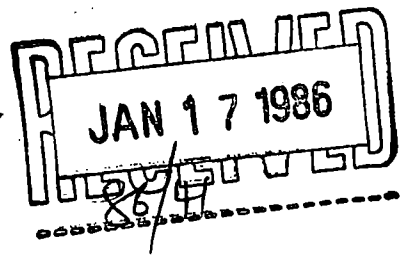
DRAFT MINUTES OF THE
SEDIMENTS AND OCEAN HISTORY
PANEL MEETING

[La Jolla, January 6 & 7, 1986]



1. Approval of Minutes of last meeting: Possible additions to Western Pacific objectives - 1) oldest crust, 2) Ontong-Java were noted by Panel, in executive summary of activities presented by Chairman on summary of 1985 activities (Appendix 1) of the SOHP. Minutes of last meeting approved as read.

2. PCOM Report (A) During PCOM report by Gartner, problem of preparation time for logging was discussed. PCOM must be educated to allow for substantial time overruns in logging, which cut into drilling time. Co-chiefs may have to cut back on logging to achieve primary objectives-drilling! One of the major problems so far is that logging times have been grossly underestimated and co-chiefs have not been prepared to accept possilbe overruns, while at the same time the logging operator appears to be disappointed in the lack of support that logging receives from shipboard parties. Education of PCOM is continual and onboard flexibility should exist. The problem is related to deterioration of hole conditions, time spend preparing holes, dropping bits, etc.

(B) PCOM assumes that there is no logging required on Leg 108, but according to M. Sarnthein, Co-chiefs would like to retain the option of logging on selected holes. This needs to be clarified before staffing is completed. Sarnthein will handle this at Co-chiefs meeting at ODP, mid-January.

(C) Kerguelan legs need better site justification, but Arthur pointed out that not all seismic data has been available. The fundamental problem with these legs is their geographic isolation and the probable costs in time and money to accomplish them. Drill sites must be strongly justified, or legs may be shortened by dropping sites. (Seem to be continuing problems here.) See later discussion.

3. ODP report (Palmer)

-Leg 104 review (very successful, 80-90% avg. recovery, achieved most objectives)
-Leg 105 review (60-75% recovery; dropstones plagued drilling)
-Leg 106 review (Sites 648 & 649)-(Engineering success-hard-rock guidebas deployed)
-Leg 107 progress report (Issue brought up that contingency sites should be identified for legs that have problems with either safety or approval by national jurisdiction).
-Vols. 101A & 102A are in prepartion

4. Problem of selection of scientific staffing of past legs vis a vis ODP membership, and complications of political considerations was discussed. Conclusion was that the best scientists should be invited to participate on legs, regardless of political constraints or membership in ODP. The panel voted to send a strong signal to PCOM, EXCOM adn NSF in this regard.

5. Problem of requests for shipboard sampling for shorebased study was also discussed. Too many requests arrive too late for normal ODP screening, some being hand-carried to the leg by shipboard scientists, and create conflicts between shipboard and shorebased work. Better curatorial control seems needed to protect interests of shipboard scientists. The "manifest" proposal, that is one which is carried by a shipboard scientist but involves work on samples to be done by many colleagues, perhaps in conflict with other shipboard scientists, is particularly problematic. Although the shipboard party has the ultimate choice, it is often difficult to resolve such conflicts among these individuals. A strong statement should be made by PCOM and EXCOM that such manifest proposals are to be discouraged, regardless of funding by agencies of individual countries.

6. On the other hand, in relation to (5) above TAMU procedures for shipboard sampling seem overly rigid and do not provide for unforeseen opportunities to sample special sectiosn or strata. More latitude for on-site decisions by shipboard scientists is needed. Co-chief Scientists should, however, be reminded that shipboard sampling be geared to production of Initial Reports. It is the duty of shipboard party to produce as complete a record as possible for Initial Reports.

7. Reports on Leg 103 adn 105 were given by Winterer and Arthur respectively.

8. Leg 108 status given by Sarnthein - sites are safety approved, although several are problematic because of national jurisdictions. Alternates are proposed in the event approval is not received with the exception of the first site the others are to be drilled generally in order of priority. EQ - may have to be relocated because the seismic data are not defintive at the present location.

9. Hole 504B - double ASPC pelagic sequence:
-If the drillship returns to 504B, SOHP urges double APC of he pelagic sequence which contains a beautifully continuous record of surface- and bottom- water history for Plio-Quaternary and good potential for studies of eolian input history (letters from Shackleton, Rea).

10. Indian Ocean Prospectus - Joe Curray
Chagos-Laccadive Ridge needs seismic data before sites can be seriously considered, hence IOP has not proposed a leg there. Somali Basin hole was discounted as being too deep by IOP. A possiblity is to substitute Somal Basin for the Red Sea. Both offer a haven from monsoon weather (July & Aug.), but the Somali BAsin contains high SOHP interest, unlike the Red Sea.
*Action A subcommittee (Arthur, Hay, Lancelot, Sarg) will specify and rejustify a site in the Somali Basin before the January 20-22 PCOM meeting. This constitutes part of the DST Proposal (Deep Stratigraphic Test of SOHP). (see Appendix).

The following possible schedule was offerred by IOP:

Leg	Time	IOP Proposal	SOHP Proposal
115	May & June, '87	SWIR & Mascarene/Fossil Ridge	(Mascarene only)
116	July & Aug, '87	Red Sea	substitute Somali Basin
117	Sept. & Oct, '87	Neogene Package	ditto
118	Nov. & Dec, '87	Kerguelen I (North) (see later)	ditto
119	Jan. & Feb.+, '88	Kerguelen II (south)	ditto, including Prydz Bay
120	Mar. & Apr.+,'88	Mascarene Pl. & Intraplate Def.	(Chagos/Laccadive)
121	May & June+, '88	Ninetyeast R.* + Broken R	Chagos/Laccadive R.
122	July & Aug+, '88	Exmouth Pl. & Argo A.P.	ditto
123	Spet. & Oct+, '88	Otway Basin	Delete (not favored with northeastern exit from Indian Ocean)

*Paleoceanographic justification is weak because of incomplete and poor-quality carbonate record. There, as well as difficulty in obtaining cross-equatorial transect favored by SHOP; Chagos-Laccadive-Mascarene transect would be preferable.

As requested by PCO, possible shortening of Kerguelen legs may be:

	Leg I	LegII
Sites (highest priority to SOHP)	KHP3, IS8B	K 1-4 (PB), K-7, 12
Time	39 days	40 days
Transit	18 days	18 days
Total 57 days	59 days	

If only one Kerguelen leg is possible, then the southern one is strongly favored by SOHP, including the Prydz Bay transect. (See minutes of July SOHP minutes for details). Prydz Bay drilling will provide an unparalleled opportunity to examine the paleoclimatic regime and marine paleoenvironment that prevailed on East Antarctica during the late Mesozoic (perhaps mid-Jurassic through Cretaceous). There is probably no-where else that we could obtain such a record. Such a feat can be accomplished with about 4 relatively shallow holes rather than one deep one.

For the Prydz Bay transect the highest priority sites suggested as follows:

PRYDZ BAY- AMERY MARGIN					Late Mesozoic-Paleog.		
K-1	near oldest sequence	SP	4425	on BMRG	(1982) 1.1 sec.	LINE-21, $H2_0$ depth	Part3 (see also SOP) 0.8 sec. penetration
K-2	near	SP	4025		0.95 sec.	H_20 depth	0.7 sec. penetration
K-3	near	SP	3525		0.8 sec.	H_20 depth	0.8 sec. penetration
K-4	near	SP	2425		0.7 sec.	H_20 depth	0.6 sec. penetration

flexibility in location - some overlap desirable because of facies changes laterally, possible, unconformities, etc.
K-5 is second priority in SOHP scheme because suitably thin but complete deep-water sequence cannot be identified in available seismic lines.

ll. Peru Margin (Leg ll2) Progress - Suess
Objectives: (l) Subsidence history of forearc basin
(2) Truncation history
(3) History of coastal upwelling

Two transects proposed: (l) Lima Basin, 11^oS (upwelling stronger here)
(2) Yaquina Basain, 8^oS (may be replaced by transect at 6^oS for better truncation story)

(Co-chiefs: Roalnd von Huene & Erwin Suess)
The southern transaect will consist of five-hole patterns on the upper slope-outer shelf, one deeper hole at the continental-ocean hinge line, and a yet deeper hole at the edge of the trench complex. The SOHP is strongly in favor of the slope transect as their highest priority. The upwelling-productivity-organic carbon burial problem is extensively important as it is the possible link between organic carbon, phosphate mineral and dolomite precipitation.

The northern transect will include a series of holes across the non-accretionary toe where oceanic crust plunges under continental crust. Subsidence rate here is not great, unlike the sourthern area, and sediment thickness is not great.

12. The Arthur/Leinen memo on JOIDES panel structure was discussed, very energetically! SOHP endorses this type of revision of the current panel structure. Possible specialities which should be represented in SEDPRO and OH/STRAT panels are summarized in an attachment to these minutes including suggested mandates.

A certain amount of overlap is inevitable and probably desireable.

13. Reorganization of SOHP-new members to rotate on:

Bob Garrison, with P. Biscaye as alternate
John Barron, with R. Thunell as alternate

New Chairman nominees:

Bob Garrison should also be considered as nominee for new chairperson of SOHP.
Larry Mayer is also nominated as new chairperson in the event that Garrison does not accept.
Wolf Berger was also nominated as a third alternate.

The SOHP considered bringing "new blood" to the panel and nominated Garrison who formerly served as a member of ODP and would bring a fresh view, particularly with respect to Pacific Ocean drilling. A major consideration was rotation off the panel and the need for the new Chairperson to serve at least 2 years.

14. Discussion of ODP Hydrocarbon Analysis Workshosp (Meyers). SOHP endorses the sampling regimen in general (see statement of MAA), but allowing more flexibility by shipboard party.

15. Technological developments (MAA- executive summary)

Add to list of 5:
6. Improve capability to drill and recover fractured layers; a problem for active maring drilling and deep holes.
7. Achieve capability to drill deep holes (more than 2000m), important for RISER drilling later and for Deep Holes proposal of SOHP.

Add to list of 3 items in Core Handling & Archiving:
4. Use continous digital color records as permanent archives
2. delete palynologist - cannot do anlayses properly on ship because of safety problems with HF decomposition and proper venting.

16. Carbonate Banks/Atols Workshop report given by Winterer/Sarg. Several potential targets were of great interest to SOHP (see Pacific discussion below).

17. Report on INPAC Workshop briefly given by Embley. Much to choose from, but many problems to be approached not unique to region. Preliminary prioritization considered in item (22) below.

18. Report on Black Sahle Workshop

19. Update on Deep Stratigraphic Test (DST). Program given by Sar. The DST ad hoc working group met and completed site selection and justification. A full proposal will be prepared in time for January PCOM meeting (see attached).

20. Next SOHP meeting: April 17 & 18, Boulder, CO (Bill Hay will host).

21. Proposed drilling of Western Pacific was discussed; some of the more attractive sites, allowing for time constraints and the best likelihood of achieving scientific objectives, are:

A) Australian Margin (Great Barrier Reef, Queensland Plateau) - (See Appendix 3)

Objectives:
(1) Late Paleogene-Neogene paleoceanography
(2) Sea level effects on sedimentation and seismic stratigraphy in mixed clastic/carbonate environments
(3) Effect of plate motions on sedimentation and paleoceanograpy
(4) Tectonic cycles and sea level changes
(5) Comparison of histories of continental margin (active reef) and isolated plateau (drowned reef)
(6) Paleoceanography and evolution accompanying closure of Tethys

Possible Sites:

(1) Old GBR-2, new GBR-16
ca: 1000m penetration under 315 m water
(2) GBR-11 (Geranium Passage)
7000 to 800m penetration in 420 m water
(3) near QT-10 (Davies & Symonds, 1985)
<1000m penetration in 2700 water
(4) site to be identified on Queensland Plateau

As many as five sites (2 near Great Barrier Reef, 1 in Queensland Trough, 2 on Queensland Plateau) may be needed to satisfy scientific objectives. A minimum of 3 sites in a transect of GBR, QT, QP is needed. See attachments for suggested program.

B) Japan Sea
(1) Tectonic history of back-arc basin
(2) Paleoclimatology/paleoceanography
(3) Late Miocene diatem record (freshwater vs. marine)
(4) Glacial/interglacial changes in biotic communities/water on asses
(5) Fan sequence for history of uplift & denundation of Japan

Possible Sites
(1) Yamato Rise (Site 3 Oba & Koisumi) - high resolution Quaternary
ca. 500 m penetration in 500 water
(2) Koisumi Site 1 - post Miocene record on Yamato Rise
ca.? penetration in 2300 water
(3) A possible site on Toyama fan sequence (from Klein)

C) South China Sea /Sulu Sea
Objectives
(1) Dating of magnetic anomolies
(2) Carbonate stratigraphy and history of deposition
(3) Monsoonal history and paleoceanography
(4) History of back-arc spreading
(5) Subsidence of continental crust

More information is needed to evaluate objectives and to propose sites. Until stuch information is available, SOHP reserves judgement on these areas.

D) Bonin Ridge Transect (Okada)
Objectives
(l) History of botom water circulation
(2) History of subduction/ridge formation
(3) History of Philippine Plate motion

Site Possibilities:

A 6-station transect across the Bonin Ridge, as proposed by Okada, looks reasonable, but would be shortened by omitting Sites A & B, leaving 4 sites across the Ridge. Furthermore, the remaining sites (C to F) should be repositioned in areas less likely to be turbiditics, and an additional seaward site on a topographic high near DSDP Site 17l should be considered.

E) Tentative SOHP Western Pacific Rankings:

1. Great Barrier Reef
2. Japan Sea
3. Bonin Transect
4. Sulu Sea
5. China Sea

22. Central and Eastern/Pacific Preliminary Rankings (very preliminary):

1.) Bering Sea (see DST proposal of SOHP for objectives)
2.) Old Pacific Crust (The elusive Jurassic)
3.) Enewetak (Horizon Guyot)/Atols (See Atoll/Bank Workshop proposals.)
4.) Ontong-Java transect (seismic stratigraphy, dissolution/productivity history; e.g. (Mayer proposal)
5.) Santa Barbara Margin/Californai Margin
6.) Shatsky Rise/Mid-Pacific Margins ("black-shale" paleoenvironments/depth transect)
7.) Juan de Fuca Ridge (heavily sedimented ridge-hydrothermal alternation of sediments)
8.) Oregon-Washington, B.C. Margin (Cenozoic upwelling-sedimentation)
9.) NorPac Paleoenvironments

Above are ranked as themes, based on SOHP objectives, not specific sites.

APPENDIX A

PROPOSALS RECEIVED AND SOHP WATCHDOG

169C-Drilling on the South Tasman Rise	Sarg
86/B (Rev) Drilling in the Red Sea	Hay
183/B (Rev) Periplatform ooze in the Indian Ocean	Ruddiman
173/B Drilling on the Seychelles-Mascarene Plateau	Sarnthein
177/D Zenisu Ridge: intra-oceanic plate shortening	Saito
182/E Sounder Ridge, Bering Sea	Arthur
185/C Origin, evolution and paleoceanography of the Kerguelan Plateau	Suess
92/B (Rev) Borehole seismic observatory in the Crozet Basin	Mayer
189/D Drilling in the Tonga Ridge-Lau Ridge region	Lancelot
190/D Drilling at an arc-ridge collision zone in the central New Hebrides island arc (Vanuatu)	Tauxe
191/D Drilling in an arc-plateau collision zone and intra-arc basin, central and western Solomon Islands (note letter suggesting 184-191 combo.)	(Embley)
184/D Drilling in the Papua New Guinea/Bismarck Sea Region	Lancelot
192/E Drilling on the Baranoff Fan, S.E. Gulf of Alaska	Embley
147/D Scientific drilling in the South China Sea	Sarnthein
194/D Drilling in the South China Sea	Sarnthein
48/D(Rev.) Drilling in the Sulu Sea and the South China Sea	Ruddiman
195/E Paleoenvironment and paleoclimate in the Bering Sea	Meyers

APPENDIX 1

EXECUTIVE SUMMARY
JOIDES SEDIMENTS AND OCEAN HISTORY PANEL
ACTIVITIES, 1985

1) MEETINGS

The SOHP met twice in 1985, the first in Cambridge, U.K., Feb. 21-23 and the second at LDGO, Palisades, N.Y., July 25-26; we met a third time on Jan.6-7, 1986 at SIO, La Jolla, CA.

2) PANEL MEMBERSHIP

A) In the event that new member countries are not added, we recommended the following people to serve as members of SOHP, filling critical subject areas left vacant as the result of the withdrawal of our ESF and UK colleagues:

1.) R.E. Garrison, UCSC; carbonate and silica diagenesis, sedimentary processes. (alternate: Pierre Biscaye, LDGO: clay mineralogy, sedimentary processes)

2.) John Barron (USGS; diatom biostratigraphy--Pacific paleoceanography) (alternate: R.C. Thunell, Univ. South Carolina; foraminiferal biostrat.-paleoceanography)

B) Assuming that JOIDES panel structure remains the same, we have also recommended formal liaison between SOHP and several regional panels as follows (liaison was lost due to several resignations):

1) P. Meyers to ARP (replaces Sarg)

2) R. Sarg to WPAC (replaces Shackleton)

3) L. Tauxe wants to be replaced on IOP (replace with L. Mayer)

C) M. Arthur has resigned as SOHP Chairperson; SOHP nominates R.E. Garrison for the new Chairperson (with Wolfgang H. Berger and Larry Mayer as alternates).

3) TECHNOLOGICAL DEVELOPMENTS

We continue to recommend as highest priority (approximate order of priority) the following technological improvements and/or acquisition and deployment of equipment already available for ODP:

A) TECHNOLOGY

1. Heave compensation for the APC system (developed and tested on ODP Leg 105).

2. Drastic need for technology to avoid or moderate unstable hole conditions and to improve ability to drill and recover fractured rock; should include mud technology for conditioning holes--necessary for deep penetration and drilling in accretionary prisms, etc.

3. A core-catcher system that would improve recovery in friable formations such as sand (recognizing that drilling in such formations is also a challenge).

4. Improved bits and drilling techniques that would allow better penetration and recovery in sequences characterized by pronounced lithologic contrasts (e.g., chert-chalk sequences that will be encountered frequently in the Pacific program).

5. Improved core liners (shattered or twisted during APC coring; is this quality control problem?)

6. Further improvement and routine availability of pressure core-barrel and in situ pore-water sampler to take advantage of unanticipated geochemical anomalies (gas-hydrates, salinity-alkalinity gradients, etc.).

B) CORE HANDLING AND ARCHIVING

1. Improve color core photography, including routine deployment of continuous strip photography (using Tom Chase system as deployed on DSDP Leg 64).

2. Digital color record acquisition for signal processing and permanent archive.

4) LONG-RANGE PLANS--RISER TARGETS

We were asked to consider our high-priority plans for riser drilling in 1992 or later should the riser system be deployed (assuming 1800m depth limitation); these are:

1. Penetration, dating and characterization of major evaporite sequences, including the upper Miocene of the Mediterranean, the Miocene of the Red Sea and the lower Cretaceous of the South Atlantic--these are important for global geochemical mass balances, paleoclimate, hydrocarbon source bed and other considerations.

2. Penetration and recovery of gas hydrates and other gassy sediments such as in the Sea of Japan, Black Sea, Sea of Okhotsk and Cariaco Trench.

3. Penetration of continental slope structures and sequences, such as in the Niger Delta, the Gulf of Mexico, and offshore Northwest Africa.

4. Deeper riser drilling capability would significantly expand both the number of riser targets and their scientific attractiveness (3000m water depth).

5) **MAJOR THEMES**

SOHP continued to endorse and develop scientific ocean drilling for the first 3 years of ODP designed around the following major, high-priority themes:

1. Neogene-Quaternary high-resolution sealevel, paleoclimatic, bio-magneto-chemostratigraphic records, global oceanic fluxes (carbonate, organic carbon, etc.), and land-sea interactions (Norwegian Sea; Baffin Bay-Labrador Sea; Northwest Africa; western Mediterranean; Peru margin; Weddell Sea and southern South Atlantic traverse; Kerguelan Plateau; Somalia and Oman margin; Mascarene-Chagos-Laccadive).

2. Cretaceous-Neogene high-latitude paleoceanography-paleoclimatology and biotic evolution (Norwegian Sea; Baffin Bay-Labrador Sea; Weddell Sea and southern South Atlantic; Kerguelan Plateau-Amery margin).

3. Mesozoic-Cenozoic sea level changes, seismic stratigraphy, major global unconformities and global mass balances-- deep stratigraphic tests (Moroccan Basin; Somali Basin; Exmouth-Argo Abyssal Plain). **This is one of our major themes for the entire PROGRAM!** Detailed proposal for additional sites is available.

6) **SPECIFIC RECOMMENDATIONS / PRIORITIZATION OF REGIONAL DRILLING TARGETS**

SOHP ranked individual sites within PCOM-approved drilling legs of major interest to SOHP and prioritized specific legs within regional drilling programs. The specific prioritizations and rationale can be found in our minutes; only a listing is supplied here*:

A. Baffin Bay-Labrador Sea (Leg 105): 1.)BB-3B, 2.)LA-5 or 5A, 3.)LA-9, 4.)LA-2A

B. Mediterranean (Leg 107): 1.)TYR 2, 2.)TYR 3A.(Recommend R. Thunell, M. Cita, K. Kastens, J. Mascle as co-chiefs)

C. Northwest Africa (Leg 108): 1.)139R, 2.)MAU-6, 3.)MAU-5, 4.)MAU-4, 5.)SLR-1, 6.)EQ-3, 7.)EQ-4A, 8.)EQ-5, 9.)EQ-6, 10.)EQ-9, 11.)EQ-7.(Recommend M. Sarnthein and W. Ruddiman as co-chiefs).

D. Hole 504B (revisited; Leg 111?): urge double-APC coring of pelagic section--beautiful eastern Pacific late Neogene-Quaternary sequence.

E. Peru Margin (Leg 112): Strongly endorse 5-site depth and lateral transect of margin in Lima Basin for fluctuations in climate, productivity, oxygen-minimum zone, accumulation rates, and study of dolomite and phosphorite problems.(Recommend E. Suess, L. Kulm as co-chiefs).

F. Weddell Sea (Leg 113): 1.)W1, 2.)W2, 3.)W4, 4.)W5, 5.)W10, 6.)W6, 7.)W7, 8.)W8. (Recommend J. Kennett and D. Futterer as co-chiefs).

G. South Atlantic Traverse (Leg 114--ranks second priority to W1,W2,W4,W5 in Weddell Sea and S. Kerguelan-Amery objectives):(ranking sites in order SA-8, SA-2, SA-3, SA-5W).

INDIAN OCEAN PROGRAM

1. *Southern Kerguelan Plateau-Amery margin* (high latitude paleoclimates-paleoceanography with Amery margin highest priority)(4 sites Prydz Bay; K1-4 and KHP7,12, S.Kerguel. Plateau)

2. *Oman margin-Owen Ridge-Somali margin-Indus Cone* (with Oman-Owen Ridge highest priority)(ca. 5 sites, monsoon paleoclimate-upwelling-human evolution-Himalaya tectonics)

3. *Somali Basin deep stratigraphic test* (near anomaly M-25; 1 site)--part of deep stratigraphic tests program (ca. 2500m-multiple objectives incl.Tethys connections, black shales, African uplift)

4. *Northern Kerguelan Plateau-southeast Indian Ridge transect* (3 sites for Paleogene-Neogene paleoclimate transect--high latitude carbonate record: KHP3, 1, S8B)

5. *Exmouth Plateau-Argo Abyssal Plain* (passive margin sequence to oldest Jurassic crust)(2 sites; EP-5 or possibly EP-2 and AAP-1; seismic strat. important, conjugate to Somali deep hole)

6. *Mascarene- Chagos- Laccadive* (latitudinal-paleodepth transect)(6-8 sites)

(*Red Sea*)--if ship goes there, recommend APC coring on flanks of ridge for hydrothermal sediments and site for paleoenvironment of sapropel sequence and evaporite-normal marine sediment sequence. Recommend waiting for Red Sea with riser/BOP and high-T tools.

"WESTERN" PACIFIC PROGRAM

SOHP targets/objectives of high interest are (tentative ranking): 1.) Great Barrier Reef-Queensland Plateau transect, 2.)Japan Sea (Yamato Rise sites 1 and 3, Toyama Fan), 3.)Bonin transect (Sites C-F),4.)Sulu Sea (inner basin), 5.)S. China Sea (old crust)

APPENDIX 2

November 27, 1985

MEMORANDUM

TO: Roger Larson, Chairman, JOIDES Planning Committee
FROM: Michael A. Arthur, Chairman SOHP and member Red Sea Working Group,
Margaret Leinen, member Lithosphere Panel and Western Pacific Panel

RE: JOIDES Panel Structure

It has now been over 2 years since the present JOIDES panel structure was initiated for ODP and we believe that there has been sufficient time for the community to judge how well the system functions. We believe that it is time to re-evaluate the structure, particularly in light of the fact that several panel chairmen have resigned during the last year, some of them because they felt frustrated in their attempts to promote and represent their panel's views.

The rationale for the new ODP panel structure seems to have been based on at least two views in the community: one was an underlying impression from reviews of the program that the JOIDES advisory panel organization during the days of the Deep Sea Drilling Project was not optimum for setting and prioritizing objectives for the new Ocean Drilling Program; another that it was an opportune time to present a new face to the community. We believe that the organization that evolved ignored the fact that the panel structure during DSDP did work very well overall and there were aspects of it that were quite good. We believe that the present panel structure invites conflict between thematic and regional panels as well as forcing a substantial duplication of effort. In addition, we believe that it creates obstacles for effective long-term planning. Herein we offer our unsolicited opinions about the shortcomings of the present structure and some suggestions for improvements to be made.

We believe that the fundamental problem is that the present structure places the thematic and regional panels on an equal footing. We wholeheartedly believe that substantial input from geologists and geophysicists with expertise in specific regions is required to develop reasonable drilling targets, but we believe that the fundamental problems that all of us would like to answer by drilling are process-oriented, not geographic. We note that COSOD was not organized to examine problems in specific ocean basins, but instead dealt with its broad mandate by highlighting important scientific problems of global significance within certain fundamental thematic areas. In our view it was essentially this document (which provided the evidence of consensus in the marine geology community for drilling to solve geologic problems) that launched ODP, not the need for further regional reconnaissance.

One of the best illustrations of the ineffectiveness of the present structure for planning purposes is the evolution of the proposed drilling program in the Indian Ocean. After months of discussion by all panels, PCOM requested that the IOP put together the drilling program. In the resulting plan many top-ranked priorities of thematic panels, which were based on problems identified by COSOD, were essentially ignored. For example, the first priority Indian Ocean objective of TECPAN, the Makran accretionary prism and slope basins, has been dropped entirely from the program outlined by IOP for reasons that are not apparent in the minutes of either panel. A high-priority objective of SOHP was a deep stratigraphic test in the Somali Basin. This objective was proposed as part of the broad global theme of correlating paleoceanographic events with margin acoustic signatures. This theme was identified in the COSOD document as having

fundamental importance, but was also dropped from the drilling program with this comment : "...and [we] are especially opposed to devoting one plus leg to the deep north Somali Basin site. Single-site legs are a luxury not yet possible in the reconnaissance phase of drilling in the Indian Ocean." We believe this is a pre-emptory attitude about appropriate use of the drilling tool, and would hate to see a return to the"cover the globe" philosophy of drilling that typified much of DSDP. In addition, we have been told that we must spend some time in the Red Sea for "logistic" reasons, although many of the proponents believed that it would be wise to await availability of drilling tools that would withstand the rigors of penetrating hot, corrosive hydrothermal fluids and for deployment of the riser/BOP system that will allow penetration of evaporites and associated strata before bringing the *Resolution* into the Red Sea for one or more legs.

The above examples serve to illustrate the competitive functioning of the multiheaded structure that we now have. Our intent is not to throw stones at the Indian Ocean Panel, its members, or any other regional panel. Having been on regional panels we know for a fact that they view themselves as geologists first, regional experts second. The regional panels are frustrated by the lack of clarity in the panel structure as well. For example, after hours of trying to decide how to respond to PCOM insistence for a regional drilling plan for the Western Pacific, the panel rejected a regional approach and finally decided that the only course that would result in a drilling plan with integrity was to identify thematic objectives and design a drilling plan around them. This planning precisely duplicated that being done by TECPAN and LITH panel. In this situation with many interests competing for a piece of the temporal pie, the ultimate prioritization of drilling targets is being left to the regional panels. We believe that this is inappropriate for a program that is trying to understand geologic processes in an global context.

In the case of DSDP, the short-term objectives resulted from the pressure of short-term planning. Every two years a new "fundamental contribution to the science" had to be featured to ensure that the project would survive. With ODP we had the opportunity, and were asked, to consider a set of more focussed objectives with which we could develop a long-term plan for in-depth study. We believe that attempts to do such planning have been frustrated by the infrastructure. For example, the response of LITH panel to the ODP mandate was in the spirit of COSOD; they focussed on several significant problems confronting researchers on the ocean lithosphere, and identified a few highest priority targets in which to study them, including but not restricted to,their "natural laboratories". Yet, some of their highest priority objectives have been passed over to include drilling of "ocean crustal objectives" in other areas that were not promoted or endorsed by the LITH panel until it was clear that they would be on the schedule with or without LITH panel support and that some priorities for sites should be discussed.

We also see substantial duplication of effort between the JOI-USSAC sponsored workshops and similar non-US workshops on regional objectives and the regional panels. In effect, the workshops have performed the job of a regional panel for large areas, like the Indian Ocean, and smaller subregions, like the northeast Pacific. They have provided a forum for discussing thematic concerns and have contributed site-specific proposals and data for consideration and prioritization by the advisory panels. We believe that such workshops provide a good alternative to regional panels. While the JOI-USSAC workshops were established to provide a forum only for U.S. interests in these regions, we believe that the regional workshop concept could certainly be expanded to provide opportunities for other member nations as well. For example, similar workshops could be requested from other countries instead of regional panel participation. Another option would be for JOIDES to hold international workshops instead of separate workshops in different countries. It would seem to be much simpler and less expensive to continue such workshops prior to planning for each ocean basin or

region and to allow them to feed directly into thematic panels, eliminating the necessity for the regional panels to meet continuously for the life of the program.

We emphasize that we do not believe that it is appropriate to discontinue all regionally organized input during the planning process and that we most definitely do not want to limit participation in the planning process. During DSDP scientists on the thematic panels often did not have access to the necessary regional geological and geophysical data required in order to develop specific site locations. However, with the approval of PCOM, the thematic panels were able to convene small regional (or topical) working groups as necessary. This process was efficient and responsive to the needs of the thematic panels. We favor a more flexible, ad hoc, arrangement like that one, in which thematic panels could request temporary regional working groups, or could request that they have experts with specific regional interests meet with them for a few meetings while planning for a specific region is being done. We believe that there will be less conflict and duplication if those with regional expertise work with the thematic panels rather than parallel to them.

It is also our opinion that the themes outlined in the COSOD document suggest the optimum organization and hierarchy of advisory panels. These themes are Ocean Lithosphere, Tectonics, Sedimentary Processes, and Ocean History. We suggest that these foci be represented by thematic panels. We recognize that certain technical panels, like the Downhole Measurements Panel and the Information Handling Panel are also necessary to serve as advisors to both the thematic panels and PCOM. We suggest that a Geochemistry Panel be revived and added to these two. Miriam Kastner has called attention to the fact that many important geochemical processes like diagenesis and crustal alteration "fall between the cracks" in the present structure. The problem is not that there are no geochemists on the panels, but that 1) multidisciplinary geochemical problems like diagenesis are not appropriately handled only by panels which are primarily concerned with the themes of ocean lithosphere formation and ocean history, and 2) that one geochemist on a such a panel has little ability to have geochemical problems considered routinely. A typical example is in the field of organic geochemistry, which is represented in its entirety by one person on SOHP. We suggest that the Geochemistry, Downhole Measurements and Data panels be formed as technical panels to advise PCOM and the thematic panels. One conceptual arrangement of these panels is attached.

As a closing comment we emphasize that we hope that PCOM will accept our suggestions in the spirit they were offered -- as the prelude to an open discussion of the panel structure and genuine retrospective on the last two years of planning. They do not represent "sour grapes" and our specific comments on the drilling proposal are included to illustrate specific points and certainly are not meant to denigrate our fine colleagues on regional panels who have wrestled with the problem of how to plan drilling and have tried to solve it as best they could.

SUGGESTED PANEL MANDATES

GEOCHEMISTRY PANEL (Service)-CHEMPAN

The JOIDES-ODP Geochemistry Panel will be staffed by approximately 10 geochemists, more or less equally divided between organic and inorganic geochemical specialties. The primary responsibility of the Geochemistry Panel is to provide advice and recommendations to ODP, JOIDES thematic panels and PCOM on special methods of sampling, sample handling, and curating required for specific organic and inorganic geochemical analyses; these include, but are not restricted to, recommendations for development, maintenance and deployment of special devices needed for sampling (in situ or on board ship), storage and handling of samples, and distribution of samples to the geochemical community. In addition, the Geochemistry Panel will consider and recommend specific research and sampling plans to be implemented within the drilling program recommended by other panels and implemented by PCOM. These might include recommendations for acquisition of special "dedicated cores", such as third APC sequences where there is intense interest in the geochemistry of sediments and organic matter, and/or "high resolution" sampling and sediment squeezing for pore waters where interesting interstitial water geochemical gradients are expected; recommendations might also include deployment of the pressure core barrel or in situ pore water sampler where gas hydrates are possible or expected, special instrumentation of drillholes in hydrothermal systems, etc.

OCEAN HISTORY-STRATIGRAPHY PANEL (Thematic)-OH/STRAT

The Ocean History-Stratigraphy Panel will be staffed by 14 specialists and generalists in the area of paleoclimatology, paleoceanography, geochemistry (inorganic, organic, isotopic) seismic stratigraphy and biostratigraphy (see below). The primary responsibility of the OH/STRAT Panel is to formulate and prioritize major themes for drilling that relate to the history of surface-and deep-water circulation, chemistry, thermal structure and biota of the Mesozoic-Quaternary oceans, and to identify and to develop or to endorse proposals for drilling in the regions that would best lead to an understanding of the major paleoceanographic and paleoclimatic problems. In particular the panel would consider drilling objectives that would help to understand causes, consequences and rates of global changes in climate and their impact on ocean circulation, ocean chemistry and biotic evolution using geochemical-isotopic, paleontologic and other stratigraphic criteria. This charge understandably involves the interactions of plate motion, volcanism, sea level, climate and oceanic circulation-chemistry, and it is anticipated that some drilling targets will be formulated to test models of these interactions. In addition, the OH/STRAT Panel will be responsible for developing and endorsing programs that lead to improvements in stratigraphic resolution and global correlation of sequences (bio-magneto-tephro-chemostratigraphy), and for providing advice to ODP on questions of a stratigraphic nature, appropriate sampling, technological developments related to magnetostratigraphy, etc.

The OH/STRAT Panel will have the ability to convene relatively small thematic or regional working groups that will be staffed and will meet as approved by PCOM. The regional working groups could be formed in conjunction with one or more thematic panels. The primary regional input to the thematic panels, however, will be in the form of proposals that result from regional working groups mandated by PCOM or through sponsored national or international workshops.

Panel Membership (type of person suggested--more than one indicates several desirable)
(mix of Mesozoic-Cenozoic workers)

1. Paleoceanographer-stratigrapher-isotopes (N. Shackleton; M. Arthur)
2. Paleoclimate Modeller (E. Barron)
3. Paleoceanographer-stratigrapher (H. Thierstein; C. Sancetta or J. Barron; R. Thunell)
4. Geochemist-sedimentologist-paleoceanographer (W. Dean or M. Leinen)
5. Seismic stratigrapher-phys. props.-paleoceanographer (L. Mayer)
6. Magnetic stratigrapher (D. Kent or L. Tauxe)
7. Generalist-mass balances-models (W. Hay)
8. Biostratigrapher-paleoceanographer-evolutionist (J. Kennett or W. Berggren)
9. "Paleometeorology-atmospheric transport"-paleoceanographer (D. Rea or M. Sarnthein)
10. Chemical stratigraphy-chemical diagenesis (M. Bender or P. Baker)
11. Organic geochemist-paleoceanographer (J.-P. Herbin or P. Meyers)

SEDIMENTARY PROCESSES PANEL (Thematic)--SEDPRO

(alternative name SEDIMENTARY FACIES PANEL--SEDFAC)

The Sedimentary Processes Panel will be staffed with 14 specialists and generalists in the fields of sedimentary processes, sedimentary facies and lithostratigraphy, seismic stratigraphy, and chemical diagenesis (see below). The SEDPRO Panel's primary responsibility will be to develop priority thematic objectives related to marine sedimentary processes and their relative importance in construction of marine stratigraphic sequences through time, particularly, but not limited to, those processes that transport clastic material from shallower water environments into the deeper ocean basins and transportation and reworking of sediments within ocean basins and their seismic expression. These processes include redeposition by slumps, slides, debris flows and turbidity currents and erosion, entrainment and transport by bottom currents. The mandate includes construction of drilling programs that investigate the composition and geometry of sedimentary facies on modern and ancient deep-sea fans, archipelagic aprons, current-influenced depositional ridges, atolls and guyots, and carbonate banks and slopes in order to develop a better understanding of the controls on composition and facies distribution exerted by tectonics and basin geometry and sea level. In addition, the SEDPRO Panel will consider problems of sediment diagenesis related to initial composition, burial depth and compaction, and thermal regime.

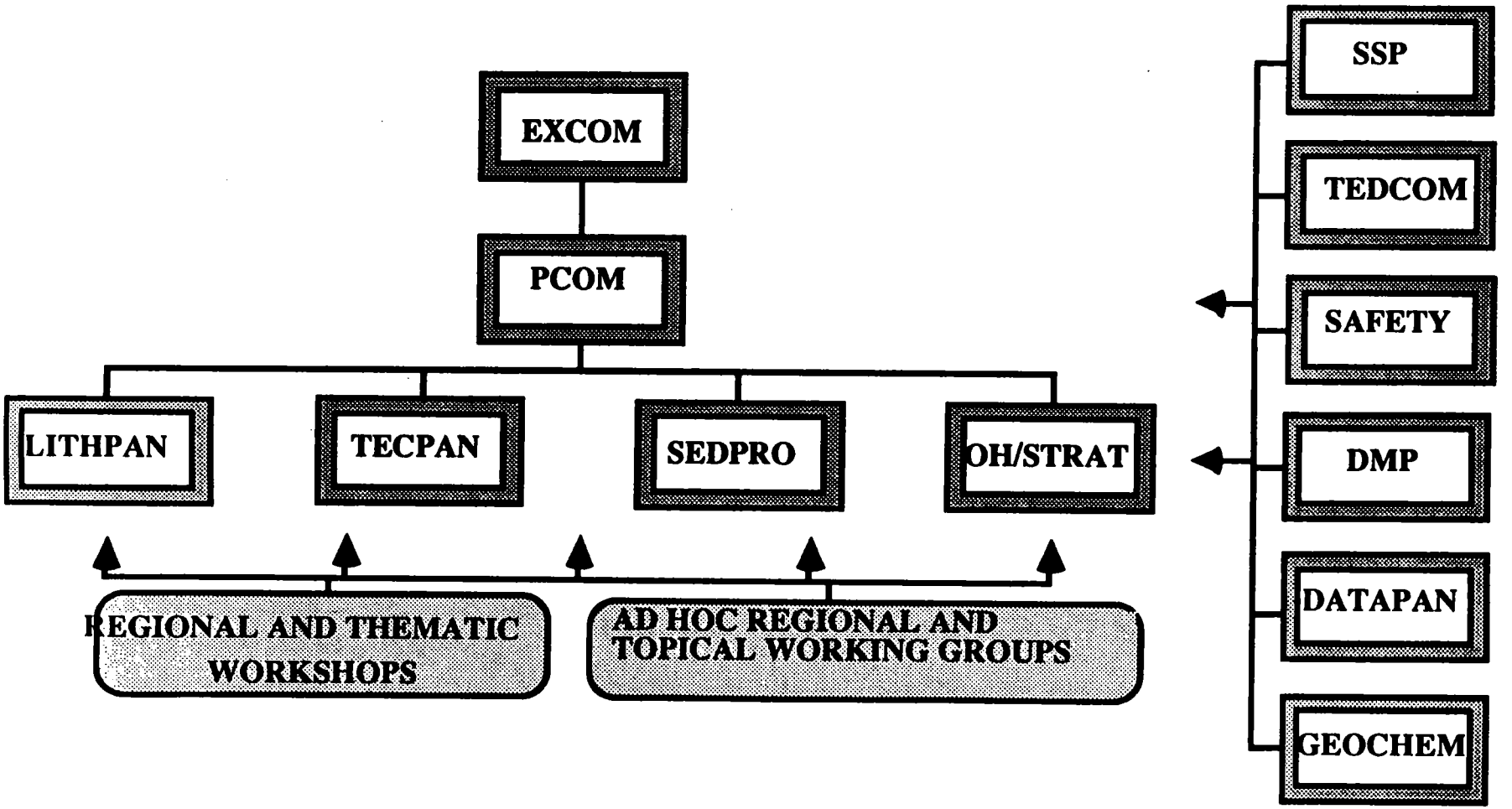
The SEDPRO Panel will have the ability to convene small regional or thematic working groups from time to time as necessary and approved by PCOM, and in conjunction with other thematic panels. The primary regional input, however, will be in the form of proposals resulting from regional working groups mandated by PCOM and from sponsored national or international workshops.

Panel Membership (type of person suggested--more than one indicates several desirable) (suggested members designed to overlap and cover several disciplines)

1.Seismic stratigraphers-lithostratigraphers (B. Tucholke; R. Sarg or J. Austin; G. Mountain)
2.Deep-Sea Fan specialist (W. Normark)
3.Sediment Redeposition-margin processes (R. Embley)
4.Drift Sediments-abyssal circulation (S. Shor or K. Miller)
5.Rock magnetic properties (J. King or M. Ledbetter)
6.General sedimentologist (fans, contourites, etc.) (D. Stow)
7.Chemical sedimentologist -hydrothermal and/or diagenesis (M. Leinen or M. Kastner)
8.General sedimentologist (carbonates, diagenesis, etc.) (R. Garrison)
9.Shallow-water carbonate sedimentologist (W. Schlager or H. Mullins or R. Matthews)
10.Global generalist-sediment mass balances (W. Hay or R. Berner)
11."Volcanic edifice" sedimentologist (guyots, atolls, etc.) (S. Schlanger or E.L. Winterer)

LITHOSPHERE (LITHPAN) AND TECTONICS (TECPAN) PANEL mandates would remain essentially unchanged with the exception that aspects of "sediment diagenesis" would be removed from LITHPAN's mandate.

REGIONAL Panels could be left largely unchanged and/or some members could move onto the thematic panels as original members rotate off on a 2-3 yr. schedule. The Regional Panels would then meet as needed rather than the present mandatory 3 times per year and would feed input into thematic panels through more effective liaison. ARP, SOP and IOP, for example, could now be disbanded since they have had substantial input into the program and plans for drilling are well underway. The WPAC and CEPAC panels could operate for the next 1-2 yrs. as necessary, until plans for Pacific drilling are well-formulated.


EXCOM
PCOM
LITHPAN
TECPAN
SEDPRO
OH/STRAT
REGIONAL AND THEMATIC WORKSHOPS
AD HOC REGIONAL AND TOPICAL WORKING GROUPS
SSP
TEDCOM
SAFETY
DMP
DATAPAN
GEOCHEM

APPENDIX 3

EXXON PRODUCTION RESEARCH COMPANY
POST OFFICE BOX 2189 · HOUSTON, TEXAS 77001

January 13, 1986

Mr. Michael D. Arthur
Graduate School of Oceanography
University of Rhode Island
Narragansett Bay Campus
Narragansett, RI 02882-1197

Dear Mike:

Enclosed is the revised and collated proposal for deep stratigraphic tests. Attachment 1 (Western Somali Basin) and Attachment 3 (Bering Sea) are yours to add.

I have also enclosed site proposals for Great Barrier Reef transect. I believe, after reviewing the Australian shopping list again, that we can attain our objectives with four sites, as follows:

GBR 16 (1000 m sed. thickness; 315 m water depth) | sediment history; slope deposits

GBR 11 (800 m sed. thickness; 420 m water depth) |

QT 10 (1000 m sed. thickness; 2700 m water depth)-trough sediment history; Queensland Plateau margin; periplatform ooze cycles.

QP1A (1500 m sed. thickness; 1600 m water depth)-Queensland Plateau.

Water depths and sediment thicknesses are reasonable for the ship. All this probably amounts to a leg and a half. QP1A could be attached to a Coral Sea leg or dropped and we could still have a successful GBR transect. I am going to write Peter Davies in Australia for some feedback on our proposal.

Good luck at the meeting.

Cheers,

Rick

J. F. Sarg

JFS:ef

Enclosures

Great Barrier Reef -
Queensland, Australia
Sites

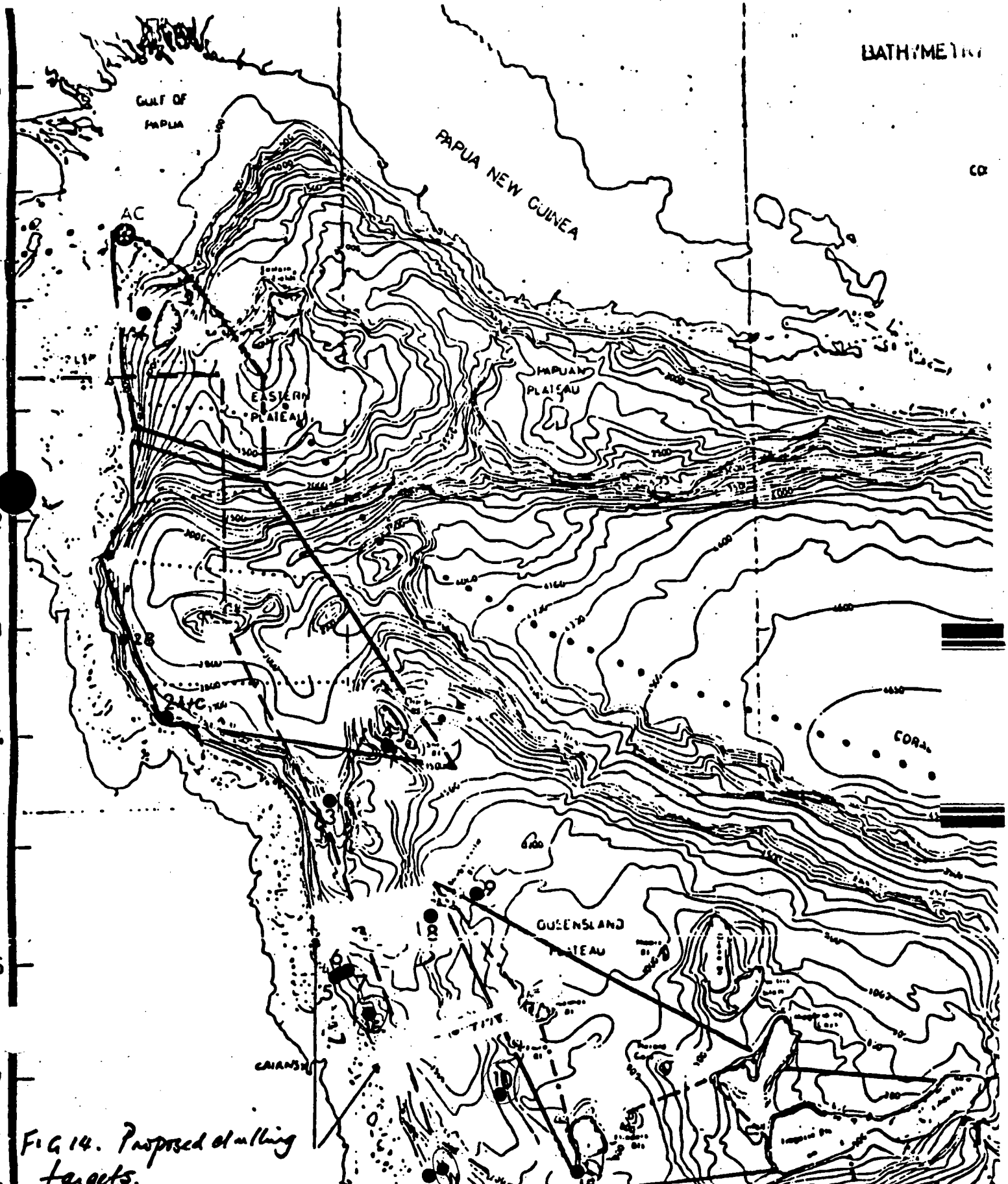


FIG 14. Proposed drilling targets.

Proposed Site: 10.
EASTERN QUEENSLAND TROUGH.

General Area: NORTH, EAST AUSTRALIA.
Position: 17.06.2S : 147.19.9'E.
Alternate Site:

General Objective:
MECHANISMS OF RIFT INFILL.
EARLIEST REEF GROWTH.
SUBSIDENCE HISTORY.
Thematic Panel interest: S.D.H.P.
Regional Panel interest: W.P. - R.P.

Specific Objectives:

1. TO DETERMINE THE NATURE AND AGE OF MOUNDS (? REEFS) ON ACOUSTIC BASEMENT.
2. TO DETERMINE THE CAUSES OF REEF(?) DEMISE.
3. TO DETERMINE THE SUBSIDENCE HISTORY OF RIFT.
4. TO DETERMINE FACIES VARIATIONS AND SEDIMENTARY MECHANISMS RESPONSIBLE FOR RIFT INFILL.

Background Information:

Regional Data:
Seismic profiles: SEE FIGS 3, 4 + 5 OF PROPOSAL.

Other data:

Site Survey Data - Conducted by: BMR. - COMPLETED IN DECEMBER 1985. SPECIFICALLY BMR Line 51/014-05 (51.337.1553) } see attached.
Date: G.S.I. Line 10. SHOT POINTS. 4600 - 4900 }
Main results: REEF STRUCTURE, POSSIBLY EOCENE, PRODRADING ON BASEMENT. RIFT INFILL COVERS REEF.

Operational Considerations

Water Depth: (m) 1500m Sed. Thickness: (m) 1000m. Total penetration: (m) 1000m.

HPC YES Double HPC YES Rotary Drill YES Single Bit YES Reentry ____

Nature of sediments/rock anticipated: TURBITES : REEF ROCK : FORAM OOZES.

Weather conditions/window: POSSIBLE CYCLONES IN JANUARY/FEBRUARY. HEAVIEST SWELL IN JUNE TO AUGUST. GENERALLY FAIR WEATHER.

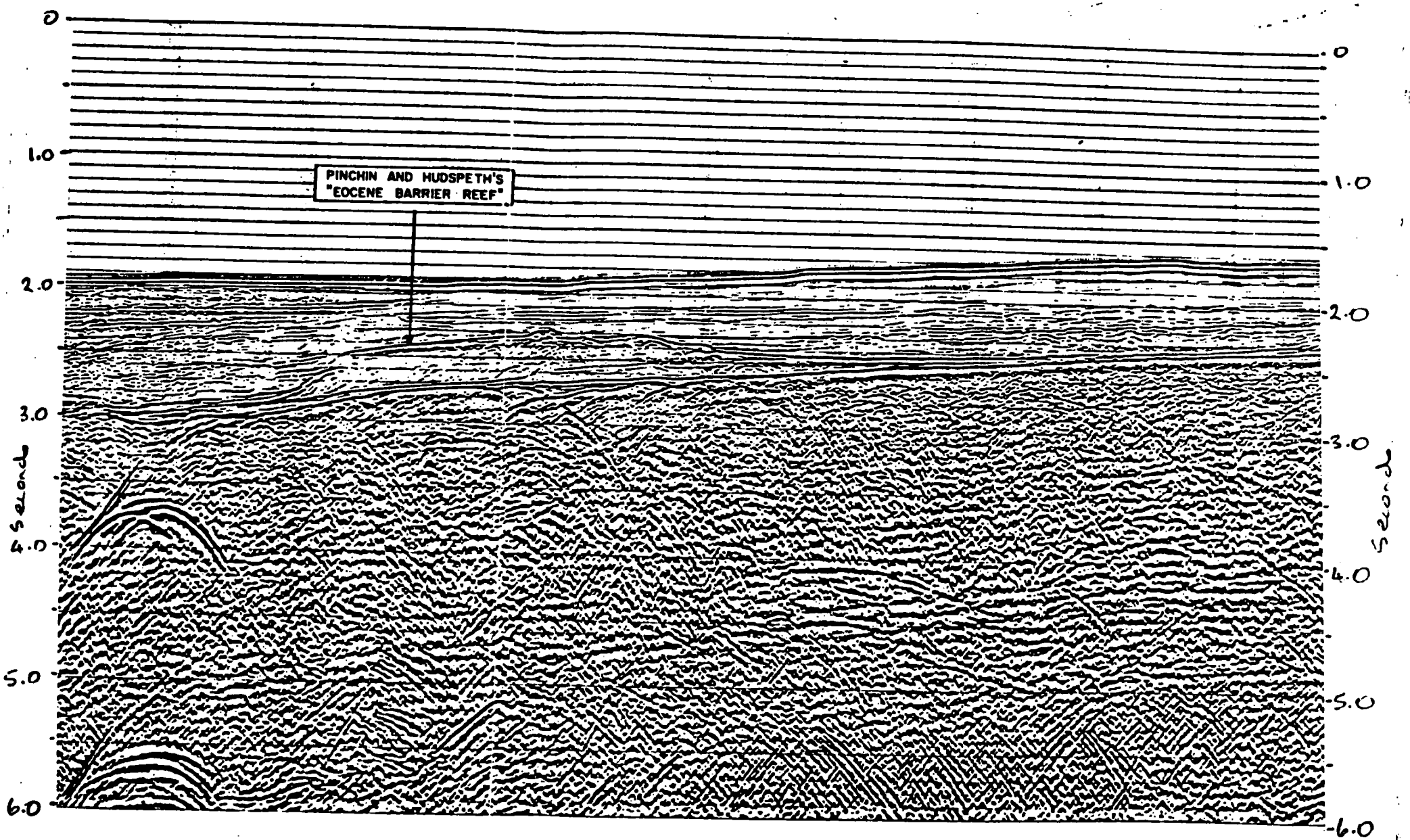
Territorial jurisdiction: AUSTRALIA.

Other:

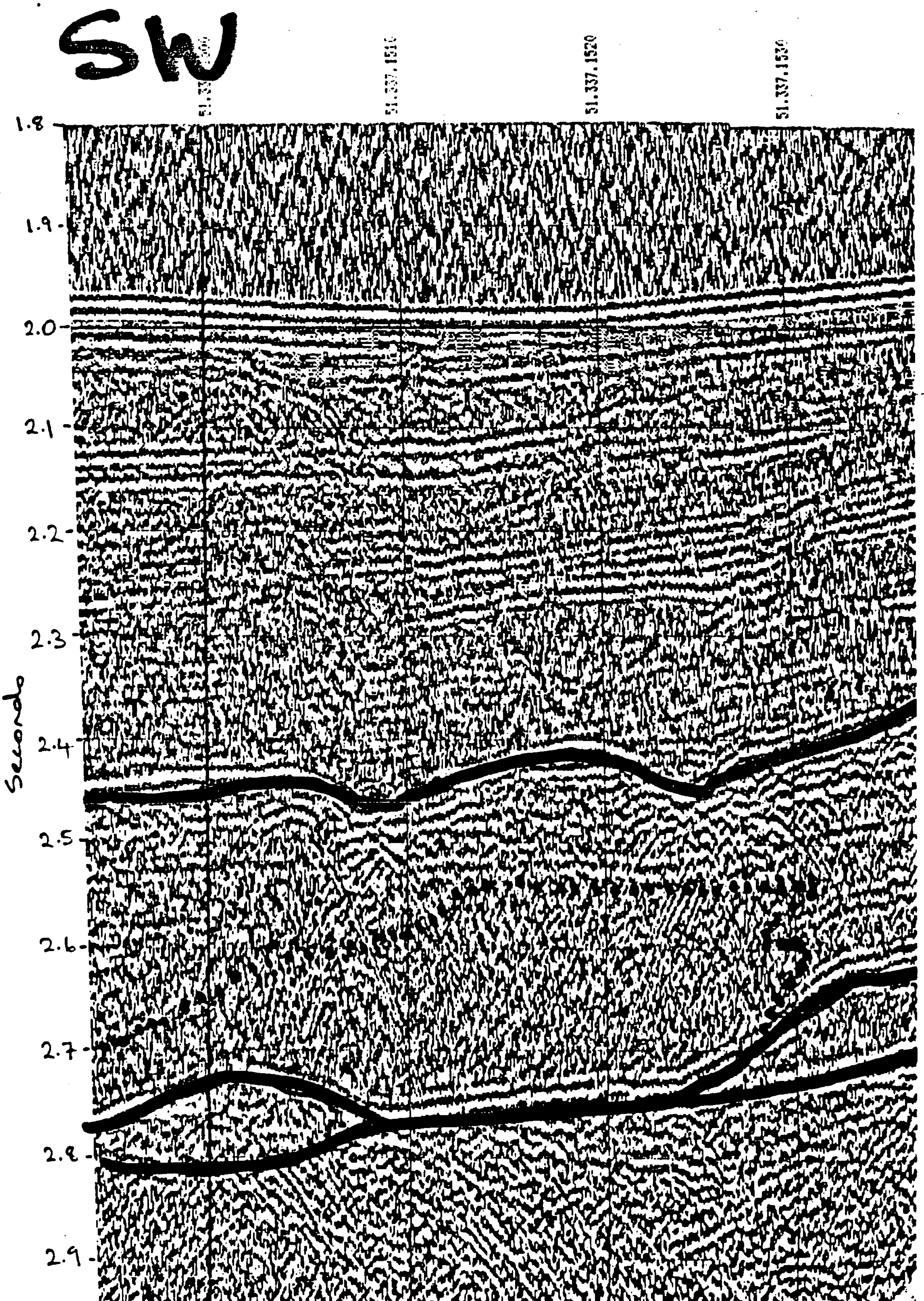
Special requirements (Staffing, instrumentation, etc.)

oponent: P.J. DAVIES / P. SYMONDS / J. FOLEY
BUREAU OF MINERAL RESOURCES.
G.P.O. BOX 378.
CANBERRA, A.C.T. 2601.

Date submitted to JOIDES Office:


PINCHIN AND HUDSPETH'S
"EOCENE BARRIER REEF"
0
1.0
2.0
3.0
4.0
5.0
6.0
seconds

Site 10


SW
51.337.1510
51.337.1520
51.337.1530
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2.7
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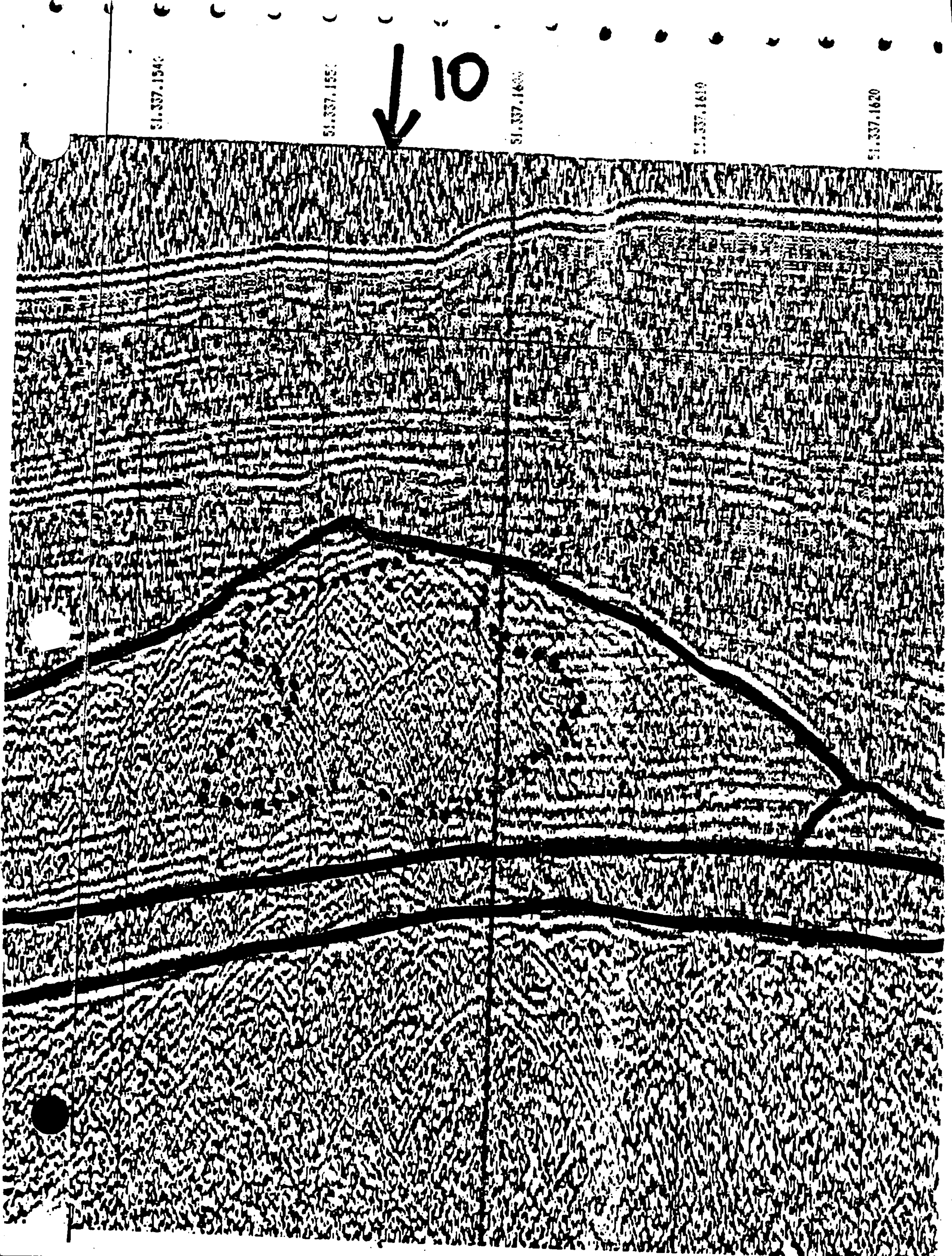
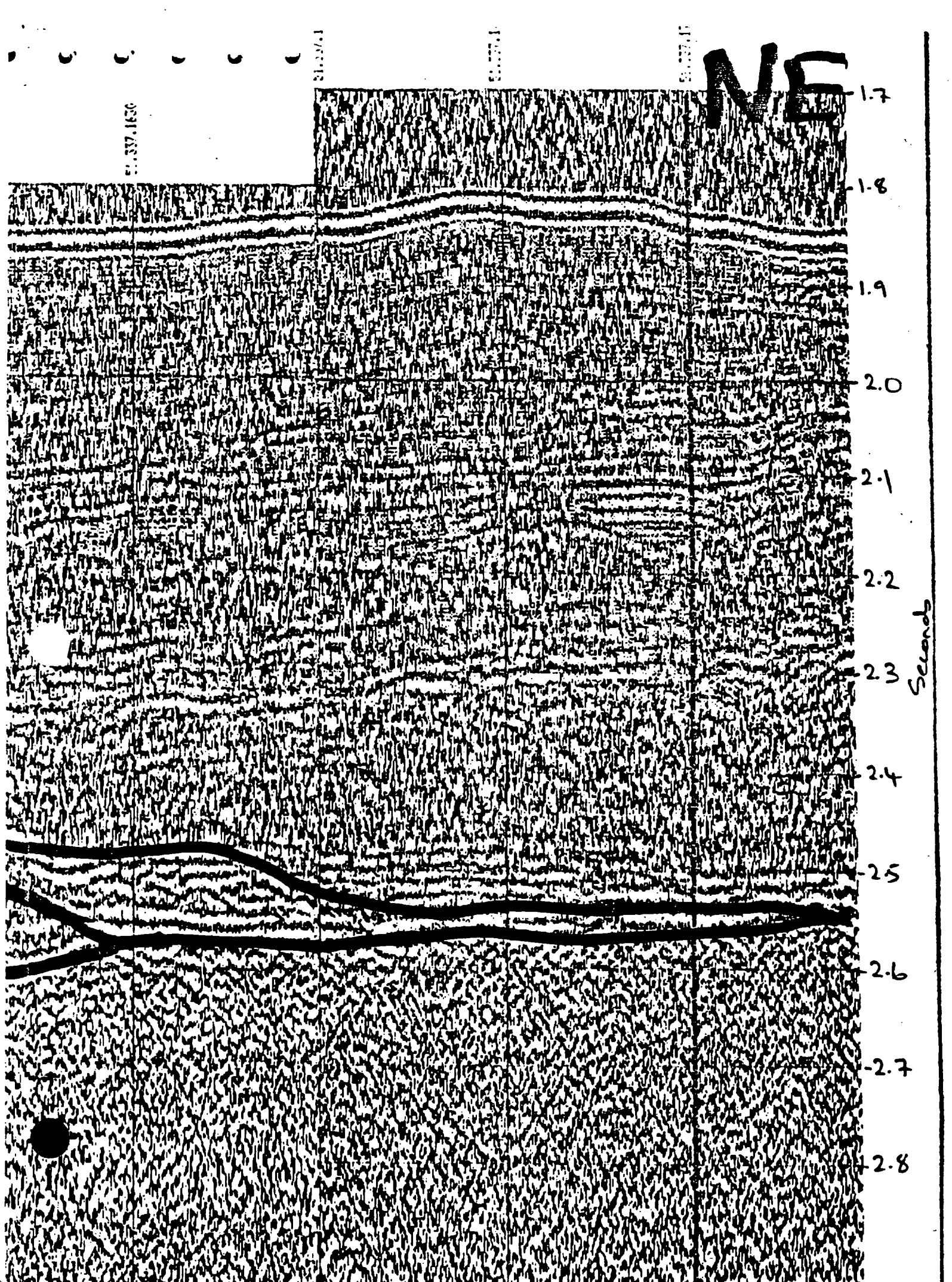
2.9
Seconds


10
51.337.1620


NE
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2.8
Seconds

Proposed Site: 11A+B, 12.
CENTRAL GREAT BARRIER REEF

General Area: NORTH EAST AUSTRALIA
Position: 16°39.2'S : 146°16.8'E.
Alternate Site:

General Objective:
SEDIMENTATION AND SEA LEVEL. RIFT GEOTH AND EFFECTS ON MARGIN EVOLUTION. UPWELLING HISTORY

Thematic Panel interest: S.O.H.P.
Regional Panel interest: W.P.-R.P.

Specific Objectives: ADDRESS GENERAL OBJECTIVES BY EXAMINING THE NATURE OF TROPICAL CARBONATE/EPICLASTIC DOMINATED PASSIVE MARGIN.

1. TO DETERMINE NATURE, EXTENT AND AGE OF FORE REEF TALUS.
2. TO DETERMINE NATURE OF LOW SEA LEVEL SILICICLASTIC SEQUENCES.
3. TO DEFINE THE MAGNETIC AND GEOCHEMICAL IMPRINT IN CARBONATE CLASTICS
4. TO RELATE FACIES TO SEISMIC FACIES.
5. TO RELATE DIAGENESIS IN SEDIMENTS TO SEA LEVEL AND UPWELLING INTENSITY.

Background Information:
Regional Data:
Seismic profiles: SEE FIGS 3, 4 + 5 OF PROPOSAL. BMR HAS RECENTLY COMPLETED HIGH RESOLUTION MULTICHANNEL PROFILES.

Other data:

Site Survey Data - Conducted by: BMR - COMPLETED IN DECEMBER.
Date: SPECIFICALLY BMR LINE 41/21-41.206.0156.
Main results: REEF SEQUENCES OVERLYING UPPER SLOPE LOW SEA LEVEL PROGRADATIONAL FACIES LOWER SLOPE - DISTAL PART OF PROGRADING FACIES, FANS, LEVEE BANKS, CHANNEL FILL.

Operational Considerations

Water Depth: (m) 430-600 Sed. Thickness: (m) 2-3000m Total penetration: (m) 700-800m

HPC YES Double HPC ____ Rotary Drill YES Single Bit YES Reentry ____
TO REFUSAL

Nature of sediments/rock anticipated: THIN CARBONATES, EPICLASTICS, FAN + DEBRIS FLOW, LEVEE MUD AND SANDS.

Weather conditions/window: POSSIBLE CYCLONES IN JANUARY-FEBRUARY. HEAVIEST SWELL IN JUNE-AUGUST. GENERALLY FAIR WEATHER.

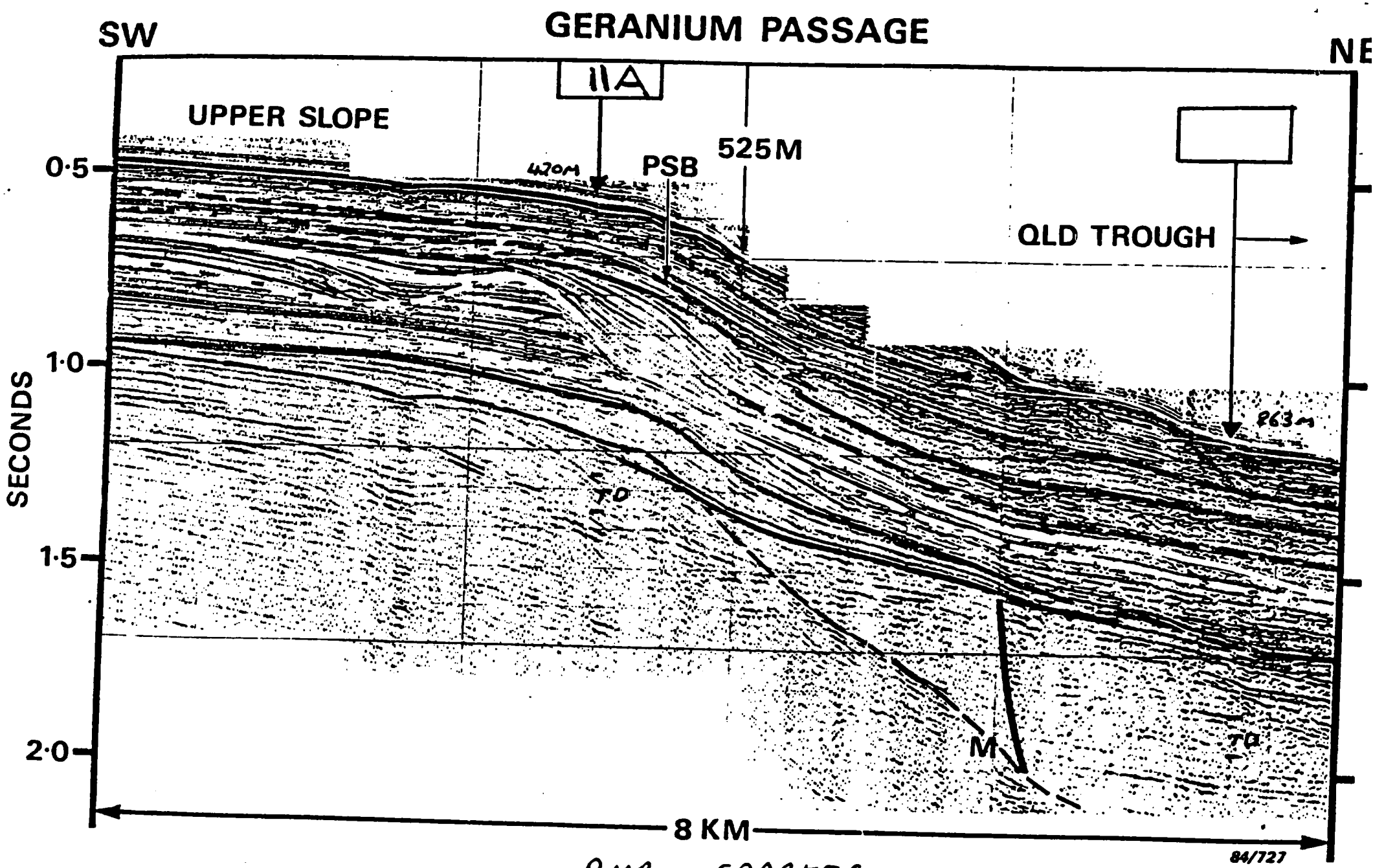
Territorial jurisdiction: AUSTRALIA.

Other:

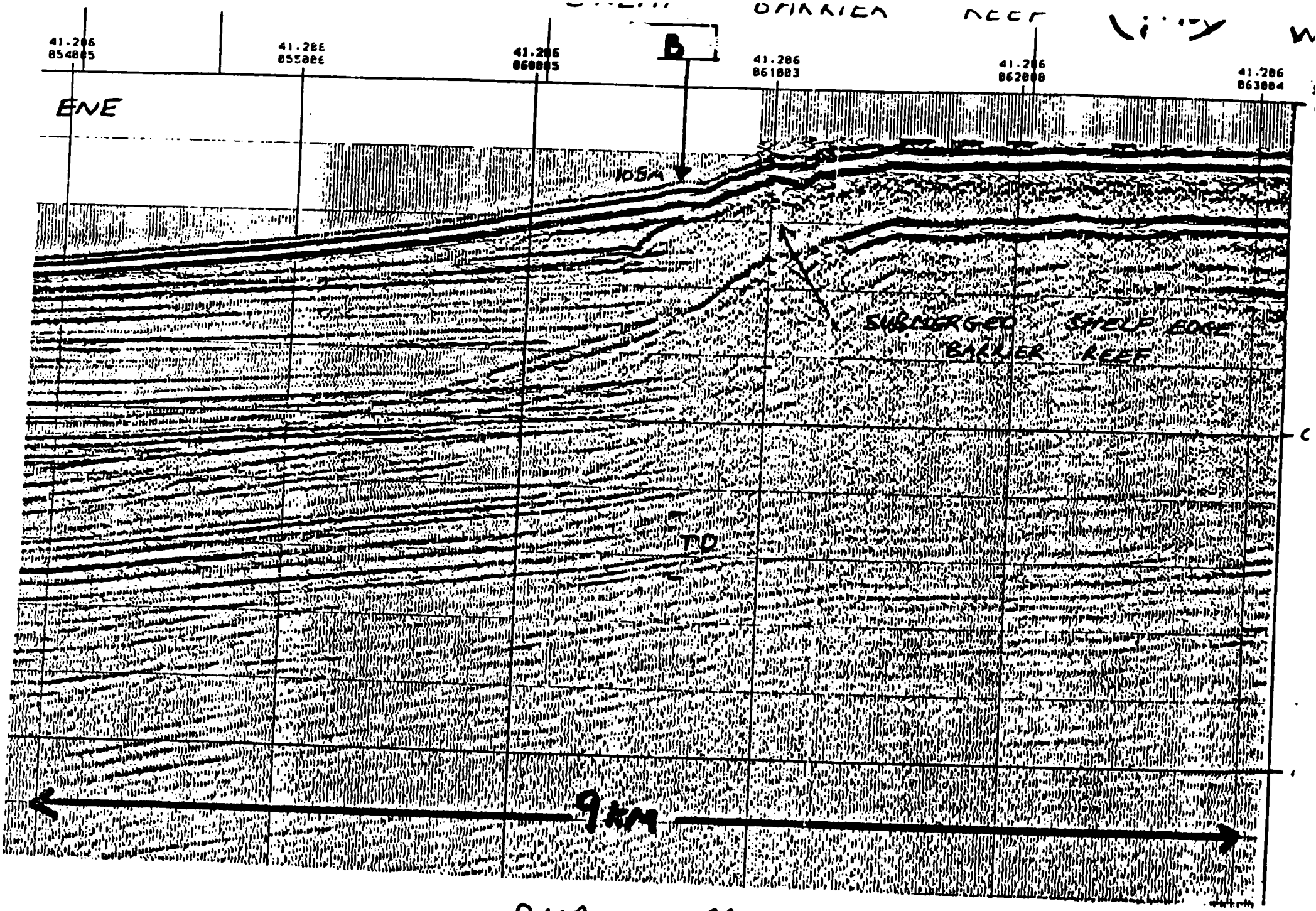
Special requirements (Staffing, instrumentation, etc.)

Proponent: P.J. DAVIES / P. SYMONDS / D. FEARY
Bureau of Mineral Resources
G.P.O. Box 378
CANBERRA, A.C.T. 2601

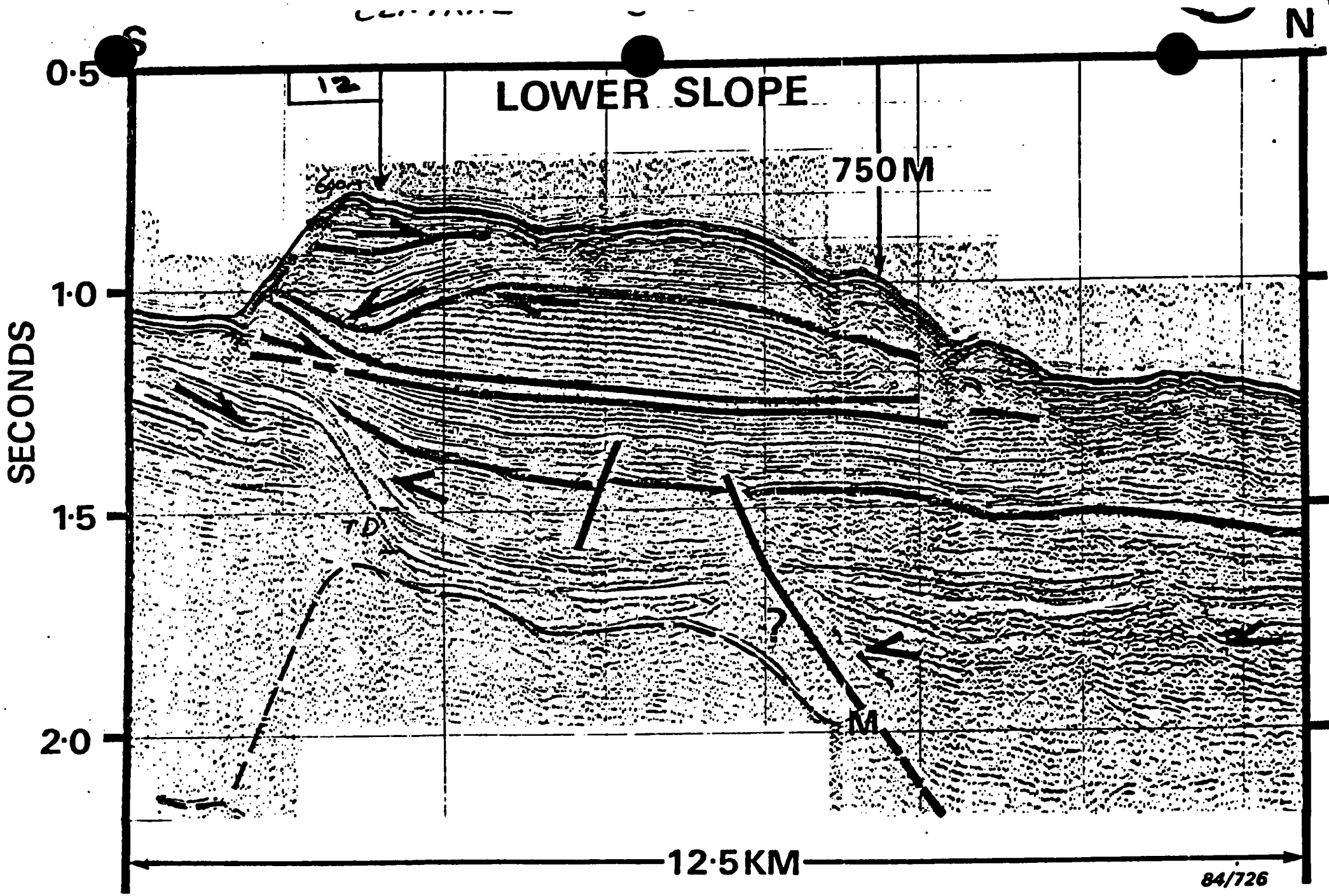
Date submitted to JOIDES Office:



BMR SPARKER LINE
41/22



BMR SPARKER LINE 41/22
GERANIUM PASSAGE



BMR SPARKER LINE
41/21

ODP SITE PROPOSAL SUMMARY FORM

Proposed Site: 16
CENTRAL GREAT BARRIER REEF SLOPE

General Area: Western Coral Sea
Position: 1: 16°39.2'S, 146°16.5'E
2: 16°38.2'S, 146°18.5'E
Alternate Site: 17°33.8'S, 146°43.2'E

General Objective:
Response of marine sedimentation to fluctuations in sea level. History of ocean circulation.

Thematic Panel interest: SOHP
Regional Panel interest: WP-RP

Specific Objectives: Address general objectives by examining the nature of tropical carbonate/epiclastic dominated passive margin..

- Nature of fore-reef talus associated with submerged shelf edge barrier reef.
- Nature of any low sea level deposits interfingering with reef rocks.
- Nature of reef sediments

- Nature and basinward extent of carbonate sequences
- Nature and depositional environment of prograding sequences-low sea level shelf edge delta?

Background Information: BMR (1970) 6-fold sparker; Gulf (1973) 24-fold Aquapulse;
Regional Data: Shell (1974) 24-fold airgun; BMR (1982) 12-fold high resolution
Seismic profiles: sparker.
Other data: A considerable amount of gravity and magnetic data seaward of reef; aeromagnetics throughout reef. Boomer profiles and vibroseising throughout central GBR

Site Survey Data - Conducted by: Sites located using BMR high resolution sparker data
Date: line 41/63 - 41.248.237;
Main results: - line 41/63 - 41.248.2330;
Submerged shelf edge reef facies; seaward carbonate sequence which is laterally continuous with reef; underlain by complex sigmoid-oblique and sigmoid progradational facies.

Operational Considerations

Water Depth: (m) GBR2 -315 Sed. Thickness: (m) > 3000 Total penetration: (m) 1: 500-600
2: 600-800

HPC Yes 500m Double HPC ____ Rotary Drill ____ Single Bit ____ Reentry ____

Nature of sediments/rock anticipated: Upper - thin outer shelf carbonates; 200-200m reef rock; Lower - interbedded shelf carbonates and siliciclastic sediments.
Weather conditions/window: Possible cyclones in January-February; heaviest swell June to August. Generally fair weather.
Territorial jurisdiction: Australia

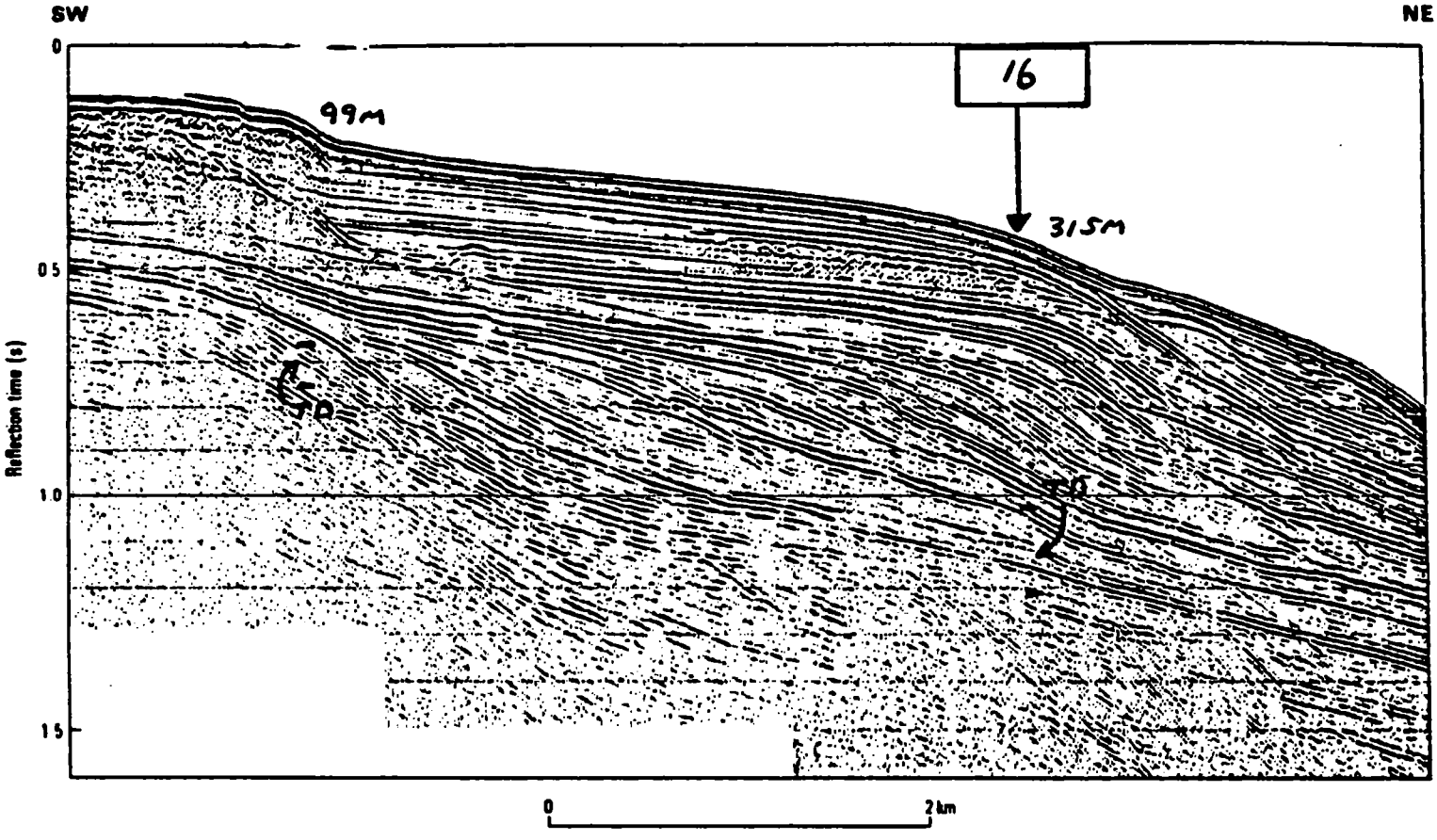
Other:

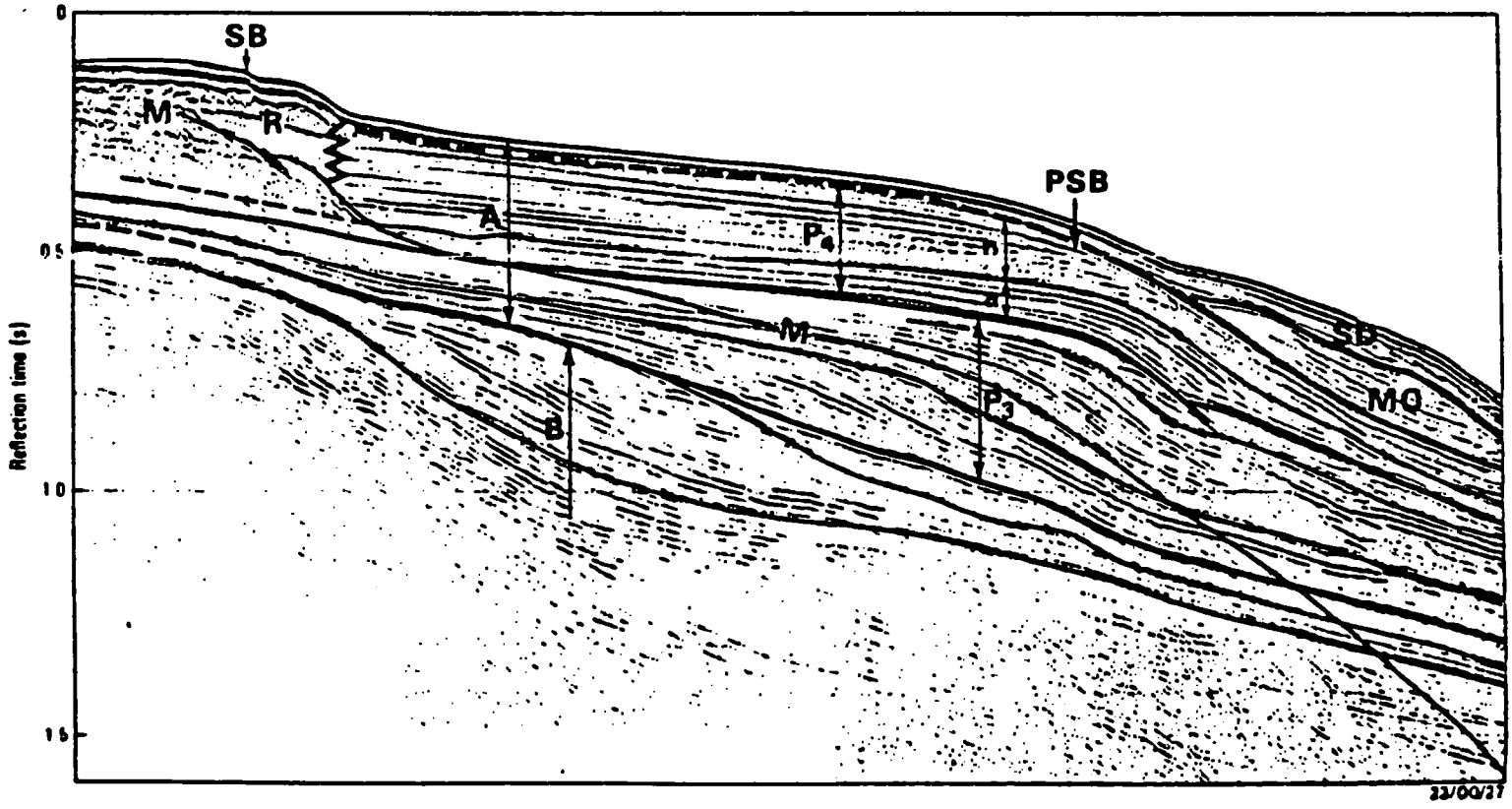
Special requirements (Staffing, instrumentation, etc.)

Proponent: P A Symonds & P J Davies
Bureau of Mineral Resources
G P O Box 378
CANBERRA A C T 2601
Australia

Date submitted to JOIDES Office:

CENTRAL GREAT BARRIER REEF





BMR SPARKER LINE

41/63 - GRAFTON PASSAG

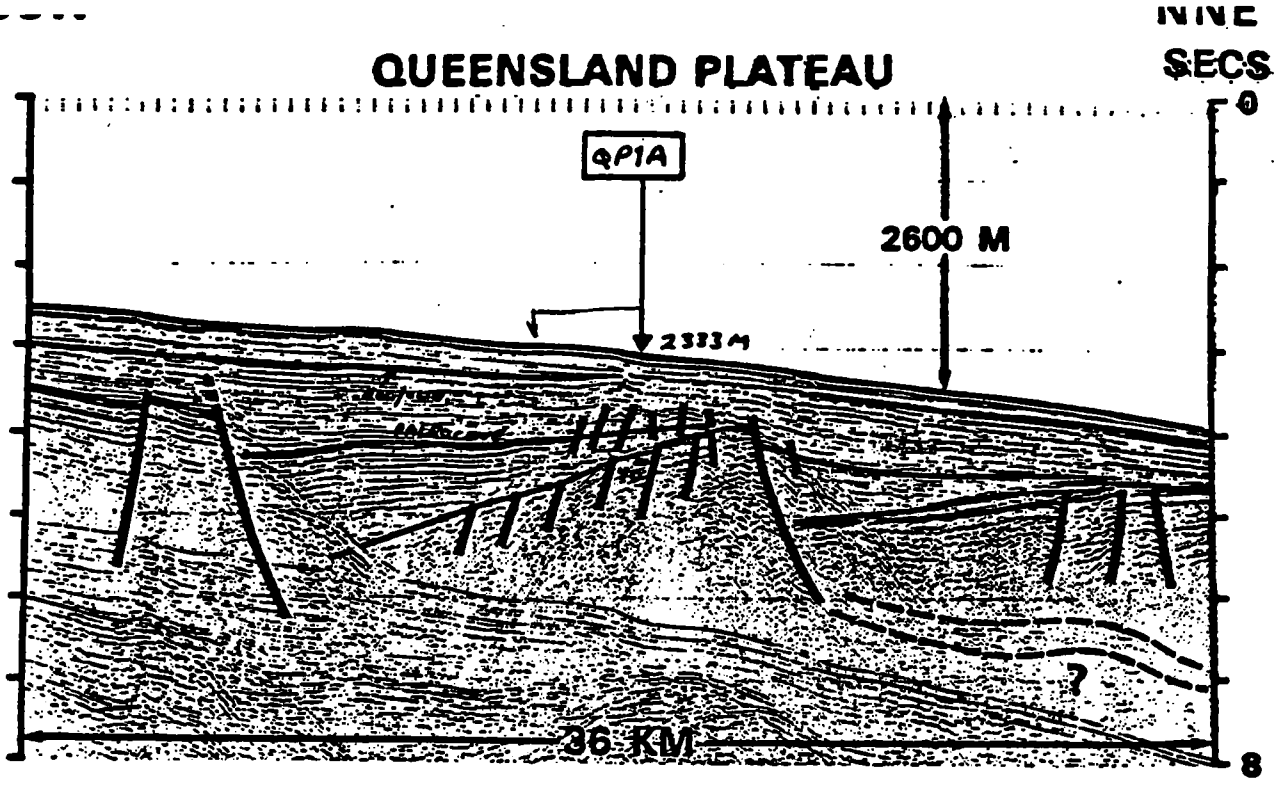


Fig. 47A. SONNE LINE 16-04

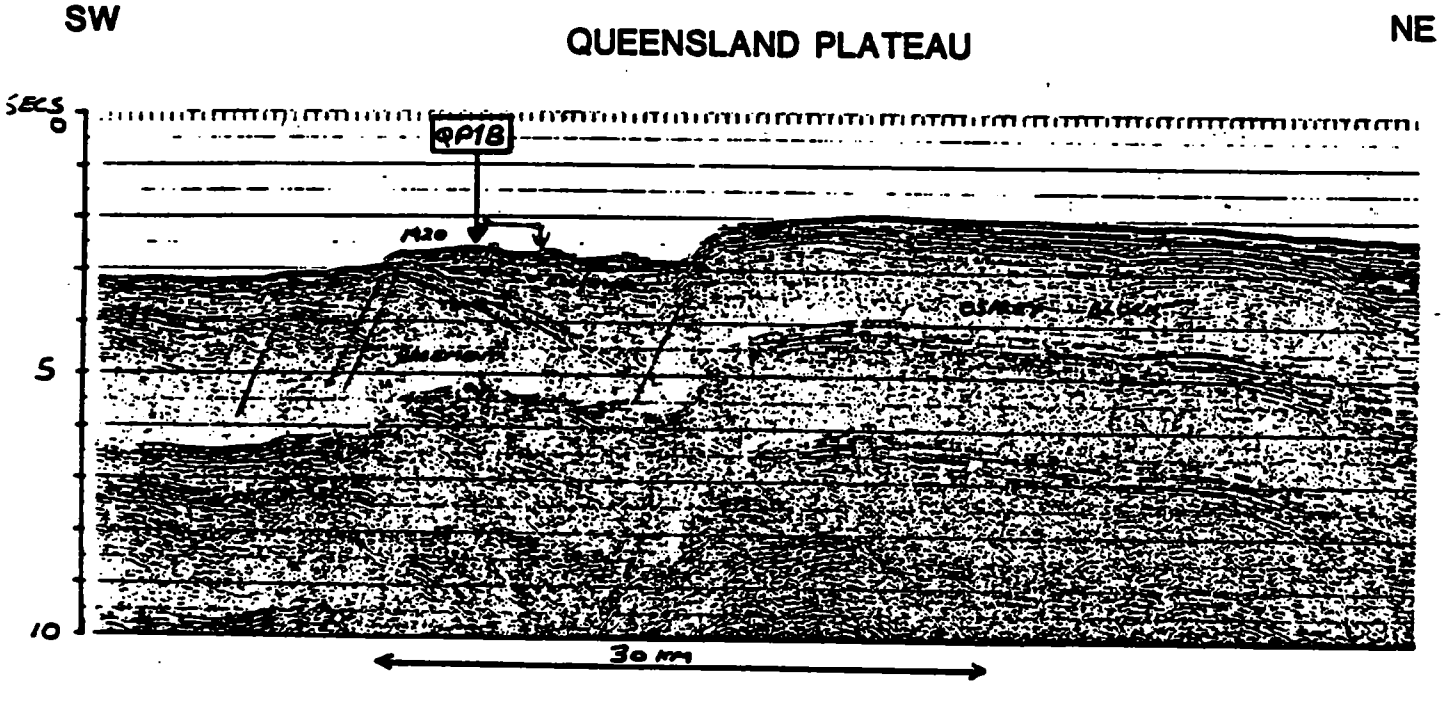


Fig. 47B. SONNE LINE 16-07

ODP SITE PROPOSAL SUMMARY FORM

Proposed Site: QP1A, QUEENSLAND PLATEAU MARGIN (Figs. 46, 47A & B)

General Area: Western Coral Sea
Position: 13°37'S, 147°23'E
Alternate Site: (QB1B) 14°8.9S, 146°39.3'E

General Objective:
Early rifting history of passive continental margins

Thematic Panel interest: SOHP, TECP
Regional Panel interest: WP-RP

Specific Objectives: Determine:

- Age, nature and depositional environment of primary rift-fill sediments in half grabens adjacent to Coral Sea Basin.
- Nature of the rotated continental basement block.
- Uplift subsidence history of the margin.
- Relative proportion of syn- and pre-rift sediments to post-rift sediments
- Response of sedimentation to fluctuations in sea levels during submergence of plateau.

Background Information:

Regional Data:
Seismic profiles: BMR (1970) 6-fold, Shell (1973/74) 24-fold, BGR/BMR Sonne (1978/80) 24-fold, GSI Group Shoot (1979) 48-fold presently confidential.
Other data: A considerable amount of gravity and magnetic data; some shallow and crustal refraction profiles; some dredging and coring around margins of Queensland Plateau

Site Survey Data - Conducted by:
Date: Site located using Sonne data; line SO-16-07 SP3155) (Alternate line SO-16-04 SP3984)
Main results: Thin sheet of Early Oligocene and younger ooze overlying onlapping Eocene bioclastics. These overlie Paleocene-Late Cretaceous paralic and shallow shelf clastics, possibly ~~with fluvio-deltaics at base, which onlap ?Palaeozoic basement.~~

Operational Considerations

Water Depth: (m) 2333(1920) **Sed. Thickness: (m)** 1479 (1082) **Total penetration: (m)** 1600 (1500)

HPC 500 **Double HPC** ____ **Rotary Drill** Yes **Single Bit** ____ **Reentry** Yes

Nature of sediments/rock anticipated: Top - pelagic ooze; Middle - pelagic ooze and terrigenous detritus; Base - sands and shales (?continental)
Weather conditions/window: Fair all year except for possible cyclones in January and February. Heaviest swell June-August.
Territorial jurisdiction: Australian

Other:

Special requirements (Staffing, instrumentation, etc.)

Proponent: P A Symonds
Bureau of Mineral Resources
G P O Box 378
CANBERRA A C T 2601

Date submitted to JOIDES Office:

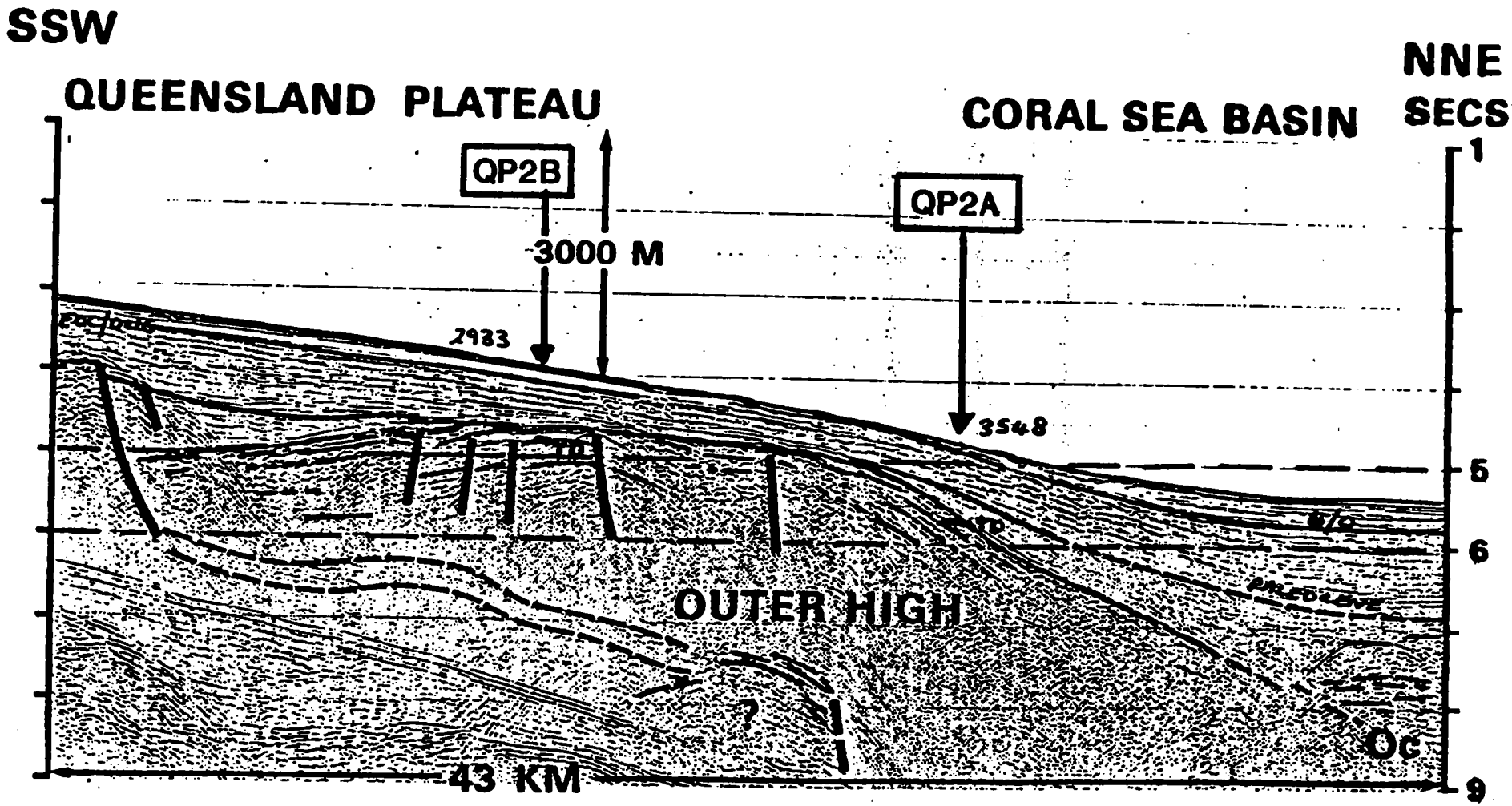


Fig. 48. SONNE LINE 16-04

UNIVERSITY OF Miami

October 23, 1985

Dr. Grant Gross, Director
Division of Ocean Sciences
National Science Foundation
1800 G Street, NW
Washington, DC 20550

Dear Grant:

A group of us here at RSMAS are anxious to use a standard jack-up, workover barge as a stable platform for research in continental-shelf depths. I am writing to outline our preliminary thinking and to ask for suggestions in preparing a proposal.

Attached are some descriptions and photographs of standard, self-elevating, workover barges that are available in Louisiana (Items 1, 2). After looking over this information, I am sure that you will appreciate our enthusiasm for trying out one of these vessels. In less than an hour from arriving on stations, one can have a stable platform complete with living accommodations and ample space to work at a variety of tasks. A stable platform has obvious advantages for a variety of research projects and our preliminary talks here at RSMAS have already revealed five different kinds of use, as indicated on the attached summary (Item 3). Judging from that immediate response, it seems certain that many other researchers elsewhere would wish to take advantage of this novel platform. Working from a stable platform would surely improve the efficiency of scientists and technicians and the lack of motion could well attract new users, those who are uncomfortable on floating vessels.

Last week a group of us presented the idea of using one of these self-elevating platforms to the Southeastern UNOLS Ship Replacement Committee and we are all pleased by the enthusiastic response of the members including Robert Dinsmore. Now we potential users here at RSMAS would like to develop a proposal for a trial period of use of one of these vessels. The precedent for such a trial, if indeed a precedent is needed, might be the recent trial of the SSP KAIMALINO by Woods Hole and the University of Hawaii. We envision chartering one of the existing vessels in Louisiana and bringing it here to Miami as a temporary base from which

Rosenstiel School of Marine & Atmospheric Science
T. Wayland Vaughan Laboratory for Comparative Sedimentology
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Miami Beach, FL 33139
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cruises could be organized to try out the setup in the Southern Florida reef area, in the nearby Bahamas, and along the lower East Coast. We would of course hope to involve colleagues from other institutions in this region so as to gain a broader view of the vessel's capabilities. Looking ahead, if the trial use proves as successful as we anticipate, then we would want to consider proposing the addition of such a facility to the existing UNOLS fleet.

At this early stage in our planning we would particularly welcome advice from you and your staff.

Yours sincerely,

Bob

Robert N. Ginsburg
Professor of Sedimentology

RNG/kn

ITEM #3

CAPABILITIES AND PROPOSED USES OF A MOBILE OCEANOGRAPHY RESEARCH PLATFORM

ROSENSTIEL SCHOOL OF MARINE & ATOMOSPHERIC SCIENCE
OCTOBER 23, 1985

I. SPECIAL RESEARCH CAPABILITIES OF A MOBILE, SELF-ELEVATING PLATFORM

SAMPLING AND MEASURING THE PROPERTIES OF SUB-BOTTOM DEPOSITS

VIBRO-CORING SEDIMENTS

CORE BORINGS TO DEPTH

SURFACE AND DOWN-HOLE MEASUREMENTS OF MASS PROPERTIES

MONITORING PROCESS AND EXPERIMENTATION

ANIMAL BEHAVIOR	SEA SURFACE PROPERTIES	ACOUSTICS OF BOTTOM DEPOSITS
	AIR-SEA EXCHANGES	
PRODUCTIVITY	BENTHIC BOUNDARY LAYER	SEDIMENT MOVEMENTS
	CHEMICAL TRANSIENTS	
	VERTICAL EXCHANGES	

MOBILE TENDER FOR HABITATS

INCREASED EFFICIENCY OF SCIENTISTS AND TECHNICIANS

DEVELOP NEW INSTRUMENTS AND IMPROVE RESOLUTION OF MEASUREMENTS

II. PROPOSED USES BY RSMAS FACULTY

AIR-SEA EXCHANGE OF GASES AND AEROSOLS

Rod G. Zika (Associate Prof.) and Joseph Prospero (Prof.) of the Division of Marine and Atmospheric Chemistry have underway NSF supported programs of research on the exchange of various chemical substances between the ocean and atmosphere. They and their colleagues will be making measurements in vertical profiles both in the water and atmosphere to establish gradients and fluxes. A stable platform would provide the intermediate step in transferring laboratory techniques to the ocean environment; it would insure that diel observations were located at the same relative positions; and it would facilitate emplacement of continuous sensors.

REMOTE SENSING APPLICATIONS

Otis Brown (Prof.), Roger Lhermitte (Prof.), Rod G. Zika (Associate Prof.) and John Plane (Assistant Prof.) all have applications concerned with remote sensing. These include the use of laser and microwave source radiation to sense chemical, biological annd physical properties of the ocean micro layer and near surface water and air columns. The self-elevating platform has enormous advantages compared to operating off of a ship or aircraft. These include stability, fixed location and cost. Systems developmental work and testing studies cquld be advanced dramatically at a fraction of the cost.

CORAL BIOLOGY

Alina Szmant Froelich (Res. Assist. Prof.) in the Division of Biology and Living Resources has Biological Oceanography funding to study nitrogen metabolism in reef corals. At present, it is very difficult to conduct serious physiological experiments on reef-dwelling (and other shallow water ecosystem) organisms because of the problems involved in taking sophisticated instrumentation out into the field. The small coastal vessels generally available for such work have very small dry laboratories that limit the amount of instrumentation that can be used. The use of jack-up-rigs on coral reefs would provide ample space for such lab facilities plus allow physiologists to set up experimental systems on deck that would not be possible on a rolling ship. Other areas of coral reef research that would benefit from the availability of such a rig include primary production and nutrient cycling, areas which Dr. Szmant-Froelich has been studying with NOAA's underwater habitat, Hydrolab.

ETHOLOGY OF TROPICAL FISHES

Arthur A. Myrberg (Professor) of the Division of Biology and Living Resources plans to continue his research, sponsored by NSF, on the behavior and acoustics of tropical fishes. He uses a combination of diver-observations and extremely expensive, bottom-mounted equipment to observe fishes. In the past his observations have often been interrupted by periods of windy weather and storms that caused disruption of the cables to a floating vessel. A fixed platform that could be set up much closer to reefs than a floating one would increase his success ratio considerably and offer the chance to use additional equipment that cannot now be handled from small floating platforms.

CORING AND CORE BORING

Robert N. Ginsburg (Professor) of the Division of Marine Geology and Geophysics is expanding his program of studying the late Cenozoic history of deposition and diagenesis in the Bahamas, South Florida, and Belize using continuous core

borings. For lack of a suitable platform, previous efforts have been restricted to islands or reefal drill sites. A mobile, self-elevating platform equipped with an appropriate drill rig makes it possible to drill all over the Bahama Banks, throughout the South Florida area, and in much of the Belize Barrier Reef Tract. Furthermore, the depth of penetration can be increased significantly from a stable platform.