

Draft minutes of the JOIDES Site Survey Panel Meeting

DSDP: November 29, 30 1979

Members present

E. J. W. Jones, U.K. (Chairman)
B. T. R. Lewis, U.S.
S. Nagumo, Japan
V. Renard, France
W. Weigel, Germany

Member absent

A. A. Schreider, U.S.S.R.

Ex-officio members and guests present

G. Claypool, PPSP
R. von Huene, AMP
Y. Lancelot, OPP
D. Moore, DSDP
P. Rabinowitz, IPOD Data Bank
M. Salisbury, DSDP
R. Sheridan, PMP
T. Shipley, DSDP
F. Theyer, NSF
E. L. Winterer, PCOM

1. Reports from Site Survey Working Groups

(a) N.W. Atlantic R. Sheridan presented a report on the status of thirteen site surveys in this region. Surveys completed by November 1979 are as follows (see Appendix A for maps);

Site	Type of Survey	Time of completion	Institution
ENA - 1	24-fold: Multichannel seismic grid	Fall 1977	L-DGO
	24-fold: Multichannel seismic tie-line	Fall 1977	USGS
ENA - 2	48-fold: Multichannel seismic cross lines	1977	USGS
	48-fold: Multichannel seismic grid	1979	BGR
ENA - 3	Single channel line	1977	USGS
ENA - 4	Single channel line	1977	USGS
ENA - 5	24-fold multichannel seismic line	1975	USGS
	12-fold multichannel seismic grid	1979	USGS
ENA - 6	24-fold multichannel seismic cross lines	Fall 1977	L-DGO
	Single channel grid	1976	L-DGO
ENA - 7	24-fold multichannel seismic cross lines	1977	L-DGO
	Single channel grid	1976	L-DGO
ENA - 8	24-fold multichannel seismic line	Fall 1977	GSC
ENA - 9	24-fold multichannel seismic line	1977	GSC
ENA - 10	24-fold multichannel seismic line	1977	GSC
ENA - 11	24-fold multichannel seismic line	1978	L-DGO
ENA - 12	24-fold multichannel seismic line	1976	UTMSI
ENA - 13	24-fold multichannel seismic line	1976	UTMSI

(b) NE Atlantic Working Group E. J. W. Jones reported the outcome of discussions with D. Roberts and L. Montadert. Four regions have been surveyed in some detail.

(i) Rockall Multichannel seismic lines spaced 10-20 km apart, have been recorded in the vicinity of potential drill sites on the southwestern part of the plateau, near 56°N , 24°W (see Appendix B). Four multichannel lines have also been shot near sites in the southeastern portion of the area, near 55°N , 20.5°W .

(ii) Goban Spur A considerable amount of multichannel data exists in this region. Selected tracks are shown in Appendix B.

(iii) Armorican Margin There is dense multichannel seismic coverage in this portion of the Bay of Biscay (see Appendix B). Approximately 2000 km of additional multichannel seismic data were obtained by France during the summer of 1979.

(iv) Galicia Bank Seismic reflection lines in this area are shown in Appendix B.

Jones emphasized that the availability of much of the multichannel data for open publication still has to be determined.

(c) SW Atlantic Working Group

Sites AB-1 through AB-10 (Falkland Plateau and Rio Grande Rise) were surveyed by the University of Texas Marine Science Institute during 1979. Copies of the data, which include multichannel seismic, have recently been deposited in the IPOD Data Bank. P. Rabinowitz provided the safety package reports for individual sites (see Appendix C).

(d) SE Atlantic Working Group

Sites SAI - 1, 2 and 5 and SA IV 1 through 7 were surveyed by the UTMSI in 1979, using multichannel seismic. SA II 1 through 6 were surveyed in 1979 by JEAN CHARCOT (using GLORIA and SEABEAM) and by the University of Capetown.

(e) Caribbean Working Group

The status of site surveys in this area was reviewed at the May 1979 meeting of this working group. At that time the CAR I (Barbados Ridge) and CAR II (Granada Trough) survey data had been prepared for the safety panel review. The working group recommended that CAR 3 and CAR 7 should receive high priority for future site surveys as the present data coverage is insufficient for a final decision on the exact position of the holes. Data are available for CAR 4, 5, 6 and 8 and are to be compiled by Lamont, UTMSI and IFP.

(f) Galapagos Working Group

No report available.

JOI Data Bank

At the last meeting of the Panel it was recommended that index maps be prepared showing the locations of the site survey information which has been submitted to the Data Bank. P. Rabinowitz presented maps of the North Atlantic and Pacific showing the location of data presently held on file (see Appendix D). The South Atlantic map, incorporating the surveys carried out during the summer of 1979, still has to be compiled. All the US institutional data is in digital form; non-US data has not yet been digitized. Rabinowitz noted that some non-US data in the Data Bank is only in the form of ships' tracks, without accompanying geophysical information.

Rabinowitz also reported that preparations are well underway for the publication of site survey data in a volume similar to those in the Initial Report series. All US institute data is in camera-ready form. Rabinowitz regretted that a substantial amount of data which has been used for locating sites has not been made available for publication in the compilation volume. This point was discussed at some length by the panel, which recognized that data transfers to the IPOD Data Bank had not always been made. The Site Survey Panel then made the following recommendation to the Planning Committee: That all data relevant to making a final decision on the location of a drilling site be made available to the IPOD Data Bank.

Site Surveying Activity: 1980/81

France V. Renard reported that, although no specific IPOD site surveys are to be undertaken during the 1980/81 period, data relevant to future site selection will be obtained from the Bay of Biscay and Galicia Bank. It is planned to acquire approximately 2000 km of additional multichannel seismic data in this region. Single channel seismic, magnetic, gravity and SEABEAM data are to be recorded in the Barbados region.

Japan S. Nagumo presented a map showing the locations proposed for drilling during 1981 and beyond. These lie in the Japan Trench, Sea of Japan and North Phillipine Sea (Appendix E). 3 holes are proposed on the inner slope of the Japan Trench, two on the outer slope, two in the Sea of Japan and three in the Nanki Trough.

The following surveying activity is planned :

YEAR	VESSEL	AREA	TYPE OF SURVEY
1980 (Feb-March)	HAKUHO-MARU	Japan Trench	Single channel seismic, magnetics, gravity
1980 (Jul.-Sept)	HAKUHO-MARU	NW and Central Pacific	Single channel seismic, magnetics, gravity
1980	KAIYO-MARU	Decision not made	300 km multichannel seismic
1980	Charter ship	Decision not made	Single channel seismic
1981 (May-June)	HAKUHO-MARU	Japan Trench	Single channel seismic, magnetics, gravity
1981	KAIYO-MARU	Decision not made	300 km multichannel seismic
1981	Charter ship	Decision not made	Single channel seismic

U.K. E. J. W. Jones indicated that plans for specific site surveys in the Rockall and Goban Spur area are still undergoing consideration for the 1980/81 period. Data pertinent to drilling locations already proposed will be collected on the continental margin to the southwest of Britain (1980) and in the Barbados region (1980).

U.S. B.T.R. Lewis reported that the 1980 site survey plans are now firm. These are as follows:

ENA-1:	24-fold multichannel seismic tie-line	(UTMSI)
ENA-3:	24-fold multichannel seismic grid	(WHOI)
ENA-4:	24-fold multichannel seismic grid	(WHOI)
ENA-8:	24-fold multichannel seismic grid	(L-DGO)
ENA-11:	24-fold multichannel seismic grid	(L-DGO)
ENA-12:	24-fold multichannel seismic grid	(UTMSI)
ENA-13:	24-fold multichannel seismic grid	(UTMSI)

A meeting on 1981 site surveys has been arranged for early in 1980.

West Germany W. Weigel indicated that data relevant to future site selection, including some multichannel seismic, would be collected from the following regions during the 1980/81 period:

- (i) NW Africa, in the region south of the MOR sites. Magnetics, gravity, reflection and refraction seismics (1980/81)
- (ii) E. Mediterranean, in the vicinity of the Anatolian Fracture Zone (1980)
- (iii) Porcupine Bank and Porcupine Trough (1981)
- (iv) East Greenland margin (1980/81)

Site Surveying for drilling after 1981

F. Theyer outlined the present stage of negotiations concerning drilling after 1981. He stressed that no firm decisions had yet been taken. A PCOM proposal for drilling during the 1981/83 period was reviewed by E. L. Winterer. He argued strongly that the SSP should produce a parallel document on site surveying. The Panel endorsed his view and recommended that a review be made of existing data in the vicinity of the 81/83 sites and that a proposal for future surveys be drafted on the basis of these reports as soon as possible. The Panel felt that the data reviews could best be made by the existing working parties on site surveys, set up in November 1978, the members of which are drawn from the regional working groups. The SSP therefore recommends to each working group that site surveys receive high priority for discussion at their next meeting. It is essential that each working group produces a report on site surveying requirements for the proposed 81/83 drilling

period (the report to be sent initially to the chairman of the SSP for wider circulation). The reports will be the basis of a site survey proposal which will be drawn up by the SSP.

The working groups on site surveying are constituted as follows:

S.E. Atlantic: K. Hsu, chairman

D. Needham

P. Rabinowitz

J. Ladd

K. Hinz

M. Treuil (proposed by P. J. Fox, chairman OCP, May 1979)

S.W. Atlantic: J. Kennett, chairman

J. Ladd

J. LaBreque

J. Tarney (proposed by chairman OCP, May 1979)

N.W. Atlantic: R. Sheridan, chairman

J. Grow

P. Rabinowitz

J. Buffler

H. Schouten

P. J. Fox (chairman OCP)

R. Larson (proposed by chairman OCP, May 1979)

N.E. Atlantic: L. Montadert, chairman

D. Roberts

K. Hinz

E.J.W. Jones

J. Tarney (proposed by chairman OCP, May 1979)

Caribbean Working Group:

L. Montadert, chairman

W. Ludwig

J. Watkins

V. Renard

P. J. Fox (chairman OCP)

Pacific:

R. von Huene, chairman

S. Nagumo

E. L. Winterer

R. Anderson

Y. Lancelot

D. Husong

Site surveys using high-resolution seismic techniques

The Panel recognizes that for some investigations at drill-sites the seismic data collected during site surveys has insufficient resolution. Three fields are identified:

- (1) The detection of shallow gas pockets. G. Claypool emphasized that these are of particular concern to the safety panel. Although the possibility of shallow gas pockets is almost routinely investigated before commercial drilling there has been little systematic work carried out near IPOD drill sites.
- (2) The success of the hydraulic piston corer has opened up many fruitful avenues of research. Except for the top ~ 100 m of the sediment column, which can often be resolved using a 3.5 KHz transducer, the resolution of seismic surveys over future drill-sites is insufficient to make full use of the HPC. Y. Lancelot reviewed the use of high resolution seismic data in the mapping of shallow regional unconformities.
- (3) R. von Huene pointed out that in areas of complex topography and geology, such as the lower parts of trench slopes, the present resolution of the seismic data does not permit anything other than a tentative correlation of seismic reflectors with the lithostratigraphic units encountered in drilling. He argued that much more high resolution seismic work is needed in those regions.

The SSP therefore recommends that in future site surveying far more attention should be paid to the collection of high resolution shallow seismic data.

The use of SEABEAM should be seriously considered for surveys in areas of complex topography and geology.

In order to review the present state of high resolution seismic surveys and the correlation of seismic data with drilling results, B. Lewis and V. Renard proposed that the SSP sponsor a meeting specifically to examine these topics. The possibility of such a meeting would be brought up initially with the chairman of PCOM. Subject to the approval of PCOM the meeting would be organized by Lewis and Renard in Brest on July 17/18, with the next SSP meeting being held in Brest two days before.