

The Panel nominates Ian Gibson to replace Ted Moore as the Chairman. This selection was based primarily on his extensive knowledge of and experience in dealing with the issues with which IHP (as well as SMP) is constantly faced. (page 1)

The Panel also requests that Ted Moore be asked to stay on the Panel as a regular member.

Because the above changes leave the Panel without a liaison with SMP, it is requested that a new member to fill that position be selected. IHP believes that this person should have extensive knowledge of computer hardware and software, with emphasis placed on his/her experience in a data base production environment.

Integrated Data Analysis

In order to implement the recommendations of the JOIDES workshop on the Integration of Core and Log Data, and at the same time secure against catastrophic breakdown or loss of the shipboard data system under the rapidly expanding load being placed on it, we *urgently* recommend the addition of one additional shipboard systems manager to the staff of each scientific leg. (pages 9, 11)

Additional programming effort will also be required in order to make all data easily portable between data bases and create an early accessible shipboard "working" data base. (page 11)

Other

IHP recommends that the amendments to the BRG data distribution policy presented at this meeting be adopted. (page 1)

IHP recommends a change in policy that will allow manuscripts rejected for publication as scientific papers be considered by the ERB (in altered form) as data reports. (page 5)

IHP recommends that ODP develop a means of easily requesting samples via electronic mail. (page 7)

Action Items

Mike Loughridge will write a one-page background letter for the CD-ROM and requesting feedback from users. This will be included in next edition of the disc.

Ted Moore will write a letter to Terence Edgar thanking him for his effort in identifying a problem in the lithology symbols used in site summaries and explaining why it may not be possible to impose standard symbols to be used by every shipboard party to represent various lithologies.

R. Merrill and Chris Mato will get revised cost of doing core curation and reconstruction at the time cores are open for sampling (limit to DSDP cores).

The BRG sent a survey to data requestors aimed at getting their reactions to BRG performance and asking for suggestions to improve response to requests. Mike Hobart will have a report on the results of the survey for the Fall meeting.

All IHP members will provide company names and addresses of typesetting and printing and binding houses that may be interested in bidding for the next contract to provide these services to ODP.

Ted Moore will contact Bruce Malfait about the two projects that IHP wants to have funded using left-over DSDP funds: (a) incorporation of DSDP data that were never collected into the data bases (carbonate, stable isotope, trace element, others that may be identified), and (b) recuration of existing DSDP cores which are badly deteriorating and need "repair."

R. Merrill and Chris Mato will try to implement an electronic mail "forum" for the purpose of requesting samples.

H. Spall, Nick Rock, Ian Gibson, John Saunders, and Bill Riedel form the IHP subcommittee on indexing.

R. Merrill will try to obtain a review by a professional "indexer" of the index of a recent *Scientific Results* volume.

A. Meyer and R. Merrill will explore ways to best create, use and archive a shipboard "working" data base (i.e., one that can be used by shipboard scientists and that can be "corrected" or adjusted by these scientists.)

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The Panel unanimously nominated Ian Gibson to substitute Ted Moore as the Chairman. His selection was based on his extensive knowledge of and experience in dealing with the issues with which IHP is constantly faced. Should Ian Gibson be unable to serve as the chairman, the Panel selected Will Sager as their alternate nominee.

The Panel also requests that Ted Moore be asked to stay on the Panel as a regular member. He would fill the position left vacant by Ray Ingersoll, who resigned recently.

Should Ian Gibson become Chairman of the Panel, there will be a need for a liaison with the SMP. IHP discussed the importance of filling this position with a person who has extensive experience in computing in a production environment. The need for someone with experience in publications was discussed, but it was noted that this is now being covered by the addition of two co-chiefs on a rotating basis. Kate Moran, Ian Gibson and Michael Loughridge will form a subcommittee to select nominees to fill this position, and the names will be forwarded to PCOM.

Review of Action Items from Previous Meeting

In response to a request from IHP, the Borehole Research Group made changes to the data distribution policy, and Michael Hobart presented the revised document. The changes were approved by IHP, and will be forwarded to PCOM to request adoption of the revised policy.

Several sets of data presented in the DSDP *Initial Reports* volumes are not in an easily accessible data base. Some of those that are in the data bases are not used because they are incomplete. The Panel discussed the need to identify specific deficiencies to make this a comprehensive effort. The data could then be added to the CD ROM. Examples of data that need to be gathered include carbonate, stable isotope and trace element data. Individual investigators have done part of this work in their efforts to conduct their own investigations. In such cases, it would be best to build on their efforts. The Panel agreed to leave further analysis of this task in the hands of those compiling data, such as Yves Lancelot, Terry Edgar, T. Davies and John Saunders.

M. Loughridge suggested that 16 mm microfilm should be considered to preserve paper copies of log data. This would be particularly helpful in the case of FMS data because of their size. M. Hobart added that, in such case, he would recommend keeping data that includes corrections made after the cruise, rather than try to preserve copies of the paper data as they come from the ship.

PCOM and BCOM Meetings

Audrey Meyer presented a report on the PCOM meeting of last November and the recent BCOM meeting.

One of the subjects discussed at the PCOM meeting was a potential US$2.5M fuel cost overrun. In an effort to be prepared to cover these expenses, funds from each of the departments at ODP were held, and expenses were minimized or delayed. However, since the meeting, fuel prices came down. Additionally, the U.S. National Science Foundation provided a fuel supplement. The situation did not have a major impact on the Publications schedule. Some deadlines were relaxed only because of the fear that they would be ready at a time when funds would not be available, but all books were published as soon as they were ready.

At the BCOM meeting, ODP was encouraged not to slow the Publications schedule. The second manuscript coordinator position was approved as part of the base budget. Of $120,000 requested to publish two books more (for a total of 14 books) than covered by the base budget, a US$70,000 increase was approved. The two additional books will be ready as a result of the accelerated Publications schedule that was put in place to reduce the time in production of each volume. The $70,000 approved will not cover publication of both during the fiscal year. By the end of FY 92 two books will be behind (the accelerated) schedule.

BCOM also recommended to discontinue the policy to take 25-cm, whole-round samples onboard the ship and keep them frozen for future organic geochemistry studies. This recommendation was based on the fact that geochemists that used some of the samples found them worthless. This recommendation was communicated to scientists on the ship, and the practice was stopped immediately.

A. Meyer also mentioned the fact that the U.S.S.R. became a member of the IPOD community and that, as such, they will send scientists on each cruise beginning with the upcoming Leg 138.

In general, the BCOM seems inclined to favor projects oriented toward innovation, such as the diamond coring system.

REPORTS FROM ODP

Data Base Group

The report from the Data Base Group (DBG) was distributed to all members of the Panel in preparation for the meeting (Enclosure 1), and A. Meyer presented updates. The Group is now under her supervision at ODP. Three of the four permanent positions that conform the group are vacant, and the fourth, the Data Analyst position, was filled only recently. A. Meyer is conducting interviews and hopes to fill the vacant positions soon. She is looking for an analyst/programmer with some MacIntosh experience to continue development and support of the work started by L. Bernstein on the computerization of barrel sheets and visual core description. The person to fill the data librarian position will probably be the one with the most geology training in the group because this is the person who is in direct contact with the scientists who place requests. Last, the position of supervisor of the group will most likely be given to a person with both, computer science and geology background, and preferably with experience on IBM or compatible systems.

The VCD forms were finished by L. Bernstein before he left ODP. A paper version of the form was sent to Leg 135, and some suggestions for improvement were received from the scientists on that leg. The computerized version will be sent to Leg 138, which will be a major test for this form. W. Autio, a Marine Scientist under Logistics, is putting together a manual on the use of the computerized forms. The form has gone through several reviews, and the Publications group has been involved. T. Moore said that the Panel is concerned about the possible need for a second page to accommodate additional information. A. Meyer said that going into a second page would not only impact the data bases, but also the publications program because of the increased size of the books.

Paleontological data are being entered into CHECKLIST from the *Scientific Results* by graduate students. This is a very time consuming process, which is slowed by training every time a student has to be replaced. A consulting firm was awarded a contract to modify a commercial program (BUGIN) to use it as a paleontological data collection program on the ship. The revised program will probably be ready for use on Leg 138.

A. Meyer also mentioned that the DBG is finalizing checks on the data bases from cruises up to Leg 129 in order to transfer those to NGDC to be used in the preparation of a CD-ROM containing ODP data bases. It will be a prototype to be distributed along with an explanation of the background and a request for feedback. The Panel suggested that this should be explained somewhere in the CD-ROM, and M. Loughridge offered to write a one-page document to this effect. This could be included in the next version of the CD-ROM.

When asked what kind of data checks are performed by the DBG, A. Meyer explained that most checks are performed at data entry. At the end of the leg other checks are performed which consist mostly of correlations to make sure that, for example, the corresponding section and sample for a set of data existed, and that the data are within appropriate ranges. Checks have been added to CORELOG as needs were identified.

When asked if use of data is expected to increase, A. Meyer said that an increase in data requests for preparation of synthesis reports has been observed. M. Loughridge said that new developments at NGDC are headed toward free, on-line access. This allows scientists to exercise data and point out possible problems.

The question of putting data on discs to give to scientists to take home at the end of the cruise was also raised. A. Meyer that it would be very hard to keep the necessary number of diskettes on the ship.

M. Hobart explained that, during Leg 134, efforts were made to put data on line for use from PCs or Macs. This experiment was oriented toward single users. Such data sets as those collected by the FMS would overwhelm any PC or Mac because of their size.

On the ship, S1032 is the data base system being used to collect most data, except for logging data. The S1032 files are stored and brought back to ODP at the end of each leg to be archived. The difficulty with this system is that it is not easily accessible by every scientist. It is being used mostly as a data "stuffing" system, to ensure that data are collected. It is easy to extract ASCII files from S1032, but it would be very time consuming to customize the data output for each individual scientist. Adding tasks to the shipboard systems manager is not feasible given the current load that this person now bears. Instead, ASCII files are generated and put in a central location, and scientists can then pull whatever portions they need to use. Also, in an effort to protect the integrity of the data collected, S1032 is not set up to be accessed and changed by every scientist. Because of this, scientists use and make corrections to the ASCII files generated from 1032. To make sure that corrections are entered into S1032, scientists need to point them out to the system manager. It was suggested that a system should be put in place which allows scientists to make corrections to the ASCII data files before they are loaded into S1032 to be archived. However, handling data as ASCII files can result in very incomplete sets of data. This happened during Leg 130, when some data (but not all information critical to the data base) were collected through a spread sheet program.

T. Moore expressed the Panel's appreciation for the speed with which the group has moved in addressing suggestions by the Panel.

On a related subject, T. Edgar found that the use of symbols for lithostratigraphic columns is very inconsistent throughout the DSDP and ODP publications, even within the same chapter. This was also pointed out by Soviet scientists putting together a series of atlases for lithostratigraphy.

Unfortunately, there is no sure way to impose standards symbols to be used by every shipboard party to represent the various lithologies. After some discussion, the Panel agreed that such was the case. M. Loughridge was asked to write to T. Edgar explaining the situation and thanking him for his effort.

Computer Services Group

The report was distributed prior to the meeting, and J. Foster was available to discuss it at the meeting (Enclosure 2). M. Loughridge said that they have experienced numerous problems with Windows, and asked how the program is performing for ODP. J. Foster said that ODP is using the latest version of Windows running on micronix, 25 mhz machines, and that no major difficulties have been encountered.

On the subject of spreadsheets, I. Gibson supported the move to EXCEL because it is easily transported between Macs and PCs. WINGS was also recommended, and it offers large capacity (near 64,000 rows) for larger spreadsheets. J. Foster said that a few copies of Lotus 1-2-3 are also being kept.

An upgrade to Mantrack was made to allow generation of paper copies of volume status updates to be sent to members of editorial review boards. In the future, ODP hopes to be able to distribute an electronic version of the report.

Work on conversion of the computer user room to a user training room is nearing completion.

A MicroVax 3100 is being set up with a configuration as close as possible to the ship's. This will be used to test software before sending it to be installed on the shipboard systems and to provide a familiar system to scientists who attend post-cruise meetings.

M. Loughridge asked if any system upgrades are planned for the other Vax machines. J. Foster said that this is definitely something to be considered. The cost of maintaining the 750 machines is rising, and the need for more powerful systems is increasing. However, it is important to plan such a move carefully in order to minimize the loss of peripherals. When asked if there is a need to plan to move on to ULTRIX systems, R. Merrill explained that this should not be a problem. Connectivity is possible at the moment, but the VAX systems appear to be better systems in a production environment such as ODP's.

Publications

The report was distributed to members of IHP before the meeting (Enclosure 3), and B. Rose was present to answer questions. T. Moore noted that publication of the *Scientific Results* is staying well below 40 months post cruise in most cases.

T. Moore brought two letters that he received from scientists, and several concerns they expressed were discussed. One of the scientists requested that the manuscript status updates that are now sent to all members of the Editorial Review Board (ERB) for one volume be sent to all scientists that are expected to contribute to that volume. R. Merrill and P. Fryer agreed that this could cause problems because late contributors would relax about submission of their manuscripts when they realized that their manuscripts were not the only ones delayed.

Another concern was that preliminary editorial review checks (PERCs) were being done very thoroughly, but the final manuscript was not being edited. R. Merrill pointed out that the ODP was told to limit editing of *Scientific Results* manuscripts to only those specifically identified by the co-chiefs as needing help. Under this scheme, manuscripts would undergo a PERC upon submission,

which would point out areas that needed improvement but would not constitute a thorough edit. The manuscript was then to be left to the author to review. W. Wise noted that with the use of PERCs and a little help from referees, authors were able to turn out manuscripts of very good quality.

With an eye toward speeding the review process, one of the scientists that wrote to T. Moore suggested that manuscripts be sent directly to authors for revision. P. Fryer indicated that, as ERB member, she preferred to receive the reviews before the authors. This allowed her to attach a letter with her summary and comments to the review before forwarding it to the author. For this process to work, however, it is important to send manuscripts as soon as they are received from reviewers. Some members of the Panel wondered whether this would pose a difficulty to the author who would revise his/her manuscript on the basis of the first review only to have to revise it again when the second review is received. This can be avoided if the ERB member reminds the author that another review will be forthcoming. Forwarding the first review immediately will also alert authors to a breakdown of the system if the second review doesn't arrive within a reasonable time.

The requirement to send original art with the initial submission was also questioned. R. Merrill explained that this is the only way that ODP can evaluate the artwork and avoid having to chase missing pieces at the last minute, which could result in additional delays to the volume.

Current ODP policy, as recommended by IHP, states that manuscripts that are not submitted as data reports cannot be turned into such if they do not withstand the peer-review process. P. Fryer said that, in one case, an author prepared a manuscript which contained mostly data and very minor interpretation. Because of the interpretation, it could not be submitted as a data report, and the author didn't want to submit it for peer review because it contained mostly data. The author felt that the manuscript would not be accepted by any science journal for peer review. As a result, the author declined to submit the paper. It was requested that the policy be relaxed, and that individual ERBs should make the decision on whether or not to allow a particular manuscript to be revised and submitted for publication as a data report. The panel agreed to recommend this change in policy.

The tone of the first letter reminding authors about the initial submission deadline was considered too harsh. R. Merrill indicated that this particular communication was being sent as a telex in the past, and that as such the wording had to be different to minimize the cost. The communication is now being sent as a letter, and it has been changed, but cannot be so gentle that it won't stir action.

A failure to communicate final deadline changes was called to ODP's attention. R. Merrill said that ODP was aware of this particular situation. The problem started when two of the ERB members for this volume fell behind in the review process. In an effort to assist them, the manuscript coordinator assumed additional tasks. This consumed much of her time, so she dropped communications with the foreign ERB members. ODP has taken measures to ensure that this does not occur again.

Synthesis manuscripts appear to be missing the volumes for which they are intended. In the majority of cases, co-chiefs are in charge of synthesis papers. It appears that this is because initial submission deadline for synthesis papers usually coincides with the time at which co-chiefs are busiest handling final submission of other manuscripts. P. Fryer solved this by requesting copies of the manuscripts that she needed after they had been reviewed, but before final submission.

Asked about how the two post-cruise meeting scheme was working, R. Merrill replied that it seems to work differently for different shipboard parties. Science meetings (those that take place about 1 yr. post cruise) that are planned around working groups are getting better reviews from the shipboard parties than those organized as mini-symposia. ODP has tried to communicate this to groups planning future meetings, but the format of each meeting is up to each scientific party. Mini post-cruise meetings, intended to finalize the *Initial Reports* volume of the *Proceedings*, also vary in format (about fifteen scientists participated in the last such meeting that took place at ODP).

The time between receipt of reviews by author and the final manuscript submission deadline is three weeks. Some authors feel that this is not enough time, particularly for scientists in Europe whose manuscripts arrive after more than half of the allotted time has elapsed. R. Merrill explained that the short turn-around time is essential to get authors to review their manuscripts quickly. To this date, no manuscripts have been rejected because of failure to meet the deadline. W. Wise suggested that the turn around time start running at receipt of manuscript by the author. The panel felt that a three week deadline for revision after receipt of the reviews was a more reasonable and realistic policy.

It was mentioned that letters of transmittal that are sent with manuscripts are not being passed along to the editors and illustrators. This has resulted in loss of information. R. Merrill said that this may have been overlooked and caused problems, and assured IHP that it will be resolved.

At a previous IHP meeting, it was suggested that the ODP staff scientist should be the main contact between ODP and the other ERB members. Given the number of staff scientists at ODP at the moment, the initial deadline comes at the time that the staff scientist is expected to sail again. Therefore, this idea cannot be implemented unless the number of staff scientists at ODP is increased. A request was made to do so, but it was not approved, and the suggestion cannot be implemented.

The Panel also wanted to know how the dual submission process is proceeding. ODP has received about four or five manuscripts submitted under this scheme. It appears as if the initial upbeat response by editors of science journals is no longer there. Furthermore, editors at science journals change, and responses from new editors are unpredictable. In one instance, an ODP scientist was forced to submit a token paper to the *Proceedings* volume and the complete manuscript to the outside journal. It appears that this is partly because scientists may not understand the policy. R. Merrill suggested that ODP continue to handle each manuscript individually. ODP Publications is prepared to help scientists write letters to editors of outside journals explaining the system, and has already done so in some cases. Additionally, timeliness was the main reason why scientists wanted to publish outside of ODP. The fact that the ODP publication schedule was accelerated means that, in quite a few cases, the ODP volume will be ready before the outside publication.

At a previous meeting, IHP recommended that the co-chiefs indicate which paper would fulfill each scientist's responsibility to publish with ODP. W. Wise stressed that this is very important because it allows co-chiefs to plan the volume, knowing beforehand which topics will or will not be covered. B. Rose said that the need is being emphasized to co-chiefs before and after each cruise, but ODP has not had enough time to evaluate how this is working.

R. Merrill informed the Panel that ODP has negotiated an agreement with EOS whereby EOS will publish ODP reports at the end of each leg. These can include up to 1,000 words and up to four figures. The publication of this report would replace the Geotimes articles.

I. Gibson (and W. Riedel) asked about how the index to the *Proceedings* volumes can be improved. He stressed that the index will control scientists' ability to locate information in the books, particularly in the long term. He suggested that a copy of the index should be sent to a professional indexer for review, and that, if found lacking, redoing the index should be considered. B. Rose explained that the indexing subcontractor is making an effort to follow the GeoRef format. H. Spall talked with the person in charge of GeoRef at the AGI. He explained that GeoRef is not equipped to build an index to subjects; they only index to chapter level. In order to build an index for the ODP volumes, they would have to develop a special program, and they do not have the manpower to do so. After some discussion, the Panel agreed to leave the subject in the hands of a subcommittee headed by H. Spall and including J. Saunders, N. Rock, I. Gibson and W. Riedel.

Curation Report

C. Mato was available to discuss the report (Enclosure 4) that was distributed to IHP before the meeting. She pointed out that there has been a 42% increase in sampling over DSDP.

A project to re-curate cores was presented. M. Loughridge asked whether this is an ongoing project and if the total cost is known. C. Mato replied that recuration will include stabilization of the core, and should be a one-time effort. Once this has been achieved, maintenance will continue. Most problems with integrity of the cores are caused by sampling on the ship. Different scientists sample differently, and in some cases this results in badly damaged cores by the time they reach the repositories.

Two ways to accomplish this project were suggested: (1) to hire additional personnel to recurate cores as they are open for sampling and (2) to try to accomplish recuration with existing personnel, at the expense of increasing turn-around time for responding to sample requests. The panel agreed that it was necessary to give the project a high enough priority so that it would be accomplished, but that it may be best to do the work as cores are open for sampling. It was also suggested that the project should be limited to DSDP cores. This would in effect lower and spread the cost over a longer period. C. Mato and R. Merrill will revise the cost of accomplishing the work on these terms.

It was suggested that an electronic mail form should be made available for sample requests. This form could then be used to get the information into the data base, thereby reducing the workload at the repositories. R. Merrill said that he believes it is possible to accomplish this with a minimum effort (and he will investigate the possibility).

The geriatric core study is proceeding slowly. Cores have been collected from three legs. Paleontological samples were sent to Dr. Enriquetta Barrera and ODP is waiting for her report. J. Gieskes has already submitted a report. Investigators working on this project are doing so using their own time and supplies. At this time, most of the information gathered is raw data, and the effort to interpret them is very small.

A question was raised about curated depths. This brought out the issue of which depth, and the discussion in Basel about logging depths vs. curated depths. Asked which is being kept by ODP, R. Merrill said that the curated depths is what is being kept and that those are not changed. It was suggested that an additional data base could be created to hold only corrections made to the curated depth that is being kept now. A. Meyer explained that constructing the data base would not be a problem, but that the question to be addressed is how to use this data base. The subject will discussed further at the joint meeting with the SMP.

Logging Group Report

M. Loughridge presented the report at the meeting (Enclosure 5). He pointed out that the Borehole Research Group (BRG) received an erasable optical disc, which will provide more space for storage. It will also make fulfillment of requests easier, because data can be sent in various formats. They are looking at different ways to distribute data. ASCII files are easily transportable, but take up more room.

FMS data are being processed on the ship, with the assistance of an ODP technician. Final images are still processed at Lamont, where the necessary equipment is available. On the ship, data are now transferrable to the VAX, where it can be sampled via the VAX server. It can then be downloaded to Macs and/or PCs and used with other programs to produce figures, an example of which is presented at the back of the report. They will need input on the format for output of logging data.

T. Moore asked if scientists can get a complete set of data in Terralog. M. Hobart replied that it is possible to provide it upon request. W. Wise wanted to know if there is an interest in logging data from sedimentologists and paleontologists. M. Hobart said that the interest is definitely high and rising, particularly due to the amazing results of correlations.

In an effort to find ways to improve response to requestors, the BRG sent out a survey. About 35 replies have been received during the last two weeks. A report detailing the results of the survey will be prepared by M. Hobart for the Fall meeting of the IHP.

The possibility of using CD-ROM for data distribution was discussed. M. Loughridge explained that, at this time, there is a package available that allows use of LIS data, which is the format that was used to store the DSDP data on the CD-ROM. However, he believes that tapes will remain the prevalent media for data distribution for a while, and that CD-ROMs will continue to be used as a means for archival of data for the moment. The National Media Laboratory set up a group to look at long-term archival needs. They offered to evaluate the environment of the spaces where NGDC keeps their records. They recommended that NGDC should move all data to square cartridges, and that they move away from optical systems. Some problems have come up with the plastic used in optical technology, and the software is not being maintained. NGDC is in the process of moving all data to square tape cartridges.

M. Loughridge also pointed out that data dissemination is now also being accomplished via networks, and that this method will become more widespread. One advantage is that by transferring data via networks the limitations of computer capacity are eliminated.

Paleontological Reference Centers Report

J. Saunders prepared a report on the activities of the Centers (Enclosure 6).

AMOCO offered to prepare the palynological samples, and they would like more information on the amount of materials that they can expect to come (not many more than 1,000).

The proposal from A. Sanfilippo to prepare radiolaria samples was selected.

W. Riedel forwarded a proposal to E. Kappel requesting funding for a workshop on curation and data base management for the Reference Centers. He has not received a response. J. Saunders would prefer to hold the workshop around the Spring of 1992. He and W. Riedel will continue work on this project.

Asked about usage statistics, J. Saunders said that he has been trying to get information from the other Centers. He has statistics for the center in Basel. Based on those, he can say that use of the Centers, at least within Europe, is growing. The style of use is also broadening, and repeated visits by one scientist have taken place. He hopes to get a better response from the other Centers in order to have a report on usage ready for the Fall meeting.

Ship's Data Bases

W. Sager prepared a report from Leg 135 (Enclosure 7). He concluded that there appears to be more to do onboard than people to do it. This is worsened by the learning curve on some of the software, which is more than desirable. He believes that the Panel should decide which minimum sets of data have to be collected by each shipboard party. After that, each shipboard party would then be responsible for deciding how much interpretation of these data is needed for the *Initial Reports*. Some interpretation is unavoidable; it is required for biostratigraphy, physical properties, VCD descriptions. However, it is not uncommon for scientists to get involved in the preparation of

very complex figures. These are very time-consuming tasks which help science, but are not necessary for data collection. The Panel should also decide how much effort should be devoted by personnel on the ship to support "additional" science (that is, science in addition to that necessary for production of the *Initial Reports*). Expectations also need to be defined in terms of quality.

R. Merrill said that the above are all addressed at the time of the pre-cruise meeting. Additionally, obligations of the scientists are defined for each position. The latter cannot be made more specific because of the different requirements for each leg.

Asked about whether there have been cases where omissions in data collection have come up, A. Meyer responded that none have. The main problem seems to be on the side of not making intelligent choices on what data are being collected. This is an issue that needs to be addressed and tempered by the co-chiefs.

The amount of artwork produced for each *Initial Reports* volume has also increased considerably. This appears to have been spurred by the addition of MacIntoshes. It is having a serious impact not only on the workload of scientists on the cruise, but also on the cost of printing the increased number of pages. W. Wise suggested that it should be stressed to co-chiefs that decisions on doing very time consuming artwork should be based on its usefulness to the rest of the scientific party.

A complaint often voiced is that there are many programs for which there is no adequate documentation. R. Merrill said that most likely these are programs brought along by scientists and left on the machines. The system manager tries to eliminate copies of those that are not supported and that were copied illegally, but the problem persists.

T. Moore asked if there is a standard set of data available to scientists on the ship. R. Merrill explained that all data collected are available. They can be easily dumped. Additional and cumbersome work is incurred when various scientists want data dumped to their individual specifications. Additionally, depths are collected by various tools, and the values returned do not necessarily match.

Additional discussion centered around which set of data should be kept: raw data (which is what is being collected now), modified data, or both. In general, opening the S1032 data bases to handling by all scientists was not considered a desirable alternative. It was also suggested that data could be dumped into ASCII files, which could then be modified by the scientists. At the end of the cruise, these could be loaded into S1032 and brought back along with the raw (also S1032) data files. The problem with this process is that, after they are massaged, the ASCII data files may not fit the specifications to make it possible to load them back into S1032. These specifications were set up to preserve data continuity. If keeping both, which would be used to fill requests?

It was also noted that some of the largest sets of data don't ever get into S1032 (for example, logging data which are very large and would overwhelm almost any system).

If data are modified and kept instead of raw data, it will be imperative that all corrections to the raw data be documented. Documentation would have to include not only each change, but also the reason for making the change.

A. Meyer and R. Merrill offered to devise a solution to this question.

The Panel came back to the discussion of which project should be of higher priority: gathering data from the DSDP books and their incorporation into a data base or the core re-curation program.

W. Riedel proposed to assign data gathering a higher priority. He realizes that some of the most useful data are not available electronically. In order to gather these data, the project needs to be

defined more carefully. Who will do the work? How will it be delivered, in paper or electronic form? Three sets of data that need to be gathered have been identified: stable isotope, carbonate and trace element data. ODP is responsible for collection of data published in the *Scientific Results*, but not much has been done to this point. Efforts in this area have been hampered because ODP has been trying to get the information from the scientists on disc, but has not received a good response.

Can the DSDP data be put in a CD-ROM such as that containing ODP data? M. Loughridge explained that the DSDP data are not in a flatfile, and do not resemble ODP data in format. If put on a CD-ROM, this would create a requirement for customized retrieval software. R. Merrill suggested that it may be possible to make DSDP data "looklike" ODP data. If that is the case, the commercial software being used to retrieve ODP data could be used for both. The ability to use the same retrieval system for both sets of data is a strong point, particularly if commercial software can be used. Usage would definitely increase.

The Panel reached the conclusion that it would be good to try to accomplish both of the above mentioned projects. T. Moore will communicate this conclusion to Bruce Malfait. He will ask how B. Malfait feels about using left-over DSDP funds to this effect.

Demonstration of CD-ROM

M. Loughridge distributed a handout to be perused before the demonstration. He explained that there are two parts to the CD-ROM: the one with DSDP data includes the cumulative index, and the print run will number 2500. These will be sent free of charge to those on the DSDP *Initial Reports* and ODP *Proceedings* distribution lists. Only 500 copies were made of the test version of the CD-ROM with ODP data. The latter also includes a sample chapter from a recent ODP *Proceedings* volume.

N. Rock asked if CD-ROM would be a viable alternative to publish the *Initial Reports* volumes, eliminating printing of paper copies. This would alleviate the budget difficulties imposed by the increasing number of pages to be printed. Most panel members, however, pointed out that paper copies are needed to make the information available to a large scientific community. At the moment, access to CD-ROM technology is even more limited than access to microfiche. Instead, it was suggested that a limit be placed on the number of pages that can be published in any particular volume. This would create a completely different set of problems, with different legs having different requirements. Limits would be impossible to apply to legs that have large recovery rates, for example. Applying limits would also have the effect of reducing storage needs. R. Merrill suggested that at this time ODP Publications is coping with the situation, and that there is not a need to try to change the Program or impose limits on the number of pages that can be printed.

Joint Meeting of SMP and IHP

K. Moran gave a presentation on the items that were considered high priority: (1) integration of data obtained from core and logs, which is critical to presenting results; (2) data handling on the ship; (3) new format for barrel sheets; (4) system units, and (5) smear slides.

After this presentation, B. Meyer reviewed the results of an attempt to accomplish data integration onboard the ship during Leg 134. He stressed that the experiment highlighted several difficulties in accomplishing this objective. These include:

- The necessary tools to achieve integration are not available on the ship. Very powerful PC or MacIntosh machines would be needed to accommodate large amounts of data. Additional customized software would have to be developed to handle routine tasks. All corrections to data

would need to be documented. During the 134 experiment, data had to be decimated in order for it to fit.

- In addition to preparing the necessary ASCII data bases for scientists, routine system maintenance procedures would put excessive demands on systems' manager time, who is already working more than the standard 12-hour shifts.
- The scientists are not capable of undertaking this additional chore either. They would have to learn what happens "behind the scenes" with the work they do (stored into a data base).
- Logging data is not available to be incorporated into an "integrated" scheme until the hole is finished.

IHP and SMP concluded (see Enclosure 8) that it is important to have a system on the ship that allows scientists to achieve correlation of core and logging data in real time. To be able to achieve this, another shipboard computer system manager will need to be added to each leg to make it possible to extract the required information from the data archival systems and continue to maintain the system.

Second, additional support is needed to develop the programs needed to extract the data from the data archival systems and to create a second "scientific" data base. This would make it possible to keep the raw data untouched, without risking its loss. Data that has been accessed and modified by the scientists would be kept in the "scientific" data base. On this basis, IHP endorsed the request by the SMP that the following personnel be added to the Program:

1) An additional system manager to sail on each leg (two seagoing, rotating positions). This would be a permanent addition.
2) A programmer, to develop the necessary software. Position to be added only to accomplish the task.
3) A scientist to make corrections to data during the cruise. This task could be performed by a graduate student that would sail as a member of the shipboard party on each leg.

SMP and IHP also discussed presentation of logging and MST data along barrel sheets in the *Initial Reports* volumes. A. Meyer said that ODP is looking forward to presenting this information in that format. The computerized barrel sheet and VCD systems now make it easy to draw to a very small scale. While drawing, data are going into a data base in the background. These data could be made available to requestors at the end of the cruise. The main problem presented by the format recommended by SMP is that it would create a lack of continuity in the data bases. It would also be difficult to enforce the use of the standard units in Publications. The only way would be to return manuscripts to authors who are not using them.

After these two presentations, the panel attended demonstrations of the visual core description system, the new CD-ROM and data base retrieval software, and a CD-ROM journal publication scheme.

Non-Performers

The Panel assigned a subcommittee to review the cases of potential non-performers. The subcommittee reported back with recommendations on the actions to be taken in each case. T. Moore will draft letters that will be sent to J. Austin. PCOM chairman, to be sent to the individual scientists.

After the review of potential non-performers, the Panel met in closed session and discussed the recommendations presented in the executive summary.

Enclosure 1

February 15, 1991

Summary of CSG Activity Since Last IHP Meeting

Since the last CSG report to the IHP, the software development work has centered around finishing up projects which were underway, and concentrating on tasks which were already on the "to do" list. User support still remains a time consuming task and as the number of microcomputers continues to grow, as well as the proliferation of off-the-shelf software, it is anticipated that even more effort will be required in the future.

As of last December, the shipboard systems managers have been moved to the Technical Support Group under the Logistics Department. While the shipboard systems managers are now under this department, Science Services/Computer Services Group is still responsible for the shipboard computer systems, and all planning, changes and upgrades to the systems.

The upgrades to the IBM PC compatible computers onboard the Resolution are currently underway and will be completed on Leg 136. This upgrade as recommended by IHP includes faster processors, more memory, additional software, and the Windows 3.0 Graphical User Interface.

Progress is being made in the area of computer training for ODP personnel. The computer user room at ODP Headquarters is currently in the process of being modified to become a part-time classroom. The computer courses which will be taught in a "hands-on" environment are expected to improve ODP personnel's use of the computers and software used on a daily basis.

It is anticipated that CSG will continue to work on the tasks which are already on the list of work to be done. These will be accomplished based on priorities as established by the ODP Managers and new tasks will be added as identified.

02/15/91

Computer Services Group
Summary of Projects Completed
Since Last IHP Meeting

- Duplication of shipboard system on shorebased hardware in order to facilitate implementation and testing of shipboard software as well as program modifications.

- CHECKLIST II stratigraphic data entry and retrieval software with customized interfaces and reports for ODP.

- Interfacing of the MASSCOMP logging computer in the Downhole Measurements Lab to the Shipboard Vax systems via ETHERNET.

- Upgrade of shorebased VaxCluster systems to Version 5.3 of the Vax/VMS operating system.

- Evaluation of shipboard upgrades for PCs to provide faster CPUs, more memory, additional application software and a Graphical User Interface (GUI).

Computer Services Group
Applications Completion Report
09/01/90

- Completed since last IHP meeting

Application Name	Ship/Shore Usage	Status	Comments
Core Log	Ship	Complete	
Core Log Enhancements	Ship		
- Paleo. age update pgm		Complete	Rewritten to simplify forms interface, replace PRO by PC.
- Data set def.		Complete	Changed to remove unused attributes, remove leg from DSN.
- Modifications		Complete	Implementation of forms interface with full editing.
Art Stations	Shore	Complete	
Sedimentary Smear Slide/ Thin Section	Both		
- Phase 1		Complete	Basic data collection with limited retrieval.
- Phase 2		Complete	Phase 2 is for enhancements to plotting & printing capabilities in the programs based on user feedback using Phase 1 programs.
- Ongoing maintenance		Complete	Miscellaneous enhancements requested by users, including correction of problems relating to selection set currency.
Leg, Site, Hole Data Base & Reports	Both		
- Phase 1		Complete	Basic data collection with limited retrieval.
- Phase 2		Complete	Phase 2 is for enhancements to reporting capabilities and minor enhancements based on user feedback.
- Ongoing maintenance		Complete	Miscellaneous enhancements requested by users, including correction of problems relating to selection set currency.
LOG (GPS data to seismic headers)	Ship	Complete	
Navigation Plotting (SMOOTH)	Both	Complete	
Materials Management (MATMAN) enhancements	Both	Complete	
- additional report/ retrieval procedures		Complete	
- task/user security implemented		Complete	
- report format modifications		Complete	
ODP Participant Data Base	Shore	Complete	
Underway Data Analysis	Both	Complete	
Core Sample Inventory	Both		
- Phase 1		Complete	Shipboard data collection.
- Phase 2		Complete	Repository sampling support.
- Phase 3		Complete	Conversion of Repository SAM to PC and enhancements to include templates, updates on PCs, instant label printing, preliminary batch reports, additional cross-field edits, and form enhancements.
- Phase 5		Complete	Assumption of support by CSG for VAX sampling data base utility and report programs (SAMUTL) with enhancements to the programs involved. These programs are necessary for editing the accumulated Sample data against the Core Log as well as associated reports.
Core Sample Inventory Central DB and Utilities (SAMUTL)	Both	Complete	Minor data set schema changes and access to cumulative rather than leg-specific Core Log.

SATCOM Communication Msg. Distribution and Billing	Shore	Complete	Software to distribute messages received via daily satellite communication with the ship to the shorebased electronic mail system and to provide billing information so that each cost center pays for messages sent.
Multi-Sensor Track (MST)	Ship	Complete (contract)	Integrate support for PWave Logger, Mag. Susceptibility, GRAPE, and sensors to be added later on the same computer controlled scanning track.
GRAPE (Standalone vers.)	Ship	Complete	
GRAPE (MST version)	Ship	Complete (contract)	Conversion for use on MST.
Pwave Logger (Standalone)	Ship	Complete	
Pwave Logger (MST vers.)	Ship	Complete (contract)	Conversion for use on MST.
Sample Request and Bibliographic Data Base	Shore		
- Phase 1		Complete	Original system.
- Phase 2		Complete	Enhancements and conversion of word processing interface from CTOS to Word Perfect
- Ongoing maintenance		Complete	Modifications to handle missing values in concatenated strings for printing and problems associated with intermediate files generated by simultaneous batch jobs.
Load DSDP Data Bases to System 1032 Data Sets	Shore	Complete	25 DSDP data sets are available for System 1032 access via System 1032 DBMS.
Physical Props (strength, index props, discrete sample GRAPE, velocity)	Both		
- Phase 1		Complete	Phase 1 permits data to be collected in machine-readable form with minimal reporting and plotting capability provided in the programs.
- Phase 2		Complete	Phase 2 is for enhancements to reporting capabilities and enhancements based on user feedback.
- Phase 3		Complete	Additional calculations for index props; other enhancements based on user feedback; editing and correction of calibration data entered via old shipboard programs.
- Ongoing maintenance		Complete	Minor data set schema changes and support for storing calibration constants in test data sets as well as in calibration data sets, to simplify data distribution; upgrade of on-screen and detailed field-specific help.
Chemistry (calc. carb., inter. water, rock eval.)	Both		
- Phase 1		Complete	Data collection with minimal retrieval.
- Phase 2		Complete	Phase 2 is for enhancements to plotting & printing capabilities in the programs based on user feedback using Phase 1 programs. More analysis required than planned because users wanted to use spreadsheet.
Chemistry (gas chrom.)	Both		
- Phase 1		Complete	Data collection with minimal retrieval.
Shipboard Performance Optimization	Ship		
- Phase 1		Complete	Maintenance of logical name table in shared memory to minimize accessing Core Log data set when editing sample IDs and calculating depth values.
- Phase 2		Complete	Modification of directory structure, and rearrangement of data files and program files.
Modify WordPerfect Word Processing Software to Conform to ODP Standards	Both	Complete	Establish default parameters, printer definitions, and special character support to ODP standards.
Install IBM PC compat. Systems on Resolution	Ship	Complete	Installation of IBM PC compatible word processing stations on ship.
Install PC and Macintosh systems on shore	Shore	Complete	

Publications Tracking	Shore		
- Phase 1		Complete	Manuscript, author, and scheduling data base maintenance, queries, and reports implemented on IBM PC.
- Phase 2		Complete (contract)	Enhancements to manuscript, author, and scheduling data base maintenance, queries, and reports.
Upgrade shipboard VAX systems with MicroVAX 3100 and local area VAXcluster	Ship	Complete	
Installation of additional Ethernet cable	Ship	Complete	Connection of Downhole Measurements Lab, Schlumberger Logging Van, and Underway Geophysics Lab to VAX system Ethernet.
Duplication of shipboard system ashore for testing	Shore		
- Phase 1: Emulation on shore hardware		Complete	
- Phase 2: Installation and configuration of hardware and software to replicate shipboard system on shore		Complete*	
Logging VAXstation 3200 for FMS processing (LDGO)	Ship	Complete	
Program to convert Design Graphics files to files for Versatec plotter	Shore	Complete	
Hard Rocks Visual Core Description	Both		
- Phase 1		Complete (DBG)	Data collection with minimal retrieval capabilities
- Phase 2		Complete	Enhanced plotting and reporting; enhancements based on user feedback; documentation and structuring to standards
- Ongoing maintenance		Complete	Rewrite of barrel sheet report programs to provide proper handling of wrapped text in concatenated strings for printing; miscellaneous enhancements requested by users, including correction of problems relating to selection set currency.
Hard Rocks Thin Section Description	Both		
- Phase 1		Complete (DBG)	Data collection with minimal retrieval capabilities
- Phase 2		Complete	Enhanced plotting and reporting; enhancements based on user feedback; documentation and structuring to standards
- Ongoing maintenance		Complete	Rewrite of barrel sheet report programs to provide proper handling of wrapped text in concatenated strings for printing; miscellaneous enhancements requested by users, including correction of problems relating to selection set currency.
Thermal Conductivity	Ship	Complete (Logistics)	Rewrite and enhancement of software was completed; final testing and fine tuning has been underway aboard ship during Leg 130.
Heat Flow software to interface with new heat flow tool	Ship	Cancelled	Software had been completed and tested with new prototype heat flow tool as much as possible. Failure of contractor (Bowmar/White) to correct problems with new heat flow tool caused project to be cancelled.
Evaluation of Macintosh microcomputers as workstations.	Both	Complete	Testing and evaluation of Apple Macintosh microcomputers for ship and shore usage.
Acquisition & installation of additional Apple equip. on ship.	Ship	Complete	Additional Apple microcomputers and printers for ship as well as additional networking capability using Appletalk and Alisashare file server on the Vax.
Connection of shipboard IBM PC compatible units to network	Ship	Complete	Attachment of IBM PC compatibles to Appletalk network for use of Apple laserwriters and AlisaShare file server on the Vax system.
Installation of Terminal Server Unit to replace old multiplexor equipment	Shore	Complete	Replacement of old multiplexing equipment used to support terminals & micros in ODP Building resulting in increased reliability and speed.

Extension of Appletalk Network to B-Wing of ODP Building and connection of microcomputers	Shore	Complete	Extension of Appletalk network to B-wing of ODP Building to provide network support to users located there.
Migration of all Leg data since Leg 100 to optical WORM disks for more reliable long term storage	Ship	Complete	Movement of all Leg data from tapes to optical WORM disks for reliable long term archiving and reduction of space requirements. All of the Leg data since Leg 125 has been returned to shore on the WORM disks.
Installation of Appleshare file server for Publications Group to provide network access to common data bases	Shore	Complete	Acquisition and installation of Appleshare file server in order to provide Publications Group access to a common Manuscript Tracking data base and a common Bibliographic data base.
Utility Program Libraries	Both		
- Phase 1: Sampling Program Routines		Complete	Port routines from VAX FORTRAN to Microsoft FORTRAN for PC; convert to interface with new versions of forms software being used with Repository and Shipboard Sampling programs.
Installation of MicroVax 3100 systems at ECR & WCR	Shore	Complete	
Installation of PCs, Macs, laser printers and Apple-talk network at ECR & WCR	Shore	Complete	
CHECKLIST II (stratigraphic data entry and retrieval)	Both		
- Phase 1		Complete* (contract)	Enhancement of commercial package and customization for ODP by author as consultant subject to ODP specifications and oversight: Import/export of ASCII interchange file, depth sort, extra output options, custom editing and camera-ready output.
Interfacing of MASSCOMP Logging Computer to VAX	Ship	Complete*	Connection of Lamont Logging computer to Vax via ETHERNET for ease of data transfer.
Upgrade Vax Systems to Version 5.3 of Vax/VMS	Shore	Complete*	Upgrade Vax systems to use version 5.3 of the VMS operating system.
Evaluate shipboard upgrade options for PCs to provide more capabilities	Ship	Complete*	Upgrade shipboard PC compatible units with faster CPUs, more memory, and a graphical user interface (GUI) as requested by IHP at the March 1990 meeting.

Computer Services Group
Applications Status Report
02/15/91

Application Name	Ship/Shore Usage	Status	Expected Compl. Date	Comments
Core Log Enhancements	Ship			
- Several enhancements requested by curatorial staff, including more sections, subsections, expansion of fields, exclusion of non-core events from SBD calc.		Analysis	To be determined	
- Inclusion of more engineering data, enhancement of video displays.		Pending	To be determined	
Core Sample Inventory	Both			
- Phase 3A: Repository Sampling program REPOSAM linkage to Vax central data base for validation of leg,site,hole, sample id and depth of sample at data entry time.		Programming	June 1991	Prototype development and testing completed in January 1991.
- Phase 4: Conversion of Shipboard SAM to PC with enhancements similar to those above for REPOSAM; implementation of bar code printing and reading for sample IDs.		Analysis	May 1991	Application currently running on PRO350 and will be converted to IBM PC compatible unit.
- Phase 6: Further automation of residue and inventory tracking.		Analysis	To be determined	
Physical Props (strength, index props, discrete sample GRAPE, velocity)	Both	Pending	To be determined	Requests have been made for complete reanalysis, design, and development of the Physical Properties Data Collection application programs due to current system not performing as desired.
Sedimentary Smear Slides/ Thin Sections (Phase 3)	Ship	Analysis	To be determined	Advanced data analysis capabilities requested by users.
Hard Rocks Visual Core Description (Phase 3)	Ship	Analysis	To be determined	Advanced data analysis capabilities requested by users.
Hard Rocks Thin Section Description (Phase 3)	Ship	Analysis	To be determined	Advanced data analysis capabilities requested by users.
CHECKLIST II (stratigraphic data entry and retrieval)	Both			
- Phase 2		Testing	March 1991	Loading into S1032 data sets and post-processing
- Phase 3		Pending	To be determined	Develop additional data validation program for CHECKLIST
Materials Management (MATMAN)	Both			
- Usage Audit Trail and Container List reports		Pending	To be determined	
- Integration of some cmd files into menu structure		Pending	To be determined	
- Archival procedures		Pending	To be determined	
- Bar code support		Pending	To be determined	
Implementation of on-line DSDP Cumulative Index	Shore	In Progress	March 1991	Original approach abandoned in favor of CD-ROM system in cooperation with NGDC.
Core Description Stations	Ship	In Progress	March 1991	Phase 1 of automation of core descriptions. This work is being done by Science Ops/Data Base Group. Software to be sent to Leg 136.
Real Time Navigation Plotting System	Ship	On Hold	To be determined	Project in hold status due to lack of funds to implement desired system.
tometry	Ship	Pending	To be determined	Rewrite and enhancement of software.
XRD (X-ray Defraction)	Ship	Pending	To be determined	Transfer software from PDP11 to VAX.

Develop and Improve User Interface to Computers	Both	In Progress	On-Going	
Data Analysis Software	Both	Pending	To be determined	Additional data analysis software as requested by scientists.
Utility Libraries	Both			
- Phase 2: Make CSG utility libraries available to users with appropriate documentation; supply other utilities as requested.		Pending	To be determined	
Evaluation of alternate data base management systems	Both	Pending	To be determined	
File upload from PCs to VAX under program control	Both	Analysis	To be determined	Will be addressed as part of Repository SAM Phase 4 enhancements (see above).
Evaluation of digital imaging as a core analysis tool.	Both	In Progress	To be determined	Hardware and software acquired, and system has been placed on the Resolution for evaluation by shipboard scientists. Further development and implementation pending additional input.
Upgrade Vax Systems to Version 5.3 of Vax/VMS	Ship	Testing	April 1991	Upgrade Vax systems to use same operating system as being used on shorebased systems
Development & teaching of computer courses for ODP computer users	Both	On-Going		Provide computer short-courses to ODP personnel on Vax, IBM, and Apple computers.
Shipboard software modification & enhancement to fully utilize shipboard network.	Ship	In Progress	On-Going	Modification of shipboard application software to utilize the shipboard network in data collection and transfer.
Upgrade shipboard PCs to provide more capabilities	Ship	In Progress	March 1991	Provide faster CPU, more memory, additional software, and a graphical user interface.
Development of a MST system for split cores	Ship	Analysis	To be determined	MST system which can work with split cores and provide enhanced capabilities. This project is just in the beginning stages.

Enclosure 2

DATA BASE GROUP REPORT TO IHP February 15, 1991

I. PERSONNEL

Personnel since September include:

	[Sept.	Oct.	Nov.	Dec.	Jan.	Feb.]
Supervisor	[-----Patricia Brown--------]				[--Kathe Lighty---]	
Analyst/Programmer	[----------Larry Bernstein----------]					
Data Librarian	[----------Kathe Lighty---------]					
Data Analyst					[--Paul Davis-----]	

There have been some major changes in personnel since the last report. Patricia Brown resigned, effective November 30; Kathe Lighty was promoted to Supervisor effective Jan 1, 1991, but then resigned from the position effective March 6, 1991. Paul Davis was hired on as Data Analyst starting January 2, a position which had been vacant since July. Larry Bernstein has resigned from the Analyst/Programmer position effective February 24. We are in the process of filling the vacant positions of Database Supervisor, Analyst/Programmer and Data Librarian.

II. DATA REQUESTS

To date the Data Librarian has responded to 708 requests outside of ODP. Since October 1988, 148 inhouse requests have been answered.

Data Base Accessed	Requests from Outside ODP	Inhouse Requests
Photos	336	10
Sediment Description	70	5
Leg, Site, Hole Summary	83	43
Underway Geophysical	55	7
Paleomagnetics	38	3
Physical Properties	60	18
Sample Record	21	8
Sample Request	8	
Chemistry	45	24
Paleontology	45	3
Sediment Smearslide	28	15
Igneous/Metamorphic Rock Description	22	6
Corelog	19	31
Bibliography	7	1
Igneous/Metamorphic Thin Section Descr.	11	
XRF	24	2
Others (including Tech. Note #9)	79	6

III. DATA BASE GROUP ACTIVITIES

1. VCD APPLICATION

Phases 1 and 2 of the VCD/Barrel Sheet computer program are complete. The program now operates as a standalone application on the Macintosh. The user interface is complete and the core description data are saved to a file on the local Macintosh disk. The zoom-in mode for greater detail has been incorporated. The program can produce the barrel sheet graphics in PICT format to be used by the Art Department for publication. The new database structure has been created; a program has been written to take the files created and load them into the System 1032 database.

Phase 3, the incorporation of automatic networking capabilities between the MAC and the VAX, has been put on hold until a new programmer is hired to replace Larry Bernstein.

Presently a paper version of the new barrel sheet is being used on Leg 135. It is still planned that the program will sail on 136 in it's standalone version.

2. PALEONTOLOGY DATABASE

The final version of Checklist II was approved in December. Work has begun cleaning up files entered on all the older versions of Checklist.

The new ODP fossil dictionary, modified from the DSDP fossil dictionary, is almost complete. Only the radiolarian list is still in review. All other groups have been loaded and are in use.

The Computer Services Group has written a program (Bugbase) which uploads the Checklist data files to the VAX, edit checks the records, and loads them into the System 1032 Paleontology database. Testing is now being done on it.

Publications has decided that the range charts produced by Checklist do not meet their requirements. Production of publication quality range charts inhouse has been deferred until the new paleontology data entry program is complete.

Award of the RFP for the new paleontology data entry program is pending.

3. ODP CD-ROM

NGDC is ready to accept data files for the ODP CD-ROM. Files will be transfered for Legs 101-129.

4. The CORELOG final edit check through Leg 115 has been completed. Work has begun on completing this project with student workers instead of marine technicians to speed up the time frame for completion.

Enclosure 3

Summary of ODP Publications Activities, October 1990–February 1991
(Prepared by W. D. Rose for March 1991 IHP meeting)

1. We continued preparation and publication of ODP *Proceedings* volumes as follows (ATTACHMENT 1):

a. *Initial Reports*: Vols. 127, 128, and 129 were printed and distributed. Vol. 130 is at the printer.

b. *Scientific Results*: Vols. 115 and 116 were printed and distributed. Vols. 114 and 117 are at the printer and will have been distributed by the end of February.

c. ATTACHMENT 2 shows volumes scheduled for distribution during the 1992 fiscal year.
ATTACHMENT 3 shows the time in publication of IR Vols. 120 through 132.
ATTACHMENT 4 shows the time in publication of SR Vols. 104 through 124.

These attachments were prepared by our chief production editor, Jennifer Hall.

2. ODP volume indexes: I have discussed with Jan Blakeslee, liaison to our indexing subcontractor, Wm. J. Richardson Associates, the feasibility of having the ODP indexing procedure follow the guidelines of the American Geological Institute's GeoRef indexing system. In the meantime we have continued our efforts to upgrade the volume indexes, as reflected (we believe) in improved indexes to Vols. 114 through 117.

3. Expanded table of contents for site chapters in IR volumes: We have implemented this IHP recommendation, beginning with Vol. 130.

4. Reformatted IR site chapters: We have decided not to reformat these chapters at this time to make illustrations and tables fall within the major section in which they are called out. This decision was made on the basis of the added cost per volume because of the increased number of pages that would result (about 10% more for these chapters).

5. History of manuscript submission and review: Debbie Partain and Lona Dearmont have continued the series of four graphs that you examined at last fall's IHP meeting covering SR Vols. 106/109 through 116. The current series of graphs (ATTACHMENT 5) covers SR Vols. 117, 118, 119, and 121 (Vol. 120 has not yet closed). The graphs show the period of elapsed time vs. the number of manuscripts during the periods when (1) manuscripts were initially submitted, (2) reviews were received, (3) revised manuscripts were received, and (4) final disposition (acceptance or rejection) was received. This information shows in detail where lag time developed before and during the review process.

6. DSDP index: The printed version, together with the CD-ROM expanded electronic version, is to be packaged as one set. Publication has been delayed pending completion of additional information to be incorporated into the CD-ROM. This includes site lithostratigraphic summaries for each leg. Distribution now is planned for spring.

7. Checklist II software program: We sent electronic files of range charts in this program to our typesetting subcontractor, who produced them in camera-ready form for publication in SR Vol. 114. The program does not permit the incorporation of extra columns, however, such as those for lithostratigraphy, abundance, and preservation, so these must be pasted up by hand. A complementary paleontological database is being developed at ODP that will computerize data now entered by hand

onto the paleontological data information form. Completion of this Macintosh program will allow direct input into this database, and output in camera-ready form.

8. Manuscript tracking system (MANTIS): Edwin Garrett has upgraded this system so that expanded information about a volume can be produced in a spread-sheet format (see ATTACHMENT 6 for an example). The publications coordinators now are providing manuscript status reports to Editorial Review Boards on a biweekly basis.

9. Manuscript-submission deadlines: Original and revised deadlines for manuscript submission for SR Vols. 120 through 131 are shown in ATTACHMENT 7, prepared by Janalisa Soltis. Slippage of deadlines continues.

10. Number of plates allowed per paper: We noted IHP's recommendation that the JOIDES policy of limiting each author to 5 free plates per paper be amended to allow co-chiefs to assign as many as 15 additional plates if needed to achieve the scientific objectives of individual papers. For high latitudes this number could be increased to as many as 25 additional plates. Because of a currently tight publication budget, we are not implementing this policy at this time.

Attachments 1 through 7

ATTACHMENT 1

Proposed Distribution Dates of ODP Volumes - Fiscal Year 1991

	Initial Reports Volume	Date to Printer	Date Distributed	Months post-cruise	*Scientific Results* Volume	Date to Printer	Date Distributed	Months post-cruise
OCTOBER								
NOVEMBER								
DECEMBER	129	10-90	12-90	11				
JANUARY								
FEBRUARY	130	2-91	3-91	12	114 117	12-90 12-90	2-91 2-91	45 40
MARCH								
APRIL	131	3-91	4-91	10				
MAY	132	3-91	5-91	9	118 119	3-91 3-91	5-91 5-91	41 39
JUNE								
JULY								
AUGUST					120 121 122	6-91 6-91 6-91	8-91 8-91 8-91	40 38 36
SEPTEMBER	133	7-91	9-91	11	123 124	7-91 7-91	9-91 9-91	34 32

February 15, 1991

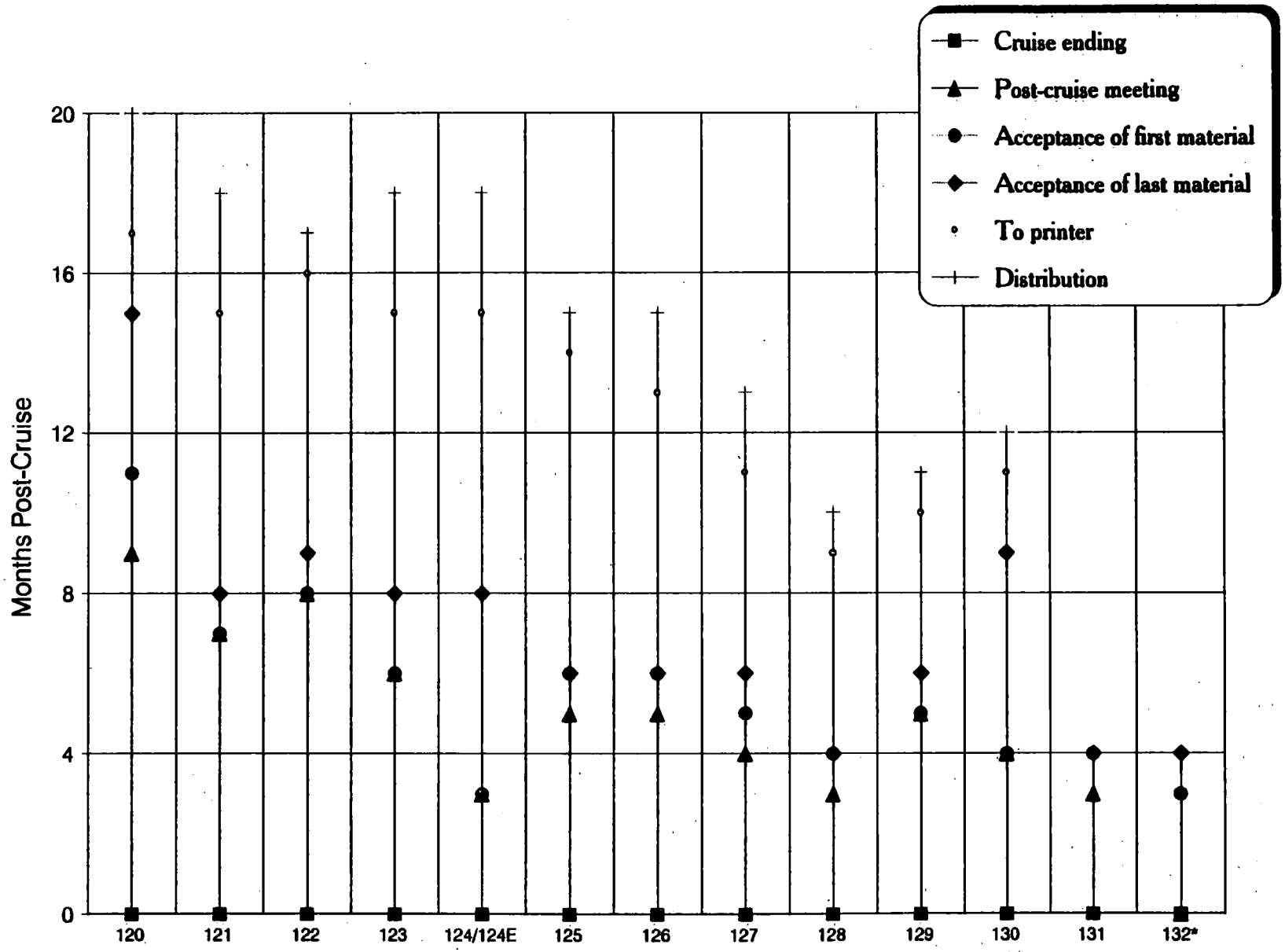
ATTACHMENT 2

Proposed Distribution Dates of ODP Volumes - Fiscal Year 1992

	Initial Reports Volume	Date to Printer	Date Distributed	Months post-cruise	*Scientific Results* Volume	Date to Printer	Date Distributed	Months post-cruise
OCTOBER								
NOVEMBER								
DECEMBER	134	11-91	12-91	12				
JANUARY								
FEBRUARY	135	1-92	2-92	12	125	12-91	2-92	34
MARCH	136	1-92	3-92	12	126	12-91	2-92	32
APRIL								
MAY	137	4-92	5-92	12				
JUNE	138	5-92	6-92	12				
JULY								
AUGUST					127 128	5-92 5-92	7-92 7-92	35 33
SEPTEMBER	139	8-92	9-92	12				

February 14, 1991

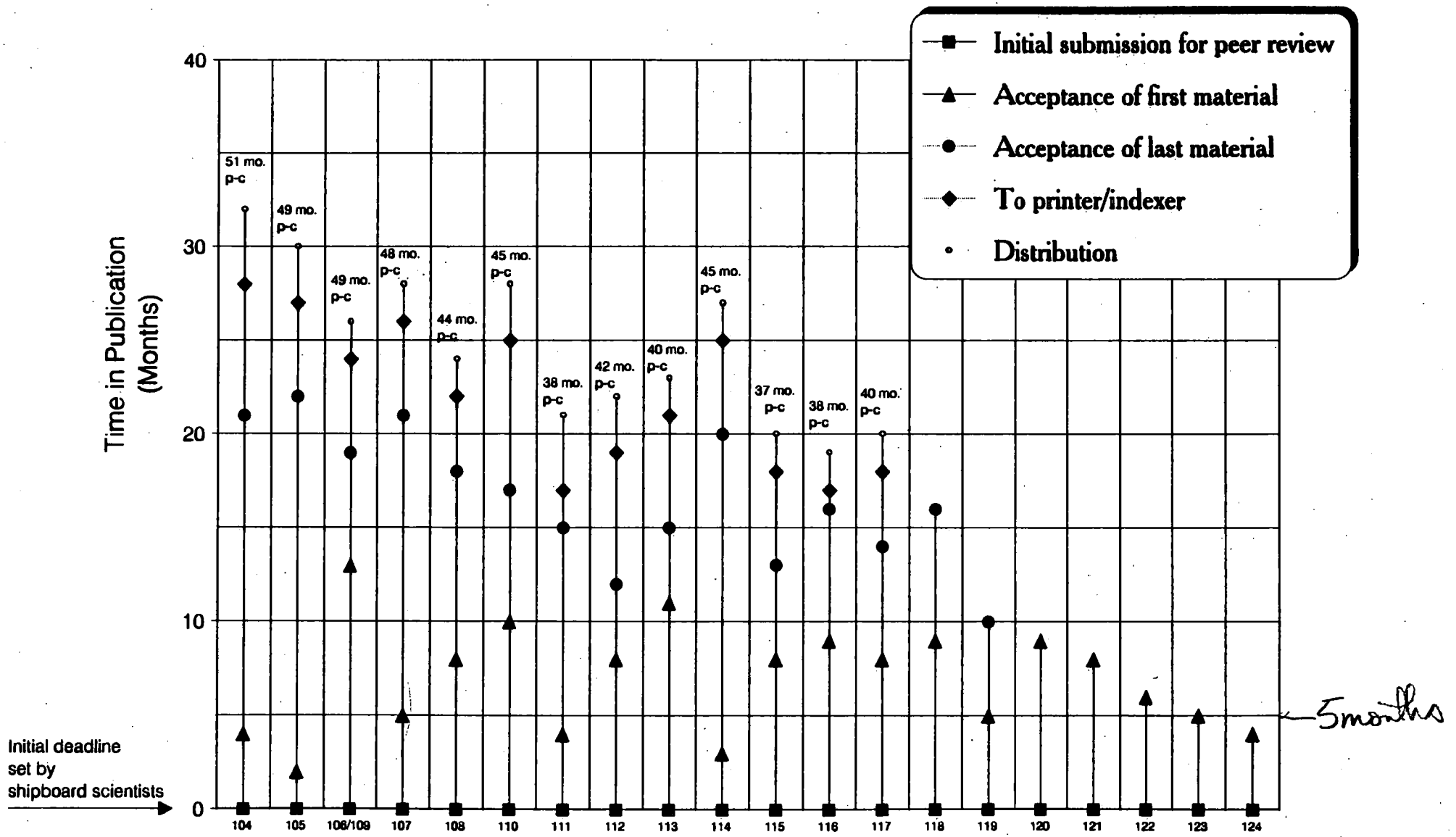
ATTA ENT 3



Production of ODP *Initial Reports*

2-14-91

ATTAC NT 4



Production of ODP *Scientific Results*

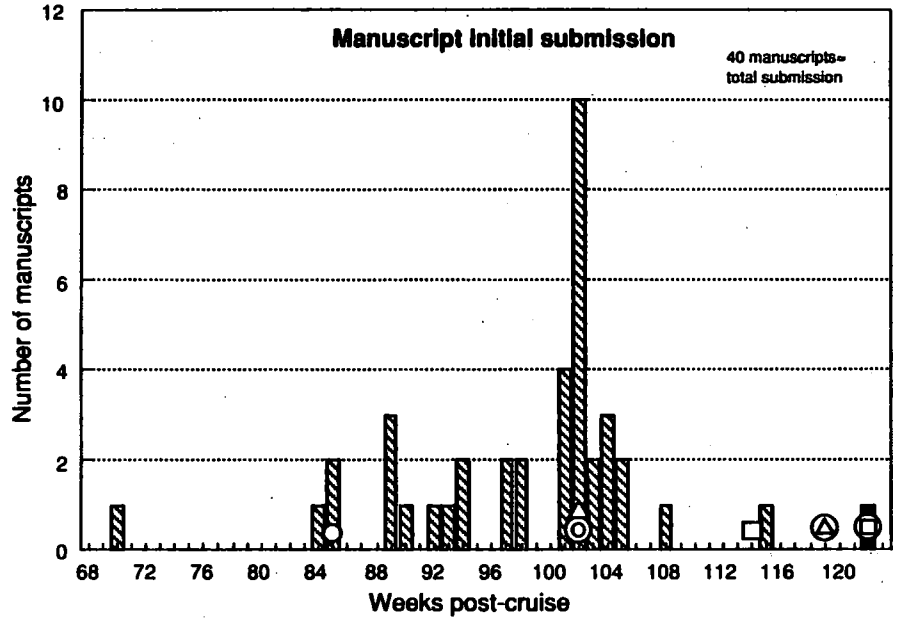
2-14-91

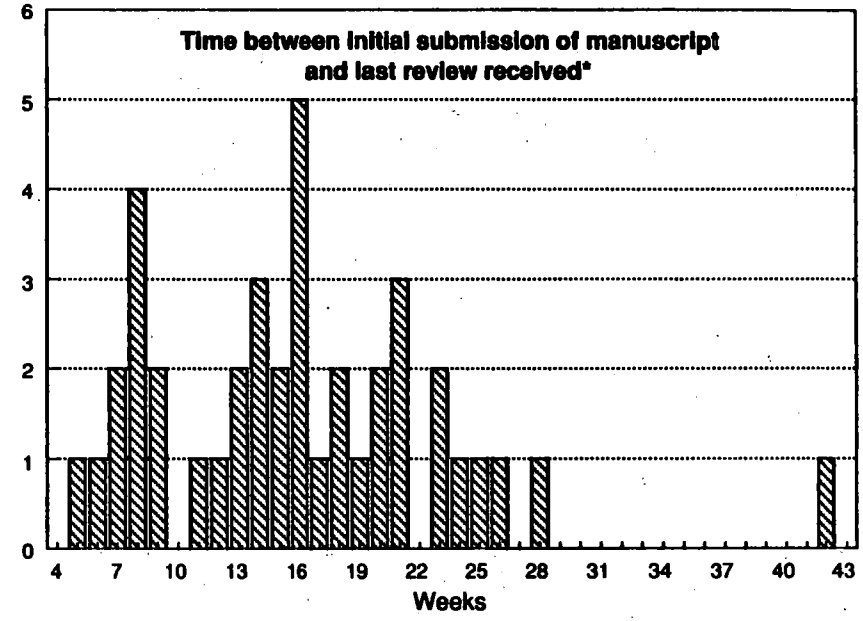
Key for Volumes 117, 118, 119, and 121 IHP graphs:

- ○ Original specialty manuscript submission deadline (approx. 18 months, or 78 weeks, post–cruise)
- ◎ Original synthesis manuscript submission deadline (approx. 22 months, or 96 weeks, post–cruise)
- △ Closing deadline for specialty manuscript submission (approx. 22 months, or 96 weeks, post–cruise)
- ◬ Closing deadline for synthesis manuscript submission (approx. 24 months, or 104 weeks, post–cruise)
- □ Final submission of specialty manuscript (if later than closing deadline)*
- ⧈ Final submission of synthesis manuscript (if later than closing deadline)*
- ■ Synthesis
- ▨ Data Report

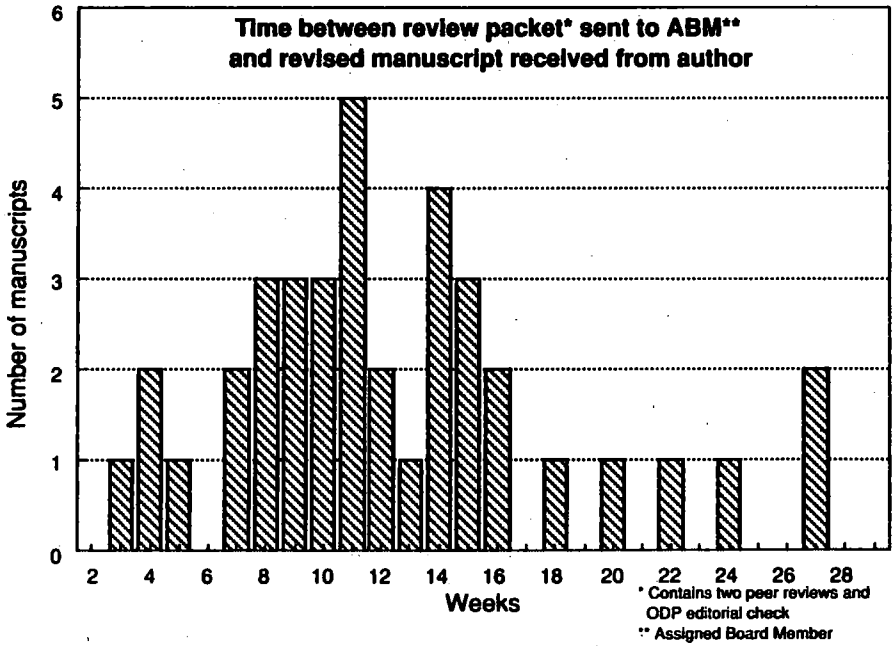
*Note: This is the latest submission that was allowed to the volume.

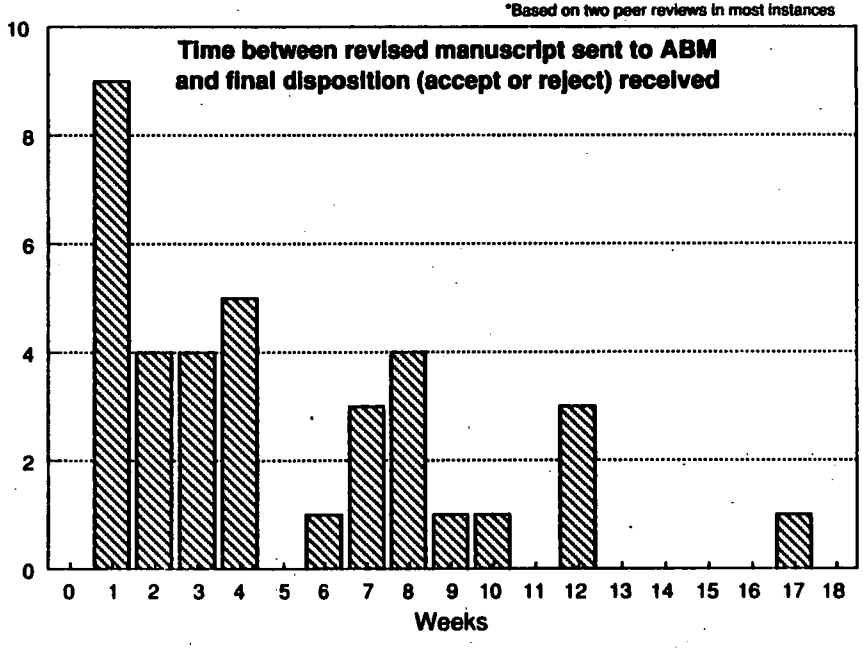
Volume 117B





*Based on two peer reviews in most instances





Leg 117 co-chiefs:
Warren Prell, Brown Univ.
Nobuaki Niitsuma, Shizuoka Univ.

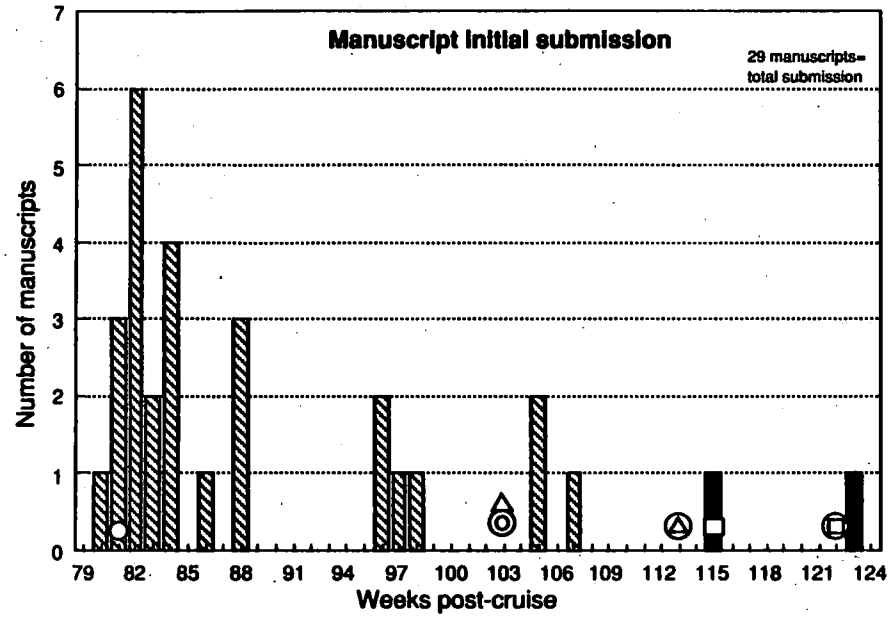
Staff Scientist:
Kay Emeis

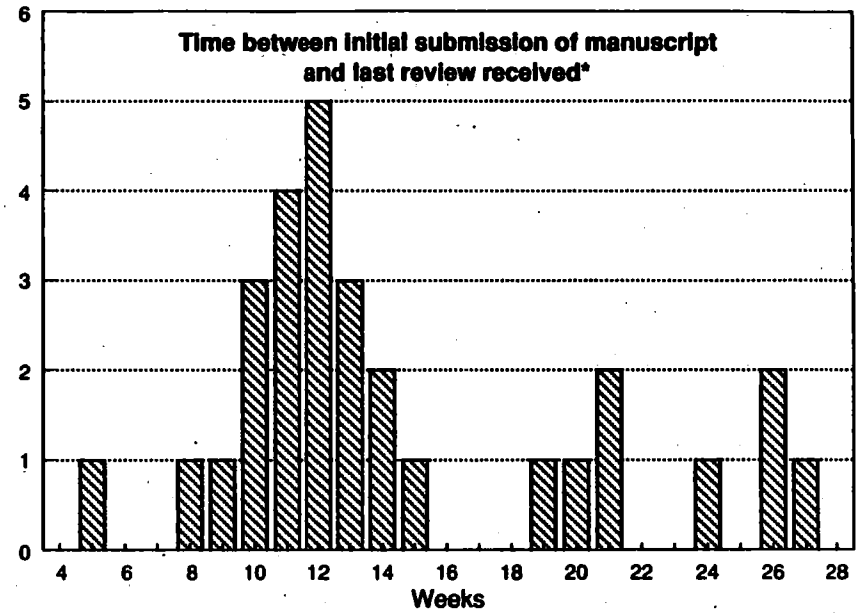
External Board Member:
Philip A. Meyers, Univ. Michigan

Cruise ending date:
23 October 1987

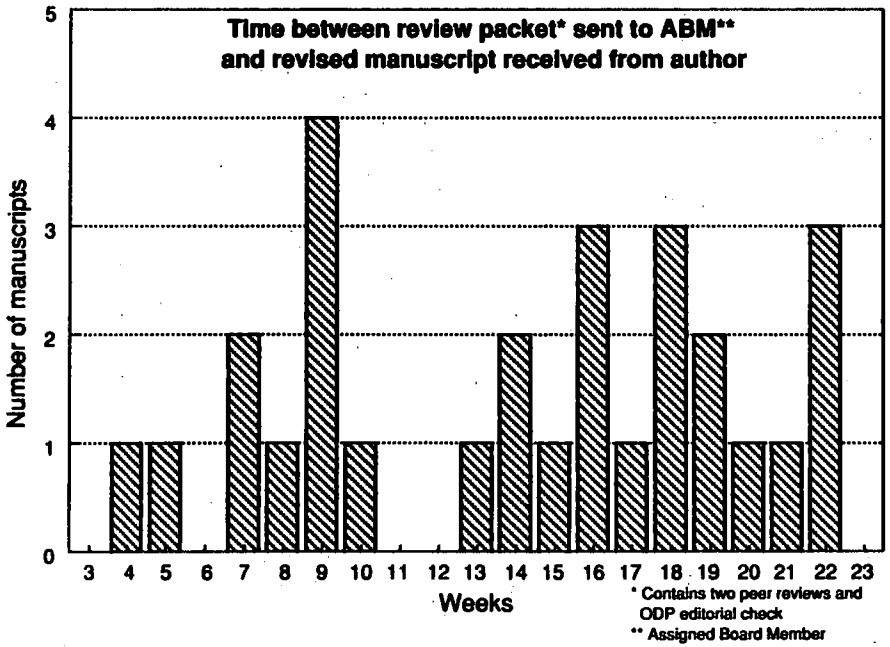
Post-cruise meeting:
23 May 1988

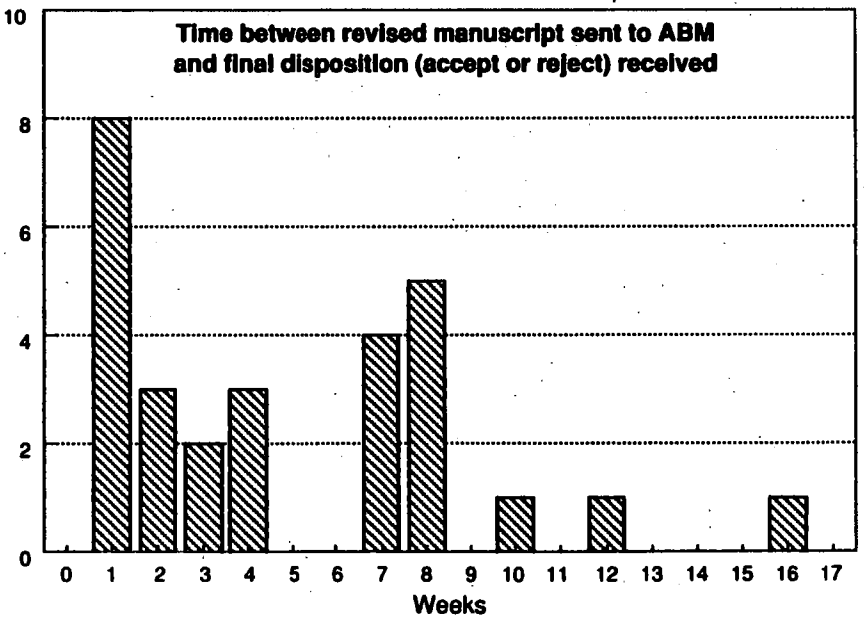
Volume 118B





*Based on two peer reviews in most instances





Leg 118 co-chiefs:
Paul Robinson, Dalhousie Univ.
Richard Von Herzen, Woods Hole

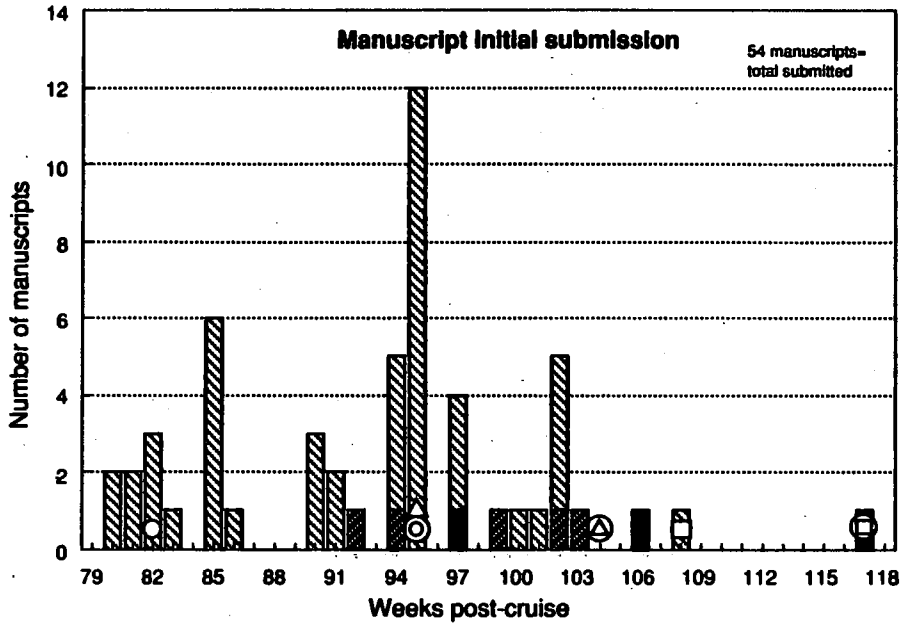
Staff Scientist:
Amanda Palmer-Julson

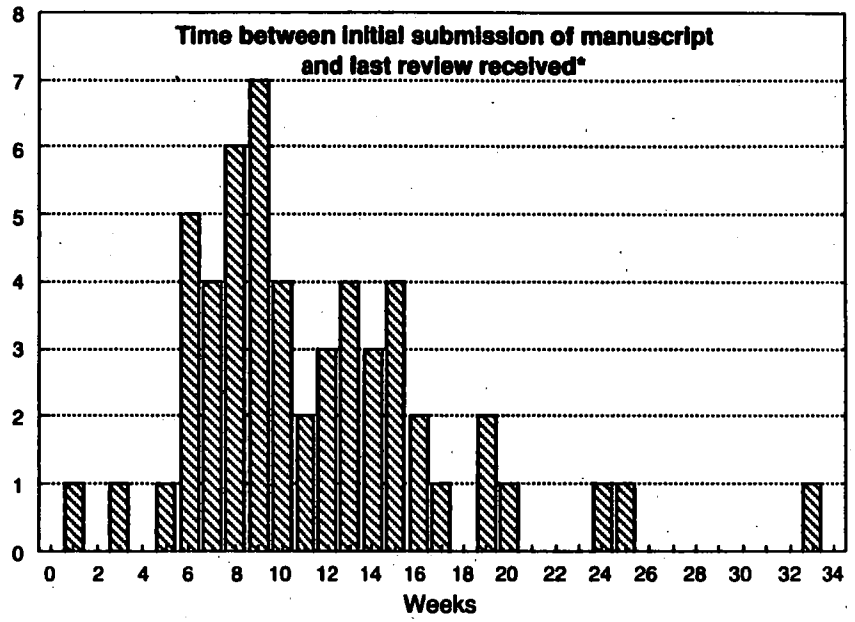
External Board Member:
Jeff Fox, Univ. Rhode Island

Cruise ending date:
14 December 1987

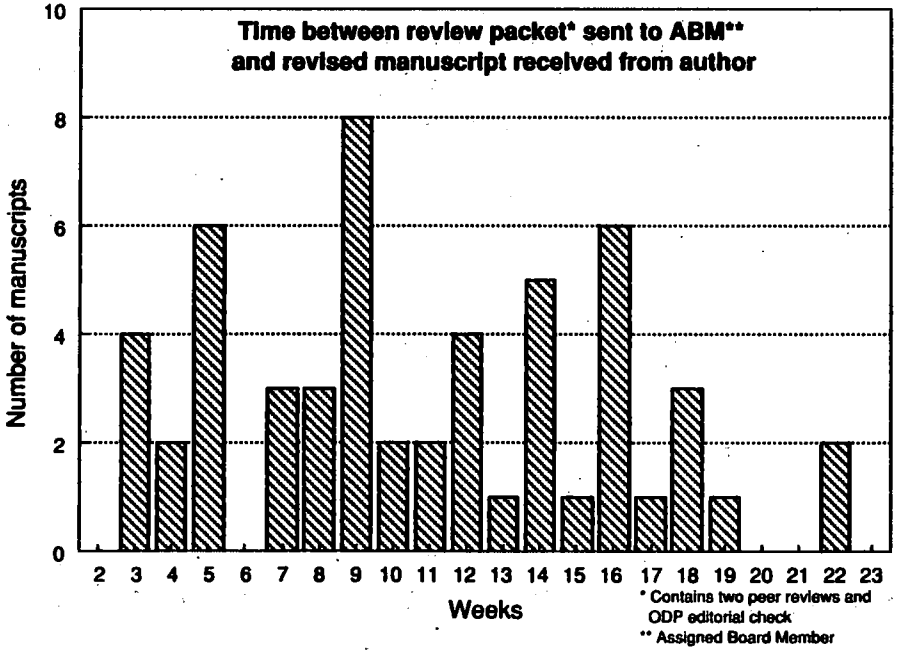
Post-cruise meeting:
11 April 1988

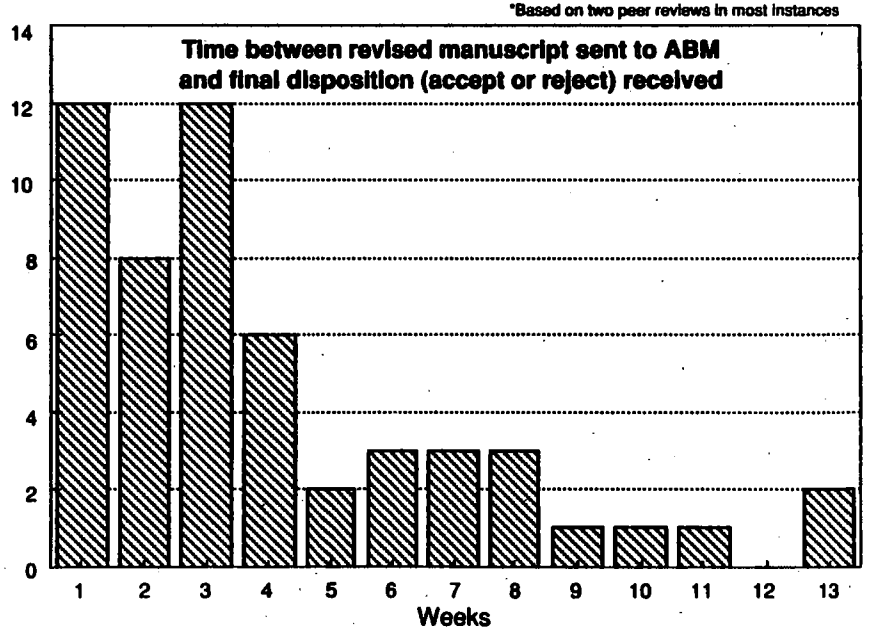
Volume 119B





*Based on two peer reviews in most instances





Leg 119 co-chiefs:
John Barron, USGS
Birger Larsen, Geol. Survey of Denmark

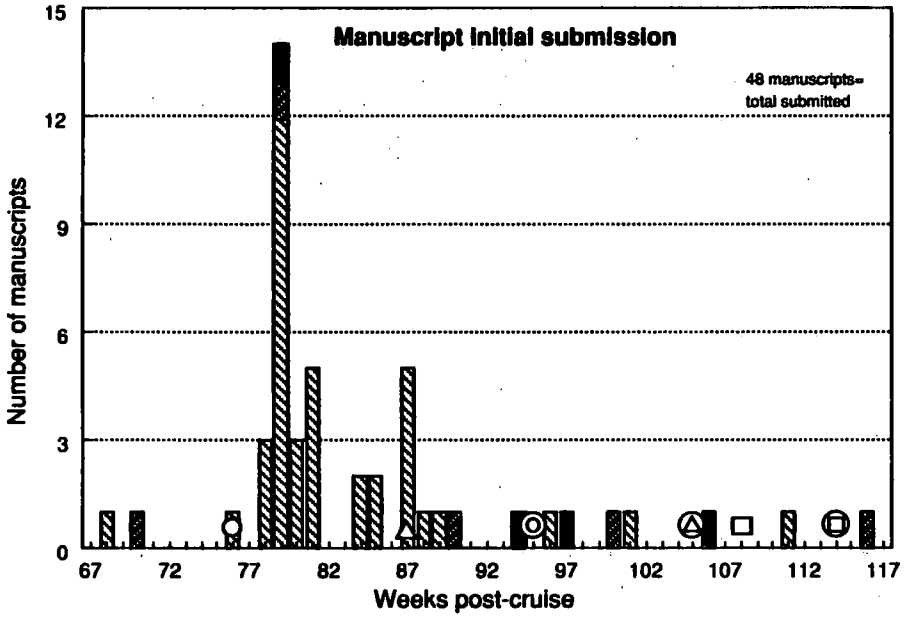
Staff Scientist:
Jack Baldauf

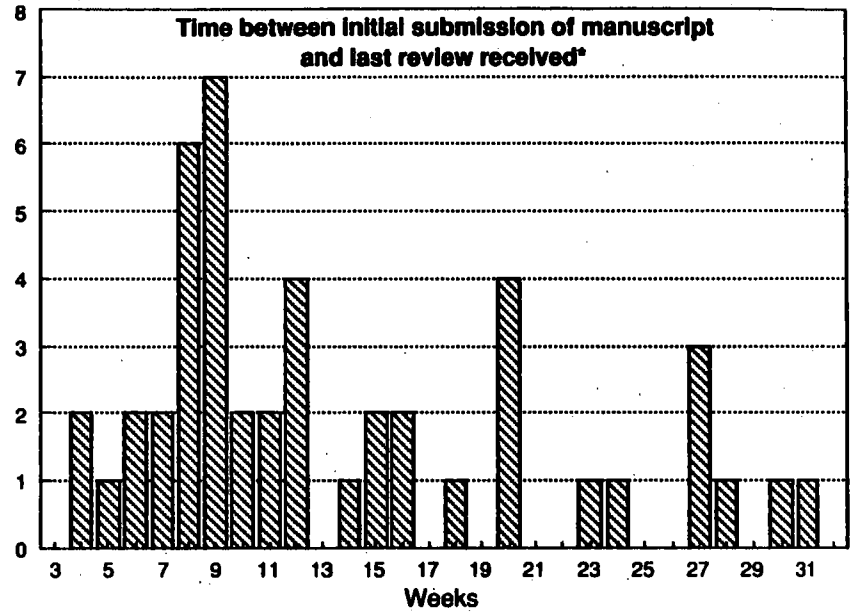
External Board Member:
John Anderson, Rice Univ.

Cruise ending date:
28 February 1988

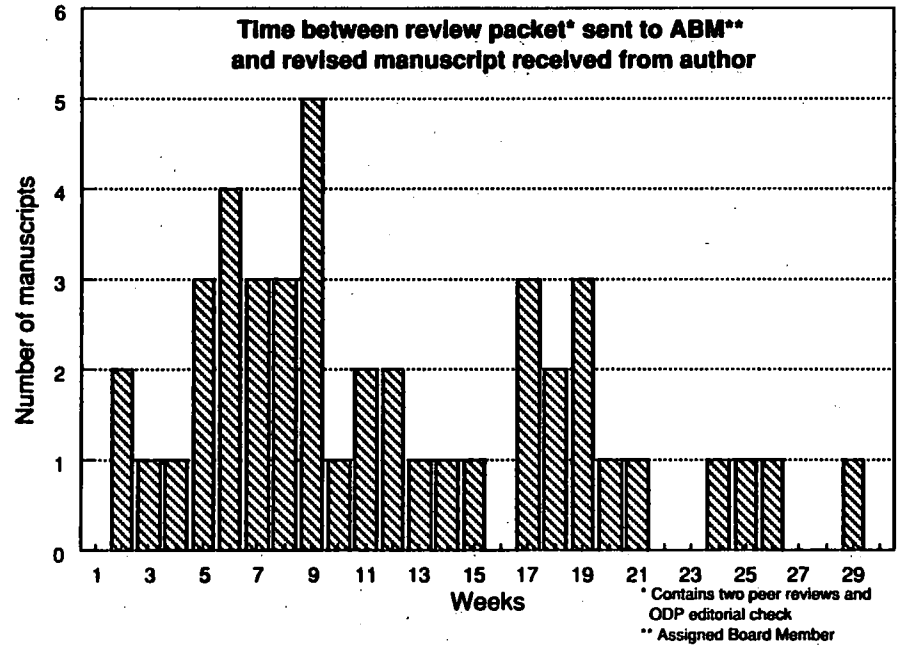
Post-cruise meeting:
11 September 1988

Volume 121B



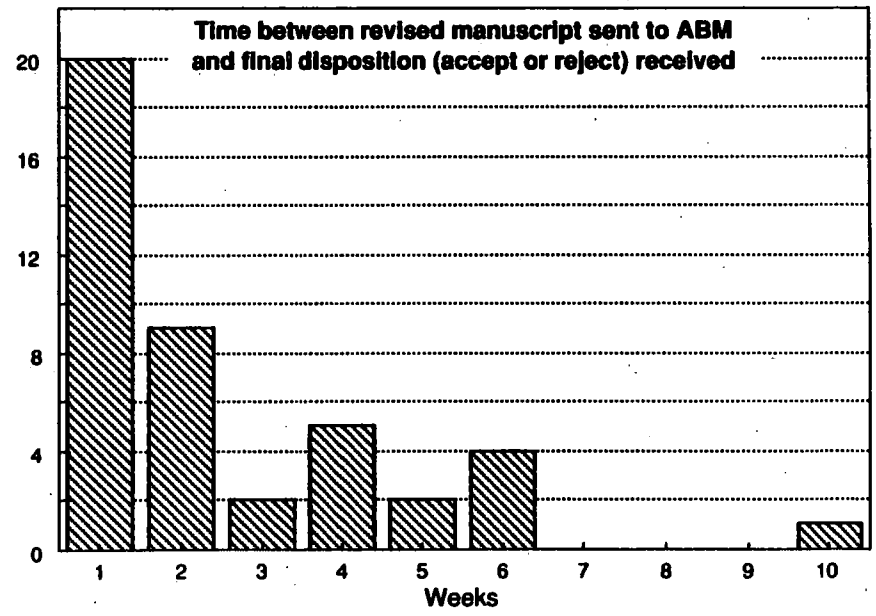


*Based on two peer reviews in most instances



* Contains two peer reviews and ODP editorial check

** Assigned Board Member



Leg 121 co-chiefs:
John Peirce, Petro Canada (now at Geophysical Expl. & Devel. Corp.)
Jeff Weissel, Lamont-Doherty

Staff Scientist:
Elliott Taylor

External Board Member:
Jeffrey Alt, Univ. Michigan

Cruise ending date:
28 June 1988

Post-cruise meeting:
9 January 1989

ATTACHMENT 6

MANUSCRIPT TRACKING LOG for Volume 119
**** Please note that REVIEWER'S NAMES are CONFIDENTIAL and should ONLY be used by the Editorial Review Board for this Volume ****
02/07/91

No:119B170 Status: Accepted — Initial Receipt: 12/08/89
ABM: Larsen — Correspondence Author: Steven Chambers

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
Solute distributions and stable isotope chemistry of interstitial waters from Prydz Bay, Antarctica, Ocean Drilling Program, Leg 119	12/12/89	12/12/89	12/21/89	sent: / / due: / / rec'd: 04/19/90	/ / 04/19/90	03/14/90	/ /	06/18/90	06/20/90	07/23/90	07/01/90	07/06/90	14 Mar: fax from ABM; expecting comments from reviewers soon. Requested ODP editor's comments. We still need copies of reviewers' comments.

No:119B172 Status: Accepted — Initial Receipt: 12/06/89
ABM: Larsen — Correspondence Author: Ray Cranston

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
Sedimentation rate estimates from sulfate and ammonia gradients	12/08/89	12/08/89	12/15/89	sent: 12/08/89 due: 12/29/89 rec'd: 02/09/90	12/08/89 12/29/89 02/07/90	02/13/90	/ /	03/23/90	03/29/90	06/29/90	08/09/90	08/22/90	

No:119B173 Status: Accepted — Initial Receipt: 12/06/89
ABM: Larsen — Correspondence Author: Ray Cranston

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
High resolution interstitial water studies: applying a new method	12/08/89	12/08/89	12/15/89	sent: 12/08/89 due: 12/29/89 rec'd: 02/09/90	12/08/89 12/29/89 02/07/90	02/13/90	/ /	04/23/90	05/08/90	08/07/90	08/09/90	08/22/90	

No:119B174 Status: Accepted — Initial Receipt: 12/08/89
ABM: Larsen — Correspondence Author: Ray Cranston

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
High resolution geochemical study - a data report	12/12/89	12/12/89	12/21/89	sent: / / due: / / rec'd: / /	/ / / / / /	03/14/90	/ /	04/30/90	05/08/90	05/30/90	06/22/90	06/29/90	14 Mar: fax from ABM;he's already reviews to auth. I sent PERC only to auth & copy to ABM.

No:119B176 Status: Accepted — Initial Receipt: 12/14/89
ABM: Anderson — Correspondence Author: Thomas McDonald

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
Source and maturity of organic matter in selected Prydz Bay sediments Site 739C and 741A, ODP Leg 119	01/04/90	01/03/90	01/11/90	sent: 01/09/90 due: 01/30/90 rec'd: 02/05/90	05/11/90 06/01/90 / /	05/18/90	/ /	07/03/90	07/05/90	07/31/90	08/01/90	08/06/90	R3: Sent: 9 Jan Rec'd: 4 June. Gave up on him. 18 May: reviews expressed to ABM & campus mailed to author. 20 Jul: ms. accepted w/changes.

No:119B178 Status: Accepted — Initial Receipt: 01/02/90
ABM: Barron — Correspondence Author: J. Macdougall

Title	Sent to ERB	Sent PERC to editor	PERC rec'd	Reviewer 1	Reviewer 2	Reviewed Mss to ABM	Reviewed Mss to Author	Revision received	Revised Mss to ERB	Date Accepted	Date to scan ms.	Date to Production	Comments
Age determinations of Paleogene diamictites from Prydz Bay, (ODP Site 739) Antarctica using Sr-isotopes of Molluscs & biostratigraphy of microfossils (diatoms	01/08/90	01/08/90	02/20/90	sent: 01/09/90 due: 01/30/90	01/23/90 02/13/90	03/01/90 rec'd: 02/14/90	/ /	06/12/90	06/15/90 02/05/90	07/16/90	07/16/90	07/24/90	26 Apr: fax from author. Ms. late due to his medical problems. 5 Jun: incl. art/disk/PERC 25 Jun: fax from ABM.

ATTACHMENT 7

Scientific l s: Manuscript Submission Deadlines

Date: February 14, 1991

Leg	SPECIALTY Initial Submission[1]	SPECIALTY Revised Submission[2]	SYNTHESIS Initial Submission[3]	SYNTHESIS Revised Submission[4]	ALL to Production[5]
120	16 FEB 90 *19 DEC 90*	15 MAY 90 *	15 MAY 90 *14 AUG 90*	15 JUL/15 AUG 90 *	28 FEB 91
121	1 MAR 90 *3 AUG 90*	1 MAY 90 *23 JAN 91*	15 JUL 90 *12 SEP 90*	1 SEP 90 *11 NOV 90*	15 NOV 90 *
122	1 JUNE 90 *3 SEP 90*	1 SEP 90 5 FEB 91	31 AUGUST 90 *12 OCT 90*	15 OCT 90 *	28 FEB 91
123	1 JUNE 90 *15 NOV 90*	31 AUG 90 *	31 AUG 90 *	15 FEB 90 *	15 MAR 91
124	31 MAY/15 JUL 90 *17 JUL 90*	30 SEP/15 NOV 90 *	30 SEP/15 NOV 90 *3 OCT 90*	31 JAN 91	28 FEB 91
125	30 SEP 90 *21 NOV 90*	15 APR 91	30 JAN 91 *	15 JUN 91	15 JUL 91
126	31 DEC 90 *	30 APR 91	31 MAR 91	30 JUN 91	30 JUL 91
127/128	15 MAR/15 APR 91+	15 JUL/15 AUG 91	15 JUL/15 AUG 91	15 DEC 91	15 JAN 92
129	1 JUNE 91	1 OCT 91	30 NOV 91	1 MAR 92	1 APR 92
130	1 SEP 91	1 JAN 92	1 JAN 92	1 MAY 92	1 JUN 92
131	1 OCT 91	1 FEB 92	1 FEB 92	1 JUN 92	1 JUL 92

Deadlines established by IHP (updated Feb 91):
[1] 16 months post-cruise (specialty initial)
[2] 19 months post-cruise (specialty revised)
[3] 22 months post-cruise (synthesis initial)
[4] 24 months post-cruise (synthesis revised)
[5] 25 months post-cruise (ALL to Production)

Dates in italics: Actual submission of last manuscript.
** still expecting late submissions*
+ 15 March is date given to authors

Enclosure 4

Curation and Repositories
18 February 1991

Curation and Repositories Operations

East Coast Repository (ECR)
Gulf Coast Repository (GCR)
West Coast Repository (WCR)

I. Sampling Statistics (see Fig. 1)

A. Average number of samples distributed per year

1. *DSDP 1976-1984 (23,230 samples/yr)*
2. *ODP 1985 through December 1990 (40,054 samples/yr)*
3. *ODP averages vs DSDP averages net increase of 42%*

B. Total number of samples distributed January 1990 through December 1990 (47,058 samples). Sampling turn-around times have improved. (see Fig. 2)

4. *ECR = 19,223 samples 0-29 wks request turn-around (10 wk ave)*
5. *GCR = 21,566 samples 0-24 wks request turn-around (7 wk ave)*
3. *WCR = 6,269 samples 1-23 wks request turn-around (7 wk ave)*

C. Total number of samples distributed on ship 1990 (29,126 samples)

1. *Leg 129 = 4,404*
2. *Leg 130 = 20,509*
3. *Leg 131 = 3,566*
4. *Leg 132E= 647*
5. *Leg 133 = 7,743*
6. *Leg 134 = 7,737*

II. Status of Curation Project

A. The Core Curation Project initiated by DSDP (1984-1986)

Steady state achieved in January 1989.

B. The Core Curation Program initiated by ODP (began in 1985)

See Appendix A.

At present the curation program includes the following:
The sponges are refreshed only when the working half is sampled. The working halves (with the associated archive half) are restructured when they are opened for sampling. The archive and working halves from cores which are <u>not</u> sampled will be curated on a time available basis, however no progress has been made in this effort due to the increased sampling demands.

mmw = #man months of work *done = #man months completed*	*ECR mmw*	*ECR done*	*GCR mmw*	*GCR done*	*WCR mmw*	*WCR done*
1. rewet sponges	*0*	*12*	*3*	*3*	*4.7*	*3*
2. recurate archive & working	*111*	*3*	*65*	*1.5*	*54*	*-*
3. inventory thin sections/smear slides	*.5*	*-*	*-*	*-*	*5*	*3*
4. curate frozen OGs	*-*	*-*	*4*	*1*	*-*	*-*
5. curate frozen dedicated cores	*-*	*-*	*1*	*.5*	*-*	*-*

III. Geriatric Core Study (GER)

In January 1988 IHP and PCOM endorsed a request to collect cores of convenience to monitor the changes (if any) which occur in cores while they are stored in the DSDP/ODP repositories. As of this writing (Feb 1990) we have collected eight cores for the GER study.

A. Two GER cores from Leg 119 (Kerguelen Plateau) are stored at ECR
B. Three GER cores from Leg 124E (Luzon Straits) are stored at GCR
C. One GER core from Leg 132 (Shatsky Rise) are stored at GCR

Status of Geriatrics Core Sampling

See Appendix B (TO BE PROVIDED AT [illegible] MEETING)

IV. Historical GER Study (HGS) tested carbonate samples which were 5, 10, 15 and 20 yrs old

See progress report for the HGS Appendix B (September 1990 report)

V. Computer Status

A. Communications

1. Networks for mail and file transfer
a. TELNET/INTERNET now available (ECR) 129.236.30.219; (WCR) 128.54.21.123
b. SPAN, slow but able to transfer all file formats (WCR)

B. Computing environment new computer installation

C. Sample Investigations Database (SID)

1. Sample Requests (January-December 1990)
a. Requests processed = 617 requests
b. Requests coded and entered in SID = 3,332 requests
c. Backlog of requests to code (1987-1990) = 2,110 requests

2. Bibliographic reprints

At steady state

a. Reprints entered into SID = 1,905 reprints

D. Sample Records Data

All ODP shipboard sample records are recorded in real-time and are available in a computerized database during the cruise. Several reports are made available to the scientists. DSDP sample records have been cleaned up and loaded into searchable datasets. They will be used to ease the task of residue inventory. The sample records datasets are used to determine the extent of sampling across specific intervals in a core. These records can be linked to SID which contains detailed information about the proposed studies, about the investigator and the resulting papers.

A steady state achieved for DSDP Sample Records

1. Upload ODP shipboard samples records Legs 100-134 (on-line)
2. Upload ODP subsequent sample records Legs 1-127 (mmw = 22, 35 done)

E. Thin Section Database (TSD)

Steady state achieved for ODP thin section data entry

1. Upload DSDP thin sections inventory (mmw = 6)
Legs 64-96

F. Repository Sampling Database (REPSAM)

Sampling in the Repositories can be very different from sampling on the ship and as such it requires computer programs which address its special data entry needs. With the completion of REPSAM scientists now receive their sample inventories complete with calculated sub-bottom depths, and scientists may request electronic ASCII outputs of the records (these capabilities are limited to the GCR). The Computer Services Group must complete SAMUTL and put it into the ECR and WCR environments.

The prototype REPSAM is complete. Programs to upload the data collected on the floppy diskette and load them into the dataset on the VAX are still in writing for the ECR and WCR.

1. Data entry backlog of 1,871 ODP requests (mmw = 12)

G. Section Log Dataset

This dataset was designed to keep a record of the history of each core section. It will include core curation, core maintenance, where critical intervals exist, and anything unusual which the cores may have experienced.

1. Implement and test (mmw = 2.5)
2. Data entry of backlog (mmw = 12)

Curation and Repository Improvements

VI. Repository Modifications

A. West Coast Repository

The WCR has exchanged their office and lab space on the West side of the parking lot for an equal space on the East side of the parking lot. This move consolidates the entire WCR operation into adjacent structures. It will ease the flow of cores and personnel to have everything on the same side of the parking lot.

The new refrigerated core storage building is nearing completion with only the Core Sampling Work Area awaiting completion. The refrigeration system has been installed and is presently being tested. Preparations by SIO, in coordination with the WCR, for the transfer of the DSDP cores into the new facility are currently in the planning stages.

B. Gulf Coast Repository

1. GCR procedures were developed cataloguing residues, thin sections and smear slides and continue to be refined and redefined.

2. The TAMU Physical Plant has yet to provide a cost estimate for the expansion of Room B118. Construction is now slated to begin in August of this year.

3. Five and 10 year GCR expansion plans are in preparation. These plans include total square footage estimates based on expected future core recovery, potential floor plans, and a list of equipment requirements and costs.

VII. Miscellaneous Improvements

A. Residues and thin sections

B. A Fortran/S1032 program was written that will generate labels for thin section cabinet drawers using information contained in the TSINFO dataset.

Appendix A

Revised Budget for Recuration Program

	costs/yr	Total costs
ECR core recuration costs 114 man months of work = 9.5 man years (102,304 sections)		
1. two full time positions	$50,000	$237,500
2. supplies	10,000	47,500
GCR core recuration costs 65 man months of work = 5.4 man years (60,000 sections)		
1. two half time grad students	$39,800	$214,920
2. two half time undergrad students	5,400	29,160
3. supplies	10,000	54,000
WCR core recuration costs 54 man months of work = 4.5 man years (40,000 sections)		
1. four half time undergrad students	$46,000	$207,000
2. supplies	10,000	45,000
TOTAL PER YEAR	$171,200	
TOTAL FOR PROJECT		$835,080

The WCR curated their archive and working halves during the core photography project, consequently they have fewer sections to recurate.

Figure 1

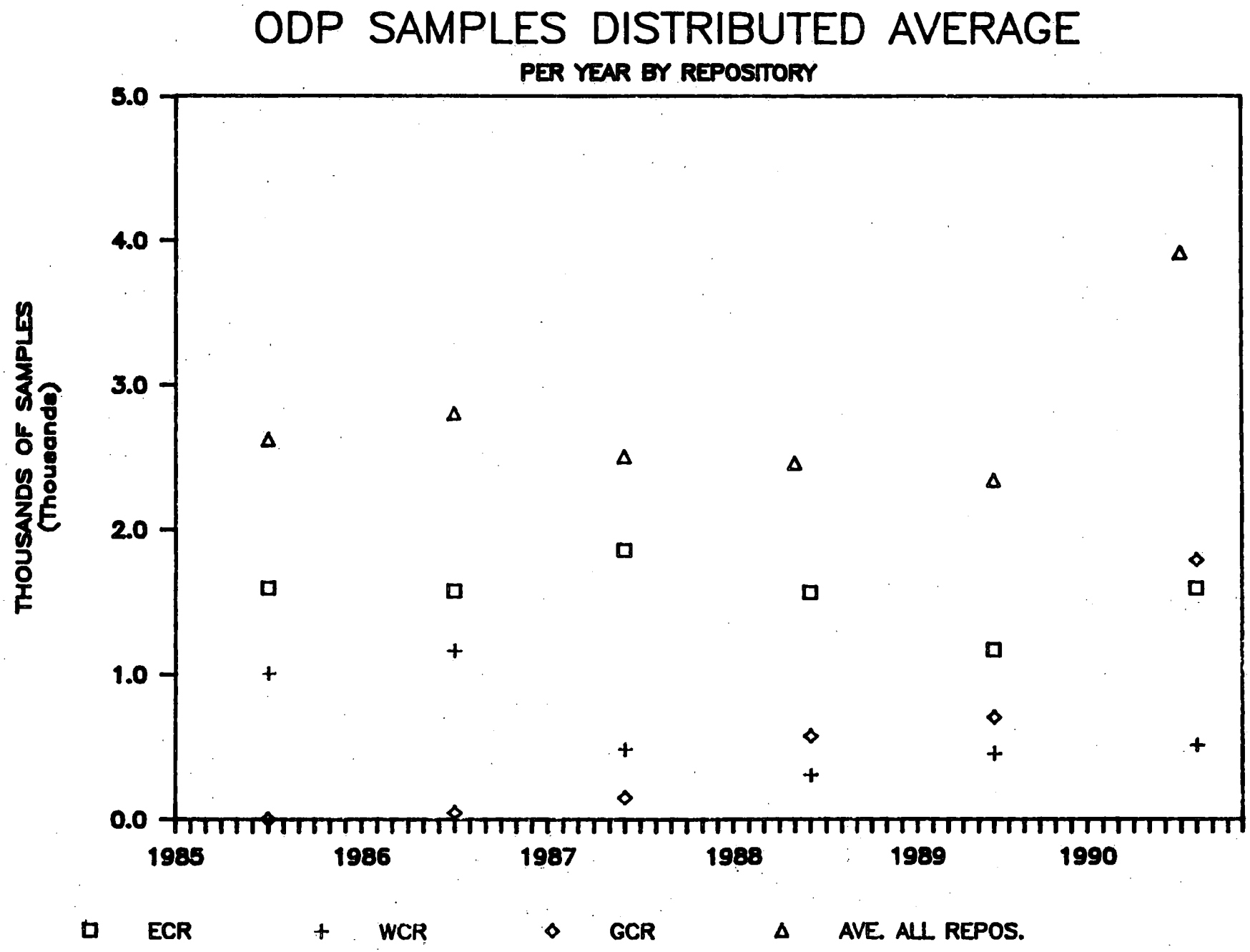
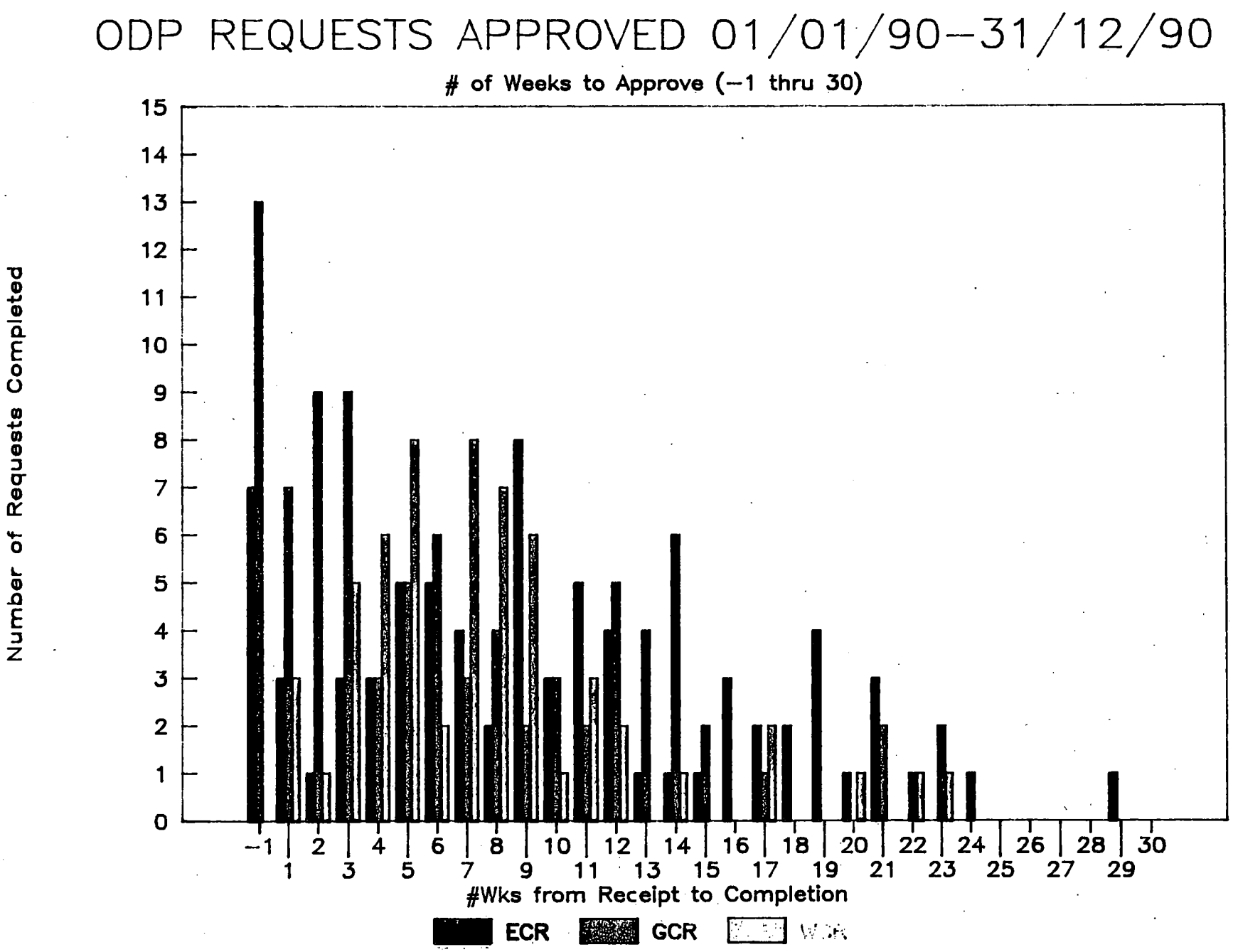

ODP SAMPLES DISTRIBUTED AVERAGE
PER YEAR BY REPOSITORY
THOUSANDS OF SAMPLES
(Thousands)
5.0
4.0
3.0
2.0
1.0
0.0
1985
1986
1987
1988
1989
1990
ECR
WCR
GCR
AVE. ALL REPOS.

Figure 2


ODP REQUESTS APPROVED 01/01/90–31/12/90
# of Weeks to Approve (–1 thru 30)
Number of Requests Completed
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
–1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
#Wks from Receipt to Completion
ECR
GCR

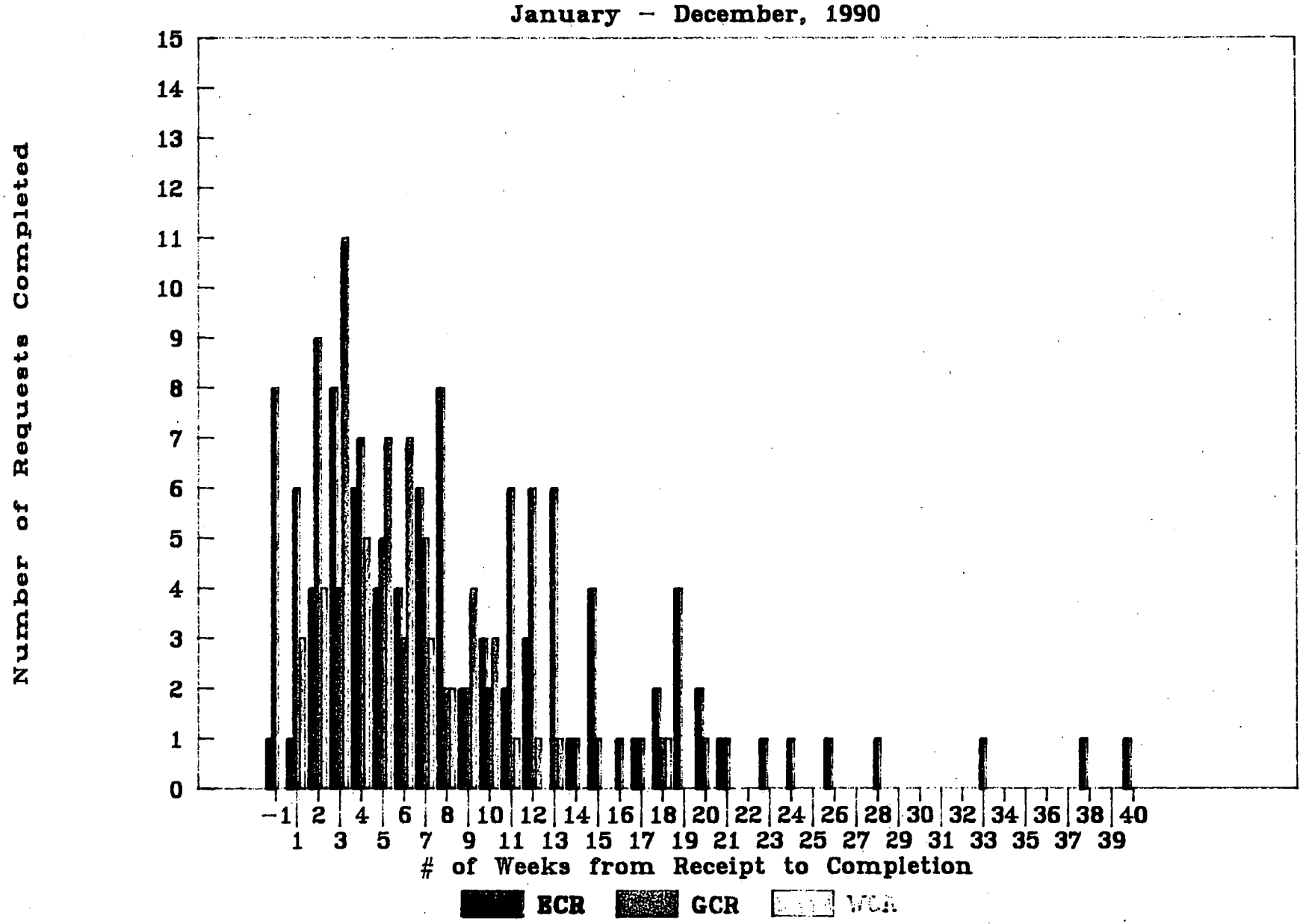
Appendix A

The Geriatric Core study (GER) project was designed to help understand what changes (if any) were occurring in the cores collected by ODP and DSDP, as they are curated under the conditions in which we store them. Samples that were collected and processed over the past three years for the Geriatric Core project from Legs 119, 124E, and 132 were sent out for analyses and/or interpretation. We expect to receive the complete reports soon. We are grateful to the following scientists who donated their time to the project; Dr. Enriquetta Barrera (forams), Dr. Joris Geiskes (interstitial water), Dr. Laura Stokking (paleomagnetics), and Dr. Andy Fisher and Mr. Fercan Kalcan (physical properties).

Joris Geiskes sent me his report. I received it just hours before ODP closed for Spring Break (the ink's hardly dry) leaving me with little time to digest it fully. While I think it is better to have several reports from different fields to make correlations and recognizing the difficulty with drawing any conclusions about core aging based on one report, I include it here as an example of results.

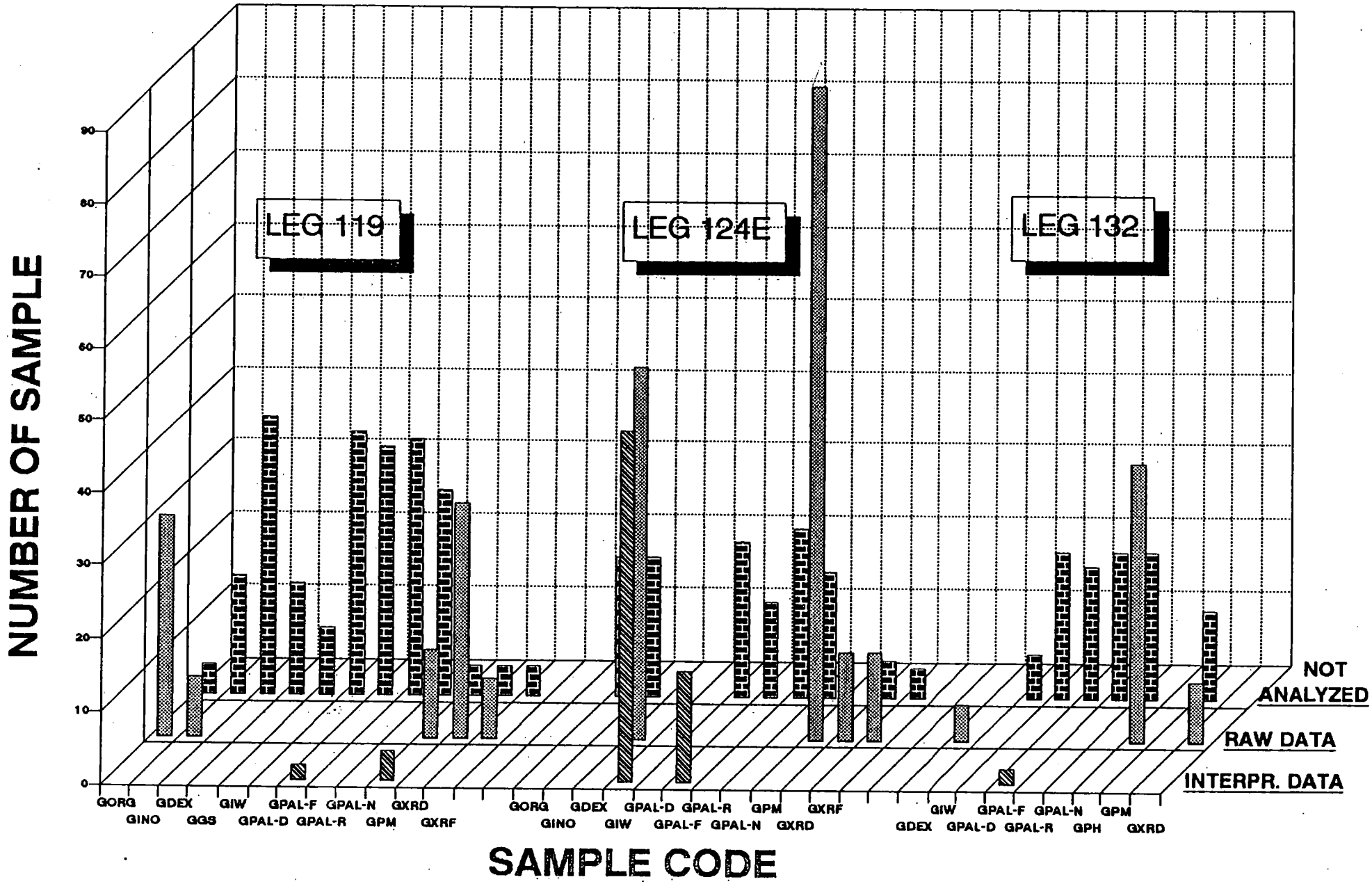
We continue searching for volunteers to analyze and interpret the samples for: nannofossils, radiolarians, diatoms, XRD, XRF, and organic and inorganic carbon. Figure 3. shows the status of the samples for each discipline.

ODP REPOSITORY REQUESTS APPROVED



figur 3.

GERIATRIC CORE STUDY
STATISTICS



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SCRIPPS INSTITUTION OF OCEANOGRAPHY LA JOLLA, CALIFORNIA 92093

Ms. Chris Mato
Ocean Drilling Program
Texas A&M Research Park
1000 Discovery Drive
College Station TX 77845-9547

October 11,1991

Dear Chris:

I have gone through the thick pile of material, that you send me and, notwithstanding the large amount of work undertaken, I do not think that this is a very definitive study. I have quite a few comments, some of our own experiences, and finally some suggestions for an extension of this worthwhile exercise.

First of all - in your reprint the concentrations of Mg have been adjusted to look more realistic, but the data presented in the figures seem to be erroneous. They are too low. In other words data published in the Volume 124 are different from your own paper in the same volume. This needs corrective action. What happened ??

The next important thing is that we cannot estimate accuracy and precision with the available data. I suggest the following as a guide:

Cl	ca. 0.5 % (one can do better, but only when dedicated work is done)
Mg	1 %
Ca	1 %
SO4	2 mM (the ion chromatograph needs very careful monitoring and is not the gretest way to do sulfate)
Alkalinity	2 %
pH	about 0.05, at best
S	about .5 S units (remember, this is a hand held refractometer)

Now let us look at each of the data sets:

772A-1H-1,2,4

Cl Perhaps there is a slight downward trend of about 0.5 %. However, why the jumps ?? On the average the change is no more than the accuracy.

S Too scattered to be useful

Alkalinity No change with time; differences can be related to depth in the core.

Mg Perhaps a change with depth; not much with time, though some parallelisms with Cl

Ca No change with time; some change with depth

SO4 Data seem not very accurate, with huge random scatter

SiO2 Time trend is strange to say the least - calibration problem ??

772A-2H "Strange" trends

Cl Seems to decrease by 3 % with time. This is a lot - why would it get diluted? Also see Mg

S Too scattered to be useful

Alkalinity No change, difference with depth could be real

Mg If anything Mg has the opposite trend from that of Cl. This is indicative of problems - they should co-vary.

SO4 Too much scatter

772A-11-X

Cl Has a "trend" of 0.7 %, but not seen in Mg

Ca Varies within 2 %

Mg Stays essentially constant

Si Strange behaviour

SO4 Too scattered, but scale is large

Alkalinity Little or no trend

777A 1-H-1/77B 1-H-1

Cl Seems rather high, but S agrees

Generally not enough data to judge, but Mg/Cl and Ca/Cl appear to be constant with time.

77A - 1,2,4,5,6

Cl Too scattered to tell much

Ca/Cl Too scattered

Generally I find that the data are not good enough or plentiful enough to judge anything by means of statistics. I do, however, agree that a "geriatric" study is worthwhile, but one can devise such a study without the use of samples derived from cores. In addition we have found that with samples from areas where very high alkalinities occur, e.g., Leg 67 or 131, that there is a real problem with storage in plastic tubes. These samples have very high partial pressures of carbon dioxide when compared to the atmospheric values. They can lose a lot of carbon dioxide as a result of diffusion through the walls, letting the pH rise and sometimes causing calcium and magnesium carbonate to precipitate (observed in samples from Holes 496 and 497. From changes in alkalinity, Ca, and Mg we were able to calculate the original alkalinities).

I suggest that the experiment be repeated, but with artificial sea waters with different compositions - especially with differences in Ca, Mg, SO4, silica, and alkalinity. I would be willing to work out some recipes for you. The samples should be stored not only in the usual plastic tubes, but also in glass ampoules, as well as bigger plastic and glass bottles. The aim should be to try to be as precise as possible and to run at least duplicates. Also samples could be acidified and similarly investigated. A dedicated chemist should supervise the entire experiment. It will be a lot of work, but this will be a more convincing experiment.

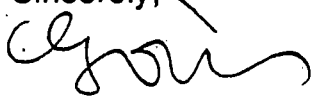
Overall I feel that the idea of the study was a good one, but some careful planning is called for.

Sorry if I sound a little negative, but you asked for my opinion.

By the way, several times we have demonstrated that when we go back to the core locker, much, much later (up to two years), and we squeeze the mud again to get almost identical results as the shipboard squeezes. Only some adjustment for evaporation (via Cl) was needed. I include a reprint of Leg 60 to demonstrate one case.

Please let me know your plans. I shall be glad to provide further advise, if needed.

Sincerely,



Joris M. Gieskes

c. Martha von Breyman

Enclosure 5a

Borehole Group Computer Report to Information Handling Panel March 18-20, 1991

This report is divided into three sections:

1. Shipboard Computer update
2. LDGO-BRG Computer update
3. Software update

1. Shipboard Computer Status

Our shipboard computer systems have been steadily increasing in capability of late, with a major improvement in the spring and summer of 1991. The shipboard capabilities as of Spring 1990 versus Spring and Summer 1991 are summarized below:

Spring 1990

Masscomp 5500 - 3 Mb RAM, 85 Mb hard disk, 1 Mb 5.25" floppy, 2 tape drives, ethernet, versatec, b/w graphics monitor, floating point processor, array processor, data acquisition processor with A/D, parallel I/O, clock, IEEE-488, running Real Time Unix 4.0A with TCP/IP and NFS.

Macintosh SE - 1 Mb RAM, 20 Mb hard disk, 800 kB 3.5" floppy.

Spring 1991

Masscomp 5500 - Added165 Mb hard disk, actively using NFS file-sharing with the VAXstation 3200. TCP/IP ethernet links to VAXstation, shipboard VAXcluster, and Macintosh.

VAXstation 3200 - 8 Mb RAM, 2 x 760 Mb hard disks, TK-50 cartridge tape drive, ethernet, versatec, array processor, b/w graphics monitor, running VMS 5.3-1 with DECwindows, TCP/IP, and NFS. In communication with shipboard VAXcluster but not a "member" of it directly.

Macintosh IIci - 8 Mb RAM, 80 Mb hard disk, 44 Mb cartridge hard disk, 1.44 Mb 3.5" floppy, ethernet, color monitor. Supports TCP/IP, NFS, and X-windows.

MS/DOS (PC-AT compatible) - 4 Mb RAM, 2 x 100 Mb hard disks, 1.2 Mb 5.25" floppy, color monitor, monochrome monitor, ethernet, tape backup. Running MS-DOS with DECnet. Support system for Digital BHTV tool on loan from the Germans.

Summer 1991

Masscomp 5600 - 8 Mb RAM, 474 Mb and 85 Mb hard disks, 1 Mb 5.25" floppy, 2 tape drives, ethernet, versatec, color graphics monitor (a major reliability increase),floating point processor, data acquisition processor with enhanced A/D, parallel I/O, serial I/O, clock, IEEE-488, running Real Time Unix 5.0A with X-windows, TCP/IP, NFS. (This system replaces the old Masscomp 5500.)

VAXstation 3200 - No changes from spring 1991.

Macintosh IIci - No changes from spring 1991.

MS/DOS (386 class machine) - 4 Mb RAM, 2 x 100 Mb hard disks, 1.2 Mb 5.25" and 1.44 Mb 3.5" floppies, ethernet, tape backup, color and monochrome monitors, ethernet. Running MS-DOS with TCP/IP, NFS, X-windows.

2. LDGO-BRG Computer Update

The laboratory computer systems have been upgraded in parallel with the shipboard computer systems.

Spring 1990

Masscomp 5600 - 12 Mb RAM, 165 Mb hard disk, 1 Mb 5.25" floppy, 1 tape drive, ethernet, floating point processor, color graphics. Running Real Time Unix 4.0A with TCP/IP and NFS.

Masscomp 5500 - 3 Mb RAM, 474 Mb and 47 Mb hard disks, 1 Mb 5.25" floppy, 1 tape drives, ethernet, versatec, color graphics, floating point processor, array processor, running Real Time Unix 4.0A with TCP/IP and NFS.

Masscomp 5500 - identical to shipboard system except that it has only one tape drive and does not have an IEEE-488 interface.

MicroVAX II - 8 Mb RAM, 71 Mb, 2 x 380 Mb, 760 Mb hard disks, ethernet, Benson plotter, 9 track tape, TK-50 cartridge tape.

VAXstation 3200 - 8 Mb RAM, 760 Mb hard disk, TK-50 cartridge tape, array processor, versatec, b/w monitor. [Back from *Resolution* for major repairs.]

PDP-11/23 - 512 kB RAM, 90 Mb hard disk, 9 track tape (800/1600 bpi), Tektronix ink-jet printer, digitizing table.

Macintosh - 2 Mac Plus, 3 Mac SE,(all with 1 Mb RAM) 2 Mac II , 1 Mac IIcx (all with 5 Mb RAM, one Mac II with SuperMAC display.)

MS/DOS - 2 HP-110 portable MS/DOS computers, 2 Compaqs

Spring 1991

Masscomp 5600 - Added 850 and 2 x 47 Mb hard disks, 2 x 1000 Mb erasible optical cartridge disks. Software upgraded to Real Time Unix 5.0A, now supporting X-windows.

Masscomp 5500 systems - no changes from spring 1990.

MicroVAX II - Added 8 Mb RAM, 2 x 760 Mb hard disks. Upgraded to VMS 5.3-1 and now acting as boot node for a small VAXcluster.

VAXstation 3100 - 16 Mb RAM, diskless, color graphics. Running VMS 5.3-1 with DECwindows.

VAXstation 3200 - Back on the *Resolution*.

PDP-11/23 - no change from spring 1990.

Macintoshes - all Mac Pluses and SEs upgraded to 4 Mb RAM, some with extra hard disk storage. Mac II with SuperMAC display stolen in July 1990, replaced with a Mac IIci (8 Mb RAM, 200 Mb hard disk, cache, SuperMAC display).

MS/DOS - no changes from spring 1990.

Summer 1991

Masscomp 5600 - Added second CPU with floating point support, upgraded color graphics system.

Masscomp 5500 systems - major upgrade - replaced with Masscomp 5600 systems similar to that described for the shipboard upgrade above. Various subsystems (such as tape drives) redistributed from the Masscomp 5500 returned from Stanford University at the end of it's subcontract.

MicroVAX II - no changes since spring 1991.

VAXstation 3100 - no changes since spring 1991.

PDP-11/23 - major upgrade - replaced with a MicroVAX II donated by Amoco. Running VMS 5.3-1 and connected to the local VAXcluster.

Macintoshes - no changes from spring 1991.

MS/DOS - no changes from spring 1991.

3. Software Update

Networking

Bill Meyer and Mike Hobart installed, configured, and tested TCP/IP ethernet software on the shipboard VAXcluster during Leg 134. There is now ethernet communications and file transfer between the VAXcluster and the Borehole Group's Masscomp, VAXstation, and Macintosh. NFS file sharing has been set up between the Borehole Group computers. The Borehole Macintosh is also linked into the VAXcluster's Apple LaserWriters and it's VAX-based Alisashare system.

Resolution.. We have received a second set of menu-based FMS processing software from the Schlumberger Houston computer center in November, in addition to the set received last April from the Schlumberger New Orleans computer processing center All of these programs make menus for FMS processing. We are currently testing to determine which of these menu sets we will adopt for our use. The menus make it much easier to train people to do FMS processing, as well as speed up the processing. Dipmeter processing programs have been experimented with recently and are in the process of being documented in the in-house FMS manual written by Robin Reynolds for training purposes.

The shipboard FMS processing VAXstation 3200 was returned to the *Resolution* at the start of Leg 134 and has since been used to process FMS logs on board ship. We have been training ODP/TAMU technicians to assist in the processing. The advantage to the Borehole Group is that this provides a steady base of trained support while reducing our need to constantly train new people in the mechanics of the processing. The advantage to ODP/TAMU is that this provides partial salary support for the technician who also acts as assistant VAX system manager on the ship. This will not eliminate the need for shore-based FMS log processing for two reasons: 1) Time, the FMS log processing takes a few days to do and there often is not enough time left after logging to get everything finished, and 2) Quality, the highest quality FMS output is provided by the Benson plotter in the laboratory system. These plotters are sufficiently tempermental that we would not put one out on the ship (and we can't afford to put a six-pack on board!)

The Schlumberger software that we use does not currently permit the output of the data in a format suitable for use by image analysis programs. Schlumberger is working on new versions of this software and there are other software packages in use at Schlumberger that we are investigating.

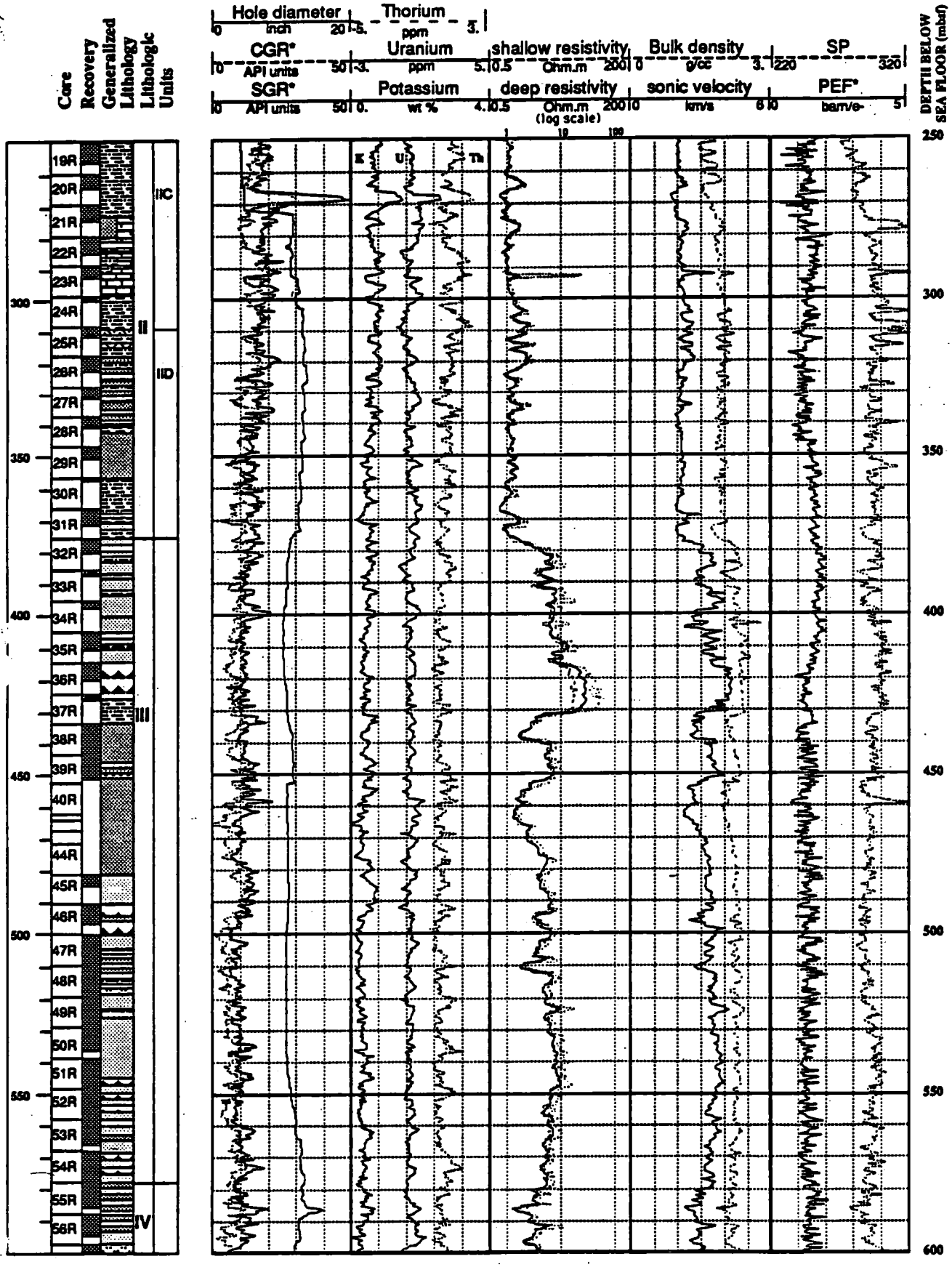
Macintosh-based Analysis

The Borehole Group and ODP/TAMU have continued their experimentation with Macintosh-based data analysis packages and have reached various workable solutions. The DataDesk Professional package is quite versatile in the data examination and correlation aspects and is recommended, but lacks fancy output capabilities (see below). Bill Meyer from ODP/TAMU was the lead in developing a new "master sheet" approach to integrating much of the shipboard data into DataDesk Professional during Leg 134. The results were very useful and quite exciting as it greatly speeded the effective distribution of data between different disciplines on the ship. Several instances of lost data did, however, demonstrate that most Mac software is *not* designed for multiuser access. KaleidaGraph offers better output capabilities and is one of the packages that we recommend for routine examination of log data. Cricket Graph is hopelessly overwhelmed by the amount of data presented by the logs and is not recommended. The Passage II package has good data analysis and presentation capabilities, but is no longer being offered as the company responsible for it has dissolved. We are experimenting with the Igor software package to learn it's capabilities and limitations.

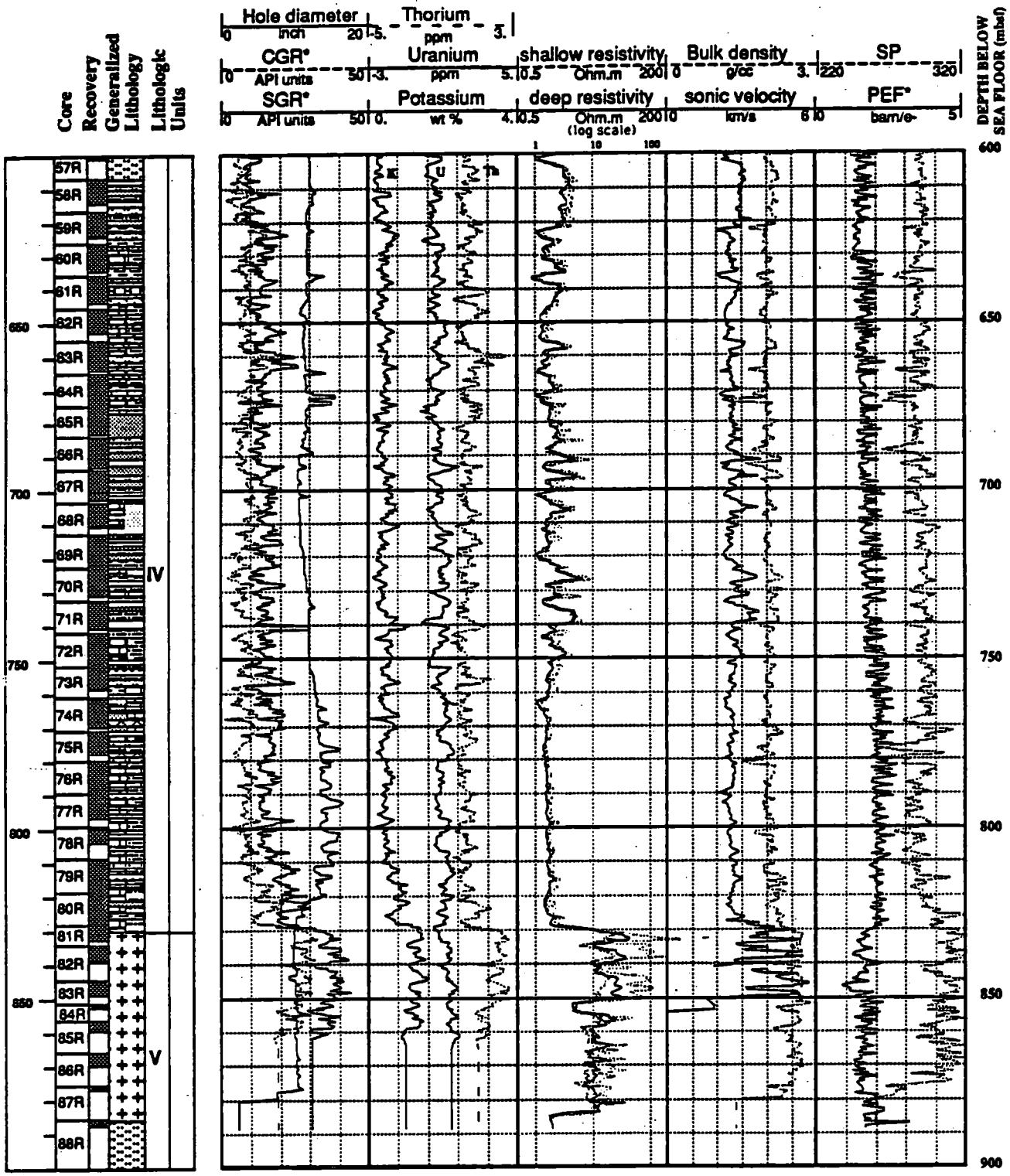
We now have a Stanford-developed BHTV data analysis package on our shipboard Mac and we are also using various other image analysis packages with the BHTV and some FMS data. These include the Ultimage, NCSA Image, and NIH Image packages. The latter two offer the advantages that they are public domain programs with the source code available. The NIH Image program appears to be the most useful for our purposes.

Procedures have been worked out to quickly read in the log data into Terralog during or shortly after the logging runs. Terralog is used for a quick log quality check, and then outputs a decimated ASCII file, which is then tranferred to the Mac. A plot is prepared using a suitable analysis package (see above) and an output file is generated. The MacDraw package is used to assemble several plots together into one figure. This offers greater flexibility and quality for the output. The MacDraw program, however, is very slow when this much data is involved. We have included a figure from Site 833, Leg 134, prepared using these techniques. This figure was prepared from the first logging run while the logging program was still under way.

Hole 833B Geophysical logging data 250 - 600 mbsf



Hole 833B Geophysical logging data 600 - 900 mbsf



Enclosure 5

Borehole Group Database Report to Information Handling Panel March 18-20, 1991

The present report is divided into two sections:
1. Database report
2. Data processing update

1. Database Report

Database Update

A new optical disc storage system has been purchased by BRG (see Computer Report). Reorganization of the database is planned when we begin the transfer of data to the disc storage system. Jennifer Tivy was hired in December for the position of Database Assistant. Her main task will be the maintenance of the BRG well log database, as well as the fulfillment of data requests. Ms. Tivy will be directly involved with the data transfer to the new disk storage system.

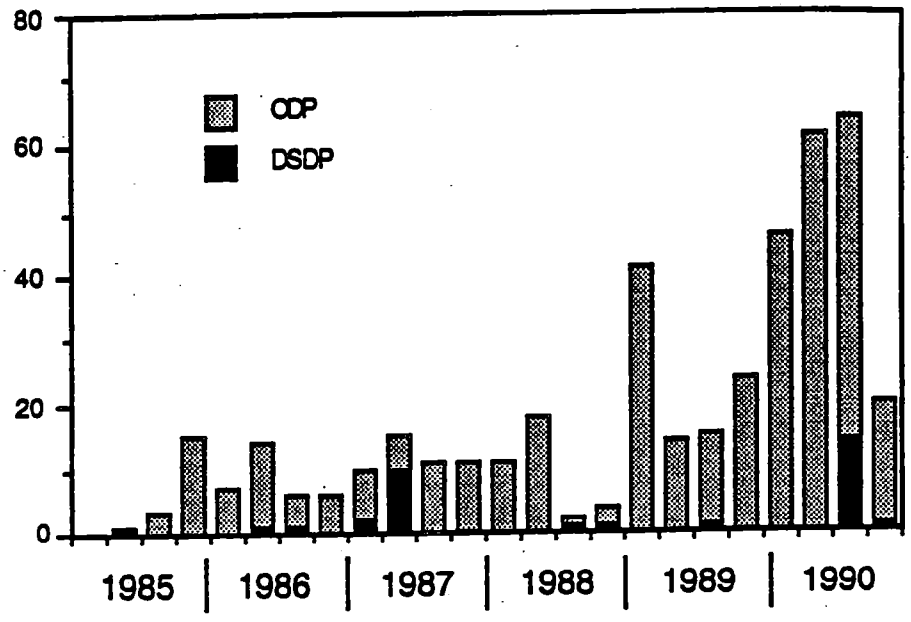
We are considering the transfer of the database files to a more efficient database system; in fact the future upgrade of the Masscomps (see Computer Report) will not support the current software (FILEIT). C. Broglia and M. Hobart will look into the available packages but anticipate that the file transfer (more than 2,000 entries) will take place when the data transfer to optical disc is performed.

The ODP database presently includes logging data tapes through Leg 135 and consists of over 1000 magnetic tapes, including Schlumberger original proprietary and field edit tapes, backup tapes of processed data, temperature data tapes, and multichannel sonic tapes (Appendix 1). Videotapes of borehole televiewer data recorded at selected sites are available as well. Starting with Leg 126 the ODP database also includes Formation MicroScanner (FMS) data, in the form of original proprietary tapes and processed backup tapes. Blackline copies of the processed FMS images are now available to interested scientists for Legs 126, 127, 128, 129, 130 and most of 133. Microfiche of FMS images are available for Legs 126-130.

Data Requests

A survey has been undertaken by the Borehole Research Group to determine the usefulness of logs in solving geological problems and the performance of BRG as a database and log analysis center to those who request data. A preliminary number of survey forms have been distributed and the results have been tabulated. A broad scale survey will be attempted next.

The number of well log data requests substantially increased in 1990. Appendices 2 and 3 present a list of the data requests by hole and by country/institution. The histogram below shows the request distribution by trimester since 1985.



Data Requests and Communications via Electronic Mail

The Borehole Research Group at Lamont-Doherty can receive data requests and queries electronically by two paths. The first path is through our mailbox on Omnet. The address of this mailbox is simply 'borehole'. It is checked every day. The second path is over the InterNet. Lamont-Doherty has a T1 class connection to the InterNet so data file transfer over the net is a practical option in addition to handling electronic mail. Data transfer via ftp or anonymous ftp can be arranged (this has already been done in several instances). The primary contact points for outsiders are the following:

1. `borehole@lamont.ldgo.columbia.edu` (general purpose account)

2. `hobart@lamont.ldgo.columbia.edu` (account for the LDGO-BRG computer systems manager, for computer related questions)

3. `chris@lamont.ldgo.columbia.edu` (account for Cristina Broglia, database manager, for database and log analysis-related questions)

Data Media

The primary medium for data exchange is 1600 bpi 9 track tape. Upon request we can also provide 800 bpi tapes of standard Schlumberger data. Data may also be distributed on Macintosh format 3.5" diskettes.and MS-DOS 3.5" diskettes.

Data Distribution Policy

In response to the IHP's request for BRG to revise the Well Log Data Distribution Policy concerning requests received before the one-year clearance period, the data distribution policy has been modified (Appendix 4). Furthermore, we have clarified the

obligation of JOIDES and LDGO-BRG logging scientists to submit a scientific or data report (Appendix 5).

NGDC-UK Database

Well log data of Legs 127 and 128 and 129 were shipped January 1991 to NGDC and to the UK database, now located at Leicester University. Next shipment, including Legs 130 and 131 data, will take place by the end of June 1991.

Distribution of Logging Data

Plots of the standard logging data (edited and depth-shifted) are routinely distributed to each member of the shipboard party 3-4 months after the end of the leg, along with forms to request additional data. Distribution of standard log data from Leg 133 was delayed due to the need to reprocess all of the Natural Gamma Ray data from the 12 wells, but was completed recently.

We are currently distributing paper copies or microfiche (as available) of processed FMS images upon request. No one has been available yet to work on the question of how to distribute processed FMS data on digital tape in a format that works for everyone, but we are hoping to tackle this soon.

2. Data Processing Update

Geochemical Data Processing

Geochemical data generally are processed in time to be presented to the shipboard party at the second post-cruise meeting. Leg 130 and Leg 133 geochemical data are currently being processed. Leg 121 through 128 results have been submitted in a data report for the ODP Scientific Results volumes. Data reports for Leg 121 through 125 have been accepted for publication.

Formation MicroScanner Data Processing

The FMS data from Leg 133 is currently being processed at BRG. Most of Leg 134 and Leg 135 FMS data were processed on the ship. Only a small amount of processing will need to be done at BRG to complete the processing from these two legs. ODP employees, Matt Mefferd and Dan Bontempo sailed on Leg 134 and Leg 135 respectively with the half-time position as an FMS processor/Asst. Systems Manager for the VAXstation 3200. On each of these legs, the Lamont Logging scientists were also involved in the processing of FMS data. Plans are being made to train another ODP employee in April as a backup.

Publications in the ODP Proceedings

A summary of depth-shifted and edited well log data is routinely submitted for publication before the barrel sheets in the Initial Reports of the ODP Proceedings. In

general, this summary is ready 2-3 weeks after the first post-cruise meeting or, if problems arise, by the second post-cruise meeting.

Starting with Leg 121, we have submitted for publication in the Scientific Results volumes a data paper which includes the results of the geochemical processing performed onshore (see above, Geochemical Data Processing).

Starting with Leg 126, FMS images on microfiche have been inserted into a pocket inside the back cover of the Initial Report volumes. Each microfiche page contains 98 frames, with each frame displaying approximately one meter of processed images.

APPENDIX 1. Ocean Drilling [illegible]am - Inventory of Well Log Data

[illegible] 1991 10:50

	YE	LEG	WELL NO.	dit/ngt/lss	ldt/ngt/cnt	gst/ngt	dil	quad	geochemical	fms	temperature	televiewer	mcs	wst
1	1985	101	626-D		x									
2	1985	101	627-D		x									
3	1985	101	634-A			x								
4	1985	102	418-A	x	x		x					x	x	
5	1985	103	637-A	x	x									
6	1985	103	638-B	x									x	
7	1985	103	638-C	x	x									
8	1985	103	639-D	x	x									
9	1985	103	641-C		x								x	
10	1985	104	642-D	x	x									
11	1985	104	642-E	x	x							x		
12	1985	105	645-E	x										
13	1985	105	646-B	x		x								
14	1985	105	647-C	x										
15	1986	107	651-A	x	x									
16	1986	107	652-B	x		x								
17	1986	107	655-B	x										
18	1986	108	661-A	x										
19	1986	109	395-A	x	x				x				x	
20	1986	110	671-C	x										
21	1986	110	672-A	x									x	
22	1986	110	676-A	x										
23	1986	111	504-B		x		x		x			x	x	
24	1986	112	679-E	x	x				x					
25	1986	112	685-A	x	x				x					
26	1987	113	693-A	x										
27	1987	113	696-B	x										
28	1987	114	700-B	x					x					
29	1987	114	703-A	x										
30	1987	114	704-B	x					x					
31	1987	115	707-C	x										
32	1987	115	715-A	x	x				x					
33	1987	116	718-C	x	x				x					
34	1987	116	718-E	x										
35	1987	116	719-B	x	x				x					
36	1987	117	720-A	x										
37	1987	117	722-B	x	x									
38	1987	117	723-B	x	x				x					
39	1987	117	728-A	x					x					
40	1987	117	731-C	x					x					
41	1987	118	736-B	x	x		x		x			x	x	x
42	1988	119	737-B	x	x									
43	1988	119	738-C	x	x									
44	1988	119	739-C	x										
45	1988	119	742-A	x	x				x					
46	1988	120	747-C	x										
47	1988	120	750-A	x										
48	1988	121	752-B	x	x				x					
49	1988	121	754-B	x					x					
50	1988	121	758-A	x					x			x		
51	1988	122	759-B	x										
52	1988	122	760-B	x										
53	1988	122	761-C	x					x					
54	1988	122	762-C	x	x				x					
55	1988	122	763-B	x										
56	1988	122	763-C	x										
57	1988	122	764-B		x				x					
58	1988	123	765-B	x	x									
59	1988	123	765-D	x					x		x			
60	1988	123	766-A	x	x				x		x			
61	1989	124	767-B	x					x		x			

APPENDIX 1. Ocean Drilling P m - Inventory of Well Log Data

Tu . 1991 10:50

	YE.	LEG	WELL NO.	dil/ngt/lss	ldt/ngt/cnt	gst/ngt	dil	quad	geochemical	fms	temperature	televiewer	mcs	wst
62	1989	124	768-C	x	x						x			
63	1989	124	770-C	x	x				x		x			
64	1989	124	776-A					x	x					
65	1989	125	780-C								x			
66	1989	125	782-B					x	x		x			
67	1989	125	786-B					x	x			x		
68	1989	126	791-B						x					
69	1989	126	792-E	x	x				x	x	x	x		
70	1989	126	793-B	x					x	x	x	x		x
71	1989	127	794-B					x	x	x	x			
72	1989	127	795-B					x						
73	1989	127	796-B	x	x				x	x		x		
74	1989	127	797-C					x	x	x	x	x		
75	1989	128	794-D	x						x	x			
76	1989	128	798-B	x	x				x	x	x			
77	1989	128	799-A	x	x				x	x	x			
78	1989	128	799-B	x	x				x	x	x			x
79	1989	129	800-A					x	x	x	x			
80	1989	129	801-B					x	x	x	x			
81	1989	129	802-A					x	x	x	x			
82	1990	130	803-D					x	x	x	x			
83	1990	130	805-C					x	x		x			
84	1990	130	806-B					x	x		x			
85	1990	130	807-A					x	x		x			
86	1990	130	807-C					x	x	x	x			
87	1990	131	808-B	x					x		x			
88	1990	131	808-C		x						x			
89	1990	131	808-E	x							x			x
90	1990	133	812-B					x		x	x			
91	1990	133	814-A					x		x	x			
92	1990	133	815-A					x	x		x			
93	1990	133	816-B					x		x	x			
94	1990	133	817-D					x	x	x	x			
95	1990	133	819-A					x			x			
96	1990	133	820-A					x	x	x	x			
97	1990	133	821-B					x		x	x			
98	1990	133	822-A					x	x	x	x			
99	1990	133	823-C					x	x	x	x			
100	1990	133	824-D					x			x			
101	1990	133	825-B					x			x			
102	1990	134	829-A					x	x	x	x			
103	1990	134	830-C					x	x		x			
104	1990	134	831-B					x	x	x	x			
105	1990	134	832-B					x		x	x			
106	1990	134	833-B					x	x	x	x			
107	1991	135	834-B					x	x	x	x	x		
108	1991	135	835-B	x	x					x	x			
109	1991	135	838-B	x	x				x	x	x			
110	1991	135	839-B	x	x				x	x	x	x		
111	1991	135	840-B					x	x	x	x			
112	1991	135	841-C					x		x	x			

Appendix 2. ODP Well Log Data Distribution: requests by hole(LEG 101 THRU 134)

HOLE	LEG	TOTAL
626B	101	1
627D	101	1
634A	101	2
418A	102	15
637A	103	4
638B	103	2
638C	103	3
639D	103	3
641C	103	2
642D	104	8
642E	104	11
645E	105	
646B	105	1
647A	105	1
651A	107	5
652A	107	6
655B	107	4
661A	108	
395A	109	11
671C	110	
672A	110	
676A	110	
504B	111	21
679E	112	2
685A	112	1
693A	113	1
696B	113	
700B	114	2
703A	114	2
704B	114	4
707C	115	
715A	115	
718C	116	3
718E	116	2
719B	116	2
720A	117	2
722B	117	2
723B	117	1
728A	117	1
731C	117	2
735B	118	10
737A	119	1
738C	119	1

Appendix 2. ODP Well Log Data Distribution: requests by hole(LEG 101 THRU 134)

HOLE	LEG	TOTAL
739C	119	1
742A	119	2
747C	120	12
750B	120	9
752B	121	4
754B	121	2
758A	121	6
759B	122	6
760B	122	5
761C	122	6
762C	122	7
763B	122	6
763C	122	7
764B	122	5
765C	123	6
765D	123	8
766A	123	5
767B	124	
768C	124	
770C	124	
776A	124E	1
782B	125	3
786B	125	8
791B	126	2
792E	126	12
793B	126	15
794B	127	6
795B	127	3
796B	127	5
797C	127	7
794D	128	8
798B	128	13
799A	128	12
799B	128	14
800A	129	10
801B	129	13
802A	129	10
803D	130	1
805C	130	1
806B	130	1
807A	130	2
807C	130	3
808B	131	1

Appendix 2. ODP Well Log Data Distribution: requests by hole (LEG 101 THRU 134)

HOLE	LEG	TOTAL
808C	131	1
808E	131	1
812B	133	
814A	133	
815A	133	
816B	133	
817D	133	
819A	133	
820B	133	
821A	133	
822A	133	
823C	133	
824D	133	
825B	133	
829A	134	
830C	134	
831B	134	
832B	134	
833B	134	
	TOTAL	390

Appendix 3. Total requests on 01/31/91: 425 (390 ODP, 35 DSDP)

Total USA requests: 223 (195 ODP, 28 DSDP)
Total foreign country requests: 202 (195 ODP, 7 DSDP)

U.S. Institutions:	No. of requests: Total	ODP	DSDP
USA:	223	195	28
Brown University	1	1	
Colgate University	1	1	
California Inst. of Technology	1	1	
Dept. of Earth and Atmospheric Science	1	1	
Exxon Production Research Company	3	3	
Florida State Univ., Dept. of Geology	2	2	
LDGO	12	9	3
Los Alamos National Labs	1	1	
MIT	23	20	3
Nat. Sci. Found., Marine Geol. & Geophysics	7	7	
ODP	18	18	
Oregon State Univ., College of Ocean.	1	1	
Purdue Univ., Dept. Earth & Atm. Science	4	4	
Schlumberger	1	1	
Scripps Inst. of Oceanography	1	1	
Stanford Univ., Dept. of Geophysics	25	15	10
Univ. California at Santa Barbara	1	1	
Univ. of California at Santa Cruz	7	7	
Univ. Hawaii at Manoa, Inst. of Geoph.	19	19	
Univ. Hawaii, Dept. of Oceanography	11	3	8
Univ. of Miami	3	2	1
Univ. of Michigan, Dept. of Geology	3	3	
Univ. Nebraska at Lincoln, Dept. Geology	6	6	
Univ. New Orleans, Dept. Geol. & Geoph.	9	9	
Univ. Rhode Island, Grad. School Ocean.	11	11	
Univ. So. Carolina, Dept. Geo. Sciences	1	1	
Univ. of Texas, Inst. for Geophysics	8	8	
Univ. of Tulsa, Dept. of Geology	2	2	
Univ. of Washington, Ocean & Fishery Sc.	1	1	
Univ. of Washington, School of Oceanogr.	4	4	
USGS	13	12	1
Texas A & M, College of Geoscience	8	7	1
Texas A & M, Dept. of Oceanography	2	2	
WHOI	12	11	1

Foreign Institutions **No. of requests:**

Total: 202 (195 ODP, 7 DSDP)

	Total	ODP	DSDP
Australia:	**9**	**9**	
Bureau of Min. Res., Geol. and Geophys.	9	9	
Belgium:	**1**	**1**	
Lab. Associes Geol.-Petrologie-Geochron.	1	1	
Canada:	**42**	**40**	**2**
Dalhousie Univ., Centre for Marine Geol.	14	13	1
Geol. Survey of Canada	1	1	
Memorial Univ. of Newfoundland	2	2	
Petro Canada	1		1
Thurber Consultants Ltd.	1	1	
Univ. of Calgary, Dept. of Geology	1	1	
Univ. of Toronto	8	8	
Univ. of Waterloo, Dept. Earth Science	14	14	
France:	**53**	**50**	**3**
BRGM	2	2	
Ifremer	1	1	
Ins. Physique du Globe. Lab. Geop. Mar.	9	9	
Lab. Geomagn. Un. Paris 6	1	1	
Lab. de Stratigraphie	1	1	
Mus. Nat. Hist. Naturelle	5	5	
Total	2	2	
Univ. Nancy 1, Fac. of Science	10	10	
Universite d'Orleans	6	6	
Universite Pierre et Marie Curie	3	3	
Inst. Mediterraneen de Technologies	13	10	3

	Total	ODP	DSDP
West Germany:	18	17	1
Bundesanstalt Geowissenschaften und Rohstoffe	7	7	
Geologiskes Institut-U Univ. Kiel	1	1	
Geomar	3	3	
Geophysokalisches Institut	2	1	1
Inst. Allgemeine und Angewandte Geoph.	1	1	
Institut F. Mineralogie	2	2	
Wegener Inst. for Polar and Marine Res.	1	1	
Inst. of Petrol. and Org. Geochem.	1	1	

APPENDIX 4. Well Log Data Distribution Policy

Data distribution onboard. All of the logging data acquired on each ODP leg are available onboard to each member of the scientific party. Logging data (analog and digital) are available about 2-3 days after completion of logging operations, because some time is required to check and display the data in a form suitable to preliminary interpretation. A form to request analog-digital data is distributed onboard or mailed to each scientist after the end of the leg.

Only copies of tapes that do not require any reformatting are available on the ship (which means that the data are available in LIS format only).

As far as playbacks are concerned, Schlumberger contractually supplies 6 copies of each logging run. These are distributed to:

co-chief scientist
co-chief scientist
JOIDES staff scientist
LDGO-BRG logging scientist
JOIDES logging scientist
LDGO-BRG permanent archive

These copies are made on a simple-to-use ozalid machine. Schlumberger has agreed to teach interested scientists how to make their own copies. This copying procedure is coordinated through the LDGO-BRG logging scientist.

Data distribution on-shore. Playbacks, and field and edit tapes are available about 1 month after they are delivered to the LDGO-BRG well log data repository. Any data request must be addressed to:

Cristina Broglia or Jennifer Tivy
Borehole Research Group
Lamont-Doherty Geological Observatory
Route 9W
Palisades NY 10964
tel.(914)-359-2900 ext.671
telex: 710-576-2653
fax: 914-365-3182

using the appropriate form and specifying log type and format.

Schlumberger Data. Schlumberger digital data are available in either LIS (Log Information Standard) or ASCII format tapes with density of 800 or 1600 bpi. The ASCII format data can also be provided on 3.5" Macintosh or MS-DOS diskette. Schlumberger sonic waveforms are available in LIS or binary format. Formation MicroScanner data

are currently available in analog format only on blacklines or microfiche; the microfiche are available approximately one year after the end of the leg.

Other Data. Multichannel Sonic tapes are available in BRG or binary format (1600 bpi); a guide to reading the former will be provided along with the data. Borehole Televiewer data are available in analog form only (xerox copies of original Polaroid photographs). Temperature data are available as ASCII files of temperature and pressure versus time.

Note that all of the above are free of charge.; any request, however, not conforming to the standards listed in the request form (ex. particular graphic presentation, data depth shifted to the sea floor, etc.) will be subject to charge.

The scientific community at large has access to the logging data a year after the beginning of each leg. Interested scientists, however, can obtain the logging data before the 1-year moratorium upon approval of the co-chiefs and the shipboard party; like the rest of the shipboard party these scientists will have the obligation of submitting a scientific or data report for the ODP Scientific Results volume.

Data can be requested at the address indicated above. Scientists who request duplication of a significant number of tapes are requested to provide the tapes necessary for the duplication. Any request of data from commercial firms (ex. oil companies, consulting agencies, etc.) should be addressed to the National Geophysical Data Center.

After a year the well log data are sent to the well log database of the National Geophysical Data Center in Boulder, Colorado, as well as to Dr. Mike Lovell, who has established a second well log data repository at the University of Leicester, U.K. British and other European scientists are therefore encouraged to send their requests to:

Dr. Mike Lovell
Dept. of Geology
University of Leicester
Leicester LE1 7RH
United Kingdom

APPENDIX 5. Publication of Logging Data

Logging data from the standard logging tools, as well as preliminary shipboard interpretations, must be printed as a logging summary in the ODP Proceedings Initial Reports. The logs will be printed before the core barrel sheets and will be keyed to the barrel sheets by core number. The data displayed will be unprocessed. This sequential rather than juxtaposed format for the lithologic and logging data will allow for additional data to be displayed for ready visibility without encouraging spurious correlations between the two data sets. In addition, Formation MicroScanner data will be included in the Initial Reports volume in the form of microfiche.

Logging scientists either solely, or in cooperation with other members of the scientific party, are responsible for submitting a scientific or data report on logging results for publication in the Scientific Results volume.

Report on the Activities of the Micropaleontological Reference Centres

Prepared for the Minutes of the March 1991 meeting of IHP by:

John B. Saunders, Basel, March 1991

MICROPALEONTOLOGICAL REFERENCE CENTRES

An update of work on the four fossil groups since the report prepared for the October IHP Meeting shows the following progress:

Foraminifera

The October report documented the dispatch of a final shipment of 160 samples on 18 September 1990. This completed what is available from the first 96 legs of the Project. A total of 3303 foraminiferal samples are now in place in the 8 centres.

No acknowledgement of safe arrival of the last consignment has been received from the Moscow Centre. Attempts to contact Ivan Basov indicate that he is at sea for several months. I hope to hear from him on his return. (ACTION PLEASE, IVAN)

Samples from the first legs of the ODP phase of drilling are being processed for foraminiferain Basel at the present time.

On 13-15 March, before the IHP meeting in College Station, further sample selection was done by JBS and Annika Sanfilippo. This led to a request dated 21/3/91 for 261 foraminiferal samples from Legs 117, 119 and 121.

Nannofossils

Nannofossil and Lithologic smearslide preparation are being handled by Scripps Institution of Oceanography. However, a gap of several years has occurred due to a lack of suitable technicians. This matter was taken up at the IHP meeting and Bill Riedel agreed to re-organize this work at Scripps and seek the continued use of California State money which was apparently made available for sample preparation from the start.

At College Station, a further 650 levels from legs 117, 119 and 121 were selected for Lithologic smearslides of which 593 were also to be prepared for Nannofossils.

Diatoms

There has been no further contact with the Japanese Centre since the last report. It is hoped that the next consignment of diatom slides will soon be ready for shipment. (YOUR NEWS PLEASE, YOSHIHIRO).

At College Station, a further 334 levels from Legs 117, 119 and 121 were selected to be sent to Japan for processing for Diatoms.

Radiolaria

The most exciting development since the October meeting has been the commencement of Rad preparation at Scripps under the direction of Dr. Annika Sanfilippo. She came to College Station on 13 March hand-carrying two sets of the first 400 Rad preparations – one for the TAMU centre and

one to be carried on by JBS to the Basel centre. The other sets will bedispatched directly to the centres from Scripps.

We now have in place preparations from Legs 7, 8, 9, 10, 12, 13, 14, 16 and the first few levels of 17.

OTHER NEWS

Addition of a new fossil group

We have from time to time considered the desirability of adding palynological preparations to the material held at the centres. With more continentally derived sedimentary sections being drilled, and particularly now that the Resolution has spent time in high latitudes, this has become more of a priority.

Woody Wise brought up the subject at the October IHP meeting and we asked him to use his contacts to investigate the possibilities further. He got a favorable response from AMOCO's research Centre in Tulsa (Dr. Robert Pierce). By chance, JBS visited the Centre in Tulsa on the way to the present meeting in College Station and was able to talk to staff and showslides of the centres. The outcome of these discussions is that AMOCO may agree to do at least some of the preparation work on the understanding that they keep one set of the resultant slides to add to their own collections. We consider this to be a very fair way to get a set of palynological samples in place in the 8 centres and shall pursue this matter with AMOCO.

Recent news from the New Zealand Centre

Letters and a Bitnet message received by Russ Merrill from Dr. C.P. Strong indicate that the Centre in Lower Hutt is actively functional. The address should now be:

Paleo. Ref. Center
Dr. C.P. Strong
DSIR Geology and Geophysics
P.O. Box 30 368
Lower Hutt, New Zealand.

Selection of samples from recent legs

We have now selected samples for the majority of ODP legs through 121 (120 has been by-passed but will be picked at the next session). The Part B was available for a few of the legs at the time of selection; for the rest, levels were chosen using the Part A volume alone. Even where both volumes were available, it has sometimes proved less easy to choose levels than it was for the majority of the early legs. This is due in some measure to the less uniform coverage by shipboard biostratigraphers of all the sites drilled on a leg. This is often consequent upon the enormous footage of core obtained from some legs and, perhaps, to a smaller amount of time being spent on follow-up work back on shore. We believe it will prove to be of concern for later users of the volumes and this is something that JBS hopes to review before the next meeting of IHP scheduled to be held in Victoria, BC, in September.

Workshop on Curation and Database Management for the MRCs

Following discussion of this idea at the October 1990 meeting of IHP, we have been exploring the possibilities of holding such a meeting in Basel. With the aid of some limited USSAC travel money it seems as though there is a chance that this gathering might take place. As it is now too late to arrange it for the Autumn of this year, we are aiming for the first half of next year. As soon as the position is clearer, JBS will be contacting interested parties.

Enclosure 7

ODP Leg 135, From an IHP Perspective

Report to IHP, March 18, 1991
From: Will Sager
Date: 3/15/91

As you may remember, I accepted the task of going underground (but not underwater) and being an IHP spy on ODP Leg 135 to get the straight skinny about all that data and stuff that allegedly comes back from the D/V JOIDES *Resolution*. Leg 135 drilled in the Lau Basin, a marginal basin between the Lau Ridge and the Tonga Arc. The cruise began from Fiji on December 20, 1990. For the scientists, it ended 60 days later when they were dropped off in Samoa. Most of the technical staff remained on board for an additional 10 days until the ship reached Honolulu.

What follows is my opinion of how the data is collected and archived as well as how this process is affected by the scientists on board and how it affects them. It is necessarily a skewed view, being more complete and accurate for those measurements closest to my field (paleomagnetism, physical properties, geophysical measurements) and fuzzier for those for which my experience is limited (paleontology, geochemistry, igneous petrology). Moreover, many of my opinions are just that, and should be taken with due caution.

Overview

The data produced on the Resolution falls into two major classes: (1) matter to be printed in the *Initial Reports* (IR) volume and (2) data archived for the database. It was my impression that almost all of the scientists' expended effort went towards the former. I think that most scientists were aware that their data was eventually to be archived in a computer database, but this probably appeared to be a black box to them, something that would happen magically without much conscious effort on their part. To some degree, this situation is probably a philosophy rather than an oversight. ODP wishes the scientists to be creative in preparing their science for the IR volume, whereas tinkering with the data to be archived is viewed as detrimental. For example, the original paleomagnetic data files saved on the VAX computer cannot be changed. Although this preserves errors in the original data, it also keeps this data from being lost.

The greatest change that I saw from the last time that I sailed on the Resolution (LEG 116, July-August 1987) was the effect of the increased computerization, in particular the addition of Macintosh computers. In general there seem to be enough computers to handle the logging and report writing. Now that the Pro-350s have all but disappeared and Macintoshes have been added to the repertoire, the capabilities of the scientists to produce reports have been multiplied, perhaps dangerously so. IR preliminary volumes that used to require one binder (4 in or 10 cm thick) now use up 3-4 binders (9-12 in or 30-40 cm thick). Much of this expansion is a result of an explosion of figures resulting from the Macintosh graphics programs. The effect on the scientists is that the work is relentless and many scientists complained of being computer "robots". To some degree this was encouraged by the co-chief and staff scientists who wanted as much digestion of the data as possible for the IR volume, but ultimately the decision about how much to produce rested on the individual scientists' shoulders. They produced more because they could, but they enjoyed it less. Some of the increased workload is a result of a bigger data input stream. For instance, the MST (multisensor track) works fine and chugs out megabytes of magnetic and physical properties data, with which the scientists must grapple.

Certainly the most consistent complaints on board ship (even more than the food) are about the computer software. Computers the one thing that all scientists

have to deal with, usually for much of the time that they are awake. Given human nature, complaints are not surprising because everyone thinks that ODP should be using their favorite program. However, some complaints are justified. There is a lot of software that is unsupported or poorly supported. The computer user room Macs are full of programs for which few or no manuals exist. Furthermore, there are often 2-4 programs for doing the same thing, e.g., both Cricketgraph and Kaleidagraph for plotting, MacDraw II, Adobe Illustrator, Canvas, and others for graphics, as well as Excel and several other spread sheets. It also appears that the ODP-written software is in need of upgrades and fix-ups. I heard wishes that there were a sea-going programmer to fix programming needs while aboard ship. Also, complaints arose that new devices and tools are not fully supported (e.g., the digital imager). These problems seem to have resulted because the computer group ashore is short-handed and cannot keep up with both developement and maintenance.

Specifics

I sent around a questionnaire to all of the scientists and techs asking for their comments about the data production and archiving. This was done late in the cruise and the participation was not universal. The following comments are my views, partly shaped by the scientists' statements on the questionnaires. Because the scientists are usually broken up into different groups by specialty or task assignment, that seems to be the logical way to present this data.

Co-chief and staff scientists

Among their tasks, the co-chiefs and staff scientist must oversee the writing of the IR volume. My impression is that this requires about 90% of their time. Each word, table, and figure from this massive report passes beneath their eyes, in series, not in parallel. This presents the ultimate bottleneck. Our co-chiefs and staff scientist worked very hard and got by on little sleep. By the end of the cruise they did not have the deep tans that often come along with a south Pacific cruise. Instead, they looked like they had been mugged. Some of the disheveled look was aquired during the final 48-hour push without sleep to get the volume done before we arrived in Samoa. It is clear that the IR cannot get any larger, because these people cannot handle much more. To a certain degree, the co-chiefs and staff scientist determine their own fate. Those on Leg 135 were demanding and got a lot out of their scientific staff. Most co-chiefs and staff scientist probably feel duty-bound to push themselves and the scientists to the limit. I wonder about how many of them (co-chiefs in particular) think "never again".

Micropaleontologists

There were four micropaleontologists on board, one nanno and one foram specialist per shift. Their task was primarily to examine core catcher sediment samples for fossil assemblages that could be correlated to the biostratigraphic time scale. When they have extra time, the paleontologists will look at samples from other parts of the cores. Their data is a list of diagnostic fossil species. Data are entered on the VAX using the "Checklist" program. The data are also entered by hand on paleontology forms.

Those micropaleontologists that expressed an opinion did not like the Checklist program. They found it slow, cumbersome, and not user-friendly. One expressed the opinion that its data output presentation form is obsolete. Another suggested the program "Bugin" as an alternative. All paleotologists did not like the paleontology forms. These forms are in triplicate, but have built in "carbon paper" so that writing on the top form is supposed to print the other two forms. However, the scientists

complained that their copies were nearly illegible and they had to do a lot of recopying.

Sedimentologists

There were 8 scientists assigned to sedimentologist duty, four per shift. Not all were true sedimentologists by training, though all seemed qualified for the work. A head sedimentologist was appointed by the co-chiefs to keep the group and its reports organized. The sedimentologists paly a role in the primary core flow as they describe the archive halves of the cores just after they have been split. They describe the cores on VCD forms, make smear slides, and synthesize the sedimentologic data on the barrel sheets. The VCDs were done on paper forms because the Macintosh VCD/barrel sheet program was not ready for Leg 135. The program "Slides" was used to enter smear slide data. Finally, barrel sheets were composed on the Macintosh with "MacDraw II". A barrel sheet template was provided for MacDraw II to guide this. The sedimentologists also gathered non-standard data, such as glass refractive index measurements or ash bed data and these were often entered into a spreadsheet program, such as Excel on the Macintosh.

Because Leg 135 was a low-recovery leg, the sedimentologists were not as busy as on some other legs. However, many of the cores contained complex sedimentary features and so the description was sometimes a bottleneck in the core movement.

The sedimentologists did not have many complaints about data archival. None liked the program "Slides". Some expressed a dissatisfaction with the barrel sheets being published with the core photos, saying that the barrel sheets do not preserve enough detail about structures and small-scale sedimentary variations.

A digital video close-up camera was available on board and some of the sedimentologists played with it, but it seems to have been little more than a curiosity. My impression was that it is a complex system and they did not know how to operate it and utilize the images that it produced. Most close ups were still done by the photographer who sometimes complained of large numbers of close-up requests from this group. One sedimentologist used the Apple scanner in the computer user room to scan images of ash particles that he had photographed with the microscope. These images were quite large (sometimes filling the remaining space on the Mac hard disk) and there was no printer that could handle gray scales, so he traced these images with one or more of the graphics programs on the Mac.

Igneous Petrologists

Five scientists were classified as igneous petrologists, not including one of the co-chiefs and the staff scientist. Their duties included describing igneous core material with the VCD form and program "Harvi", describing thin sections with the program "Hrthin", making XRF and geochemical data. They also synthesized the igneous units and added this information to barrel sheets. A technician whose primary duty was XRF analysis provided much of this data. Furthermore, technicians made most of the thin sections. The igneous petrologists seemed pleased with their cruise experience. They apparently got a lot of good data and had time to think about it. Their group also had a good chemistry and seemed to enjoy working together and arguing over igneous arcana. The igneous petrologists were unanimous in their distaste for "Hrthin" and "Harvi". They found these programs to be cumbersome and unforgiving.

Organic and Inorganic Geochemists

Because we recovered very little organic material, the organic geochemist had little data to report. The inorganic geochemist was a little busier, but he did not respond to my questionnaire and was quiet, probably because he is a little

uncomfortable with English. Consequently, I did not learn much as I should have about this data and how it is archived.

Physical Properties

Two physical properties specialists sailed on Leg 135, one to a shift. Their data were p-wave velocities and grape data from the MST, thermal conductivity data (both from the Uyeda tool and the thermcon equipment), vane shear strengths, and Hamilton frame sonic velocity measurements. The MST and thermal conductivity measurements are in the primary core flow path. The Phys Props technician was shared with paleomagnetics and logging, so they had no help in making their measurements. Because there was no single logging scientist, they also helped with the logging chapters. They also ran a packer experiment in one of the basment holes. The Phys Props scientists handled the largest data sets. They probably worked harder than anyone else, except for the co-chiefs and staff scientist, and complained that they were too busy to be able to do a good job of synthesizing their data. The Phys Props scientists both complained loudly about some of the computer programs for gathering their data as well as the slowness of the programs running on the lab PCs. They suggested that a third Phys Props scientist or a single-purpose technician to help with the measurements would have been a great help.

Paleomagnetism

Two paleomagnetists (myself included) were aboard. The paleomag lab is also in the primary core flow path. After splitting, the cores are measured in the pass-through cryogenic magnetometer. Like physical properties, this lab produces a prodigious amount of data. This lab can be a bottleneck if the paleomagnetists wish to make closely spaced measurements or use several demagnetization steps. We found that at a 5-cm spacing, even two steps (NRM and one demagnetization step) began to slow down the core processing. The usual solution to a paleomag bottleneck was to bypass the paleomag lab.

The paleomag lab also has a spinner magnetometer and a pulse magnetizer as well as both thermal and AF demagnetizers. Unfortunately, the software used in the paleomag lab has been picked up from a number of different sources, so that there is little consistency and some measurements are not recognized in the database. As a result, the scientists have to figure out how to "fool" the software and convert the data to recognizable form. These problems reduce the efficiency of the lab. All paleomagnetic data, MST susceptibility data, cryogenic discrete and core half measurements, and spinner discrete sample measurements are downloaded to the VAX. Eventually all this data is backed up onto tape and archived by the database group.

Logging

Logging is done by the BRG on an entirely different computer system than the other science. Consequently, it is archived by the BRG and distributed by them. Preliminary paper copies of some logs were distributed aboard ship and requests for additional plots were taken. On Leg 135, the logging data was probably not used to its fullest potential because there was no single logging scientist aboard. Interpretation of the logging data was shared by the structural geologist and the physical properties scientists.

Core Curation

Core curation and sampling went relatively smoothly. Although the co-chiefs took a conservative view of the sampling requests and held down the number of samples allowed, I did not hear any significant complaints from scientists about not

getting enough samples. The curatorial representative worked hard to accomodate the wishes of the scientists. There were the usual number of complaints about the SAM program for recording samples.

Technicians

Leg 135 was understaffed by technicians because of illnesses and resignations. Those techs aboard worked hard and did a good job, but they were stretched thin. Indeed, sometimes there were not enough techs available to handle the full APC cores. At least two techs were quitting at the end of Leg 135 or soon thereafter and I heard from them that there has been a large turnover among the technical staff. This raises the specter that by about Leg 138 there may be very few techs with more than a few months experience.

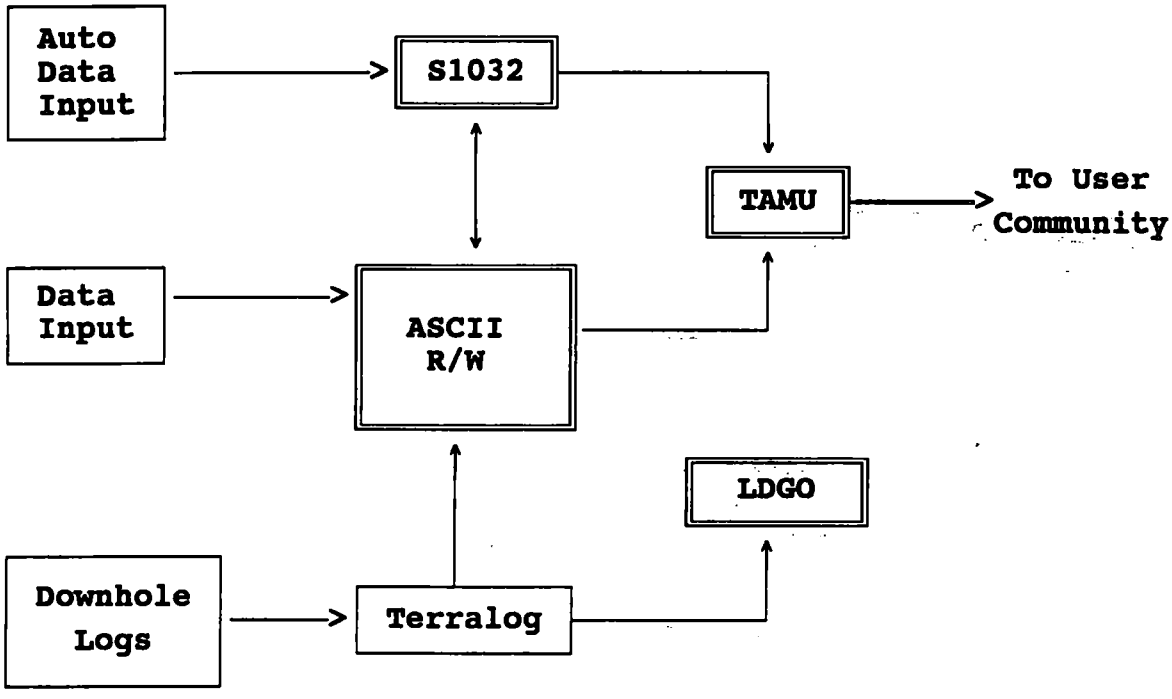
Computer System Manager

One system manager sailed on Leg 135. Though he was competent, there were twelve hours a day when he was not available to solve computer related problems. Additionally, because the one system manager was usually busy with maintenance and computer housekeeping chores, there was little time for him to help the scientists with the myriad of computer programs available on the Macs and PCs. As I stated previously, there are now more computers, and more different computers aboard than ever before. Fortunately, we had no major computer malfunctions.

Underway Geophysics

The underway lab operated without problems, though the yeoperson and electrical techs were used for underway watches to lighten the load with the thin tech staff. Navigation and magnetic data are digitally recorded. Paper record are made of the 3.5 and 12.0 kHz echo sounders. These data are sent to Scripps for processing. No digital seismic data was recorded on Leg 135. I was surprised to find that underway seismic reflection data are no longer routinely recorded in transit. I think that this is a loss.

IHP/SMP agreed that the current shipboard data acquisition and data processing system should be modified to allow for the implementation of core-log data integration. The most important addition to the current process is the ability to manipulate and edit ASCII data files, shown schematically below.



The ASCII files should be archived for future user availability. These files should be the responsibility of the shipboard scientific party and "final" versions of these files should be made available one year post cruise as a "data base" for user access. In addition, specific tasks must be performed to implement core-log data integration. IHP and SMP both see the need for the addition of the following:

1. a second sea-going computer system manager;
2. an additional person year to develop software tools for data processing; and
3. that a core-log data correlation specialist be identified as part of the scientific party for each leg.