SECOND

PERFORMANCE EVALUATION

FOR THE

OCEAN DRILLING PROGRAM

Report of the
JOI Performance Evaluation Committee (II)
and
Response of Subcontractors, JOIDES, and JOI

May, 1989

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Foreward

This report is the second in a series of performance evaluations of the Ocean Drilling Program that are called for in the contract between JOI and NSF for the program. The first performance evaluation of the Ocean Drilling Program took place in 1985, and the report was available in September 1986. The second evaluation took place in 1988, and this report presented in May 1989 includes both the report of the committee and the responses of the subcontractors.

As with the first review, we were fortunate in finding experts who were both familiar with the program and not currently involved in any substantial formal way. We were especially pleased that Professor Charles L. Drake was able to find time in his busy schedule to chair the group, and that the international side of ODP and industry were well represented. Dr. William E. Benson, a long-time participant in ocean drilling activities, provided staff support for the group.

Overall, the PEC found that the program is viable and successful and that it is producing excellent results. The PEC praised the dedication of the personnel. The primary questions raised were aimed at long-range planning and future activities. At the same time, a number of specific issues were raised, particularly in the timing of publications. The specific and immediate issues are addressed here by the various subcontractors. Publications in particular are being addressed by the Planning Committee. The long range issues, paramount in all our minds, are being addressed by the JOIDES planning structure, the Planning Committee and its advisory panels, and the Executive Committee in the development of the Long Range Plan.

In the previous report, we had proposed that there be two more reviews of the program before 1993. However, to carry out such a schedule means that the program is under almost constant review. At this point, we plan to propose that the next review be carried out in 1991, and that a final review be carried out at the end of the current contract in 1993. These reviews should be coordinated with other NSF-planned reviews of the program.

We want to thank all those who participated in the review: the PEC, the scientists, engineers, and staff of the program, and all others who have been involved. Reviews take time and energy, but are essential elements of healthy and efficient programs.

D. James Baker
President
Joint Oceanographic
Institutions Incorporated

REPORT

OF THE

JOI

PERFORMANCE EVALUATION COMMITTEE II

August 30, 1988

A. Introduction

The contract between NSF and JOI states that a performance evaluation committee will review the management of the ODP every few years. The PEC interpreted this charge to mean that it should examine JOI management of the entire program, the logging activities at LDGO, the drilling operations activities at Texas A&M University, and the operations on the drilling ship itself. Because the drilling vessel was in the Indian Ocean and the cost involved in viewing the vessel in a remote port would be high, because there were few complaints about the vessel itself or its operations, because of the improbability of learning very much that could not be gleaned from the co-chief scientists and the personnel interviewed at the various operations centers, and because of the desire to complete the review with dispatch, PEC regretfully decided to deny itself the privilege of paying a visit to the vessel.

To do this review properly, it was necessary for PEC to familiarize itself with the current activities and mode of operation of JOIDES as well as the activities of USSAC. JOIDES is not part of the formal management structure under review, although it is the principal source of advice and its recommendations determine the direction of the program. As such its activities were examined with care. PEC did not review USSAC nor its equivalents from other participating countries because these were not included in its franchise. USSAC is separate from JOI/ODP, but bears a close relationship because of its activities in support of scientific personnel on the ship, data reduction for at least Part A of the Proceedings, and site surveys. There were some concerns about all three of these areas; they should probably be examined by some group that is reviewing the overall US activities related to ocean drilling, perhaps a committee convened by NSF.

The PEC spent one day at JOI headquarters discussing the JOI responsibilities in management of the program, two days at LDGO discussing logging and data bank operations, and three days at TAMU discussing shipboard operations, engineering support, and curation and publications. It was fortunate that the past co-chief scientists were meeting there at the time so that insights could be gained from them.

In general the PEC found the program operations to be going very well and was impressed by the dedication of the personnel. PEC asked many pointed and critical questions and got satisfactory answers to nearly all of them. Indeed, as amplified in the next section, many of the concerns and suggestions involve long-range thinking and future plans rather than the details of the effective ongoing program. The committee is grateful to all of those with whom it had contact for their informative presentations, valuable discussions, and candor.

A roster of the committee members, a list of persons interviewed, and the terms of reference are given in the appendices.

B. Conclusions and Recommendations

Committees charged with evaluating any operation seem destined to concentrate on perceived deficiencies -- one can rarely concoct cogent recommendations for a flawless operation. We therefore emphasize at the start that the Ocean Drilling Program is alive and functioning well, and that the following conclusions and recommendations are an attempt to improve a commendable operation. The rationale for these recommendations is iterated more fully in Section C.

1. Overall Management -- JOI and JOIDES

JOI has recently changed its management from passive to a more active "hands-on" style. On the whole this is good, but it creates a different situation with respect to JOIDES and its panels and the dealings with TAMU. Therefore, the structure of JOIDES needs a hard look and probably should be modified. We recommend that:

a) The respective roles of JOI, JOIDES, and the operation be reexamined, especially in the context of the change from a regional to a thematic approach. The lines of communication and authority need clarification and better definition.

b) The custom of having the chair of both PCOM and EXCOM at the same institution should be reconsidered.

c) The position of BCOM in particular should be spelled out (e.g., it might better be a creature of JOI). In any case, it should not report to or direct the operator.

2. Future Finances

Strictly speaking this is not under our perview, but it controls the fate of ODP. We recommend to JOI, NSF, and all concerned that they tread carefully in any further raising of the dues, lest that result in fewer partners. A better tactic might be to seek more partners.

3. Logging

The enthusiastic LDGO group is doing a good job in developing tools and techniques, but aboard-ship logging is still

something of a stepchild. LDGO has made a good attempt at spreading the gospel, but more is needed. We recommend that:

a) Co-chiefs be introduced to logging earlier in the cycle.

b) LDGO logging personnel attend all pre and post cruise meetings.

c) Estimates of the total time required for logging a hole be improved.

d) Shipboard procedures be reexamined to allow easier correlation of logging results with other core measurements.

e) The policy of restricting publications by the Borehole Group (especially its director) be relaxed. This is important for maintaining the present high quality group.

4. Engineering

The group is functioning well. The idea of a special engineering leg is probably a good one, but should be reevaluated after it has been tried.

5. Shipboard Facilities and Procedures

a) Despite the increased space on the SEDCO compared to the Glomar Challenger, laboratory space still seems to be at a premium. Yet gear such as the SEM apparently get little use. We recommend reexamination of shipboard labs and equipment and concentrating efforts on (1) obtaining the data for Part A and (2) measurement of ephemeral properties.

b) We did not visit the ship but note that the report of the first PEC cites deficiencies in living conditions. Recent co-chief scientists confirm this criticism and report little change since the earlier report. We recommend that this be looked into.

6. Staffing

Recent budget stringencies have dictated cuts in personnel at TAMU. The most serious categories are staff scientists and marine technicians. Both groups are at a critical minimum and morale is beginning to suffer. Performance will inevitably deteriorate unless some relief is forthcoming. We realize this is not under the control of the program management, but we are concerned about a potentially serious situation.

7. Core and Sample Handling

As noted in the discussion, this activity is functioning well. We recommend:

a) That the need for long-term refrigeration of most sediment cores be reexamined.

b) That the geriatric studies proposed by the ODP staff be undertaken as soon as possible.

8. Data, Publications, and Information Transfer

The one very serious defect in ODP today is the excessive time it takes for publishing the data and interpretations. Not only is this undesirable for potential consumers of samples and information, it could well jeopardize continuation of ODP beyond 1993.

a) Part A, essentially the initial core descriptions, is needed for sampling requests, yet so far has averaged about 16 months to produce. Despite the acknowledged difficulties we strongly recommend that Part A be essentially complete by the end of a cruise and that it be issued in less than one year post cruise, even if this means some sacrifice in appearance and makes for unhappy paleontologists.

b) Part B, the scientific interpretation, is being changed to a refereed publication, thereby removing it from the "gray" literature. Even so, the projected time of 30-36 months seems excessive. Moreover, as long as it is called "Part B" it will remain "gray" in the minds of many people. We recommend (1) that a new name be considered for Part B (and perhaps even a different cover) and (2) that every effort be made to publish it in less than 30 months.

c) As the program becomes more thematic in accordance with the COSOD I plan, there is greater need to synthesize material for more than one cruise. Even Part B as now conceived may become obsolete. We recommend that consideration be given to a new series or format, synthesizing information over broad regions and/or topics. We suggest that an effective way would be to cooperate with the scientific societies in organizing (and partially supporting) symposia on such topics. The results could be published as the proceedings of the symposia.

C. Observations and Comments

1. Quo vadimus?

ODP was conceived as a program to extend until 1993. When the program was reviewed by the National Science Foundation as a part of the decision to continue ocean drilling beyond IPOD, the question was asked how ocean drilling compared with other ventures in the earth and ocean sciences in terms of scientific value. At that time it was the opinion of the review committee that its scientific value was so strong that it should be continued with the hope that half of the support for the program could be obtained through partnership with countries other than the USA. Other exciting scientific initiatives have been advanced since that time, and it is by no means certain that ocean driling will be viewed as having higher priority than one or more of these when it next is reviewed.

ODP is a viable and successful program that is producing excellent results, but its long-range future may well depend upon its ability to capture the enthusiasm and active involvement of a broad community of earth scientists, based upon achieved scientific goals and new opportunities. In the US, for example, competition for funding will come from the continental scientific drilling program (DOSSEC), the global seismic earth-imaging program (IRIS), crust-lithosphere imaging consortia (PASSCAL, COCORP, CALCRUST, etc.), continental margin seismic efforts (EDGE, ets.), the global change program (IGBP, to which ocean drilling can contribute), and from marine and solid earth science programs in general. Equally tough competition for funding of science is faced by the international partners who also have marine programs, programs for deep seismic exploration, and continental drilling.

ODP is in a good position to demonstrate its value because it is in full operation. We are, however, concerned about a sense of complacency, not so much with the quality of its science, which is being continually tested, but with its immortality. There appears to be a tendency to assume that since it is doing well, its continuation will be automatic. The future of ODP will depend not on the number of feet cored or holes logged, but on the number and quality of papers published. But publications are <u>not</u> being produced in a timely manner and there is some question about whether the mode of publication is optimal. Nor do the publication plans seem to recognize the new emphasis on a thematic approach to drilling rather than a regional approach.

There is a need to move rapidly toward faster publication of scientific results complementary to the cruise reports and to pay more attention to thematic questions posed. Easy access to data, funding for advanced analysis and interpretation, and more varied

and flexible publications need high priorities. Publications should address the broad themes in a progressing and iterative style rather than awaiting a final authoritative summary.

2. Scientific Objectives: COSOD I Versus ODP

The ODP is based very largely on the need to solve scientific problems about the earth as defined in the COSOD I conference of November 1981 (modified by the recognition that riser drilling would not be available in the early stages). Twelve scientific topics were chosen in COSOD I as top priority objectives for the next decade, and support for ODP was argued and won both in the USA and in the non-US participating countries. The JOIDES advisory panels were structured to emphasize developing a drilling program with thematic objectives implemented through regional panels.

In evaluating the progress and achievements of ODP, it is therefore reasonable to examine how far the thematic objectives of COSOD I have in fact been met, or at least what mechanism exists to ensure that they will be met in the future.

The PEC examined in detail the publications policy of the ODP to see to what extent participants were encouraged to follow through from the detailed descriptions of data acquired from surveys, from samples, and from logging to an evaluation of the achievement of the scientific directions of ODP. It recognized that while the Proceedings of ODP (Part A, Initial Reports and Part B, Final Report) gave scope for full scientific interpretations of individual legs, there was no planning for using the data obtained on a wide variety of legs, supplemented by other relevant data from outside the Program, to answer the questions posed by the thematic objectives.

PEC believes that the overall evaluation of ODP toward the end of its current phase will assess its achievements against its declared objectives. Early consideration and high priority should be given to the appropriate mechanism to ensure a match between these two. Several options were debated, recognizing that no substantial extra funds were likely to be available. One favored option would be to encourage learned societies to hold symposia on the themes outlined in COSOD I, mixing papers from ODP participants with those working in the field, but outside the project, and for the societies to publish fully refereed symposia volumes. If the theme is scientifically attractive, as indeed it should be, the volumes would be self-financing or even profitable. ODP could be a joint sponsor with the society, contributing towards expenses and travel funds for speakers, and should take the initiative in approaching learned societies in different countries. This scheme would have the additional advantage of demonstrating the relevance and value of ODP to a

wider geoscience community. It would be important, however, that such symposia did not wait until completion of the Part B Proceedings, but were conducted parallel with these; otherwise, few thematic syntheses would be available before the end of the current program.

As JOIDES progressively emphasizes its thematic approach, so should it plan that this will be reflected throughout the operational and post-operational phases, with the thematic panels playing a role through to the final thematic symposia. Care should be taken not to switch thematic objectives to those posed in COSOD II before those of COSOD I are adequately evaluated.

3. Is There JOI in Mudville?

JOI management provides the JOI corporate institutions with greater responsibilities for ODP than the previous arrangement in which NSF contracted directly with one institution. JOI management can be passive and consist largely of passing through funds, or it can be active and consist of significant management of the overall program. At the start of ODP, the former mode seemed to be operational with JOI acting in a Gramm-Rudman-Hollings mode of budget control; there now seems to be a trend toward a more active role with selective advice to the operators coming from JOI. The PEC likes this shift and so, apparently, do PCOM and the operators. If JOI continues its more active role, it will be important that the lines of communication with JOIDES and between JOIDES and the operating bodies be clarified and that JOI be especially sensitive to the international character of the overall program.

PEC considered the question of the need for an EXCOM in view of the existence of the JOI Board of Governors and the NSF Advisory Council of non-US members of the program. Since EXCOM is the only policy-making body in which all of the member countries and institutions are represented and to which all of the JOIDES panels report, it was concluded that if EXCOM did not exist, something equivalent to it would have to be created.

The possibility of a rise in dues for the ODP program was raised in view of inflationary increases in vessel and logging operations. This possibility should be examined with great care by the NSF Advisory Council, JOI, and JOIDES EXCOM. Many countries are having science budget problems these days and are reexamining priorities in science. There is a possibility that a significant rise in the dues for the program might actually reduce the revenues through dropouts rather than increasing the revenues through larger contributions. Efforts to increase the number of non-US partners seems to be more fruitful approach to budget problems; these should continue and be strengthened.

4. The Actors in the Great Passion Play

A curious anomaly exists in the structure of JOIDES. The non-US participants can draw upon their entire scientific community to play leadership roles in JOIDES because their participation is national rather than institutional. In the USA, the leadership is drawn only from the JOI institutions. JOI will have to face this anomaly directly if it decides to take the initiative in fields other than ocean drilling. JOI cannot claim to speak for the entire oceanographic community, and it certainly cannot claim to speak for the entire solid earth science community or even the scientific drilling community. If one looks, for example, at satellite oceanography, JOI did a real public service in pulling the community together to spell out time priorities for various competing satellites, but if JOI goes farther than this it must find mechanisms through which to involve non-JOI institutions and individuals in a manner which they accept as fair and equitable.

JOI represents the blue water oceanographic institutions in the country, but the demography of oceanography has changed over the years and a large number of talented people who could play leadership roles in JOIDES are disenfranchised. PEC recognizes that JOIDES panels can be and are drawn from other institutions, but PCOM and EXCOM are restricted. The effect of this is two-fold. First, JOIDES is denied talent that might make major contributions to the program. Second, there is a significant marine constituency outside JOI whose stake in ODP is small and whose exclusion from decision-making positions in JOIDES may influence attitudes towards priorities in the earth and ocean sciences.

Coupled with this problem is the present system in which the Chairman of EXCOM and the Chairman of PCOM must come from the the same institution if from the USA. This system has its origins in the initial organization of JOIDES in 1964, and it made good sense at that time when JOIDES consisted only of four US institutions. But JOIDES at present is much larger and international in scope.

The members of EXCOM tend to be heads of laboratories with long tenure and deal with overall policy. There are very good reasons why the chairmanship of EXCOM should rotate; perhaps the rotation period should be even shorter to better distribute the responsibility among the member countries and institutions.

The chairmanship of PCOM, on the other hand, tends to be assigned to a working scientist, often supported by soft money in the US, and PCOM has the heavy responsibility of directing or overseeing the various panels and committees that provide the program planning and, through JOIDES, advice to JOI. The PCOM

chairmanship is a large job and a shorter rotation period may be detrimental, especially if the incoming chairman is not presently on PCOM and cognizant of the latest developments. The question might be asked whether a longer term for the PCOM might be desirable, but this would run afoul of the tradition in which the Chairmen of PCOM and EXCOM come from the same institution. A longer term may also be viewed as career-threatening to an investigator supported by soft money. The question might also be asked whether a PCOM chairman from the USA must be from the same institution as the EXCOM chairman or even from a JOI institution. This question becomes even more pertinent as the emphasis shifts from a regional focus to a thematic focus.

5. JOIDES, Its Spawn, and Catch-22

JOIDES operates through a series of panels. These may be thematic or regional in the case of site selection or topical in the case of specific activities. Most of these are spelled out in the structure described in the JOIDES Journal, a notable exception being BCOM, a new committee designed to examine budgets and to suggest ways in which economies might be made. If these committees are to be useful, they must be advocacy committees, composed of experts who are dedicated to the subject of their responsibility. They should make strong cases for putting all the resources of the program into their areas of responsibility. If the overall program is to be successful, the considered opinions of these panels must be thoughtfully reviewed by a body responsible for the entire program prior to promulgation. The responsible body is PCOM, and ultimately EXCOM. PEC developed a gnawing feeling that the lines of responsibility are today rather blurred; that some of the panels may be under the impression that they provide advice directly to the operators rather than to JOIDES. If this is the case, micromanagement by panels and use of panels by the operators as advocacy bodies are strong possibilities. The opportunities for mischief and confusion abound. The reporting lines of the panels must be clear to all. It is especially important the BCOM be scrupulous in observing the proper lines of communication.

A continuing problem is when the safety panel should be drawn into the discussions. This panel may have difficulty in estimating hazards in some areas unless the data sets are comprehensive and complete. On the other hand, if the hole is likely to be rejected on grounds of safety, it may not be desirable to devote limited funds to the collection of the detailed data. This Catch-22 situation is amplified by the fact that TAMU, the operator, has its own safety panel for its own protection. In principle, this panel could reject a site passed by the JOIDES panel, but in practice the two panels are in close communication and to date the dual structure has posed no real difficulties.

6. Logging: Innovation and Frustration; Legislation and Education

PEC was delighted to find that the logging program is much stronger today than at the time of its first evaluation. The current management of the logging program has shown a willingness to determine the solution to logging problems and then to develop the tools or techniques to do the job. LDGO has added to or improved on its suite of radioactivity tools to a degree that exceeds the data acquisition requirements of most service companies. Activation analysis has been shown by LDGO to be a primary link to the problem of correcting logs to cores and/or detecting minerals that can be cored to detect chemical changes or diagenetic occurrences within the uncored rock units. These efforts have demonstrated that logging can be very beneficial to the success of the ODP.

BCOM recommended that the Stanford contract be considered for termination. If this is done, Zobach should be given the time and funds to test the prototype packing tool. Subsequent modification and testing should be done at LDGO. Efforts should also be made to obtain a suitable BHTV from industry and to test the new MFC (Schlumberger's FMS) tool against it when the latter is available.

Few geoscientists outside of industry have had the opportunity to use well logs to any great extent. As a result, the scientific parties on various legs, including the co-chief scientists, are usually much more enthusiastic about obtaining more core or deepening a hole than they are about taking time to log a hole. JOIDES PCOM and/or EXCOM obviously have become educated to the value of logging since they have passed an edict that all holes deeper than 400 meters must have standard logs. Perhaps this was necessary in order to obtain any data at all. But by now sufficient data has been collected that the logging group can readily demonstrate the value of logs to future scientific parties. If the scientific parties are sufficiently educated, they will demand logs, not look on them as a consumer of time better spent in collecting more core. Education can be far more productive than legislation, but it will probably be less effective if logging is taught as an advanced graduate course and more effective if taught as an introductory course. After all, most of us are too embarrassed to ask "stupid" questions, so the answers to the stupid questions have to be provided without asking. The staff scientists should also be kept informed of new developments, as PEC understands they are now, since they can act as missionaries both prior to cruises and aboard the vessel. LDGO logging personnel should attend all pre- and post-cruise co-chief scientist meetings, and should participate in cruise debriefings.

One cause of friction with regard to logging has been underestimation of the total time required for logging operations including hole preparation. TAMU is working to perfect a method of sweeping the borehole with weighted mud systems to facilitate cleaning and stabilizing the borehole and this should have high priority. To make the tool heavier just to spud through a bridge is not good procedure. If the sweeping technique fails, the side door sub should be used.

The PEC was impressed by the overall performance of the logging program and by the dedication and the competence of the logging group. It was pleased to see the progress that has been made in logging technology and the general increase in success of the logging and in the use of the time allotted for logging. It hopes that the heave compensation device, which was put to the test in the recent high-latitude legs, will prove capable of providing the kind of vertical resolution that will make the logs most useful.

7. Engineering, Drilling Operations, and Institutional Hangups

The engineering group appears to be well managed with activities in line with current identified responsibilities, but there is room for more effective integration, especially with the logging program. The engineering group responds to the scientific needs by working hard to improve core recovery and to make it possible to drill and log in more difficult locations. It is not entirely clear to what extent the group is responsible for new technology as opposed to operational improvements on existing technology. But it is clear that the engineering group and the TAMU managers have not fallen into the trap of developing tools just because they can. Their developments and improvements are well focused on the collection of samples and scientific data. The activities, including better data collection, testing of new tools and techniques, development of the hard rock base, and employing mining technology for drilling, appear to be very promising and the group is enthusiastic and dedicated.

Engineering cannot be done in the abstract; new tools and techniques need to be tried and improved as found wanting. This takes time and for the co-chief scientists, whose responsibility starts and ends with one leg, the consumption of time for the benefit of future co-chiefs may have a low priority. One solution is the proposed engineering leg in which new tools and techniques, including logging, are to be tested. Since the co-chiefs on this leg will be engineers, one can expect engineering to have a high priority. It remains to be seen whether this is a more effective method of proving new developments than to make the tests an integral part of the normal program. Another solution may well be education. If it is clear to the co-chiefs how they may benefit from new or improved tools and techniques,

they may be more willing to allot time for testing -- especially if the new tools have the possibility of enhancing their own results.

With regard to both drilling and logging, it would seem useful to examine time estimates and drilling objectives more realistically than appears to be the case. If too many holes drilled to too great a depth in too many locations are built into the original plans for a leg, there will be constant conflicts and numerous communications from the ship to TAMU asking for an additional few days to complete a program. As the emphasis of the program changes from regional to thematic it will become more and more important to achieve the objective at fewer holes than to drill more numerous holes. This may well require more extensive logging and innovative engineering.

Finally, the division through which LDGO has the responsibility for logging and TAMU for operations and engineering serves the useful purpose of protecting the logging budget from overruns in operations, but it creates some other anomalies. Logging sometimes seems to be considered an add-on rather than an integral part of the operations. In addition, the shipboard operations manager is responsible to TAMU. If a situation develops in which either logging tools, on the LDGO budget, or a bottom hole assembly, on the TAMU budget, are at risk, the manager may feel some pressure to protect the budget of his home institution by risking the logging tools. This may not have occurred, but perhaps some thought needs to be given to means through which this cannot be a factor in shipboard decision-making.

8. Shipboard Laboratories and the Core Description Crunch

Despite the fact that the laboratories on the JOIDES Resolution are larger than those on the Glomar Challenger, space seems to be at a premium, especially for some disciplines. The problem seems to be particularly acute in biostratigraphy. One might suspect that equipment was purchased to fill the space available within the available budget rather than to respond to a well-defined need. If so, the makeup of the technical party will be dictated more by the instrumentation that is available and that must be kept operative than by the defined needs of shipboard science.

The purposes of the shipboard laboratories need to be reexamined. Obviously they are not for the purpose of complete and final exaination of the core, log, and geophysical data or there would be no need to take samples or data back to home laboratories for further analysis. Equally obviously there will always be advocates for any particular piece of equipment even though the information it provides might be better obtained post-

cruise. It seems to the PEC that the fundamental purpose of the shipboard laboratories is to obtain the basic information for Part A of the Proceedings and to make measurements that must be made immediately before the properties of the cores change. If this premise is accepted, then a number of questions need to be asked.

a) What should be in Part A and who should decide what this should be: If the co-chief scientists have this responsibility, are they trying to include too much? Does the existence of instruments create an obligation to include measurements made with them?

b) Are the laboratories organized and equipped so that the necessary data can be collected and organized during a particular leg? This question is particularly relevant to logging since the laboratories should be equipped with instruments that will make comparisons between fresh cores and logs meaningful.

c) Does the makeup of the technical support staff reflect the above? Since core description seems to be the major problem, should more technical staff be devoted to this area and less to operating the SEM?

d) What should be done in order to better achieve the objective of having Part A essentially complete by the end of a leg? Again the major problem seems to be space and manpower for core description and biostratigraphy. A good biostratigrapher's work is never done, but Part A is an initial report, not a comprehensive final analysis.

If the shipboard laboratories are organized so that Part A can be essentially complete by the end of a leg, then publication of Part A can be more timely, perhaps a few months after the cruise ends, and the post-cruise energies of the scientific party can be directed toward producing Part B with more dispatch than now appears to be the case.

e) A related problem is the recent reduction (dictated by budget constraints) of the number of technical staff available for sea duty. That number seemed to the PEC to be at a critical minimum and the reduction will lead to a deterioration in both morale and performance. Indeed several of the recent co-chief scientists have already noted possible "technician burnout". A reorganized laboratory set-up might help relieve pressure on the reduced staff, although an increase of funds would be a better solution.

9. Core Curation and Storage and Common Wisdom

The ODP staff responsible for core curation and archiving are highly competent, responsive, and dedicated. They are to be commended. They recognize the need to keep strong control of the collections and to preserve the material under the best conditions of storage as defined by studies and tests of various storage environments. Core sample requests appear to be processed efficiently and responsibly. The complete rephotographing is an excellent contribution and the video discs are an excellent potential data source and index. This should be broadly advertised when it is available. Geotimes or EOS and similar publications in member countries would be appropriate.

The ODP cores are kept in refrigerated storage at considerable expense. The common wisdom of refrigerating cores dates back to the beginning of DSDP in 1968. Refrigeraton of the cores on board, and in transit, is appropriate in that it maintains the cohesion of unconsolidated sediments and probably leads to more care in handling in transit because of the obvious special nature of the containers. Blanket use of refrigeration for all core material in storage is not based on well designed tests and studies. The primary objective of storage is to preserve the integrity of cores and to permit resampling of the cores at points defined by the original descriptions. This need not mean maintaining the water content. Dry cores will shrink and crack. The degree of this reduction in dimension is a function of original in situ bulk density. Cores of consolidated sediment will show minimal shrinkage; unconsolidated sediments will shrink by as much as 50% for near-surface sediment. If inert markers are inserted in the fresh archive core sections at time of collection, the relative position of sub-samples can always be determined, even with complete dessication. Core photographs also provide a permanent reference that can be used to determine original natural marker features.

The geriatric core studies proposed by ODP curation staff are of primary importance in quantifying the changes due to the archiving environment. Cores should be stored in a responsible and cost-effective fashion. Time of exposure to air and light and the air temperature of the processing spaces on the drillship should be minimized. The repository environments should be based on controlled tests and not on superstition and myths. Unnecessary storage conditioning is not cost-effective. It can also artificially alter conservative properties. These effects must be documented. Such studies should have been made 20 years ago.

Although there are advantages to keeping the materials from a given hole together, it may prove to be more cost-effective (given that all will be preserved in the best condition for scientific use) to separate unconsolidated sediments,

consolidated sediments or lithified sediments, and crystalline rocks in different storage environments. Geriatric core testing will document this choice.

Freezing selected samples of cores does preserve the volatile organic content and should be continued. Geriatric studies of frozen cores would be of primary value. There may well be a limit to the "life" of such samples. In any event, these samples are a small volume compared to the main core storage.

Curation of the collections must be long-term and not simply for the duration of the project. Regardless of the ultimate storage environments defined by geriatric core research, these collections must be curated for their useful lives. Untended collections will rapidly lose their value and integrity. These materials are an international resource and their preservation should be a first order priority. The collections in the existing repositories should not be brought together in a single facility. Such transport would severely damage the unconsolidated sediment samples from early cruises. Lithified or crystalline materials are less subject to damage, but loss could occur from damage to their containers.

10. Data Management and Publications

The data management systems developed at LDGO and TAMU, like the core curation and information dispersal systems, seem to be in good order, with the exception that further efforts need to be made to integrate the underway geophysics and logging data into the VAX on the ship. However, there are some problems with publications, both conceptual and temporal.

First of all, the Proceedings of ODP have been divided into two parts, A and B. Part A is the preliminary data report, similar to similar reports of DSDP and IPOD. In the best of all worlds it should be essentially complete by the end of a leg and published certainly within a year, hopefully much earlier.

Part B represents a new concept, one in which the scientific results of a particular leg will be presented in a reviewed publication rather than in the gray literature. This is an interesting concept, but it rasies some questions.

a) First of all, it will be difficult to convince people that Part B is a part of the reviewed literature if it is called Part B. It would be better to disassociate it from A by making it a separate series with a name such as Scientific Results of Leg X of ODP. No Part B reports have yet appeared so this should be possible.

b) Second, one could ask whether it could be published more rapidly, at lower cost to ODP, and with a wider distribution by a scientific society or a consortium of societies. Final reports of the International Geodynamics Project, for example, were jointly published by AGU and GSA.

c) Third, PCOM, following the recommendations of COSOD I, has emphasized a thematic approach while the new Part B is strictly focused on individual legs. Would it be more appropriate to begin a series that faces up to the thematic approach? Should ODP publish this or should it, perhaps, help to subsidize symposia in which the problems and findings would be examined, with publication the responsibility of a co-sponsoring scientific society? JOIDES, JOI or the ODP Director could send to society presidents copies of COSOD I and II, together with summary sheets of the major themes, and offer to co-sponsor and support within reason and budget limitations symposia, workshops, sessions and special publications.

Turning to the temporal problem, PEC feels that efforts should be made to publish Part A as rapidly as possible. The goal is 12 months, but this is complicated by the fact that the post-cruise meeting of the scientific party may not take place until seven months after the end of a leg.

The goal for Part B is 36 months, although none have yet appeared. Some of the delay time for Part B can be reduced by inserting some strong science editors into the system. The external editorial board member can best serve in that role. These people are senior, knowledgeable scientists who are willing to give time and effort to ODP work. Strong deadlines can be assigned -- say 18 months after the end of the cruise. It is hard to believe that 36 months is the minimum that can be achieved. In the current system, with slippage and a few slow authors, the Part B volumes could well be far behind schedule and not available when tough decisions have to be made about the future of the project.

Sometime around 1991, perhaps earlier in some participating countries, the future of ODP after 1993 is going to be examined. If the latest information on scientific results is from 1988 or even earlier, it may be difficult to convince waverers that the program is deserving of continuation. There is an emotional attachment to having all of the information in one place or in one series, but perhaps the emotions can be satisfied by maintaining a continuously upgraded bibliography of publications that are based on ODP materials and data that is readily available on-line or in hard copy. This actually might turn out to be more useful to customers than Part B, as previously conceived.

In general the PEC was nervous about ODP entering into the serial publications game. The scientific societies would probably look upon this as unwelcome and subsidized competition for science that they would like to publish, and there are serious questions whether ODP can afford the time or funds required to publish a serial, open-submission journal.

The PEC realizes that the budget-driven reduction in the number of staff scientists at TAMU complicates the problem of speeding up publication as well as creating other operational difficulties, and hopes that future budgets will allow some expansion of their ranks. Nevertheless, the excessively slow rate of publication is probably the most serious problem faced by ODP today and could well dictate the program's fate in 1993. A strong effort is needed to correct the current situation.

11. Bean Counting and the Bright Side of Aides

Administration and fiscal responsibility for ODP at TAMU is in the hands of the Texas A&M Research Foundation, and good hands they seem to be. This office handles all fiscal matters (payroll, budgets, etc.); administrative services (licenses, insurance, purchasing, travel, meetings, etc.); and contracting. The small staff seems to be exceptionally competent and has the refreshing philosophy that they are there to ease and aid rather than to obstruct and pick. They seem to work well and efficiently with all the other pieces of the operation.

12. Quo Eramus?

PEC was impressed by the scope and quality of the activities carried out under the banner of ODP. The field program is running about as smoothly as an experimental program operating in remote and difficult waters, with a tight budget, subject to political complications resulting from changing national jurisdictions, and with multiple objectives generated by many scientists from a number of countries, might be expected to run. It is an impressive example of international cooperation at its best.

But like any program, it could be better and we trust that our comments will be taken in the spirit of helping to make it better. Like any program it could do more if the budget permitted, and it could function, though with less innovation and degraded results, if budget realities demanded this. We reiterate our feeling that the search for additional partners is a more likely way in which the budget can be continued at present levels, or even enhanced, than by increasing the dues of the present participants.

APPENDIX I

MEMBERSHIP OF
PERFORMANCE EVALUATION COMMITTEE II

Dr. Charles L. Drake, Chairman
Department of Earth Sciences
Fairchild Building
Dartmouth College
Hanover, NH 03755

Dr. Donn S. Gorsline
Department of Geological Sciences
University of Southern California
Los Angeles, CA 90089

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7501 East 103 Street, South
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Institute of Oceanographic
Sciences
Deacon Laboratory
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Mr. Dan Motyka
Vice President Production
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Department of Geophysics
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Prof. Dr. W. Ziegler
Forschungsinstitut Senckenberg
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Federal Republic of Germany

NSF Liaison

Mr. Alexander Sutherland Jr.
Ocean Drilling Program
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

Staff Support

Dr. William E. Benson
National Research Council
Board on Earth Sciences
2101 Constitution Avenue
Washington, D.C. 20418

APPENDIX II
PEOPLE INTERVIEWED

1. JOI Headquarters, Washington, D.C., 17 March 1988
   - D. J. Baker
   - T. Pyle
   - J. Clotworthy
   - D. Rucker

2. Lamont-Doherty Geological Observatory, 18-19 March 1988
   - N. Pisias (Chairman, PCOM)
   - R. Anderson
   - R. Jarrard
   - C. Barton
   - X. Golovchenko
   - C. Brenner (Data Bank)
   - G. Karner

3. Texas A&M University, 22-24 March 1988
   a. ODP Personnel
      - M. Friedman (Dean, College of Geosciences)
      - P. Rabinowitz
      - L. Garrison
      - R. Olivas
      - B. Hamlin
      - B. Harding
      - G. Foss
      - M. Storms
      - D. Reudelheuber
      - S. Serocki
      - S. Howard
      - A. Milton
      - J. Baldaut
      - S. O'Connell
      - B. Clement
      - E. Taylor
      - S. DeVoge
      - L. Holst
      - W. Lancaster
      - R. Merrill
      - P. Brown
      - C. Moto
      - J. Beck
      - J. Foster
      - W. Rose

   b. Co-Chief Scientists from Recent Legs
      - P. Ciesielski 114
      - J. Backman 115
      - R. Duncan 115
      - J. Cochran 116
      - W. Prell 117
      - N. Niitsuma 117
      - R. von Herzen 118
      - P. Robinson 118

APPENDIX III

I. Terms of Reference for Performance Evaluation (Revised September 1987)

During the life of the Ocean Drilling Program, JOI will periodically evaluate the management of the program and the performance of its subcontractors. This evaluation will be accomplished at two to three year intervals by a committee of experts appointed by the President of JOI. The President will consult with NSF, the JOIDES EXCOM, PCOM, and others as appropriate in the formation of the evaluation committee. The Performance Evaluation Committee (PEC) will report to the Board of Governors through the President of JOI. Terms of Reference for the evaluation will embody the following general procedures and criteria:

A. The committee membership will consist of experts in the fields of engineering, management, and science to be appointed by the President of JOI in consultation with NSF, the JOI Board of Governors, JOIDES and others. The committee should be chaired by an eminent scientist who should be knowledgeable about ODP but not currently active in the program. Committee members should not be currently active in the program.

B. The committee will review and evaluate the performance of Texas A&M, Lamont-Doherty, and other subcontractors in accordance with a schedule to be developed by the PEC chairman and approved by the President of JOI. JOI will provide for sufficient funds in the Performance Evaluation Committee budget to include the services of an Executive Secretary.

C. The committee will be briefed by the Chairman of the JOI Board of Governors and the President in advance of any scheduled performance evaluation. Following completion of the evaluation and receipt of subcontractor comments and plans, the committee will report its results to the JOI Board of Governors.

D. The committee will transmit in writing to the subcontractor being evaluated the scope and procedures of the evaluation together with any questionnaires or questions to be answered. Copies of such correspondence will be furnished to the President of JOI who will keep the Board of Governors informed.

E. The committee will conduct its evaluation at the headquarters site of the principal contractor and subcontractors. Sufficient time shall be allocated for a thorough review. The drillship also will be visited for evaluation when appropriate and convenient. If

scheduling is impractical, interviews will be conducted with members of recent past crew and past scientific parties.

F. The committee will evaluate the principal items of performance, including accomplishment of scope of work in the contract, particularly with regard to achievement of scientific objectives; program plan management and adherence; personnel policies and personnel management; overall management effectiveness and efficiency, including cost consciousness; subcontract management; reports and report management; public information, particularly in regard to scientific dissemination of data; liaison and relationships with JOIDES, JOI, NSF, and national and international scientific bodies; engineering maintenance, development, and application; attention to environmental conditions and adherence to environmental impact statements; safety procedures and safety record; staff morale; and other items considered important by the committee.

G. After completion of each evaluation, the Chairman of the PEC will discuss the committee's findings with the senior official of the subcontractor and/or the subcontractor's staff, as is mutually agreed. This discussion and its content shall be communicated to the President of JOI who shall in turn inform the Board of Governors.

H. Within two months of completion of site visits, the Chairman of the PEC will submit the performance evaluation report to the President of JOI who will discuss with and transmit the report to the subcontractors with a request for written comments, including plans for any action required.

I. The President of JOI, after receiving the subcontractors' comments and plans, will arrange with the Chairman of the PEC to present the final report and implementing recommendations to the Board of Governors. The President will then transmit a copy of the report and implementation plans to NSF, the JOIDES EXCOM, and PCOM. This should occur within two months after receipt of the report from the Performance Evaluation Committee. Those recommendations requiring consultation with EXCOM and NSF will be reviewed with these organizations prior to implementing action.

The foregoing procedures for performance evaluation will be refined and/or modified as experience is gained. The ultimate objective is to achieve a reliable and effective evaluation system that will best serve the scientific community, NSF, and JOI.

II. General Guidance

A. The PEC will visit JOI Headquarters in Washington, D.C., and the subcontractors at LDGO, TAMU, and the JOIDES office. The PEC will visit the JOIDES Resolution if the vessel is in a convenient part of the world.

B. The PEC will interview selected members of EXCOM and PCOM.

C. The Executive Secretary will transmit a list of issues and questions to be raised by the PEC, directly to the President of JOI and the subcontractors in advance of the visits. This document will be drawn up by the PEC Chairman and the Executive Secretary, who will also determine the type and style of paperwork to be provided, again in advance of interviews.

D. The PEC will decide its own interview process. It may be necessary, occasionally, for people to be interviewed privately or on a group basis, e.g., marine technicians, etc.

E. The PEC will have the right to call for any papers or information which it deems necessary.

F. The PEC should have the right to propose specific studies of ODP and its operations by professional consultants, as appropriate.

G. The report should consist of a descriptive section outlining activities, a section dealing with observations and impressions, and a section on conclusions and recommendations. The report must be accompanied by an executive summary. The draft report will be prepared by the PEC Chairman. It will then be circulated to other PEC members for comment, and revisions will then be made. The final report shall be submitted within two months following completion of site visits.

H. A record of the interviews will be kept on a strictly confidential basis and will be deposited with the President of JOI.*

* The PEC II declined to comply with this guideline.

September 28, 1988

Dr. D. James Baker
Joint Oceanographic Institutions Inc.
1755 Massachusetts Ave. NW
Suite 800
Washington, D.C. 20036

Dear Jim:

We received the Performance Evaluation Committee (PEC II) report and are very pleased that our reviewers feel that "The field program is running about as smoothly as an experimental program operating in remote and difficult waters, with a tight budget, subject to political complications resulting from changing national jurisdictions, and, with multiple objectives generated by many scientists from a number of countries, might be expected to run."

We certainly will continue to work hard and do our best to sustain this record and receive similar performance evaluations in the future.

Sincerely,

Philip D. Rabinowitz
Director

PDR:hk

cc: Dr. Mel Friedman, Dean
College of Geosciences, TAMU

Dr. Douglas R. Caldwell, Chairman
JOI Board of Governors

Ocean Drilling Program
Office of the Director
1s A&M University Research Park
J Discovery Drive
College Station, Texas 77840 USA
(409) 845-8480
Telex Number: 792779 ODP TAMU
or Easylink Number: 62760290

April 10, 1989

Dr. James Baker, President
Joint Oceanographic Institutions Inc.
1755 Massachusetts Ave., NW
Suite 800
Washington, DC 20036

Dear Jim:

In response to your letter of February 3, 1989, I would like once again to reiterate that we are pleased that the Performance Evaluation Committee II felt that *"The field program is running about as smoothly as an experimental program operating in remote and difficult waters, with a tight budget, subject to political complications resulting from changing national jurisdictions, and, with multiple objectives generated by many scientists from a number of countries, might be expected to run."*

Most of the questions you have asked me to respond to and which are listed below do not fall within the responsibility of the Science Operator or have been answered within the body of the PEC II report itself. However, I hope that the following coments will satisfy your request and avoid any possible misunderstandings.

* PEC II concludes that shipboard logging is "something of a step-child."

  The PEC report continues on page 3... "something of a stepchild. L–DGO has made a good attempt at spreading the gospel, but more is needed. We recommend that:..." I believe that PEC recommendations regarding L-DGO's subcontract should be met as stated in a to e on p. 3 of the PEC II report.

* Regarding pre-cruise meetings and LDGO's comment about expanding them by 1/2 day for more education on drilling and logging, what is TAMU's position? (p. 3)

  TAMU's position is that L-DGO should have all of the time they require to educate the co-chiefs on logging.

Ocean Drilling Program
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* What is TAMU's response to recommendations regarding "reexamination of shipboard labs and equipment" and the comment on SEM? (p. 3)

  I agree with comments on shipboard laboratories. In fact, it was our recommendation that a JOIDES Panel be established that would maintain an overview of shipboard measurements. JOIDES has since been responsive to this request.

* Any comment on living conditions? (p. 3)

  The living conditions are fine as long as one doesn't mind up to four persons in a room and up to eight to a shower. We could:

  i) sail fewer personnel (impractical under present guidelines given to us);
  ii) build more rooms (impractical - only space available is science labs).

  From reports we receive from scientists, there is no problem with the housekeeping and laundry within the quarters.

* TAMU should respond to the recommendation that "the need for long-term refrigeration of most sediment cores be reexamined." (p. 4).

  Jim, if you continue reading, the next sentence of the PEC report stated that "...the geriatric studies <u>proposed by the ODP staff</u> be undertaken as soon as possible". It was <u>our</u> recommendation that this be looked at, and the study has already commenced.

* The major conclusion of PEC-II is that "one very serious defect...is the excessive time it takes for publishing the data and interpretations." This requires a reply. (p. 4)

  The 12-16 month and 36-month time periods for publication of the Initial Reports and Scientific Results volumes, respectively, are time period approved by the JOIDES community.

The JOIDES Information Handling Panel has recently re-addressed this question by surveying the scientific community at large. We will be responsive to whatever changes the JOIDES IHP and/or PCOM request (if any) as a result of these surveys.

* The PEC-II expressed concern about a sense of complacency regarding the renewal of ODP. Whether we agree or not, this should be answered. (p. 5)

We at TAMU/ODP certainly are <u>not</u> now, nor have we ever been complacent. I do not believe that the complacency warning was aimed at the Science Operator, but rather that the question of program immortality must be addressed at the level of the JOI administration.

* Regarding logging, PEC-II stated that "staff scientists should also be kept informed of new developments." Do staff scientists go to logging schools? (p. 10)

The PEC sentence quoted here continues as follows:

"The staff scientists should also be kept informed of new developments, <u>as PEC understands they are now</u>,..."

Yes, our staff scientists should be and are kept informed of new developments.

* "Since core description seems to be a major problem, should more technical staff be devoted to this area?" (p. 13)

I think the PEC also provided the answer to this question on p. 13, an answer with which we quite agree. They said, "A related problem is the recent reduction (dictated by budget constraints) of the number of technical staff available for sea duty. That number seemed to the PEC to be at a critical minimum and the reduction will lead to a deterioration in both morale and performance. Indeed several of the recent co-chief

scientists have already noted possible "technical burnout". A reorganized laboratory set-up might help relieve pressure on the reduced staff, although an increase of funds would be a better solution."

The BCOM and EXCOM have very explicitly stated at meetings that the scientists themselves should do more of the above technical support. This has not been a satisfactory solution to date, and without the funding to do so, we are unable to relieve the pressure by hiring more technicians.

* Any comments from TAMU curators on suggested possibilities of separately storing unconsolidated sediments, consolidated sediments, and crystalline rocks? (pp. 14-15)

I believe that the PEC in the next sentence of their report provided the answer that we would give, i.e., "Geriatric core testing will document this choice."

Once again, there is no doubt in my mind that as Science Operator of the Ocean Drilling Program at Texas A&M University we will continue to be responsive to the JOIDES community and will continue to receive excellent performance evaluations in the future.

Sincerely,

Philip D. Rabinowitz
Director

PDR:hk

Lamont-Doherty Geological Observatory | *Palisades, N.Y. 10964*
of Columbia University

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Palisades New York State
TWX-710-576-2653

Telephone: Code 914, 359-2900

November 21, 1988

Dr. Tom Pyle
JOI, Inc.
1755 Massachusetts Ave, NW.
Suite 800
Washington, D.C. 20036

Dear Tom:

Enclosed is the BRG response to the recommendations made by the Performance Evaluation Committee. It was put together by Roger Anderson, Rich Jarrard and myself. If you have any questions pertaining to our write-up, please let me know.

Sincerely,

Xenia

Xenia Golovchenko
Operations Manager, BRG

XG:jg

RESPONSE OF THE BOREHOLE GEOPHYSICS GROUP (LAMONT) TO PEC RECOMMENDATIONS

a) **Co-chiefs should be introduced to logging earlier in the cycle (p.3). Staff scientists should also be kept informed.**

The PEC, as well as the 1988 co-chief review, have correctly identified a gap in our education process. During the past two years, logging has been incorporated into cruise plans much earlier than previously (via attendance at key panel meetings and preparation of the WPAC logging rationale). Further, education has increased dramatically (via 7 logging schools, a thematic logging manual, talks at scientific meetings, and shipboard talks). However, precruise contact with co-chiefs has been limited to: 1) distribution of the ODP Logging Manual to co-chiefs; 2) attendance at the precruise meeting, with a 20-30 minute talk on logging objectives and status of preparations, and 3) a subsequent letter from the Lamont logging scientist to the co-chiefs. The available 20-30 minutes does not permit both background education and discussion of logging objectives and operations. We strongly endorse the Co-chief Review recommendation to expand precruise meetings by 1/2 day for expanded education on drilling and logging. We cannot act unilaterally.

b) **L-DGO logging personnel should attend <u>all</u> pre and postcruise meetings.**

We have attended all precruise meetings and almost all postcruise meetings. As nearly the entire purpose of postcruise meetings is revision of manuscripts for Initial Reports, we have tried to attend the 5-day meeting rather than mail in the revisions.

c) **Estimates of the total time required for logging a hole should be improved.**

Logging has too many variables (e.g., water depth, subbottom depth, hole conditions, number of tool strings) to permit construction of a simple time estimate based on previous ODP experience (such as the TAMU coring-time curve). Instead, we have provided simple equations for estimating logging time. Recognizing that the equations are for ideal conditions rather than ordinary conditions, the Planning Committee recently approved increasing estimated logging times by 10% to more realistic values.

d) **Shipboard procedures should be reexamined to allow easier correlation of logging results with other core measurements (p. 3). Laboratories should be equipped with instruments that will make comparisons between fresh cores and logs meaningful (p.13). Integrate the logging data into the VAX on the ship (p.15).**

Improved comparison of log and core data has three elements:

1) Similar types and vertical resolutions of core and log data.

Continuous core measurements of GRAPE density have recently been supplemented by a P-wave logger and will soon be supplemented by a resistivity logger. Beginning in April 1989, our Formation Microscanner will provide analogous measurements (resistivity, which, like the three core measurements, responds primarily to porosity) at similar vertical resolution (<1 cm.). This will be the most important feasible equipment step towards better core/log camparison. However, reliable links will be limited to deep APC cores (below the 70-100 mbsf pipe depth) and the least-disturbed XCB cores. We would like to see a continuous-core gamma ray logger on the ship as in early DSDP; such a tool would be less affected by core disturbance than are the porosity-sensitive core loggers. Another help would be interactive-graphics software for rapid removal of unreliable (disturbed core) GRAPE, P-wave, and resistivity measurements.

2) Hardware connection between the VAX and Masscomp computers.

Rather than using tapes to transfer logging data to the Vax or the core data to the Masscomp (as is now done), direct computer-to-computer data transfer via Ethernet will be possible in February 1989. Routine presence of logging data on the Vax has been rejected by TAMU because of the large volume of log data. Similarly, our Masscomp is already near disk capacity. A possible solution is core/log comparison on a MacIntosh. We already have a MacIntosh linked to the Masscomp, so data transfer is no problem.

3) Software for log/core comparison.

We already have funds budgeted (3 months salary, Jan. - Mar., 1989) for MacIntosh software development for log/core comparison. A full man-year would be more appropriate but not feasible with our current manpower budget. Until the MacIntosh software is in place, we will continue to have slow but usable comparison capability using Picsure on the Vax or--starting November 1988--Gnuplot on IBM PC or Masscomp.

e) The policy of restricting publications by the Borehole Research Group should be relaxed.

The BRG has written a 3-volume ODP Logging Manual and contributes actively to both Initial and Scientific Results volumes. In fact, the Lamont logging scientist has been known to write more pages for an Initial Reports volume than anyone else except the co-chiefs. However, the only ODP related publications by the BRG outside these volumes are two general education papers (one submitted recently with DMP). Perhaps we have overreacted to the first PEC, which cautioned that we should not take advantage of our privileged position of access to ODP logging data. Undoubtedly, our scientific careers are hurt by this lack of journal publication. By contributing to Scientific Results in good faith, we run

the real risk of being scooped. For example, only last month (Sept. 1988) was the Leg 105 Scientific Results paper on Milankovitch cycles in logs accepted for publication, permitting outside publication by its BRG author. Yet, anyone not on Leg 105 could have requested the logs two years ago and published immediately. A second factor which limits our journal publications is the lack of time for discretionary items such as journal publication. We will take the PEC recommendation as an indication that we would not be violating our privileged position by journal publication. However, we will not legally circumvent ODP policy by having one BRG member publish something that the Lamont logging scientist for that leg is not yet permitted to publish. We would rather see ODP publication policy changed to remove the bias against shipboard scientists.

f) Better ODP engineering/LDGO logging coordination needed (Item 7, p. 11).

This point is certainly a valid one that both groups are aware of and are constantly trying to improve. Some recent insights into the major problems concerning ODP/LDGO shipboard operations, and recent policy changes are summarized in a letter from the ODP engineering group and minutes from a Lamont /ODP meeting. These are enclosed to demonstrate the continuing effort on the part of both groups to improve the shipboard logging operations.

Foss Out

OCEAN DRILLING PROGRAM

INTEROFFICE MEMORANDUM

October 12, 1988
GNF/M10/042

TO: Operations Superintendents

FROM: Glen N. Foss

SUBJECT: Policy

Recent actions by PCOM and JOI have clarified policy with regard to the role of the Operations Superintendent in operational decision-making. These interpretations concern not only logging and downhole instrumentation, but overall scientific site objectives.

Paragraph 562 of the new JOI ODP Policy Manual states: "The ODP Operations Superintendent is the official representative of the Ocean Drilling Program and has the responsibility of seeing that the PCOM drilling and logging are followed during the cruise operations."

Departmental policy in the past has been to defer to the Co-Chief Scientists in such matters, but the responsibility has now been placed squarely on the Operations Superintendent. He is required to insure that PCOM directives and policy are followed. That applies not only to standing policies, but to the individual cruise prospectus, once it has been approved by PCOM. This is not to imply that the O.S. has the authority to make or alter scientific decisions. The message is that only PCOM can make such decisions and that no one on the ship is authorized to do so.

It is rare in ODP operations that the prospectus can be followed in its entirety. Time limitations, delays and unexpected drilling results usually dictate that certain objectives or operations must be deleted or changed. It is the O.S.'s responsibility to keep the Co-Chiefs and ODP Management sufficiently informed of events that will force a departure from the prospectus plan. Co-Chiefs may need to be reminded to submit their recommendations for alternative plans to PCOM via ODP Management. If it is avoidable, the situation should not be allowed to "slide" until a last-minute shipboard decision must be made.

Some of PCOM's policies on logging recently have been compiled and clarified for us. They may be summarized as follows:

A. <u>All sites 400m or deeper will be logged.</u> Note the word "site". Logging may be omitted in a given hole if the interval has been or will be logged in another hole at the same site. Exceptions include exemption by PCOM

(via the ODP/TAMU Director), undue hazard to drilling equipment as determined by the O.S., unavailability or malfunction of logging equipment, expiration of leg operating time, etc.

B. All XCB holes planned deeper than 750m will be logged in two stages. This is primarily to prevent loss of hole and logs due to a failed XCB or other obstruction of the drill string. Expected total depth, geologic horizons, hole conditions and common sense will be factors in choosing the first logging point. The LFV should be run in all XCB holes.

C. Logging in each hole will consist of the "standard" three runs unless deletion or additions are approved by PCOM. The three runs are (1) seismic stratigraphy combination, (2) litho-density combination, (3) geochemical combination. The order of the runs normally is determined by the BRG representative.

D. Holes deeper than 400m will be logged through-pipe with radioactive logs if open-hole logging is not possible. Such situations include obstructed drill strings, bit release failures, bridged holes, etc. Such logging will not be attempted if, in the O.S.'s opinion, it represents an undue risk to the drill string.

The increased emphasis on logging and other downhole science under ODP is an evolution in priorities that must be recognized by all parties in the planning and execution phases of our operations. We will harvest more science per site, but there will be fewer sites per leg, less time spent coring and a corresponding decrease in the amount of core produced. Because downhole science is no longer a second priority, operational planning must include measures to optimize conditions for the deployment of wireline tools, packers, etc. to total depth. These measures will include more cased reentry holes, dedicated holes for downhole science, more time for hole conditioning, increased emphasis on fluids for hole cleaning and logging environment, etc.

In particular, reentry cones must no longer be viewed merely as means to advance the bit to the drilling target. As the deeper multiple-bit penetrations tend to be the most valuable opportunities for downhole science, we are obligated to protect them for easy access, both immediately and long after the drilling operation has ceased. For that reason, we should be careful in opting for the expedient solution in our planning recommendations. This applies especially to situations where planners might be tempted to consider the FFF to be a substitute for a reentry cone.

cc: B. Harding
M. Storms
R. Grout
D. Huey
D. Reudelhuber
S. Howard
T. Pettigrew
A. Meyer
L. Garrison
R. Anderson (BRG-LDGO)
Ship File

LDGO - TAMU - SCHLUMBERGER - SEDCO FOREX

MEETING MINUTES

24 OCTOBER 1988

ATTENDEES:

ODP - TAMU	ODP - LDGO	SCHLUMBERGER OFFSHORE	SEDCO-FOREX
Barry Harding	Roger Anderson	Gary Henderson	Dave Steere
Glen Foss		Andy Porat	Mark Waltz
Dave Huey			
Ron Grout			
Lou Garrison			

The meeting was held to discuss solutions to the following items brought up by LDGO:

1) Logging Tool storage and assembly,
2) use of the S.E.S.,
3) Mud program,
4) better shipboard communication among LDGO, TAMU, Sedco-Forex and Schlumberger,
5) better shorebased coordination between LDGO loggers and TAMU operations personnel.

The following points were identified during the meeting as either action items or points of interest:

(1) Sedco-Forex drilling supervisors and rig personnel are doing a good job of operating the logging winch and also in helping the loggers and logging effort.

(2) The Schlumberger logging engineers need to stay involved during the entire drilling sequence of a hole that will be logged and also speak up to LDGO should they notice definite areas where mistakes may occur or where logging procedures could be improved.

(3 The LDGO representatives sent to the ship will be experienced loggers and no first time LDGO loggers will be sent unaccompanied. That effort is meant to strengthen the operations image of LDGO and help the overall logging effort. Furthermore, once the hole is conditioned and ready to log, the LDGO logging rep will call the shots, and be in control with consultation from the ODP and Sedco Superintendents as necessary. The Co-Chiefs will not have an active role in the logging operations except as far as granting extra time, if necessary.

(4) The side entry sub will be run whenever the LDGO logging rep decides that it is prudent to run it, provided it does not exceed the design limitation of the SES. The LDGO will make the decision of yes, or no on SES deployment with help from the ODP or Sedco Drilling Superintendents. ODP engineering will get a quotation for LDGO's account on a design upgrading of the SES to handle higher drillstring loads.

(5) The KCL program, as utilized in hole conditioning prior to logging, does seem to be working. Totally freshwater drilling slugs are no longer being used onboard. The digametic swelling indicator on board the J/R must be utilized by the LDGO logger as the basis for estimating percent of KCL necessary.

(6) Two logging related policies need to be redefined by TAMU:

a) cut and crimp procedure,
b) T-bar strip-out procedure

ODP drilling operations will upgrade those procedures.

(7) Schlumberger certified that only a 3-3/8" tool profile would ever be seen in 99% of any possible fishing cases.

(8) The Schlumberger logging tools will be stored (on their shock mounted skids) and checked for continuity on the helipad. Once the tools are checked and ready for deployment, they will be set on 12" sills on the port side of the piperacker, adjacent to the C.T. shop for running. Storage of logging tools atop the lab stack will cease.

(9) Stronger weak points need to be run in the logging cable, and also the possible use of explosive weak points need to be looked into by LDGO and Schlumberger.

JOIDES/ODP SITE SURVEY DATA BANK

Lamont-Doherty Geological Observatory
Palisades, N.Y. 10964
Telephone: (914) 359-2900

October 14th, 1988

Dr. D. James Baker
Joint Oceanographic Institutions, Inc.
1755 Massachusetts Ave., N.W.
Suite 800
Washington, D.C. 20036

Dear Jim:

As there were no specific comments in the recent PEC report aimed at the Site Survey Data Bank, I am afraid I have little to "respond" to. I assume, from the positive feedback I received during my interview with the PEC members, that no news in this case is basically good news, and that the PEC was satisfied that we are adequately meeting the needs of the JOIDES community.

As far as the PEC report in general is concerned, I would like to say that I heartily endorse the idea of a publication policy that emphasizes thematic syntheses. This will, as the report states, prove to be a much better way of conveying the successes of the program in investigating the issues outlined in COSOD and COSOD II, and will also no doubt be of great help in summarizing the program's achievements when the time comes to consider funding the post-1993 phase of ocean drilling.

Sincerely,

Carl Brenner

CB/am

JOIDES Response to PEC II Report of August 30, 1988

(provided by Ralph Moberly, PCOM Chairman, March 28, 1989)

This March 1989 status report follows the order of sections in the PEC report. Sections marked NA should not need a JOIDES response.

A. NA

B. 1. Overall Management -- JOI and JOIDES

The mandates of the JOIDES committees and advisory panels were updated, endorsed by EXCOM, and approved by the JOI Board of Governors. With particular respect to PEC items, the advisory structure is aligned to a thematic approach, the chairs of both EXCOM and PCOM are at the same institute, and the BCOM mandate received careful rewriting.

2. NA

3. NA

4. Engineering.

The concept of engineering legs is being reevaluated.

5. Shipboard Facilities and Procedures

a. A new advisory panel, Shipboard Measurements, has begun to address these concerns and related ones.

b. Although deficiencies in living conditions on the ship were raised at BCOM, the overall tight budget precludes any substantial alleviation.

6. NA

7. NA

8. Data, Publications, and Information Transfer

PEC II points out the serious defect in ODP of the excessive time it takes for publishing the data and interpretations. Three aspects of this concern are (a) the need to issue Part A in less than one year post-cruise, (b) the need to publish Part B (perhaps renamed) in less than 30 months, and (c) the need to publish synthesized thematic and regional materials from more than one cruise.

These very concerns had also been voiced by many within the JOIDES structure itself. These actions have started: All panel chairmen were asked to consider the likely effects in their fields of shorter publication times recommended by PEC II (a and b above), and to respond. All thematic-panel chairmen were

asked to take the lead in organizing occasional thematic volumes based on ODP and DSDP results. The Shipboard Measurements, Downhole Measurements, and Information Handling panels are to list ways to speed publications, especially of Part A, and include a discussion of trade-off factors of costs, training and quality. The Information Handling Panel has reevaluated the policies regarding Parts A and B. BCOM has recommended to JOI the temporary hire of two copy editors to assist in reducing the backlog and speed up Part B volumes.

Based on the advice it receives from its Information Handling and other panels, and the advice of the constituencies of PCOM members (especially the non-U.S. ODP national committees), PCOM at its early May 1989 meeting will consider revision of publication policies. Likely decisions are: Volume A (Initial Report) will be published within one year, essentially as the reports generated onboard, with improved figures. Volume B (Scientific Results) may become a combination of reprinted articles from refereed journals (which may require changes in authorship policy) and data reports, published within 30 months. PCOM will also hear and consider recommendations of its subcommittee on thematic publications. A meeting of members of the former Indian Ocean Regional panel and co-chief scientists of Indian Ocean legs will organize synthesis publications of ODP work in the Indian Ocean. If successful, this can be a model for future regional syntheses.

C. 1. Quo vadimus?, and

2. Scientific objectives: COSOD I versus ODP.

As stated above, JOIDES recognizes and is responding to PEC criticism about publications, through its advisory panels and PCOM. JOIDES intends to evaluate COSOD I thematic objectives adequately before switching to COSOD II ones. Its present plans and Long Range Plan expect to phase-in the COSOD II objectives as COSOD I ends and as engineering advances.

3. NA

4. NA

5. JOIDES, Its Spawn, and Catch-22.

We have reiterated that JOIDES Panels report to PCOM rather than to the Science Operator or the Borehole Research Group. BCOM provides guidance to JOI, and reports to EXCOM (which approves the final Program Plan and detailed budget).

The JOIDES Pollution Prevention and Safety Panel, over its past two meetings is now "pre-reviewing" data sets from potentially hazardous areas, for an earlier indication of the scope of data sets likely needed to satisfy the formal pre-leg safety reviews.

6. NA

7. NA

8. Shipboard Laboratories and the Core-description Crunch.

The JOIDES structure now has a Shipboard Measurements Panel to advise PCOM about the concerns expressed in this part of the PEC report.

9. NA

10. NA

11. NA

12. NA

JOI Response to PEC-II Recommendations

(prepared by T. Pyle)

B.1. Overall Management--JOI and JOIDES

> "The respective roles of JOI, JOIDES and the operator [should] be reexamined, especially in the context of the change from a regional to thematic approach. The lines of communication and authority need clarification and better definition."

The JOIDES advisory structure has been reorganized to emphasize scientific themes instead of geographic regions. At the same time, we have reminded all panel chairmen that they report to and advise PCOM, not the operators. PCOM makes recommendations to JOI as to drillship scheduling and other matters. Since PCOM meetings are attended by representatives from JOI as well as the operators, we can work out any difficulties at the PCOM meeting. This allows the operators to make plans, avoid bureaucracy and reduce delays which would ocur if each action warranted a piece of paper routed through JOI and/or EXCOM. On the rare occasions when policy matters intrude on scientific scheduling, the PCOM's recommendations are routed to EXCOM and then to JOI (e.g., clearance requirements for Red Sea drilling). The lines of communication seem rather clear and well defined considering the magnitude of the program and its policy of getting wide-ranging input. We appreciate the PEC's comments on JOI's more active role in management of the program.

> "the custom of having the chair of both PCOM and EXCOM at the same institution should be reconsidered."

This practice has been reconsidered a number of times and has always been confirmed because it provides the best coordination of PCOM and EXCOM policies and activities and, secondarily, because it is most efficient in terms of logistics.

It has been suggested that some U.S. members of PCOM be appointed from non-JOI institutions to broaden the talent pool as well as the constituency supporting ODP. The JOI Board of Governors has agreed to an arrangement whereby two of the ten U.S. positions on PCOM would be assigned to non-JOI institutions. In this new arrangement it is possible that the EXCOM and PCOM chairmen could come from different institutions. In that case, the "talent pool" and "constituency" advantages would be deemed more important than the coordination and logistics arguments. Of course, variations on this suggestion exist. In one version, PCOM could have non-JOI members but its chair would have to be from a JOI institution.

The relationship between EXCOM and PCOM chairmen will have to be discussed by EXCOM and PCOM in light of the non-JOI membership suggestion and its talent and constituency implications.

> "the position of BCOM in particular should be spelled out (e.g., it might better be a creature of JOI). In any case, it should not report to or direct the operator."

The BCOM is, in fact, a formal creature of JOI like all JOIDES panels which advise it. The membership and role of BCOM has been spelled out by EXCOM (see EXCOM minutes of 15-16 October 1986). Briefly stated, the BCOM is a joint committee of EXCOM and

PCOM that advises JOI on the ODP program plan budget, specifically how it responds to PCOM's science advice. BCOM was established so that the entire membership of both committees would not have to deal with the details of a rather large and complex budget document. The BCOM does not report to any operator and it has never directed any operator. When JOI has concurred with BCOM the recommendations have been given to the operators for response. This procedure may have mistakenly given the impression that BCOM was directing the operators, but in no case has every BCOM recommendation been followed. The process has been and will be a "three"-way mediation process (BCOM-JOI-operator) in which JOI is appropriately in the middle.

B.2. Future Finances

> "We recommend to JOI, NSF and all concerned that they tread carefully in any futher raising of the dues, lest that result in fewer partners. A better tactic might be to seek more partners."

We have all treaded very carefully in raising the contributions ("dues") for the first time since inception of the program, but this has been accomplished without (so far) any loss of partners. While we have sought more partners and have succeeded in bringing Australia into ODP, the most obvious next partnership (with the USSR) has been stymied by political problems. Very tentative discussions have also been held with other potential partners but no commitments have emerged. The pool of candidate nations having sufficient resources and a geological sciences infrastructure is very small.