SEDIMENTARY & GEOCHEMICAL PROCESSES PANEL MEETING

Geological Institute
ETH-Zentrum
Zürich, Switzerland

8-9 November 1991

EXECUTIVE SUMMARY

1. OPCOM MONEY AND FLUID SAMPLING:

SGPP expresses its concern that adequate progress has not been made in the development of the new technologies required for *in situ* pore fluid sampling and downhole property measurements, such as pressure, permeability and temperature. SGPP strongly recommends that some OPCOM money be allocated for the development of the needed tools. SGPP proposes an integrated approach to the fluid sampling problem by maximizing the use of currently available technology to address short-term goals while continuing to develop new tools for improving and extending our capabilities to reach long-term scientific objectives. SGPP supports the continued development of Geoprops by B. Carson, but would also propose to have funds allocated for testing the Top Hat devise during FY92. SGPP emphasizes that, even without Geoprops, the important fluid sampling objectives outlined for the Leg 146, Cascadia Margin drilling program can be achieved using available tools (WSTP, PCB, CORK) and conventional techniques (squeezing and rinsing). SGPP made specific recommendations and widely circulated a technical plan for processing water and gas samples obtained with the pressure core sampler (PCS-Phase II). See minutes of 5-7 March 1991 meeting at College Station and Gas Hydrate Report. SGPP supports and seconds the TECTP/LITHP joint motion on fluid sampling and endorses the report of the JOIDES Working Group on *In Situ* Pore Fluid Sampling.

2. SUPPLEMENTAL SCIENCE PROPOSALS:

SGPP supports PCOM's decision to discontinue supplemental science proposals. SGPP strongly encourages the continued submission of less-than-one-leg proposals to be handled under the normal ODP review policy and introduced into the planning of legs at an earlier stage. SGPP recognizes that certain "emergency" cases involving technical problems or opportunities to rectify or enhance scientific objectives will arise from time to time and urges that a certain amount of flexibility be maintained in the drilling schedule to accomodate such operations.

A. S-2 Downhole Measurements in Jurassic Oceanic Crust in Hole 801C

SGPP supports supplemental science proposal S-2 to log Hole 801C during Leg 144 because of the potentially valuable scientific information that will be obtained from the downhole measurements

to be performed on the oldest drilled oceanic crust. SGPP recommends that the logging of Hole 801C be given first priority status on the condition that logging time be gained through the sacrifice of drilling time for basement penetration at mid-latitude sites, as specified by LITHP/TECP during their fall meeting.

B. S-3 Ocean Seismic Network (ONS-2)

SGPP does not support supplemental science proposal S-3 because the necessary experimentation at the first hole has not been made, the need for drilling a second hole does not seem to be warranted at this time and the 6-8 days needed to complete ONS-2 do not meet the time criteria of a supplemental science proposal. Although SGPP has no thematic interest associated with the OSN, it recognizes its scientific importance and encourages the submission of less than one leg proposals to drill future dedicated OSN holes.

3. PROPOSAL/NORTH ATLANTIC PROSPECTUS REVIEW:

SGPP reviewed 9 new proposals and 13 new additions or revisions to older proposals. In addition, SGPP discussed the contents of the North Atlantic Prospectus. In its ranking of proposals in the Prospectus, SGPP elected to include a new proposal (Amazon Deep-Sea Fan, No. 405) and to vote separately on the two Mediterranean proposals (Alboran Basin/Gateway (No. 323) and Mediterranean Ridge (No. 330). The N. Atlantic Rifted Margins proposal (NARM) was divided into non-volcanic and volcanic components for the ranking. Thus, SGPP ranked a total of 13 proposals. As required by PCOM, proponents left the room during the discussion of their proposals and did not rank their own proposals during the ranking of proposals for FY93.

4. SGPP RANKING OF NORTH ATLANTIC PROSPECTUS LEGS:

Rank	Proposals	Score
1	New Jersey Sea Level (348)	12.2
2	Mediterranian Sapropels (391)	9.7
3	Amazon Deep-Sea Fan (405)	9.5
4	Mediterranian Ridge (330)	8.4
5	TAG Hydrothermal (361)	8.0
6	Ceara Rise (388)	7.4
7	Alboran Basin (323)	7.0
8	VICAP Gran Canaria (380)	6.4
9	N. Atlantic Arctic Gateways (NAAG)	5.7
10	N. Atlantic Volcanic Rifted Margins (NARM)	5.3
11	Mar Offset Drilling (OD-WG)	3.6
12	Eq. Atlantic Transect (346)	3.5
13	N. Atlantic Non-Volcanic Rifted Margins (NARM)	3.4

NEXT MEETINGS

SGPP's 1992 spring meeting will be held at RSMAS, University of Miami On 6-8 March. SGPP's 1992 fall meeting will be held in Kiel, FRG on 26-28 Sept.

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MINUTES

PRESENT:
Judith A. McKenzie, Chair (ESF)
Jacques Boulègue (France)
Shirley J. Dreiss (USA)
Henry Elderfield (at large)
Roger Flood (USA)
William W. Hay (USA)
Alexander Lisitsyn (Soviet Union)
Jürgen Mienert (FRG)
Fred Sayles (USA)
Erwin Suess (at large)
Peter Swart (USA)

LIAISONS:
Craig Fulthorpe (JOIDES)
Mitch Lyle (LDGO)
Robert Musgrave (ODP/TAMU)
Alistair Robertson (TECTP)
Ulrich von Rad (PCOM)
Robert Zierenberg (LITHP)

VISITORS:
Kenneth J. Hsü (PEC)

APOLOGIES:
Jeffrey Alt (USA)
Nicholas Christie-Blick (USA)
Richard Hiscott (Canada/Australia)
Makoto Ito (Japan)
Fredrick Prahl (USA)
Dorrik A.V. Stow (UK)

LIAISON REPORTS

Ulrich von Rad (PCOM) reported on PCOM's summer meeting in Hannover and items of high interest to SGPP. Supplemental science proposals currently under consideration for inclusion in the FY92 schedule were discussed and the discontinuance of the supplemental science program was noted. The impact of the continued development of Geoprops on in-situ fluid sampling during Leg 146 Cascadia Margin was considered. The new procedures for handling inactive drill proposals, proposals that have not been updated for 3 years, was presented with the

emphasis that panels must take the initiative to encourage proponents to reactive good proposals.

SGPP's global ranking of proposals for PCOM on two separate occasions during the spring and summer meetings was discussed at great length. Due to an unfortunate pre-ranking of the existing proposals based on the thematic areas of SGPP's mandate at the spring meeting, several proposals of high fluid interest, including Barbados 378, Mediterranean Ridge 330, and TAG hydro-thermalism 361, were subsequently blocked from the initial rounds of voting and thus were ranked much lower than reflected SGPP's interests. For this reason at the summer meeting, the voting procedure used by SGPP was changed, whereby a pre-ranking based on themes was not made, and SGPP elected to rerank the proposals in order to present a more realistic SGPP program to PCOM. This was, of course, technically incorrect because SGPP had not been requested by PCOM to make this second ranking, and unfortunately a PCOM liaison was not present at SGPP's summer meeting to correct this error. However, it must be acknowledged that SGPP's second ranking was made in good faith to promote good science and to correct the mistake evolving from the initial voting procedure. The higher rank of the Barbados proposal in the second ranking did not occur as a result of improper influence on the part of the panel chair, as noted in Hannover PCOM draft minutes, p. 18. Contrary to what was stated in the minutes, Erwin Suess is not and has never been a proponent on the Barbados proposal. SGPP feels that, regardless of a technical error, PCOM should not have disregarded the second ranking as it was based on considerable scientific considerations and input from SGPP members. SGPP welcomes the news that a PCOM liaison has been designated for it upcoming meetings. SGPP proposes, henceforth, to use a voting procedure whereby **all** members rank **all** proposals under consideration, **exclusive** of those on which they might be a proponent. The process of pre-ranking proposals under specific themes has been eliminated.

Kenneth J. Hsü (PEC) gave an informal presentation of the activities of the Performance Evaluation Committee. PEC is not considering whether deep sea drilling should continue but how the best job can be done. The members of PEC will meet in Samedan, Switzerland the following week to prepare their final report.

Craig Fulthorpe (JOIDES office) reported on the compilation of proposals included in the North Atlantic Prospectus and noted that the SGPP March 1991 global ranking of proposals was used rather than the subsequent June, 1991 ranking. SGPP was advised that other proposals could be included in the NAP, but this must be justified. The panel was instructed to rank individual legs of multi-leg programs. Fulthorpe reiterated that the spring thematic panel rankings must be global as these rankings are what drive the drill ship. New proposal guidelines were outlined; only complete drilling proposals will be drilled, letters-of-intent are for information only and submission deadlines are approx. 4 weeks

before the panels meet. Ideally, the biannual panel meetings should be in late February to early March and late September to middle October to give the necessary input to PCOM, as well as allowing sufficient time for the completion of the panel meeting minutes. In submitting nominations for new panel members, at least two names should be submitted.

Robert Musgrave (ODP/TAMU) reported on the drilling activities of the JOIDES Resolution since the June SGPP meeting. SGPP received the report on Leg 139, Sedimented Ridges, including the characterization of fluid, heat and geochemical fluxes as well as the recovery of sediment hosted massive sulfide deposits, with great interest. The successful corking operations were related and discussed in relation to the need to place a longer sensor string at Hole 857D. The continued penetration at Site 504B during the most recent Leg 140 was described. SGPP learned that waters collected downhole during Leg 139 using both the pressure core sampler and the Los Alamos device were contaminated by surface sea water, whereas the WSTP probe provided good *in-situ* pore waters. SGPP feels that the issue of sea water contamination needs to be cleared up in order to decide whether the samplers worked properly but collected from the circulating sea water system at the bottom of the hole or if they closed prematurely on the way down.

Judith McKenzie (SGPP representative to OPCOM) reported on the OPCOM meeting in Washington, DC in June, 1991. The proposed distribution of the anticipated $4.2 M for FY92 and FY93 among the various projects (DCS, logging and *in-situ* fluid sampling tools, alternate platforms) was discussed. SGPP had proposed that some of the OPCOM money be alloted for the development of *in-situ* fluid sampling tools, as its highest priority. SGPP supports the allocation of OPCOM funds to support the continued development of Geoprops, but feels that other tool development shoud be simultaneously undertaken. (See discussion below under *In-Situ* Pore Fluid Sampling.)

Jeffrey Alt (SGPP liaison to TEDCOM), currently a Leg 141 shipboard scientist onboard the Joides Resolution, sent an E-mail report on the last TEDCOM meeting in Victoria in September, 1991. Off interest to SGPP was the extended discussion on deep drilling centered around long-term deep drilling objectives and utilizing the current capabilities of the Joides Resolution to its full potential. TEDCOM proposes to hire an outside consultant under contract to ODP to pull together current experience from industry and previous studies on deep drilling, with possible funding from OPCOM. Reports on new deep-drilling vessels were given by the Soviets and Japanese. The building of the Soviet vessel is well under way but its future remains uncertain, whereas the Japanese vessel is still very much in the planning stage.

Shirley J. Dreiss (SGPP liaison to TECTP) reported on the most recent joint LITHP/TECTP meeting in Cyprus in October, 1991. She encouraged SGPP to consider closely the joint LITHP/TECTP

resolution on the status of the development of downhole instrumentation for collecting in-situ fluids and measuring pore pressure, permeability and temperature. TECTP ranking of the NAP was related. **Alistair Robertson (TECTP)** discussed TECTP's proposal that the letters-of-intent be formalized in order not to lose good ideas that are contained therein. TECTP ranked the NAP with the top three proposals as follows: (1) N. Atlantic Non-Volcanic Rifted Margins (NARM), (2) N. Atlantic Volcanic Rifted Margins (NARM) and (3) Eq. Atlantic Transect (346).

Robert Zierenberg (LITHP) provided further input on the recent joint LITHP/TECTP meeting in Cyprus. Regarding the supplemental science proposal to log Hole 801C, LITHP agreed to give up 3.5 days of basement drilling during Leg 144 for the logging and considered the packer experiment to have a higher priority over the geochemical logging. LITHP recommended that a TAG-WG be established and that the next meeting of the Offset Drilling WG be specifically charged with developing an initial drilling strategy preliminary for the Atlantic. LITHP ranked the NAP with the top three proposals as follows: (1) TAG Hydrothermal (361), (2) N. Atlantic Volcanic Rifted Margins (NARM) and (3) Mar Offset Drilling (OD-WG).

No liaison was present from **OHP** nor was the SGPP liaison to OHP at the recent OHP meeting held in Japan in October 1991. Reading from the minutes of this meeting, J. McKenzie reported that OHP requests to PCOM that (1) the program for supplemental science programs be continued, (2) a brief coring of the Santa Barbara Basin be included in the 1992 drilling program, and (3) S-3 Ocean Seismic Network (ONS-2) not be included in the Leg 145 program, as it would take up a disproportionate amount of the time available for scientific drilling. In a separate letter, **Nicholas Shackleton, OHP Chair** expressed concern that there seems to be a large disagreement between OHP and SGPP concerning the proposal on Mediterranean Sapropels (391). SGGP feels this disagreement and other items of common scientific interest between the two thematic panels warrant the holding of a joint meeting in the near future and suggest possibly in Kiel, FRG, after the International Paleoceanography Conference in September, 1992. OHP ranked the NAP with the top three proposals as follows: (1) N. Atlantic Arctic Gateways (NAAG), (2) New Jersey Sea Level (348) and (3) Ceara Rise (388).

Roger Flood (SGPP liaison to Sea-Level WG) reported on the recent session held in La Jolla in November 1991. The goal of the WG is to formulate a strategy to study eustacy and its sedimentary signal, which can be used to help the thematic panels evaluate sea-level proposals. The influences of tectonics and eustacy on the sedimentary record must be consider, as well as the effects of compaction and flexure. Time intervals to be focused on should include "ice-house", "hot-house" and "doubt-house" periods, but the Pio-Pleistocene interval may be worthy of a greater concentration of effort. The role of the WG is to set criteria for sea level studies and

not submit a drilling program. As many sea-level problems must be addressed on shallow-water margins, the capabilities of the JOIDES Resolution in shallow waters (30-50 m) are to be tested at Eneweitok during the Atolls & Guyots legs. This test will determine if the vessel can be used in future transects. Sampling of coarse sediments for correlation of lithologies with seismic intervals remains another technological problem that must be resolved.

Nicholas Christie-Blick (SGPP liaison to NARM DPG) contributed a faxed report on the second meeting of the NARM-DPG held in Copenhagen in August. The discussion of both the volcanic and non-volcanic margins revolved around the issue of justifying more cogently the many legs of the proposed drilling. In the case of the volcanic rifted margins with input from petrologists, significant modifications of strategy were made which strengthened the proposed drilling. There was heated discussion concerning the non-volcanic rifted margins with the outcome that the transect from Newfoundland to Iberia was retained but with a reordering of priorities and the inclusion of some different sites. In Christie-Blick's opinion, certain key objectives for drilling NARM may not be obtainable due to uncertain interpretations of seismic sections, the presence of intervening high blocks that prevent the tracing of specific boundaries between basins, and poorly constrained paleobathymetry for reconstructing subsidence histories. Drilling the non-volcanic rifted margins does however provide an opportunity to sample the ocean-continent boundary providing material from a mantle shear zone for microstructural and geochemical studies of deformation and melting history.

IN-SITU PORE FLUID SAMPLING

Peter Swart reported on the meeting of the JOIDES Working Group on *In-Situ* Pore Fluid Sampling held in Houston on 23 August 1991. This lead to a long discussion on the various technological options for improving ODP fluid sampling capabilities, including Geoprops, wireline packers and Top Hat devise. SGPP supports the continued development of Geoprops by B. Carson, but notes that Geoprops can never be used to take many samples and has to work with the motorized core barrel. Geoprops should be tested on the Atolls and Guyots legs in preparation for use during Leg 146, Cascadia Margin. A second Geoprops tool should be constructed so that its deployment is not dependent on the operation of a single prototype instrument.

In order to enhance the science of scheduled legs, SGPP proposes an integrated approach to the fluid sampling problem by maximizing the use of currently available technology to address short-term goals while continuing to develop new tools for improving and extending our capabilities to reach long-term scientific objectives in both hard rock and soft sediments. SGGP urges a multiple approach to instrument development, i.e. not limiting technological endeavors to a single instrument. The Top

Hat, a commercially available devise from Schlumberger, should be seriously investigated, as it appears to the best currently available technology to solve the *in-situ* pore fluid sampling problem.

Resolution: SGPP strongly supports the evaluation of the TOP Hat devise for *in-situ* pore fluid sampling and urges that it be tested at sea beginning with the Atolls and Guyots legs, ultimately in preparation for it use during Leg 146, Cascadia Margin.

SGPP emphasizes that, even without Geoprops, the important fluid sampling objectives outlined for the Leg 146, Cascadia Margin drilling program can be achieved using available tools (WSTP, PCB, CORK) and conventional techniques (squeezing and rinsing). SGPP made specific recommendations and widely circulated a technical plan for processing water and gas samples obtained with the pressure core sampler (PCS-Phase II). See minutes of 5-7 March 1991 meeting at College Station and Gas Hydrate Report. SGPP endorses the report of the JOIDES Working Group on *In Situ* Pore Fluid Sampling.

SGPP expresses its concern that adequate progress has not been made in the development of the new technologies required for *in-situ* pore fluid sampling and downhole physical property measurements, such as pressure, permeability and temperature. SGPP strongly recommends that some OPCOM money be allocated for the development of the needed tools and unanimously endorses the following TECTP/LITHP joint motion on fluid sampling :

> **The ODP Sedimentary and Geochemical Processes Panel endorses the Tectonics and Lithosphere panels joint motion that the current inability to samples formation fluids and measure pore pressure, permeability, and temperature, including in slim holes, is jeopardizing the success of the program, especially such legs as Cascadia and EPR II. In addition, SGPP would add the Atolls and Guyots legs to this list. We likewise urge that a group be formed immediately to tackle this problem and to resolve it using some of the OPCOM money for tool development.**
>
> **Beyond this immediate crisis, SGPP concurs with the joint TECTP LITHP resolution that an integrated strategy is required to develop the routine ability to make such measurements in the various geologic environments of concern to each of the thematic panels.**

SUPPLEMENTAL SCIENCE PROPOSALS

SGPP discussed the concept of supplemental science proposals and concluded that the introduction of such proposals after the planning stage of a leg tends to subtract drill time from the primary objectives of the leg and may even jeopardize the science of that leg. On the other hand, SGPP recognizes that certain "emergency" cases involving technical problems or opportunities to rectify or enhance scientific objectives will arise from time to time and urges

that a certain amount of flexibility be maintained in the drilling schedule to accommodate such operations. Obviously, such emergencies or targets of opportunity must be considered on a case by case basis by PCOM with input from thematic and other panels.

SGPP supports PCOM's decision to discontinue the acceptance of supplemental science proposals, but strongly encourages the continued submission of less-than-one-leg proposals to be handled under the normal ODP review policy. The introduction of sites from less-than-one-leg proposals at an early stage in the detailled planning of a full leg will insure that the maximum amount of science will be achieved for the proposed studies without subtracting drill time, and thus jeopardizing scientific objectives, from a previously planned program.

SGPP discussed the following official supplemental science proposals:

S-2 Downhole Measurements in Jurassic Oceanic Crust in Hole 801C. SGPP supports supplemental science proposal S-2 to log Hole 801C during Leg 144 because of the potentially valuable scientific information that will be obtained from the downhole measurements to be performed on the oldest drilled oceanic crust. SGPP recommends that the logging of Hole 801C be given first priority status in the Leg 144 Prospectus on the condition that logging time be gained through the sacrifice of drilling time for basement penetration at mid-latitude sites, as specified by LITHP/TECP during their fall meeting. Also, SGPP feels that the packer experiment at Hole 801C should have a higher priority than the geochemical logging.

S-3 Ocean Seismic Network (ONS-2). SGPP does not support supplemental science proposal S-3 because the necessary experimentation at the first hole has not been made, the immediate need for drilling a second hole does not seem to be warranted at this time and the 6-8 days needed to complete ONS-2 do not meet the time criteria of a supplemental science proposal. Although SGPP has no thematic interest associated with the OSN, it recognizes its scientific importance and encourages the submission of less than one leg proposals to drill future dedicated OSN holes. SGPP feels an inquiry should be made to determing if there are existing DSDP/ODP re-entry holes which could be used for OSN experiments.

SGPP discussed the following unofficial supplemental science proposals at the request of PCOM:

JOIDES Proposal to Replace Sensor String in "Corked" Hole 857D, Middle Valley, during Leg 146 Drilling Operations. SGPP viewed the replacement of the sensor string at HOle 857D as an "emergency" case, whose rectification was required to achieve the maximum scientific results from the "corked" hole. Because this operation might have an impact on SGPP's highly ranked Cascadia Margin

program (Leg 146), a vote of the panel membership was taken on the following motion:

> At the possible expense of the Cascadia Margin Program (Leg 146), we support the replacement of the sensor string in"corked" Hole 857D.
>
> For: 10 Against: 1

High Resolution Late Quaternary Paleoclimatic and Sedimentary Record, Santa Barbara Basin, California. This proposal for high resolution stratigraphic studies in organic carbon-rich sediments has a high thematic interest for SGPP, with respect to the global carbon cycle and sedimentary diagenesis in a dysaerobic/anoxic environment. SGPP supports the scientific objectives of this supplemental science proposal but feels that it should be submitted as a less-than-one-leg proposal to be handled under the normal ODP review policy. Concern was expressed about drilling in this environmentally sensitive area with the possibility of oil seepage. Because the coring in Santa Barbara Basin might have an impact on SGPP's highly ranked Cascadia Margin program (Leg 146), a vote of the panel membership was taken on the following motion:

> At the possible expense of the Cascadia Margin Program (Leg 146), we support the double APC coring of the upper 200 m of sediments in the Santa Barbara Basin, California.
>
> For: 0 Against: 11

REVIEW OF NEW PROPOSALS

356-Rev.: Oceanographic and climatic changes caused by subsidence of large crustal areas in the Denmark Straits, Jan Mayen Ridge and Iceland Faeroe Ridge area
P.P. Smolka and F. Strauch

Comments: With this revision the proponents have basically produced a new, greatly improved proposal. SGPP suggests that the proponents should add a focus in their proposal that tends towards defining the evolution of the continental margin. As the proposed sites are very close to 67 N, this proposal should be combined with the North Atlantic volcanic rifted margin drilling program. The proponents should outline how they will look at the subsidence mentioned under basement drilling. Studying sediments related to rifted margins is important, but it is unclear what the nature of the sediments are that they propose to drill and if these sediments will be suitable for the proposed climatic studies. What is the probability for numerous hiatuses? The proponents need to outline the stratigraphic methods that they intend to use. The proposal does not address high-priority thematic SGPP objectives.

Box checked (2)

365-Add.: Geothermal measurements along the Newfoundland and Iberia conjugate passive margin transects
K.E. Louden, J.C. Mareschal and J.P. Foucher

Comments: The proposal is of secondary interest to SGPP, but the panel recognizes the importance of heat flow measurements in the proposed drill areas. SGPP points out that the high heat flow may be related to water flow along faults and the proposal thus has potential high-priority thematic SGPP objectives related to the study of fluid flux.

Box checked (3)

399: Tectonic evolution of the Alboran Sea
A.B. Watts and J.P. Platt (B.C.Schreiber)

Comments: The proponents need to interact immediately with Comas et al., the proponents of 323-Rev. on the Alboran Basin which is included in the North Atlantic Prospectus and is not referred to in 399. Whereas 399 has essentially a tectonics theme, 323-Rev. includes sedimentary and paleoceanographic objectives of interest to SGPP. Possible fluid migration associated with collision could be an additional SGPP theme. The proposal is relatively immature. For example, little documentation is provided for the stratigraphic interpretations presented and it could be questioned how rigorous an interpretation of the seismic data has been undertaken.

Box checked (2)

253 Rev: Paleoceanographic controls on the deposition of organic carbon-rich strata in the ancestral Pacific
W.V. Sliter, M.A. Arthur, G.R. Brown, R. Larson, et al.

Comments: This is very mature proposal which addresses high-priority objectives of SGPP, in particular the global carbon budget. The proponents form an excellent interdisciplinary team very capable of attacking the study of mid-Cretaceous anoxic events, their cause and global distribution. The depth transect approach to determine the extent of the mid-Cretaceous oxygen minimum zone is appropriate. New age data should permit better correlation of events. Functioning DCS technology will be required to recover chalk-chert sequences at the proposed sites. SGPP recommends that proponents need to keep updating and integrating new seismic data, some of which will be available from seismic surveys made by international partners (Germans and Russians).

Box checked (5)

330-Add 2: Mediterranean Ridge: An accretionary prism in a collisional context
M.B. Cita and A. Camerlenghi

Comments: SGPP applauds the development of this proposal and the positive feed-back between the proponents and the panel. The proponents have incorporated panel suggestions into their original proposal, thereby

changing its focus and strengthening its global objectives. SGPP looks forward to receiving the full updated proposal and the results of upcoming seismic surveys in the region. SGPP feels it is essential to incorporate all available data on the Mediterranean Ridge and advises that the various national groups working in the region join their efforts to insure a successful program. SGPP proposes that the proponents of the Mediterranean Sapropels Proposal 391 should likewise contribute to this joint effort to formulate a drilling program for the eastern Mediterranean.

Box checked (5)

346-Rev 2: Transform (translational) margin: The Ivory Coast-Ghana transform margin (Eastern Equatorial Atlantic)
J. Mascle, C. Basile, M. Moullade and F. Sage

Comments: Proposal objectives are not within SGPP's mandate, as it is primarily a tectonics proposal. SGPP objectives may be derivable from the sedimentary sequence overlying the crust, if this theme were better developed. For example, the early rift sedimentary facies during the opening phase would be of interest, as well as the records of deep-water circulation and climate that may be contained in these early sediments. These themes could be expanded upon with perhaps additional information from a better seismic evaluation of the sedimentary sequence.

Box checked (1)

348-Add: Upper Paleogene to Neogene depositional sequences on the U.S. Middle Atlantic Margin: The Mid-Atlantic transect
K.G. Miller, G.S. Mountain and N. Christie-Blick

Comments: The scientific program in this proposal is well designed with the integration of on-land, sea-beam and multi-channel seismic data. To obtain amplitudes of relative sea-level change, it is essential to sample all along the transect at both shallow and deeper water depths and to sample many seismic sequences/boundaries to compare with current sea-level curves. The proponents should now define a one-leg program that is feasible using the capabilities of the JOIDES Resolution, considering sea conditions on the New Jersey margin, but still maximizes the amount of data (sites) required to meet the scientific objectives. In addition, other alternate platforms (jack-up rigs?) will have to be pursued for sites at the shallower end of the transect with supplemental information coming from drilling on the coastal plain.

Box checked (5)

369-Add: MK2: A deep hole in the oceanic upper mantle at slow-spreading ridge

C. Mevel

Comments: Lithospheric objectives are the major drilling targets of this proposal, but there are potential SGPP objectives related to hydrothermalism and fluid flow, which are only mentioned but not developed in the proposal. SGPP proposes that the proponents address the hydrothermal fluid theme in greater detail.

Box checked (3)

369-Rev: Generation of oceanic lithosphere at slow spreading centers: Drilling in the western wall of the MARK area
C. Mevel, M. Cannat, J.F. Casey, J. A. Karson

Comments: See comments under 369-Add

Box checked (3)

376-Rev: Drilling at the VEMA F.Z. (M.A.R.): Layer 2/3 boundary and vertical tectonics
J.M. Auzende, D. Bideau, E. Bonatti, M. Cannat, et al.

Comments: Although lithospheric objectives are the major drilling target at this well-studied area, there may be additional hydrothermal fluid objectives of interest to SGPP if developed. The area may offer one of the best possiblities to sample the Layer 2/3 boundary.

Box checked (3)

380-Rev 2: Drilling into the clastic apron of Gran Canaria: Evolution of a coupled system volcanic ocean island - sedimentary basin
H.U. Schmincke, U. Bednarz, S. Cloetingh, et al.

Comments: This excellent, well-written revision expands upon the theme of interpreting volcanic evolution through the study of volcanoclastic sediments through a mass balance approach, which is a high-priority SGPP objective. The revision incorporates another component by carrying the drill sites down to the Maderia Abyssal Plain. Diagenetic alteration of volcanoclastic sediments is mentioned without detailing how this important theme would be evaluated. Pore water chemistry is not addressed. The proposal lacks site surveys, awaiting planned '92 and '93 cruises, and is thus classified as immature.

Box checked (4)

388-Add: Addendum to: A proposal to advance pistion core the Ceara Rise, West Equatorial Atlantic: Neogene history of deep circulation and chemistry
W.B. Curry

Comments: This addendum is a progress report for upcoming site surveys and has not addressed previous SGPP comments. Thus, it is designated immature. SGPP proposes that deeper pre-Neogene objectives be evaluated.

Box checked (4)

391-Add: Depositional history and environmental development during the formatiom of sapropels in the Eastern Mediterranean
R. Zahn, E.A. Boyle, S.E. Calvert, G.J. de Lange, et al.

Comments: Proposal addresses high-priority objectives of SGPP, but it remains immature as the drill sites have not been designated. Proponents should define sites based on a vertical and horizontal distribution, considering sedimentation rates and stability of depositional environment in this seismically active region. Proponents need to obtain site surveys; perhaps, a geophysists should be added to the proponent list. Or, it may be possible to drill sapropels on an opportunistic basis by joining forces with proponents of other Eastern Mediterranean drilling proposals (330-Add.2, 379/A). High-resolution shallow seismic profiles may be useful for defining appropriate sapropel drill sites. The proponents should document the distribution and occurrence of previously drilled sapropels.

Box checked (4)

400: Proposal for the Ocean Drilling Program for determination of mass balance and deformation mechanisms of the Middle America Trench and Accretionary Complex off Costa Rica
E.A. Silver, T.H. Shipley and K.D. McIntosh

Comments: The proposal has high-priority SGPP objectives concerning sedimentary mass balance and fluid flow. Proponents have not outlined how they would approach the former, while the latter needs to be better developed. Unusual pore-fluid chemistry and gas hydrates were cored during an earlier DSDP leg in the proposed study region. Proponents should incorporate what is known from previous studies into this new proposal. The presence of BSR should be determined as this may be an excellent area to study gas hydrates. The study area is well imaged and well constrained with 3-D geometry seismics and is an ideal steady state trench system for evaluating first-order subduction processes.

Box checked (4)

401: Evolution of a Jurassic Seaway, Southeastern Gulf of Mexico
R.T. Buffler and G. Marton

Comments: The proposal is of secondary interest to SGPP, but Jurassic paleoceanographic objectives or recovery of pre-, syn-, and post-rift sediments would be higher priority themes for SGPP consideration. It is unclear how the drilling will determine which model for the evolution of the Gulf of Mexico is correct. A very good case could be made for recovering crustal material of Jurassic age, but this would require a massive drilling effort to reach scientific objectives of uncertain global

significance. The proponents need to define a more realistic (i.e. shorter) drilling program that would meet their proposed drilling objectives. There may be safety problems with the proposed drill sites.

Box checked (3)

402: The geochemical anomaly in MAR basalts between 12°-18°N
A.V. Sobolev, L.V. Dmitreiv and H. Bougault

Comments: The proposal objectives are not within the mandate of this panel but objectives pertaining to deep diagenesis and low-grade metamorphism would move the proposal more towards SGPP's mandate. SGPP suggests that this proposal could be linked to proposal 407.

Box checked (1)

403: Proposal to drill the K/T boundary in the Gulf of Mexico
W. Alvarez, J. Smit, E.M. Shoemaker, A. Montanari et al.

Comments: The proposal is of secondary interest to SGPP but could be of higher interest if sedimentary objectives were included. The sites were chosen along an existing seismic line. A more detailed seismic survey is needed to better define the proposed impact crater and aid in selecting the most appropriate drill sites to test the proponents working hypothesis.

Box checked (3)

404: Late Neogene paleoceanography from Western North Atlantic sediment drifts
L.D. Keigwin and E.A. Boyle

Comments: The proposal addresses high-priority SGPP objectives in the study of contourite drifts and the influence of sea-level changes on the flux of sediment to deep sea environment. The potential exists to look at the evolution of a sedimentary body as a proxy for changes in flow speeds and hence bottom paleocirculation. Evidence from giant piston cores indicates that high sedimentation rates in drifts are associated with unusual metal accumulation rates that can be used to study metal fluxes. The additional potential to study BSRs, reported elsewhere from the Blake-Bahama ridge, should be incorporated into this proposal. A proposal to study BSR's from C. Paull et al. is anticipated in the near future and could be integrated with this proposal.

Box checked (4)

405: Amazon deep-sea fan growth pattern: Relationship to Equatorial climate change, continental denudation and sea-level fluctuations
F.D. Flood, C. Pirmez, W. Showers, J.E. Damuth, et al.

Comments: This is a mature proposal that addresses several high-priority SGPP themes, including the relation of sea-level and climate change to sedimentation processes in the

deep ocean and fan geometry, as well as the high organic matter flux to the ocean and its influence on the global carbon budget. This proposal could be logically carried further off-shore and integrated with drilling on the Ceara Rise (388-Add). There are abundant seismic imaging and piston cores from the Amazon fan which have permitted the detailed discrimination of sedimentary elements. Although the proponents recognize that it will be important to obtain high-resolution calibration, more documentation is needed to show that the appropriate resolution is obtainable.

Box checked (5)

406: North Atlantic Climatic Variablity: Sub-orbital, orbital, and super-orbital time scales

W. Broecker, G. Bond, D. Oppo, S. Lehmann, M. Raymo

Comments: The proposal is of secondary interest to SGPP but has potential interests with respect to the carbon cycle. The proponents are proposing to drill high-resolution records from sediment drifts, but they do not address the possibility of encountering major hiatuses in this environment. These proposed high-resolution studies might better be made in conjunction with studies to evaluate drift evolution (eg. proposal 404).

Box checked (3)

407: Offset drilling in the North Atlantic shallow mantle at a geochemical anomaly

H.J.B. Dick, L. Dmitriev, H. Bougault, G. Thompson, et al.

Comments: The proposal addresses high-priority objectives but the exact placement of the drill sites remains uncertain as the proponents are awaiting new seismic data and the results from upcoming submersible dives. There is good evidence for on-going venting in the area from water column and sediment studies. The proposal contains a large hydrothermal component but it is unclear how the proponents will use drilling to define the hydrology of the system. Proponents are strongly encouraged to continue developing the proposal.

Box checked (4)

408: Northern Nicaragua Rise drilling proposal: Testing two new interpretations

A.W. Droxler, A.C. Hine, P. Hallock, R. Buffler et al.

Comments: As much work has already been done in the area, this drilling proposal is a logical extension. It is curious that no specific drill sites locations are proposed only general locations without drilling strategies. The proposal appears immature and will undoubtedly evolve. The proposal has potential interest for SGPP if important themes related to carbonate bank evolution, pore fluids, etc. are more developed.

Box checked (3)

Other proposals included in the North Atlantic Prospectus and not previously discussed during the meeting were briefly reviewed prior to ranking. These included TAG Hydrothermal (361), N. Atlantic Arctic Gateways (NAAG), N. Atlantic Rifted Margins (NARM) and Mar Offset Drilling (OD-WG).

SGPP RANKING OF NORTH ATLANTIC PROSPECTUS LEGS

In its ranking of proposals in the North Atlantic Prospectus, SGPP elected to include one new proposal (Amazon Deep-Sea Fan, No. 405) because (1) this proposal addresses several high-priority SGPP objectives, including the relation between sea-level change and sedimentation in the deep ocean, sedimentary architecture in fan systems as a function of climate change and geochemical budgets, (2) SGGP gave the proposal a 5 rating and considers it very mature and (3) the drill sites are theoretically located within the North Atlantic close to Ceara Rise (388). SGPP considered the two Mediterranean proposals (Alboran Basin/Gateway (323) and Mediterranean Ridge (330) separately because the scientific objectives of the proposals are very different and only marginally related to each other. The N. Atlantic Rifted Margins proposal (NARM) was divided into non-volcanic and volcanic components for the ranking, as requested by the PCOM liaison. SGPP choose not to include the Barbados Accretionary Wedge (378) in this ranking, as a major revision is anticipated in the near future which should include a response to an earlier SGPP request for more information on the geochemical component. Thus, if this revised proposal receives a high SGPP ranking at a latter date, this should not be perceived as inconsistent.

SGPP ranked a total of 13 proposals, as listed below. SGPP's ranking of the North Atlantic Prospectus is not based on the perceived maturity of these proposals, but on their thematic content with respect to SGPP's scientific priorities. SGPP feels that the decision on the maturity of a specific proposal should be made by PCOM based on input from thematic panels and SSP. Of SGPP's four top ranked proposals, New Jersey Sea Level (348) and Amazon Deep-Sea Fan (405) are sufficently mature to be placed in the FY93 program, while Mediterranian Sapropels (391) and Mediterrnaian Ridge (330) are in the process of being revised and new seismic data from the proposed study area should be incorporated. SGPP feels that the 2 proposals could be incorporated into the same drilling program with appropriate planning. Thus, although consistently highly ranked by SGPP, the 2 proposals are probably not mature enough to be placed in the FY93 prospectus at this time. As required by PCOM, proponents left the room during the discussion of their proposals and did not rank their own proposals during the ranking of proposals for FY93.

Rank	Proposals	Score
1	New Jersey Sea Level (348)	12.2
2	Mediterranian Sapropels (391)	9.7
3	Amazon Deep-Sea Fan (405)	9.5
4	Mediterranian Ridge (330)	8.4
5	TAG Hydrothermal (361)	8.0
6	Ceara Rise (388)	7.4
7	Alboran Basin (323)	7.0
8	VICAP Gran Canaria (380)	6.4
9	N. Atlantic Arctic Gateways (NAAG)	5.7
10	N. Atlantic Volcanic Rifted Margins (NARM)	5.3
11	Mar Offset Drilling (OD-WG)	3.6
12	Eq. Atlantic Transect (346)	3.5
13	N. Atlantic Non-Volcanic Rifted Margins (NARM)	3.4

PANEL MEMBERSHIP

Erwin Suess, the former SGPP chair and member-at-large rotates off the panel after the 1991 fall meeting. Erwin is heartily thanked by the members of the panel for his service to SGPP during his 3-year tenure as Chair. SGPP gratefully acknowledges his invaluable leadership during the period when the newly formed panel struggled to define its scientific identity.

Two USA SGPP members will rotate off the panel after the 1991 fall meeting. Fredrick Prahl (organic geochemist) has already stepped down and he is warmly thanked by the panel for his contributions to our deliberations. Two nominations for his replacement are proposed:

Dr. Cindy L. Lee
Dr. Stephen A. Macko.

Finding potential nominees for the replacement of Shirley Dreiss (hydrogeologist) has proven more difficult, but it is anticipated that two nominees can be designated before the annual PCOM meeting.

Nicholas Christie-Blick (sequence stratigrapher) is due to rotate off the panel in mid-year 1992 and it is requested that he be allowed to remain a member at least until the end of 1992.

LIAISONS TO OTHER PANELS & WG

Peter Swart and Jeffery Alt will remain SGPP liaisons to OHP and LITHP, respectively. It was proposed that Richard Hiscott serve as SGPP liaison to TECTP, possibly sharing the attendance of meetings with Alistar Robertson, TECTP liaison to SGPP. In addition, it was proposed that either Jeffery Alt or Jacques Boulègue be appointed as SGPP liaison to the Off-Set Drilling WG.

NEXT MEETINGS

SGPP's 1992 spring meeting will be held at RSMAS, University of Miami on 6-8 March. Peter Swart will host the meeting. SGPP's 1992 fall meeting will be held in Kiel, FRG on 26-28 Sept. following the 4th International Conference on Paleoceanography, likewise in Kiel (21-25 Sept.). The FRG member of SGPP (either J. Mienert or K. Emeis) will host the meeting. SGPP felt it would be desirous to have a joint meeting with OHP at this time.