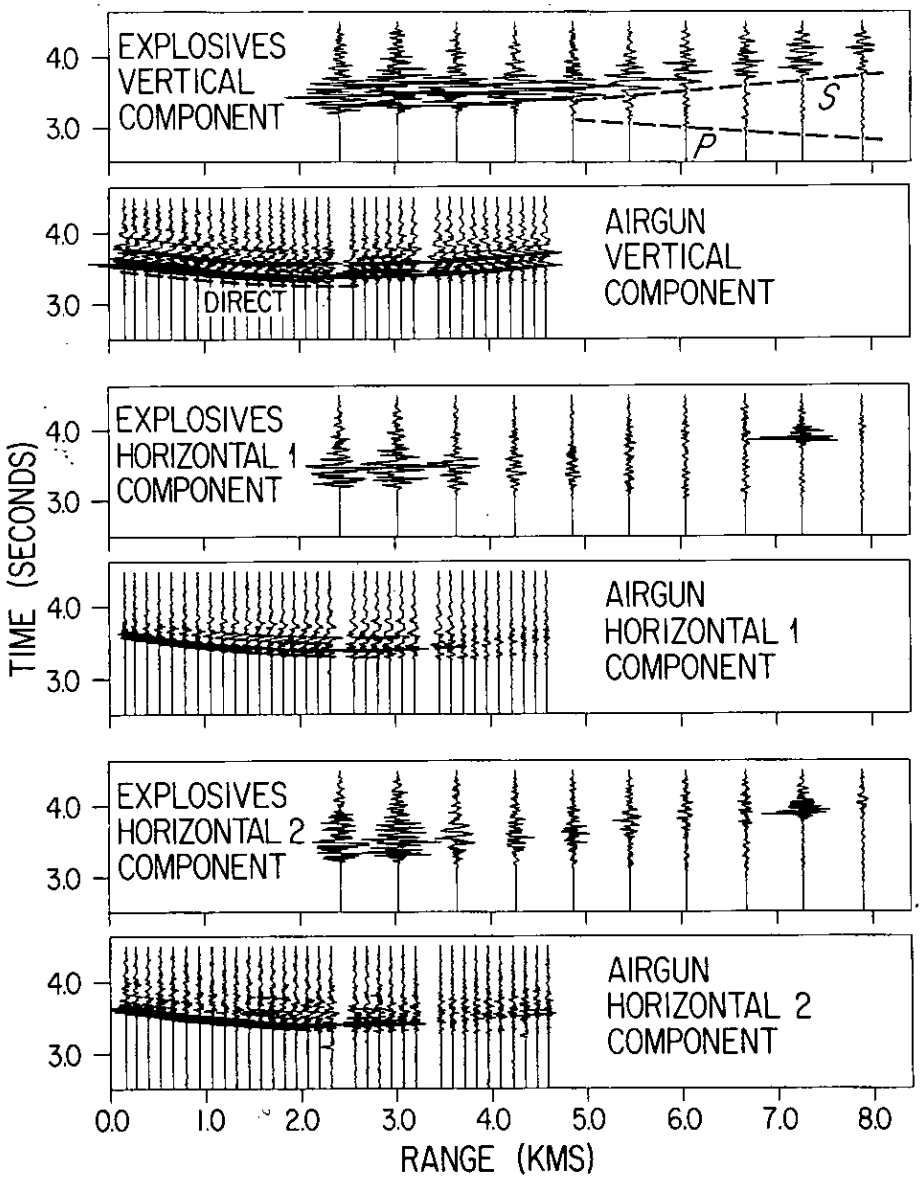
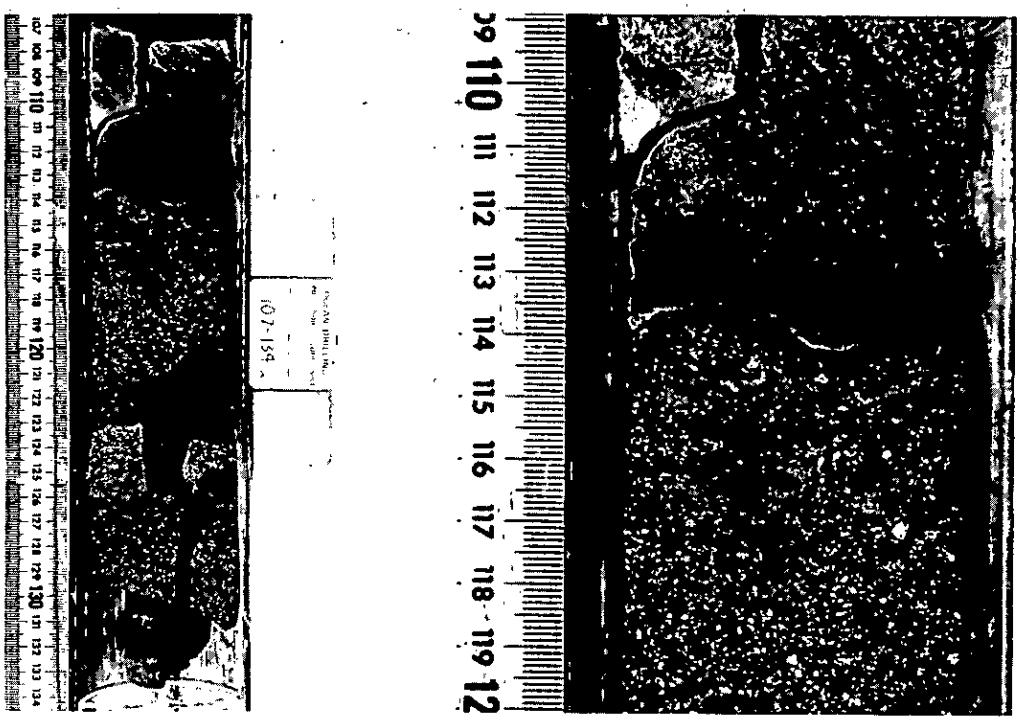
JOIDES Journal

VOL.XI, No.3 OCTOBER 1985

BOREHOLE SEISMIC DATA FROM DSDP SITE 418





Left: Section 5 of ODP Core 085R (Voring Plateau), from the upper volcanic series of Hole 642E (1012.8 m depth), shows the contact between a fine grained, aphyric, gray basalt flow (above) and a dark reddish-brown, well-sorted lithic tuff (below).

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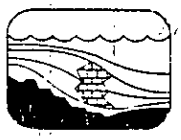
Right: Detailed view of Core 085R. Examinations indicate that the basalt contains disseminated copper blebs with up to 35% vesicularity at the contact and that the tuff is composed of 10-15% lapilli size clasts and vesicular, angular or arcuate vitric shards. (Photos are courtesy of Kathe Lighty and Kevin de Mauret at ODP/TAMU. The photo description is courtesy of Elliott Taylor, ODP Staff Scientist for Leg 104.)

JOIDES Journal



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PUBLICATION STATEMENT

The JOIDES Journal is prepared and distributed for the Ocean Drilling Program by the JOIDES Office at the Graduate School of Oceanography, University of Rhode Island, under a contract provided by the National Science Foundation and administered through the Joint Oceanographic Institutions Inc., 1755 Massachusetts Avenue, N.W. Washington, D.C. 20036. The material is based upon research supported by the National Science Foundation under Contract No. NSF OCE 83-17349.

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FRONT COVER

The borehole seismic experiment conducted onboard the JOIDES RESOLUTION during ODP Leg 102, in the Western Atlantic, was designed to study seismic anisotropy and lateral heterogeneity in the upper 1500 m of oceanic crust surrounding the drillhole. Results indicate that excellent three-component borehole seismic data were acquired using airgun (2 X 2000 cu. in.) and explosive (15 lbs.- Tovex) sources. These were fired from the R/V FRED MOORE.

The front cover illustrations are comparisons of results from a seismic line which was run parallel to the bathymetric contours at DSDP Site 418. These show that three prominent arrivals were recorded in the form of a compressional "diving" wave (P), a converted shear wave (S) and a direct wave root or evanescent direct wave (DIRECT). Preliminary interpretations suggest that the airguns provide closer shot spacing and yield a more repetitive source waveform than explosives, however,explosives are required at ranges greater than 5 km in order to obtain satisfactory signal/noise ratios. (Travel times have been reduced at 4.0 km/sec).

The figure and figure interpretation are courtesy of R. Stephen, Woods Hole Oceanographic Institution.

FOCUS

"Wind and sea conditions severe in Labrador Sea. Drillship able to work; escort vessel taking a beating." The above quote is from the drilling report for the week of September 29 and summarizes the answer to one of the questions I raised in this space in the last issue, namely, can we drill and core in <u>really bad weather</u>? After nearly four months of operations north of 55°N latitude in the Norwegian Sea, Baffin Bay, and Labrador Sea, the answer to date is a 100% "yes." More specifically we have experienced over 50 kt winds and 20 ft seas for extended periods without a single "wait on weather" annotation in the operations record. Furthermore, the positioning system, vessel stability, and heave compensation systems have allowed us to continue to recover high quality cores and geophysical data during severe weather situations. The heave compensator in the drilling system is working so well that the bumper subs in the bottom hole assembly are becoming less and less important. The wireline heave compensator in the geophysical logging system has just been installed, and initial results indicate that it reduces both vertical motion (heave) and tool weight fluctuations to about 5% of original values. Maximum use is planned for these high latitude capabilities over the next 2 1/2 years when we will conduct two major campaigns in the Southern Oceans drilling near Antarctica. The first will be a four-month program during the austral summer of 1986-87 to study the paleoceanography/paleoclimatology of the Weddell Sea and sub-Antarctic Atlantic. The second will be another four-month attack during the following austral summer of 1987-88 on the paleoceanography and structural geology of the Kerguelen Plateau/Davis Sea area.

We are about to load on a large collection of hardware and engineers for Leg 106 that will address the other question I raised in the previous "FOCUS" column -- Can we make a bare rock drilling system work? I honestly don't know how to bet on this one, but if we can't, it won't be for lack of trying. Although we are limited in all of time, money, and manpower, the Texas A&M engineers have thrown the maximum available amounts of all three of those commodities at this problem. To understand the relative complexity of this project you might compare it to the last major advance in seafloor technology in scientific ocean drilling, the development of re-entry capability. In order to make re-entry a reality, two new systems had to work, but by comparison, <u>nine</u> new independent systems all have to work for bare rock drilling to succeed. The first key system combination is the hard rock base structure and a modified reentry cone with a gimbaled seat to stabilize the bit. The second key system combination is the down hole coring motor that will turn a drag bit at high speed and low bit weight in order to drill through rubble zones and fractured basalt sequences. Although the individual systems have been tested independently, we have not had the resources for a unified systems test, so bare rock drilling will make its debut on Leg 106 without benefit of a "dress rehearsal." If we succeed, we shall have cored directly into the neovolcanic zone of the Mid-Atlantic Ridge and established the first permanent "natural laboratory" at that location. This goal, to drill directly into a "type locality" spreading center, has stood for years as the principal ocean lithosphere objective of the drilling program. We finally stand ready to lower the equipment that can make this goal a reality.

Roger L. Larson
Planning Committee Chairman

OPERATIONS SCHEDULE

JOIDES RESOLUTION

LEG	DEPARTS LOCATION	DEPARTS DATE	ARRIVES AT DESTINATION	ARRIVES AT DATE	IN PORT
107	Malaga, Spain	1 Jan 1986	Marseilles, France	18 Feb	Feb 18-22
108	Marseilles, France	23 Feb	Dakar, Senegal	21 April	April 21-25
109	Dakar, Senegal	26 April	Barbados,	22 June	June 22-26
110	Barbados	27 June	Barbados	17 Aug	Aug 17-18
111T	Barbados	19 Aug	Panama	26 Aug	Aug 26-30
111	Panama, Panama	31 Aug	Callao, Peru	24 Oct	Oct 24-28
112	Callao, Peru	29 Oct	Punta Arenas, Chile	27 Dec	Dec 27-31

SCIENTIFIC OBJECTIVES FOR LEG 105

The following paragraphs are excerpted from the Scientific Prospectus for Leg 105 as prepared by the Ocean Drilling Program. Additional information may be obtained from Brad Clement, Staff Science Representative for Leg 105 or Robert Kidd, Manager of Science Operations. Both are located at Texas A&M University, College Station, Texas 77843-3469.

Leg 105 is scheduled to sail from St. John's, Newfoundland, Canada during late August 1985 and is to return to St. John's in late October 1985. The scheduled period of operations is planned to coincide with the ideal weather window for conducting drilling in the area, however, the uncertainty associated with predicting the clearing of sea ice from the areas of primary and secondary concern has led to the development of a number of different drilling plans which should optimize the capabilities of the drillship.

Data from the Baffin Bay area collected over the last ten years suggests that the area should be ice free by the start of the cruise in late August. If this is the case, then current plans are for the JOIDES RESOLUTION to intially proceed to Site BB-3B (Fig. 1). After 25 days of operations at this location, the ship will then sail south to the Labrador Sea to conduct drilling operations until cruise objectives are achieved. However, if sea ice persists in Baffin Bay at the start of the cruise, then RESOLUTION will begin drilling operations in the Labrador Sea at Site LA-5 (Fig. 1) and the remainder of the drilling schedule will be dependent on the clearing of sea ice at the other site locations.

Baffin Bay contains one of the few passive margins where syn-rift and early post-rift sediments are accessible by drilling. Further, the Labrador Sea and Baffin Bay areas contain sedimentation rates which are high enough to allow for a number of critical paleoceanographic questions to be addressed. Finally, the relatively small size of both the Labrador Sea and Baffin Bay in combination with the availability of well data from the continental shelf and slope should make this a fruitful area for sediment budget studies as they relate to sea level change, subsidence, paleocirculation changes and glaciation.

Drilling into the post-rift sediments at the target sites in Baffin Bay (Fig. 1) will yield information concerning the high latitude development of the Baffin Bay basin. While drilling through the post-rift sequences of the Labrador Sea down into the underlying basement at selected sites (Figure 1) will not only yield a nearly continous Eocene-Oligicene geologic section for paleoceanographic study but will also yield information that will place important contraints on the history of seafloor spreading in the region.

PREVIOUS WORK

In spite of the numerous wells which have been drilled on the adjacent Canadian continental margin and the extensive regional geophysical surveys that have been conducted in the basin, the exact chronology of seafloor spreading in the Labrador Sea is not clearly understood. However, the most complete story on the geologic evolution of the Labrador Sea is based on detailed regional magnetic and gravity data that has been collected during the last decade (Srivastava et al., 1981; Fig. 2).

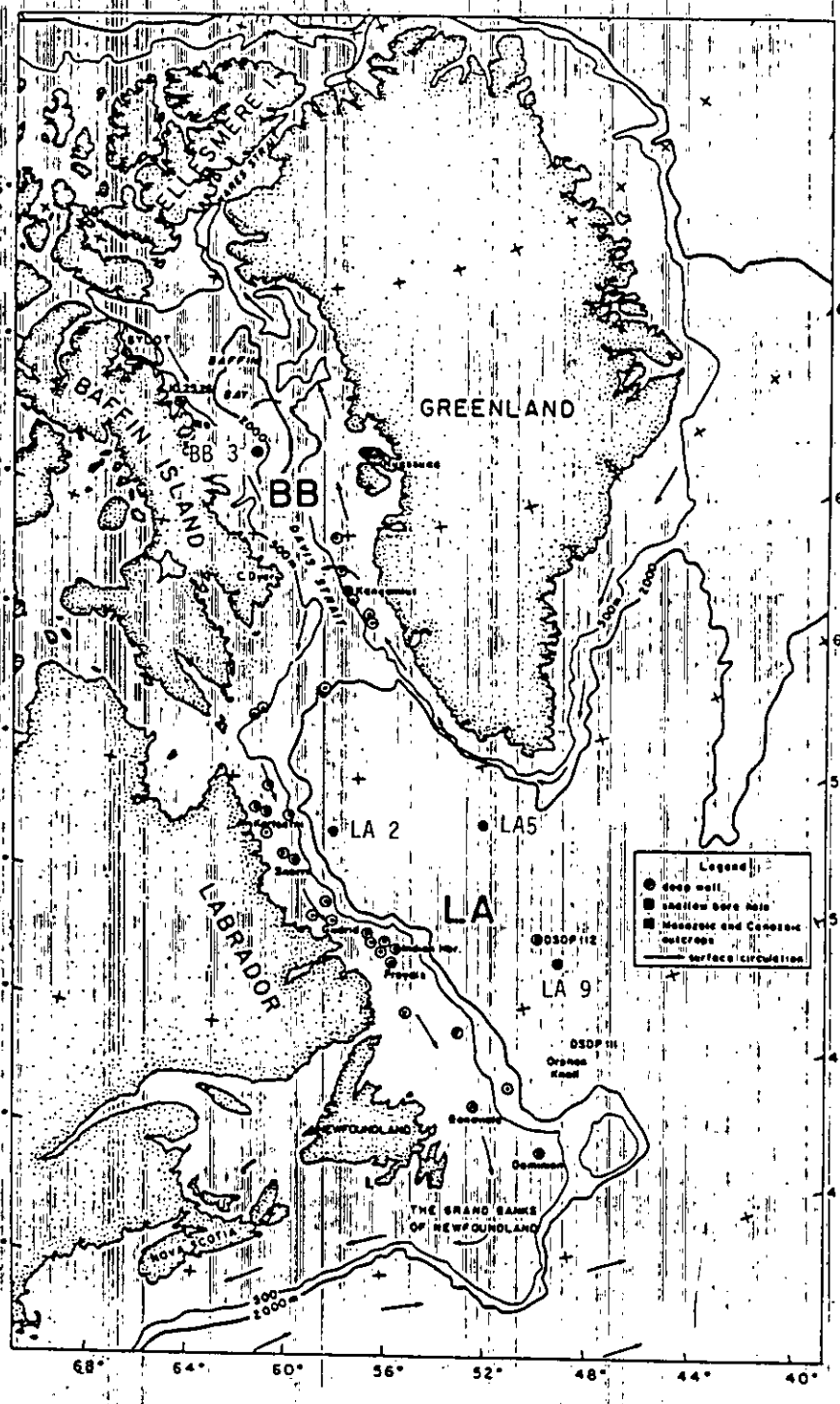

FIGURE 1: Location of proposed Labrador Sea and Baffin Bay ODP Sites.

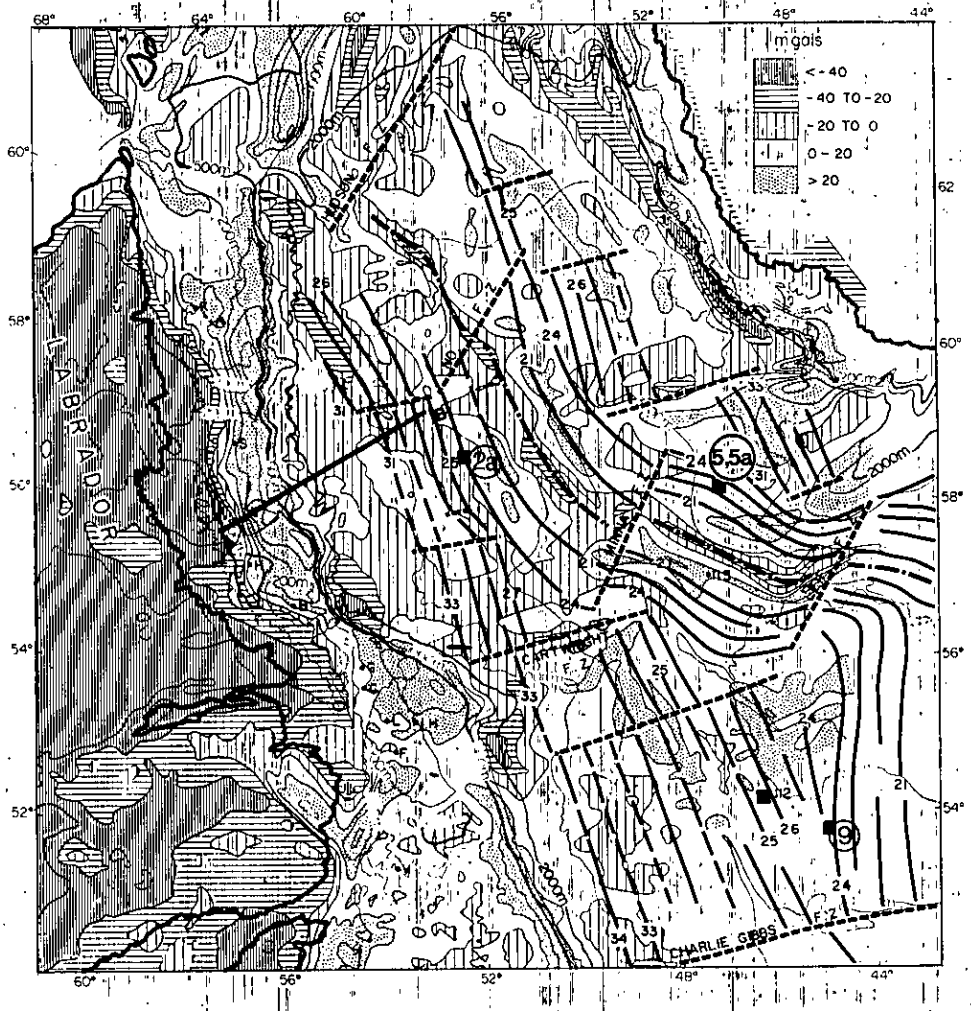

FIGURE 2: Magnetic lineations in the Labrador Sea, superimposed on gravity map.

The geology of the adjacent Canadian shelf is well known from approximately 20 industry drill holes and extensive coverage by industry seismic data (Cutt and Laving, 1977; Umpleby, 1979; McWhae, 1981). In addition, multichannel seismic lines (Hinz et al., 1979) from the northern Labrador Sea have linked the pre-Miocene stratigraphic sections of the shelf wells to the deep basin seismostratigraphy. This stratigraphic framework is further constrained by an extensive network of single channel seismic profiles from the deep basin area. In contrast, the other side of the basin, the Greenland margin, is relatively unknown as there have been only six wells drilled in this area.

The weakness of the available geophysical data is the lack of deep basin geological information to link the seismostratigraphy with the underlying geology. This information is needed to refine a first order stratigraphic framework that was developed after DSDP Leg 12 drilling operations. Leg 12 drilled three holes (Sites 111-113) in the southern Labrador Sea (Laughton and Berggren et al., 1972). Of these, only Site 112 penetrated oceanic basement. Unfortunately, Site 112 was drilled on a basement high and this particular location did not allow for the dating of the seafloor spreading anomaly at this site. Hole 111 was drilled on Orphan Knoll at the base of the continental rise and sampled Jurassic sediments. Hole 113 was drilled in the north central Labrador Sea and the oldest sediments collected were of Miocene age.

Unlike the Labrador Sea, the evolution of Baffin Bay is poorly constrained. Hypotheses on the mechanisms for the formation of Baffin Bay have been proposed by Keen and Keen (1974), Keen and Pierce (1982), and Grant (1982). However, the testing of these ideas has been hindered by the lack of a continous stratigraphic section in the Baffin Bay sediments and by the inability of the geological community to gain access to the extensive seismic dataset collected by the industry for the area north of the Davis Strait. On the other hand, the timing of the opening of Baffin Bay can be determined from upper Cretaceous and Paleogene marine outcrops on West Greenland and from the Canadian continental shelf, however, the sense of paleo-plate movement is unconstrained.

Detailed magnetic measurements from central Baffin Bay reveal magnetic lineations and a gravity low that is similar to that observed over extinct ridges in the Labrador Sea. However, an interpretation of the spreading history based on this data is difficult because of the large distances over which the magnetic anomalies would need to be correlated (Jackson et al, 1979).

In spite of a lack of direct evidence for seafloor spreading in the area, plate reconstructions of Greenland relative to North America (based on Labrador Sea data) may yield some insight into the plate tectonic development of the region. Such reconstructions show that the Baffin Bay area significantly opened by Eocene time (Gradstein and Srivastava, 1980).

PALEOGENE PALEOCEANOGRAPHY

The early paleocirculation history of the Labrador Sea-Baffin Bay ocean basin is generally well known in terms of surface water distribution (Gradstein and Srivastava, 1980). Based on the micropaleontologic data from this area a Cenozoic-age, poleward circulation pattern through the Labrador Sea-Baffin Bay seaway is envisaged (Berggren and Hollister, 1974; Fig.

3). However additional micropaleontological data are needed in order to further define the surficial flow through these basins and relate it to periods of glaciation and deglaciation.

During the early-mid Eocene the evidence is widespread for warm climatic conditions. This hypothesis is supported by the vertebrate record of the Eureka Sound formation on Ellesmere Island (Fig. 1) which indicates that mean temperatures during the coldest month of that time were above 10-12° C. Additional climatic data indicate that a major cooling period occured during mid-Eocene to early Oligocene times that resulted in the development of a pronounced temperature drop at the Eocene-Oligocene boundary. Further, the stratigraphic record as DSDP Site 112 indicates that during Eocene and Oligocene times a transition in the benthonic biota occured as a diverse Eocene benthic agglutinated foram assemblage changed to a predominantly calcareous assemblage during the Oligocene (Miller et al., 1982). This faunal change was found at approximately 100 m below a prominent seismic reflector which is believed to mark a major change in abyssal circulation and has since been named Reflector R4 (Roberts, 1975; Miller and Tucholke, 1983). In addition, a poorly defined reflector at DSDP Site 112, which can be correlated with Reflector R4, has been located beneath Horizon R3. Therefore in order to refine the timing of the onset of abyssal circulation in the region, it is critical that detailed stratigraphic information be collected across this interval.

The widespread occurrence of hiatuses in the world ocean during the late Eocene-Oligocene have left this interval of time poorly understood. Further, gaps in the coring record from DSDP Site 112 and limited interpretations of the seismic information from the area have resulted in a limited understanding of what is believed to be a continous stratigraphic sequence across this boundary. Therefore a better seismo-stratigraphic framework is needed in order to correlate the Labrador Sea-Eirik Drifts area to continental shelf areas and to develop a depositional history for the basin.

LATE CENOZOIC PALEOCEANOGRAPHY

During the Cenozoic, three of the major northern hemisphere ice sheets were immediately situated in the vicinity of the Labrador Sea and Baffin Bay areas. It is hoped that the high sedimentation rate of the area has recorded information that will lead to the development of a high resolution stratigraphy which in turn has documented changes in the ice masses with time. Further it is hoped that this information will be useful in the comparison of late Cenozoic foraminiferal, isotopic, palynological data and ice-rafted debris records from the Arctic and N. Atlantic Oceans in the study of the interaction between orbital forcing and the high latitude atmosphere-hydrosphere-cryosphere system.

DRILLING OBJECTIVES

Drilling at the primary target sites (BB-3B and LA-5; Fig. 1) in the Labrador Sea and Baffin Bay will address many basic questions regarding the geologic evolution of this section of the North Atlantic. During precruise planning, the uncertainty caused by the weather conditions in this region led to the development of number of alternate sites (LA-5A, LA-9 and LA-2A) which could fulfill the prime objectives of this leg should the first priority sites become unavailable.

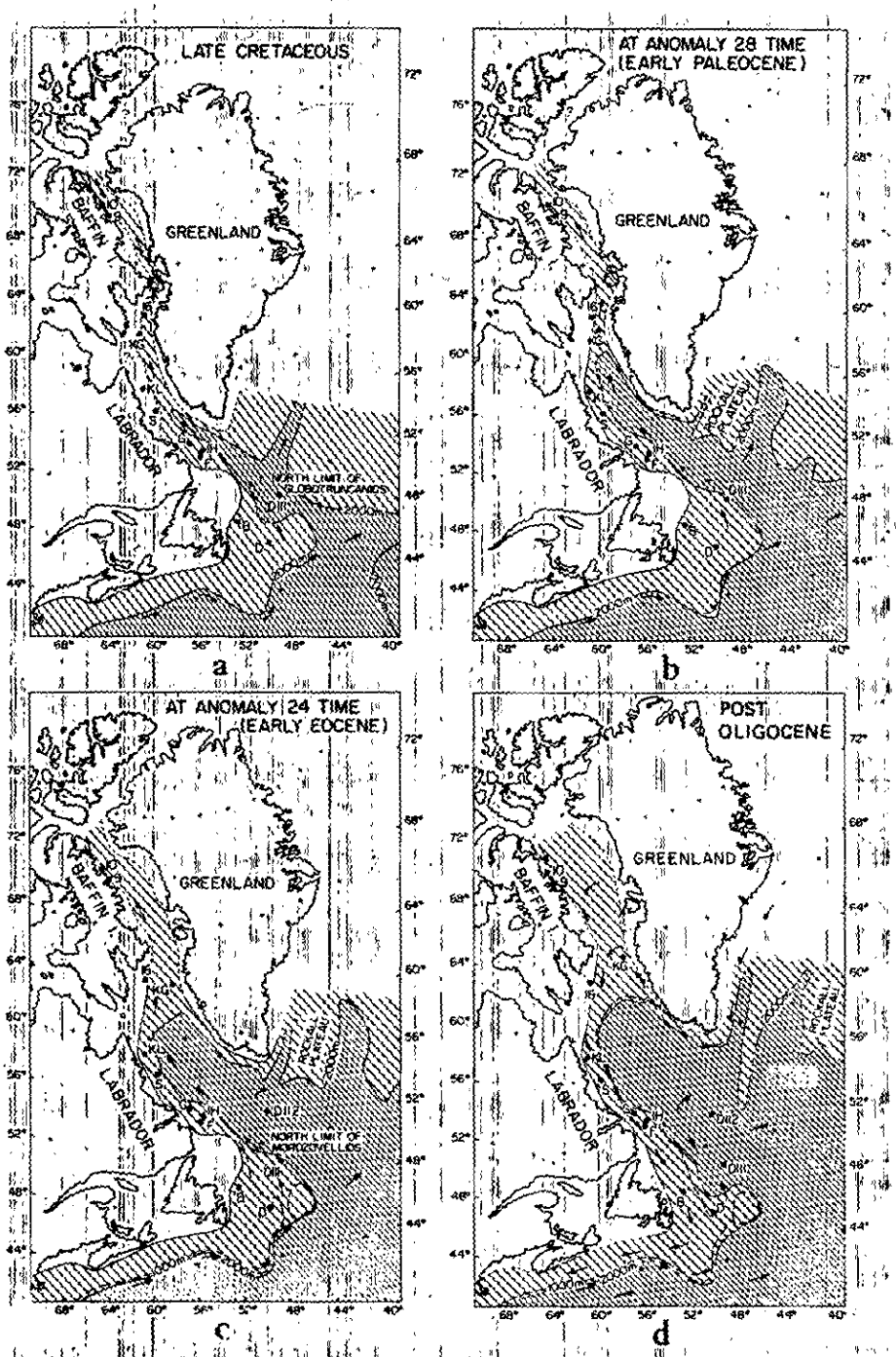

FIGURE 3: Paleocirculation patterns during opening of the Labrador Sea.

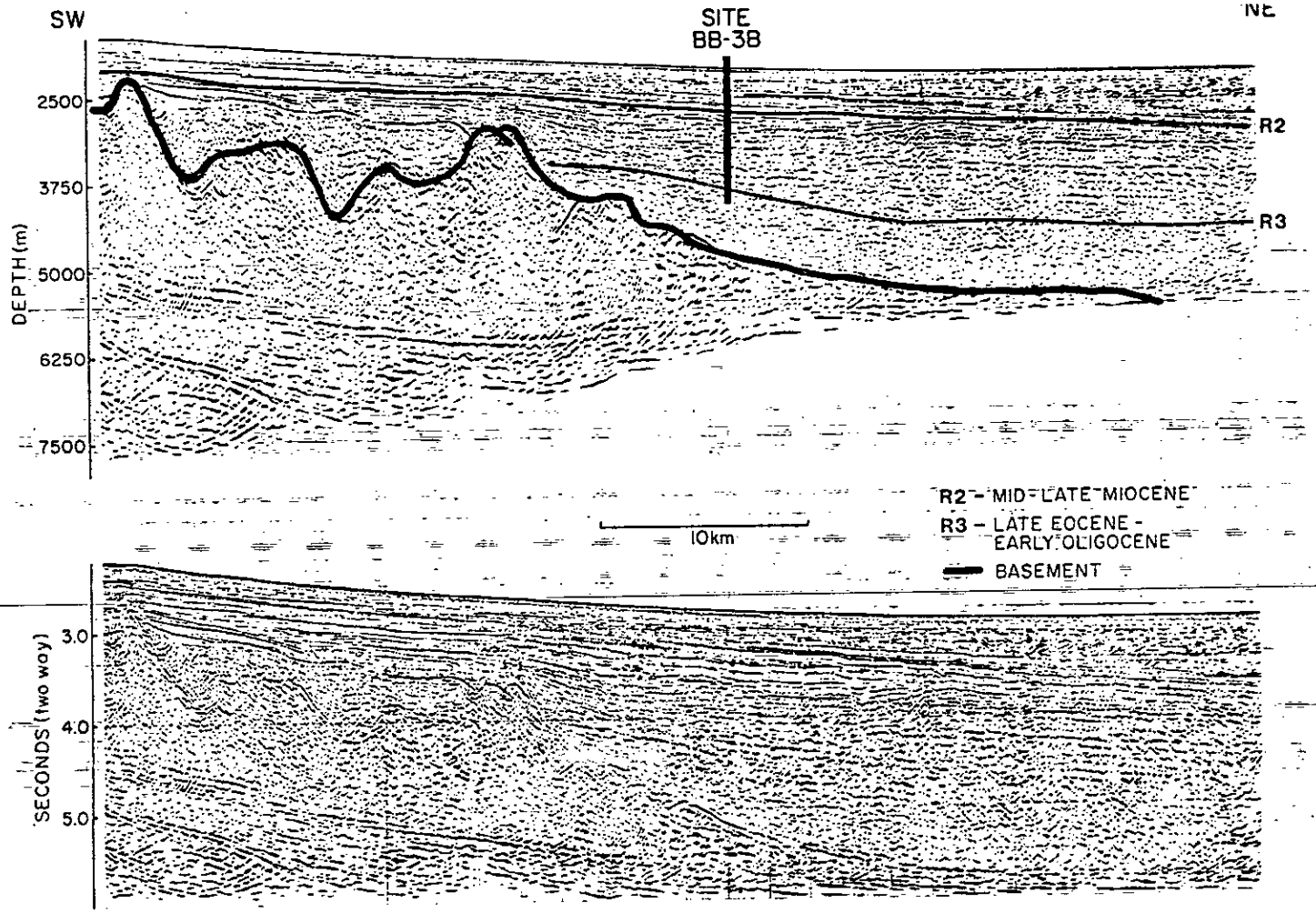

FIGURE 4: Segment of seismic profile BE-74-5 showing location of Site BB-3B.

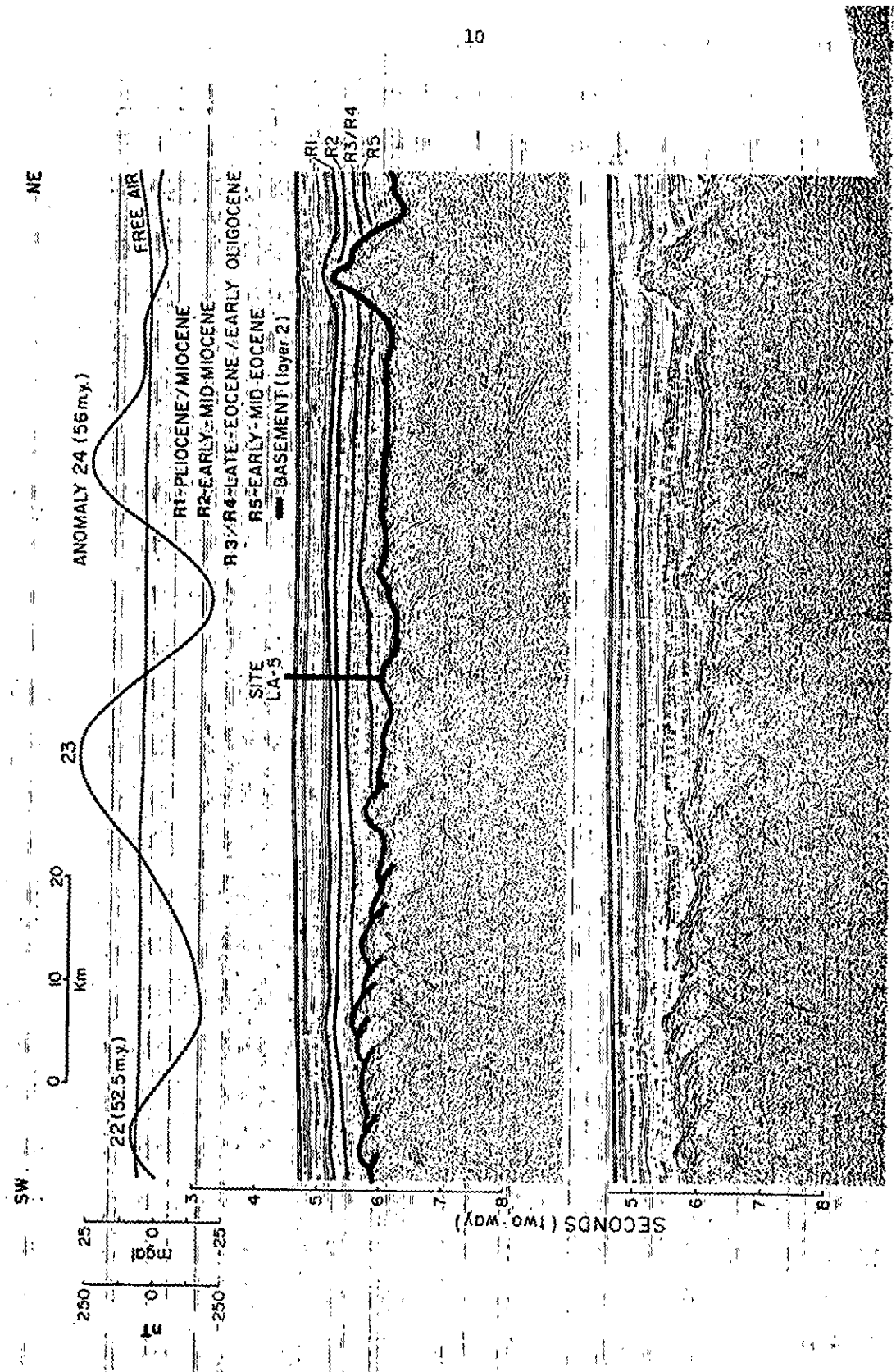

FIGURE 5: Segment of seismic profile BGR-2 show-

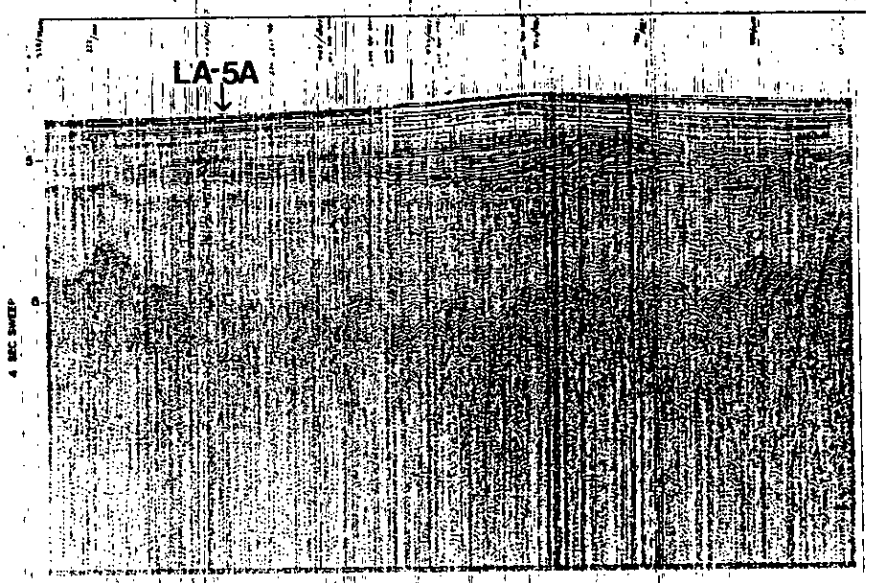

FIGURE 6: Segment of Hudson line 14 showing location of Site LA-5A.

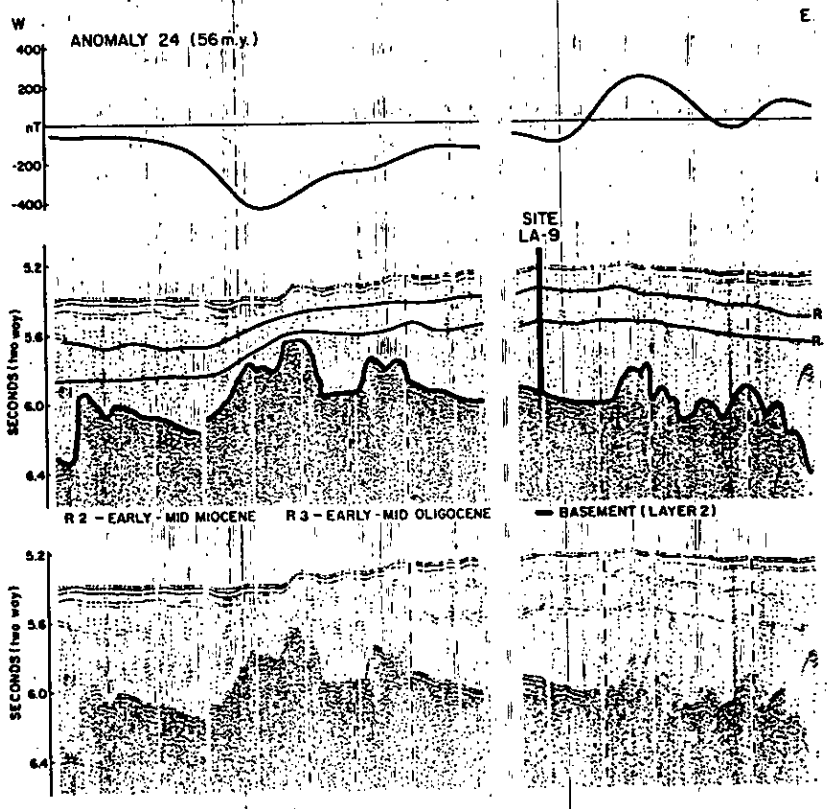

FIGURE 7: Segment of line HDB84-034, line 14 showing location of Site LA-9.

Located in western Baffin Bay at a water depth of 2090 m, Site BB-3B (Fig. 4, Fig. 1) should provide a high latitude, Eocene-Oligocene paleoceanographic, record that will contain enough information to place first order constraints (based on age and depositional environment of the oldest sediments recovered at this site) on the style of early post-rift tectonics. Results from Site BB-3B, in combination with those from Site LA-5, will also provide a high latitude framework for the study of the Eocene-Oligocene cooling period. Further, combining the results of BB-3B with those of Leg 103, from the Galicia Margin, should provide the information necessary for modelling the general tectonic history and associated crustal movements of passive continental margins. Drilling operations at Site BB-3B have been given a top priority status for the cruise although access to this site is dependent on the amount of sea ice coverage.

Site LA-5, located west of the Eirik Ridge in 3350 m of water (Fig. 5, Fig. 1) should provide first order information on the magnetics record for the region by drilling on magnetic anomaly 23/24 in the Labrador Sea.

Twenty-seven kilometers northeast of Site LA-5, Site LA-5A (Fig. 6; Fig. 1) will provide an alternate location for drilling at LA-5. The site, which is located in 3463 m of water, should yield information on the Miocene/Eocene boundary which is located 560-700 m subbottom. This information will be useful in dating the drift deposits of the Eirik Ridge.

Site LA-9 (Fig. 7; Fig. 1) is located at 3867 m between the Gloria Drift and the No. Atlantic Mid-Ocean Channel. If drilled, this site should yield a stable isotope record that covers the last 10 million years since it is located in an area composed predominantly of hemipelagic material that has been unaffected by carbonate diagenesis. Drilling through the sediments at LA-9 should also provide information that will conclusively date the two major mid-sediment reflectors, R3 and R4.

Drilling at Site LA-2A in the western Labrador Sea, to the east of Saglek Bank, will extend the paleoceanographic transect that will be established by drilling at BB-3B and LA-9. Furthermore a continuous section from this area should allow for testing of diverse theories regarding the causes of glaciation and the driving forces behind glacial-interglacial cycles. (Ruddiman and MacIntyre, 1981; Andrews et al., 1983;)

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SCIENTIFIC OBJECTIVES FOR LEG 106

The following paragraphs are excepted from the Scientific Prospectus for Leg 106 as prepared by the ODP. Additional information may be obtained from Andrew Adamson, Staff Science Representative for Leg 106 or Robert Kidd, Manager of Science Operations. Both are located at Texas A & M University, College Station, Texas 77843-3469.

Leg 106 of the ODP (and subsequent Leg 109) will concentrate on the first of the 12 COSOD top priority program recomendations of examining processes of magma generation and crustal construction at mid-ocean ridges (COSOD, 1981). In particular, the goal of this leg is to drill zero-age crust in the median valley of the Mid-Atlantic Ridge south of the Kane Fracture Zone. The leg will employ a specially designed bare rock guide base and use new drilling technology. The JOIDES RESOLUTION is scheduled to depart St. John's, Newfoundland on 1 November 1985 and to arrive in the drilling area after 6 days transit. Leg 106 will end in Malaga, Spain on 27 December 1985.

PREVIOUS STUDIES

The Kane Fracture Zone (Figure 1) was first identified by Sykes (1967) from the study of earthquake epicenters along the Mid-Atlantic Ridge at 23 degrees N. Subsequent surface-ship magnetic surveys show that the Mid-Atlantic Ridge (MAR) at this location is spreading at different rates to the north and south of the fracture zone. The area north of Kane has been found to be spreading in a symmetrical fashion at rates of 1.4 cm/yr (half rate) while the area to the south is spreading asymmetrically at rates of 1.7 cm/yr on the western side of the rift and 1.1 cm/yr on the eastern side of the rift. Basalts have been recovered along the median valley walls and variably deformed and metamorphosed gabbroic and ultramafic rocks have been found at both eastern and western intersections of the MAR and the Kane Transform along the fracture zone walls (Melson et al., 1968; Miyashiro et al., 1969; 1970; 1971; van Andel et al., 1971; Dick et al., 1980; Bryan et al., 1981; Karson and Dick, 1983).

Seismic refraction data, from the 120 km long rift valley segment located immediately south of the Kane Fracture Zone, reveal the presence of relatively normal crustal thicknesses (6 - 7 km) and upper mantle velocities of approximately 8 km/sec (Purdy and Detrick, 1984). However, anomalously thin crust (approximately 2 km) has been reported from the eastern ridge-transform intersection and along the Kane Fracture Zone (Cormier et al., 1984; Detrick and Purdy, 1980).

Most recently, the area has been the site of detailed Seabeam (Detrick et al, 1984) and Sea MARC (Mayer et al., 1985) investigations aimed at establishing the tectonic framework of this portion of the MAR and identifying sites suitable for "bare rock" drilling.

SCIENTIFIC OBJECTIVES

The primary scientific objectives of Leg 106 will address the origin and nature of zero-age oceanic crust as it evolves in a slow spreading, mid-ocean ridge environment. Further, Leg 106 will examine the processes of magma generation and crustal accretion as they relate to the nature and abundance of parental and primitive

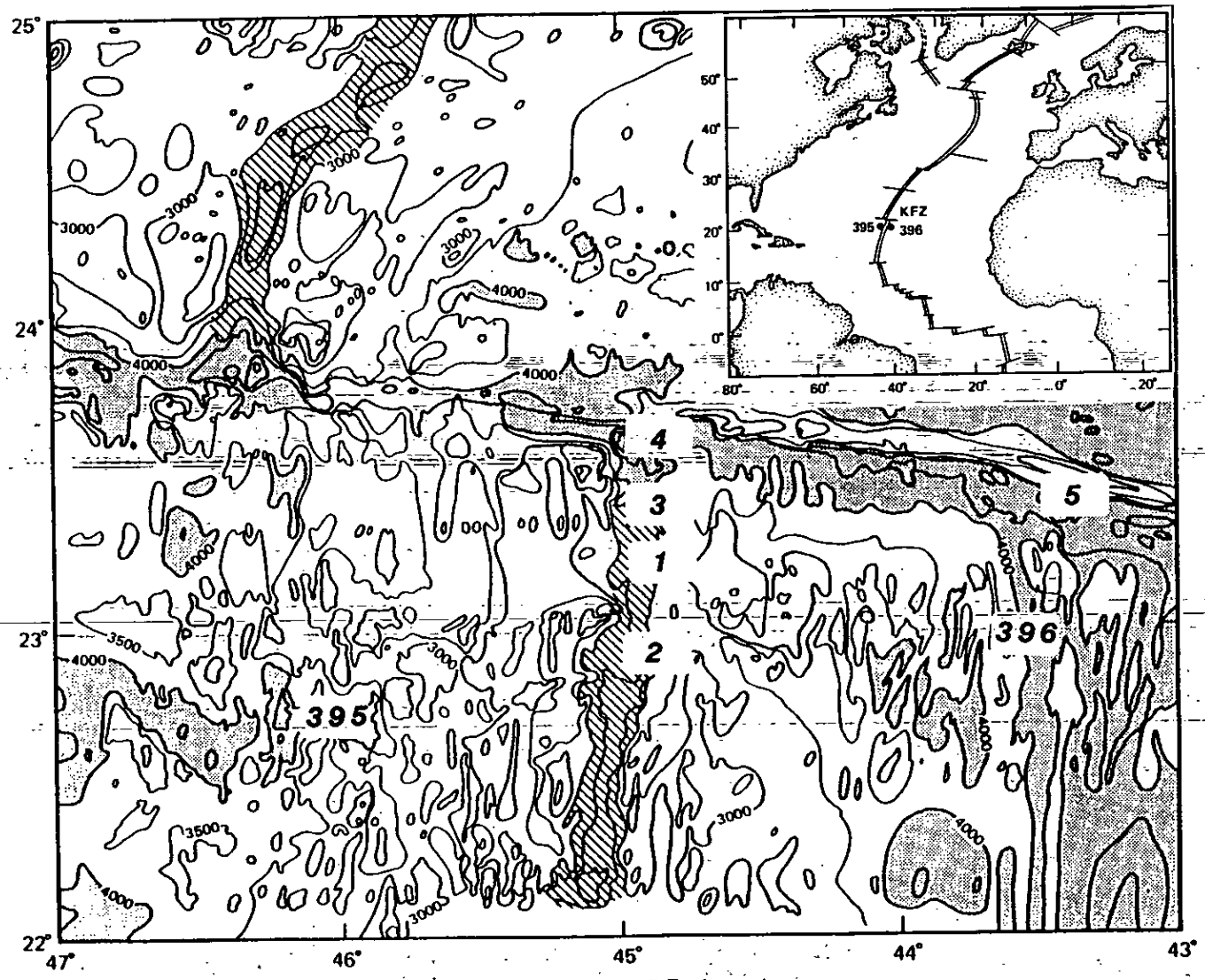

FIGURE 1

Proposed ODP drillsite locations are labeled 1-5.
See Figure 2 for a detailed map of this area.

melts and their temporal and spatial evolution/relation to evolved basalts. The cruise will attempt to determine the depth of small magma chambers and to clarify the term "magma batches", to determine the depth and extent of low-temperature and hydrothermal alterations as they relate to crustal evolution. Finally, Leg 106 will examine the nature of crustal tilting and deformation at depth and their effect on magnetic polarity and will compare results from crustal structure, rock type and physical properties of the rocks with inferences from seismic models and ship survey measurements. The scientific objectives of the back-up program are to sample Layer 3 plutonics (mainly gabbros) and mantle ultramafics.

Three possible drill sites were identified during the recent Sea MARC 1 site survey of the area and their positions marked by commandable beacons (Sites 1-3, Figure 2):

Beacon Site 1 (Eastern Site)

Beacon Site 1 is located approximately 37 km south of the eastern ridge-transform intersection at the base of the eastern rift valley wall. The site is situated on a lobate basalt flow erupted from a source near the eastern scarp and provides an area of approximately 1 square kilometer of very smooth seafloor. Relief at this location is on the order of less than 1 meter and bottom photographs indicate that the surface is devoid of faulting.

Logistically, this site offers the least risk of encountering fissures or faults near the surface and requires the least amount of effort in positioning the ship to deploy the guidebase. Scientifically, this site allows for the sampling of an offaxis, post-tectonic flow which was presumably erupted at the spreading axis and subsequently rifted. However, the site is not "zero-age" as the central magnetic anomaly is located west of this location. Further, it could be argued that this tectonic setting has been previously drilled at the near DSDP Sites 395 and 396.

Beacon Site 2 (Southern Site)

Beacon Site 2 is located at a distance of approximately 70 km from the eastern ridge-transform intersection along the shallowest portion of the median valley on the smooth rim of the summit plateau of a small axial volcano. This volcano is one of several small, rift-axis parallel volcanoes that were identified on the Sea MARC 1 records. These records further show that the western side of the volcano has been disrupted by four N-S trending faults, partially buried by later extrusive post-tectonic activity. Bottom photographs show that the summit area is constructed of sheet flows with "pahoehoe" textures and that small collapse features are present with tabular-shaped talus that is associated with former low relief, hollow volcanic blisters.

Logistically, the site could be difficult to drill as there is a relatively high chance of encountering talus in the subsurface formed by the collapse of lava tubes. Further, this site is not technically located within the neovolcanic zone.

Beacon Site 3 (Northern Site)

Beacon Site 3, situated approximately 25 km south of the eastern ridge-transform intersection, is located near the crest of a NNE-trending linear volcanic ridge composed of bulbous-shaped flows with steep flow fronts and large amounts of basal talus. The Sea MARC records indicate that an anomalously smooth area exists on the ridge crest and bottom photographs reveal a pocket of sediment populated by members of a hydrothermal biological community (crabs, worms, etc.)

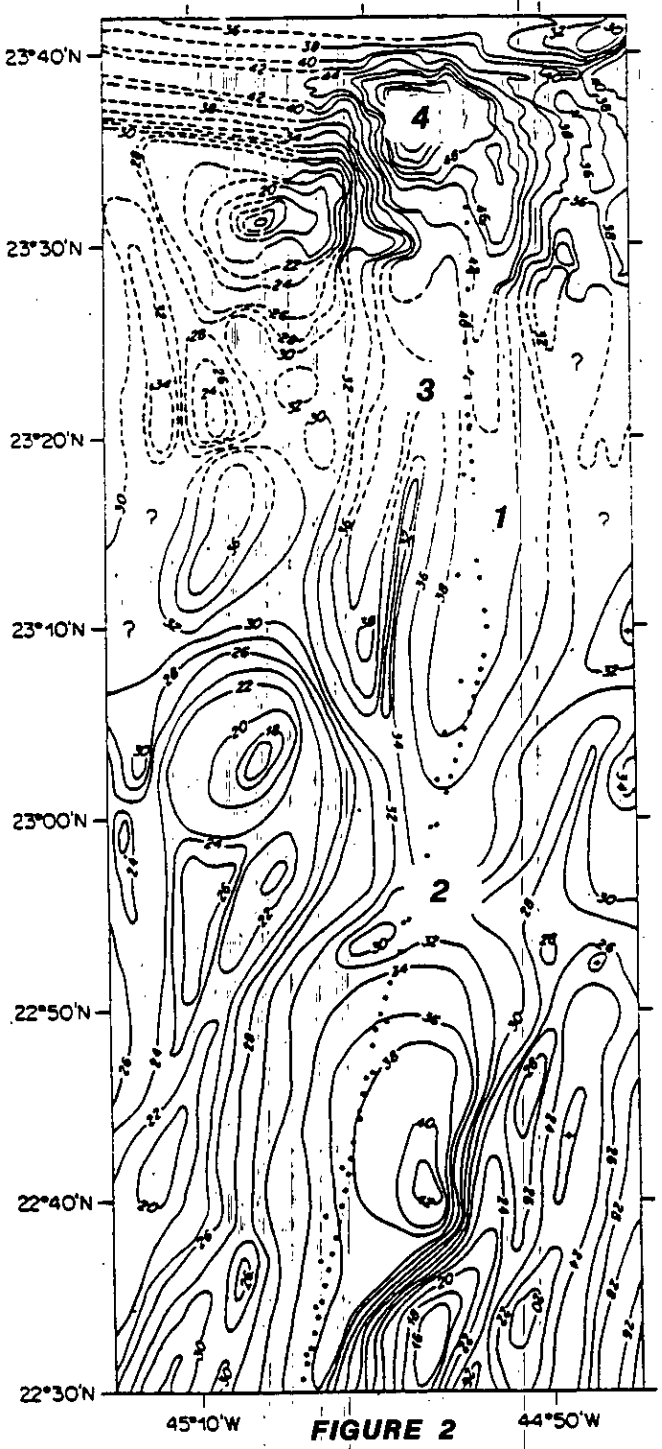

FIGURE 2

Detailed bathymetry of Mid-Atlantic Ridge median valley south of the Kane Fracture Zone, showing position of drill sites (labeled 1-4).

Scientifically, this site is closest to being of "zero-age" and offers the opportunity to drill into an apparently active hydrothermal system. Further, it also lies in the middle of the central magnetic anomaly. This site is the most difficult to locate a bare-rock guidebase in because the target is extremely small, and the presence of a narrow belt of fissures along the ridge crest suggests that the subsurface may contain unconsolidated rubble which has filled fissures and voids. However, it has been speculated that this deposit may have been cemented by circulating hydrothermal fluids.

Back-up Sites

Two back-up sites have been proposed: Site 4, located in the nodal basin at the eastern ridge-transform intersection, and Site 5 (Figure 1), along the eastern non-transform section of the fracture zone valley.

The scientific objective of drilling at these sites is to sample oceanic crust within or proximal to a fracture zone associated with a ridge-ridge transform fault. This item forms a high priority objective in both the COSOD Report (1981) and the IPOD France Scientific Committee on deep drilling objectives (1983). Also, drilling in the fracture zone would have a realistic possibility of sampling in situ upper mantle.

DRILLING PROGRAM

The southern site (Beacon Site 2) has been selected as the prime drilling target for Leg 106. As this will be the first deployment of the bare-rock guide base (Figure 3), site selection was governed by choosing a site of scientific interest which offered the best chances of success for deploying the guidebase. Although the northern site (Beacon Site 3) is of considerable scientific interest, it is also the most difficult site to place the guidebase and consequently, this site forms the second prime target. The eastern site (Beacon Site 1) is not of zero-age and would be drilled only if surveys, conducted by RESOLUTION, of the other two show them to be unsuitable for drilling.

Under ideal circumstances, Leg 106 might proceed as follows. Once the ship arrives at the prime target, the summit plateau and immediate areas will be surveyed in detail using real-time television and Mesotech sonar images in order to identify a precise target for bare-rock guidebase deployment. The base will be deployed following carefully worked out procedures and will be permanently cemented to the ocean floor prior to the beginning of drilling. Then, depending on the success of guidebase deployment, a single hole will be drilled to the maximum depth that time allows, following the successful deployment of the bare-rock guidebase at the southern site. The hole will be cased to a total depth of approximately 100 m sub-bottom through basement which is anticipated to contain large amounts of highly fractured rubble. This will ensure that the hole remains open for later re-entry and further drilling during Leg 109. Current estimates predict a total penetration into basement, assuming no serious problems are encountered during guidebase deployment or drilling, to a total depth of about 330 meters.

If deployment or drilling should fail as a result of poor geological conditions, a second bare-rock guidebase will be deployed either at the same site or at the northern site (Beacon Site 3). If deployment or drilling should fail due to problems with engineering design or materials, then the ship will move to the

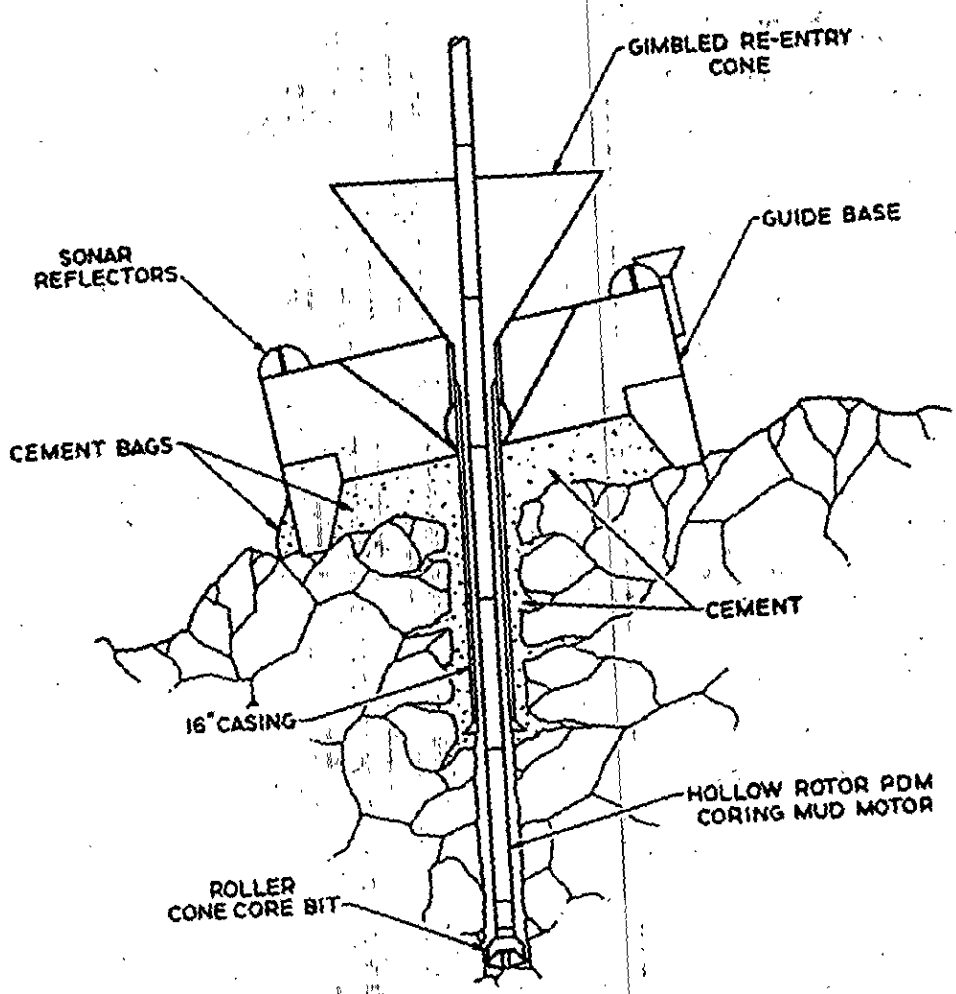

FIGURE 3

HARD ROCK DRILLING GUIDEBASE

primary backup site, located in the nodal basin. At this location, a standard sedimentary re-entry cone will be set, then as deep a hole as possible drilled in the time remaining.

Drilling in the nodal basin will require a survey of sediment thickness. This will be conducted by RESOLUTION using a 3.5 kHz source mounted on the bottom of the drill string. It has been reported by Collins et al. (1984) that in this region sediment ponds should be found with thicknesses approaching 200 m. However, should the sediment cover be found to be too thin, then a site along the non-transform section of the fracture zone would be chosen to act as a final back-up site for drilling.

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ODP SCIENCE OPERATOR REPORT

I. CRUISES AND SITES COMPLETED

The third and fourth cruises of the Atlantic program have been completed since the last JOIDES JOURNAL issue. Leg 103 to the Galicia Margin is fully reported here with a preliminary report on results from the three sites drilled in Leg 104 to the Norwegian Sea. JOIDES RESOLUTION completed a transit leg between Stavanger, Norway and St. John's, Newfoundland. Leg 105 is presently at sea in Baffin Bay and will return to St. John's at the end of October. Mid-Atlantic Ridge/Kane Fracture Zone crustal drilling Leg 106, Mediterranean Leg 107 and Leg 108 to the West African Margin are in the final planning stage.

A. Leg 103: GALICIA MARGIN

The Galicia Margin, northwest of the Iberian Peninsula (Figure 1A), is a passive ocean margin with a thin (0-4 km) sedimentary cover above acoustic basement. Seismic and bathymetric studies, and dredge hauls, reveal many of the features considered typical of passive ocean margins. Rift structures, apparent on seismic profiles, control the present-day seafloor morphology. The continental basement is broken by normal, possibly listric, north-trending faults into narrow (10-30 km), elongate (60-100 km) tilted blocks which dip gently east to form a series of half grabens (Figure 1C). Basement and possible pre-rift sedimentary rocks crop out on the uplifted, western side of some blocks. These conditions made this an attractive margin for drilling in ODP Leg 103 because we believed that the basement and the oldest sedimentary strata were within drilling reach of the D/V JOIDES RESOLUTION. We drilled five sites during Leg 103 (Sites 637-641; Figure 1B), not only to elucidate the history of rifting, subsidence and sedimentation on this margin and the relation of these processes to the initiation and progressive opening of the adjacent North Atlantic, but also to shed light on the evolution of the more thickly sedimented--and hence less accessible--conjugate margin of North America.

Site 637 (42°05.3'N, 12°51.8'W; Water Depth 5311 m)

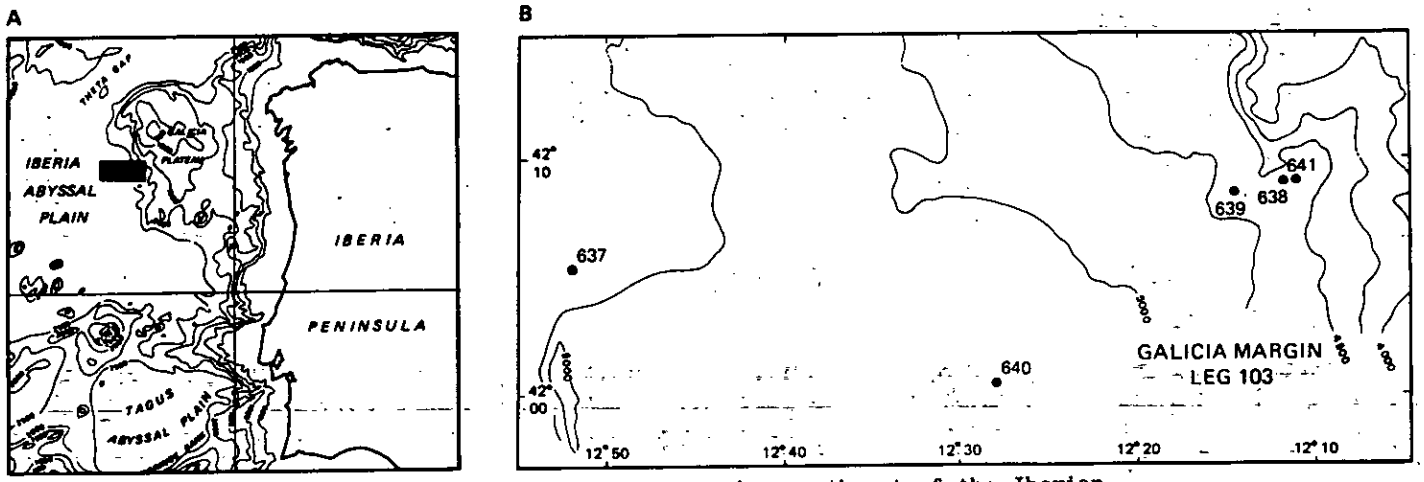
One hole (637A) was drilled at Site 637 on the east flank of a buried ridge of basement rocks during the period April 28 to May 5, 1985. This hole was continously cored to a total depth of 285.6 m below sea floor; the following sequence was recovered (Figure 2):

0-135 m: Turbidities comprising clayey silt and olive clay couplets, interbedded with nannofossil marl, which also shows evidence of redeposition (upper Pliocene to upper Pleistocene).

135-180 m: Slumped brown clay and nannofossil marl, interpreted as pelagic sediment and weathering products from underlying basement, slumped off a basement hill (upper Miocene to lower Pliocene).

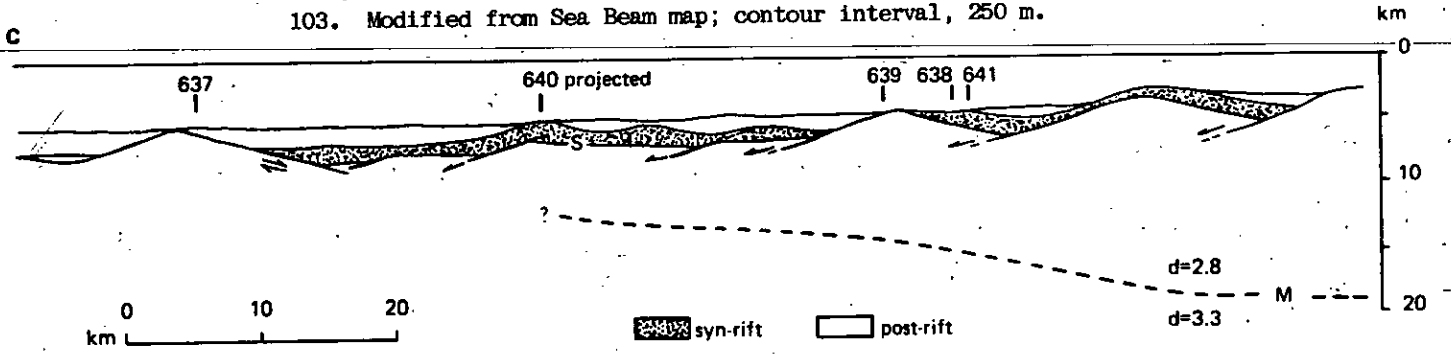
180-212 m: Reddish brown and grayish brown clay with exotic lumps of light-colored clay, interpreted as a mixture of pelagic clay, weathering products from underlying basement and continental detritus brought to the site by dilute currents (upper Miocene).

212-285 m: Serpentinized spinel peridotite cut by veins of



A. Location map of Galicia Margin region northwest of the Iberian Peninsula. Bathymetric contours in meters.

B. Bathymetric map showing location of sites drilled during ODP Leg 103. Modified from Sea Beam map; contour interval, 250 m.



C. Schematic cross-section across Galicia Margin drawn from seismic data and drilling results. Reflector 'S' is discussed in text.

Figure 1.

calcite. The rock is strongly foliated, with the foliation dipping at an average of about 30°. The dip is to the east, as determined from magnetic measurements on oriented specimens.

Standard Schlumberger logs were obtained from an interval that included about 35 meters of basement and 110 meters of the overlying sediments. An attempt to obtain a multichannel sonic log was canceled because of cavings burying virtually all the serpentinite interval.

Site 638 (42°09.2'N, 12°11.8'W; Water Depth 4663-4673 m)

Site 638 was drilled on the east flank of a buried ridge of basement rocks during the period May 5 to May 23, 1985. The principle targets of this site were the syn-rift and pre-rift sediments of the Iberian continental margin.

Hole 638A was a mudline test for re-entry operations. Hole 638B, in 4663 m water depth, was continously cored to a total depth of 431.1 m below sea floor, with 48% recovery. The recovered stratigraphic section consists of the following units (Figure 2):

0-183.6 m: Nannofossil ooze and chalk (upper Miocene to Recent).

183.6-305.6 m: Alternations of bioturbated micritic limestone and marlstone and finely laminated turbidite couplets of claystone and marlstone; abundant evidence of soft-sediment creep, slumping and debris flow (Valanginian to upper Barremian).

305.6-431.1 m: Mainly graded layers of hard (velocity about 4.3 km/sec) carbonate-cemented arkosic sandstone; generally Bouma A or B at base, and as much as 50 cm thick, but with Upper Bouma C and D probably washed out in coring; interbedded with claystone and lenses of marlstone; rich in terrestrial plant debris (Valanginian).

Drilling at Hole 638B was terminated because the bit had no chance of reaching the deeper objectives. Logging below 285m was blocked by a bridge that could not be removed, but sonic and gamma logs were taken from 285 m to 100 m and a multichannel sonic log from 164 m to 100 m.

Hole 638C, drilled in 4673 m water depth, was a re-entry hole planned to core from the base of the adjacent Hole 638B through the underlying formations to crystalline basement. An additional 135 m (14 cores; 28% recovery) was penetrated below the level reached at Hole 638B, which was entirely in the same upper Valanginian/lower Hauterivian sandstone turbidite formations in which that hole had terminated. Biostratigraphic control is imperfect, but we believe the entire new interval cored, plus the lowest 129 m Hole 638B, is all in the same nannofossil zone. The implied rate of sedimentation of the sandy turbidities is high, likely exceeding 100m/my.

Unhappily, bad hole conditions at Hole 638C, probably caused by loose sand sloughing into the hole from an interval about 510m bsf, packed off the drill string so that it would not move and required an attempt to sever the bottomhole assembly at a level a little above the caved interval. We abandoned the hole after recovering the drillstring, but returned later in the leg to complete the planned logging program. Standard Schlumberger logs were collected to a sub-bottom depth of only 285 m; a bridge at the depth prevented deeper logging.

Site 639 (42°08.6'N, 12°14.9W - 42° 08.6'N, 12°15.4'W; Water Depth 4725 - 4782 m)

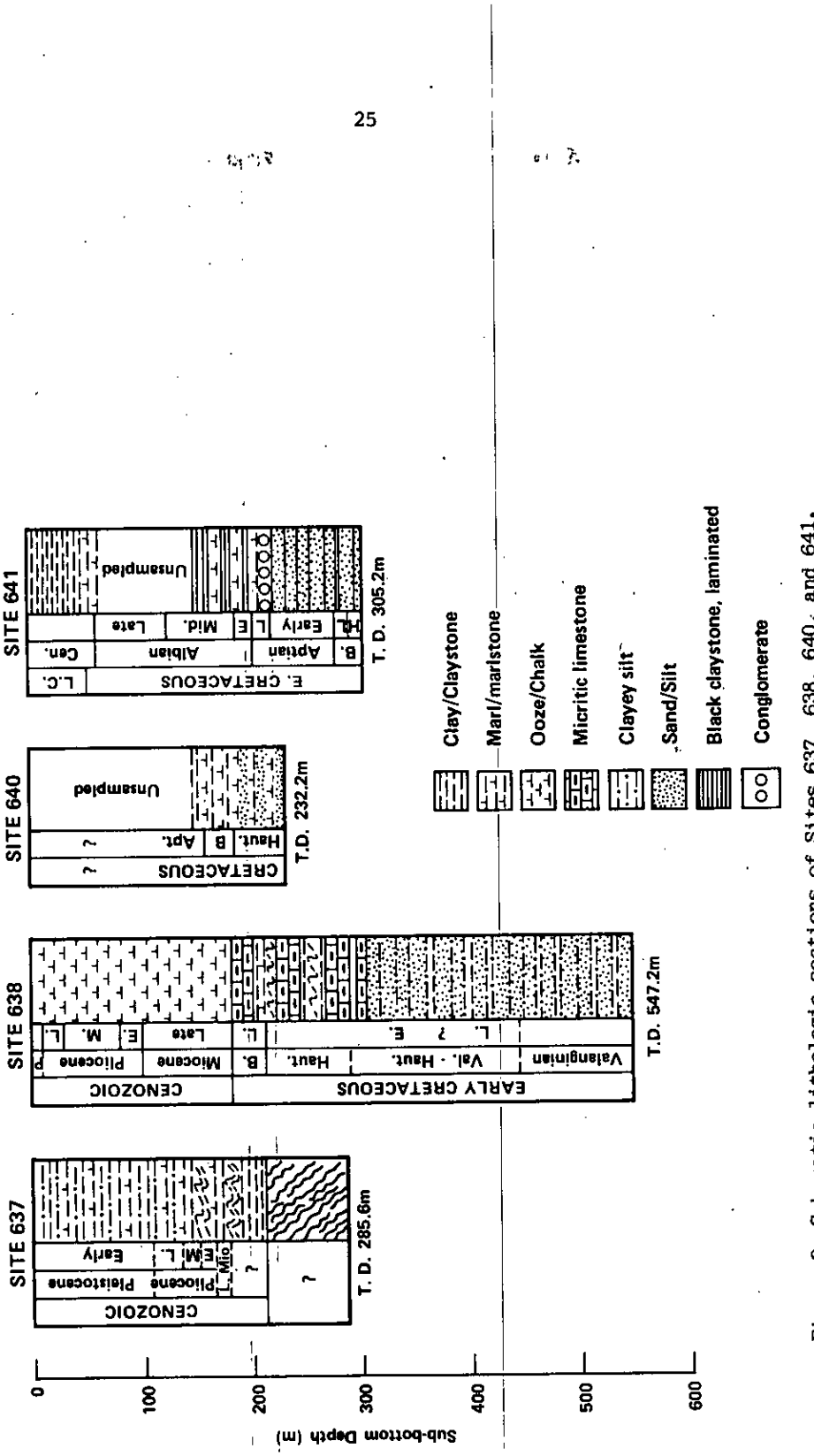


Figure 2. Schematic lithologic sections of Sites 637, 638, 640, and 641.

The first four holes, drilled between May 23 and June 3, sampled a section of Mesozoic strata estimated to be about 400 m thick, ranging from upper Tithonian to lower Valanginian. The section dips east and strikes north, and subcrops on a westward-sloping submarine erosion surface, now buried beneath an onlapping wedge of horizontal Neogene pelagic ooze (Figure 3). Impossible drilling conditions blocked our attempts to core through the entire section from the Lower Cretaceous to crystalline basement at Hole 639A, and we therefore stepped progressively west down the subcrop to construct a composite section. At Holes 639B and 639C, brecciated dolostone stopped the bit after less than 20 m of penetration. At Hole 639D, the dolostone was only about 15 m thick, and we could therefore continue in the underlying upper Tithonian limestone for about 95 m, until the bit failed. The generalized section at each hole is as follows:

Hole 639A, Total Depth 89.8 m, 10 cores, 40% recovery:

0-21.6 m: Upper Miocene to upper Pleistocene ooze.

21.6-70.3 m: Lower Valanginian nannofossil marl and marlstone, with calpionellids.

70.3-89.8 m: Fractured dolostone with no age-siginificant fossils.

Hole 639B, Total Depth 80.0 m, 4 cores, 15% recovery:

0-63.8 m: Neogene ooze

63.8-80.0 m: Dolostone without age-significant fossils; fractured and vuggy, with large cavitites partly filled with internal sediments; echinoderm debris and mollusc fragments seen in thin section.

Hole 639C, Total Depth 99.8 m, 2 cores, 22% recovery:

0-95 m: Neogene ooze, boundary with underlying brown clay uncertain.

95-96.8 m: Mottled brown clay and clayey silt, undated.

96.8-99.8 m: Dolostone, as in Hole 639B.

Hole 639D, Total Depth 293.1 m, 13 cores, 21% recovery:

0-185 m: Neogene ooze.

185-199 m: Dolostone, as in Hole 639D.

199-293.1 m: Upper Tithonian containing badly preserved calpionellids and large, agglutinated foraminifers and skeletal debris. Beds of quartzo-feldspathic sandstone, siltstone and claystone interbedded in middle third of interval.

The hole was abandoned because the coring bit lost a cone and would not turn.

Gamma, induction, sonic, density and multichannel-sonic logs were obtained for most of the Mesozoic section in Hole 639D.

Two more holes, 639E and 639F, were drilled at Site 639 during the period June 6 to June 8, 1985:

Hole 639E, Total Depth 234.9 m, 4 cores, 5% recovery:

0-199.4 m: Probably all Cenozoic ooze and clay; not cored.

199.4-209.1 m: Shallow-water limestone (Tithonian).

209.1-218.6 m: Intensely brecciated dolostone.

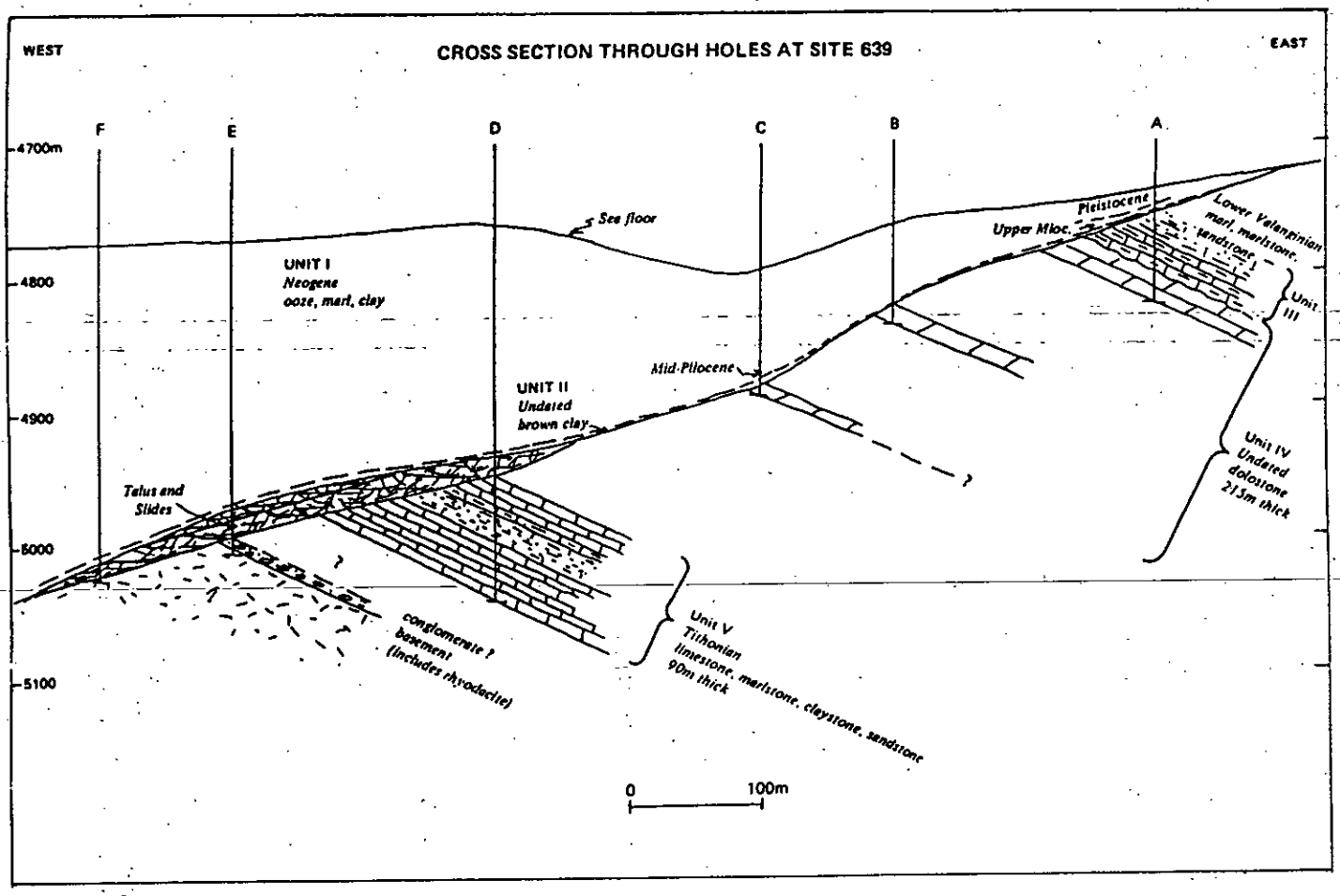


Figure 3. Geologic cross section through holes drilled at Site 639.

218.6-228.2 m: Pieces of dolostone, low-grade metasedimentary rocks and silicic volcanic rock.

228.2-234.9 m: One piece of metaconglomerate.

Hole 639F, Total Depth 250.8 m, 2 cores, 8% recovery.

0-237.8 m: Probably all Cenozoic ooze and clay; not cored.

237.8-247.3 m: Pieces of quartzose sandstone, metasandstone and limestone.

247.3-250.8 m: Pieces of metasandstone and silicic volcanic rock.

Both holes had to be abandoned because bad hole conditions would not allow further penetration.

The preliminary reconstruction of the section at Site 639 is shown in Figure 3. The dip of about 30°, which is the rough average of dips measured on cores, is at least double the regional dip, and may indicate local faults. The thicknesses on the cross section are thus perhaps too great. The talus and rock slides interpretation for parts of Holes 639D, E and F is tentative, as is the interpretation of the silicic volcanic rocks as part of basement, in place.

The results show a sequence of shallow-water carbonates about 400-500 m thick, divided into an upper dolostone and a lower limestone, of Tithonian age, resting directly on basement, or with a thin basal conglomerate. Rifting and subsidence on this margin therefore began on what had been a structural high until late Jurassic time.

The contact between the dolostone and the overlying Valanginian calpionellid-bearing limestone is abrupt, and suggests rapid subsidence that drowned the platform and soon led to the deep-water conditions which prevailed during the deposition of turbidites in the rifting phase.

Site 640 (42°00.7'N, 12°27.8'W; Water Depth 5191 m)

One hole was drilled at Site 640 during the period June 4 to 6, 1985. The site is located on a buried ridge where Neogene turbidites overlie a thick (about 2 sec.), acoustically incoherent unit that rests on a strong, laterally extensive reflector (the 'S' reflector) believed by many workers to represent the boundary between ductile and brittle crust, in which listric faults merge at depth. The section drilled contained the following sequence (Figure 2):

0-145.4 m: No cores.

145.4-155.5 m: Brown clay, barren of fossils.

155.5-157.5 m: Gray nannofossil ooze (upper Aptian).

157.5-184.0 m: Gray clayey ooze and calcareous clay (Barremian).

184.0-232.2 m: Gray nannofossil chalk and calcareous clay, grading downward to interbedded marlstone, turbidite sandstone, siltstone and claystone, slumped in some intervals (Hauterivian).

The finding of Lower Cretaceous, syn-rift turbidite sediments in the acoustically incoherent unit suggests that the underlying strong reflector is the top of the Upper Jurassic/Lowest Cretaceous carbonate platform or crystalling basement, not a ductile/brittle boundary within the crust.

Site 641 (42°09.3'N, 12°10.9'W; Water Depth 4636-4640 m)

Two holes were drilled at Site 641 during the period June 8 to June 15, 1985. Seven cores were recovered from Hole 641A, with 63% recovery. The drilled section contained the following sequence (Figure 2):

0-15.7 m: Slumped brown clay, marl and calcareous ooze, with clasts of Upper Cretaceous firm ooze (Pleistocene).

15.7-53.6 m: Brown clay (Upper Cretaceous).

53.6-53.9 m: Black zeolitic clay; organic carbon content about 10.5%, Type II (marine) organic matter. The clay lies a few cm above lower Cenomanian marl and about 20 m below clay beds containing fossils with ranges of Coniacian to Maestrichtian.

53.9-63.6m: Gray calcareous clay and marl (Cenomanian and upper Albian).

Hole 641C was drilled at the same location in 4640 m water depth. Sixteen cores were taken with 73% recovery. The following sequence was recovered (Figure 2):

0-150.9 m: Not cored.

150.9-155.4 m: Green, bioturbated claystone and black laminated claystone (lower to middle Albian).

155.4-202.6 m: Black and dark green laminated claystone with minor siderite laminae (lower to middle Albian).

202.6-218.4 m: Greenish gray marlstone with conglomerate of granule-sized clasts of shallow-water limestone (upper Aptian).

218.4-250.6 m: Thin greenish gray calcarenite turbidites, black claystone and gray marlstone; debris flows with pelagic clay pebbles and shallow-water limestone clasts (lower Aptian).

250.6-305.2 m: Gray bioturbated marlstone, thin silt turbidites, debris flows, shallow-water limestone and sand turbidites (middle/upper Barremian to lower Aptian).

Despite repeated attempts to get downhole logs of the lower 205 m of the Hole 641C, unstable hole conditions blocked the logging tools and only 66 m of the hole could be logged with the density and natural gamma ray spectrometry tools. The sonic tool did not work because of a malfunctioning recorder.

It appears that the regional unconformity seen on seismic profiles that separates unfaulted sediments from the faulted sediments deposited during the rifting phase of the evolution of this margin (the so-called "break-up" unconformity), is located close to the Aptian-Albian boundary, at the contact between an upper unit entirely composed of black shales and underlying units of black shales, debris flow and turbidites. No hiatuses could be detected in the biostratigraphy across the contact, as all the normal foraminiferal zones probably are present. In spite of the presence of gravel layers, sedimentation rates in the late Aptian were only about 2-3 m/my, a rate much slower than immediately before or after this time. Lab measurements of sound velocity and bulk density of core samples do not

show a strong impedance contrast near the Albian/Aptian boundary.

The results from Site 641, taken with those from Sites 638 and 639, piece together to form a composite column about 1200 m thick, extending from the basement through the Upper Jurassic carbonate platform, the Lower Cretaceous rift-stage turbidites and the post-rift sediments into the Upper Cretaceous (Figure 4). In effect, they form a composite Site Galicia-4B, which the JOIDES Planning Committee set as its principle objective for Leg 103.

Major Findings

The transect of 5 sites (with a total of 14 drill holes) at the seaward edge of the Galician margin revealed a complex history of subsidence and rifting preceding the initiation of seafloor spreading between Newfoundland and Iberia. Several unexpected discoveries illustrate the importance of obtaining actual data by deep drilling to constrain geophysical models of the rifting process. The major findings include the following: (1) a ridge of material of mantle composition is located near the boundary between oceanic and continental crust, (2) the "basement seismic reflector" beneath several tilted continental blocks is formed by a Mesozoic shallow-water carbonate platform, (3) platform drowning, tilting of fault blocks and rapid subsidence preceded the first formation of oceanic crust by as much as 25 million years, (4) there was abundant influx of terrigenous clastics to deep-water submarine fans during the early stages of rifting and (5) the seismic reflector widely believed to represent a ductile-brittle boundary within the continental crust is instead a reflector at the base of the sediments deposited during the rifting stage.

The shipboard scientific party for Leg 103 were: G. Boillot, Co-Chief Scientist (France); E. Winterer, Co-Chief Scientist (Univ. California); A. Meyer, Staff Scientist (ODP/TAMU); J. Applegate (Florida State Univ.); M. Baltuck (Tulane Univ.); J. Bergen (Florida State Univ.); M. Comas (Spain); T. Davies (Univ. of Texas); K. Dunham (Univ. of Michigan); C. Evans (Colgate Univ.); J. Girardeau (France); D. Goldberg (LDGO); J. Haggerty (Univ. of Tulsa); L. Jansa (Canada); J. Johnson (Univ. California); J. Kasahara (Japan); J.P. Loreau (France); E. Luna (Spain); M. Moullade (France); J. Ogg (Univ. California); M. Sarti (Italy); J. Thurow (FRG); M. Williamson (Canada).

B. Leg 104: NORWEGIAN SEA

Leg 104 drilled three sites to investigate the structural and geologic evolution of the Voring PLateau with emphasis placed on the origin and nature of the dipping reflector sequences present on the Norwegian margin. Additional objectives included detemining the history of the Norwegian Current and northern Hemisphere glaciation, and to explore the evolutionary development of polar floras and faunas.

Site 642 (67°13'N, 02°56'E; 1292 m water depth; target site VOR-1) was located at the outer Voring Plateau east of magnetic anomaly 24B and over the landward edge of the dipping reflector sequence. Operations at this site recovered an Eocene volcanic sequence consisting of two main units below a cover of predominantly pelagic and hemipelagic Neogene sediments.

A composite (0-1229.4 m subbottom) consists of four main sedimentary units overlying a thick volcanic section:

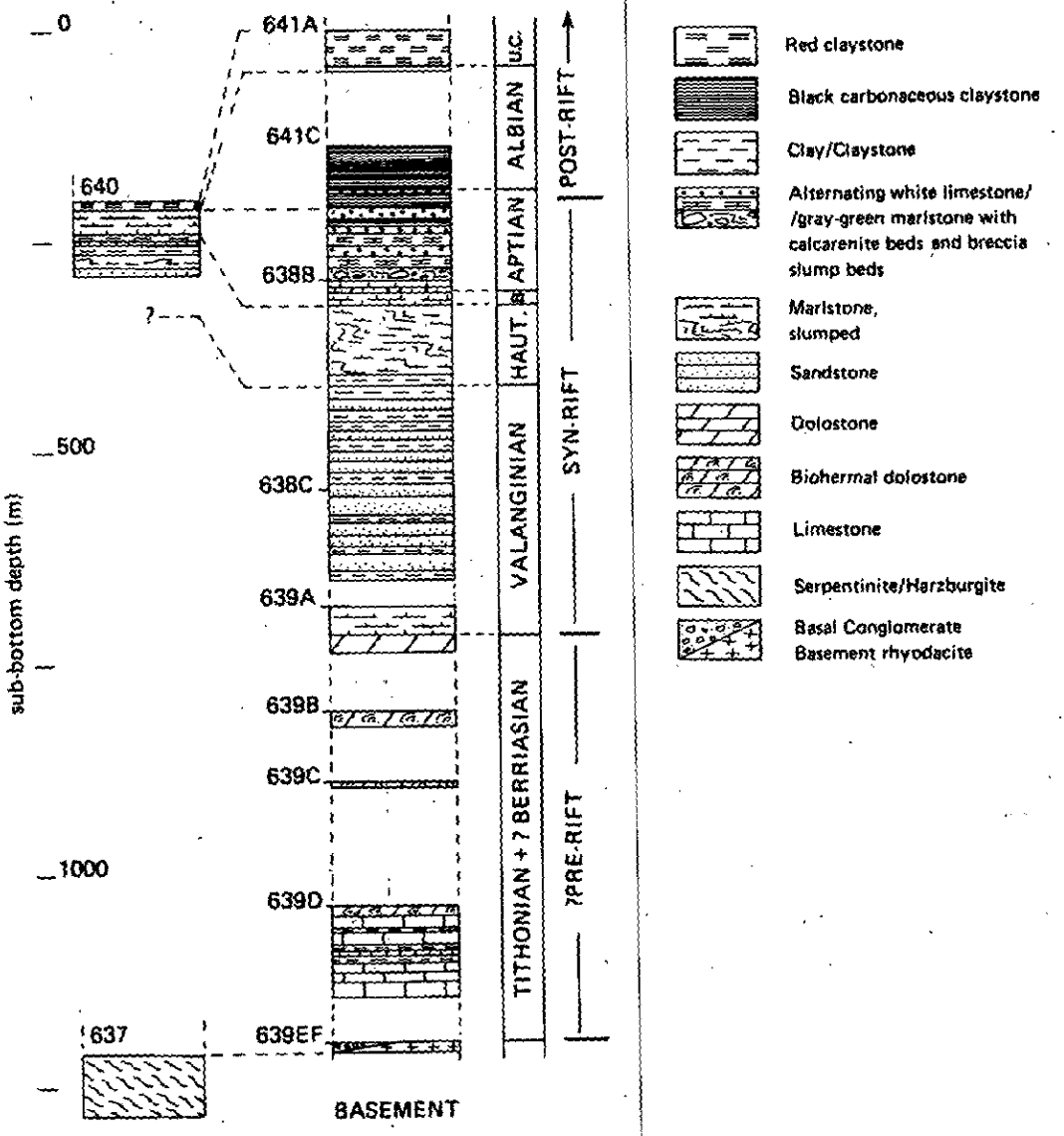


Figure 4. Leg 103 schematic composite stratigraphic columns. B = Barremian; U.C. = Upper Cretaceous.

1) Unit 1 (0-60 m) consists of upper Pliocene to Recent, interbedded, dark, carbonate-poor, glacial mud and light, carbonate rich, interglacial sandy mud.

2) Unit 2 (60-157 m) consists of middle Miocene to upper Pliocene nannofossil and siliceous oozes. This unit is subdivided into four minor lithologic units. Subunit 2A (60-83 m) contains an upper Miocene-lower Pliocene to upper Pliocene nannofossil ooze with minor components of diatom-nannofossil ooze and mud. Subunit 2B (83-108 m) consists of upper Miocene siliceous mud and ooze while Subunit 2C (108-146 m) is characterized by middle to upper Miocene interbedded nannofossil ooze, marly nannofossil ooze, siliceous nannofossil ooze, siliceous ooze and siliceous mud. The lowermost unit, Subunit 2D (146-157 m), contains a middle Miocene mixed siliceous-calcareous ooze with a minor component of siliceous mud and nannofossil ooze.

3) Unit 3 (157-277 m) consists of lower Miocene through middle Miocene siliceous mud and ooze.

4) Unit 4 (277-315 m) consists of middle(?) Eocene volcaniclastic and altered volcaniclastic mud, sandy mud and sands.

The volcanic section contains 121 volcanic flows, 499 volcaniclastic sediment layers and 7 shallow-level dikes. The sequence is divided into an upper and lower series based on the textural, mineralogical and structural characteristics of the flows, as well as on the composition of the interlayered volcanclastic sediments. In the seismic record these two series are separated by a band of low-frequency reflectors, one of which is denoted as reflector "K".

The upper series (315-1093 m) contains subaerial and subaqueous flows and is early-middle(?) Eocene in age. The common occurence of pigeonite (Ca-poor clinopyroxene) suggests flows primarily of tholeiitic composition having an affinity to basalts of the North Atlantic Paleogene Thulean Volcanic Province. Two varieties of flows, differing in quantitative mineral content, granularity, internal flow fabric and average thickness are observed in this upper series. Interlayered volcaniclastic sediments, which make up less than 10 per cent of this series, are mostly basaltic-vitric in composition. The upper series is cut in the uppermost 100 m by three tholeiitic dikes. Alteration in the upper series consists for the most part of smectite and celadonite infilling of the vesicles.

The lower series (1093-1229 m) is early Eocene in age and is characterized by glassy and microcrystalline flows which are trachybasaltic and have been locally leached by high temperature fluids. The volcaniclastic sediments in this series include a 7 m thick ignimbrite, the internal stratification of which indicates a proximal emplacement facies. The ignimbrite and other volcaniclastic units contain significant quantities of quartz and mica of continental origin. Fragments of leucocratic gneiss occur in at least one volcaniclastic rock.

Logging of the lithologic section at Site 642 was accomplished in two holes. Two standard logs were run from 0 to 208 m in Hole 642D and from 320 to 1100 m sub-bottom in Hole 642E. A vertical seismic profile (VSP) experiment was also performed after completing Hole 642E. Results of this experiment confirmed the interpretation of reflector "K" as the interface between the two volcanic series.

After the VSP experiment, JOIDES RESOLUTION relocated to Site 643 (67°42.9'N, 01°02.0'E; 2764 m water depth; target site VOR-4). A total of 62 cores (565.2 m sub-bottom) were recovered from this site. The section is a follows:

1) Unit 1 (0-49.4 m) consists of upper Pliocene to Recent, glacial-interglacial sedimentary cycles formed by alternating dark, carbonate-poor layers with light, carbonate-rich layers of mud, sandy mud and sandy calcareous muds, with moderate slumping.

2) Unit 2 (49.4-100.2 m) consists of middle Miocene to lower Pliocene slumped sediments, divisible into three subunits. Subunit 2A (49.4-63.8 m) contains upper Pliocene siliceous nannofossil ooze; Subunit 2B (63.8-81.3 m) contains lower Pliocene terrigenous sediments, siliceous muds and muds with minor amounts of nannofossil ooze; Subunit 2C (81.3-100.2 m) contains upper Miocene diatomaceous nannofossil ooze.

3) Unit 3 (100.2-274.1 m) contains Miocene diatomaceous ooze.

4) Unit 4 (274.1-400.7 m) contains lower Oligocene to lower Miocene dark, fossil-poor, terrigenous mudstones and minor gray nannofossil chalk.

5) Unit 5 (400.7-565.2 m) contains lower to upper Eocene, dark greenish gray to reddish brown and grayish brown zeolitic mudstones that are compacted and laminated. The two lowermost cores contain basaltic fragments, a polymict conglomerate of pyroclastic rocks and a dark basaltic conglomerate. This may indicate drilling terminated in a basal sequence overlying oceanic basement.

The final site drilled on Leg 104 was Site 644 (66° 40.7'N, 04° 34.6'E; 1227 m water depth; target site VOR-5). This site was double APC cored. Hole 644A yielded 34 cores for a total depth of 252.8m bsf; 15 cores were recovered from Hole 644B for a total depth of 177.7m bsf. Lithologic units recovered were the following:

1) Unit 1 (0-228.5 m) consists of upper Pliocene to Recent sediments. Subunit 1A (0-49.9 m) contains upper Quaternary, interbedded dark, carbonate-poor glacial sandy muds and light, interglacial calcareous muds; Subunit 1B (49.9-85.7 m) contains middle to upper Quaternary interbedded dark carbonate-poor glacial muds and light, interglacial calcareous muds, sandy, calcareous muds and marly foram-nanno oozes; Subunit 1C (85.7-228.5 m) contains upper Pliocene to mid-Quaternary interbedded dark, carbonate-poor, glacial muds and sandy muds, and light interglacial siliceous muds, siliceous nannofossil muds and nannofossil muds.

2) Unit 2 consists of middle Pliocene, interbedded, siliceous oozes and mixed siliceous nannofossil oozes.

The Leg 104 drilling results indicate that current models for the evolution of the outer Voring Plateau, including mode of emplacement of the volcanic series, will have to be reconsidered. In addition, the paleomagnetic and biostratigraphic records recovered from the Leg 104 sites make these drilled sequences an excellent high-latitude reference section.

The science party aboard JOIDES RESOLUTION for Leg 104 comprised:

O. Eldholm, Co-Chief Scientist (Norway); J. Thiede, Co-Chief Scientist (FRG); E. Taylor, Staff Scientist (TAMU); C. Barton (Stanford); K. Bjorklund (Norway); U. Bleil (FRG); P. Cielsielski (Univ. of Florida); A. Despairies (France); D. Donnally (Florida State Univ.); C. Froget (France); R. Goll (Norway); R. Henrich (FRG); E. Jansen (Norway); L. Krissek (Ohio State Univ.); K. Kvenvolden (USGS); A. LeHuray (L-DGO); D. Love (Canada); P. Lysne (Sandia Nat'l Lab.); T. McDonald (TAMU); P. Mudie (Canada); L. Osterman (Smithsonian Inst.); L. Parson (United Kingdom); J. Phillips (Univ. of Texas, Austin); A. Pittenger (TAMU); G. Qvale (Norway); G. Schoenharting (Denmark); L. Viereck (FRG).

LEG 105: BAFFIN BAY AND LABRADOR SEA

Scientific objectives for Leg 105 are to document the climatic and paleoceanographic history and the timing of opening of Baffin Bay and the Labrador Sea. JOIDES RESOLUTION sailed from St. John's, Newfoundland on August 26, 1985 and is due to return to St. John's on October 26. The drilling schedule for this leg is very dependent upon sea ice conditions in Baffin Bay. Ice forecasts provided by Ice Forecasting Central in Ottawa, Canada indicated that the Baffin Bay site, BB-3B, was clear of ice by the time of sailing. The ship proceeded directly to Baffin Bay to begin drilling Site BB-3B. Further drilling plans will be made according to conditions in Baffin Bay. The various options for drilling schedules are reviewed in the Leg 105 Scientific Prospectus.

The science party aboard JOIDES RESOLUTION for Leg 105 consists of the following: M. Arthur, Co-Chief Scientist (Univ. of Rhode Island); S. Srivastava, Co-Chief Scientist (Canada); B. Clement, Staff Scientist (TAMU); G. Bohrman (FRG); M. Cremer (France); F. Thiebault (France); H. Zimmerman (Union College); A. Asku (Canada); J. Baldauf (TAMU); A. de Vernal (Canada); J. Firth (Florida State Univ.); M. Head (Canada); M. Kaminsky (WHOI); A. Monjanel (France); D. Larazus (WHOI); W. Busch (Univ. of New Orleans); K. Dadey (Univ. of Rhode Island); R. Stein (FRG); T. Cederberg (Denmark); J. Zachos (Univ. of Rhode Is.); F. Hall (Univ. of Rhode Is.); R. Jarrard (L-DGO).

DRILLING/ENGINEERING UPDATE

Status Report on the Navi-Drill Core Barrel (NCB)

The Navi-Drill Coring system is under development as a hard rock coring system. This system utilizes a state-of-the-art, positive displacement motor driven by seawater that is pumped through the drillstring. The design incorporates, for the first time, high speed "mining-type" core barrels and bits for deep ocean scientific coring. A unique feature of the system is its compatibility with the same bottom hole assembly used by the Advanced Piston Corer (APC) and Extended Core Barrel (XCB): all three coring systems can be alternated at any point in the hole without the need to trip out of the hole to change the bottom hole assembly.

The NCB is essentially an inner core barrel driven with an attached and integral 3.75-inch outside diameter positive-displacement motor. Both the core barrel and motor are wireline deployed and retrieved together. The main bit on the outer core barrel is driven by the top drive (power sub). Several deploy-

ment configurations are available. For example, the motor-driven Navi-Drill can cut and recover core while extending some 12 inches ahead of the main drill bit. Thus, a core is cut by a small diameter mining bit below the zone of main roller cone bit disturbance and possible core washing and loss.

Tests for mechanical compatibility and fluid flow were conducted in Celle, Federal Republic of Germany. Following the tests, the NCB was run during Leg 104. Project Engineer M.A. Storms, aboard JOIDES RESOLUTION for NCB sea trials, reported that the NCB was deployed twice on Hole 642D with mixed results. The mud motor drive and fluid spring concept worked well. The core head, core lifters and core liners did not because of inadequate flow to the core head. On the initial run, 2.5 meters were cored and 1.5 meters of weathered basalt and clay/ash were recovered. On the second attempt, one meter was cored and 0.5 meters of basalt core head material and baked clay/ash cuttings were recovered.

A lack of circulation appears to be the main problem, and means of increasing flow rates on the cutting shoe are under study. Additional tests will be required to confirm performance. Significant information on future coring performance and design changes will be reported in future JOIDES Journal issues.

WIRELINE LOGGING SERVICES OPERATOR REPORT

The following paragraphs are summaries of reports from the Wireline Logging Services Operator. Additional information may be obtained by contacting R. Anderson, Director of Operations.

SUMMARY OF LOGGING RESULTS FROM RECENT ODP CRUISES

Leg 104

Leg 104 logged 335 m of an XCB hole (Site 642D) and 755 m of basalt which was cored at Site 642E. The most striking result was the log response of virtually every sonde put down the hole to the layered basalts. Cyclicity on the scale of 10-30 m was produced by the alternating hard flows and weathered rubble of the flow centers and edges. Both major and minor eruptive events were easily seen in the logging data. This contrasted sharply with the 30-50 m thick cycles recorded from fractures and joints observed at DSDP Site 504B basaltic dikes. The borehole televiewer was successfully deployed, however, only a rapid scan of the hole, to investigate stress induced wellbore breakouts, was conducted.

The basaltic reflector K, which was a primary objective of the drilling effort, was found to be a major lithologic boundary with a thickness of 15 m and which exhibited very low concentrations of K, U, Th and very high values for electrical resistivity. The section further exhibited a density of 2.8 g/cm, negligible porosity and rapid velocity values. This section was underlain by sections containing very high radioactive contents (25 API units vs. less than 10 API for normal basalts), very low resistivity, low densities (values decreased form 2.8 to 2.1 g/cm^3), low sonic velocity and a high percentage of hydroxyl minerals.

In summary, the layers appear to be unusually thick flow and rubble zones. Major impedance contrasts across their boundaries are very distinct and their thickness makes them strong reflectors to the long wavelength seismic energy attempting to pass through them.

Leg 103

The logging results of Site 637 were obtained over an interval that included about 35 m of serpentinite basement and 110 m of overlying sediments. Because of cavings due to bad hole conditions that buried the entire basement interval, attempts to use the 12 channel sonic tool (MCS) for logging were cancelled. Preliminary results indicated that low gamma ray (GR) and density values in the overlying sediment sections were found to correspond to intervals of nannofossil marl. Further analysis indicated that high values of GR and density were found to correspond to sections of clayey sediments. The underlying serpentinite was found to have density values of 2.3 g/cc and a velocity of 3.4 km/s which correlated with preliminary results of the seismic data.

At Site 638, logging tools were run from 100 to 285 m in Hole B. Generally, hole conditions were poor due the presence of alternating layers of clay and calcareous material. Furthermore, from 100 - 164 m an impassable bridge limited the penetration of the MCS logging tool. Results from the tools used indicated that compressional velocity ranged from 2 - 2.2 km/sec for intervals above 185 m and were unreliable for those sections below 185 m. However, the GR values correlated well

with the clay content in the recovered core. In re-entry Hole C, which was also plagued with bad hole conditions, logging runs were obtained over the same interval as in Hole B, and at this location the velocity and density values were found to be more reliable. This greatly enhanced the correlation with the seismic information.

In Hole 639D, a full suite of logs were obtained from 180 to 238 m and the MCS logged from 168 to 245 m. Hole conditions were tenuous as fractured dolomite (Mesozoic) and washed out clay intervals in the underlying dolomite combined to degrade the integrity of the drillhole. Results indicated that the velocity and density values in the dolomite were 7 km/sec and 2.7 g/cc respectively while in the limestone, velocity was 3.5 km/sec and density was 2.5 g/cc. In the claystone, these parameters corresponded to 2.0 km/sec and 1.7 g/cc. Laboratory analyses are in general agreement with these results, however, the MCS velocities for this hole cannot be determined until there is shore-based processing.

In Hole 641C, the Natural Gamma Ray Spectrometry (GST) tool was operated through the drillpipe from the seafloor to a depth of 95 m while an impassable bridge at 127 m stopped the first logging attempt using the Long Spacing Sonic (LSS) tool. However between 130 and 196 m, the Lithodensity (LDT), Natural Gamma Ray Spectrometry (GST) and Compensated Neutron (CNT) tools obtained logging data on two runs in the open hole. However, bridges again stopped penetration at 174 and 196 m.

Preliminary interpretation of the logging results for the open hole interval indicate that the logs correspond to a relatively homogeneous lithologic unit of clay-rich sediments. For the interval logged through the drillpipe, changes in the uranium content were found to correspond with lithologic changes observed in the core recovered from Hole 641A.

Leg 102

A full suite of electrical, radioactive and sonic logs was conducted on Leg 102. For a visual record of Leg 102 downhole logging locations, please refer to page 37 of Volume XI (June 1985) of the JOIDES Journal. The Natural Gamma Ray Spectrometry Tool (GST) was operated through the drillpipe and casing from the mudline down to depths of 5511-5981 m in order to record information about the overlying sediments, the sediment-water interface and the upper sections of the oceanic crust. The Long Spacing Sonic Tool (LSS), the Dual Induction Log (DIL) and the Standard Gamma Ray Log (GR) were used in combination from 5836 m to 5987 m. Attempts at using this package for recording data from deeper intervals were prohibited after an attempt to broach a hole restriction in a breccia zone at 5990 m failed. However, lowering procedures were revised for the other instruments and data was recorded from this interval to the bottom of the hole at 6300 m.

Data were not recorded from 6377 m, the total depth of the hole, due to the possible presence of a sonic tool and approximately 300 m of knotted cable that remained from an accident during DSDP Legs 52 and 53.

The 12 channel sonic tool (MCS) and the Borehole Televiewer (BHTV) were also deployed during drilling operations. The science party was very pleased with the results of the MCS tool however, the BHTV was damaged as it became lodged in the drillpipe, just below the drillbit.

Generally, the preliminary results of the raw data closely correlate with the basement lithostratigraphy of Legs 52-53 and were particularly useful in resolving uncertainties concerning the location of unit boundaries due to poor core recovery. In addition, neutron and density calibrations, environmental corrections, shale volume and porosity determinations have been performed on the Hole 418A data. The results of these analyses have been tested against laboratory measurements from cores taken from the drillhole and were found to show very good correlations.

From the mudline to just below the sediment-basalt boundary (at 5836 m), the gamma ray and the uranium data show spikes at 5835 m which are interpreted to represent the top of the basaltic layer.

Further analyses of the logging data indicated that based on physical properties the geologic section could be subdivided into 13 units.

Between 5834 and 5900 m, Units 1 - 4, the hole conditions in the section and the ship's heave acted in combination to greatly affect the response of the Long Spacing Sonic tool. However, to a first approximation, the resistivity and gamma ray data confirm the lithologic boundaries detected from the cores. Between 5980 and 5990 m the logging data show values which correspond to the bridge encountered during the tool lowering. From 5900 - 6014.6 m, Unit 5, was found to consist of pillow basalts and breccia with gamma ray (GR) values up to 38 GAPI and lower velocities (3 - 3.5 km/sec). For the lower part of the unit, density values ranged from 2.40 - 2.70 g/cc (lab measurements ranged from 2.50 - 2.80 g/cc).

Unit 6A (6014.6 - 6025.2 m) was found to consist of brecciated material with GR values of 20 - 25 GAPI, resistivity values of 30 - 50 ohms/m and velocities down to 3.8 km/sec. The bulk density and neutron data reflected the presence of clay (smectite) and limestone in the matrix. The clay was also found to contain a high content of bound water which resulted in an overestimation of rock porosity. The bottom of the unit is marked by a sharp decrease in the GR values from 30 - 7 GAPI.

Units 6B, 7, 8A, 8C, 11 and 13 were found to consist of pillow basalts that show very similar features in the logging data. Bulk density was found to range from 2.30 - 2.90 g/cc with negative deflections associated with altered zones. Resistivity was found to decrease in the more porous and shaly intervals and sonic velocities increased to a maximum of 6 km/sec in the more homogeneous sections. Between 6050 and 6100 m, density values decreased to 1.60 g/cc. This decrease is interpreted to be the result of the rugose nature of the borehole wall which prevented the pad from making full contact with the formation. Unit 13 (6242 - 6260 m) was found to be a very homogenous section with affinities to the overlying massive basalts. Bulk densities were found to range from 2.85 - 2.90 g/cc, resistivities were greater than 150 ohms/m, velocity was 6 km/sec and there was a reduction in porosity.

The main feature of units 8B, 9, 10 and 12 (which were found to correspond with massive basalts) was the absolute uniformity of the logging data. Unit 10 (6189.8 - 6197.5 m) was observed to be the thickest unit and contained typical values of velocity - 6 km/sec, bulk densities - 2.90 g/cc (lab measurements were 2.92 g/cc) and resistivities - greater than 200 ohms/m. Neutron poros-

ities were found to be constant and occasionally lower than in the adjacent units and GR values were found to be very low. Core recovery was very low for Unit 10 (19.1% recovery) however the uniformity of the logging data confirmed the massiveness of the rock and the lack of altered zones.

No data are available for the lower part of Unit 13 (depths greater than 6300 m) which is presumed to be the contact with the underlying massive basalts. Although data was gathered between 6284 and 6301 m, they do not permit a precise delineation of the boundary.

Leg 101

The hole conditions in all Leg 101 holes were marginal, with poor recovery in deep holes and no logging in shallow holes. Despite these difficulties, valuable logging runs were mage in three holes: 626D, 627B and 634A. In Hole 626D, a neutron porosity log was run in the drillpipe and yielded detailed information on the locations of well-lithified grainstone layers that separated unlithified sediments that had experienced winnowing by the Gulf Stream. In Hole 627B, a sophisticated nuclear tool combination was used to log the hole. However, after logging 70 m, the logging run was ended as the hole caved-in and created conditions which led to the loss of the tools.

The most successful and valuable logging run occurred at Hole 634A where the Gamma Spectrometry tool (GST), provided by Schlumberger Offshore, was used in its first application to scientific research. The tool performed beyond expectations and sampled clear formation concentrations of Fe, Ca, Si, S, H and Cl over a 250 meter logging interval. With less than 5% recovery from the cores at Hole 634A there was limited information available concerning the sedimentary lithology. However the information available suggested that the dominant lithology consisted of calcareous chalk and grainstone with variable amounts of bedded chert. Given the uncertainty of the form and degree of chert deposition, the GST with its direct measurement of Si and Ca, proved ideal for detailing the changes in lithology within the borehole. After post cruise processing by the Schlumberger Interpretation Center in Belle Chasse, La., the GST logs provided a complete lithological description and a reconstruction of bulk density and sonic velocity curves for the formation (Fig. 1). From this information, the Borehole Research Group at L-DGO generated a synthetic Vertical Seismic Profile (VSP) for the section which identified the locations of major impedance contrasts that were visible in the multichannel seismic surveys.

Given the difficult drilling conditions that plagued the cruise, it was seen that using the GST within the drillpipe has great promise for future legs when it can be used in combination with standard sonic and nuclear logs under open hole conditions.

SUMMARY OF LOGGING OPERATIONS:

The wireline heave compensator (WHC) was installed prior to the beginning of Leg 104 onboard the JOIDES RESOLUTION during the August portcall in Stavanger, Norway. For detailed descriptions of the major subsystems of the WHC as well as a system overview, please contact the Borehole Research Group at L-DGO.

Wireline Logging Services is presently negotiating with Terra Sciences for the use of their Terralog analysis software on the shipboard MASSCOMP system. Negotiations

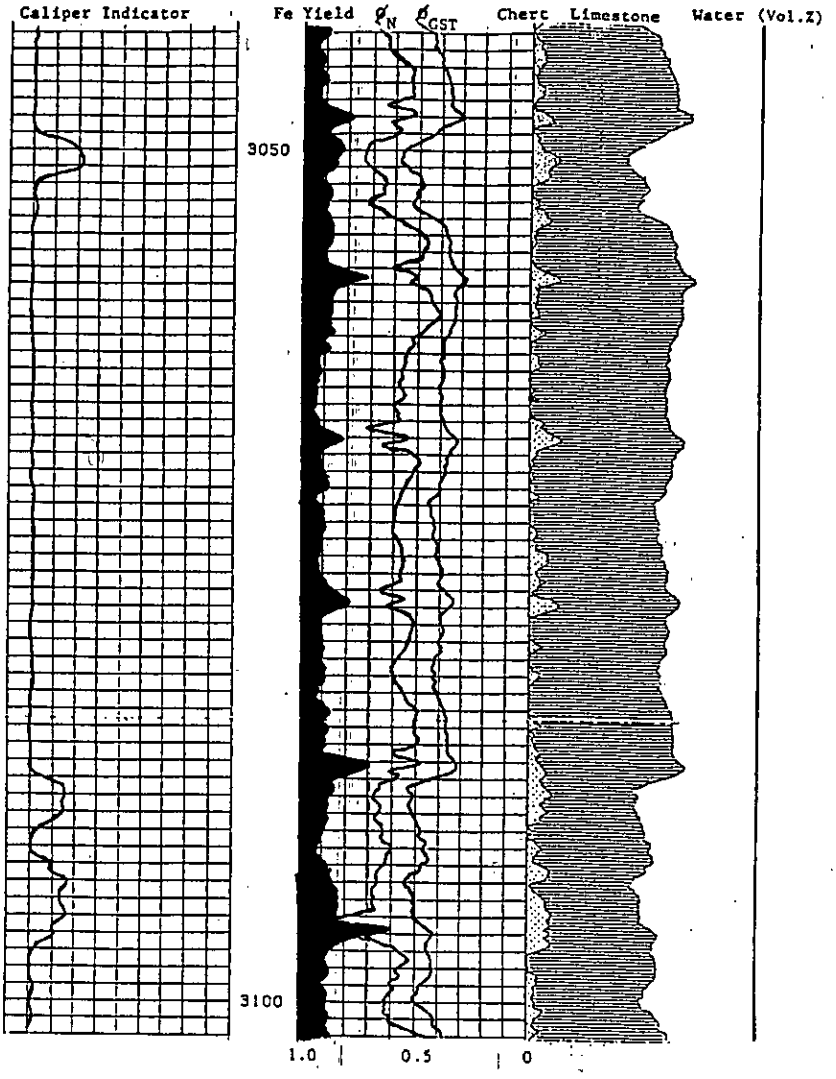


Fig.1 : Section from GST lithology log, with caliper, iron yield, neutron porosity, GST porosity, chert, calcite and free water volumes indicated. Peaks in the iron yield indicate locations of drill collars.

are also being conducted with Energy Systems for permission to duplicate the current L-DGO log analysis system for use on the drillship. Separately, each one of the log analysis packages has a variety of attributes that when used in conjunction should greatly enhance the at-sea data analysis program.

The Borehole Research Group at Wireline Logging Services has also developed computer programs for multi-channel attenuation and semblance processing, waveform processing, depth correction of Oroville data and documentation of the program library.

The FY 1986 budget for logging operations was submitted to JOI during the spring. This budget had a proposed target of $2.5 M which included funding for a full complement of standard logging tools for each leg and a new Gamma Ray Spectroscopy Tool. Also during this time a major advance to the program occurred when the present Gamma Ray Spectroscopy Tool was permanently added by Schlumberger Offshore to the suite of logging tools after the spectacular scientific results of the Leg 101 field test. Simultaneously, Schlumberger reduced the per day charge of the tool suite which results in the ODP having duplicate state-of-the-art tools for sonic, electrical and nuclear logging runs. Because of this action, the total price of the tools onboard the RESOLUTION is presently $2150/day.

The FY 1986 budget was revised during the early summer to reflect the priorities and recommendations of the JOIDES Executive and Planning Committes (see summary highlights of the EXCOM and PCOM reports in this issue). Further as a result of recommendations from the Planning Committee, Wireline Logging Services has again entered into discussions with several companies regarding the development of a TAM packer for the ODP. The development of this wireline packer was considered to be essential in achieving both the hard and soft rock drilling objectives of the ODP. It is unlikely that a prototype will be completed and readied by Leg 110 (Barbados North), however, the tool is expected to be completed during 1987. It should be noted that for Leg 110 the Lynes Packer and a lower resolution TAM packer will be available for logging.

Finally, Wireline Logging Services has published and distributed to the JOIDES community the first edition of the ODP Logging Manual and Logging Time Curves. This manual details the organizational structure of Logging Services, the types of logs available, tool descriptions and available shipboard and shore-based analysis. Volume 2 of the Logging Manual is currently in preparation and should be ready for distribution during the autumn of 1985. The Logging Time Curves have been revised and are available from Wireline Logging Services.

FUTURE LOGGING PLANS:

High Temperature Tool Development

Groups at Los Alamos, Sandia Labs, U.S.G.S. and Lawrence Livermore at Univ. of Calif. at Berkeley have expressed great interest in the area of high temperature tool development. At this time, the most promising approach to solving this problem appear to be the use of a tool pusher to circulate cooling fluids during operations. Under this concept, logging data could continue to be collected in a high temperature environment using conventional equipment.

ODP DATABANK REPORT

The JOIDES/ODP Databank received the following data between June and September 1985. For more information concerning the ODP Data Bank, please contact Mr. Carl Brenner at L-DGO, Palisades, N.Y.

From O. Eldholm (Univ. of Oslo): Multichannel seismic (MCS) record B-12-81, in the Norwegian Sea area.

From D. Hussong (Hawaii Inst. of Geophysics): Preliminary Report of MOANA WAVE survey, Peru Trench area.

From J. Mascle (Univ. of Paris): Preliminary data package (analog navigation and Sithere seismic lines), Tyrrhenian Sea area.

From S. Srivastava, BIO (Canada): Film positive reproduction of Esso seismic lines in the area of Labrador Sea sites 4 and 4a, seismic profiles from Hudson cruise 84-035, Depth structure maps of the Baffin Bay area and Structure map, Baffin Bay area.

From D. Falvey, BMR (Australia): RIG SEISMIC cruise reports, Otway Basin and Lord Howe Rise areas.

From R. Detrick (Univ. of Rhode Island): Full set of materials from CONRAD 2511 site survey of the Mid-Atlantic Ridge/Kane Fracture Zone area, including cruise report, digital tape of navigation merged with underway geophysics and various large scale maps of Seabeam bathymetry.

From W. Ryan (L-DGO): Track charts, camera pinger bottom traces, SeaMARC images, bottom photographs, processed sub-bottom profiles and various maps, all from HUDSON Site survey, Kane Fracture Zone area.

From M. Wiedicke, BGR: Various METEOR and VALDIVIA seismic lines to aid in the documentation of proposed Leg 108 sites MAU-4, MAU-5, MAU-6 and 139R.

From M. Sinha, (Univ. of Cambridge): Reprint of paper on 1981 OBS experiment in the Tyrrhenian Sea, for safety package preparation.

JOIDES COMMITTEE REPORTS

PLANNING COMMITTEE REPORT

8-10 OCTOBER 1985

The following paragraphs are highlights of presentations from the meeting.

R. Larson, Planning Committee Chairman, convened the 8 - 10 October 1985 meeting which was held at the Alton Jones Campus of the University of Rhode Island.

After welcoming remarks by J. Knauss, Executive Committee Chairman, Larson introduced and welcomed the following new members to the Planning Committee:

T. Shipley (replaced R.Buffler) - University of Texas

S. Levi (replaced H. Schrader) - Oregon State University

P. Robinson (replaced J. Malpas) - Canada

SHORT-TERM PLANNING

Legs 106/109 (MARK 1 & 2)

It was the recommendation of the PCOM at the Hannover meeting that both guidebases be committed for use on Legs 106 and 109. Also, the PCOM recommended that the LITHP develop a back-up plan for Leg 109. LITHP, as reported by PCOM liaison R. McDuff, has in response recommended that all options for Leg 109 be kept open until results are obtained from Leg 106. LITHP has further recommended that both guidebases be used in the Atlantic objectives only if needed and to get one good hole. Therefore if the first guidebase is successful, the second should not be deployed in the Atlantic but should be used for East Pacific drilling as Leg 111.

PCOM Consensus: If the first guidebase is successful in beginning bare rock drilling, then it should be used for the remainder of Leg 106. However, if the first guidebase is not successful due to factors which can be corrected at sea then the second guidebase should be deployed provided that there is a reasonable amount of drilling time available.

Further, if Leg 106 guidebase deployment fails completely, then the Leg would default to drill the Kane Fracture Zone (nodal basin). LITHP responded by saying that excellent site survey work in the MARK area has defined ideal sites for Legs 106 and 109. However, LITHP members raised the issues of off-axis drilling to examine age related changes rather than drilling a fracture zone and whether or not the nodal basin seems a high risk target given the lack of knowledge of sediment thickness.

The PCOM responded with the following consensus:

PCOM Consensus: The PCOM recommends that the decision as to where to conduct operations in the Kane Fracture Zone be left to the co-chiefs in the case that the default options are necessary.

The PCOM then discussed whether a single bit hole next to the guidebase should be drilled, using the Navidrill, to collect a basalt "mudline" core since the upper 50 m of the section would be totally be disrupted by drilling operations. Discussion was closed by the following motion as proposed by Hussong (Univ. of Hawaii) and seconded by Robinson:

PCOM Motion: The PCOM requests that, as part of the engineering tests on Leg 106, an attempt be made to spud into bare rock with the Navidrill without the guidebase.

Vote: 14 for, 0 against, 0 abstain

Leg 107 (Tyrrhenian Sea)

It was noted by the Science Operator that staffing is 2/3 complete and the science party will include 2 - 3 Italian scientists to meet clearance requirements but no other ESF scientists.

The drilling plan recommended by the ARP is found in Table 1. Recommendations by the PCOM are found in the following consensus:

PCOM Consensus: For Leg 107, the PCOM recommends that Site 5B be continously cored and that no logging be conducted at Site 2. Otherwise the plan is accepted as proposed.

Leg 108 (NW Africa)

For Leg 108, the co-chief scientists (Ruddiman & Sarnthein) have divided the drilling priorities into three packages of the Sarnthein paleowind proposal, the Ruddiman Sierra Leone proposal and a package of 2 sites containing EQ 9 and EQ 7. They further propose to spend 30.5 days transiting to and within the Sarnthein area, 14.0 days in the Ruddiman area and any remaining time will be spent at the other 2 sites and transit to port. These sites will have double APC coring and 1 hole will be cored with XCB to the proposed total depth. No logging is proposed as all are shallow (<400m) sites. After discussing the inclusion of logging in order to enhance the acoustic stratigraphy of the continental margin, the following was agreed:

PCOM Consensus: The PCOM asks that the co-chiefs on Leg 108 reconsider their decision to conduct no logging on Leg 108 and L-DGO is asked to maintain contact with the co-chiefs. However, the PCOM does not place logging as a requirement for Leg 108.

Leg 110 (Barbados)

Currently the plan for Leg 110 is to drill 2- 3 holes at Site LAF - 1. The first hole would be a single bit hole to basement as a jet-in soil test. The site would be APC cored until refusal for pressure, temperature and pore fluid content. A second hole would be a deep hole drilled to conduct permeability tests using a hybrid/TAM packer. The third hole would be a shallow hole to conduct permeability tests on the upper sections of the hole. The alternative to the second hole is to use drill-in casing to case the decollement and to rotary core into basement. For these operations, a hybrid Lynes packer and drill-in casing will have to be developed.

The alternate plan, if the decollement cannot be penetrated, is to drill a series of single bit holes across the accretion wedge down to the decollement zone in order to measure changes in structural style, the hydrogeology and deformation characteristics.

The PCOM considered the issue of drilling a reference hole in an undisturbed section of ocean floor near the subduction zone on Leg 110 site in order to measure physical properties. It was emphasized that this hole could establish overpressured sites and monitor porewater porosity and other physical properties. The PCOM reaffirmed its Hannover decision in the following consensus:

PCOM Consensus: The PCOM agrees that a reference hole for Leg 110 should be quickly drilled and washed to basement and this hole will be logged as a reference section.

PCOM also considered a back-up plan for Leg 110 should complete penetration of the decollement zone

TABLE 1

Leg 107, Tyrrhenian Sea

The ARP recommends the following order of priorities for Leg 107 in the Tyrrhenian Sea:

Site Description	Estimated Drilling Time	Logging
Site 2, Plio.-Pleist. ref. section, re drill DSDP 132, no logging	4.0 d	0.0 d
Site 1b, (alt. 1a), Post and Syn rift sequence near upper Sardinian margin	6.0 d	1.5 d
Site 3a (alt. 3a', then 4), Post and Syn rift sequences in west Vavilov Basin on oceanic crust	10.0 d	1.5 d
Site 5b, Oldest basal hyloclastic sediments and nature of basement, Central Vavilov Basin (wash Plio-Pliest. if good section at Site 2)	7.5 d	1.5 d
Site 7a, Age and nature of basement central Marsili Basin	7.5 d	1.5 d

Designated backup sites are:

Site 5a, Lherzolite(??) ridge, Vavilov

Site 6, Tilted block, base of slope, Marsili Basin

Site 8, Base of Marsili Volcano

prove impossible. It was agreed that operations will be limited to structural and hydrogeologic questions associated with the progressive growth of an accretionary prism (as recommended by the Co-chiefs, ARP and TECP).

PCOM Consensus: The PCOM agrees that drilling the decollement zone is the prime objective of the leg and endorses the proposals for a back-up hydrogeology program.

LONG TERM PLANNING

1978-1988: Southern Oceans/ Indian Ocean

Weddell Sea - Atlantic SubAntarctic transect

The PCOM discussed the start date, which was originally scheduled for 1 January 1987. The SOP has indicated that it recommends an earlier start date (preferably 15 December 1986) because of weather and ice problems and suggests that the best weather period is during November-December.

It was the consensus of PCOM that the 1 January 1987 start date remain unchanged.

Atlantic SubAntarctic Transect Sites: Adequacy of Site Surveys

The NSF expects that the site surveys for the Atlantic SubAntarctic sites will be adequate for the proposed program. However, the NSF pointed out that without the addition of a 6th member into JOIDES, serious problems may arise with US Science funding of these and other site survey proposals.

H. Beiersdorf indicated to the PCOM that the POLARSTERN will conduct site surveys in the Weddell Sea/ Bransfield Strait areas in November of 1985 and this site survey has been well coordinated with SOP.

In discussing Port Stanley and Capetown portcalls, TAMU indicated that it was determined that there are no problems anticipated with Port Stanley, although the fuel situation is uncertain. In contrast, the civil unrest associated with South African politics in combination with the sensibilities of several non-US JOIDES members towards this situation suggests that this port should be avoided. Futher, a refueling stop in this region could be conducted at Reunion Is. but this will add more to the SubAntarctic leg. In closing discussion, Beiersdorf suggested that the POLARSTERN could possibly be used to refuel RESOLUTION, however, coordination of this activity should occur as soon as possible.

The need for an ice-breaker or ice-strengthened escort vessel for RESOLUTION was discussed. TAMU expressed concern at the cost of an ice-breaker but agreed that an escort vessel capable of moving growlers from near the drillship was desirable.

Southern Indian Ocean

The Science Operator indicated that after discussions with the operators of the MARION DUFRESNE, it has become apparent that the operations schedule of the DUFRESNE may strongly influence the schedule for RESOLUTION if it is to act as a resupply vessel during the Kerguelen campaign. Further, if the crew transfer at Kerguelen is done by ship the estimated cost will approach the $800 K mark. The alternative to this program is to spend 18 days of time transiting the ship back to Reunion Island to complete the crew change

and then to steam back to the work area.

The discussion was closed by a motion by Hussong and seconded by Harrison (Univ. of Miami):

PCOM Motion: After reviewing the costs of the transfer, the PCOM found, pending a final cost estimate, them to be too expensive and advises that the ship schedule be arranged around a normal port stop with no support vessel.

Vote: 13 for, 1 against, 0 abstain

The Science Operator was asked to refine the cost estimates for the crew transfer during the Kerguelen leg and present these at the January meeting.

Indian Ocean (Remainder)

PCOM Consensus: The PCOM reaffirmed its commitment to single legs (nominally approx. 2 months) for the Red Sea and a Neogene package. Detailed planning for these legs will take place in January. PCOM also agreed to include drilling on the SW Indian Ocean Ridge and on the fossil ridges (Mascarene Basin) in the May-June '87 period of the Indian Ocean program established by PCOM in June.

1988-1989 Western Pacific

It was the consensus of the PCOM that the panels be asked for guidance in establishing operations in the West Pacific and that they report their recommendations at the January PCOM meeting.

PANEL CHAIRMEN APPOINTMENTS

Western Pacific Regional Panel

B. Taylor has been nominated by WPAC and has agreed to serve. PCOM approved the nomination.

Central and Eastern Pacific Regional Panel

D. Rea has been nominated by CEPAC and has agreed to serve. PCOM approved the nomination.

Indian Ocean Panel

PCOM approved R. Schlich as Chairman.

Atlantic Regional Panel

The PCOM approved the nomination of J. Austin as Chairman.

ANY OTHER BUSINESS

Databank Review Panel:

In an effort to put forth a definitive statement from the PCOM and to clarify its position on the Databank Review Panel Report, D. Hayes proposed the following motion that was seconded by Kastner:

PCOM Motion: The PCOM agreed in principle with the recommendations of the Review Panel. We further note that the Review Panel Report includes specific recommendations regarding a modest increase to the originally proposed ODP Data Bank budget. PCOM has referred this budgetary issue to the JOIDES Site Survey Panel, its designated oversight panel for the Data Bank, and requests that the advice of the SSP, regarding any small ODP Data Bank budget adjustments, be transmitted directly to JOI management for appropriate action.

Vote 13 for, 0 against, 1 abstain

EXECUTIVE COMMITTEE REPORT

25-27 SEPTEMBER 1985

The following paragraphs are summary highlights of the meeting.

J. Knauss (EXCOM Chairman) convened the 25 - 27 September 1985 meeting of the JOIDES Executive Committee which was held at the Deutsche Forschungsgemeinschaft (DFG) in Bonn-Bad Godesberg, Federal Republic of Germany and welcomed guests to the meeting.

Dr. Eugen Seibold officially welcomed the EXCOM to the FRG and to DFG. During opening remarks, Dr. Seibold thanked the EXCOM and NSF for preparing the foundation for FRG participation during the IPOD phase of DSDP and now during the initial phases of ODP. Seibold emphasized that this opportunity to participate is opening many new and expanded horizons for the German geological community. Further, Seibold thanked the BFMT (Federal Ministry of Research and Technology), the BGR and the DFG for their support of activities associated with the ODP. In closing, Dr. Seibold thanked the European Science Foundation for their perseverance in attempting to achieve a full membership in ODP.

NATIONAL SCIENCE FOUNDATION REPORT

G. Gross reported on the following changes at the NSF. As of 1 September 1985, Sandra Toye was promoted from the head of the Oceanographic Centers and Facilities Section (OCFS) to the post of Controller of the NSF. The vacancy left by this action was filled by Dr. Don Heinrichs, who was formerly Program Director of the Division of Marine Geology and Geophysics Program. Dr. Heinrichs will also be the NSF liaison to the JOIDES EXCOM. Further, R. Buffler (Univ. of Texas) has been appointed for 2 yr. to the post of Associate Program Director of the ODP and W. Merrell (TAMU) has been nominated to the post of Assistant Director of Astronomical, Atmospheric, Earth and Ocean Sciences (AAEO) at NSF.

Budget

The NSF budget for FY 86 is still under consideration by the U.S.Congress and all expenditures are being held at current FY 85 levels.

Membership

United Kingdom

Gross reported that the U.K. was unable to join the ODP at this time. The U.K. is "cautiously optimistic" that they will be able to resolve financial problems shortly. Scientific support for membership remains strong.

ESF/Australia

Gross further reported that Australia will not be able to join the ESF in a full membership venture at this time. However, scientific interest in Australia in the ODP remains strong and efforts will continue to obtain the necessary funding.

Organizational Structure

Heinrichs reported that presently the structure of ODP at the NSF consists of himself heading the program, G. Brass as Program Director for Science, R. Buffler as Associate Program Director for Science and A. Sutherland in charge of contractual obligations and engineering activities.

Environmental Impact Statement

In accordance with U.S. law, an Environmental Impact Statement must be prepared for the ODP. This was announced at the 4 - 5 June EXCOM meeting. The statement was prepared in July 1985 and a draft issued to EXCOM and PCOM as well as to others. The draft statement will also be provided to the 16 signatories of the Antarctic Treaty at their 7 - 18 October meeting. The final draft will be readied by mid-November, recirculated for additional comments with publication expected at the end of December 1985.

National Science Board Review

Heinrichs reported that the National Science Board has reviewed the ODP and was satisfied with the present program. In light of this favorable evaluation, funding for the ODP has been granted for the next 3 years at projected levels of support and no additional evaluations are scheduled with the exception of a review of the science in the program. The National Science Board emphasized that there is a need to include additional non-U.S. members into the ODP.

JOINT OCEANOGRAPHIC INSTITUTIONS REPORT

J. Baker (JOI) reported that the official FY86 Program Plan has been approved for $ 32.5 M by the NSF.

In response to the recommendations made by the EXCOM Budget Subcommittee for the FY86 Program Plan, Baker noted that this decision process worked very well and yielded 13 recommendations. Further, JOI has been working closely with the subcontractors in addressing these recommendations and copies of a memo detailing these activities were distributed to the EXCOM membership.

REPORTS FROM MEMBER COUNTRIES, OBSERVERS and GUESTS

Member Country Reports

Federal Republic of Germany

H. Durbaum reported that the JOIDES RESOLUTION visit to Bremerhaven was very successful and generated a large amount of publicity for ODP in local and regional newspapers.

In terms of scientific developments in the FRG, a series of geophysical investigations conducted during the past year have resulted in two new proposals for the ODP. One has already been submitted to the JOIDES Office and the other will be submitted in the near future. These proposals concern the tectonic history of the South China Sea near the Philippines and the plate tectonic development of the Katman Ridge area which is based on a March-May SONNE cruise as well as aeromagnetic information from FRG polar mapping planes. Proposals are also being prepared for back-arc and bare rock drilling activities.

H. Beiersdorf reported on research in the Lau and Fiji basins in which there is an attempt to delineate the back-arc spreading center in the eastern portion of the basin. The database, which consists of photographs and Seabeam bathymetric data, has indicated structures which are suggestive of active spreading along an axis of extrusion. Further, seismic information from the U.S. Geological Survey suggests that a magma chamber is present at this location. This information serves as the basis for the proposal to conduct barerock drilling in the back arc area.

Finally, POLARSTERN is headed for the Southern Hemisphere, with D. Futterer as chief scientist, to conduct site survey work off the Queen Maud Land coast.

France

J-C. Sibuet reported that France is developing a program plan that should be completed in the very near future. This program will cover the period of FY86 and will extend into FY87. As presently planned, IFREMER, IFP, BRGM, CNRS and the petroleum industry will coordinate the ODP activities in France.

Presently, a multi-channel seismic (MCS) cruise is scheduled in 1986 to the northern Red Sea area. In addition, a 70 day cruise with CYANA is also scheduled in this area with financial support provided possibly by CEPM and possibly by collaboration with the Federal Republic of Germany. In 1985/86, JEAN CHARCOT will be in the SW Pacific at the Lau and N. Fiji basins (in conjunction with USGS and FRG), in 1986, at the Peru and Chile trenches and on the East Pacific Rise between 12 and 13°N. Two cruises (seismic and coring) are also planned to the Indian Ocean using MARION DUFRESNE.

At this time, France is planning for 3 submersible programs that will be in conjunction with ODP activities: 1986- in the N. Red Sea, a Boillot et al. program to the Leg 103 drilling area and a wireline re-entry experiment (termed FARE) which will re-occupy abandoned DSDP and ODP drillsites in order to gather information on the physical properties of the drillholes.

In closing, Sibuet expressed the consensus of the French geologic community that it disagrees with present plans not to attempt bare rock drilling on the East Pacific Rise.

Canada

M. Keen reported that a Canadian ODP Council has been formed which is headed by W. Hutchison. A National Committee is in the process of formation and its prime responsibility will be to oversee scientific and technical direction. This committee, likely to be chaired by P. Robinson, will address Canadian representation on thematic and regional panels and will include expertise from areas such as mining and oil. Further an ODP Secretariat has been formed at Dalhousie University and this will also be headed by Robinson.

With regard to science matters, a Kane Fracture Zone cruise with L. Mayer and K. Manchester as co-chiefs was very successful in using the Seamarc I system for mapping. Further there was much multi-channel activity offshore of Victoria Is., British Columbia. This data plus that of Seamarc I and Seabeam data showed spectacular results of underthrusting along the continental margin. Also investigations on the Explorer Ridge indicate that the sediments in this region contain upwards of 4% zinc. Finally, JOIDES RESOLUTION is presently working in Baffin Bay.

In closing his report, Keen invited the EXCOM to hold its next yearly meeting outside the US at the Pacific Geosciences Center on Vancouver Island, British Columbia.

Japan

K. Kobayashi reported that several site survey cruises have been conducted in the Sea of Japan. For the remainder of 1985 and for 1986, the site survey cruises will be particularly targeted along the western basin of the Sea of Japan. Kobayashi further reported that the

Japanese government does not encourage drilling activities in the Okinawa Trough area.

United States

J. Clotworthy reported that the principle activities of the U.S.Scientific Advisory Committee (USSAC) have been the establishment of a workshop program for developing proposals for submission to JOIDES. A workshop is scheduled for Nov. 1985 at Los Alamos, N.M. on geothermal logging and drilling. USSAC has supported additional processing of post-site survey data from the Kane Fracture Zone and post-cruise meetings of the Peru margin site survey. USSAC continues to provide support (travel and data reduction) for the U.S. geologic community.

S. Schlanger has stepped down from the post of USSAC chairman. Schlanger was replaced by J. Orcutt (SIO) to fill the 2 yr. term of office.

J. Orcutt reported that USSAC is presently sponsoring a series of data syntheses from the Indian Ocean and the south and central Pacific data collections. The Indian Ocean is the main area for site survey operations in the near future, however, funding of these cruises has not yet been decided.

Discussion:

During discussion, the issue of information exchange of the development of borehole tools between those in ODP and those outside of ODP was raised. It was noted that USSAC plans to develop logging experiments, purchase equipment and sponsor high temperature workshops. However, funding at this time is very limited. It was indicated that the exchange process could be handled by the JOIDES TEDCOM and DMP panels through their panel chairmen.

EXCOM Consensus: It was agreed by the EXCOM that the DMP and TEDCOM establish and maintain connections with continental geothermal activities. It was stressed that it appears that political and scientific interests in some countries are leaning in the direction of continental drilling programs. Therefore it is wise to develop complementary exchange programs that do not compete with each other but draw on common interests.

It was agreed by the EXCOM that an effective means of cooperation is to use the workshop concept for projects of mutual interest. It was further noted that scientist-scientist interaction is also a very productive mechanism.

EXCOM Consensus: U.S. and non-U.S. JOIDES members should assemble a list of the various continental drilling organizations in their countries in order to identify these organizations and their areas of mutual interest.

Other Countries

European Science Foundation

In view of the present membership situation, J. Stel reviewed the involvement of the ESF in the DSDP and in the ODP.

After this report, J. Knauss formed an EXCOM subcommittee to discuss the participation of the ESF in future ODP activities. This subcommittee was composed of M. Keen (Chairman), H. Durbaum, A. Maxwell, R. Heath and D. Heinrichs.

The report of the EXCOM Subcommittee concerning membership by the ESF was as follows:

M. Keen reported that the EXCOM ruled in May 1982 that the only class of membership in ODP is a full membership. The subcommittee recommends that the EXCOM abide by this ruling since the disadvantages which would accrue from a change would be greater than any advantages. The subcommittee also noted that a potential member has to be prepared to make a long term commitment.

Therefore the subcommittee reiterated their belief that full membership and long-term commitment are not negotiable principles. However, a potential member can start at any time within a U.S. fiscal year. Consequently, ESF could start at any time when their commitment for subsequent years as a full member has been established. The subcommittee believed that this flexibility in starting dates provides a practical mechanism for any potential new member to organize its subscription in an appropriate way.

The recommendation of the subcommittee was accepted by EXCOM.

USSR

Prof. V. Krashenninikov thanked the EXCOM, NSF and especially, Dr. Seibold for the opportunity to address the membership on offshore drilling activities in the Soviet Union. He expressed thanks from the USSR Academy of Sciences which views the ODP as a unique scientific endeavor.

Presently, the USSR has developed a program to drill into and through the Mesozoic section of the continental margin and future plans call for the construction of a CHALLENGER-like drillship to conduct other drilling activities. However, Krasheninnikov stressed that participation in an international program like ODP will not be jeopardized by these plans.

In commenting on the resolution passed at the 4 - 5 June 1985 EXCOM meeting in which the NSF was urged to pursue a course of action leading to the re-establishment of an MOU for Soviet participation in ODP, Krasheninnikov noted that the USSR will participate only with the agreement of all the full members of EXCOM. In addressing the issue of technology transfer and licensing problems, Krasheninnikov stated that this should not be a point which should divide east and west. Further, the position of the Soviet government in regard to these issues is known in the western press.

Krasheninnikov further noted that the USSR continues to process DSDP materials and he thanked the NSF for this opportunity. He further noted that during DSDP, Soviet scientists participated in the Project before an MOU was signed and it was this participation that led to Soviet participation in DSDP.

In closing, Krashenninikov asked if it is possible for Soviet geoscientists to participate before an MOU is signed and if it was possible to sample data from DSDP Legs 72 - 96 and ODP legs.

Discussion of the subject of Soviet participation in the ODP was closed by the following motions:

EXCOM Motion: Referring to the motion agreed upon on 5 June 1985, the JOIDES Executive Committee welcomes the attendance of Dr. V. Krasheninnikov at its present meeting. Recognizing the many contributions of scientists from the USSR to the success of the International Phase of Ocean Drilling (IPOD) and their significant presence in the world community of marine geologists and geophysicists, the JOIDES Executive Committee invites the USSR Academy of Sciences, as the body

primarily responsible for IPOD participation, to join the Ocean Drilling Program by signing a Memorandum of Understanding (MOU) with the National Science Foundation and thereby joining JOIDES.

Vote: 14 for, 0 against, 0 abstain

EXCOM Motion: The JOIDES Executive Committee welcomes the interest of USSR scientists in the Ocean Drilling Program. We encourage applications to the Science Operator, Texas A&M University, from qualified Soviet scientists,in order to permit their consideration for membership of the shipboard scientific party.

Vote: 14 for, 0 against, 0 abstain

Peoples Republic of China

It was noted that the JOIDES Office received news that China has formed a scientific committee for ocean drilling and has requested information on how to participate in ODP. This request has been met and guidelines on participation through the submission of proposals and requesting samples have been sent to PRC agencies.

JOIDES Panel Restaffing

R. Larson (PCOM Chairman) reported that presently all thematic and regional panels have two fewer members than a year ago because the United Kingdom and ESF no longer provide panel members. At the Jan. 1986 PCOM meeting, he plans to add additional members as necessary to insure that panels have the full range of required expertise. The PCOM Chairman asked for guidance in making these replacements.

EXCOM Consensus: It is the general agreement of the JOIDES EXCOM that the worldwide community is available as a talent pool for filling positions on JOIDES thematic and regional panels. However, PCOM should only replace missing expertise and not augment membership up to some fixed level.

Increasing ODP Publicity and Exposure

J. Baker indicated that ODP needs more exposure in publications for general consumption, such as Time, Newsweek and other media seen and read by large sections of the public. Baker further suggested that the EXCOM, in conjunction with PCOM and JOI, organize a large scale information transfer on a scale different from that currently used. The major thrust of this transfer would be more effort on the part of scientists in the program to produce articles for the general public. This effort would require volunteers to make such a commitment and further a mechanism must be established to track the success of this program and to review its progress.

Third World Participation

The issue of Third World participation in ODP was raised. Within the coming 2 years, the Program will be operating in the Indian Ocean. The EXCOM Chairman suggested that there are 3 approaches. Developing a systematic formal program for encouraging third world scientist participation, following an ad hoc approach whereby ODP finds a way to honor the occasional request from third world scientists and limiting our efforts to the minimum requirements under international law of providing for scientists and observers from countries in whose waters we are drilling. It was pointed out that the resources for financial support are limited within UNESCO, and based

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n limited inquires there appears to e disinterest by the oil industry. however it was noted that independent foundations as a source of support have yet to be addressed. M. Keen suggested that organizations such as the International Developmental Resources Commission in Canada have aided Third World participants in the past and possibly other agencies of this type, which are outside the normal budgetary routes, should be contacted. It was further proposed that 2 Junior scientist positions, paid by co-mingled funds be established at TAMU for 1 yr. The discussion closed with the suggestion that TAMU estimate the costs involved and report on these at the Jan. 1986 meeting.

PLANNING COMMITTEE REPORT

25-27 JUNE 1985

R. Larson, Planning Committee Chairman, convened the 25-27 June 1985 meeting held at the Bundesanstalt fur Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources) in Hannover. Meeting participants were welcomed to the Federal Republic of Germany by H. Beiersdorf (FRG-PCOM representative) and by Professor Rexhauser, the Vice-President of the BGR, who delivered an opening address reviewing the FRG participation during the IPOD phase of DSDP and the continued involvement in ocean drilling during the ODP.

Dr. D. Hussong was welcomed as the University of Hawaii representative to the Planning Committee. He replaced Dr. R. Moberly whose term on the PCOM had expired. The Chairman also welcomed members of the EXCOM Budget Subcommittee, visitors from the Federal Republic of Germany and others specially invited to the meeting.

NATIONAL SCIENCE FOUNDATION REPORT

G. Brass (NSF) reported that the reorganization of the Ocean Sciences Section, as presented at the Norfolk meeting, has been completed.

BUDGET

The NSF Budget for FY 86 presently is under consideration by the U.S. Congress and all expenditures are frozen at FY 85 levels until the budget is acted upon. Further, the state of the ODP Budget, which was scheduled for an increase of $ 1.25 M, will not be fully known until the total NSF appropriation is passed.

The requested NSF/ODP Budget appropriation for FY 86 is $ 28.85M, which is independent of the international membership situation in ODP.

Changes to the NSF budget since March 1985:

	March 1985	June 1985
ODP	$19.00M	$ 20.00M
DSDP	2.50M	2.00M *
US Sci.	7.35M	6.85M *
	$ 28.85 M	$ 28.85 M

* approximate figures

Changes in the ODP Budget since March 1985:

	March 1985	June 1985
U.S.contri.	$19.00M	$20.00M
5 member contri.	$12.50M	$12.50M
	$31.50M	$32.50M

JOINT OCEANOGRAPHIC INSTITUTIONS REPORT

J. Clotworthy reported.

JOI, Inc. has developed a list, as prescribed in the minutes of the Norfolk meeting, which describes those items which ODP is contractually bound by leasing or other arrangements. Copies of this listing were circulated among meeting attendees.

The appointing of members to the Performance Evaluation Committee is nearly completed. Presently, the committee consists of W. Hay (Chairman), C. Drake (Dartmouth Col.), J. Maxwell (Univ. of Texas) , J. Creager (Univ. of Washington), K. Klitgord (USGS), and P. Vail (EXXON). Letters of invitation have been sent to K. Hinz (Federal of Germany) and J. Aubouin (France).

The ODP Databank Review and the Draft Program Plan for FY 86 have also been completed. The Draft Program Plan has been distributed to both PCOM and EXCOM members.

FY 86 PROGRAM PLAN

Clotworthy commented on the philosophy used in the formulation of the Program Plan. Using $32.5M as the upper bound for monies available to the ODP, the funding for each of the participants was scaled down proportionately from their original requests and the end product was that under the present budgetary constraints, many of the objectives set forth by the PCOM will not be achieved at this time. However, JOI is confident that there are many options available that will enable the budgetary burden to be spread throughout the program with a minimum of program disruption.

Clotworthy emphasized that the JOI, TAMU and L-DGO budgets have been scrutinized in great detail and that JOI is confident that the minimum acceptable levels of operations have been reached for the 1 yr. period.

Clotworthy presented the ODP FY 1986 budget with the originally proposed figures based on operational experience (on the left) and the results after the budgetary reductions were made (on the right):

FY 86 JOI REQUEST	FY 86 NSF TARGET
$ 36.4M	$ 32.5M

JOI'S APPORTIONMENT

JOI	$ 1.60M*	$ 1.42M*
L-DGO	2.80M	2.50M
TAMU	32.00M	28.58M
	$ 36.40M	$ 32.50M

*includes Databank and the JOIDES Office

REPORT OF THE JOI DATABANK REVIEW PANEL

K. Klitgord, Chairman, reported that the Panel reviewed the work of the Databank and found that the Databank is seen as pivotal within the ODP in providing data to both the planning and operational parts of the Program and should be seen as a resource for the ODP community for site proposal planning, post-cruise studies and for regional syntheses. The panel further stated that the need for the Databank is enhanced as there is an important need for adequate geological and geophysical data in order to conduct drilling activities.

The panel suggested that the Site Survey Panel should play a key role in having oversight of the Databank and that requests for data searches should originate from the Site Survey Panel.

The Panel also made the following recommendations/suggestions:

- That a flowchart for proposals showing panel and Databank interaction be developed with support for regional and thematic panels identified and should be adhered to by the JOIDES community (adopted by PCOM at its Norfolk Meeting).

- The Databank should be a publicly accessible resource with links to other public databases that should not be used as an alternative to other geoscience databanks but rather as a complementary data source.

- That information at the Databank should include publicly available data, reserve data with restricted release and information about data available at other geoscience databanks (adopted by PCOM at Norfolk as part of the Guidelines for Submission of Proposals).

- That the Databank be one of the repositories for underway geophysical data obtained on the JOIDES RESOLUTION (as was the case during DSDP).

- Proponents of drilling be asked to identify supporting data and asked to deposit data with the Databank. (The Panel states that the primary responsibility for obtaining data must rest with proponents and the regulation requiring deposition of data should be enforced by the PCOM.)

- That support be made available for additional low-level personnel for record copying; this would create more time for the Curator to attend to Databank management and evaluation.

- A modest increase (up to 3 months) in the senior scientist time to the Databank. This increase in time would also result in a concurrent increase in financial cost.

The PCOM in principle agreed with the recommendations of the Review Panel and suggested that the matter of costs needs to be reviewed.

LONG RANGE PLANNING- INDIAN OCEAN PROGRAM

Timeframe for Indian Ocean Drilling

The PCOM originally proposed that 18 months of drilling would occur in and proximal to the Indian Ocean after the Weddell Sea drilling program. Some members of the PCOM expressed the view that the Indian Ocean program is an extension of those programs of DSDP and questioned if there is enough funding available due to the current budgetary situation to accomplish the proposed program. It was suggested that an option may be to spend less time in the Indian Ocean and more time in other oceans. However, the general membership indicated that for scientific reasons (e.g. high latitude drilling) and the fact that a drillship has not been in the Indian Ocean for 13 years a science program should be developed. However, it was suggested that the time available be used wisely in view of the weather constraints and the PCOM agreed that time could be added or subtracted from the program as necessary.

The following schedule was developed by the PCOM for the Indian Ocean:

1987	JAN	Weddell Sea
	FEB	
	MAR	Atlantic-SubAntarctic Transect
	APR	
	MAY ?	Davie Ridge
	JUNE	SW Indian Ridge
		Somali Basin
		Makran

	JULY AUG	Red Sea*
	SEPT OCT	Neogene Package*
	NOV DEC	Kerguelen 1*
1988	JAN FEB	Kerguelen 2*
	MAR APR	Broken Ridge/ S 90°E Ridge
	MAY JUNE	N 90°E Ridge -Intraplate Deformation- Bengal Fan
	JULY AUG	Argo/Exmouth

*= This leg was given a top priority rating during planning.

Note: This schedule assumes that it will be logistically and financially possible to re-supply at Port Stanley in March 1987 and at Kerguelen Island in January 1988. It also assumes that the RESOLUTION will proceed into the Indonesian Arc region in September 1988.

In completing this exercise, the PCOM agreed to fill the first priority items of the panels in the most favorable weather windows, thereby setting the boundaries of a schedule. These top priority legs were the Red Sea, Neogene Package, Kerguelen 1 and Kerguelen 2. The remaining time slots were then filled with lower priority programs or program combinations (as in the case of March-June, 1988).The PCOM then asked the panels for recommendations on their scientific priorities for all legs except the top priority legs indicated above.

SHORT-RANGE PLANNING

Prioritization of Eliminated Budget Items for FY 86

After reviewing potential program losses, the PCOM considered a listing of add-backs to the program that were developed by the PCOM Budget Subcommittee should additional funding become available. This listing suggests that for additional $1.95M, the program should buy four barerock guidebases, increase the drilling inventory, increase the size of the Publications Group and reinstate any personnel that may possibly be laid off. Discussion among the members also pointed out that 6 international members were needed to make the program financially sound.

The following motion was then moved by Larson and seconded by Kastner (SIO):

Motion: The Planning Committee commends TAMU and L-DGO for the design, construction and initial operation of drilling, logging and analysis systems that provide the opportunity to study the marine earth sciences at a significantly advanced level relative to DSDP.

We note with dismay that a significant percentage of the COSOD objectives originally scheduled for 1986 will not be met due primarily to financial constraints. With those constraints in mind we propose the following program revisions.

Mid-Atlantic Ridge - Both guidebases should be deployed on this objective unless there is an engineering problem on the first guidebase. In this case, the second guidebase will be re-engineered for deployment on Leg 109.

Barbados - This leg remains in the schedule essentially as planned. TAMU is urged to find funds in FY 86 to develop and fabricate "drill-in" casing for Leg 110 (Barbados N) and Leg 112 (Peru Margin). It is noted that the wireline TAM packer will not be available for pore fluid sampling. However, other available packers will be deployed for measurement of physical properties.

East Pacific Rise - In view of the budgetary constraints in FY 86 there will be no guide base systems available for the East Pacific Rise. PCOM agrees to the replacement of the East Pacific Rise drilling by drilling on 504B in 1986. EPR drilling remains at the highest priority for future Pacific drilling when it is expected that guide bases will be available and that high temperature logging and sampling systems will have been developed.

We further note that the continuation of this fiscal shortfall into future years threatens the long term viability of the program. Therefore, we urge the JOIDES Executive Committee and the National Science Foundation to pursue with utmost priority the enrollment of a minimum total of six full international members in the Ocean Drilling Program.

Vote: for 10, against 0, abstain 2

Future of the Technical and Engineering Development Committee (TEDCOM)

At the Norfolk meeting, the PCOM Chairman requested that nominations for the chairmanship post of the TEDCOM be made as soon as possible and that at this meeting there would be discussion on whether TEDCOM should continue to exist as it appears that many of its duties have been assumed by the Downhole Measurements Panel.

Several PCOM members, particularly the international members, expressed support for the continued existence of the TEDCOM since the advice from the committee members on items of immediate interest such as increased core recovery and coring technology in sands could be very useful to the ODP. However, it was suggested that the TEDCOM is top heavy with expertise in riser drilling and this particular item is not of immediate concern of the ODP. In response to the suggestion, it was the feeling of the membership that the importance of riser drilling to ODP warrants that the composition remain unchanged. However, the make-up of the committee could be altered if the new chairman sees fit to do so in light of the present program objectives.

PCOM invited Jean Jarry (France) to fill the TEDCOM chairmanship. Japan, in the future, will be nominating a member to the TEDCOM.

EXCOM BUDGET SUBCOMMITTEE REPORT

At the June 1985 meeting of the Executive Committee, it was suggested that a budget subcommittee of 4 EXCOM members (H. Durbaum-Chairman, B. Biju-Duval, R. Heath and C. Helsley) meet with the PCOM at this meeting to examine the present financial situation and make recommendations for its resolution.

The EXCOM Budget Subcommittee made the following recommendations to TAMU for coping with the present situation. The Subcommittee recommends that TAMU reinstate any personnel that potentially were to be laid off in the proposed TAMU budget. Furthermore, the subcommittee required the development of a core orientation device, drill-in casing, renting a Navidrill for Hole 504B to improve recovery rates and continued fabrication of the pres-

sure core barrel. It was recommended that there should be no new major engineering developments which require external fabrication contracts. Finally, the committee recommended that the drilling inventory be kept above levels that would be considered ultraconservative and that TAMU/ODP in-house engineering projects should continue to be encouraged. The committee also approved an insurance policy of $64K per year for the drill string.

In closing, the EXCOM Budget Subcommittee stated that these items should fall within the constraints of the proposed budget and are not to be considered as add-on items.

EXECUTIVE COMMITTEE REPORT
5 - 6 JUNE 1985

The following paragraphs are selected highlights from the Minutes of the June EXCOM meeting held in Washington, D.C.

J. Knauss (EXCOM Chairman) convened the 5-6 June 1985 meeting of the JOIDES Executive Committee held at the American Institute of Architects in Washington, D.C.

The meeting was divided into 2 sessions, a joint session with the ODP Council which was held on 5 June and a regularly scheduled session on 6 June. The joint session was co-chaired by J. Knauss and S. Toye (NSF) and included the signing of a Memorandum of Understanding by the Japanese members of ODP.

During the signing ceremony, which was presided over by A. Bridgewater (NSF), A. Hattori and Y. Hasegawa (Japan) expressed the enthusiasm of the Japanese geoscience community over its membership in the ODP and their appreciation to NSF and Monbusho (Ministry of Research, Science and Education), the members of ODP and the governments of both countries for the effort that it took in order to realize the membership.

The signing ceremony was concluded with J. Knauss formally welcoming Japan into the ODP.

NATIONAL SCIENCE FOUNDATION REPORT

G. Gross (NSF) reported that the budget request from the National Science Foundation for FY 1986 is $1.5 billion, which is an increase of 4% over the FY 1985 budget. Within that amount the request for ODP is $28.8 million, which is an increase of $1.2 million over the the FY 1985 level of $27.6 million.

Gross further reported that during the International Phase of Ocean Drilling (IPOD), Environmental Impact Statements were prepared in 1975 in accordance with U.S. law. With the beginning of the Ocean Drilling Program, a new statement had to be prepared because of the high latitude drilling and the riser drilling capabilities of the JOIDES RESOLUTION. This statement has been prepared and will be released in the U.S. on or about 1 July 1985. Copies of this statement will also be presented this autumn in Brussels at the 13th meeting of the 16 signatories to the Antarctic Treaty.

MEMBERSHIP NEWS

The Canadian delegation, led by the Secretary of State for Mines of Canada, signed a Memorandum of Understanding (MOU) with the NSF on 15 April 1985 at ceremonies at the NSF. At the time of the signing, the membership of the ODP consisted of the Federal Republic of Germany, France and the U.S.

In closing, Gross stated that the European Science Foundation (ESF) and the UK have both signed extended candidate member MOUs with the NSF which expire at the end of September 1985.

JOINT OCEANOGRAPHIC INSTITUTIONS REPORT

J. Baker (JOI), in reviewing program activities, reported that the ship continues to operate well, the logging program is producing excellent results and JOIDES planning is moving forward at a comfortable speed.

In its management role, JOI has scheduled 2 performance reviews to be conducted during 1985. The first

of these occurred in the spring of 1985 and was an evaluation of the ODP Databank, following the October 1984 decision of EXCOM to place the Databank under co-mingled funding. The review committee, chaired by K. Klitgord (United States Geological Survey), wrote a favorable report and the final document will be reviewed at the PCOM meeting in Hannover on 25-27 June 1985 and results made available at a later date to the EXCOM. The second review will be a bi-annual review of the subcontractors, the science operator and logging operator. This review will occur in mid-November 1985 with results in January 1986. The review will be carried out by a committee, to be chaired by W. Hay (Univ. of Colorado) and which will also include 2 non-U.S. members.

Finally, JOI has examined the number and location of JOIDES committee meetings during the period from May 1984-April 1985 and has found that of the 38 ODP meetings conducted during that period 32% were held outside the U.S. with 7 in France, 4 in the UK and 1 in Switzerland.

DSDP PHASE-DOWN REPORT

M. Peterson (SIO) reported that DSDP is working within a program plan that will continue until April 1987. DSDP is in the process of conducting its final closeouts with Global Marine with final audits having been completed and negotiations continuing. Much of the DSDP property (primarily shipboard equipment) has been transferred to the ODP and only that which is necessary for the phasedown operation is being kept at DSDP headquarters. Presently there have been successful closings of the logistics and engineering departments.

Plans presently call for the reprinting of the engineering Technical Reports with distribution as a complete set to all JOIDES institutions. In the future, distribution will be handled by the National Technical Information Service. With regard to the Initial Reports (IR), there are 11 volumes remaining to be published and 2 should be issued at the end of June 1985. Under the present schedule, all volumes will be distributed by April 1987. Minor problems are projected for the Leg 93 and 95 combined volumes while work on Leg 96 is ahead of schedule. Further all Technical Reports were re-printed and re-distributed. DSDP has entered into an agreement with a professional indexing service to produce what may be the world's largest comprehensive index. The index will be available in both a printed form and as a database which will be accessible by computer.

Work on the DSDP Database continues on schedule with cores having been successfully transferred to TAMU and leasing agreements signed with the Univ. of California for ODP storage-office space.

With regard to personnel and employment activities, a form of severance pay will be provided by DSDP to those who will continue to the end of the program. This procedure is being carried out in order to insure that experienced personnel will be available during the phasedown period.

The CHALLENGER presently resides in Brownsville, Texas having been sold as surplus. Attempts were made to set her up as a floating museum but negotiations were unsuccessful. Salvage operations for equipment have been conducted and selected items have been placed with the Smithsonian Institution in Washington, D.C.

MEMBER COUNTRY REPORTS

Federal Republic of Germany

D. Maronde (DFG) reported that the German scientific community is very excited over its involvement in the ODP and the ODP has the status of a priority program within the DFG as 2 million Deutsch marks have been earmarked for allocation to both ODP and DSDP German science activities. Coordination of these activities will be informally provided by a group headed by H. Beiersdorf (PCOM, BGR). Funding for the ODP membership comes 50% from the BMFT (Fed. Min. Tech.) and 50% from the DFG (German Research Society). Maronde also reported that in May of this year the FRG supported a workshop on black shales that attracted attendees from the FRG, UK, Netherlands and US.

H. Durbaum (EXCOM, BGR) reported that FRG has established 2 groups for magnetics studies: one group will investigate the sources of sedimentary magnetism and the other will perform detailed analyses of deep sea sediments using a cryogenic magnetometer. Two additional groups have also been formed which will focus on petrologic studies of the volcaniclastic sediments of the South Atlantic and modelling of alteration processes in DSDP Hole 504B. A third group has also been formed which will conduct a paleoenvironmental synthesis of data from 150 DSDP holes.

The FRG is preparing for a POLARSTERN cruise to be conducted from mid-December 1985-late February 1986 in the Weddell Sea. The purpose of this cruise is to conduct 45 days of multichannel seismic and other geophysical work for site survey information before ODP Leg 114. A synthesis of the geophysical data will be conducted by K. Hinz (BGR) with participants from LDGO (USA) and IFP (France). Proposals are in preparation to study the Pre-Messinian geology of the Mediterranean Sea and to study the S.W. Pacific. The FRG has recently completed a SONNE cruise (in conjunction with Australia) to the So. Tasman Plateau to study its earlier connection to Antarctica.

A new research group has been established in Kiel, headed by J. Thiede (Geol.-Paleon. Inst.), to study the sediments in the North Atlantic.

Maronde and Durbaum concluded the FRG Report by expressing their anticipation for the Bremerhaven portcall. Also in closing, they noted that the FRG is attempting to maintain a strong and balanced connection between the ODP and continental drilling activities.

France

B. Biju-Duval (EXCOM, IFREMER) reported that the ODP is the major geoscience program in the country and is viewed as a new program with new goals that seek to expand scientific horizons. A French ODP program plan has been approved but problems exist due to the unfavorable monetary exchange rate. The French government has not yet decided on the total contribution for 1986 and results will not be known until August, 1985. In the meantime, IFREMER has communicated with the other partners (universities, IFP, BRGM, CNRS and petroleum) to ensure a high level of participation. The ODP budget for 1985 presently consists of FFr 5 million and an increase is hoped for in 1986.

The JEAN CHARCOT is in the Pacific conducting site surveys for sites in the W. Pacific and S.W. Pacific and the EPR for geochemical and geophysical studies in the SE Pacific. A meeting will be held in

Paris concerning the use of the M.DUFRESNE as a supply ship for the JOIDES RESOLUTION during Indian Ocean drilling activities.

Also, 2000 km of multichannel seismic (MCS) data was collected in late March of this year from the Mediterranean Sea and will be available to the Atlantic Regional Panel (ARP) and the Mediterranean Working Group in June 1985. In the near future, the same will be available from the Red Sea and for proposed sites in the Indian Ocean.

France is also seeking increased participation in the area of downhole logging by sending a scientist to work with R. Anderson at LDGO and by the development of a logging services group in Brest. Further, a system for fly-in re-entry is being developed with completion scheduled for the end of 1985. Finally, a major meeting on ocean science research is being planned for December 1985.

Canada

W. Cockburn, Canadian Embassy, reported that the Department of Energy, Mines and Resources will delegate the membership in the ODP Council to a Canadian ODP committee convened by the Canadian Geosciences Council. These arrangements become effective as of 1 July 1985. P. Robinson (Dalhousie Univ.) will be Director of the Canadian ODP Secretariat and will sit on the PCOM.

The Canadian geoscience community looks forward to its participation in the program and especially to involvement on Leg 105.

Japan

A. Hattori (Ocean Res. Inst.) stated that Japan is pleased to join the ODP as a full member. The Japanese geoscience community is very excited and expects to participate fully in the ODP. This enthusiasum is expressed as 30 proposals for the NW Pacific, Sea of Japan, Bonin Sea, Nankai Trough, the Indian Ocean and Antarctica will be submitted to the JOIDES Office. Additional proposals are expected for the Mariana Arc area.

Japan also plans to accomplish site surveys in the W and NW Pacific in 1986 using Japanese research vessels to conduct MCS and Ocean Bottom Seismometer (OBS) studies of proposed areas. In the summer of 1987 site surveys will be conducted along the Bonin Arc in preparation for ODP drilling in 1989. Japan has also instituted construction and use of downhole instrumentation (high temperature downhole magnetometer and flow meters for the EPR sites) in selected Atlantic and E. Pacific sites.

Observer Countries

United Kingdom

J. Bowman (NERC) reported that the financial situation of the UK remains unchanged. This means that the UK can afford 1/2 of a full membership. Additional funds have been requested in FY 86-87 but no response has been received to that request.

The RRS DISCOVERY cruise to the Weddell Sea was very successful and substantial amounts of data were collected. Another cruise to that area has been discussed for the austral summer of 1986-87 using either the DISCOVERY or the CHARLES DARWIN. An Indian Ocean cruise on the DARWIN will occur in 1986 and requests have been submitted for a Pacific cruise in 1987.

European Science Foundation

J. Stel (ESF) reported that at an ESF workshop on the ODP, held in Sweden, Australia presented objectives and possible strategies for a combined membership with the consortium.

At this time, the level of contribution from the 9 countries in ESF for FY 86 is $1.3 million for 3-5 years. Presently 2 ESF organizations are uncommitted, if a commitment occurs then the level of contribution will increase to $1.5 million which allows for the purchase of 60% of a full membership. Australia is presently aiming for 40% of a full membership but their participation is dependent on a cabinet decision that will be made no earlier than September.

B. Munsch (ESF) reported that a proposal for a management structure has been drafted, reviewed and accepted in principle by the ESF Board. The draft will now be developed into a comprehensive proposal and circulated among the membership. The final draft based on an ESF-Australian consortium should be ready by September 1985 and will be presented to the ESF Executive Council in October 1985 and the ESF General Assembly in November 1985.

It was the consensus of EXCOM that in the case of an ESF-Australian consortium in which each party provides a delegate and an alternate, they both may attend EXCOM and PCOM meetings, however, the alternate will attend as a non-participating, non-voting guest.

In closing, the UK and ESF were both asked to continue their efforts to find the membership subscription as the need for six (rather than four or five) full international members was again emphasized during discussion.

BUDGET PRIORITIES (FY 86)

A draft Program Plan for FY 86 (distributed to EXCOM members at this meeting) which included the priorities of the sub-contractors was submitted to NSF on 1 June 1985. The goal of these priorities was to meet the NSF guidelines of a $ 32.5 million FY 86 budget. The Program Plan was reviewed on 8 July 1985 and the complete Plan is to be referred to the National Science Board in September 1985.

R. Larson (PCOM Chairman) reported on the analysis of the program budget and presented the ideas and recommendations of the PCOM subcommittee. These analyses include a prioritization of eliminated budget items, potential programmatic losses to science planning and the proposed operations program, general program losses, recommendations for a minimum acceptable budget, a minimum reasonable budget and an optimum budget and potential solutions.

The PCOM subcommittee stated that with the proposed program cuts the original COSOD objectives would not be achieved as the program would be different from that which was initially conceived and further the minimum acceptable budget needed to operate the program would be $34.448 million. JOI, Inc., on the other hand, stated that they believe the program can operate within the $32.5 million budget and still execute a scientific program significantly superior to that which would have been possible with CHALLENGER.

After discussion, it was the general feeling of the EXCOM membership that the question is whether to reduce or not to reduce the number of COSOD objectives due to the budgetary problems.

It was also pointed out that there will be a reduction in the output of the TAMU Publications

Group due to the budgetary constraints. It was emphasized during discussion that even at the original FY 86 request of $ 864 K, this is not a steady state cost for the Publications Group and future projections could be on the order of $ 2.0 - 2.5 million per year. It was agreed by the EXCOM that the Publications Group, as presently conceived, represents a major commitment on funds. This agreement is expressed in the following consensus.

Consensus: It was agreed that there is an urgent need to review the publications policy and its budget implications, taking into account both the needs of the Program and advances in information technology.

In order to achieve these goals the PCOM was asked to establish a Publication Review Subcommittee involving both R. Merrill (TAMU) and JOI, Inc.

In helping to resolve the current difficulties in matching the PCOM scientific objectives with the financial limits and the subcontractors operational priorities, it was agreed that an EXCOM Budget subcommittee be established to review the above items and make recommendations to JOI.

Consensus: It was agreed that PCOM should review the findings of the PCOM Budget Subcommittee and should consider its drilling program in light of the expected FY 86 budget ceiling. An EXCOM Budget Subcommittee should be established to consider these PCOM views, the draft Program Plan for FY 86 and the operational priorities proposed by the subcontractors. This latter subcommittee should report to JOI (through the EXCOM Chairman) by the end of June 1985.

During the meeting it was agreed that the EXCOM Budget Subcommittee would include H. Durbaum (Chairman) and B. Biju-Duval, subsequent to the meeting R. Heath and C. Helsley were added to the subcommittee by the EXCOM Chairman. It was the agreement of the EXCOM membership and the PCOM Chairman that the subcommittee would meet concurrently with the PCOM at its Hannover meeting on June 26-27, 1985.

ADDITIONAL INTERNATIONAL PARTICIPATION IN ODP

There was further discussion of the possibility of USSR membership in ODP.

At the end of the discussion, H. Durbaum proposed the following motion, that was seconded by W. Merrell.

Motion: The JOIDES Executive Committee, recognizing the many contributions of scientists from the USSR to the success of the International Phase of Ocean Drilling (IPOD) and their significant presence in the world community of marine geologists and geophysicists, urges the National Science Foundation to vigorously pursue a course of action leading to the early re-establishment of a Memorandum of Understanding providing for Soviet Union participation in the Ocean Drilling Program.

Vote: 13 for, 0 against, 1 abstain

THIRD WORLD PARTICIPATION

T. Mayer (JOIDES/URI) reported that over the last year approaches have been investigated which could allow for the inclusion of Third World scientists into the ODP. A.

Bally (Atlantic Regional Panel) has also expressed an interest and has suggested that the World Bank be approached for suggestions. The World Bank was contacted and appropriate materials sent for their evaluation. The World Bank has stated that funding may be difficult to obtain and suggests that other avenues be approached such as attempts at forming consortia. K. Hsü (ESF) has suggested that attempts be made to keep Third World scientists informed of the progress of the ODP through publications other than the JOIDES Journal. Hsü suggests publications such as the UNESCO newsletter, IUGS Episodes and other international publications.

The EXCOM also explored the possibility of approaching China for possible full member participation in the ODP. S. Toye (NSF) responded that China has been contacted and there is interest. However, there are bureaucratic and financial difficulties that suggest a consortium arrangement is in order.

PROPOSALS RECEIVED BY THE JOIDES OFFICE BETWEEN 1 MAY - 31 AUGUST 1985

Ref. No.	Date Rec'd.	Title	Investigator(s)	Inst.	Site Survey Avail' Data	Site Survey Future Need	Panel Reference	PCOM Reference	Remarks
				INDIAN OCEAN					
150/F	07/01/85	Hard rock drilling in the S.E. Indian Ocean: 90°E ridge & Kerguelen-Gaussberg ridge	Frey, F.A. Sclater,J.G.	MIT U.Texas Austin	Little	Yes	IOP 7/85 LITHP 7/85	Approved 6/85	
173/F	08/19/85	Drilling in the Seychelles-Mascarene Plateau,N.W.Indian Ocean	Patriat,P. Vincent,E. Jacquart,G.	I.de Phys. d.Globe Paris U.P&MCurie Paris IFP France	Yes	Yes	SOHP 8/85 IOP 8/85 TECP 8/85		French I.O.Book
183/F	08/20/85	Periplatform onze in the Indian Ocean (Maldives)	Winterer,E.L. Droxler,A.	SIO U.South Carolina	Some	Yes	SOHP 8/85 IOP 8/85		See Prop.97/B USSAC Carbonate Platforms Workshop
				SOUTHERN OCEANS					
169/C	07/30/85	Drilling on the South Tasman Rise	Hinz,K. Dostmann,H.	BGR, FRG	Yes	No	SOHP 7/85 TECP 7/85 IOP 7/85 SOP 7/85		
185/C	08/23/85	Origin,evolution & palaeo-oceanography of Kerguelen Plateau	Coffin,M.F. Colwell,J.B. et al	BMR Australia	Yes	No	SOP 8/85 IOP 8/85 SOHP 8/85 TECP 8/85 LITHP 8/85		See Props. 109/C & 136/C.Expansion of part of Prop.126/D: COGS-2 super-prop.
				WEST PACIFIC					
144/T	05/28/85	Arc-arc collision in the southernmost Kuril forearc off Hokkaido	Seno,T. Kimura,G. Tamaki,K.	Int.Inst. Seism. & Earthquake Eng. Kagawa U. Geol.Surv. Japan	Yes	No	WPAC 5/85 TECP 5/85		Japanese Workshop
145/T	05/29/85	Left-lateral dislocation of the Ryukyu Arc system	Ujiie,H.	U. of the Ryukyus Japan	Some	No	WPAC 5/85 TECP 5/85		Japanese Workshop
146/T	05/30/85	Toyama Submarine Fan,eastern Japan Sea	Klein,G.deV.	U.Illinois (Urbana)	Some	Yes	WPAC 5/85 TECP 5/85 SOHP 5/85		Revised 7/85
147/T	06/06/85	Preliminary proposal for scientific drilling in the South China Sea	Wang,P. Zhu,X. et al	Tongji U., PRC	Some	Yes	WPAC 6/85 TECP 6/85		
148/T	06/07/85	Drilling the oblique subduction zone near the TTT-type triple junction area,off central Japan (Sagami Basin)	Ogawa,Y. Fujioka,K. Takeuchi,A. Tanahashi,M.	Kyushu Univ. Japan	Yes	No	WPAC 6/85 TECP 6/85		Related to Prop.132/D Japanese Workshop
149/T	07/01/85	Active spreading centre of the Sea of Japan	Kimura,M. Kato,Y. Yamamoto,S.	U. of the Ryukyus, Japan	Some	Yes	WPAC 7/85 LITHP 7/85 TECP 7/85		See Props.51/D & 151/D Japanese Workshop
151/T	07/01/85	Opening of the Japan Sea: mantle plume origin	Wakita,H.	U.Tokyo Japan	Some	Yes	WPAC 7/85 TECP 7/85 LITHP 7/85		See Props. 51/D & 149/D Japanese Workshop
154/T	07/01/85	Entrapment of Banda-Celebes--Sulu Basin	Hilde,T.W.C.	TAMU	Some	Yes	WPAC 7/85 LITHP 7/85 TECP 7/85 SOHP 7/85		See Props.27/D,82/D & 131/D
156/T	07/08/85	Potential massive sulfide in Kita-Yamamoto Trough,Japan Sea	Urabe,T.	Geol.Surv. Japan	Yes	No	WPAC 7/85 SOHP 7/85 LITHP 7/85 TECP 7/85		Japanese Workshop
157/T	07/10/85	Palaeo-oceanography & marine climatic history of the Japan Sea	Koizumi,I. Oba, T.	Osaka U. Kanazawa U. Japan	Yes	Yes	WPAC 7/85 SOHP 7/85		Related to Ideas I-52 Japanese Workshop
158/T	07/15/85	Geochemistry & sedimentology of active oceanic margin & back-arc basin sediments: Japan Sea and Trench	Matsumoto,R. Minai,Y.	Tokyo U. Japan	Some	Yes	WPAC 7/85 SOHP 7/85 TECP 7/85		Japanese Workshop
163/T	07/18/85	Zenisu Ridge (Nankai Trough) - intraplate deformation of a young marginal basin	Rangin,C. Lallemant,S. Le Pichon,X.	U.P&MCurie Paris France	Yes		WPAC 7/85 TECP 7/85 SOHP 7/85		See Prop.177/D

164/I	07/18/85	Japan Trench & Japan-Kuril Trenches Junction	Jolivet,L. Cadet,J-P. Lallemand,S.	U.P&MCurie Paris U.Orleans France	Yes		TECP 7/85 WPAC 7/85 SOHP 7/85		Further revision after KAIKO-2
165/I	07/18/85	Shikoku Basin ocean crust	Chamot-Rooke,N Le Pichon,X.	U.P&MCurie Paris France	Yes		TECP 7/85 WPAC 7/85 SOHP 7/85		See Prop.50/D
166/I	07/22/85	Instantaneous opening of the Japan Sea;evolution of the mantle wedge	Tatsumi,Y. et al	Kyoto U. Japan	Yes		TECP 7/85 LITHP 7/85 WPAC 7/85		Japanese Workshop
167/I	07/22/85	Okinawa Trough back-arc rifting & Ryukyu Trench system	Uyeda,S. et al	ERI,Tokyo U. Japan	Yes		TECP 7/85 LITHP 7/85 WPAC 7/85		Japanese Workshop
168/I	07/22/85	Japan Sea:sedimentology of siliceous sediments	Iijima,A. Matsumoto,R. Tada,R.	Tokyo U. Japan	Yes		SOHP 7/85 TECP 7/85 LITHP 7/85		Related to Prop. 52/D Japanese Workshop
170/I	07/30/85	Valu Fa Ridge,Lau Basin; back-arc spreading center	Morton,J.L. Vallier,T.L. Hawkins,J.	USGS,Menlo Park SIO	Yes	No	LITHP 7/85 TECP 7/85 WPAC 7/85		
171/I	08/13/85	Bonin Region;problems of intra-oceanic arc-trench development	Taylor,B.	HIG	Yes	Some	WPAC 8/85 LITHP 8/85 TECP 8/85		
172/I	08/19/85	Mariana forearc,arc & back-arc basin	Fryer,P.	HIG	Yes	Some	WPAC 8/85 LITHP 8/85 TECP 8/85		
174/I	08/19/85	Forearc tectonics: Japan Sea	Otsuki,K.	Tohoku U. Japan	Yes	Yes	WPAC 8/85 TECP 8/85		Japanese Workshop
175/I	08/19/85	Origin of inner wall of the Japan Trench	Niitsuma,N. Saito,Y.	Shizuoka U Nat.Sci. Mus.Tokyo Japan	Yes		WPAC 8/85 TECP 8/85		Japanese Workshop
176/I	08/19/85	Southernmost Japan Trench & migration of triple junction	Niitsuma,N.	Shizuoka U Japan	Yes		WPAC 8/85 TECP 8/85		Japanese Workshop
177/I	08/19/85	Zenisu Ridge:intra-oceanic plate shortening	Taira,A. et al	ORI Tokyo Japan	Yes	No	WPAC 8/85 TECP 8/85 SOHP 8/85		Japanese Workshop See Prop.163/D
178/I	08/19/85	Nankai Trough forearc	Shiki,T. Miyake,Y.	Kyoto U. Japan	Yes		WPAC 8/85 TECP 8/85		Japanese Workshop
179/I	08/19/85	Daito Ridges region: N.W. Philippines Sea	Tokuyama,H. Konishi,K. Kimura,M.	ORI Tokyo Kanazawa U Ryukyu U. Japan	Yes	Yes	TECP 8/85 WPAC 8/85 LITHP 8/85		Japanese Workshop
180/I	08/19/85	Kita-Amami basin & Amami Plateau,N.Philippines Sea	Shiki,T.	Kyoto U. Japan	Yes	Yes	TECP 8/85 LITHP 8/85 WPAC 8/85		Japanese Workshop
181/I	08/19/85	Petrological & tectonic evolution of wedge mantle & forearc crust along the Izu-Ogasawara-Mariana forearc	Ishii,T.	ORI Tokyo Japan	Yes	Yes	TECP 8/85 LITHP 8/85 WPAC 8/85		Japanese Workshop
184/I	08/21/85	Drilling in the Papua New Guinea/Bismark Sea Region	Exon,N.F. Marlow,M.S. et al	BMR Australia USGS Menlo Park	Yes	Yes	LITHP 8/85 WPAC 8/85 TECP 8/85		
187/D	09/13/85	Drilling in the New Hebrides Arc Region, S.W.Pacific	Taylor,F.W. Lawver,L.A.	U.T.Austin	Some	Yes	WPAC 9/85 LITHP 9/85 TECP 9/85		See Props.25/D & 184/D USSAC West Pacific Workshop
		CENTRAL & EASTERN PACIFIC							
153/E	07/01/85	Three drill sites in the S.E. Pacific	Hays, J.D.	LDGO	Yes	No	CEPAC 7/85 SOHP 7/85 SOP 7/85		
182/E	08/19/85	Sounder Ridge,Bering Sea: Kula Plate stratigraphy	Taira,A.	ORI Tokyo Japan	Yes	Yes	TECP 8/85 SOHP 8/85 CEPAC 8/85		Japanese Workshop
		GENERAL & INSTRUMENTAL							
152/I	07/01/85	Borehole seismic experiments in the Tyrrhenian Sea	Avedik,F. Dietrich,M.	IFREMER Brest U.de Brest France	N/A	N/A	ARP 7/85 DMP 5/85		

155/F	07/01/85	Downhole measurements in the Japan Sea	Suyehiro,K. Kinoshita,H. Kanazawa,T. Yamamoto,K.	Chiba, U. Tokyo,U. Tohuku,U. Japan	Yes	Yes	WPAC 7/85 DMP 7/85 TECP 7/85		Japanese Workshop
159/F	07/15/85	Monitoring changes in the physical conditions across a trench system (Izu-Mariana--Sagami-Suruga)	Kinoshita,H. et al	Chiba U. Japan	Yes	N/A	WPAC 7/85 DMP 7/85 TECP 7/85		Japanese Workshop
160/F	07/15/85	Geophys.conditions of the top most part of the lithospheric plate in the Weddell Sea	Kinoshita, H. Kamimura, K. Shibuya,K. Kobayashi,K.	Chiba U. Nat.Inst. Pol.Res. ORI Tokyo Japan	Yes	N/A	SOP 7/85 DMP 7/85 TECP 7/85 LITHP 7/85		See proposal 54/C Japanese Workshop
161/F	07/15/85	Magnetic field & Water flow measurements at high temps. in holes accompanying hydrothermal circulation	Kinoshita,H. Kobayashi,K. Furuta,T.	Chiba U. ORI Tokyo Japan	N/A	N/A	DMP 7/85 WPAC 7/85 CEPAC 7/85 ARP 7/85 LITHP 7/85		See proposal 124/E Japanese Workshop
162/F	07/17/85	Offset VSP on the S.W.Indian Ocean Ridge fracture zones	Stephen,R.A.	WHOI	Some	Yes	DMP 7/85 IOP 7/85 LITHP 7/85		Related to proposal 89/B
186/F	08/28/85	Hydrology & heat flux in the S.W.Indian Ocean fracture zones	von Herzen,R.	WHOI	N/A	N/A	IOP 8/85 DMP 8/85 LITHP 8/85		See Prop.89/B
188/F	09/18/85	Alternate proposal for Leg 109;395A borehole geophysics & 418A drilling & geophysics	Salisbury,M. (on behalf of DMP)	Dalhousie U. Canada	Yes	No	DMP 9/85 LITHP 9/85 ARP 9/85		

NOTE: For a complete proposals listing, please contact the JOIDES Office.

ANALYSIS OF PROPOSALS RECEIVED BY THE JOIDES OFFICE (as of 30 September 1985)

Total number of proposals received		184
a. Atlantic Ocean		36 proposals
comprising:	General	22
	Mediterranean Sea	8
	Caribbean Sea	5
	Norwegian Sea	1
from:	U.S./JOIDES institutions	11
	U.S./non-JOIDES institutions	3
	France	11
	FRG	3
	Canada	2
	(U.K.)	4
	(ESF nations)	2
b. Indian Ocean		53 proposals
comprising:	General	49
	Red Sea	4
from:	U.S./JOIDES institutions	25
	U.S./non-JOIDES institutions	14
	France	9
	FRG	1
	(ESF nations)	2
	(U.K.)	2
c. Southern Oceans		11 proposals
from:	U.S./JOIDES institutions	6
	France	2
	FRG	1
	(Australia)	1
	(New Zealand)	1
d. West Pacific Ocean		53 proposals
from:	U.S./JOIDES institutions	6
	U.S./non-JOIDES institutions	6
	Japan	23
	France	9
	FRG	2
	(Australia)	4
	(U.K.)	1
	(New Zealand)	1
	(Peoples Republic of China)	1

e. Central and Eastern Pacific Ocean — 15 proposals

from:		
	U.S./JOIDES institutions	9
	U.S./non-JOIDES institutions	2
	France	2
	Canada	1
	Japan	1

f. General/Instrumental — 16 proposals

from:		
	U.S./JOIDES institutions	6
	U.S./non-JOIDES institutions	1
	Japan	4
	Canada	1
	FRG	1
	France	1
	(U.K.)	1
	(ESF nations)	1

Total (by country) — 184

U.S./JOIDES institutions		63	89
U.S./non-JOIDES institutions		26	
France			34
Japan			28
FRG			8
Canada			4
Non-JOIDES nations	(U.K.)		8
	(ESF nations)		5
	(Australia)		5
	(New Zealand)		2
	(PRC)		1

DEEP SEA DRILLING PROJECT

1. SAMPLE AND CORE REPOSITORY REPORT

The twelve-month post-cruise sampling moratorium is completed for Deep Sea Drilling Project (DSDP) Legs 94, 95, and 96. Samples from all DSDP Legs (1-96) are now available to investigators for studies which will result in published papers.

Cores collected from the Atlantic and Antarctic Oceans and the Mediterranean and Black Seas (DSDP Legs 1-4, 10-15, 28, 29, 35-53, 71-82, and 93-96) are housed at the East Coast Repository at the Lamont-Doherty Geological Observatory. Cores collected from the Pacific and Indian Oceans and the Red Sea (DSDP Legs 5-9, 16-27, 30-34, 54-70, and 83-92) are housed at the West Coast Repository at the University of California, San Diego.

Interstitial water samples, gas samples, as well as frozen whole round samples (archived specifically for organic geochemical analyses) from all DSDP Legs are stored at the West Coast Repository.

2. INFORMATION HANDLING GROUP REPORT

The Information Handling Group of the Deep Sea Drilling Project is responsible for all scientific data collected on board GLOMAR CHALLENGER during her 96 cruises and produced in the Deep Sea Drilling Shore laboratories. It is the mission of the group to protect and preserve this data, to provide for distribution of the data throughout the scientific community and to encourage the use of the data through technical support to scientists.

The group comprises members with a broad variety of geological and data processing background. Senior members of the group joined Deep Sea Drilling shortly after the beginning of drilling. This maturity of staff helps the group to provide data services for the wide variety of data found in the Deep Sea Drilling Project databases, and to provide valuable assistance to researchers in choosing the best data for their research objectives.

DATA SERVICES

The responsibility for data services is currently shared by DSDP and the National Geophysical Data Center (NGDC) in Boulder, Colorado. During the phaseout of DSDP all data service responsibility will gradually shift to NGDC. Several major databases have already been transferred to NGDC. Researchers are encouraged to make NGDC their primary contact for DSDP data, since NGDC may be able to provide correlative data from other sources. NGDC will forward any requests requiring special treatment to DSDP for prompt attention. DSDP is concentrating most of its available resources on completing all databases prior to phase out and will only process data requests requiring special treatment and those requests relating to Initial Report preparation.

All prime data collected as part of Deep Sea Drilling operations and some special files compiled by the Information Handling Group are available for distribution to researchers. Table DSDP-1 summarizes and categorizes the types of data available. The data files listed under Special Files represent compilations and ancillary data which may be of particular assistance to researchers.

Data files can be provided in their entirety or the researcher may request subsets of the data based on research criteria. Databases can be searched on most data items, using simple or complex search expressions. Using linked searches all databases can be searched on common drill site summary data and paleontological age unit assignments. Records selected from one database can be correlated with records from others. DSDP

search software also contains internal tables which assign all sites to appropriate geographical (ocean, sea) locations.

The preferred medium for providing the results of data requests is magnetic tape. Printed listings can also be provided for small volume data requests. Modest sized data files may also be available on floppy disks. On experimental basis DSDP can also provide direct transfer of data via the UNIX UUCP Network and remote log-in via guest accounts on our computer.

The DSDP Topography of the Oceans map with sites through Leg 96 is now available from the Information Handling Group. Also paleontologic data from Initial Reports Volumes 1-71 are now available for computer searches. To request a map contact Barbara J. Long and for information on computer searches contact Lillian Musich. Both are located in the Information Handling Group at A-031, DSDP, Scripps Institution of Oceanography, La Jolla, Calif. 92093, Telephone: 619-452-4638 or 452-3526.

DATA TRANSFER TO NGDC

As DSDP databases are completed they are being transferred to the National Geophysical Data Center in Boulder, Colorado. Transferred databases are marked with an asterisk in Table DSDP-1. All DSDP data files will be transferred to NGDC prior to the end of DSDP data service operations in early 1987. We will periodically report on the progress of database transfers in this journal. Investigators may also request personal copies of Table DSDP-1 from DSDP. Requests for data services for transferred databases will, in general, be referred to NGDC. DSDP will continue to provide service for investigators preparing DSDP publication contributions and for requests NGDC cannot service.

DATA REQUEST PROCEDURE

Data requests can be submitted in writing or by telephone. When writing please include a brief description of your research project so that we can best determine which data sets would be most helpful. When requesting data on magnetic tape please be sure to include your preferred tape specifications. Tapes can be provided at 800 or 1600 bpi, odd parity, EBCDIC or ASCII character set, labelled or unlabeled, single or multiple files per reel. Please state any block (physical record) size limitations required by your host system.

Please address your requests for information and data to:

Data Manager
Deep Sea Drilling Project (A-031)
Scripps Institution of
Oceanography
La Jolla, CA 92093
(619) 452-3526 and FTS 895-5496
-Mail via UUCP use:
@ihnp4,akgua,decvax,dcdwest,
ucbvax(!sdcsvax!sdcc6!peterw

or directly to NGDC:

Marine Geology and Geophysics
Division
National Geophysical Data Center
NOAA E/GC3
325 Broadway
Boulder, CO 80803
(303) 497-6338 or
FTS 320-6338 Data Orders
(303) 497-6339 or
FTS 320-6339 Technical Info.

TABLE DSDP-1

AVAILABLE DSDP DATA

Data file: legs available	Data source	Description	Comments
Part 1. Lithologic and stratigraphic data		* - indicates that the database is complete and transferred to NGDC.	
Paleontology: 1-73	*Initial Reports*	Data for 26 fossil groups. Code names, abundance and preservation data for all Tertiary fossils found thus far in DSDP material. The fossil dictionary comprises more than 10,000 fossil names and codes.	Does not include Mesozoic fossils.
Smear Slide: 1-96	Shipboard data	Information about the nature and abundance of sediment components.	No data for Leg 83 (hard rock cores only).
Thin Sections: 6-83	Shipboard Data *Initial Reports*	Petrographic descriptions of igneous and metamorphic rocks. Includes information on mineralogy, texture, alteration, vesicles, etc.	Legs 31-83 are keypunched and awaiting final checks. Available by Sept. 1985. No data for Legs 8-12, 15, 19-21, 23-24, 27, 36, 40-41, 42B, 44, 47-48, 50, 56-57, 71-72, 75-76, 78, 80, 95, 96.
Visual Core Descriptions: 1-96	Shipboard data	Created from shipboard descriptions of the core sections. Information about core color, sedimentary structures, disturbance, etc.	
Visual Core Descriptions - igneous rocks: 37-94	Shipboard data	Igneous and metamorphic rock lithology, texture, structure, mineralogy, alteration, etc.	No data for Legs 40, 42B, 44, 47-48, 50, 56-57, 95, 96.
SCREEN: 1-67, 84-92	Processed data	Computer generated lithologic classifications. Basic composition data, average density, and age of layer.	
Part 2. Physical properties and quantitative analytic core data			
Carbon-carbonate 1-96	Shore Laboratory Shipboard, carbonate bomb data	Percent by weight of the total carbon, organic carbon and carbon carbonate content of a sample. Bomb data has carbonate only.	No data for Legs 46, 83, 88, 91, 92.
Grain Size 1-76	Shore laboratory	Sand-silt-clay content of sample.	No data collected for Leg 16, 64 and 65.
GRAPE (gamma ray attenuation porosity evaluator): 1-96	Shipboard data	Continuous core density measurements.	No data for Leg 46.
Hard-rock major element analyses: 13-82	Shore-based and shipboard analyses	Major-element chemical analyses of igneous, metamorphic and some sedimentary rocks composed of volcanic material.	No data for Legs 20, 21, 31, 40, 42B, 44, 47, 48, 50, 56, 57, 71.

Part 2. Physical properties and quantitative analytic core data. (Cont.)

Hard-rock minor element analyses: 13-82	Shore-based and shipboard analyses	Minor-element chemical analyses of igneous, metamorphic and some sedimentary rocks composed of volcanic material.	No data for Legs 20, 21, 27, 35, 40, 42B, 44, 47, 48, 50, 56, 57, 66, 67, 71.
Hard-rock paleomagnetics: 14-77	Shore-based and shipboard	Paleomagnetic and rock magnetic measurements of igneous and metamorphic rocks and a few sedimentary rocks composed of volcanic material.	No data for Legs 1-13, 17, 18, 20-22, 24, 30, 31, 35, 36, 39, 40, 47, 48, 50, 56, 57, 67, 68, 74.
Long-core spinner magnetometer sediment paleomagnetics: 68, 70-72, 75	Shipboard analyses	Paleomagnetic measurements: declination and intensity of magnetization. Data from hydraulic piston cores only.	Should be used with reservation since the cores were later discovered to be rust-contaminated and disturbed. Quality of the data for each core clarified by documentation.
Discrete sediment sample magnetics: 1-96	Shipboard laboratory	Paleomagnetic measurements: declination, inclination, and intensity of magnetization. NRM measurements and AFD measurements when available.	Rotary cores: 64-96 encoded. HPC cores: 71-96.
Alternating field demagnetization: 4-96	Shipboard laboratory	Paleomagnetic measurements of sediments on which alternating field demagnetization is carried out.	Rotary cores: 51-96 encoded. HPC cores: 71-96.
Sonic velocity: 3-95	Shipboard analyses	Hamilton frame and 'ear muff' methods.	
Vane Shear: 61-94	Shipboard data	Sediment shear strength measurements using Wykeham Farrance 2350 and Torvane instruments.	No data for Legs 62, 65-67, 70, 77, 79-84, 88, 89, 91-93. Additional unprocessed data may exist prior to Leg 61.
Analytic water content, porosity, and density: 1-96	Shipboard laboratory	Measurements by syringe method from known volumes of sediment.	No data for Leg 41.
Well Logs: 6-96	Shipboard data	Analog charts and magnetic tapes produced by Gearhart-Owen and Schlumberger.	*Schlumberger LIS tapes: 48, 50, 51, 57, 80-84, 87, 89, 95, 96. Gearhart-Owen tapes: 60, 61, 63-65, 67, 68, 70, 71, 74-76, 78. Analog data only: 6, 8, 46, 66, 69.
X-ray mineralogy: 1-37	Shore laboratory	X-ray diffraction	Data for Legs after 37 not available in digital form.

Part 3. Underway geophysics

*Bathymetry: 7-96	Shipboard data	Analog record of water-depth profile.	Available as digital data and 35mm continuous microfilm. No data for Legs 10-12, 57-60.
*Magnetics: 7-96	Shipboard data	Analog record produced on the Varian magnetometer in gammas. Digitized at 5-min. intervals on an OSCAR X-Y digitizer.	No data for Legs 10, 11.
*Navigation: 3-96	Shipboard data	Satellite fixes and course and speed changes that have been run through a navigation smoothing program, edited on the basis of reasonable ship and drift velocities and later merged with the depth and magnetic data.	
*Seismic: 1-96	Shipboard data	Sub-bottom profiles recorded on Edo Western Graphic Model 550. Digital data for Legs 89-96 in SEG-Y tape format.	Both Bolt and Kronllite filters available on board. Fast and slow sweeps available on microfilm and photographs.

Part 4. Special reference files

*Site Summary: 1-96	Initial Core Descriptions	Information on general hole characteristics (i.e., location, water depth, sediment nature, basement nature, etc.).	
DSDP Guide to Core Material: 1-76	*Initial Reports* Prime data files	Summary data for each core: depth of core, general paleontology, sediment type and structures, carbonate, grain size, x-ray, etc.	
AGEPROFILE: 1-96	*Initial Reports* Hole summaries	Definition of age layers downhole.	
COREDEPTH: 1-96	Shipboard summaries	Depth of each core. Allows determination of precise depth (in m) of a particular sample.	

Part 5. Aids to research

DATAWINDOW	An on-line search and retrieval program to access many DSDP files; also used for data base maintenance. An account can be arranged at the University of California computer center to allow remote access to data files compatible with DATAWINDOW.
MUDPAK	A plotting program; handles multiple parameter data (e.g., plots of well logs, plots of physical properties).
DASI	A file of DSDP-affiliated scientists and institutions. Can be cross-referenced and is searchable.
KEYWORD INDEX	A computer searchable bibliography of DSDP related papers and studies in progress.
SAMPLE RECORDS	Inventory of all shipboard samples taken.
DSDP Site Map	DSDP site positions on a world map of ocean topography.

JOIDES/ODP BULLETIN BOARD

1985/1986 MEETINGS SCHEDULE

Date	Place	Committee/Panel
19-21 November	Tokyo	SSP
12-14 December	San Francisco	IOP
Early January*	Miami	DMP
6-7 January*	SIO	SOHP
7-8 January	Molokai, Hawaii	EXCOM
15-16 January	College Station	LITHP
21-24 January	SIO	PCOM (w/Panel Chairmen)
17-19 February*	Miami	WPAC
15-17 April*	Barbados	ARP
12-14 May*	Bremerhaven	SOP
June*	France	IOP
24-26 June	Denver	PPSP

*Meeting dates are tentative.

ODP WORKSHOP

In order to develop a drilling program that will address problems in tectonics, the nature of the lithosphere, paleoceanography and sedimentology processes in the South Pacific and the Antarctic Margin, a planning workshop will be held at the University of Florida at Gainesville during 20 - 22 April 1986. The workshop is funded by JOI, Inc. and financial assistance is available for US scientists through the workshop organizers. Potential participants should submit by December 1, 1985 a summary of contributions they could make to the meeting.

Submit correspondence to any of the following meeting organizers: P. Ciesielski, Department of Geology, University of Florida, Gainesville, FL 32611; J. Mammerickx, Scripps Institution of Oceanography, La Jolla, CA 92093; J. Weissel, Lamont-Doherty Geological Observatory, Palisades, NY 10964; J. Anderson, Department of Geology, Rice University, Houston, TX 77251.

NEW PANEL CHAIRMEN

At the October 1985 meeting of the JOIDES Planning Committee, the following people were recommended and approved as Panel Chairmen for the following panels:

-WESTERN PACIFIC REGIONAL PANEL-

Dr. Brian Taylor
Hawaii Institute of Geophysics
University of Hawaii
2525 Correa Road
Honolulu, HI 96849

-CENTRAL & EASTERN PACIFIC REGIONAL PANEL-

Dr. David Rea
Dept. of Atmospheric and Oceanic Science
University of Michigan
Ann Arbor, MI 48109-2143

-INDIAN OCEAN PANEL-

Dr. Roland Schlich
Institut de Physique du Globe
Lab. de Geophysique Marine
5 rue Rene Descartes
67084 Strasbourg Cedex, France

-ATLANTIC REGIONAL PANEL-

Dr. James Austin
Institute for Geophysics
University of Texas at Austin
4920 North I.H. 35
Austin, TX 78751

-TECHNOLOGY & ENGINEERING DEVELOPMENT COMMITTEE-

Dr. Jean Jarry *
IFREMER
66, Avenue d'Iena
Paris 75116, France

* approved at June 1985 PCOM

ODP/TAMU JOIDES PANEL LIAISONS

The following ODP/TAMU staff scientists have been assigned to liaise with JOIDES panels for planning purposes:

LITHOSPHERE PANEL- Andrew Adamson

SEDIMENTS & OCEAN HISTORY PANEL- Amanda Palmer

TECTONICS PANEL- Christian Auroux

DOWNHOLE MEASUREMENTS PANEL- Suzanne O'Connell

INFORMATION HANDLING PANEL - Russ Merrill

POLLUTION PREVENTION AND SAFETY PANEL- Lou Garrison

SITE SURVEY PANEL- Robert Kidd

ATLANTIC REGIONAL PANEL- Jack Baldauf

CENTRAL & EASTERN PACIFIC REGIONAL PANEL- Elliot Taylor

INDIAN OCEAN PANEL- Brad Clement

SOUTHERN OCEANS REGIONAL PANEL- Lou Garrison

WESTERN PACIFIC REGIONAL PANEL- Audrey Meyer

TECHNOLOGY AND ENGINEERING DEVELOPMENT COMM.- Barry Harding

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MISSING THIN SECTIONS

Many thin sections that were loaned to investigators from DSDP Repositories are still missing from the collection. These thin sections are a unique representation of the material on which the descriptions of each core are based and are a part of the reference collection maintained at each Repository for visiting scientists and for future studies. Their absence diminishes the usefulness of the collection to the entire scientific community. All investigators who have borrowed thin sections are urged to return them as soon as possible to the repository where the corresponding cores are stored. Questions should be referred to:

The Curator
Ocean Drilling Program
P.O. Drawer GK
College Station, Texas 77841
(409) 845-6620

LEG 100 PRELIMINARY REPORT

A special issue in the ODP Preliminary Report Series is presently being assembled for the shakedown cruise Leg 100 in the Gulf of Mexico and Florida Straits. This will be an extended version to include the shipboard hole summary, core descriptions and core photography data on the HPC/XCB-cored Florida Slope Site 625. Since no Proceedings volume will be published for the cruise, the above report will allow interested investigators access to the cores recovered.

LEG 101 DATABASES

ODP databases for Leg 101 will be available to the public in March, 1986. Anyone who wishes to make a request can do so by calling or writing the ODP Data Base Group. Please contact Kathe Lighty at (409) 845-2673 at the Ocean Drilling Program, 500 University Drive West, College Station, Texas 77840.

TELEMAIL SUBSCRIBERS

Telemail/ OMNET has announced that subscribers to the OCEAN.NET now have the facility to receive and send TELEX messages. For further details, please contact OMNET, 70 Tonawanda Street, Boston, Massachusetts 02124.

Request for Notices

The editorial staff of the JOIDES Journal encourages members of the the scientific community to submit announcements, notices and other news items for publication in the JOIDES/ODP Bulletin Board section of the JOIDES Journal.

Interested parties should send items for publication to: JOIDES/ODP Bulletin Board, JOIDES Office, University of Rhode Island, Narragansett, R.I., 02882

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REQUEST FOR PROPOSALS

The JOIDES Planning Committee is now proceeding with plans for drilling in the Indian Ocean for a period of approximately 18 months following the Weddell Sea leg (Leg 113). Drilling will commence in the Indian Ocean in early Spring 1987.

Preliminary planning for drilling in the 1988-1991 timeframe in the Pacific Ocean (Western, Central and Eastern regions) will be undertaken at the next meeting of the Planning Committee in January 1986. Proposals for drilling in the Pacific Ocean should be submitted as soon as possible to the JOIDES Office, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, 02882-1197.

Proponents are reminded that six copies of their proposals should be submitted and that they should follow the Guidelines for Proposal Submission as published in the JOIDES Journal Special Issue No. 4. These Guidelines are also obtainable directly from the JOIDES Office.

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MAP AVAILABLE

A slope map of a Geotechnical Corridor on the Atlantic Continental Margin Southeast of Cape May is available at no charge from NOAA/NORDA (National Oceanic and Atmospheric Administration/Naval Ocean Research and Development Activity) in NSTL, Mississippi 39529. The map which was produced by George F. Merrill and Richard H. Bennett in 1985 shows a six-plate, six color transverse mercator projection at a scale of 1:40,000.

Inquiries should be sent to either Lee Nastav or Richard Bennett at NSTL.

ADDITIONAL NOTICES

The ODP ship tour brochure has been translated into German and was distributed during the Bremerhaven port call. In addition to the German translation of the ODP ship tour brochure, the publication is now available in French. The French brochure will be available at the Marseilles port call and for general distribution in France and Canada. Further, an update of the original English version has been printed and all are available upon request from Karen Riedel at ODP/TAMU.

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The Public Information Office is now sending cards to all participating scientists on each upcoming leg. The cards request names and addresses of university and local media as well as home-town newspapers, alumni and organization magazines and departmental newsletters. The news release written for each leg is then tailored to incorporate the name of each scientist. This custom-made news release along with a cover letter and brochure are sent to all the addresses sent by the participating scientists.

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NEW ADDRESS

(as of 21 October 1985)

JOINT OCEANOGRAPHIC INSTITUTIONS, Inc.

1755 Massachusetts Avenue, NW

Suite 800

Washington, D.C. 20036

Telephone: (202) 232-3900

Telex Address (RCA): 257828 Answerback: BAKE UR UD

The ODP Data Bank has produced a catalogue of IPOD Site Surveys for the period 1975-1983. Copies may be obtained from the ODP Data Bank, Lamont-Doherty Geological Observatory, Palisades, NY 10964.

Editor's note: This issue and subsequent issues of the JOIDES Journal will no longer carry the ODP Sample Distribution Policy or the Guidelines for Submission of Proposals sections. To obtain this Information, please contact K. Riedel at ODP/TAMU or the JOIDES Office at URI for copies of these items or refer to JOIDES Journal Special Issue No. 4: Guide to the Ocean Drilling Program (Distributed October 1985.)

OFFICIAL ODP PANEL ABBREVIATIONS

EXCOM	Executive Committee
PCOM	Planning Committee
TEDCOM	Technology and Engineering Development Committee

Thematic Panels

LITHP	Ocean Lithosphere Panel
SOHP	Sediments and Ocean History Panel
TECP	Tectonics Panel

Regional Panels

ARP	Atlantic Regional Panel
CEPAC	Central and Eastern Pacific Regional Panel
IOP	Indian Ocean Regional Panel
SOP	Southern Oceans Regional Panel
WPAC	Western Pacific Regional Panel

Service Panels

DMP	Downhole Measurements Panel
IHP	Information Handling Panel
PPSP	Pollution Prevention and Safety Panel
SSP	Site Survey Panel

Working Group

RS-WG	Red Sea Working Group

JOIDES Office

BIBLIOGRAPHY OF THE OCEAN DRILLING PROGRAM

The following publications are available from the ODP Subcontractors and can be obtained from Ms. Karen Reidel at ODP Headquarters, TAMU, College Station, Texas or from Dr. Roger Anderson at the Borehole Research Group, L-DGO, Palisades, NY.

TEXAS A & M UNIVERSITY

1. Technical Note #1 (December 1984)
Preliminary time estimates for coring operations.

2. Technical Note #2 (June 1985)
Operational and laboratory capabilities of JOIDES RESOLUTION.

3. Scientific Prospectives

No. 1 (January 1985) Leg 101

No. 2 (February 1985) Leg 102

No. 3 (March 1985) Leg 103

No. 4 (April 1985) Leg 104

No. 5 (June 1985) Leg 105

No. 6 (October 1985) Leg 106

4. Preliminary Reports

No. 1 (April 1985) Leg 101

No. 2 (June 1985) Leg 102

No. 3 (July 1985) Leg 103

No. 4 (September 1985) Leg 104

5. Other Items Available:

- Onboard JOIDES RESOLUTION

- ODP Sample Distribution Policy (1 December 1984)

LAMONT-DOHERTY GEOLOGICAL OBS

Wireline Logging Manual (1st Edition, March 1985)

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Sarg, R.	SOHP	(713) 966-6005	
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Sayles, F.L.	DMP	(617) 548-1400, ext. 2561	
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