

# JOIDES Journal



## Archive Copy

VOL. XI, Special Issue No. 4

GUIDE TO THE  
OCEAN DRILLING PROGRAM

*Supplement No. 1 (June 1986)*

*Edited by A.E.S. Mayer  
& M.M. Burdett*

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### AMENDMENTS AND ADDITIONS:

- Page 1: Current membership of ODP is now the U.S.A., Canada, France, the Federal Republic of Germany, Japan, the U.K., and the European Science Foundation (ESF) Consortium (which comprises Belgium, Denmark, Finland, Greece, Iceland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, and Turkey).
- Page 14: Section 5, Regional Panels, Col. 2, Para. 2 - Revise to read "PCOM establishes liaison between Regional and Thematic Panels by the appointment of non-voting liaisons."
- Page 29: Figure 5 - Change Principal Investigator to read W. Friedman
- Page 59: Paleontological Reference Centers - The Center in Japan is located at the National Science Museum, Tokyo.
- Page 65: Table 5, Site Survey Data Standards - This has been revised by the Site Survey Panel. Please see the new revised Table 5 with attached explanatory notes.
- Page 81: Revise to read Dr. Hutchison of EMR represents Canada on the ODP Council and Dr. Keen is the EXCOM representative.
- Page 82: Executive Committee - Delete Dr. F. Bender; Dr. H-J. Durbaum is the EXCOM representative.
- Page 83: Additional members of the French ODP Executive Committee are M. Francois Jarrige (ORSTOM), M. Joel Lancelot (Ministre de l'Education Nationale), and M. Georges Scolari (BRGM).
- Page 84: Japanese National Committee for ODP - Replace with revised list.

### MEMBERS OF THE JAPANESE NATIONAL ODP COMMITTEE

Takahisa Nemoto, Chm. (EXCOM)  
Shohei Banno  
Naoyuki Fujii  
Toshitsugu Fujii (LITHP)  
Hiroshi Gyoda  
Keiji Higuchi  
Eiichi Honza

Kazuaki Nakamura (TECP)  
Hakuyu Okada (CEPAC)  
Hisatake Okada (ARP)  
Minoru Ozima  
Tsunemasa Saito (SOHP)  
Hitoshi Sakai  
Jiro Segawa (IOP)

MEMBERS OF THE JAPANESE NATIONAL ODP COMMITTEE (cont.)

Tadataka Isakoda	Hideki Shimamura
Hideo Kagami	Kiyoshi Suyehiro (SSP)
Katsutada Kaminuma (SOP)	Asahiko Taira (PCOM)
Tadahiko Katsura	Akio Takagi
Hajimu Kinoshita (DMP)	Yokichi Takayanagi
Kazuo Kobayashi (EXCOM)	Kensaku Tamaki (WPAC)
Katsuhide Kusahara	Seiya Uyeda
Ikuo Kushiro	Hiroshi Wakita

Page 85: JOI-USSAC - See revised USSAC section.

Page 88: NSF - Delete Bridgewater; insert Assistant Director Astronomy, Atmospheric, Earth and Ocean Sciences: W. Merrell.

JOI - Amend Vice-President for Finance & Administration: J. Clotworthy.  
Delete Hunt; insert Director, Ocean Drilling Program: T. Pyle.

Page 89: Texas A&M University representative - Delete Merrell; insert M. Friedman.

EMR representative - Delete Hutchison; insert M. Keen (Atlantic Geoscience Centre).

Page 90: BGR representative - Delete Bender; insert H-J. Durbaum.

ORI representative - Delete Hattori; insert T. Nemoto.

Add - Natural Environment Research Council (N.E.R.C.)  
Polaris House  
North Star Avenue  
Swindon SN2 1EU, U.K.  
Telephone: (44) 793-40101  
Representative: J. Briden

Add - ESF Consortium for Ocean Drilling (ECOD)  
European Science Foundation  
1, quai Lezay-Marnesia  
67000 Strasbourg, France  
Telephone: (33) 88-35-30-63  
Representative: J. Stel (Netherlands Council of Oceanic Research)  
Alternate: M-O. Ottosson (Swedish Natural Science Research Council)

ODP Science Operator Principal Investigator - Delete Merrell; insert M. Friedman.

Wireline Logging Services Contractor - Delete Fornari; insert R. Jarrard.

JOIDES Office - Delete URI (as from 1 October 1986); insert:  
College of Oceanography  
Oregon State University  
Corvallis, OR 97331  
Telephone: (503) 754-2296  
Executive Committee Chairman: D. Caldwell  
Planning Committee Chairman: N. Pisis

Page 91: Atlantic Ocean Regional Panel (ARP) - Delete Montadert; insert J. Austin, Institute for Geophysics, University of Texas at Austin, 4920 North I.H. 35, Austin, TX 78751, Telephone: (512) 458-4238.

Indian Ocean Regional Panel (IOP) - Add R. Schlich, Institut de Physique du Globe, Laboratoire de Geophysique Marine, 5 rue Rene Descartes, 67084 Strasbourg, France, Telephone: (33)88-60-25-31.

Lithosphere Panel (LITHP) - Delete Purdy; insert R. Detrick, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI 02882, Telephone: (401)792-6926.

Sediments and Ocean History Panel (SOHP) - Delete Arthur; insert L. Mayer, Department of Oceanography, Dalhousie University, Halifax, Nova Scotia B3H 4J1, Canada, Telephone: (902)424-2503.

Page 92: Western Pacific Regional Panel (WPAC) - Add B. Taylor, Hawaii Institute of Geophysics, University of Hawaii, 2525 Correa Road, Honolulu, HI 96822, Telephone: (808)948-6649.

Canadian National Points of Contact - Delete Hutchison; insert M. Keen.

Page 93: German National Points of Contact - Delete Bender; insert H-J. Durbaum (EXCOM representative).

Japanese National Points of Contact - Delete Hattori; insert T. Nanoto.

Page 93: Add - U.K. National Points of Contact

J. Bowman (ODP Council)	T. Francis (PCOM representative)
J. Briden (EXCOM representative)	Institute of Oceanographic
N.E.R.C.	Sciences
Polaris House	Brook Road
North Star Avenue	Wormley, Godalming GU8 5UB, U.K.
Swindon SN2 1EU, U.K.	Telephone: (44)42879-4141
Telephone: (44)793-40101	Telex: 858833(OCEANS G)
Telex: 444293(ENVRE G)	

Page 93: Add - ESF Consortium for Ocean Drilling (ECOD) Points of Contact

ODP Council:

R. Van Lieshout  
Netherlands Organization for the  
Advancement of Pure Research (ZWO)  
Postbus 93138  
NL-2509 AC The Hague  
The Netherlands  
Telephone: (31)70-49-66-49  
Telex: 31660(TNOGV NL)

Alt: B. Munsch  
European Science Foundation  
1, quai Lezay-Marnesia  
F-67000 Strasbourg, France  
Telephone: (33)88-35-30-63  
Telex: 890440(ESF F)

EXCOM:

J. Stel  
Netherlands Council of  
Oceanic Research  
Postbus 19121  
NL-1000 GC Amsterdam  
The Netherlands  
Telephone: (31)20-22-39-02 ext. 125  
Telex: 16064(NRZ NL)

Alt: M-O. Ottosson  
Swedish Natural Science  
Research Council  
Box 6711  
S-113 85 Stockholm, Sweden  
Telephone: (46)8-30-46-45  
Telex: 13599(RESCOUN S)

PCOM:

O. Eldholm  
Department of Geology  
University of Oslo  
Postboks 1047 Blindern  
N-0316 Oslo 3, Norway  
Telephone: (47)2-45-66-76, 50-50  
Telex: 42705(ASTRO N)

Alt: H. Thierstein  
Geologisches Institut  
ETH-Zentrum  
CH-8092 Zurich, Switzerland  
Telephone: (41)1-377-26-07  
Telex: 53178(ETH BI CH)

## ECOD:

B. Munsch, Management Committee (EMCO)  
& Acting Executive Secretary to ECOD  
See above for address

B. Stabell, Scientific Committee  
(ESCO) & Acting Scientific  
Secretary to ECOD  
Department of Geology  
University of Oslo  
Postboks 1047, Blindern  
N-0316 Oslo 3, Norway  
Telephone: (47) 2-45-66-76, -75

Page 93: Add - USSAC Points of Contact:

J. Orcutt (USSAC Chairman)  
Scripps Inst. of Oceanography  
La Jolla, CA 92093  
Telephone: (619) 452-2887  
Telex: 9103371271(UCWWD SIO SDG)

T. Davies (USSAC Secretary)  
Institute for Geophysics  
University of Texas at Austin  
4920 North I.H. 35  
Austin, TX 78751  
Telephone: (512) 451-6468

Add: NATIONAL ODP STRUCTURES - UNITED KINGDOM

The United Kingdom has been a member of the international scientific ocean drilling community since the inception of the International Phase of Ocean Drilling of the Deep Sea Drilling Project in 1975, and has been concerned to maintain and develop this interest through participation in the Ocean Drilling Program, although it was unable to join the Program as a regular member until 1 October 1985.

U.K. membership in ODP is handled through the Natural Environment Research Council (N.E.R.C.) which is providing about 60% of the funds, the remainder coming from central government through the Departments of Energy, Environment, and Trade and Industry (collectively about 25). The balance is being met by six U.K.-based oil companies.

A coordinating committee is responsible for representing the interests of the U.K. marine scientific community in ODP. Members are the national representatives (and alternates) on the JOIDES panels, other U.K. scientists selected for their expertise, and representatives from government departments and the oil industry. Panel representatives are responsible for convening workshops of interested scientists to formulate and develop proposals in the appropriate themes or regions, and to ensure that the opportunities of participation in ODP are made known to the widest possible audiences.

In addition to providing the bulk of the subscription to ODP, N.E.R.C. meets the travel costs (domestic and international) and will consider applications for other support for U.K. scientists participating in the Program via its research grants scheme and through bids for time on N.E.R.C. ships. All such proposals are judged on perceived scientific merit, in open competition with other grant applications, and are subject to peer review.

Add: NATIONAL ODP STRUCTURES - EUROPEAN SCIENCE FOUNDATION

A consortium of six organizations from five "smaller" European countries was established in December 1983 under the aegis of the European Science Foundation (ESF), an international non-governmental organization with its seat in Strasbourg, France. The consortium held candidate member status in the ODP from early 1984 to September 1985. During this period and until early 1986 the founding members were joined by further organizations from various countries of Europe, eventually totaling twelve: Belgium, Denmark, Finland, Greece, Iceland, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, and Turkey. In April 1986 the decision was reached that the consortium, henceforth called "ESF Consortium for Ocean Drilling (ECOD)," should apply for regular membership in the ODP as from 1 June 1986. A memorandum of understanding with NSF was signed on 29 April 1986 by the ESF President, Professor E. Seibold.

The management structure of ECOD was finalized in June 1986. An ESF Management Committee for the ODP (EMCO) chaired by Professor R. Van Lieshout (The Hague, The Netherlands) and co-chaired by Dr. M-O. Ottosson (Stockholm, Sweden) is responsible for political, managerial, organizational, and financial matters as well as for over-viewing the long-term scientific planning. Scientific and operational matters are entrusted to an ESF Scientific Committee for the ODP (ESCO) chaired by Professor O. Eldholm (Oslo, Norway) and co-chaired by Dr. H. Thierstein (Zurich, Switzerland). Both committees report to the ruling bodies of the ESF. Each participating country is represented on each of the two committees by a delegate (with a vote) and, if necessary, a (non-voting) alternate. However, the normal practice is to reach decisions by consensus.

EMCO is assisted by an administrative secretariat located at the ESF Office. A scientific secretariat located with the ESCO Chairman in Oslo assists ESCO. Operating costs of both secretariats are paid from a special budget, under a scheme termed an ESF "associated program." This budget as well as the ODP membership fee are jointly financed by all members of ECOD. Support costs including all travel are funded nationally by participating countries.

Pages 85-87 (Revision): NATIONAL ODP STRUCTURES - USA

The National Science Foundation (NSF) is responsible for overseeing the ODP and provides the U.S. contribution to the internationally funded program. In addition, The NSF provides support for U.S. drilling-related science activities.

JOI U.S. Science Support Program - Over one-half of the available funding goes to support: 1) regional or topical planning workshops initiated by U.S. scientists; 2) attendance by U.S. scientists at JOIDES panel meetings; 3) shipboard participation by U.S. scientists; 4) postcruise scientific studies related to publication of the ODP Proceedings; and 5) the U.S. Science Advisory Committee. These activities are coordinated and administered by Joint Oceanographic Institutions, Inc. (JOI), under contract with NSF. The JOI-U.S. Science Advisory Committee (USSAC), appointed by the JOI Board of Governors, has members drawn from academia, government, and industry, and serves as steering committee for the Science Support Program. It is responsible for the overall long-term scientific direction of the program. The USSAC Secretariat is presently located at the Institute for Geophysics at the University of Texas at Austin.

JOI-USSAC Membership -

R. Bennett, NORDA	R. Kay, Cornell Univ.
R. Carlson, Texas A&M Univ.	K. Kvenvolden, U.S.G.S.
T. Davies, Univ. Texas, Austin	M. Langseth, Lamont Doherty Geol Obs
J. Delaney, Univ. Washington	R. Merkel, Anaconda Minerals Co.
F. Duennebier, Hawaii Inst. Geophysics	T. Moore, EXXON Production Res. Co.
R. Duncan, Oregon State Univ.	J. Orcutt, Scripps Inst. Oceanography
M. Horn, Cities Services Oil & Gas Co.	S. Schlanger, Northwestern Univ.

NSF Sponsored Activities - The balance of the funds available to U.S. science is distributed in two ways. First, using advice from USSAC, JOI may issue requests for proposals (RFPs) for tasks that are important and valuable to the U.S. scientific community and for which unsolicited research proposals are unlikely to be submitted. These tasks may include items such as site specific surveys, regional, or topical syntheses of existing data, and the development of downhole tools and instrumentation for general use in the drilling program. NSF will provide U.S. science support funds to JOI as appropriate to execute these tasks. Second, the Ocean Drilling Program office at NSF (NSF/ODP) directly receives and funds unsolicited proposals for drilling-related scientific research. Proposals from U.S. scientists and institutions may be accepted at any time during the year, but there are three main target dates (February 1, June 1, and October 1). These are the same as the Marine Geology and Geophysics (MGG) target dates at NSF. Proposals requiring ship time must meet

the February 1 or June 1 target dates to be considered for field programs during the following year. Proposals must be prepared using the guidelines set forth in NSF Publication 83-57 (Grants for Scientific and Engineering Research). The proposals are peer-reviewed and in some cases also evaluated by the MGG panels for additional advice. Close contact is maintained with other related NSF programs and divisions, such as MGG, Polar Programs, Atmospheric Sciences, and Earth Sciences in order to facilitate coordination of proposals, particularly in cases where the research includes objectives of interest to both ODP and the other programs. In such cases proposals may be split-funded.

Proposals are evaluated primarily on their intrinsic scientific merit in the general context of marine geology and geophysics. ODP proposals, however, are also judged on their value to the drilling program.

Proposals and requests for further information should be sent to the Ocean Drilling Program, National Science Foundation, 1800 G Street NW, Room 613, Washington, DC 20550. Telephone: (202)357-9849; telex: (RCA)257653/NSFO UR UD; telemail: NSF.OCE.ODP.

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TABLE 5 (Revised May 1986)

TARGETS	A	B	C	D	E	F	G
TECHNIQUES	PALAEONVIRONMENT (shallow penetration)	PASSIVE MARGINS	ACTIVE MARGINS	OCEAN CRUST (thick sediment cover)	OCEAN CRUST ( $\approx$ approx. 400m.sed.cover)	BARE-ROCK DRILLING	ASEISMIC RIDGES, PLATEAUS & SEAMOUNTS
X = Vital (X) = Desirable (X)* = Desirable but may be required in some cases R = Vital for re-entry sites H = Required for high temperature environments							
1.Deep penetration SCS	(X)	(X)	(X)	X or 3			(X)*
2.High resolution SCS	X	(X)	(X)	(X)	X	X	(X)
3.MCS & velocity determinations		X	X	X or 1			(X)*
4.Seismic data on cross lines	(X)	X	X	X	(X)	(X)	(X)*
5.Seismic refraction		(X)	(X)*	X	(X)	(X)	(X)*
6.3.5 Khz	X	(X)*	(X)*	(X)	(X)*	X	(X)
7.Multi-beam bathymetry	(X)*	(X)*	X or 8A	(X)	X or 8B	X	(X)* or 8A
8.Sidescan sonar: A - shallow	(X)*	(X)*	X or 7	(X)		(X)	(X)* or 7
B - deep-towed					X or 7	X	
9.Heat flow		(X)*	(X)*	(X)	(X) H	(X) H	(X)
10.Magnetics & gravity		(X)	(X)	(X)	(X)	X	(X)
11.Coring information: A-palaeoenvironmental	X	(X)	(X)				
B-geotechnical		R	R	R	R,H	X	R
12.Dredging					(X)*	(X)*	(X)*
13.Photography					(X)*	X	(X)
14.Current meter (for bottom shear)	(X)*	(X)*	(X)*				

SITE SURVEY DATA STANDARDS: EXPLANATORY NOTES

The list of "TARGET" categories describes broad types of drilling objectives. Individual sites with multiple objectives may need to meet the requirements of two "TARGET" categories. Frequently, sites will have shallow APC objectives (TARGET A) and deeper sedimentary and basement objectives (TARGET D or E).

TARGET A - Generally APC/XCB penetration.

TARGET B - Greater penetration than a few hundred meters on a passive margin.

TARGET C - Greater penetration than a few hundred meters on an accretionary wedge, pre-arc, or sheared margin.

TARGET D - Greater penetration than a few hundred meters in a deep ocean environment. Often includes basement penetration.

TARGET E - Sediment thicknesses of less than a few hundred meters in a deep ocean ridge crest or fracture zone environment. Often includes basement penetration.

TARGET F - Bare rock drilling, probably on zero age crust.

TARGET G - Elevated features above the ocean floor. Widely varying sediment thicknesses. Sediment slumping may be a problem on flanks. Basement often an objective.

The techniques include commonly used geophysical and sampling techniques.

- 1) DEEP PENETRATION SCS - Large source Single-Channel Seismic.
- 2) HIGH RESOLUTION SCS - Watergun Single-Channel Seismic or small chamber airgun in some situations. Digital acquisition preferred, but usually not necessary.
- 3) MCS and VELOCITY DETERMINATION - Multi-Channel Seismic including velocity determination (stacking velocities and semblance plots) when accurate depths are critical. Velocity analysis to determine sediment thickness over proposed sites.
- 4) CROSSING LINES - A seismic grid and/or crossing lines over the proposed site. The density of the seismic grid required depends on each particular situation.
- 5) REFRACTION - Sonobuoy or Ocean Bottom Seismometer refraction profiles. Expanding Spread Profiles or wide-angle refraction profiles.
- 6) 3.5 KHz - High frequency data for near-bottom high resolution to resolve small scale features and give some indication of sediment type.
- 7) MULTIBEAM BATHYMETRY - SEABEAM or SeaMARC II bathymetry or equivalent. In some cases the greater resolution of SEABEAM may be required. Areas where slumping may occur should have multibeam bathymetry and/or side scan sonar.



8) SIDE SCAN SONAR - The reflectivity of sidescan sonar is often needed to interpret multibeam bathymetric data.

- a. Shallow - side scan sonar sources towed near the surface; e.g. SeaMARC II, GLORIA.
- b. Deep - Side scan sonar sources flown near the bottom; e.g. Scripps Deep Tow, French SAR, SeaMARC I.

9) HEAT FLOW - Pogo type profiles or piston core heat flow measurements in detail appropriate to the scientific problem.

10) MAGNETICS and GRAVITY - Regional magnetics should be available on any location for which the magnetic age of ocean crust is important. Gravity is seldom an absolute requirement, but should be obtained on any profiles for which subsidence studies are planned. SEASAT derived gravity information often complements the regional magnetic picture

11) CORING - Cores should be taken near all paleoenvironmental sites.

All re-entry sites should be supported by cores, core descriptions and geotechnical measurements (see below for specific list). The two limiting factors for re-entry operations are:

- a. Sufficient sediment thickness
- b. Ability to wash through the sediment section

The benefit of geotechnical information for re-entry operations is that wash-in capabilities are tied to the formation strength. The manner in which geotechnical information is to be used within ODP will most likely evolve as studies of that geotechnical database and re-entry operations take place.

At present (1986), the following measurements of geotechnical properties on fresh piston cores are recommended as part of the site survey package for a re-entry site.

- a. Penetrometer strength
- b. Vane shear strength (natural and remolded)
- c. Bulk density
- d. Water content
- e. Atterberg limits (liquid and plastic limits)

Gradients and maximum and minimum values of the geotechnical properties listed above are also recommended.

For older piston cores, please provide any geotechnical measurements made when the core was fresh. Atterberg liquid and plastic limits should also be measured on old core material as this is one geotechnical observation which is still valid on partially desiccated material.

The above properties should be provided in conjunction with lithology and bedding.

Site proponents should contact the Science Operator (TAMU) for further clarification on the geotechnical requirements for their particular circumstances

12) DREDGING - May be required when basement drilling is included in the objectives.