IPOD: JOURNAL

AUGUST 1975 EDITION 1975/2

THE URGENCY OF THE MOMENT

As the beginning of the IPOD program approaches us, it becomes increasingly necessary for all involved that we finalise the drilling program and set to work on organizing long term site survey plans and get down to detailed assimilation of the site survey data in hand.

During the September meetings of the Ocean Crust, Passive Margin and Ocean Palaeoenvironment Panels, panel members must make themselves responsible for producing a definite program for the first few legs of IPOD drilling in the North Atlantic. Only then can the next stage of assimilation and evaluation of the site survey data commence. Allowing sufficient time for this important function to be done well and the optimum drill site chosen to the mutual benefit of all its objectives are a fundamental part of the IPOD function, and it is hoped that the majority of the data for these sites will be assembled and available at these September meetings.

Site survey data collected aboard U.S. research ships under subcontract to IPOD Site Survey Management must be submitted in a format specified in the "Site Survey Guidelines" to the IPOD data bank. There is no equivalent arrangement for site survey data collected outside these contracts. Data for the North Atlantic passive margin potential sites off N.W. Africa, West of Portugal, Biscay and Rockall and the Norwegian Sea are urgently required by Site Survey Management to enable them to commence the assembly of the site information packages for each leg. These data, however, must be submitted on a voluntary basis and scientists who have worked in these areas are requested to submit relevant data to the Site Survey Management Office at Lamont-Doherty Geological Observatory.

* University of California in San Diego, Scripps Institution of Oceanography

* Columbia University, Lamont-Doherty Geological Observatory

* University of Miami, School of Marine and Atmospheric Science

* USSR Academy of Sciences P.P. Shirshov Institute of Oceanology

* Woods Hole Oceanographic Institution

* University of Washington Department of Oceanography

* [illegible] Geowissenschaften und Rohstoffe

* Bund für

REPORT FROM THE EXECUTIVE COMMITTEE

Reorganization of JOIDES

At its meeting in Hannover, West Germany, the JOIDES Executive Committee decided that steps should be taken to reorganize JOIDES. A likely step is the formation of a corporation and the establishment of a formal contractual relationship with the U.S. National Science Foundation. This step should enhance the JOIDES rôle of conceptual and scientific sponsorship of the drilling project as well as providing scientific advice.

It was agreed that any reorganization should take place with the minimum of change to the present operational functions of JOIDES, and in particular, the working relationships with the non-U.S. institutions should not be affected.

A subcommittee within the Executive Committee is being set up to investigate the most suitable model for executing this reorganization. It was agreed that no change should take place prior to the signing of the Articles of Agreement by the four new U.S. member institutions, France, Japan and the United Kingdom, in order to avoid the inevitable delays due to this reorganization.

Affiliate Membership

In view of this proposed reorganization, it was agreed to abandon the concept of Affiliate status until the reorganization has been completed. Thereafter the reactivation of mutually beneficial relationships with non-member institutions from various countries would receive high priority.

New JOIDES Member Nations

The Executive Committee has received applications for membership of JOIDES from the Centre National Pour L'Exploitation des Océans in France and the Natural Environment Research Council in Great Britain. It was unanimously agreed to accept these applications, subject to satisfactory outcome of negotiations with NSF. Japan, meanwhile, has completed negotiations with NSF and Japanese membership of JOIDES will come up for approval at the next Executive Committee meeting on 3 October 1975. The following Executive and Planning Committee members have been nominated by the new members:-

	Executive	Alternate	Planning	Alternate
France	Y. La Prairie	J. Debyser	X. Le Pichon	Y. Lancelot
Great Britain	Sir Peter Kent	P.R. Twinn	A.S. Laughton	
Japan	Seiitiro Utida	N. Nasu	N. Nasu	

JOIDES extends a cordial welcome to the new members with the anticipation of mutually beneficial work together during IPOD.

Order of Rotation of Committee Chairmen

It was agreed by the Executive Committee last year that the Chairmanships of the Executive and Planning Committees should rotate concurrently every two years, with both chairmen being from the same institution. This amendment has recently been written into the revised Articles of Agreement shortly to be signed by the seven newly joining institutions:- The University of Rhode Island, Oregon State University, Hawaii Institute of Geophysics, Texas A&M University, C.N.E.X.O. (France), N.E.R.C. (Great Britain) and the University of Tokyo in Japan. Since all seven institutions will be signing at the same time, it was agreed that when the time comes for the Executive and Planning Committee Chairmen to be chosen from one of the seven, that they should form a pool from which one institution should be chosen, followed subsequently by the other institutions.

Under the present arrangement the chairmanships will first rotate around the original five U.S. institutions again. The order of rotation will be as follows:-

1 July 1974	-	30 June 1976 - L-DGO
1976	-	1978 U. of Washington
1978	-	1980 WHOI
1980	-	1982 SIO
1982	-	1984 U. of Miami
1984	-	1986 USSR
1986	-	1988 BGR
1988	-	Members of seven new institutions

REPORT FROM THE PLANNING COMMITTEE

The Planning Committee met during June 9-11 at the Bundesanstalt fur Geowissenschaften und Rohstoffe in Hannover. The meeting on the 11th was held jointly with the Executive Committee.

New Emphasis for IPOD I

This was the major issue discussed by the Planning Committee in Hannover. In a report on the technical progress being made with a view to Phase II of IPOD, it was stated that the money is not yet available to contract for a new drilling vessel, only for its research and development. There is thus little possibility that the design can be accomplished,

money applied for and the new vessel built in time for the currently scheduled beginning of IPOD II. There may thus have to be a hiatus between the two phases. The development of the riser system is the pacer for the program and the proposal for funding for this must be written by the end of this summer.

In view of this the extension of IPOD I into a four-year program was considered and approved by the Planning Committee, and it was agreed that this should involve a shift in emphasis from the original philosophy of Phase I being a predominantly crustal drilling program and Phase II predominantly margin drilling, to a program more equally devoted to each of the problem domains. A new tentative drilling schedule was subsequently outlined (see page 5).

Downhole Measurements Panel

There has been general agreement that a revival of active interest should be taken in downhole logging during IPOD. Consequently an ad hoc meeting was convened during 3-4 May 1975 of several scientists interested in various aspects of downhole logging and specific downhole experiments. From a list of candidate panel members produced by this group, the Planning Committee selected the following names who have been invited to become members of the new Downhole Measurements Panel:-

R. Von Herzen (Heat flow: Chairman), N. Christensen (Hard rock petrology and physical properties), A. Richards (Physical properties of sediments), R. Hyndman (Heat flow and magnetic properties), O. Serra (Logging technology), R. Pickett (Basalt logging), R. E. Boyce (DSDP ex-officio member).

The mandate for the activities of the panel is that the panel should:-

1. report to the Planning Committee, who should approve membership and appoint the Chairman.

2. meet at least twice a year and provide minutes to the Planning Committee.

3. be responsive to the requests of other JOIDES panels.

4. review and expedite downhole logging, in-hole experiments and instruments to be left in holes.

5. members should be primarily responsible for seeing that the requested downhole work gets accomplished. They may, or may not, be the actual investigator who carries out a special experiment or interprets the logs.

TENTATIVE DRILLING SCHEDULE

(6/75)

Leg	Departure Port	Departure Date	Sites/Objectives	Panel Interests
		1975		
45	Norfolk	20 Nov. - 13 Jan.	5 MAR v. deep site	OC
		1976		
46	San Juan	15 Jan. - 9 Mar.	5,2,3 E-W transect	OC
47	Dakar	11 Mar.	20,17 NW Africa, W. Portugal	OMP
48	Lisbon	6 May	18, 19 Biscay, Rockall	OMP
49	Dublin	1 July	Norwegian Sea	OC/OMP
50	Reykjavik	26 Aug.	9-14 Longitudinal traverse	OC
51	Azores	21 Oct.	4, 6,7 MAR Traverse E-W	OC
52	San Juan	16 Dec.	Caribbean Venezuela Basin	OC
		1977		
53	Balboa	10 Feb.	PAC 5 & 6 Venezuela Basin	OC
54	Honolulu	7 April	NW of Hawaii	OP
55	Honolulu	2 June	M1, Seamounts (8,200 m drill stem)	OMA/OC
56	Tokyo	7 Aug.	Sea of Okhtosk & Japan Trench - dry dock 10 days	OMA
57	Kobe	2 Oct.	Philippine Sea	OMA
58	Guam	27 Nov.	" + Shikoku Basin ± China Sea	OMA
		1978		
59	Guam	22 Jan.	Nauru Basin ± Philippine Sea	OC
60	Honolulu	19 Mar.	Palaeoenvironment sites	OP
61	Acapulco	14 May	EPR	OC
62	Acapulco	7 July	Gulf of California	OC/OMP
63	Acapulco	1 September	Siqueiros Fracture Zone	OC
64	Acapulco	27 October	M. America Trench	OMA
65	Balboa	22 Dec.	Vema Fracture Zone	OC
		1979		
66	Recife	18 Feb.	S. Atl. Angola Basin	OP
67	Luanda	14 April	S. Atl. Walvis Ridge	OP
68	Dakar	9 June - 11 Aug.	W.N. Atl. margin	OMP
69	Norfolk	14 Aug.	Site 1	OMP/OC

6. recommend which type of logs should be emphasized at which holes or in which situation.

7. the term of panel membership is for one year, but renewable.

The ad hoc group recommended the following series of logging packages:-

1. Temperature and flow meter for hydrothermal circulation

2. Density measurements

3. Seismic information

4. Temperature at the bottom of the hole

5. Resistivity

High priority was also given to D. H. Matthews' oblique seismic experiment to lower a 3-component clamped geophone into the hole and to shoot to it out to 11 km using explosives and with the geophones at three different levels.

This experiment requires a shooting ship and it is hoped that another research ship will be in this area at the right time and will be willing to rendezvous for a day to shoot the explosives.

Funding for the Logging Program

Logging is a relatively expensive operation and will cost approximately $130K per leg. This includes the monthly fee for contracted personnel and equipment, operating costs and an allowance for loss of tools. It is hoped that incremental funding will be granted to allow at least one leg of logging during the fiscal year ending in June 1976.

Site 5 on the North Atlantic E-W traverse is the prime candidate for deep penetration and also for the first logging enterprise. The present plan is to spend the entire first leg of IPOD (Leg 45) at Site 5 and if the hole is successful, return to re-enter and continue drilling there during part of Leg 46. The logging program will probably take place during Leg 46, together with the first trial for the oblique seismic experiment.

Co-operation with USGS

The previous edition of JOIDES JOURNAL reported that the U.S. Geological Survey would sponsor Leg 44 of GLOMAR CHALLENGER. Unfortunately at a late date the USGS could not see their way clear to participating in this leg and subsequently cancelled their program.

Leg 44 Alternative Drilling Plans

While it would have been desirable to advance the IPOD program by one leg back onto its former schedule, this was not considered practical since the dry docking necessary before the commencement of the IPOD program could not be rescheduled at such short notice. Also, the site survey program and survey data evaluation could barely be accomplished in the time available. Consequently, an ad hoc meeting, mainly of JOIDES Atlantic panel members, met on June 4 to formulate an alternative Leg 44 drilling plan.

Initially two options were considered, one of which involved either Leg 43 or Leg 44 time being used to drill a trial hole at IPOD site 5. Later a request was received by the Ocean Palaeoenvironment Panel to drill a series of sites near 47°N in the North Atlantic. The Planning Committee considered these three options and decided that the trial site 5 did not fit logistically into the plan. It was agreed to drill one site at 47°N for the palaeoenvironmentalists if Global Marine would agree to extending Leg 43, allowing time for this extra hole as well as the planned Leg 43 program. As it happened, Global Marine were not agreeable to this and the palaeoenvironment site had to be dropped and Leg 43 reverted to its original program.

During Leg 44 the sites to be drilled will be a site in the Blake Bahama Basin, one on the nose of the Blake escarpment, a site between sites 105 and 106, near sites 101 and 102, and one or two Leg 43 alternative sites with the objective of investigating the sedimentary history of this area. One proposed site for Leg 44 lies in the Cretaceous quiet zone and it is intended to drill this hole to the termination of the drill bit. This hole can then, hopefully, take the place of an intended IPOD site in the Cretaceous quiet zone along the Digicon line. During this leg the pressure core barrel will be used to try to sample some gas hydrate material.

Atlantic Drilling Program (Figure 1)

The drilling plans in the North Atlantic remain as reported in the previous edition of JOIDES JOURNAL with the exception of the following changes:-

The changes in location of sites 9, 11 and 13 have been approved by the Planning Committee. These sites were all originally located on anomaly 5 west. Site 9 will now be at 63°N on anomaly 5 east, and site 11 will be on the same flow line on anomaly 13. These two sites will in themselves form a "mini-traverse" and will investigate the variation of the Iceland geochemical anomaly with time.

Site 13 will now be located on anomaly 13 west on the corresponding flow line to the FAMOUS area on the eastern flank of the ridge crest. Sites 12 and 13 in this way will form another "mini-traverse."

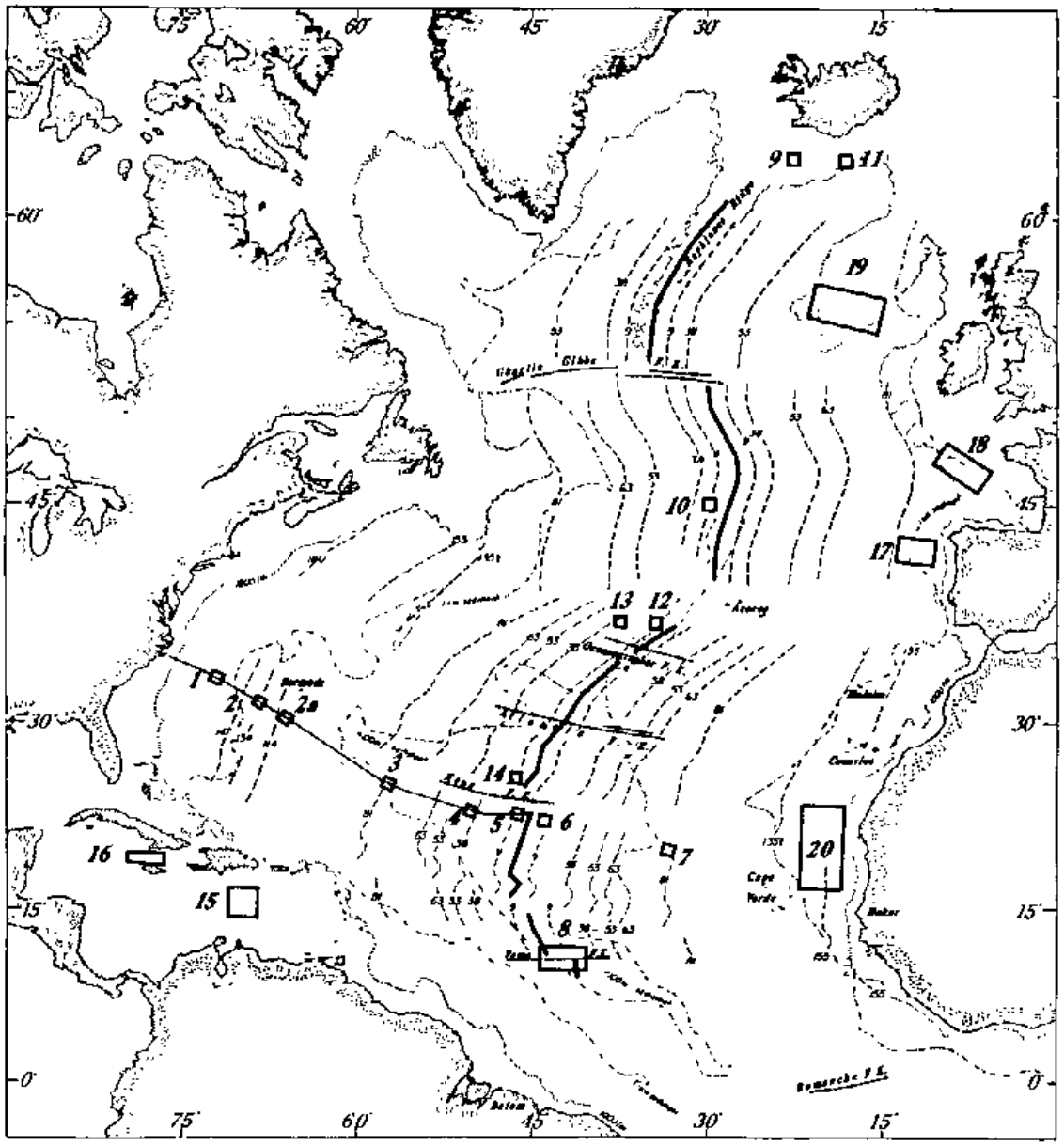


Figure 1. Proposed IPOD Atlantic Drilling Sites (8/75)

With the change from a 3-year to a 4-year long Phase I of IPOD, it has been possible to fit sites in the Norwegian Sea into the program. These locations have not yet been chosen and are subsequently not shown in Figure 1.

Drill String

An increase in the drill string length from the present 6,700 m to 8,200 m is planned for August 1977. This is the maximum intended length for the GLOMAR CHALLENGER. The new IPOD II drilling vessel, however, will probably have a tapered system and a total drill string length of 11,000 m.

Riser System

The maximum length for the riser system will be 3,600 m, thus applicable to the shallower parts of the ocean margins only. Deeper ocean margin sites must still be drilled without the riser and thus will need to be subjected to stringent safety requirements.

DSDP Engineers are anxious to obtain both tidal data and information on the engineering properties of sediments to evaluate conditions for slim and wide hole drilling relevant to the design of the riser system. Members of the Passive Margin Panel have agreed to provide these data for the eastern North Atlantic margin and for the eastern seaboard of the U.S.A.

Shipboard Staffing

In the past the selection of shipboard scientific personnel has been made by DSDP. It was decided, however, that during IPOD the Planning Committee should assist in this selection. A sizeable file on potential shipboard scientists already exists and newly joining nations (France, Japan and the United Kingdom) are being asked to submit curricula vitae for any additional candidates for shipboard participation. Scientific merit and scientific balance of the shipboard party are still the major criterion for selection, although every effort will be made to also achieve an international balance on board. Naturally, from time to time a nationally unbalanced shipboard party will occur in order to achieve a balanced scientific party, but every effort will be made to maintain equilibrium in the long term.

Panel Membership

The Planning and Executive Committees approved the following additions in panel membership; these scientists have now received invitations to become panel members, and a few former members have resigned:-

Ocean Crust Panel

Professor C. Allegre
Professor Dr. I. Kushiro
Dr. J. R. Cann

Active Margin Panel

Dr. K. Kobayashi
Dr. R. Blanchet
Dr. L. Kulm (Planning Committee, non-voting)
Dr. K. Kvenvolden

Passive Margin

Dr. H. Kagami
Dr. J. Thiede
Dr. J. Hunt

Information Handling

T. Worsley
T. Davies' replacement at DSDP, ex-officio member

Inorganic Geochemistry

Dr. D. Cronan
Dr. E. Suess

Sedimentary Petrology & Physical Properties

Dr. S. Calvert
Dr. F. Melieres

Igneous and Metamorphic Petrology Panel

This panel has been officially disbanded.

Industrial Liaison Panel

Dr. G. Rutman

Pollution Prevention & Safety Panel

Dr. J. Curray
Dr. S. Uyeda (for Active Margin sites only)
Dr. M. Talwani (Executive Committee - ex-officio member)

Ocean Palaeoenvironment Panel

Professor B. Funnell
Professor Dr. Y. Takayanagi
Dr. Y. Lancelot

Site Survey Panel

Professor Dr. S. Nagumo
Dr. R. Schlich
Dr. D. Fahlquist

Executive Committee

Academician A. Monin - resigned in favor of Academician A. P. Vinogradov

Organic Geochemistry

Dr. Tissot
Dr. E. Suess
Professor G. Eglinton
Dr. E. Degens - alternate to D. Welte

The normal tenure for panel appointments is one year, but is renewable subject to approval of the Planning Committee.

A revised list of panel members will appear in the next (autumn) edition of JOIDES JOURNAL.

Reference Sample Collections

The Curator at DSDP reports that he receives many enquiries for reference samples of micro-palaeontological material and, according to the current sample distribution policy of NSF, these requests are unable to be met since samples may be allocated only for research leading to publication. It was agreed to request that NSF grant an exemption to their policy on this matter to permit the establishment of centers where micro-palaeontological preparations are made available for reference purposes. Up to five repositories could be established around the world in reputable museums in which reference samples of smear slides of calcareous nannofossils, taxonomic or important stratigraphical sequences of radiolaria, picked reference species of foraminifera, etc., could be supplied. Facilities for working on the material, microscopes, etc., would need to be supplied, and possibly the museum would require a curator for these specimens, which might eventually number 25,000 to 30,000. A museum in Basel has already expressed interest in such an arrangement and it was thought that another museum in North America and later perhaps ones in the USSR, Australia or New Zealand and in S.E. Asia could be set up.

Only small amounts of the sample would be involved, entailing minimal depletion of DSDP core material, and the cost to DSDP would be that of sampling only. W.R. Riedel, as DSDP Curator, has agreed to be responsible for recommending suitable museums.

JOIDES Symposia

Both the Executive and Planning Committees are anxious that major, well organized JOIDES symposia should be held to promote the communication of results of the deep sea drilling. The form the symposia should take is not yet decided. For economic reasons these might be attached to other large international meetings such as AGU and GSA or major international meetings in Europe. Alternatively the Royal Society in London, or coordinated with the European Geophysical Society in Munich during 1977, have been suggested as suitable locales for a symposium on the results of the North Atlantic ocean crustal drilling traverses. W.R. Riedel at DSDP has been nominated as JOIDES Symposium Coordinator whom intending symposium convenors may contact for guidance in this connection.

Meanwhile, less formal JOIDES sessions are under consideration by the Organic Geochemistry Panel during the International meeting in Madrid in September 1975 and possibly also at the 1976 GSA meeting.

A symposium entitled "Nature of the Oceanic Crust: DSDP Results" will be held at Scripps Institution of Oceanography in La Jolla during 4-6 December 1975, and will cover regional geophysical topics as well as papers on geochemical and other variations along and across the ridge, rock magnetism, heat flow, seismic models of the earth's crust, isotopes and trace elements, mineralogy, petrology and petrography. Registration should be sent to AGU, 1909 K Street, N.W., Washington, D.C. 20006, by 29 August 1975.

STATUS OF THE SITE SURVEY PROGRAM

Atlantic

The surveys across the E-W traverse sites are complete but for sites 2, 2a and 6. During late August and September, WHOI will survey these sites and at the same time make tracks to and from Bermuda parallel to the Digicon line. The fully processed Digicon line should be available in early September.

Site 1 has been surveyed by the University of Texas with 24-channel seismic reflection, refraction and magnetics. A 12-channel seismic profile was also shot at DSDP Site 105 in order to help interpret these records.

Sites 3 and 4 have been surveyed by L-DGO.

Site 5 has been surveyed by the University of Miami, L-DGO and by USSR scientists.

Site 7 has been surveyed from R/V. VEMA from L-DGO, USSR ACADEMIK KURCHATOV and the VALDIVIA from Germany.

Site 8 Vema Fracture Zone. This area has been the site of work by L-DGO, USSR and the University of Miami scientists.

Sites 9 and 11. It is anticipated that this area will be surveyed by the U.S. Navy for Dr. P. R. Vogt, and by the German research ship KOMET later this year.

Site 10 lies in the Bedford Institute survey area at 45°N which is well surveyed. R.R.S. DISCOVERY will also visit this area in September to undertake a side-scan sonar "GLORIA" survey.

Sites 12 and 13 are holes in the Site Survey program and as yet there is no firm commitment by any vessel to work in this area.

Site 14. This lies within the Trans-Atlantic Geotraverse corridor and it is anticipated that NOAA at Miami (Dr. P. Rona) will supply the necessary data.

Site 15 in the Venezuela Basin has seismic reflection, refraction and magnetic coverage by the University of Texas.

Site 16 in the Cayman Trough. Woods Hole Oceanographic Institution will probably survey this area in conjunction with a program using the submersible ALVIN.

The N.E. Atlantic passive margin sites, 17-20 and the Norwegian Sea. It is anticipated that German, French and British data sources adequately cover these regions and that these data will be available shortly.

Pacific

Site PAC 1. The University of Washington worked in the Gulf of California during May and June 1975 and have located suitable sediment covered sites close to the ridge crest.

PAC 3. A fascinating three-dimensional model built from photographed seismic reflection profiles was received by Site Survey Management from the University of Washington recently. There is a considerable amount of data in this area and little extra work is required.

PAC 5 & 6. The R/V KANAKEOKE ran across these two sites en route to and from Miami. Further work in these areas has yet to be planned.

Several proposals are in hand for further Pacific site surveying, but no firm program is available as yet.

DSDP Publications

Many scientists are unaware of the communications and publications prepared by DSDP, containing information on the results of the deep-sea drilling. They are listed here for convenience:-

1. Site Reports: At the conclusion of each hole brief reports are cabled to DSDP and forwarded to members of the Planning Committee and Safety Panel.

2. Preliminary Report: At the end of each leg a typescript summary of the leg results is circulated to members of some panels. Typically this may be 30 pages long and contains an account of the main problems and results of the leg together with descriptions of each hole, tabulated data and a map.

3. Operations Resumé: A full account of the technical details of drilling operations, statistics, problems and instrumentation is prepared at the end of each leg and circulated in typescript with the preliminary report.

4. Geotimes Article: "Geotimes," published by the American Geological Institute, is the journal used for the first publication of results. The format is somewhat similar to the shipboard summary. Typically this appears several months after the completion of the leg.

5. Initial Core Descriptions(Green Cover): Interim detailed logs of cores are published in the ICD two to nine months after the completion of the leg to enable the samples to be identified for sample requests. No samples are released until after the ICD is produced. The next ICD to appear will be for Leg 38.

6. Initial Reports(Turquoise): This is the major published account of the results and analyses of the holes together with regional syntheses and other more general related topics. These are generally published 18 months to two years after the completion of the leg and often run to 1000 or more pages. The next Initial Report to appear will be volume 32, followed by volume 30. This is distributed basically to libraries.

These volumes are printed and distributed by the Government Printing Office in Washington, D.C. In the past, difficulty has been experienced in having copies sent outside the United States. This is because the GPO has no means by which to pay for postage abroad and the requestee is expected to submit both the cost of the volume and its postage in advance. The latter was almost impossible to learn outside the U.S., but a list of prices and postage for each volume is being produced, which it is hoped will simplify this distribution. Please note that Volumes 1, 2 and 3 of the Initial Reports are now out of print.

7. Guide to Publications and Subsequent Investigations: This is an occasional publication from DSDP consisting of computer generated lists of information pertaining to investigations using DSDP material other than those appearing in the Initial Reports.

8. Guides to Core Material: A series of guides has been published by DSDP, summarizing by computer the data on the sedimentology, geochemistry and micropalaeontology of cores extracted from the Initial Reports. These are prepared in conjunction with notes on "Data Data," a series which forms a user's guide to Deep Sea Drilling material.

9. Problem Synthesis Volumes: This is a new IPOD publication planned to go a step beyond the Initial Reports, gathering together the information from several related legs covering an integral problem theme. The first volume to be produced will probably be on the IPOD Atlantic Crustal drilling traverses.

ACTIVE MARGIN/OCEAN CRUST PANEL AD HOC MEETING (Figure 2 relates)

This meeting was held at L-DGO on 22 May 1975 to discuss sites in the Western Pacific of interest to both panels. Scientists present were: S. Uyeda, W. Ludwig, S. Hart, J. Sclater, W. Melson, A. Watts, D. Hayes, J. Weissel, R. Anderson, E. Herron, B. Malfait and C.A. Williams.

The Active Margin Panel had previously suggested 3 sites across the Kurile Trench, 2 sites on the wall of the Japan Trench and one site on the Pacific Plate off the Kuriles. The ad hoc group supported the Ocean Crust Panel's view that the site on the Pacific plate should be placed on an identifiable M anomaly as close to the Kurile Trench as possible. Detailed maps of the sediment thickness and magnetic anomalies should be brought to the next Ocean Crust Panel meeting.

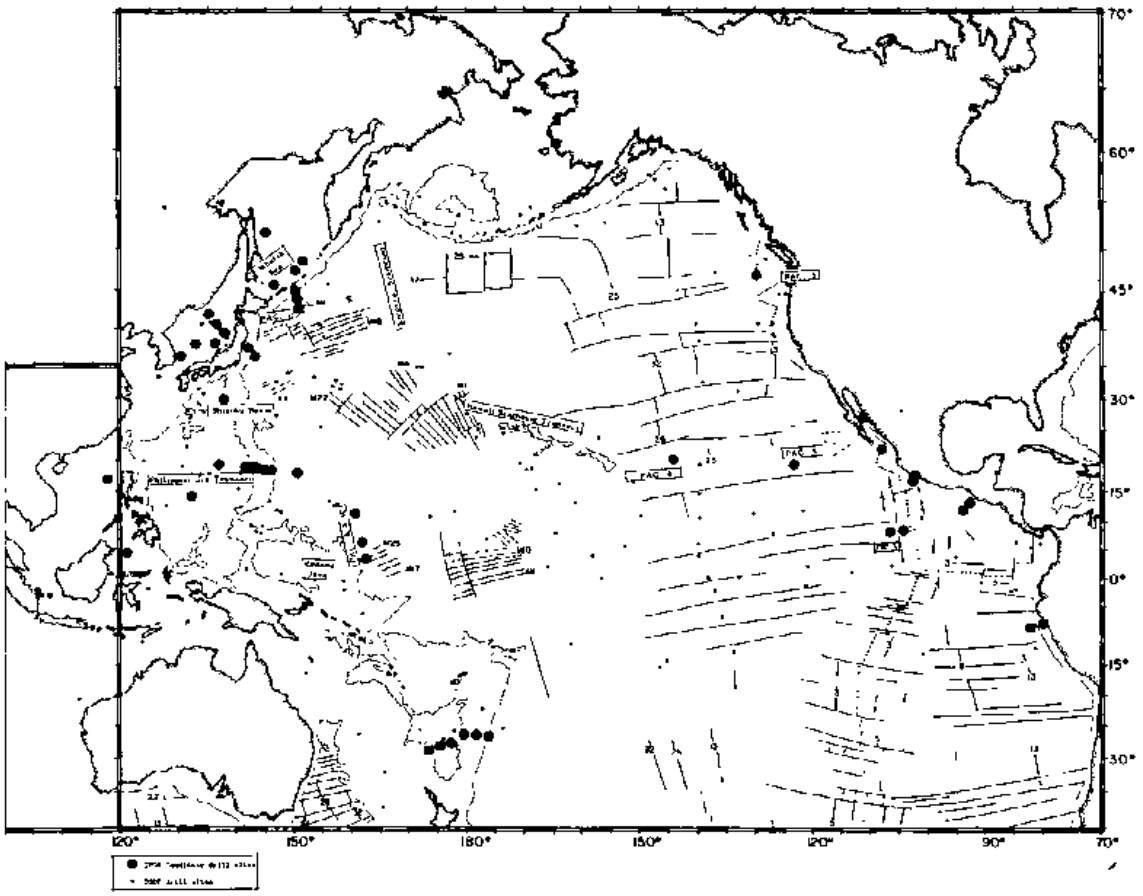


Figure 2. Proposed IPOD Pacific Drilling Sites (8/75)

The only meeting to discuss the Pacific drilling program since the last edition of JOIDES JOURNAL has been that of the ad hoc Ocean Crust/Active Margin group. Thus the only changes made to this program since last reported are in the Western Pacific.

The justification for drilling a transect of holes across the Bonnin Arc and Shikoku Basin were discussed at length. The group concluded that it was not obvious that the Bonnin Trough is a typical interarc basin or that it is directly related to the Shikoku Basin and thus decided to abandon the proposed transect of holes in that area. The problem of symmetric or single limb spreading in the Shikoku Basin is unclear from magnetic data and was considered worth investigating and a single bit hole is planned near 30°N 137°30'E.

Both panels felt that there were many important problems of mutual interest to be studied in the Philippine Sea, and thus a high priority transect was proposed across this area at approximately 18°N to attempt to solve these problems. A transect of 12 holes is proposed. A re-entry site on the Pacific Plate to sample the oldest Pacific crust of Jurassic quiet zone age or older. A deep hole on the lower trench slope of the Mariana Arc to investigate accretionary processes at trenches. A site in the arc trench gap of the Mariana Arc to investigate the history of the arc. These two sites may be postponed until IPOD Phase II when a longer drill string will be available. Two re-entry sites are also proposed at the eastern and western ends of the Mariana Trough to investigate the genesis of interarc basins of which this is the type example. A site on the western Mariana Ridge may indicate whether or not this is part of a remnant arc. The eastern and western ends of the Parece Vela Basin will be sampled to determine the composition of a genuine inactive marginal basin and the Palau Kyushu Ridge to compare its structure with that of the western Mariana Ridge. The Philippine Basin has been shown to have a thin or non-existent layer 2a and two sites are proposed at the northern and southern ends of this basin to sample Layers 2b and 3. Two sites are also proposed in the South China Sea to observe the superficial petrology and the age of this little understood area. These sites will be reviewed at the next Ocean Crust and Active Margin panel meetings.

The group discussed the Active Margin Panel's proposed transect across the Fiji Basin. It was agreed that it was a very complex area and that the tectonics were not clear. It is not obvious that the south Fiji Basin is related to the Le Havre trough or that either are related to the Lau Basin.

The group was astonished to learn that only two month's of ship support was available for site surveys during FY 1976. This was obviously such an extraordinary underestimate, and the group feels that every effort should be made to persuade NSF to extend this support. High quality site surveys are an absolute prerequisite to IPOD drilling that the sites cannot be adequately located without site survey data.

Regarding the combination of IPOD drilling with IDOE Seabed Assessment Programs in the southeast Asia area, there was a possibility of coordinating this work but not before Fiscal Year 1977.

REPORT FROM THE PALAEOENVIRONMENT PANEL

The minisynthesis of palaeoenvironmental data undertaken by this panel is largely completed. The Jurassic - Quaternary has been subdivided into 18 time slices and maps containing information on the abundances of Diatomea, Calcareous nannoplankton, radiolaria, foraminifera, the lithology and percentage core recovery have been made for each time slice, for the Atlantic, Pacific and Indian Oceans.

The panel, with this information, has been able to formulate five major topics of interest for investigation during IPOD. These are:-

The early history of the Atlantic
The evolution of plankton communities
Global ocean circulation
Cretaceous-Palaeogene boundary as an example of a palaeoecological crisis
The history of volcanic episodicity

Early History of the Atlantic

The Atlantic Ocean was chosen for this study because of its less complex history than the Pacific and the fact that its evolution is relatively well known. The South Atlantic offers good conditions for investigation of an opening ocean and two E-W traverses across the Angola Basin and a N-S traverse across the Angola and Cape Basins together with a NE-SW section across the Cape Basin are suggested. Many passive margin sites would also be relevant to this study, such as off eastern North America, Biscay, NW Africa, west of Portugal and Rockall, as well as off Brazil. The E-W traverse in the North Atlantic, IPOD sites 2, 2a, 3, 4, 6, 7 and in the Vema Fracture Zone will also produce relevant information regarding sediment development with age on both sides of the Mid-Atlantic Ridge.

The Evolution of Plankton Communities

The stratigraphic correlations and palaeoenvironmental interpretations are coupled so closely that neither can be accomplished without the other. Thus an understanding of the history of plankton communities is basic to all palaeooceanography. A hemispherical ocean with a well developed but uncomplicated gyral current system is required for this. The North Pacific best satisfies the requirements for this study and ten pairs of holes are requested around the edge of the northern Pacific.

Global Ocean Circulation

Three major elements are involved in this study: (a) the diminishing rate of equatorial circulation due to continental drift. (b) The development of circum Antarctic circulation, and (c) the development

of deep bottom water circulation. DSDP data demonstrate that it is feasible only to study this topic from the latest Eocene (40 m.y.) to the present. The core recovery of older sediments being generally too fragmentary to formulate global patterns.

a. During the Cainozoic the once virtually continuous equatorial circulation became progressively segmented by the closure of Tethys, the northward migration of Australia and construction of the Indonesian area and the evolution of the central American region. The best record for these events is around north Australia, the Oligocene-Miocene deposits of the equatorial Atlantic and Caribbean, the equatorial Pacific and N.E. Indian Ocean. Existing drill sites document the circulation changes during the late Eocene-Oligocene around Australia.

The appropriate indicators for this study are carbonate deposition patterns, suitably adjusted for changes in deep-water dissolution, the position of the lysocline based on faunal information and nick points in the relation between carbonate accumulation rate and depth of deposition, productivity estimates based on opal and organic carbon accumulation rates and on faunal assemblages.

3-4 drill sites N and NW of Australia and in the Indian Ocean would be required for this study.

b. The most fundamental gap in the knowledge of the evolution of circum Antarctic circulation involves the evolution of the circum Antarctic area itself. The timing of the opening of the Drake Passage still remains to be determined and several drill sites are proposed in the Scotia Sea region. Sites in the Weddel Sea would provide information on the evolution of glacial-marine conditions and bottom waters and the history of climate and glacial development could be obtained from the marine sediments in the Antarctic region. A total of 19 additional drill sites are proposed in the Antarctic region.

Continuous coring at all Atlantic sites will be relevant to this study, including a traverse across the western Atlantic at 47°N, and sites in the southern Atlantic.

c. The study of the development of deep bottom water circulation has a requirement for information on a global scale. The sites already proposed in the north Pacific would be relevant together with additional sites in the Atlantic and Indian Oceans.

Cretaceous-Palaeogene Boundary as an Example of a Palaeoecological Crisis

The changes that take place at this boundary still remain one of the outstanding enigmas in oceanic evolution. There are inherent problems in obtaining satisfactory samples across this boundary, due to hiatuses,

slumping, etc. and thus this project needs to be viewed in a longer-term context to achieve adequate worthwhile results.

Some of the changes taking place across this boundary are the Mesozoic-Tertiary faunal changes in the planktonic foraminifera, shallower benthonic foraminifera, calcareous nannoplankton and radiolaria, while there is complete continuity in bathyal and abyssal benthonic foraminifera. A decrease in sedimentation rate has caused interesting chemical changes, e.g. the advent of phosphate and iron, a change in clay minerals, etc.

It is possible that some continental margin sites may throw light on this problem. Other sites relevant to this study are the Sierre Leone Rise, the western North Atlantic transect, Rockall Bank, the Caribbean, the Rio Grande Rise, Scotia Sea, N.W. Pacific and equatorial Pacific. Thus the study of this topic will form an integral part of the program suggested for other palaeoenvironmental studies.

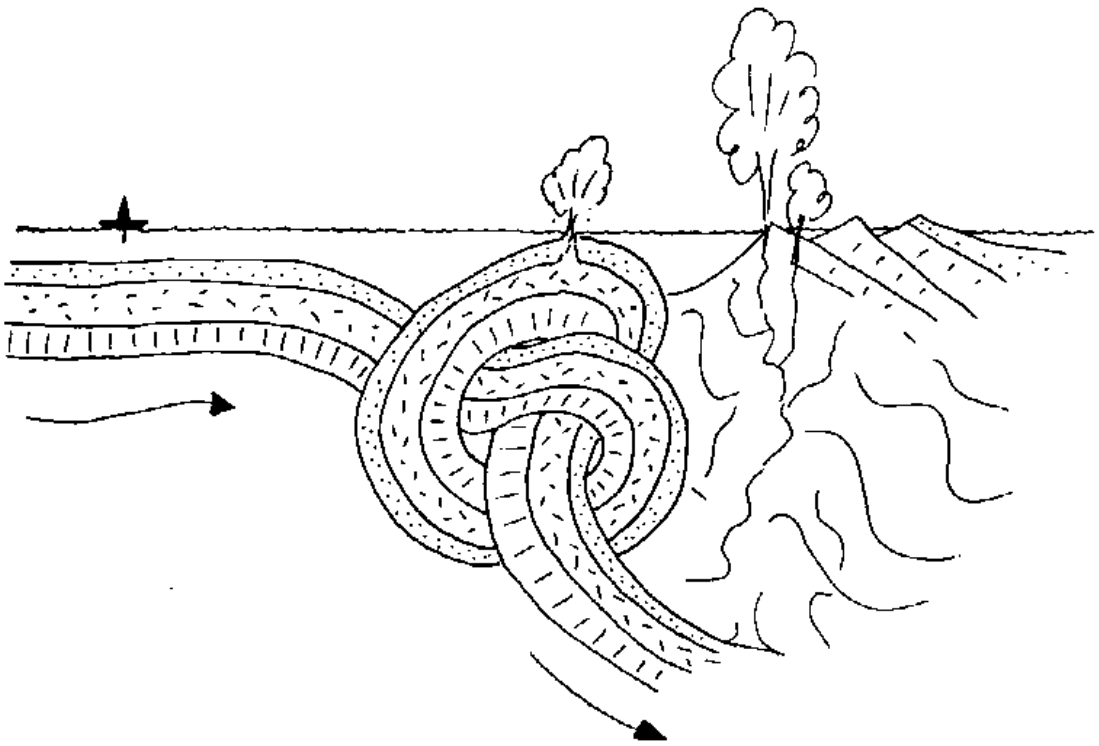
Volcanic Episodicity

Recent work has shown that the study of volcanic ash in deep-sea sections is a powerful approach in the study of the history of volcanically active areas. Two sites off Central Chile to establish the history of Andean volcanicity, one site in the Sea of Okhotsk, N.E. of Japan, east of New Zealand, near Hawaii, and near Iceland are suggested to cover this topic.

The scope of these topics is more globally embracing than some other aspects of IPOD. The Planning Committee pointed out, however, that the Panel's requirements to drill in the Indian Ocean and the Antarctic as well as in the North and South Atlantic and Pacific Oceans, did not fit logistically into the rest of the IPOD program and that drilling in the Indian Ocean and the Antarctic could not take place during IPOD I. Two palaeoenvironmental legs in the South Atlantic were, however, inserted into the tentative drilling schedule for the first phase of IPOD.

Publication Policy

The Palaeoenvironment Panel felt that there is a danger that certain basic data, shore-based laboratory studies on planktonic foraminifera, calcareous nannoplankton and radiolaria, including range-charts, and carbonate and other routine analyses, will not find adequate means of publication if the Initial Report format is changed during IPOD. The Planning Committee recognizes this problem and is in agreement with the retention of a format of the Initial Report allowing for the inclusion of this type of information.



The complexity of active margins may not as yet be fully appreciated by earth scientists...

Reorganization of the Palaeoenvironmental Panel

Now that the minisynthesis of palaeoenvironmental data is virtually complete, the function of the panel needs to be reviewed in the light of the function of the Palaeontology and Biostratigraphy Panel. The possible re-grouping of the two panels was discussed at length. The following duties for each panel were tentatively listed for consideration and future changes in constituent membership of the Palaeoenvironment Panel will be decided at the panel's September meeting.

Palaeoenvironment Panel

1. Improvement of indicators
   a) paleobathymetry (incl. dynamics)
   b) palaeotemperature
   c) palaeosalinity
   d) nutrients
   e) oxygen
   f) palaeo latitude + longitude
   g) dissolution (contrasts + silica)
   h) erosion
2. Relations between environment and evolution
3. Development of biological communities
4. Development of water masses and equatorial current systems
5. Evolution of climate
6. Post Jurassic crises
7. Sedimentation in a young ocean
8. Volcanicity

Paleontology-Biostratigraphy Panel

1. Shelf - Slope capability
2. Improvement of standard zonal schemes
3. High - Mid latitude capability
4. Uniformity of taxonomic nomenclature
5. Editing of reports (quality control of data)
6. Intercorrelation of various zonal schemes
7. Organize shore lab palaeontology
8. Promote unstudied groups
9. Review requests for DSDP curator
10. Instruct shipboard participants
11. Lithostratigraphy (sediment panel?) (AAPG program?)
12. Chronostratigraphy
13. Leg biostrat. responsibility

REPORT FROM THE ORGANIC GEOCHEMISTRY PANEL

This panel last met on 6 April 1975 in Dallas. It was reported that at Site B 1 in the Black Sea that a stratigraphic hole would be drilled, followed by a geochemical hole at the same site. The geochemical core would be frozen onboard.

Gas Chromatograph

Recognition was made of the important contribution from Phillips Petroleum Company for their provision of a gas chromatograph for use onboard during Legs 38, 40 and 41, and a newly serviced and calibrated replacement for Leg 42b. Phillips intends to provide DSDP with designs for a new instrument which is intended to be optimal for shipboard gas analyses.

Safety Precautions

The panel has provided a set of guidelines containing a series of phase diagrams on clathrates. There was some discussion, however, as to whether these guidelines are being interpreted correctly,

particularly in relation to the event of encountering a petroleum accumulation at sufficient pressure to cause a blow out. Concern was also expressed about the danger of blowouts from beneath zones of solid gas hydrates (clathrates). The opinion was expressed that these could be determined from the presence of hydrogen sulphide. A more extensive use of fluorescence as an indicator of the presence of liquid oil and as a guide to the termination of drilling was suggested. However, it was pointed out that this would preclude drilling into any fine-grained consolidated rock containing organic matter.

The guidelines state that drilling should be terminated when the hydrocarbon concentration is "above normal and indicative of petroleum accumulation." Thus considerable discretion is left to the shipboard personnel.

Pressure Core Barrel

Dr. Hay reported to the Planning Committee on 9 June that the pressure core barrel had been tested in the Black Sea with moderate success. It is planned to use it again during Leg 44 in the North Atlantic to sample suspected clathrate material.

Sampling for Geochemistry

During Leg 42b, sampling procedures and protocol were reviewed, this action was prompted by the increasing number of investigators desiring samples for organic geochemical analyses and particularly the increasing number of scientists from Europe. The panel agreed that in general principle the allocation of samples should remain a panel responsibility. It was pointed out that long lists of required samples created a problem aboard the ship and it was suggested that wherever possible a single sample should be taken and subdivided rather than a large number of identical samples being taken. There is concern that individual samples may be fragmented to such an extent as to preclude detailed work, also that excessive duplication of work is done. It was agreed to give further thought to this topic. (There is a likelihood that the sampling policy during IPOD will be that only the minimum of samples are taken onboard the ship and the rest being taken by the curator. By this means it is hoped that some coordination of sampling can be exercised.)

In order to assist communication between this panel and the Ocean Margin panels, J. Hunt has been elected a member of the Passive Margin Panel and K. Kvenvolden a member of the Active Margin Panel.

DSDP SITE REPORTS

Leg 42A: Co-chief scientists, K.J. Hsu and L. Montadert, report:-

Site 373: This is located on Forty-Two Seamount in the Tyrrhenian abyssal plain. After an initial abortive attempt to spud in, site 373A penetrated 458 meters. A basement sequence of basalt breccia was encountered, recrystallized chalk and basalt lavas. Total basement penetration was 200 meters terminating in fresh hard basalt. 11 cores were taken of the overlying sediments of Quaternary, Upper and Lower Pliocene sequence of muds and tephras. Heat flow measurements indicated a similar gradient to that of Site 372 and acoustic basement was encountered at 270 meters subbottom.

Site 374: In the Ionian Abyssal Plain. The hole penetrated 457 meters with twenty-four cores and two sidewalls taken, recovering samples from Pleistocene, Pliocene and Mediterranean evaporite. The samples included Quaternary muds and turbidites, Pliocene marls and sapropels, and evaporite sequences including black dolomitic marls, black laminated dolomite, selenite layers, laminated gypsum, anhydrite and halite. The sidewall cores sampled the contact between black dolomitic marls and the Pliocene Trubi marl. Five heat flow measurements confirmed the subnormal heat flow of the Ionian basement.

Site 375: On the Florentine Rise. The hole bottomed in Burdigalian at 882 meters. The section consists of hemipelagic marls, muds, limestones and turbidites with Upper Miocene dolomitic marls and gypsum. A correlation was established between the hemipelagic sequence in Cyprus which overlies Mesozoic basement.

Site 376: 11 km north of 375. The Quaternary, Pliocene and Upper Miocene was continuously cored and the hole bottomed in halite at 217 meters. Pliocene Trubi sphaerodinellopsis acme zone identified in contact above Messinian Cypredeis pannonica sediments. The presence of a great Ionian-Levantine lac mer in Latest Miocene was established after the last evaporite deposition. Ostracod marls, foram-nanno marls, dolomites, turbidites, selenitic gypsum, nodular anhydrite and halite in the Messinian were cored.

Site 377: Located in a cleft in the Mediterranean Ridge. The hole was terminated at 263 meters in black shale because of a non-productive drilling rate. The Quaternary overlying Middle Miocene and older black shales, siltstones and sandstone was penetrated. The flysch-like sequence was probably deposited on a continental rise or basinal environment prior to the regional deformation of the Mediterranean Ridge.

Site 378: Located in the Cretan Basin. Two holes were drilled and 20 cores taken. Quaternary, Pliocene and Messinian evaporites were penetrated. The Plio-Quaternary section consisting of bathyal hemipelagic muds, with deepening of the basin and the start of ponded facies deposited in Mid-Quaternary. The Messinian is topped by a thin limestone and the cored section is massive selenitic gypsum. Three heat flow measurements confirm a high thermal gradient. The first hole bottomed in limestone at 312 meters to save time for hole 378A which bottomed in evaporite at 344 meters.

Leg 42B: Co-chief scientists, D. Ross and Y. Neprochnov, report:-

Site 379: In the Black Sea at 43°00'N, 36°0.1'E. The hole bottomed at 624 meters in sediments aged between 230,000 and 700,000 years. The sediments encountered were mainly detrital mud with inorganic precipitates of dolomite and calcite in the lower part of the hole. Turbidite sequences are abundant, but with few fossils. The section cored is mainly non-marine with two or three major marine periods. Interstitial waters show increase in salinity, calcium and magnesium with depth, possibly indicating a playa-lake or evaporite conditions. Obviously a very high sedimentation rate. The pressure core barrel was tested with partial success. Heat flow measurements show a linear gradient of 0.9 HFU.

Site 380: Two holes were drilled to a total depth of 1073.5 meters in Late Pliocene. A relatively complete record of the Pleistocene was obtained and three distinct glacial phases documented by spore and palynological studies. The sedimentation rates averaged approximately 1 m/thousand years. Parts of the section are chemically comparable to the Green River formation and resemble an oil shale in early stages of formation.

Site 381: This site was continuously cored to a depth of 503 m. Spores and pollen suggest that the oldest age reached is Upper Miocene. Three glacial periods were distinguished again and this site is easily correlated with Sites 379 and 380.

Leg 43: Co-chief scientists, B. Tucholke and P. Vogt, report:-

Site 382: Located over the buried eastern flank of Nashville Seamount, Sohm Abyssal Plain. The hole terminated at 520.5 m in coarse basalt breccia corresponding to the deepest reflector. 0-210 m Pleistocene clays, silty clays and silts, 210-355 m Mid Pliocene to Lower Miocene clays, 355-375 m Lower Maestrictian varicolored volcanogenic silty clays. 375-420 m Lower Campanian volcanogenic clay, silty clay, marly limestone and basalt breccia. 420-520.5 m Coniacian-Santonian volcanogenic claystones, and sandstones overlying coarse basaltic breccia. This was the main phase of volcanic activity on Nashville Seamount. The Maestrictian volcanogenic clays may reflect more distant sources. Highly vesicular basalt clasts in the breccia indicate shallow water eruptions on the seamount. After a 40 m.y. hiatus, hemipelagic clays were deposited during the Miocene, followed by the Plio-Pleistocene turbidites of the Sohm Abyssal Plain.

Site 383: In the Sohm Abyssal Plain over J-anomaly ridge. The site was abandoned at 120 m due to repeated caving of coarse unconsolidated sand. Core at 54 meters half filled with coarse sand. Core at 110 m empty.

JOIDES CALENDAR

Meetings

Executive Committee	3 October 1975	L-DGO
Planning Committee	30 September - 2 October 13-15 January 1976	L-DGO DSDP
Ocean Crust Panel	8-10 September 1-3 December	L-DGO Washington,D.C.
Active Margin Panel	12-14 August	DSDP
Passive Margin Panel	27-29 September	L-DGO
JOINT PM/OP Meeting	27 September	L-DGO
Ocean Palaeoenvironment Panel	24-27 September 7-9 January 1976	L-DGO Miami
Site Survey Panel	13-14 August	L-DGO
Paleontology & Biostratigraphy	19 October	Salt Lake City
Sedimentary Petrology & Physical Properties	11-12 September	DSDP
JOINT SP&PP/IG	During 11-12 September	DSDP
Inorganic Geochemistry	11-12 Septmeber	DSDP
Organic Geochemistry Panel	19 October	Salt Lake City
Safety Panel		
Information Handling Panel		
Down Hole Measurements Panel		
Leg 38	24-26 September	L-DGO
Leg 39	27-31 October	L-DGO
Leg 41	27-31 October	L-DGO
Leg 42A	30 September - 2 October	L-DGO
Mediterranean Working Group	25-26 September	L-DGO

Conference

Nature of the Oceanic Crust: DSDP Results	4-6 December 1975	SIO

SHIPBOARD SUMMARIES

JOIDES JOURNAL may be an appropriate place for a summary of the cruise results to appear. It would thus be appreciated if co-chief scientists would send a copy of their draft shipboard summary to the JOIDES Office for this information to be further summarized for inclusion in JOIDES JOURNAL.

PLEA FROM THE JOIDES OFFICE

Our xerox machine will only take quarto sized paper, anything larger than this has to be xerox-reduced, it would be helpful to us if panel chairmen could see that their minutes are written on quarto and not on fulscap paper please.

CIRCULATION OF JOIDES JOURNAL

JOIDES JOURNAL is automatically distributed to those actively involved in JOIDES. Anyone else wishing to have their names added to the distribution list should contact Dr. C. A. Williams, JOIDES Office, Lamont-Doherty Geological Observatory, Palisades, New York, 10964, U.S.A.