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ACTION ITEMS

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3	136	II, B	DSDP	Investigate possibility of using Soviet logging equipment
4	137		PCOM/DSDP	Adjust CHALLENGER schedule to add at least two weeks to the North Atlantic Program
7	138	III		Determine best mode for EXPLORER planning and establish EXPLORER planning group
8	139		DSDP	Investigate utilizing smaller and/or less expensive ships for hydraulic piston coring on both a full and part-time basis
8	139		PCOM/DSDP	Prepare final draft of 1981-83 CHALLENGER proposal
10	141	II	PCOM	Investigate history and rationale behind selection and establishment of micropaleo reference centers
10	141	II	JOIDES Office	Include a catalogue of material that has been processed and is available, and a statement of the function and purpose of the micropaleo reference centers in the <u>JOIDES Journal</u>
10	144		Maxwell	Write letter to NSF endorsing Icelandic drilling program

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DRAFT MINUTES

JOIDES EXECUTIVE COMMITTEE MINUTES
14-16 August, 1979--Reykjavik, Iceland

- Present:
- A. Maxwell, Chairman (WHOI)
 - D. Baker (Univ. of Wash.)
 - H. Beiersdorf (FRG)
 - N. Bogdanov (USSR)
 - S. Gartner (Texas A&M)
 - W. Hay (RSMAS)
 - R. Heath (Oregon State Univ.)
 - C. Helsley (HIG)
 - J. Knauss (URI)
 - J-P Lenoble (CNEXO)
 - C. Merdinger (SIO)
 - M. Peterson (DSDP)
 - M. Talwani (LDGO)
 - P. Twinn (UK)

 - R. Brett (NSF)
 - J. Heirtzler (PCOM Chairman, JOIDES)
 - S. O'Connell (JOIDES Office)
- Guests:
- J. Clotworthy (JOI Inc.)
 - J. Donhaiser (Donhaiser Marine)
 - I. Fridleifsson (NEA--Iceland)
 - L. Garrison (Chairman, PPSP)
 - K. Hinz (FRG)
 - C. Hocott (NRC Engineering Committee)
 - G. Palmason (NEA--Iceland)
 - D. Rucker (JOI Inc.)
 - D. Roberts (IOS--UK)
 - V. Stefansson (NEA--Iceland)
 - D. Webb (Donhaiser Marine, Inc.)

134 INTRODUCTORY REMARKS

The minutes from the April, 1979 EXCOM meeting and the agenda for this meeting were accepted.

135 ACTION ITEMS

Item 116, I: NSF will have reached an agreement regarding approval of the EXPLORER Program towards the end of this year. If the project receives their approval, money for the EXPLORER Program will be included in the budget that is sent to Congress this January (1980), and we should know about the outcome by this time next year.

Item 116, II, B: The panel reorganization subcommittee has not had a chance to meet yet. See Item 138-III in these minutes for further discussion.

Item 120, I: Preparation of the IPOD Data Bank Books has begun. North Atlantic Site Survey information is being drafted and should be ready by early fall. This data will be distributed to non-U.S. members and additional information will be solicited from them. This data should be received by early winter. This information will be drafted in a format that is consistent with the U.S. data. Camera ready copy for the Atlantic volume should be ready by March, 1980.

Item 126, I: A letter was sent to Hocott and Donhaiser encouraging increased cooperation between science and engineering in planning for the EXPLORER. Both Hocott and Donhaiser attended the August EXCOM meeting and plans for further cooperation were discussed.

Item 126, II: A letter was sent to Slaughter at NSF stating the EXCOM EXPLORER Program resolution.

Item 130: In keeping with the established rotation pattern, the JOIDES Office will rotate to SIO next July.

136 STATUS OF DRILLING OPERATIONS

I. INSTRUMENTAL MINI-LEG--LEG 68/SITE 501

The instrumental mini-leg (CR-1, in the Costa Rica Rift) was an overall success. The Packer was used to recover water samples and attempt permeability measurements. The in-hole temperature at 120 m was 32°C. The borehole televiewer, Soviet downhole magnetometer, and resistivity tools were successfully deployed, and a complete logging program was run.

II. CHALLENGER OPERATIONS

A. Drydock

A leak in the forward aft thruster necessitated an emergency drydock in Curacao. The reason for the thruster leak is not clear. It is speculated that the vibration caused by marine growth caused the packing to leak. In addition to emergency repairs, major improvements were undertaken including replacing the salt water discharge system.

B. Budget Constraints

Fuel costs in the S. Atlantic are expected to be in excess of \$1.60/gal. This coupled with the large transits will cause an unexpectedly high fuel bill. NSF will be asked for additional funds.

Other measures will also be taken to reduce fuel costs. Since fuel in the Caribbean/Central America area is among the cheapest in the world, the CHALLENGER will leave the area with nearly full fuel tanks and probably return at the end of the S. Atlantic program with small fuel reserves. Other fuel funds could be obtained by reducing the engineering program and producing our own logging equipment. The engineering program includes studies of drill string fatigue, and downhole instrumentation. Since Gerhart-Owen will now sell logging tools, it may be cheaper to buy theirs and hire our own logging engineer and analyst. The U.S.G.S. (Denver) and Sandia Laboratories have their own logging tools. The U.S.S.R. also has sonic logging equipment. It operates under the same system as their downhole magnetometer. Since the downhole magnetometer was apparently successful, the rest of the Soviet logging equipment should be adaptable to CHALLENGER use. Bogdanov offered to make this equipment available free of charge. The equipment could be left onboard and non-Soviet engineers/technicians trained to use it. The U.S.S.R. was thanked for this offer. DSDP was asked to actively pursue the Soviet offer.

137 CHALLENGER SCHEDULE

At the PCOM meeting in July, two major revisions were made in the CHALLENGER schedule. These revisions were prompted by the time loss because of emergency drydocking in Curacao and the addition of a short leg for the hydraulic piston corer. To save time and because of weather constraints, the PCOM recommended that the

CHALLENGER transit the West coast of S. America and do all of the S. Atlantic drilling before going into the N. Atlantic. Twenty days for the HPC Leg were to be taken from the S. Atlantic program and the rest of the time loss was to be equally divided among the remaining legs. The problem panels were to decide how they wanted the time to be distributed among their legs.

Extensive discussion developed concerning the scientific and political implications of the time loss, both to the overall Atlantic program and to the North Atlantic in particular. Both the U.K. and France had written letters to NSF and JOIDES asking for a reconsideration of the time distribution. However, the Memorandums of Understanding between NSF and the IPOD countries do not guarantee drilling in any particular location. Suggestions to readjust the time loss included:

1. Consolidating and thereby shortening Legs 69 and 70.
2. Shortening the S. Atlantic drilling time.
3. Transiting the East coast of South America.
4. Asking PCOM to readjust program.

After extended discussion the EXCOM agreed to the following motion. Talwani moved, Baker seconded, that the Executive Committee has no criticism of the work done by the Planning Committee in laying out the 1979-81 program. We recognize that they had to choose between equally attractive scientific objectives. However, the representatives of UK, USSR, France, and FRG feel very strongly that it is of great importance for their continuing participation in the future phases of the program that more time be spent in the North Atlantic. The Executive Committee therefore requests the Planning Committee to modify the 1979-81 program with the objective of adding at least two weeks to the North Atlantic Program. Vote: 10 for, 0 against, 2 abstain. Motion passed.

Implicit in this motion was the need for immediate action by the PCOM and DSDP.

138 EXPLORER Plans

I. NSF DISCUSSIONS

A. U.S. Considerations

NSF is increasing their staff in anticipation of the EXPLORER Program. John Slaughter is to be replaced by Francis (Frank) Johnson in mid-September, Brett has

decided to stay at NSF for another 1-1/2 to 2 years, Bill Sherwood has been added to assist with engineering matters, and Fritz Thayer will replace Bill Orr.

The Blue Ribbon Panel Report strongly endorsed the scientific merits of the EXPLORER program and recommended that industry, interagency U.S. and international cooperation be emphasized. The U.S.G.S. will produce a document discussing their expectations of their role in the EXPLORER Program. By November the National Science Board (NSF) will also make recommendations on the program. If their recommendation is favorable the EXPLORER budget will go to the Office of Management and Budget to be included in the budget that the President submits to Congress this winter (1980).

B. Non-U.S. Considerations

The role of non-U.S. countries in the EXPLORER program has not been determined yet. Two possible scenarios are being discussed:

1. An annual fee for all non-U.S. participants. This would be similar to the current CHALLENGER program.
2. Non-U.S. countries pay a minimal amount each year, and then pay extra if they want to drill in their particular areas of interest.

A meeting at NSF for non-U.S. members is tentatively scheduled during the first two weeks of December, 1979.

II. ENGINEERING REPORTS

A. EXPLORER Conversion

Donhaiser Marine, Inc. is the NSF sub-contractor doing the feasibility and design studies for the GLOMAR EXPLORER conversion and riser system. Their studies and a possible time sequence for EXPLORER conversion were discussed. They performed a variety of vessel motion and station-keeping tests at sea this February and March. The results of these tests are included in their July, 1979 Status Report to NSF. In their conclusions they see a need for more oceanographic data (e.g. combined wind speed, wind direction, currents, wave heights, wave

periods and directions, and swell heights, swell periods and directions) before combined station-keeping and vessel motion response can be fully determined. In the DMI studies, using 80% of the available thrust, the vessel had difficulty maintaining a reasonably fixed position in moderate winds, particularly if the wind was 30° or more off the bow. They recommend that two bottom-mounted thrusters be added to provide additional lateral thrust.

An optimistic schedule for EXPLORER conversion and riser development based on the DMI studies is given in Appendix I.

B. Hocott Committee-NRC Engineering Report

Claude Hocott gave an informal presentation of the NRC's investigation. Some of their information, particularly relating to risers, was not as optimistic as the DMI report. There are many problems involved in developing and utilizing long riser systems and blow-out preventers. Some of these areas were outlined and included:

1. Reduced tolerance between the mud weight that is maintained and formation fracture pressure in greater than 12,000 ft of water.
2. Riser size for expected current profile and maximum mud weight to be used.
3. Casing design which will be influenced by the well head design, core bit size, fracture (pore pressure) gradients, well control philosophy, and penetration.
4. Riser disconnect location and handling procedures during disconnect. These designs will depend upon vessel station keeping, the control transmission system, and the time and cost for development.
5. Selecting riser buoyancy type, taking into account the tensioning capabilities of the vessel and current profiles.

The NRC committee's feeling is that late '83 for a full riser is too optimistic, however, a shallow riser (e.g. 6000 ft.) could be made available next year. They estimate that a 9-10,000 ft. riser may be available by

'85 and a 12-13,000 ft. riser by '87 or '88. This would be keeping pace with industry's development of risers. It might be possible to procure a 12,000 ft. riser prior to '87-'88 but the cost might be prohibitive.

The NRC committee also outlined a management plan for the EXPLORER program. This plan is shown in Appendix 2.

III. EXPLORER PLANNING COMMITTEE

More interaction between the engineering and scientific aspects of EXPLORER planning is clearly needed. It was decided that the panel reorganization committee recommended at the last meeting should be expanded and their mandate changed. The expanded committee would consist of two EXCOM members (Talwani as Chairman and Debyser), two PCOM members, a representative from the NRC (Hocott) committee, a representative from DMI, and one from DSDP.

This committee was asked to meet within the month and preferably before the next NRC committee meeting that is scheduled for 10, 11, 12 September. This committee was charged with determining the best mode for EXPLORER planning, i.e. what size group(s) should be involved, who reports to whom, etc. It was hoped that an EXPLORER planning group established by this committee could meet at least on an ad hoc basis before the next EXCOM meeting.

In addition, both the PCOM and EXCOM chairmen and the EXCOM members, J. Baker and W. Hay, were asked to assist the NRC before their committee meeting. Hocott stressed the need for a person to answer engineering-science questions on a day-to-day basis.

139 1981-83 CHALLENGER PROPOSAL

The PCOM's draft of the 1981-83 CHALLENGER proposal was reviewed and overall favorably received. This proposal would be used in, and therefore must be adaptable to three different situations.

1. There is no EXPLORER Program.
2. There is an EXPLORER Program but it is delayed.
3. The EXPLORER Program comes on line when expected, and the 1981-83 CHALLENGER proposal is used to supplement the EXPLORER work.

In the later two situations the 1981-83 CHALLENGER proposal should interface smoothly with the EXPLORER plans. In the second

situation, a CHALLENGER program will be important to continue the flow of non-U.S. money. All of the IPOD countries agreed, however, that the chances of their government's simultaneously funding two drilling programs were less than remote.

The proposal as currently written consists of one year of Atlantic and one year of Pacific drilling with roughly 60% of the work being done with the hydraulic piston corer. Since this instrument was developed at DSDP, there is some strong feeling in the community that JOIDES should be responsible for making sure that the HPC is well utilized. DSDP was asked to investigate utilizing smaller and/or less expensive ships for hydraulic piston coring on both a full and part-time basis. In the 1981-83 proposal some of the objectives, e.g. sedimentary processes and waste disposal, need a larger diameter core than is currently recovered. A larger core HPC could be developed for use on the EXPLORER.

NSF asked to have a final draft of the proposal by early February, 1980. EXCOM asked PCOM (working with DSDP) to revise the 1981-83 CHALLENGER proposal. Included in the revision should be:

1. A clear and logical progression into the EXPLORER program--on both a one- and two-year basis.
2. A realistic evaluation of the feasibility (including rates, availability, etc.) of using other ships for hydraulic piston coring.
3. Elimination of the inconsistency in discussing the benefits of the HPC, i.e. stating the use of the HPC opens new scientific areas making the rotary drilled material obsolete but also stating that if we cannot get enough hydraulic piston cores then rotary drilling will be used.

Donhaiser stated that only 3-4 U.S. ships could do the HPC work and only three non-U.S. ships. These would probably cost \$50 K/day.

Bogdanov stated that the U.S.S.R. will begin a new five-year plan in 1981.

140 SAFETY

I. CHALLENGER SAFETY

The Chairman of the JOIDES Safety Panel discussed points of concern in the current mode of operation of the Safety Panel. They have a dual roll of guiding in early site selection and making final safety recommendations. Meetings are often called on short notice and emergency reviews may even be conducted by telephone. At some

meetings panel representation has been poor. Since this is a small panel, the proper expertise may not always be present. Names of three new Safety Panel nominees were given. These will be submitted to the PCOM for review at their next meeting. It was also suggested that the Safety Panel plan to meet formally once or twice a year for a long-term review. This would make it easier for members to attend and also to have Soviet representation. Additional and final review meetings could still be called when the necessary site survey data became available.

The specificity of the Safety Panel's approval varies from leg to leg, depending upon the extent of the anticipated safety problems. On Leg 70, for example, approval was given to drill a wide area whereas on other legs even the amount of penetration at a particular site is limited. Concern was expressed that if something were to go wrong, would the JOIDES Safety Panel be able to justify their decision. Garrison assured EXCOM that it would be. Therefore, the importance of a good written record was emphasized. It was suggested that members rotate minute-keeping responsibilities. A copy of the minutes should be available to the co-chiefs. The EXCOM recommended that telephone review be discouraged. It was also not considered appropriate for co-chiefs to approach the Safety Panel on an individual basis, but rather through DSDP.

The Safety Panel is in the process of revising the Safety Manual. A section on clathrates will be included and the abandonment procedure may be revised.

II. EXPLORER SAFETY

The Safety review will change when the EXPLORER with riser program begins. Important decisions and financial considerations are involved in the objectives for well control development. The DMI studies are making their conceptual designs based on a 10 lb./gal. mud riser. This would allow some penetration of a hydrocarbon formation. EXCOM wanted to know the benefits and cost of 12, 18 or 30 lb./gal. of mud.

141 PCOM REPORT

I. JOIDES PANEL REORGANIZATION

PCOM asked EXCOM to not yet discard its recommendations for reorganization and to consider an outside group to consider all JOIDES reorganization. EXCOM is making a new study of JOIDES reorganization (see Item 138-III), and is deferring action on PCOM's recommendation.

II. MICROPALAEO REFERENCE CENTERS

The PCOM had recommended that a micropaleo reference center be established at the Smithsonian Institution. If this means establishing a sixth micropaleo reference center, it could be problematical since only five sets of slides have been prepared. Considerable amounts of time would be involved in establishing an extra set and the slides would not be established from the same split sample. It was not clear who had the responsibility for establishing and maintaining these reference centers. Reference centers are specifically mentioned in the sample distribution policy. When Texas A&M wanted to establish a micro-paleoreference center, they had to write a lengthy justification. They were not given permission to establish a center, even though one in the Houston area would probably be well utilized.

EXCOM asked PCOM to investigate the history and rationale behind the selection and establishment of the different micropaleo reference centers. They also asked that a catalogue of the material that has been processed and is available be published in the JOIDES Journal along with a statement of the function and purpose of the micropaleo reference centers.

III. MEMBERSHIP

R. Poore was approved as the next SCP Chairman. He will assume the chairmanship after the next SCP meeting.

C. Burke will be withdrawn from the Active Margin Panel.

The appropriateness of W. Riedel as an ex-officio PCOM member was discussed. The feeling was that it might be more appropriate to invite him to specific PCOM meetings rather than a blanket invitation. Merdinger will discuss this with W. Riedel.

142 ICELAND DRILLING PROGRAM

Three scientists from Iceland's National Energy Authority gave presentations of the results of their work including their safety and logging programs. After the presentation the EXCOM went on record as enthusiastically supporting the Icelandic research as it is providing useful and complementary information to the work of the GLOMAR CHALLENGER and gave their endorsement to the drilling of a deep (4 km) hole in Iceland. The EXCOM Chairman was asked to write a letter to this effect to the Director of the Division of Earth Sciences at NSF.

143 FUTURE MEETINGS

26-28 November, 1979

Moscow.

The meeting will begin at noon on 26 November. Bogdanov will reserve hotel rooms at the Rossia Hotel from Sunday, November 25th. A trip to Leningrad will be arranged for 28-29 November.

25-26 March, 1980

New Orleans.

RSMAS will host this meeting.

17-19 July, 1980

Paris.

This will be at the conclusion of the IGC in Paris. PCOM will meet in Paris 2-4 July.

144 CLOSING REMARKS

The National Energy Authority of Iceland was thanked for their hospitality and excellent field trip(s). It was hoped that this meeting will begin a period of closer cooperation between JOIDES and the NEA of Iceland.

APPENDIX I

SCHEDULE OF EXPLORER PLANS
(as of 14 August, 1979)

Oct, '79	EXPLORER Planning Funds (\$2.2 M)
Nov, '79	President approves FY '81 budget
Dec, '79	NSF discusses EXPLORER Program with non-U.S. countries
	Conceptual design prepared
	Request for Proposals (RFP) prepared and transmitted to general contractor (on a contingency basis) for major EXPLORER conversion
July, '80	Congressional approval of FY '81 EXPLORER budget
1 Oct, '80	EXPLORER conversion and riser funds available (Est. \$60-80 M)
15 Oct, '80	Contract awarded
Oct, '82	EXPLORER sea trials
Nov, '82	Short riser, non-riser, or short-riser drilling
Nov, '83	Full riser (DMI) drilling

NOTE: The NRC committee feels this schedule is very optimistic and that a full riser (4 km) may not be available until at least 1987 or 1988.

NRC EXPLORER MANAGEMENT PLAN

