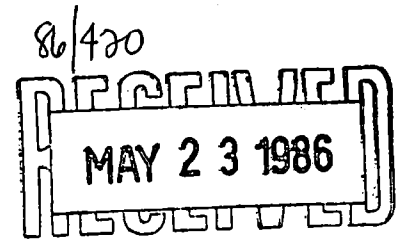


DRAFT MINUTES  
ATLANTIC REGIONAL PANEL  
EXECUTIVE SUMMARY  
21-22 April, 1986  
Bellairs Institute, Barbados



April 21:

PCOM Report: Shipley

TECP Report: Howell

PANCHM Report: Austin

**TIMELY SUBMITTAL AND REVIEW OF DRILLING PROPOSALS is critical. A timetable was agreed upon, which means that ARP must begin now to develop broad drilling initiatives in the Atlantic, using input both from the thematic panels and from workshops.**

ODP Ship Operator's Report: Emeis

**Leg 108 completed.**

**ARP questioned whether or not geophysics had been optimally used for site selection on this leg. One of the co-chiefs (Sarnthein/Ruddiman) will be invited to the next meeting to give a presentation of results.**

Leg 107 (Tyrrhenian Sea) Summary and Review: J. Mascle

Presentation of Leg 106 (MARK I) Results: Austin (using slides and other information kindly provided by R. Detrick)

Leg 110 (Barbados accretionary wedge) prospectus: A. Mascle, co-chief

MOTION #1: Leg 110

**ARP recommends that:**

**1. if the drilling of LAF-1 is successful, and if the decision is made by the Leg 110 Shipboard Party to drill LAF-0, then the reference section represented by LAF-0 should be continuously cored and logged. ARP recommends continuous coring of LAF-0 because of its concern that washing of the hole, as described in the current prospectus, may result in poor hole conditions. Such conditions may not only substantially decrease logging results, but could completely prevent logging.**

**2. if for any reason LAF-0 is not drilled, an arrangement should be made to assure that DSDP Site 543 is connected by a seismic line with LAF-1.**

April 22:

**The following proposals submitted for ARP review were considered and discussed:**

- 1. Leg 109:**
  - a. 143/F: "In-situ magnetic susceptibility measurements with a well-log probe",**
  - b. 200/F: "Borehole magnetometer logging on Leg 109", and**
  - c. 201/F: "High precision borehole temperature measurements on Leg 109".**

The ARP noted that effective review of Leg 109 proposals was somewhat invalidated in light of the fact that the RESOLUTION was already enroute to the MARK area.

**MOTION #2: Leg 109 Drilling Proposals 143/E, 200/E, 201/F**

The ARP agrees that downhole magnetic/temperature studies should be part of deep-crustal penetration legs like 109. Timely integration of such programs into the work plan is essential to ensure that they will be a coherent part of the leg and not just add-ons that might compromise other objectives. The timing of submission of these proposals was clearly too close to Leg 109 departure to make them practical for inclusion in the Leg 109 program as ARP currently understands it.

**2. 204/A: "Proposed Florida Escarpment Drilling Transect".**

**MOTION #3: Florida Escarpment Drilling Proposal 204/A**

Proposal 204/A addresses the mechanisms of fluid formation and migration in the Florida carbonate bank, which the ARP considers a first-order scientific problem. The Florida Escarpment is presently the only location along the foot regions of the world's passive continental margins where seeps of hydrothermal fluids and vent communities have been identified. Despite this exciting science, ARP does not consider proposal 204/A to be mature for two reasons. At present, the proposal lacks adequate seismic documentation. It is also unclear, as a result of complex and potentially poor hole conditions, if drilling will effectively address the fundamental problem of brine formation and migration in a carbonate bank system. However, ARP urges the proponents to continue to develop this proposal.

**3. 205/A: "Proposal for ODP Drilling in the Bahamas-Carbonate Fans, Escarpment Erosion and the Roots of Carbonate Banks".**

**MOTION #4: Bahamas Drilling Proposal 205/A**

Proposal 205/A for drilling in the Bahamas addresses the problems of development of carbonate submarine fans, escarpment erosion, and the evolution of the bench at the foot of the Bahama Escarpment. This proposal appears to be mature, as it is supported by good seismics. While the Bahamas may be one of the best locations for studying the evolution of carbonate escarpments, ARP notes the considerable safety problem of possible hydrocarbon traps associated with some of the proposed drilling targets.

**4. 211/B: "Deep stratigraphic tests".**

**MOTION #5: Deep Stratigraphic Tests Drilling Proposal 211/B**

The SOH Panel resolved that investigation of the long-term history of marine sedimentation by means of deep stratigraphic tests is one of its major themes, and presented this for recognition by ODP. ARP strongly supports the general concept of deep stratigraphic tests for Atlantic drilling, without acknowledging that the particular sites suggested by the present SOHP proposal are the best for reaching the stated thematic objective. ARP welcomes a continuing supply of thematic information and refined drilling targets/potential sites from SOHP and the other thematic panels, with a goal of developing a comprehensive thematic plan that can be implemented in part by future drilling in the Atlantic.

Furthermore, ARP considers the concept of deep stratigraphic tests to be inextricably bound to developing a riser for the JOIDES RESOLUTION. ARP endorses the development of such a riser.

### Membership/Rotation

Austin summarized the recommendations that he had already made to the PCOM at its January, 1986, meeting in La Jolla:

1. Petrologist: Karson, Fox. ARP felt that an effective liaison from LITHP could fill this vacancy. An effective TECP liaison could also substitute for Bally.

2. Carbonate sedimentologist: Droxler (to replace Schlager).

ARP considered it advisable for ESF to nominate their representative to the panel before pushing the PCOM to fill existing vacancies.

The following non-U.S. members will rotate off the ARP after the next meeting (probably in April, 1987):

1. Montadert. (His replacement is unknown at this time, but ARP thought that A. Mascle might be a logical choice.)

2. Thiede. (His replacement will be Hemleben, who has similar expertise. Wefer will be the alternate.)

The following U.S. members are willing to rotate at the same time:

1. Klitgord. (ARP suggests J.-C. Sibuet (IFREMER, France) and S. Cande (LDGO) as possible replacements.)

2. Speed. (ARP suggests A. Mascle (IFP, France) and J. Ladd (LDGO) as possible replacements.)

3. Tucholke. (ARP replacements: G. Mountain (LDGO) and P. Vail (EPR Co., Inc.))

4. Mutter. (ARP replacements: D. Sawyer (UTIG) and C. Keen (BIO, Canada).)

J. Mascle and L. Jansa also announced their intention to rotate off the ARP at the end of 1987.

So, in summary, ARP expects to lose Montadert, Thiede, and two from the U.S. list (above) next year, and J. Mascle, Jansa, and the other two from the U.S. list the following year.

### ARP in the "Off-Season"

After some discussion, ARP concluded that the best approach was to endorse a formal, scheduled series of Atlantic workshops cast within ODP-sponsored thematic objectives. These would be JOIDES workshops, with U.S. participation supported through JOI, Inc.-USSAC funding. The following is a tentative list of these workshops:

1. South Atlantic: JOI, Inc.-USSAC proposal already written (by Austin) and funded.

a. Convener: Austin

b. Dates: probably first two weeks of April, 1987.

c. Place: Woods Hole, Massachusetts (Woods Hole

Oceanographic Institution).

2. Caribbean.

a. Convener/proponent: Speed.

b. Dates: ASAP, but probably fall, 1987-winter, 1988.

3. North Atlantic Arctic (north of 62°N), including the Bering

Sea.

a. Convener: Thiede, with a possible U.S. collaborator.

b. Dates: 1988.

**4. Mediterranean.**

a. Convener: J. Mascle, with a possible U.S. collaborator.

b. Dates: 1988.

c. Place: Europe, probably France.

**5. Central Atlantic (equatorial fracture zones to the Charlie Gibbs**

**fracture zone).**

a. Convener: Klitgord.

b. Dates: spring, 1989.

**ARP anticipates that it will schedule its next few meetings in conjunction with these workshops. Consequently, the next ARP meeting is tentatively scheduled for early April, 1987, in Woods Hole, Massachusetts.**



philosophy. "Global wandering" is not popular at the moment.

c. ARP must help drive the RESOLUTION back towards the Atlantic with STRONG REGIONAL PLANS and EFFECTIVE LIAISON WITH THEMATIC PANELS.

**TECP Report: Howell**

(For details, refer to the TECP Meeting minutes for 19-21 February. Only comments pertinent to the ARP are included here.)

1. The TECP mandate is changing to a more "global" approach to tectonics problems, with less emphasis on reacting to specific drilling proposals. This process must be iterative, in concert with pertinent regional panels. (These comments are in line with current Panel Chairmen recommendations (see PANCHM below).) Varying attendance at meetings obviously changes a panel's philosophy, too, as will upcoming rotation of members.

2. TECP has historically considered only the problems that are addressable with the tools at hand, i.e. "Can the drill address this objective?"

3. TECP has not yet prepared "information documents" to underscore tectonics objectives, but these are on the way.

4. ARP urged TECP to begin to consider developing a prioritized list of important "Atlantic" tectonic themes at their next meeting (June, 1986), so that ARP could begin to consider regional objectives within a global framework. Austin insisted on effective TECP liaison at every ARP meeting from now on.

**PANCHM Report: Austin**

(PANCHM stands for "Panel Chairmen". At the request of PCOM, the PANCHM met in Corvallis, Ore., site of the next JOIDES Office, in early April. The primary goal was to examine the present JOIDES advisory structure with a view to optimizing its effectiveness. Only details of the report (prepared by D. Rea, CEPAC chairman) specifically related to ARP are included here.)

1. EFFECTIVE LIAISONS between thematic and regional panels are CRUCIAL to the effective functioning of the advisory structure. Thematic panels should "identify important global themes and objectives..." Regional panels should, "using submitted proposals and their knowledge of major regional problems and the thematic guidelines, attempt to construct a drilling program that would best meet the combined set of objectives." JOINT MEETINGS of thematic and regional panels may be instituted on a regular basis to enhance communication.

2. The JOIDES Office MUST MOVE PAPER EFFECTIVELY around the advisory structure, and ODP information must also reach the community as a whole.

3. PCOM MUST FILL PANEL VACANCIES ASAP in order to avoid gaps in expertise. The planned panel rotation must also be implemented effectively in order to ensure adequate community participation in the advisory structure.

4. TIMELY SUBMITTAL AND REVIEW OF DRILLING PROPOSALS is critical. A timetable was agreed upon, which means that ARP must begin now to develop broad drilling initiatives in the Atlantic, using input both from the thematic panels and from workshops (see below).

5. All of the following areas are being ignored or slighted in the present advisory structure: GEOCHEMISTRY, PHYSICAL/GEOTECHNICAL PROPERTIES, HISTORY OF OCEAN BASINS, UNDERWAY GEOPHYSICS.

6. COSOD OBJECTIVES ARE BEING ONLY PARTIALLY MET by ODP at present. "Primary objectives have often been incompletely realised because of compromises between disparate objectives and/or too many objectives for a leg...ODP planning by incremental regional time blocks undermines our ability to meet COSOD objectives."

ODP Ship Operator's Report: Emeis

1. Leg 108 completed.
  - a. 12 sites drilled.
  - b. Deepest hole recovered Maestrichtian sediments. Multiple successful recoveries of Neogene section, despite ubiquitous presence of slumps, debris flows, turbidites. (ARP questioned whether or not geophysics had been optimally used for site selection on this leg. One of the co-chiefs (Sarnthein/Ruddiman) will be invited to the next meeting to give a presentation of results.)
  - c. Leg shortened by 2 days as a result of shipboard illness.
2. Leg 109 (MARK II) just underway. Co-chiefs: Bryan/Juteau.
3. Leg 110 (Barbados-see below) planning completed. Co-chiefs: A. Mascle/J.C. Moore.
4. Leg 111 (504B). Co-chiefs: Becker/a Japanese.
  - a. Deepen existing hole.
  - b. High-T logging, other downhole experiments.
5. Leg 112 (Peru). Co-chiefs: von Huene/Suess. Final site selection still underway.
6. Leg 113 (Weddell Sea). Co-chiefs: Kennett/Barker.

Leg 107 (Tyrrhenian Sea) Summary and Review: J. Mascle

1. Three main targets:
  - a. Recover a complete Plio-Pleistocene section (reoccupation of DSDP Site 132).
  - b. Study the evolution of a very young passive margin (off Sardinia).
  - c. Study the evolution of a young back-arc basin (Tyrrhenian Sea).
2. December 28, 1985-February 18, 1986 (Malaga-Marseilles). Political, logistics problems forced changes in planned drilling schedule.
3. Site 650 (TYR 7): Marsili Basin.
  - a. 35 m. of basement penetration with XCB, but no logging (bit could not be released).
  - b. Highly vesicular basalt, extruded at water depths of 400-2,000 m. Basement now at 4.1 km, so rapid subsidence indicated.
  - c. Oldest sediments (volcaniclastics) only 1.9 m.y.-old. Basin younger than expected.
4. Site 651 (TYR 5B): equivalent site in the Vavilov Basin.
  - a. Only rotary drilling.
  - b. Sediment penetration approx. 400 m. Fewer volcaniclastics, with different provenance. Oldest sediments 3.5 m.y.-old.
  - c. Transition to basement over 40 m., then 170 m. of penetration into a tectonized complex of basalt breccia, dolerite pillows/flows, peridotite. Also metagabbro, "leucocratic rocks" (granites?). Intercalated sediments (dolomitic, metalliferous) allowed dating.
  - d. Interpretation: stretched continental crust, covered by volcanic flows and sediments.
5. Site 655 (TYR 5A): Vavilov Basin.
  - a. Two holes: one XCB, one rotary.
  - b. Expected to drill peridotite ridge. Instead, drilled 150 m. of MORB basalts underlying 80 m. of Plio-Pleistocene sediments. Oldest sediments 3.4-3.5 m.y.-old.

c. Both Marsili and Vavilov basins younger than expected, but a NW to SE age progression as predicted.

6. Site 651 (TYR 1B): Sardinian margin.

a. Approx. 220 m. of Oligocene and younger hemipelagic/pelagic nanno-ooze.

b. Syn-rift-section composed of Messinian gypsiferous marls.

c. Beneath the evaporites, basal Messinian black ooze.

d. Beneath these, beach material, then basement complex: 50 m. of quartzite and metamorphosed carbonate pebbles.

e. Approx. 20-40 m. short of top of pre-rift sequence.

f. Margin formed in Tortonian time (8 Ma.), with tilting of pre-rift section complete by the end of the Messinian (5.5 Ma.).

7. Sites 652/653 (TYR 3A).

a. Good recovery of Messinian boundary at more than one site.

b. 653: Two APC holes. More than 90% recovery of Plio-Pleistocene section.

c. 652: extreme NW Vavilov Basin. Rotary to 735 m. in mostly barren Messinian section. Presence of gypsum: brackish marine environments. Flysch, 500 m. thick, deposited in a lake. Up to 10% TOC, algal kerogen (a bog?). Progressive (NW to SE) rifting ended at this location in lowermost Pliocene.

8. Site 656: last tilted block, Sardinian margin.

a. Altered Alpine-type rocks in syn-/pre-rift sections, including metagabbros (last 30 m.). A Messinian continental deposit.

Presentation of Leg 106 (MARK I) Results: Austin

(Austin used slides and information provided by R. Detrick, one of the co-chiefs. For information on this leg, refer to the recently issued Preliminary Report.)

Leg 110 (Barbados accretionary wedge) prospectus: A. Mascle, co-chief

1. Planned operations in the vicinity of DSDP Leg 78A.

2. Primary objective: To examine in detail how sediments are incorporated into the accretionary prism from its seaward side.

3. LAF-1: just seaward of DSDP Site 542. Drill to and through the decollement to basement, approx. 1,000 m. If stratigraphy is very different from reference hole drilled during Leg 78A, then a new reference hole (LAF-0) will be drilled. See MOTION #1. Strategy:

a. Exploratory hole, single-bit (7 days): APC to 100 m., then XCB to decollement, followed by complete logging.

b. Rotary hole, single-bit (3 days): wash to decollement, followed by packer experiments.

c. Rotary hole, re-entry (14-21 days): 18" casing to decollement, 9" hole to basement, followed by complete logging. If there are hole stability problems near the decollement, that part of the hole will be lined.

4. LAF-2 (7-10 days): upslope from LAF-1. Single-bit (APC/XCB) to destruction, followed by logging.

5. LAF-3 (7-10 days, perhaps longer): even farther upslope. Goals the same as for LAF-2.

6. There was further discussion of LAF-4, LAF-5 and LAF-6 on the southern part of the prism (see the drilling proposal). LAF 4/5 will address secondary stacking within the prism, while LAF-6 will examine the western deformation front on the eastern side of the Tobago Trough. At present, these are secondary objectives for Leg 110.



April 22:

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See MOTION #2. (The ARP noted that effective review of Leg 109 proposals was somewhat invalidated in light of the fact that the RESOLUTION was already enroute to the MARK area.)

2. 204/A: "Proposed Florida Escarpment Drilling Transect". See MOTION #3.
3. 205/A: "Proposal for ODP Drilling in the Bahamas-Carbonate Fans, Escarpment Erosion and the Roots of Carbonate Banks". See MOTION #4.
4. 211/B: "Deep stratigraphic tests". See MOTION #5.

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