EXECUTIVE SUMMARY

Site Survey Panel Meeting, Jan. 13-13, 1987,
Lamont, Palisades, N.Y.

Note: This summary was written on Feb. 5 and includes with the perspective of the PCOM meeting and some subesquent conversations included. Item numbers refer to full minutes.

3(A) Sub-Antarctic (Leg 114)

The near surface resolution of some of the POLAR DUKE data could be improved with the application of decon on Board. The SSP recommends that selected tapes be carried to the RESOLUTION for this purpose. Advance coordination with TAMU is necessary.

The SSP can accept moving sites SA-2 and SA-5 a few miles in order to avoid clearance problems if the RESOLUTION seismic data is tied into the existing site survey grid.

3(B) Makran

PCOM has decided to drop this program from the drilling schedule.

3(C) Intraplate Deformation (Leg 116)

The sites need to be chosen ASAP. The data are adequate for site survey purposes, but the resolution of the fault planes could be improved by the application of SCS decon and migration. Possible dating problems need to be documented.

3(D) Broken Ridge (part of Leg 121)

Data excellent. Sites need to be chosen ASAP.

3(E) Mascarene Plateau (part of Leg 115)

PCOM approved drilling on the presumption that the site survey data will be straightforward. A combined safety/site survey review of the site survey data is tentatively scheduled for OSU in April.

3(F) SWIR (Leg 118)

All sites except SWIR IV are adequately documented, assuming that the RESOLUTION will do a TV survey for the bare rock sites before attempting to set the guide base or try a bare rock spud. PCOM approved SWIR II (median ridge) as the first priority.

3(G) Neogene I (Leg 117)

Data excellent. Sites need to be chosen ASAP. French data on the Indus Fan need to be integrated into the data set before that site is chosen.

3(H) Neogene II (Carbonate Dissolution) (part of Leg 115)

Data adequate for Neogene objectives.

3(J) Prydz Bay

SSP is still uncomfortable with drilling on a single line without any cores in vicinity. Falvey will bring additional lines to the IOP meeting at College Station in March. PPSP review needed by next PCOM.

3(K) N. Ninetyeast Ridge

Data adequate. When this single site will fit into the drilling schedule. Specific site needs to be chosen ASAP to allow logistic planning of various schedule options.

3(L,M) The remaining Indian Ocean drilling plans will be reviewed in detail at the SSP meeting.

4. WPAC

All WPAC high priority drilling packages have adequate site surveys done or scheduled except for the Lau Basin.

Two more cruise are scheduled in the Lau Basin, and close liaison between tl. Germans and French is needed to insure maximum utility. A French SCS line linking LG-1,2 and 7 is needed (a request has been forwarded to Cadet to facilitate this). Sidescan data would help sort out the tectonics here, but none is planned. The Lau Basin will be discussed further at the next SSP meeting.

6. The next SSP meeting is scheduled for June 30-July 4 in Copenhagen. A second meeting is tentatively scheduled for late November.

OCEAN DRILLING PROGRAM

SITE SURVEY PANEL MINUTES

ACTION ITEMS

Lamont-Doherty Geological Observatory

Palisades, New York

January 13-14, 1987

ACTION: Brenner forward Sub-Antarctic core summaries to TAMU. LaBrecque deposit data at Data Bank ASAP for preparation of safety package.

ACTION: Leggett/While send accurate navigation, additional SCS lines, and proposed site location for the Makran by courier to PCOM meeting in Hawaii. Expedite additional processing and arrange for further review. Coordinate with Data Bank for deposition of all relevant data ASAP.

ACTION: Weissel ask D. Johnson (WHOI) regarding a written summary of Pleistocene dating problems at the Intraplate Deformation sites. Deposit data with Data Bank ASAP as the Safety Package needs to be prepared soon.

ACTION: Weissel/Mountain deposit Broken Ridge site survey data at Data Bank once processing is completed.

ACTION: Dick and Brenner coordinate depositing SWIR site survey data with the Data Bank.

ACTION: Brenner/Mauffret expedite transfer of the French watergun records on the Indus Fan to the Data Bank to provide maximum choices for site selection.

Prell/Mountain and Brenner coordinate depositing Neogene site survey data with the Data Bank.

ACTION: Peirce draft letter to Australians for Pisias to sign on behalf of ODP if a positive drilling decision is made.

ACTION: Larsen/Meyer invite von Rad to next meeting for presentation of Argo/Exmouth data. Peirce include von Rad on list of invitees.

ACTION: Duennebier contact Gill to ask for a Lau Basin report for the next SSP meeting and to try to arrange for a proponent to attend. Pass name of attendee to Peirce to include in list of guests requested at next meeting.

ACTION: Suyehiro include a thorough discussion of shallow gas problem in his next report on the Japan Sea.

ACTION: Suyehiro continue to push for release of JNOC 55 data set in Nankai Trough. Prepare full report on BSR situation at NKT-2.

ACTION: Peirce talk to Taylor regarding plans/hopes for this area (done in Honolulu) and write Fabvey for a copy of Australian cruise plans. Weidicke send Peirce/Kidd/Brenner copies of new proposal.

ACTION: Peirce write Pautot regarding data quality for sites SCS-1 and 2.

ACTION: Peirce contact Scott for more information.

ACTION: Larsen contact P. Henry at JOI regarding arrangements. Peirce write to Pisias in March to firmly schedule meeting.

ACTION: Peirce write Pisias to have Suyehiro invited to WPAC meeting as SSP liaison.

ACTION: Peirce write Pisas to have Brenner invited to next CEPAC meeting as liaison.

OCEAN DRILLING PROGRAM

SITE SURVEY PANEL MINUTES

Lamont-Doherty Geological Observatory

Palisades, New York

January 13-14, 1987

Present:
John Peirce* (Chairman, Canada)
Fred Duennebier* (USA)
John Jones* (UK, Alternate for Kidd)
Birger Larsen* (ESF)
Steve Lewis* (USA)
Alain Mauffret* (France)
Heinrich Meyer* (Germany)
Kiyoshi Suyehiro* (Japan)
Sunit Addy (NSF-MGG)
Carl Brenner (ODP Data Bank)
Dick Buffler (NSF-ODP)
Audrey Meyer (TAMU)
Nick Pisias (Chairman, PCOM)

Guests:
Henry Dick (WHOI; SWIR)
Denny Hayes (Lamont; PCOM)
Rich Jarrard (Lamont; ODP Logging Group)
John LaBrecque (Lamont; Leg 114)
John Ladd (Lamont; ODP Data Bank P.I.)
Marc Langseth (Lamont; ex-SSP for SWIR)
Greg Mountain (Lamont; Neogene I, Broken Ridge)
Warren Prell (Brown; Neogene I)
Carol Raymond (Lamont; Leg 114)
Jeff Weissel (Lamont; Intraplate Deformation and Broken Ridge)

*Panel Members

1 - PRELIMINARY MATTERS

Denny Hayes welcomed the panel to Lamont. The Chairman welcomed Heinrich Meyer (Germany) and Steve Lewis (USA) as new panel members. The minutes from the Villefranche meeting were approved without change.

2 - REPORTS

Nick Pisias briefly summarized the status of planning for the eastern Indian Ocean. Carl Brenner briefly summarized the last IOP meeting in Miami.

3 - SITE SURVEY ASSESSMENTS AND UPDATES

The SSP notes that the excellent seismic reflection data from the Sub-Antarctic, Interplate Deformation, Broken Ridge, and Neogene 1 site surveys were all obtained with water guns and recorded digitally. The resolution, clarity and penetration available from these data with little or no processing provide excellent information to fulfill site survey requirements.

3 (A) Sub-Antarctic (Leg 114)

John LaBrecque and Carol Raymond presented the site survey data from the POLAR DUKE (SA-2, 3, 5, 6) and CONRAD (SA-7, 8). The site survey data are excellent. There are some problems with channels and possible deep diapirs near site SA-8, but there appears to be room to avoid these constraints. There is a small problem with lack of near surface resolution due to an apparent bubble pulse on the POLAR DUKE data. The SSP recommends that every effort be made to carry selected POLAR DUKE tapes to the RESOLUTION for application of decon on board. Advance coordination with TAMU is needed for this effort to be successful.

There are potential clearance problems with sites SA-2 and 5. The SSP can accept moving these sites a few miles on the basis of RESOLUTION data provided that there are seismic ties to the existing site surveys. The available core summaries need to be forwarded to TAMU.

ACTION: Brenner forward Sub-Antarctic core summaries to TAMU. LaBrecque deposit data at Data Bank ASAP for preparation of safety package.

3 (B) Makran

John Jones presented very preliminary data from the December DARWIN cruise. One 400 km MCS profile was shot just east of

62°45'E (a limit set by the Pakistan Navy after three weeks of last minute delays). This line is on the eastern edge of the earlier British SCS survey and seaward of the Marathon MCS coverage.

The British expect the tapes to arrive at the end of January, with MCS processing to be complete by the end of March by GECO.

The Makran data package in its present form is totally inadequate but all the essential elements appear to be present if the processing results can be reviewed before the next PCOM meeting (probably week of March 30).

Deconvolution, migration, and a depth section (preferably at moderate vertical exaggeration) are needed. Sites must be chosen on cross lines, and the SCS data must be displayed at the same scales as the MCS data. Sites could be chosen west of the MCS line if continuity of structure can be demonstrated.

A detailed bathymetric map and a BSR structure map near all proposed sites are highly desirable.

A core location map is needed. None of the core material has been looked at although a question exists as to the datability of the expected section. This question needs to be addressed.

The results of this additional work need to be reviewed by members of the SSP and PPSP prior to the next PCOM meeting.

ACTION: Leggett/While send accurate navigation, additional SCS lines, and proposed site location for the Makran by courier to PCOM meeting in Hawaii. Expedite additional processing and arrange for further review. Coordinate with Data Bank for deposition of all relevant data ASAP.

Note: No additional informtion received in Hawaii. PCOM voted to drop Makran from drilling schedule.

3 (C) Intraplate Deformation

Jeff Weissel presented the site survey, which is just to the northeast of his earlier data. Forty bottom navigated heat flow stations show high and variable heat flow, but no non-linear gradients were observed. Two fault blocks are present - one is slightly elevated above the surrounding sea floor and the other is just visible on the 3.5 kHz data.

There is no straightforward correlation between heat flow and structure.

The site survey data are excellent and adequate for drilling. However, it is still not possible to resolve the thrust faults as precisely as is desirable. SCS decon and migration, using estimated velocities, is recommended over the selected drilling sites in order to improve resolution of the fault planes.

A summary of available core material is needed to clarify possible dating problems in the Pleistocene.

ACTION: Weissel ask D. Johnson (WHOI) regarding a written summary of Pleistocene dating problems at the Intraplate Deformation sites. Deposit data with Data Bank ASAP as the Safety Package needs to be prepared soon.

3 (D) Broken Ridge

Jeff Weissel and Greg Mountain presented the CONRAD site survey data. In order to discriminate between active and passive rifting models it will be necessary to define the age and facies of the youngest prerift section, as compared to the age and facies of the oldest postrift section. An active rifting model implies uplift predates extension while a passive rifting model implies that uplift is syn- or post-extension.

The site survey data are excellent. No problems are anticipated with site selection. From a site survey perspective, there is no need to position sites directly on cross lines given the excellent grid of data available, but PPSP may feel differently.

ACTION: Weissel/Mountain deposit Broken Ridge site survey data at Data Bank once processing is completed.

3 (E) Mascarene Plateau

No new additional information since the April SSP meeting. Data are limited to sparse, good quality SCS. Any drilling plans for Leg 115 will have to be predicated on a successful site survey being completed only about a month before the leg starts. There cannot be any meaningful review in such a short time frame.

Note: Pisias and Peirce agreed on a PPSP meeting with SSP representation (Lewis?) at OSU in April.

3 (F) SWIR

Henry Dick presented the SWIR site survey data.

The site survey has excellent Seabeam and magnetics data (although the correct interpretation of the magnetic annomalies older than 5 is debatable). The seismic coverage is adequate, but it is unfortunate that there are no deep source 3.5 kHz records. There are no photographs or side-scan data. The heat flow data are few and erratically distributed. There is an extensive and well documented dredge collection, and cores were taken in the critical places.

SWIR I (gravel pits)

Beacon left on medial high. Two cores of gravel; trigger cores were pelagic ooze. The surveys are adequate for the attempt at pogo drilling, but the risks of gravelly sediments must be assumed. There is enough sediment to set a reentry core if the initially encountered drilling conditions indicate that to be desirable. The nature of the sediments cannot be determined from the 12 kHz core record as the gain was set too high.

SWIR II (median ridge) and SWIR III (nodal basin)

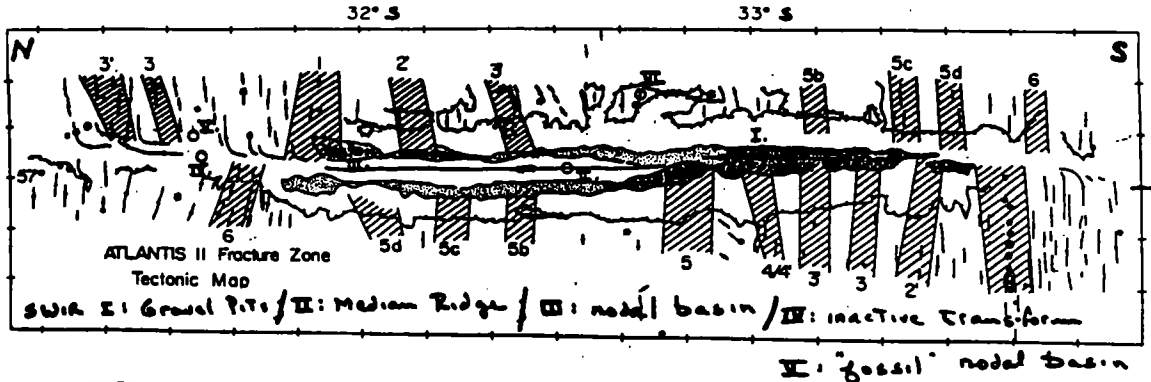
Bare rock sites. The available site survey data are inadequate for bare rock drilling, with or without the guide base, until there has been an extensive TV survey by the RESOLUTION. No beacons have been set, but the sites should be easily found as there are large and the bathymetric signatures are unambiguous.

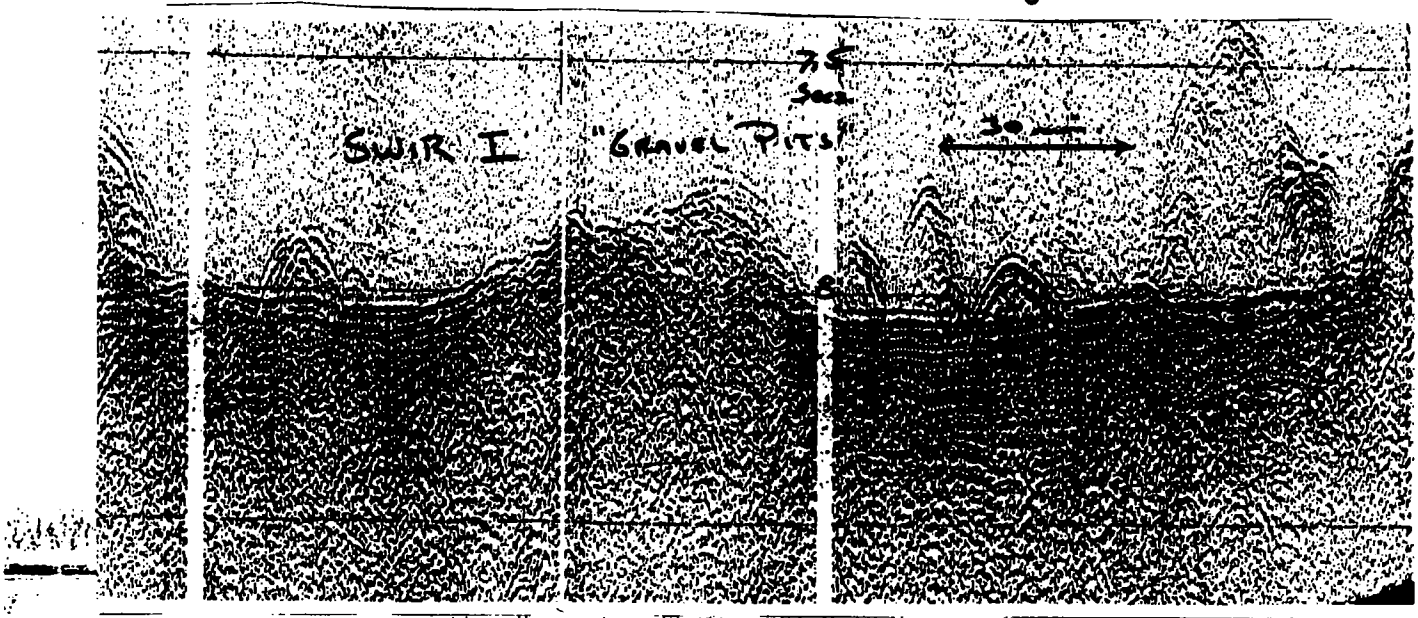
SWIR IV (inactive transform)

The site survey dta at this site are inadequate without a TV survey by the RESOLUTION. The seismic records are ambiguous and sufficient sediment thickness for a normal spud-in cannot be clearly demonstrated.

SWIR V (fossil nodal basin and adjacent bench)

There is well defined and adequate sediment for spudding into both the fossil nodal basin and the adjacent bench (Figure 1). There are 8 heat flow measurements on the bench. There is no beacon, but the site should be easily recoverable because of its unique bathymetric signature.


32° S
33° S
N
S
57°
ATLANTIS II Fracture Zone
Tectonic Map
SWIR I: Gravel Pits / II: Median Ridge / III: nodal basin / IV: inactive transform
V: "fossil" nodal basin


SWIR I "GRAVEL PITS"
3 sec
30 km

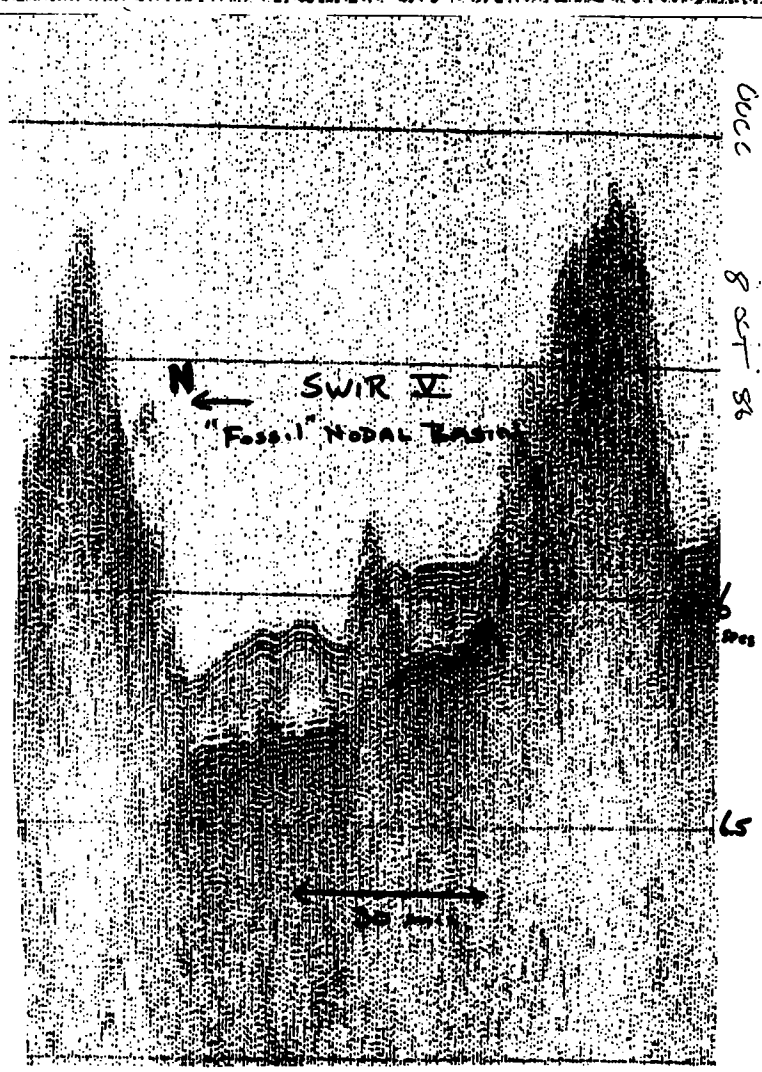

N
SWIR V
"Fossil" NODAL BASIN
CDCC
8 OCT 96
LS
30 km

Fig. 1

SWIR VI (Shallow bench, east wall)

This site is presumed to be covered by a carbonate "pavement" and must be considered a bare rock site. Site survey data are inadequate for a bare rock site without a TV survey.

The SSP notes that there may be AABW flow along the floor of the fracture zone. This may cause some winnowing of the sediments. Moderate bottom currents should be anticipated as a possibility during precise drill string work such as TV surveys. There are no heat flow data in a position to confirm the existence of AABW.

ACTION: Dick and Brenner coordinate depositing SWIR site survey data with the Data Bank.

3 (G) Neogene I

Warren Prell and Greg Mountain presented the site survey data. The site survey package is comprehensive and demonstrates clearly the amount of scientific gain afforded by a well planned, well funded, and well executed site survey.

There are some diapirs structures on the Oman margin in the O_2 minimum zone which may be of concern to PPSP. However, the sites are located in downdip locations on crosslines. There is adequate information for the PPSP to evaluate.

The watergun lines over the Indus Fan site area provide ample choices for a site location which minimizes the possibility of intersecting burried or surface channels. There are additional French watergun records in the area which were specifically collected by Drose (Villefranche) par site selection.

ACTION: Brenner/Mauffret expedite transfer of the French watergun records on the Indus Fan to the Data Bank to provide maximum choices for site selection.

Prell/Mountain and Brenner coordinate depositing Neogene site survey data with the Data Bank.

3 (H) Neogene II

Sites CARB 1-4 are adequately supported by site survey data for Neogene objectives. However, the SSP reiterrates that the basement objectives once discussed for CARB-1 are not supported by the data as basement is not visible on the available seismic line (see p.7 of the Villefranche SSP minutes).

The shallow Maldive site proposed by Droxler is adequately surveyed (Vema 2902, 20 Dec. at 1230). There is a 12 m core near the site and two others nearby.

3 (I) **Gulf of Aden**

There is one site on the available data with enough sediment section to meet the objectives of the proposal. That site is on a crossing of Conrad 9/10 and Verma 33-6 lines. There is a core nearby. Water depth is about 2100 m and sediment thickness is about 700 m.

3 (J) **Prydz Bay**

The SSP still feels that the site survey data are inadequate for drilling according to normal ODP standards. However, recognizing the extreme scientific importance of the proposed drilling and accepting PPSP's acceptance of the line as being adequate, PCOM may wish to make a conscious decision to drill on inadequate data.

If drilling goes ahead all involved should recognize that there is no firm evidence to indicate true dip or the age of the section to be drilled.

The SSP strongly recommends that processed copies of lines 31, 19, 23 and 33 (adjacent lines) and the unnumbered oblique cross line shown in Figure 2 of the published paper (if seismic data exist on it) be requested from the Australians ASAP. Reprocessing all the lines (including line 21 along which the sites are proposed) with a tailored AGC filter would help define the section immediately above the first multiple. There is serious question as to whether the Australians have the resources ($ or people) to do this in the timely fashion needed.

ACTION: Peirce draft letter to Australians for Pisias to sign on behalf of ODP if a positive drilling decision is made.

Note: Falvey has promised Pisias that he will bring single channel monitor records of the above lines to the next IOP meeting and to arrange for them to go to the Data Bank.

3 (K) **Northern Ninetyeast Ridge**

Peirce presented the preliminary data package sent by Curray. There is adequate site survey data from which to choose a specific site for the northern Ninetyeast Ridge. The site proponents need to clarify the specific site

locations as soon as the southern Ninetyeast Ridge data are synthesized.

3 (L) **Argo-Exmouth**

Discussion was deferred until the next meeting because of lack of time.

ACTION: Larsen/Meyer invite von Rad to next meeting for presentation of Argo/Exmouth data. Peirce include von Rad on list of invitees.

3 (M) **Kerguelen**

A full review is scheduled for the next meeting. Schlich has promised Peirce that full scale processed sections for N. Kerguelen will be sent to Data Bank this month.

4 - WPAC DISCUSSIONS

Mauffret reported on the last WPAC meeting which he attended as SSP liaison. Some reassignment of SSP "watchdog" responsibilities was made to balance the work load. Notes on the discussions regarding these items are presented in order of WPAC priority, although that was not the chronological order in which they were discussed. The SSP watchdogs are shown in parentheses.

(1) **Banda-Sulu-S. China Sea Transect** (H. Meyer)

Sulu-4 must be surveyed. Germans (Hinz, BGA) plan to do so in April-June, 1987.

Silver's site survey for the Banda Sea is definitely scheduled for Fall, 1987, on the R/V Moore.

(2) **Bonin I** (Duennebier)

See attached site survey matrix. Site surveys in hand or planned.

(3) **Lau Basin** (Duennebier)

The present state of the site survey data is inadequate for drilling. Sites LG-4 and possibly LG-5 are the only locations drillable on the present data. The SSP welcomes the new synthesis proposal as a clarification of the scientific problems. However, it notes that there are many outstanding site survey requirements (see attached matrix), and it is unaware of any site survey plans other than those noted thereon. Of particular note is the need for side scan data,

TARGET SITE: Environment water depth: sed. thick: penetration: TECHNIQUE	Bonin 1 (reentry) 2270m 850m 870m	Bonin 2 (reentry) 1100m 500m 700m	Bonin 5a 2700m >1500m 950m	Bonin 5b 3400m 900m 950m	Bonin 6 (reentry) 2850m 950m 1100m
1. Deep penetration SCS	GSJ (Geological Survey of Japan)	GSJ	HIG & JNOC	HIG & JNOC	LDGO
2. High resolution SCS					
3. MCS with velocities	JNOC (Japan National Oil Co.)	JNOC	JNOC	JNOC	JNOC & LDGO
4. Seismic data on cross lines	will be done by July 1987, for all sites by Taylor, HIG, JNOC				
5. Seismic refraction	profile at 32°N across arc, Honza and Tamaki, 1985				
6. 3.5 kHz	GSJ & HIG	GSJ & HIG	GSJ & HIG	GSJ & HIG	GSJ & HIG
7. multi-beam bathymetry	SASS, Bay St. Louis, & SeaMARC II, HIG				
8. Sidescan sonar:					
A - shallow	SeaMARC II, HIG	SeaMARC II, HIG	SeaMARC II, HIG	SeaMARC II, HIG	SeaMARC II, HIG
B - deep-towed					
9. Heat flow	GSJ	GSJ	GSJ	GSJ	GSJ
10. Magnetics	GSJ & HIG	GSJ & HIG	GSJ & HIG	GSJ & HIG	GSJ & HIG
11. Coring: A - paleoenvironmental B - geotechnical	cores available (GSJ?), tech work needs to be done for reentry info.				NO CORES - must do for reentry
12. Dredging					
13. Photography					
14. Current meter					

Table 1: Site Survey Matrix, BONIN 1, (update: 1/87)

TARGET SITE: water depth: sed. thick: penetration: TECHNIQUE	Bonin 7 4650m 200m 600m	Bonin 8 6000m 500m 600m	Mariana Ref Hole (near DSDP 452) Langmuir & Natland ? ? ?
1. Deep penetration SCS	GSJ (~~Geological Survey of Japan~~) & HIG	GSJ	?
2. High resolution SCS			
3. MCS with velocities	LDGO and JNOC (~~Japan National Oil Co.~~)	LDGO	?
4. Seismic data on cross lines	will be done by July 1987 by Taylor, HIG		?
5. Seismic refraction	profile at 32°N across arc, Honza and Tamaki, 1985		
6. 3.5 kHz	HIG	HIG	
7. multi-beam bathymetry 8. Sidescan sonar:	SASS, Bay St. Louis	SASS, Bay St. Louis	
A - shallow	SeaMARC II, HIG		
B - deep-towed			
9. Heat flow			
10. Magnetics	HIG	HIG	
11. Coring: A - paleoenvironmental B - geotechnical			
12. Dredging	ALVIN in area in 1987, but sites too deep for dive		
13. Photography			
14. Current meter			

Table 1: Site Survey Matrix, BONIN 2, (update: 1/87)

TABLE 1: SITE SURVEY MATRIX, LAU BASIN (update: 2/87)

TARGET SITE:	LG-1	LG-2	LG-3	LG-4	LG-5	LG-6
Environment:	E/F	E	D	E/F	E	D/E
Water Depth:	2200m	2200m	750m	2400m	2500m	4500-5000m
Sed. Thick:	50m	300m	>1500m	50m	300m	200-500m
Penetration:	500m	400m	500m	350m	350m	400-500m
TECHNIQUE						
1. Deep penetration SCS	SIO	SIO	USGS?	USGS?	IFREMER	USGS?
2. High Resolution SCS	needed	needed			desirable	
3. MCS with velocities			USGS	USGS		USGS & industry
4. Seismic data on cross lines		needed	USGS? needed			USGS? needed
5. Seismic refraction		SIO & HIG	sonobuoy? USGS?			
6. 3.5 kHz		SIO & HIG	USGS?	USGS	IFMER?	USGS?
7. Multi-beam Bathymetry	SIO SONNE'87	needed	needed	BGR & IFREMER	IFMER	
8. Sidescan sonar:						
a) shallow	needed	needed		desirable	needed	
b) deep-towed	needed					
9. Heat flow	needed				requested SONNE or CHARCOT'87, DARWIN'88	
10. Magnetics	SIO & BGR	SIO & HIG	USGS?		IFRMER	USGS?
11. Coring:						
a) paleoenvironmental	SIO	Imp.Col.,	USGS?	needed		
b) geotechnical						
12. Dredging	SIO	SIO & HIG	USGS?	BER/USGS		USGS?
13. Photography	needed?			desirable		
14. Current meter						

CRUISES PLANNED: Sonne, 1987; Charcot, 1987; Darwin, 1988(?).

especially at site LG-1, as well as a SCS profile linking sites LG-1, 2, and 7.

ACTION: Duennebier contact Gill to ask for a Lau Basin report for the next SSP meeting and to try to arrange for a proponent to attend. Pass name of attendee to Peirce to include in list of guests requested at next meeting.

(4) Vanuatu (Mauffret)

The USGS MCS lines in the d'Entrecasteaux region have been migrated. Analysis of semblance plots indicate high velocities and a section which is too thick to allow the drilling objectives to be met.

The French MCS cruise on the Charcot (scheduled for May) will be in this area instead of the Coriolis Trough in order to try to define a new site.

(5) Japan Sea (Suyehiro)

Fewer reentry sites are required than were indicated earlier on the site proposals.

Apparently the shallow gas problem is related to a seismically transparent diatomaceous layer. The strategy to avoid shallow gas is to plan to penetrate this layer when it is not in a sealed position.

ACTION: Suyehiro include a thorough discussion of shallow gas problem in his next report on the Japan Sea.

(6) Nankai (Suyehiro)

The JNOC 55 data set will be made available, but it is not yet available. The feeling is that there is no BSR problem at NKT-2.

ACTION: Suyehiro continue to push for release of JNOC 55 data set in Nankai Trough. Prepare full report on BSR situation at NKT-2.

(7) Great Barrier Reef (Kidd)

Sarg (Exxon) showed a new MCS line at WPAC meeting. The Australians are planning a new MCS survey this summer, but we are unaware of the specifics.

The SSP reiterates its negative assessment of the current data base (p.13 of Villefranche minutes). The SSP has not yet seen the revised proposal.

ACTION: Peirce talk to Taylor regarding plans/hopes for this area (done in Honolulu) and write Fabvey for a copy of Australian cruise plans. Weidicke send Peirce/Kidd/Brenner copies of new proposal.

(8) Sunda Back Thrusting (Larsen)

The Silver site survey is definitely scheduled for Fall '87 on the R/V Moore.

(9) Bonin II (Duennebier)

See attached matrix. Site surveys in hand or planned.

(10) Nankai Geotech Mini leg (Suyehiro)

No comments. Will be discussed more fully at next SSP meeting.

(11) S. China Sea Margin (Lewis)

The two ship ESP data are only 20% processed. Rumour has it that industry data may be released through Hsu (ETH).

ACTION: Peirce write Pautot regarding data quality for sites SCS-1 and 2.

(12) Zenisu Ridge (Lewis)

Japanese MCS is planned.

(13) New Proposals

(a) Woodlark Basin. Apparently there is some chance of an Australian site survey with Scott (Canada).

ACTION: Peirce contact Scott for more information.

(b) Ogasawra Plateau (intersection of Bonin and Marianas Trenches). SAS bathymetry exists. Japanese survey (MCS, gravity, magnetics) scheduled for 1988.

(c) Kuril TTT Triple Junction. MCS and side scan data are needed to support this.

(14) Additional Site Surveys

(a) Nauru Basin/old Pacific - French and/or American MCS survey planned, (Schlich and Larson).

(b) Early 88 GLORIA surveys. There is talk of GLORIA surveys being run in the Philippines, Timor Sea and/or Lau Basin areas circa February, 1988. Nothing firm is scheduled.

5 - UNDERWAY GEOPHYSICS TRIALS ON LEG 112 T

The weather on Leg 112 T precluded any significant tests. A winch was rigged amidships to tow the 3.5-kHz towfish 120 feet from the ship's wake though bad weather prevented deployment of the towfish from this winch, ODP hopes to test it during Leg 113. Comparisons were made of the ODP Teledyne streamer and a pre-amp-equipped L-DGO streamer; both streamers produced similar records to 12 knots (the fastest transit speed during 112 T due to the weather).

6- UPCOMING MEETINGS

(a) SSP

The next SSP meeting is tentatively scheduled for Copenhagen for June 30 - July 4, 1987. Birger Larsen will host the meeting. A tentative agenda is attached as Appendix A.

The next SSP meeting after that is tentatively planned for late November, early December in Hawaii in order to allow for easy liaison with the WPAC chairman.

ACTION: Larsen contact P. Henry at JOI regarding arrangements. Peirce write to Pisias in March to firmly schedule meeting.

(b) WPAC

The next WPAC meeting is scheduled for early March in either Tokyo or Noumea. Suyehiro will attend as SSP liaison.

ACTION: Peirce write Pisias to have Suyehiro invited to WPAC meeting as SSP liaison.

(c) CEPAC

The next CEPAC meeting is scheduled at Northwestern on March 30-31. Brenner will attend as SSP liaison.

ACTION: Peirce write Pisas to have Brenner invited to next CEPAC meeting as liaison.

(d) Mascarene Plateau date review

Presuming that this will occur in Corvallis or Denver, the SSP plans to send Lewis as their representative.

7 - SHIP SCHEDULES

The Canadian and U.S. ship schedules are attached as Appendices B and C for information.

8 - SSP ANNUAL REPORT

The annual report of the SSP Chairman to PCOM is attached as Appendix D for information.

APPENDIX A

TENTATIVE AGENDA

SSP MEETING

COPENHAGEN, DENMARK

JUNE 30 - JULY 3, 1987

1. Preliminary Matters
   Introductions, schedules, minutes, etc.

2. Reports

   a) PCOM (Francis)
   b) Operator (A. Meyer)
   c) IOP (?)
   d) WPAC (Suyehiro)
   e) Drilling Engineering Workshop (A. Meyer ?)

3. Site Survey Assessments

   a) Report on Mascarene Plateau (Lewis)
   b) Kerguelen N & S (?)
   c) Ninetyeast Ridge South (Peirce)
   d) Argo/Exmouth (Larsen and von Rad)
   e) Lau Basin (?)

4. Review of WPAC drilling proposals.

5. New Chairman in 1988.

6. Upcoming Meetings and Liaisons.

Appendix B

1987 CANADIAN SHIP SCHEDULE
Cruises of Interest to ODP

Where	When	Who	What	Ship
PACIFIC:				
Juan de Fuca R.	4/20–5/3 (10/16–12/6 alt. schedule)	Clowes	Seismic refefraction	TULLY
Vancouver Island	5/4–24	Rohr, Yorath	Seismic, coring	TULLY
Juan de Fuca R.	5/25–6/7	Franklin	Camera, drilling, dredging	TULLY
Vancouver Island	6/8–6/21	Davis/Law	Heat flow, electrical resistivity	TULLY
NE Pacific	8/10–30	Bornhold	Seismic, dredging	PARIZEAU
ATLANTIC:				
Laurentian Fan	April	Piper	Testing of URI long coring facility	HUDSON
NE Grand Banks	5/15–6/7	C. Keen	OBS Refraction Deep SCS	HUDSON

POC: Michael Rawson
Lamont-Doherty Geological Observatory
Columbia University
Palisades, N.Y. 10964
Tel: (914) 359-2900 x367

Revised
December 1, 1986

R/V ROBERT D. CONRAD

Operations Schedule for Period 04 Jan 1987 through 31 Dec 1987

DATES	PROGRAM AND LEG	AGENCY DAYS AT SEA
Oceanographic Research Dep: 04 Jan 87 Rio de Janeiro Arr: 27 Jan 87 Recife	Katz (28-01) Equatorial Atlantic Mooring Recovery	NSF (F) 23 Days
Oceanographic Research Dep: 31 Jan 87 Recife Arr: 07 Mar 87 Montevideo	Fleming (28-02) Fox, Cande S. Atlantic	ONR/NRL 35 Days (SB) (F)
Oceanographic Research Dep: 11 Mar 87 Montevideo Arr: 15 Apr 87 Montevideo	Whitworth (28-03) South Atlantic CTD, Mooring Recovery	NSF (F) 35 Days
Oceanographic Research Dep: 19 Apr 87 Montevideo Arr: 24 May 87 Rio de Janeiro	Flood (28-04) South Atlantic Argentine Basin Sediments	ONR (F) 35 Days (SB)
Transit Dep: 28 May 87 Rio de Janeiro Arr: 01 Jun 87 Recife	Transit (28-05)	NSF/ONR 5 Days
Oceanographic Research Dep: 03 Jun 87 Recife Arr: 07 Jul 87 Fortaleza	Schilling (28-06) Equatorial Atlantic MAR-Petrology	NSF (F) 34 Days (SB)
Transit Dep: 10 Jul 87 Fortaleza Arr: 20 Jul 87 San Juan	Transit (28-07)	NSF 10 Days
Maintenance & Sea Trials INSERV Inspection & Installation	Maintenance NSF of MCS Equipment	15 Days
Oceanographic Research Dep: 05 Aug 87 San Juan Arr: 31 Aug 87 Valencia	(28-08) North Atlantic Cable Survey (pending)	PFS (P) 26 Days (SB)
Oceanographic Research Dep: 04 Sep 87 Valencia Arr: 04 Oct 87 Gibraltar	Watts (28-09) Valencia Basin 2-Ship MCS w/French	NSF (F) 30 Days
Oceanographic Research Dep: 08 Oct 87 Gibraltar Arr: 23 Oct 87 Bermuda	(28-10) TRANSIT	15 Days
Oceanographic Research Dep: 27 Oct 87 Bermuda Arr: 20 Nov 87 San Juan	Detrick (28-11) Bermuda Basin MCS (2-Ship Ops)	NSF (F) 34 Days
Transit Dep: 23 Nov 87 San Juan Arr: 28 Dec 87 Panama	(28-12) USGS/and or Cable Survey Gulf of Mexico/Caribbean (Tentative)	35 Days

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Oceanographic Research Dep: 02 Jan 88 Panama Arr: 27 Jan 88 Panama	Purdy (29-01) EPR/13 N. OBS, Seismic Survey	NSF (F) 25 DAYS (SB)
Oceanographic Research Dep: 31 Jan 88 Panama Arr: 10 Feb 88 Valparlso	(29-02) TRANSIT	NSF 10 Days
Oceanographic Research Dep: 14 Feb 88 Valparlso Arr: 22 Mar 88 Puntarenas	Cande (29-03) Chile Ridge/Trench MCS & MGG Survey	NSF (F) 36 Days

ENDEAVOR
OPS SCHEDULE FOR PERIOD
1 JAN 87 - 31 DEC 87

OCEANOGRAPHIC RESEARCH	SANFORD	NSF
DEP: 03 JAN 87 NARRAGANSETT		(F)
ARR: 23 JAN 87 NARRAGANSETT	W. N. ATLANTIC	21
OCEANOGRAPHIC RESEARCH	WATTS	ONR/NSF
DEP: 28 JAN 87 NARRAGANSETT		
ARR: 06 FEB 87 NARRAGANSETT	HATTERAS	7/3
TRANSIT		NSF
DEP: 10 FEB 87 NARRAGANSETT		
ARR: 22 FEB 87 FORTALEZA	TRANSIT	13
OCEANOGRAPHIC RESEARCH	SCHILLING	NSF
DEP: 25 FEB 87 FORTALEZA		(F)
ARR: 26 MAR 87 BARBADOS	EQUATOR	30
TRANSIT		NSF
DEP: 29 MAR 87 BARBADOS		
ARR: 04 APR 87 NARRAGANSETT	TRANSIT	7
OCEANOGRAPHIC RESEARCH	CAMMEN	NSF
DEP: 07 APR 87 NARRAGANSETT		(F)
ARR: 10 APR 87 NARRAGANSETT	GULF OF MAINE	4
OCEANOGRAPHIC RESEARCH	WINN	NSF
DEP: 14 APR 87 NARRAGANSETT		
ARR: 04 MAY 87 NARRAGANSETT	W. NO. ATLANTIC	21
OCEANOGRAPHIC RESEARCH	MARRA	ONR
DEP: 10 MAY 87 NARRAGANSETT		(F)
ARR: 28 MAY 87 NARRAGANSETT	W. NO. ATLANTIC	19
OCEANOGRAPHIC RESEARCH	HOUGHTON	NSF
DEP: 18 JUN 87 NARRAGANSETT		
ARR: 29 JUN 87 NARRAGANSETT	W. NO. ATLANTIC	20
OCEANOGRAPHIC RESEARCH	COLWELL/GRIMES	NSF
DEP: 02 JUL 87 NARRAGANSETT		(1)
ARR: 16 JUL 87 NARRAGANSETT	W. NO. ATLANTIC	15

OCEANOGRAPHIC RESEARCH		SWIFT/CASE	ONR
DEP: 12 AUG 87 NARRAGANSETT			(F)
ARR: 28 AUG 87 NARRAGANSETT		W. NO. ATLANTIC	17
OCEANOGRAPHIC RESEARCH		DAVIS	NSF
DEP: 31 AUG 87 NARRAGANSETT			
ARR: 09 SEP 87 NARRAGANSETT		W. NO. ATLANTIC	10
OCEANOGRAPHIC RESEARCH		LEVINE	NUSC
DEP: 12 SEP 87 NARRAGANSETT			
ARR: 18 SEP 87 NARRAGANSETT		W. NO. ATLANTIC	7
OCEANOGRAPHIC RESEARCH		ROSSBY	ONR
DEP: 04 OCT 87 NARRAGANSETT			(F)
ARR: 17 OCT 87 NARRAGANSETT		W. NO. ATLANTIC	14
OCEANOGRAPHIC RESEARCH		BISCAYNE	DOE
DEP: 22 OCT 87 NARRAGANSETT			(F)
ARR: 31 OCT 87 NARRAGANSETT		W. NO. ATLANTIC	10
TRANSIT			NSF
DEP: 05 NOV 87 NARRAGANSETT			
ARR: 11 NOV 87 SAN JUAN		TRANSIT	7
OCEANOGRAPHIC RESEARCH		WATERBURY	NSF
DEP: 14 NOV 87 SAN JUAN			
ARR: 03 DEC 87 FORTALEZA		CARIBBEAN	20
OCEANOGRAPHIC RESEARCH		GARZOLI/KATZ	NSF
DEP: 05 DEC 87 FORTALEZA			(F)
ARR: 24 DEC 87 FORTALEZA		EQUATOR	20

KNORR

OPS SCHEDULE FOR PERIOD
01 JAN 87 - 31 DEC 87

OCEANOGRAPHIC RESEARCH	WIEBE	NSF
DEP: 03 JAN 87 WOODS HOLE		
ARR: 23 JAN 87 WOODS HOLE	W. NO. ATLANTIC	21
OCEANOGRAPHIC RESEARCH	BALLARD	NSF/NSF
DEP: 13 FEB 87 WOODS HOLE	W. NO. ATLANTIC	8/20
ARR: 12 MAR 87 WOODS HOLE		
TRANSIT		NSF
DEP: 22 MAR 87 WOODS HOLE		
ARR: 10 APR 87 PIRAEUS	TRANSIT	21
OCEANOGRAPHIC RESEARCH	YENTSCH (BLOS)	NSF
DEP: 13 APR 87 PIRAEUS		
ARR: 02 MAY 87 ISTANBUL	E. MEDITERRANEAN	22
OCEANOGRAPHIC RESEARCH	JANNASCH	NSF
DEP: 05 MAY 87 ISTANBUL		
ARR: 20 MAY 87 ISTANBUL	BLACK SEA	18
OCEANOGRAPHIC RESEARCH	HONJO	NSF
DEP: 23 MAY 87 ISTANBUL		
ARR: 15 JUN 87 ISTANBUL	BLACK SEA	26
OCEANOGRAPHIC RESEARCH	MURRAY (UW)	NSF
DEP: 18 JUN 87 ISTANBUL		
ARR: 01 JUL 87 ISTANBUL	BLACK SEA	15
OCEANOGRAPHIC RESEARCH	MURRAY (UW)	NSF
DEP: 03 JUL 87 ISTANBUL		
ARR: 16 JUL 87 ISTANBUL	BLACK SEA	16
OCEANOGRAPHIC RESEARCH	WATSON	NSF
DEP: 19 JUL 87 ISTANBUL		
ARR: 02 AUG 87 ISTANBUL	BLACK SEA	18
OCEANOGRAPHIC RESEARCH	MILLIMAN	NSF
DEP: 06 AUG 87 ISTANBUL		
ARR: 20 AUG 87	BLACK SEA	19

OCEANOGRAPHIC RESEARCH	YENTSCH (BLOS)	NSF
DEP: 23 AUG 87 ISTANBUL		
ARR: 11 SEP 87 PIRAEUS	E. MEDITERRANEAN	22
OCEANOGRAPHIC RESEARCH	EDMOND (MIT)	NSF
DEP: 14 SEP 87 PIREAUS		
ARR: 24 SEP 87 PALERMO	E. MEDITERRANEAN	13
TRANSIT		
DEP: 27 SEP 87 PALERMO		NSF
ARR: 03 OCT 87 CANARY ISLANDS	TRANSIT	7
OUT OF SERVICE		
DEP: 04 OCT 87 CANARY ISLANDS		
ARR: 17 OCT 87 CANARY ISLANDS	SHIPYARD	
TRANSIT		NSF
DEP: 18 OCT 87 CANARY ISLANDS		
ARR: 23 OCT 87 DAKAR	TRANSIT	10
OCEANOGRAPHIC RESEARCH	SMITHIE (LDGO)	NSF
DEP: 28 OCT 87 DAKAR		
ARR: 23 NOV 87 DAKAR	SO. ATLANTIC	31
OCEANOGRAPHIC RESEARCH	SMITHIE (LDGO)	NSF
DEP: 28 NOV 87 DAKAR		
ARR: 22 DEC 87 RIO	SO. ATLANTIC	34

MOANA WAVE

OPS SCHEDULE FOR PERIOD
01 JAN 87 - 31 DEC 87

OCEANOGRAPHIC RESEARCH	MACDONALD	ONR
DEP: 29 NOV 86 HONOLULU		(F)
ARR: 05 JAN 87 ACAPULCO		87:5
OCEANOGRAPHIC RESEARCH	MACDONALD	NSF
DEP: 09 JAN 87 ACAPULCO		(F)
ARR: 13 FEB 87 EASTER ISLAND		36
OCEANOGRAPHIC RESEARCH	SINTON	NSF
DEP: 17 FEB 87 EASTER ISLAND		(F)
ARR: 16 MAR 87 EASTER ISLAND		
OCEANOGRAPHIC RESEARCH	HEY	NSF
DEP: 20 MAR 87 EASTER ISLAND		(F)
ARR: 28 APR 87 CALLAO		40
OCEANOGRAPHIC RESEARCH	FARRINGTON	NSF
DEP: 02 MAY 87 CALLAO		(F)
ARR: 15 MAY 87 CALLAO		14
OCEANOGRAPHIC RESEARCH	MOBERLY	NSF
DEP: 19 MAY 87 CALLAO		(F)
ARR: 18 JUN 87 GUAYAQUIL		31
OCEANOGRAPHIC RESEARCH	FORNARI	NSF
DEP: 23 JUN 87 GUAYAQUIL		(F)
ARR: 20 JUL 87 PANAMA		28
OCEANOGRAPHIC RESEARCH	RISER	NSF
DEP: 24 JUL 87 PANAMA		(F)
ARR: 21 SEP 87 TAHITI		60
OCEANOGRAPHIC RESEARCH	COULBOURN	AID
DEP: 25 SEP 87 TAHITI		(F)
ARR: 18 OCT 87 PAGO PAGO		24
OCEANOGRAPHIC RESEARCH	KROENKE	AID
DEP: 21 OCT 87 PAGO PAGO		(F)
ARR: 10 NOV 87 SUVA		21

OCEANOGRAPHIC RESEARCH DEP: 14 NOV 87 SUVA ARR: 04 DEC 87 PORT VILA		IFREMER (P) 21
OCEANOGRAPHIC RESEARCH DEP: 08 DEC 87 PORT VILA ARR: 08 JAN 88 MAJURO	SCHLANGER	NSF 87:24

THOMAS WASHINGTON

OPS SCHEDULE FOR PERIOD
01 JAN 87 - 31 DEC 87

OPEN DEP: 07 JAN 87 SAN DIEGO ARR: 06 FEB 87 SAN DIEGO	OPEN	
OCEANOGRAPHIC RESEARCH DEP: 14 FEB 87 SAN DIEGO ARR: 22 MAR 87 PAPEETE	WINTERER SEABEAM-GRAVITY EQUATOR - LINE ISLANDS	ONR/UC (F) 34/5
OCEANOGRAPHIC RESEARCH DEP: 27 MAR 87 PAPEETE ARR: 22 APR 87 PAPEETE	KEELING/MCNUTT/NATLAND SEABEAM-GRAVITY MARQUESAS FAN	NSF (F) 30
OCEANOGRAPHIC RESEARCH DEP: 26 APR 87 PAPEETE ARR: 24 MAY 87 TONGA	WHITE (UK) SEABEAM-GRAVITY LAU BASIN	NSF (F) 32
OCEANOGRAPHIC RESEARCH DEP: 28 MAY 87 TONGA ARR: 23 JUN 87 TONGA	DORMAN OBS LAU BASIN	NSF (S) 30
OCEANOGRAPHIC RESEARCH DEP: 27 JUN 87 TONGA ARR: 17 JUL 87 TONGA	BLOOMER/FISHER SEABEAM TONGA TRENCH	NSF (S) 23
OCEANOGRAPHIC RESEARCH DEP: 18 JUL 87 TONGA ARR: 27 JUL 87 TONGA	DORMAN RECOVER OBS LAU BASIN	NSF (S) 10
OCEANOGRAPHIC RESEARCH DEP: 30 JUL 87 TONGA ARR: 27 AUG 87 SUVA	HAWKINS SEABEAM LAU BASIN	NSF/ODP (S) 32
TRANSIT DEP: 30 AUG 87 SUVA ARR: 12 SEP 87 PALAU	TRANSIT	NSF 15
OCEANOGRAPHIC RESEARCH DEP: 15 SEP 87 PALAU ARR: 13 OCT 87 MANILA	LEWIS (LDGO) SEABEAM MANILA TRENCH	NSF (S) 32

OCEANOGRAPHIC RESEARCH DEP: 16 OCT 87 MANILA ARR: 06 NOV 87 AMBON	SILVER (UCSC) SEISMICS BANDA SEA	NSF/ODP (S) 24
OCEANOGRAPHIC RESEARCH DEP: 09 NOV 87 AMBON ARR: 30 NOV 87 FREMANTLE	SILVER BANDA SEA	NSF/ODP (S) 24
OCEANOGRAPHIC RESEARCH DEP: 03 DEC 87 FREMANTLE ARR: 31 DEC 87 MELBOURNE	CHRISTIE DREDGING 50S-AUSTRALIA	NSF (S) 32

ANNUAL REPORT OF THE SITE SURVEY PANEL

The SSP has met three times since the 1986 ODP Annual Meeting - in Victoria (April), Villefranche (Nov.) and Palisades (Jan.).

The SSP is pleased with the quality of the recently completed site surveys. We feel that that the additional scientific understanding provided by these new data sets has underlined the importance of good site survey data more successfully than any amount of rhetoric could have done. The catch-up game which has dogged the Indian Ocean planning is nearly over, and we feel that site survey planning will soon be on a reasonable schedule with sufficient advance time for the first time in the history of deep sea drilling.

The SSP's watchdog system for drilling proposals and the revised Site Survey Data Standards matrix seem to be working well. From our perspective we have adequate liaison with other panels.

The ODP Databank has operated at the same level of activity in FY 86 as in FY 85. However, the Databank, and in particular Carl Brenner, have played an increasingly key role in facilitating the work of the SSP. The Site Survey Panel is particularly pleased that the funding of the Databank for 1987 is at a reasonable level. There continue to be problems from time to time in receiving critical data packages in the Databank, but these seem to becoming less frequent.

Our meetings for 1987 are tentatively scheduled for June 30 - July 3 (Copenhagen) to review Kerguelen and the eastern Indian Ocean in detail and to go through WPAC plans again. In early December we plan a second meeting to review completed WPAC site surveys in detail and to look ahead to CEPAC site survey status.

Respectfully submitted,

John W. Peirce
SSP Chairman
January 16, 1987

Appendix D